TIMARU DISTRICT COUNCIL

INFRASTRUCTURE STRATEGY

30 YEAR PLAN 2024-54

TIMARU DISTRICT COUNCIL
Te Kaunihera ā-Rohe o Te Tihi o Maru

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Part One: **Executive Summary**

Introduction

This is Timaru District Council's fourth Infrastructure Strategy that sets out the 30 year vision and plan for our community's infrastructure. As a District, we face many challenges due to aging infrastructure, a lack of investment in depreciation and renewals to artificially deflate rates in previous years, impending regulatory changes for water services, and increasing demands from the community to provide high quality service at the lowest possible price, which negatively impacts affordability.

In presenting this Infrastructure Strategy, Council seeks to ensure that a balanced work program protects public health, promotes economic growth, and supports our community wellbeing.

Overview

To achieve its vision and promote community wellbeing, Timaru District Council must provide both essential infrastructure services and quality-of-life assets. Aside from the city's core infrastructure, such as its water and roads, Timaru is home to amenities such as libraries, parks, recreational amenities, cultural facilities, the port, and the airport. These assets attract businesses and residents, facilitating economic growth and enhancing the region's reputation as a desirable place to live. Therefore, they account for a substantial portion of the Council's operating budget. By investing wisely in community assets and maintaining robust infrastructure, Timaru District Council promotes the social, economic, environmental, and cultural wellbeing of its residents. Due to this, our infrastructure is essential for achieving our five Strategic Priorities.

Our Challenges

Resilient and compliant infrastructure

Developing infrastructure is vital to meet heightened legislative and community standards that safeguard public health and the environment. Further upgrades and renewals are needed at water and wastewater treatment plants and pipe networks, roading networks and bridges, and waste management assets to achieve regulatory compliance. Additionally, industrial zone stormwater capacity and discharge treatment must undergo major improvements to mitigate environmental impacts.

Aging Infrastructure

Much of the district's infrastructure is approaching end-of-life and due for replacement over the next 30 years-plus. These aging assets span water supply and wastewater pipes, bridges, culverts, and community buildings. Partly since depreciation accounting was not mandated until 1990, renewal funding gaps emerge. Hence, Council must borrow substantially for imminent renewal projects, but hitting debt ceilings may constrain capacity despite needs.

Climate Change & Natural Hazards

Ongoing climate change influences infrastructure needs – both to curb associated emissions and mitigate local impacts like heightened coastal erosion. Additionally, natural hazard risks from proximity to the Alpine Fault and as a coastal district necessitate building resilience against earthquakes, droughts, fires, and flooding.

Affordability

These infrastructure issues manifest against a more pervasive funding challenge plaguing councils nationwide. With planned rate hikes already outpacing inflation and income growth, Timaru particularly faces intensifying financial constraints over this strategy's timeline.

Effectuating enduring solutions demands transformational shifts in infrastructure planning, delivery, and financing - incremental tweaks will no longer suffice. Significant innovations are imperative to sustainably fund our community's infrastructure lifecycle.

Increasing Standards

Council faces rising community expectations around quality of life and technology coupled with stricter resource consent requirements, regulations on water and land use, health and safety compliance, traffic management needs, and demand shifts like heavier freight impacting roads.

Balancing heightened standards against affordability poses an ongoing challenge. Improving service levels must weigh against ratepayer cost burdens.

Our Response

Prioritising Our Asset Renewals

Our priority is to maintain and renew our assets in order to meet current and anticipated community needs. Many of the District's assets are getting to the point where they need to be replaced as they reach the end of their useful lives. Over the next 30 years, Council plans to renew its existing assets. We continuously prioritise the renewal of assets based on the greatest need and risk.

Three Waters Focus

In order to ensure the Affordable Waters transition would be a success, Council invested heavily in updating all its information on water assets and identifying the exact transition needs. Due to the change in government, and the fact that Council has retained its water assets, there has been a more thorough understanding of the state of our water assets, and the extent of the work required to bring them into compliance. A comprehensive work program has been developed that will require heavy investments for renewals and asset replacements. Keeping rates affordable requires a measurable plan to amortise this expenditure.

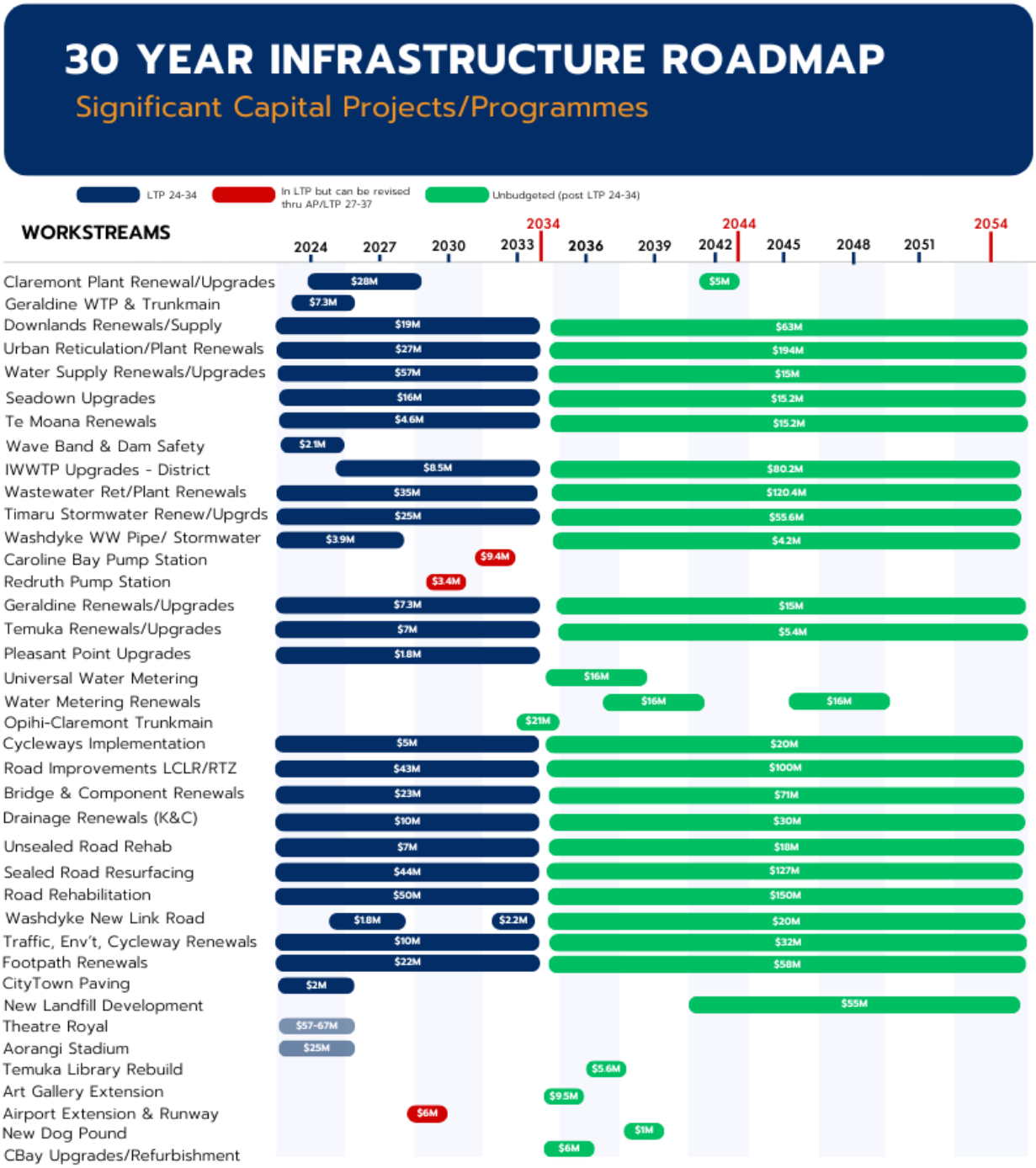
Considering Climate Change as BAU

Resilient infrastructure is vital to addressing climate change impacts. The Council has been working to quantify the carbon emissions from its activities and explore ways to reduce them. Infrastructure assets are routinely evaluated whether they are vulnerable to climate change impacts, and renewals are planned accordingly. TDC's Climate Change Advisor provides expert advice to all asset managers, and all activities are working towards improving their practices and systems to reduce carbon emissions.

30 Year Capex Plan

It will be challenging for Council to achieve all its goals over the next 30 years. Below is a proposed work schedule that gives an indication of what capital expenditures will be planned for infrastructure assets, including community facilities.

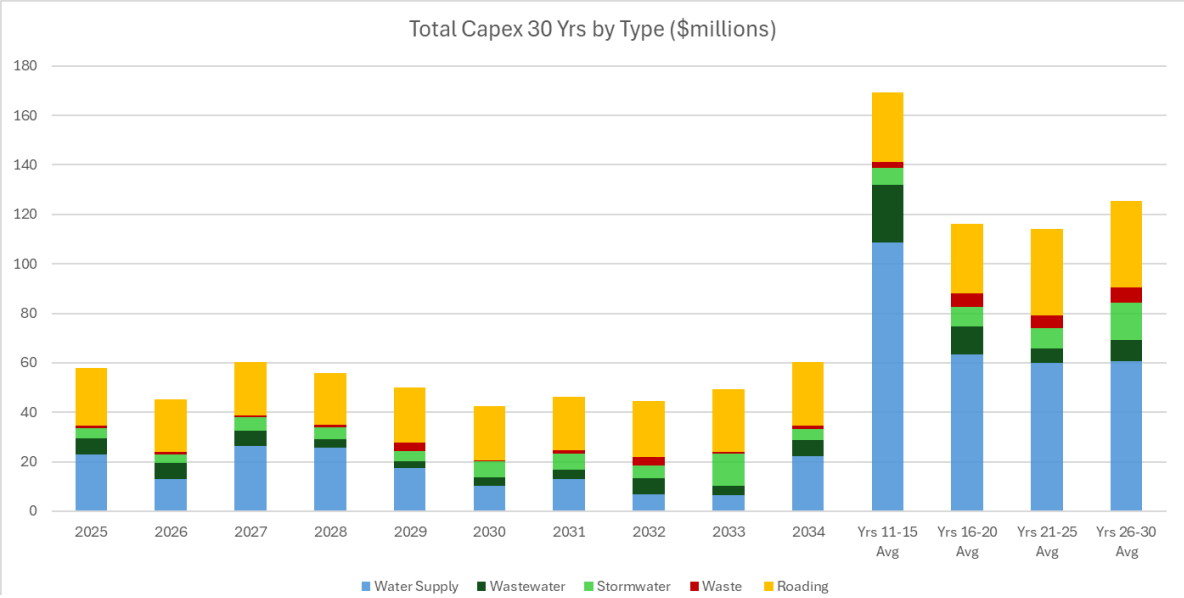
Traditionally the community facilities have not been included within the Strategy, and for this edition we have introduced a high level summary of the main ones currently needing investment and identified the major capital projects ahead. Work is currently underway to provide accurate and updated conditional assessments on our community assets so proper Asset Management Plans can be developed and they will be part of future Infrastructure Strategies.



Financial Strategy

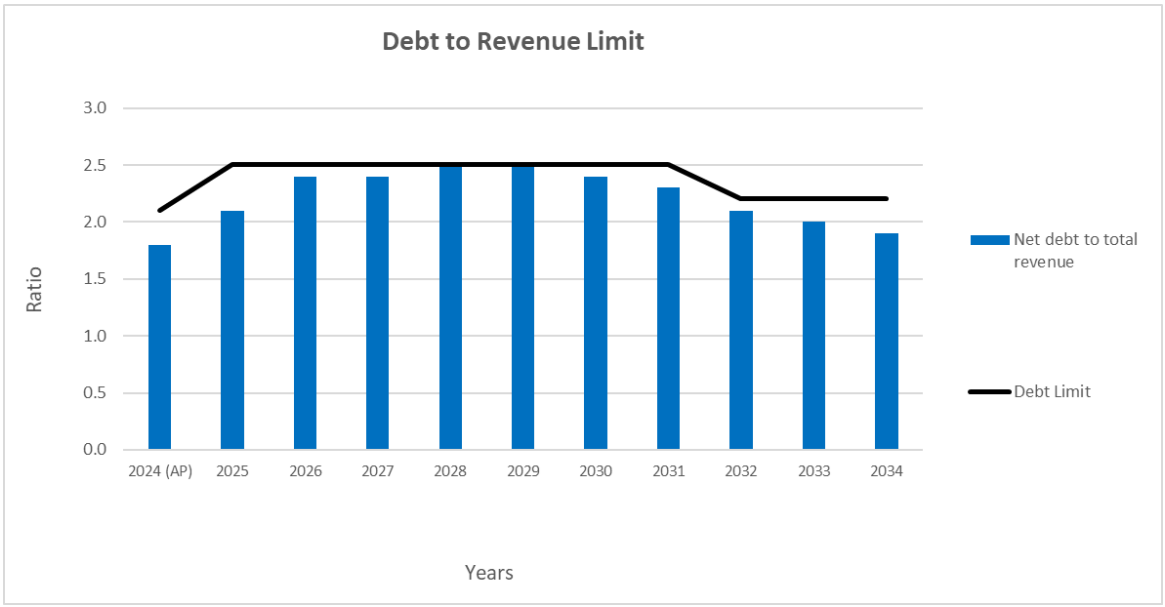
Capital Investment

The estimated requirements for capital investment over the next 30 years is $2.1 billion, as shown in the graph below:



Debt

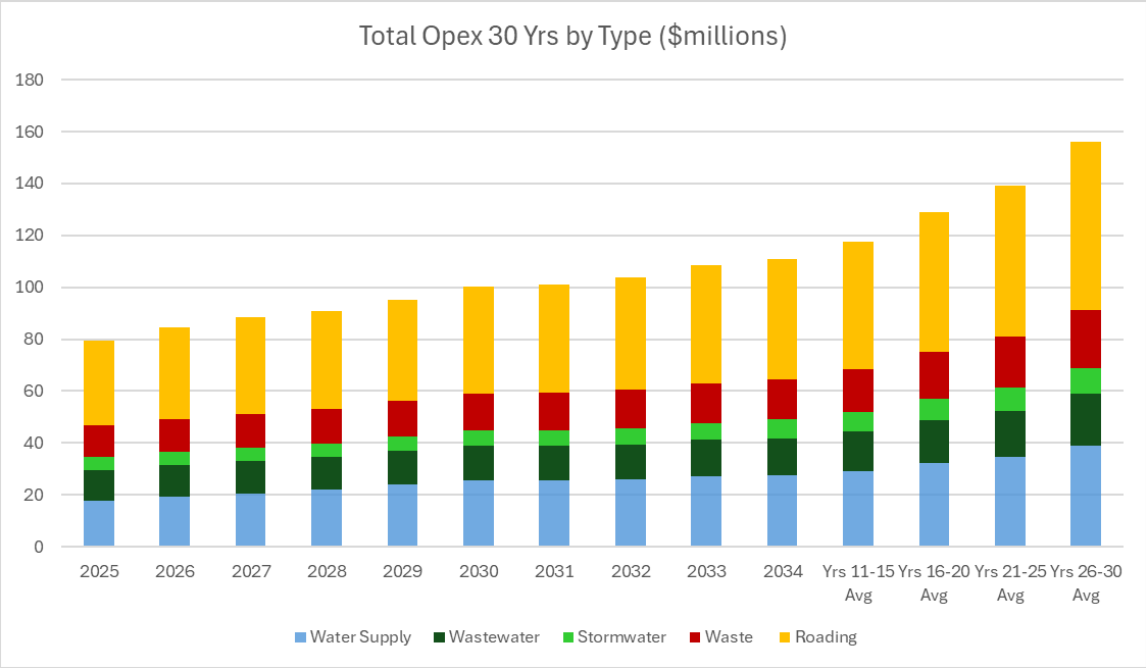
Council expects to increase its debt over the next ten years, but will remain below a prudent 250% debt-to-revenue limit for years 1-7, and then decreasing to 220% in 2032 for the remainder of the LTP. This is a self-determined debt cap limit to allow Council to have some borrowing headroom for emergencies.



Operational Forecasts

In line with the increase in asset value, operating expenditures are estimated to increase over the next thirty years. The projected Opex forecast is $1.96 billion over the next 30 years.

We have included estimates of the costs associated with delivering the services we currently provide in our forecasted operational costs. Interest, depreciation, and maintenance costs associated with new assets have increased significantly.



New Funding Models

There are a number of new funding models being explored, especially for infrastructure expansion. It is possible that other parties may end up providing and charging for necessary infrastructure under these models. While this might give rise to development - the infrastructure will come at a cost.

We are also working on ways to capture the land value increases from Council zoning decisions and use these for infrastructure development.

As well as delivering improvements, we also like to collaborate with others - such as working with philanthropies to fund/co-fund certain community infrastructure projects.

Part Two:
Setting the Scene

Timaru Context

The Timaru District is located in the South-Central Canterbury Region, about midway between Christchurch and Dunedin on the eastern coast. It has a land area of around 2,732 square kilometres and is crossed by State Highway 1. We have a population estimated to be 48,900, of which around 31,000 people live in our largest town – Timaru. Other urban centres in our district include Temuka (around 9000 people) and Geraldine (around 6000 people). There are also a number of smaller villages around the district. The township of Geraldine is located along the Inland Scenic Highway and attracts many tourists.

Our district's economy is centred on the manufacturing industry, followed by a strong health and social services sector, and then through the recent boom in construction. Timaru has experienced strong economic growth in recent years due to the expansion of these sectors, with employment growth exceeding the national average.

We have seen a small amount of population growth of approximately 0.5% per year between 2006 and 2023 in our district, with recent years showing immigration being the key driver for population growth. In the next 30 years, the growth rate will remain steady and slow at 0.5-0.8% per year, but the demographic changes will be more pronounced as more people reach retirement age. In Timaru, Temuka, and Geraldine, more housing stock of smaller units will be needed for single or couple occupants as a result of the aging population. Our infrastructure will be put under more pressure as a result of the increased demand for water services and accessible transportation options.

Strategy Purpose

The 30-Year Infrastructure Strategy (the Strategy) is designed to identify significant infrastructure challenges that Timaru District Council will face over the next 30 years, as well as identify the principal options for managing those challenges and their implications. This Strategy describes how the Council intends to manage its infrastructure assets, including how it will respond to the growth or decline in demand for services and ensure that they are resilient. The Strategy takes a long-term view of the District's infrastructure needs over the next 30 years, and it reflects current assumptions and thinking about what will be needed.

This is not a comprehensive programme of works for 30 years. The document follows the long-term planning activities of the Asset Management Plan for Council, but the fundable and unfunded programs for the first 10 years are more complete and reliable than the indicative estimates beyond that year. Future infrastructure strategies will refine and change these estimates.

Strategy Structure

The Strategy outlines the 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 categories:

- Water
- Wastewater
- Stormwater
- Land Transport
- Waste Minimisation

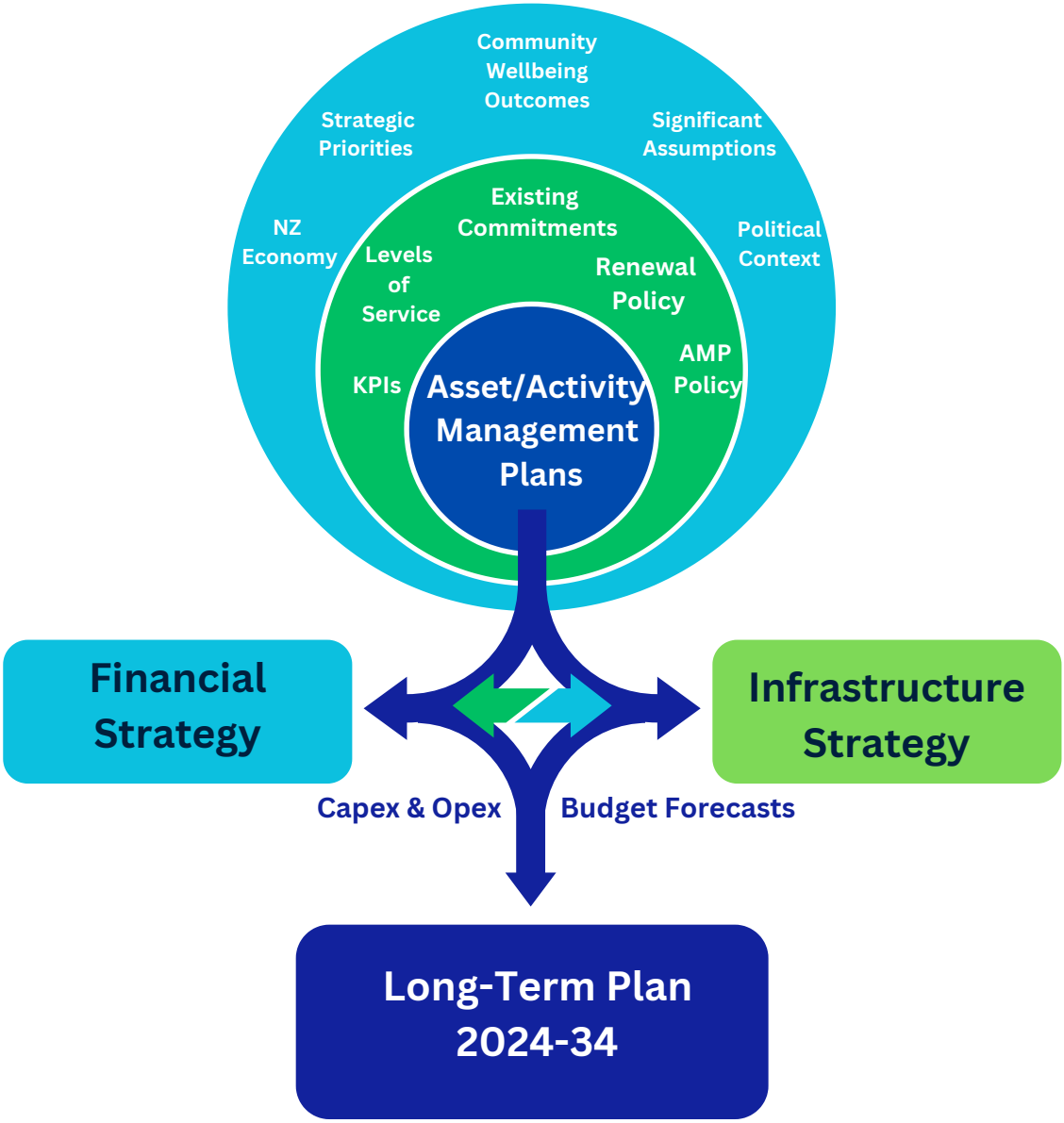
The Strategy draws together information from five Activity Management Plans and Four Asset Management Plans from the core infrastructure-related activities of Council. Due to limited information available, vertical infrastructure (i.e. community facilities) are not included in the asset planning for this strategy, but efforts are being made to improve our understanding of asset conditions so that future strategies will include these.

This Strategy is divided into five parts:

- **Part One**: Executive Summary with highlights of main points.
- **Part Two:** Context and background information to the Strategy, including the key significant decisions to be made for infrastructure projects, projected financials, Council's Infrastructure Portfolio, key drivers for the investment into infrastructure, and how the Strategy was developed.
- **Part Three:** Three Waters Infrastructure programme showing the issues and demand on water supply, wastewater, and stormwater assets, with the key risks identified and the financial forecasts for the planned capital works and operational expenditure required to deliver these services.
- **Part Four:** Land Transport infrastructure programme showing the same as above for roading, footpaths, bridges and culverts.
- **Part Five:** Waste Minimisation infrastructure programme showing the same as above for operational landfill(s), transfer stations, and closed landfills.

Strategy Development

An integrated approach has been taken to develop the Council's Infrastructure Strategy. This means that Council creates a 30-Year Infrastructure Strategy that considers the strategic context as well as the external environment in which infrastructure exists, at the same time as developing operational requirements, responses and forecasts through the development of asset and activity management plans.



Asset and activity management plans begin with capital and operational forecasts that are moderated by the Council's Financial Strategy in order to make them affordable. There may be several iterations of optimising the programme before it ensures that the 10 years of the Long-Term Plan balance the wants, needs, risks, and affordability of the community. The Infrastructure Strategy outlines both funded and unfunded investments in infrastructure in the first ten years as well as estimates of investments in infrastructure over the next few decades.

General Assumptions

All long-term planning involves assumptions that affect future operations and capital expenditure. Our Infrastructure Strategy highlights the most significant assumptions at a local, national, or global scale that we regard as directly relevant to our capital projects and asset management, as well as our ability to deliver community services. As part of our Environmental Scan supporting the Long-Term Plan 2024-34, we list all our forecasting assumptions that are consistent with these assumptions.

The following are key assumptions that directly affect infrastructure planning.

Affordable Waters Reform

Over the next ten years, legislative changes regarding the ownership, management, and delivery of three waters are inevitable, but it is unclear what the final outcome will be. We have assumed that delivery of three waters will continue as usual, but with more changes required to meet new standards, higher levels of service than existing ones, and stronger compliance requirements.

If water services are ultimately delivered by larger entities such as Council-Controlled Organisations or other means, it is expected that funding will be available to renew or replace aging water assets.

Climate Change

Climate change is primarily affecting our infrastructure through extreme weather events such as floods, fires, droughts, heat waves, cold, and wind. Sea-level rise is already impacting some of our coastal assets such as roading, with flooding events impacting a broader array of infrastructure such as bridges, culverts, water pipes, and closed landfills in danger of breaching into waterways.

Our wastewater and stormwater networks are more likely to overflow and flood during wet weather. Warmer weather puts more demand on our water supply, and increased fire risk can also strain our rural water supply network. As a result of seasonal weather pattern changes, our "green" assets, such as parks, forestry, and gardens may need enhanced pest control, new planting schemes, and more irrigation during droughts, stressing water supply systems.

Inflation Costs

All financial forecasts in this Strategy include inflation unless stated otherwise. There is a high degree of uncertainty due to long-term inflation forecasts that are likely to change, and errors compound over time. A change in inflation could have a significant impact on financial forecast accuracy. This would require either decreasing or increasing funding to continue delivering the same service levels. The Long-Term Plan assumptions for 2024-34 outline inflation rates for the first 10 years. Beyond year 10, the following inflation rates have been used: Operational expenditure: 2.4% Capital expenditure: 2.1%.

Market Capacity

To undertake the capital works programme, there needs to be sufficient capacity within the market for professional services and contractors. As other central and local government agencies in Canterbury Region have high capital expenditure forecasts, as well as strong demand for new housing, there is a high level of uncertainty that capacity will be available throughout the life of this Strategy. Budget constraints may limit the ability to carry out the works as planned. Council has mitigated this risk by including a higher capital inflation rate in its budget (predicted by BERL).

Projected Expenditure Costs

We forecast capital expenditure based on gross costs (total projects) with moderate uncertainty as funding for some projects may come from other sources. Subsidies, grants, or developer contributions may be used to fund these projects. It could have a significant impact on Council's final costs for projects.

Estimates of operational expenditures are based on anticipated gross costs to the Council, which include indirect costs (depreciation, interest, overhead, etc.). Revenue from operational activities is not included and it is difficult to forecast long-term. Budgets can be adjusted as revenue trends are monitored and can be predicted in the short term, minimizing the impact of this uncertainty.

NZTA Waka Kotahi Funding

For eligible projects, Waka Kotahi Transport Agency subsidies continue at the current rate of 51%. Based on assumed subsidy rates, there is a medium level of uncertainty. The net cost of transport projects would be greatly affected by changes to subsidy rates or project eligibility criteria. There is a risk that Canterbury projects, including those specific to Timaru, may be pushed down on the priority list if a new national prioritisation schedule is implemented.

Resource Consents

Enhanced and more stringent conditions are attached to resource consents for water activities and the Opihi and Paeroa Rivers. Due to the new nature of the National Policy Statement for Freshwaters regime, which was not in place when current consents were granted, there is uncertainty about the real impact this will have. Additional unplanned expenditure will likely result from significantly higher discharge standards. In spite of potential changes in Parliament to roll back the NPS-FW, the age of existing consents means that they must be renewed according to higher standards than those that were in place almost four decades ago.

Life Cycle of Significant Assets

Council's infrastructure assets are at varying stages of their life cycles, with many assets nearing end of life, particularly with water networks, bridges, and community facilities. Conditional assessments occur regularly within the different activities to help inform the renewal programme. The priority placed on proactively renewing infrastructure over the next three decades makes it apparent that Council is driven chiefly by a commitment to managing assets in a way that improves resilience, prepares for emerging demands, and averts reactive crisis responses down the line.

Not all assets have been thoroughly assessed with conditional assessments, particularly within the Parks & Recreational activity and in the community facilities area, and work has commenced to develop the plan for this over the next three years,. This is to establish a baseline for the inclusion of these activities in future Infrastructure Strategies going forward.

Projected Growth for Service Demand

Timaru's growth projections show a slow and steady population growth, but the main sources of demand growth for Council's services comes from the economic growth in the district combined with the demographic changes.

Industrial growth in areas such as Washdyke, Redruth, and around the Port have impacted on the demands for water supply, wastewater treatment, and a resilient roading network. Heavy traffic vehicles, particularly those involved in freight and/or the primary sector, have significantly increased through the economic changes over the past ten years, and the roading network has struggled to keep pace with the increased demand. Trade waste from industry has also impacted on Council's capacity to manage the risks to consent compliance, with Council now considering different options to manage this.

Demographic changes with an older population often results in smaller housing units being built in areas with increased connections to the water networks, and also the land use changes require careful stormwater management.

Levels of Service Changes

Council's levels of service will change over time due to increased customer expectations, enhanced regulation, or changing demand due to growth or decline is some areas. As population growth is not the key driver for LOS changes, it is the change in the regulatory and economic environment that impact Council's service levels the most.

With the Affordable Water Reform legislation that is still in effect, higher compliance standards are already in place for water quality, driving the heavy investment in water supply network infrastructure. Consent conditions for discharges are at a much higher standard than previously, which is driving the investment into reaching those standards for many of our consents being renewed in the next few years.

Customer expectations are often mismatched with the level of funding available, from rates income, which presents Council with the challenge of meeting those expectations and still ensuring rates are affordable.

Key Drivers

The Strategy takes into account a number of contextual factors affecting infrastructure planning and delivery. Many of these drivers are related to increased requirements from central government legislation and policy direction.

Among the key drivers are:

1. Increasing compliance, capacity, and resilience costs to deliver our business, especially in three waters.
2. Legislative requirements for growth.
3. A growing number of expectations and requirements related to climate change.
4. A growing demand and expectation for transport mode shifts.
5. Aging infrastructure assets reaching end-of-life and requiring high investment for renewals and replacements.

The Long-Term Plan for 2024-34 balances the impact of these drivers and Council's financial capacities as defined by its Financial Strategy. In response to the following drivers, the Draft Long-Term Plan includes many capital projects and programmes; however, not all can be funded within available funds. Key capital projects that have not been funded in the Long-Term Plan are discussed in the activity sections (page XX).

Increased compliance, capacity, and resilience costs to deliver Three Waters

Increased compliance costs pose a significant challenge to council budgets. Water supply, wastewater, and stormwater management are the areas of our business where this is most evident in our budgets.

Taumata Arowai is the new Water Services Regulator, which will oversee and enforce the new drinking water quality regulatory framework with additional oversight for wastewater networks as part of the previous government's three waters regulatory reform, and is set to remain with new legislation currently being drafted. A new set of economic regulations will be administered by the Commerce Commission to ensure water services are provided in a timely and responsive manner.

After adoption in Parliament, the new Drinking Water Standards took effect in November 2022. There are new duties, obligations and functions for drinking water suppliers, such as risk management, preparation for Te Mana o te Wai, and handling customer complaints. Since September 2020, nation-wide environmental standards for freshwater and a National Policy Statement for Freshwater Management have been in effect, aimed at preventing further degradation of freshwater habitats and introducing further controls on activities that pose a threat.

In order to maintain our current level of service and meet economic growth demands, along with complying with more stringent safety, traffic management, and environmental regulations, significant additional investment is required over the next decade in both Three Waters infrastructure investments and Three Waters operations. The Commerce Commission’s economic regulations will require an increased level of service.

Legislative Requirements to Account for Growth

As has been the case with other growing cities in New Zealand, Timaru's continued attraction has led to changes in central government policy through the National Policy Statement on urban development. As a result, Council must establish a defined development capacity and infrastructure to support this growth. Additional investment pressure has been added because of the need to invest in infrastructure in order to facilitate urbanization, and to meet the changing needs of our communities.

Our District Plan is also undergoing significant changes because of government reforms resulting in increased costs for Council. In the Draft Long-Term Plan, the ongoing council review is included in the early years of the District Plan review, which is still to be brought before the Hearings Panel. Although the outcome of this review is not yet clear, there is a high likelihood that additional funding will be required for infrastructure in order to support land use changes. By aging in demographics, Timaru District is experiencing a change, resulting in more development for smaller housing stocks, greater demand on the road network, and more vested assets in public spaces that require ongoing management.

Adaptation to Climate Change Impacts

The Government enacted the Climate Change Response (Zero Carbon) Amendment Act in 2019 providing New Zealand with a framework for contributing to global efforts to limit global warming. A number of targets were included in the legislation that would reduce New Zealand's net emissions according to the Paris Agreement. As part of the act, councils were also required to disclose their adaptation action, making climate change impacts a part of asset management.

As part of the government's commitment to becoming carbon-neutral by 2025, the Government declared a climate change emergency in December 2020. Timaru District Council resolved to invest in a dedicated resource to develop a Climate Change Programme in its Long-Term Plan 2021-31 to establish targets for our Council emissions as well as a roadmap for meeting our climate change obligations through these targets.

Transport Mode Shifts

The Canterbury Regional Transport Committee has been involved in the preparation of the Regional Land Transport Plan, in addition to the final Government Policy Statement on Land Transport 2021 (GPS). National Land Transport Fund (NLTF) investments into the land transport system over the next 10 years are outlined in the GPS. New Zealand Transport Agency (NZTA) - Waka Kotahi will co-invest money from the NLTF with approved organisations, such as Council, to invest across activity classes. In addition, it provides guidance to local governments and NZTA on what activities and projects should be included in both the Regional Land Transport Plan and the National Land Transport Programme.

There was a significant shift in priorities for GPS 2018 toward different modes of transportation. GPS 2021 expands on this. To achieve these outcomes and maximise available funding, Council's draft 2024-34 Long-Term Plan aligns its transportation investments and activities with the GPS as much as possible. Public transport (Timaru District's MyWay service), walking and cycling will also help to reduce carbon emissions from transportation and contribute to climate change mitigation.

Aging Infrastructure Renewals & Replacement

Like other councils with aging infrastructure portfolios, Timaru District Council faces challenges in renewing and replacing its significant assets. Deferring large capital investments over decades and under-investing in depreciation can lead to artificially deflating rates and sweating out assets to ensure rates are affordable. Most councils throughout New Zealand took this approach, compounded by the fact that depreciation funding wasn't required for horizontal infrastructure until 1990 (after the amalgamations). Vertical infrastructure (such as community facilities - buildings) still lack a legal driver for depreciation funding.

Councils are limited in their ability to keep rates affordable for their communities by their current funding mechanisms, which is why underfunding depreciation is often a preferred lever. Due to a lack of depreciation funding, Council is forced to borrow heavily to invest in its infrastructure renewal programme. It is to cover the actual cost of all the renewals needed now that so many assets are nearing their end of useful lives.

As part of the current renewal strategy, Timaru District Council aims to replace outdated assets in a progressive manner. Asset renewal is intended to ensure that the district's roading and footpaths infrastructure, three water systems, and waste minimisation infrastructure is maintained in a condition that reflects its age profile and maintains the community's investment in those infrastructure assets.

Funding is determined by the rate at which renewals are required. Renewals that are postponed may affect service levels and increase maintenance costs. To minimize long-term maintenance costs, maintain levels of service, and optimise renewal costs, timely renewal intervention is required in compliance with good asset management practice.

Over the past few years, Council has conducted extensive revaluations of its horizontal infrastructure, particularly for the Affordable Water Reforms. With the conditional assessments, the Council has gained a better understanding of the asset condition, leading to a higher renewal and replacement programme over the next thirty years.

Council’s Infrastructure Portfolio

Generally, Council distinguishes two types of infrastructure: horizontal infrastructure, which pertains to the Three Waters and Land Transport activities, and vertical infrastructure, which comprises recreational and cultural facilities. In this Strategy's 30-year plan, only horizontal infrastructure and waste minimisation are considered. Nevertheless, Council's debt levels and rates are likely to rise over the next ten years due to the vertical infrastructure's capital and operational expenditures. These will be identified for the overall 10-year plan, but at a high level only. Up-to-date conditional asset assessments are currently being obtained for all vertical infrastructure assets, which will be incorporated into future strategies

Core Infrastructure

This covers the water supply treatment plants and equipment, wastewater treatment plant and associated equipment, stormwater management assets, bridges and culverts, roads and footpaths, and waste management assets such as the Materials Recovery Facility and landfills.

- Timaru's water is sourced mainly from the Opihi and Paeroa Rivers, with 11 water supply schemes and over 1,800km of water supply pipes in the district.
- The district operates wastewater treatment facilities at four different locations throughout the District, plus the related conveyance infrastructure, and manages stormwater with pump stations, detention dams, and pipelines.
- There are over 300 bridges and culverts, with many requiring repair or replacement due to their age.
- Waste management occurs at Redruth Landfill, which also hosts a Resource Recovery Park.
- The district has over 1,700km of roads and 350km of footpaths, along with associated drainage and street lighting assets.

Community Infrastructure

In terms of vertical infrastructure, Timaru boasts several community facilities:

- Aorangi Stadium, which is set for a major redevelopment.
- The Theatre Royal, which is currently closed for a $57M redevelopment with a Heritage Centre.
- 21 council-owned community halls, along with 12 rural committee-owned halls.
- Public toilets located strategically throughout the district.
- Two Holiday Parks and three campgrounds.
- Libraries and Service Centres in Timaru, Temuka, and Geraldine.
- Parks and playgrounds covering 636Ha, including 43 distinct playgrounds.
- CBay Aquatic Centre and other community swimming pools.
- Cultural facilities such as the Aigantighe Art Gallery and South Canterbury Museum.
- Richard Pearse Airport, which offers daily flights to Wellington.
- PrimePort Timaru (50% shareholding via Timaru District Holdings Ltd.)

TIMARU'S CORE INFRASTRUCTURE

Water Supply

Timaru's water supply comes mainly from the Opihi and Paeroa Rivers, There are 11 water supply schemes for drinking water and/or stockwater, with treatement plants, pumps, and over 1,800km of water supply pipes in the District.

Wastewater Treatment

TDC operates a wastewater treatment plant, three oxidation ponds, 24 sewer pump stations, 354km of pipeline, and around 4,000 maintenance holes.

Stormwater

TDC's stormwater assets include two pump stations at Washdyke and Redruth, detention dams and basins, swales and soakpits, and about 146km of pipelines.

Bridges & Culverts

Timaru has over 300 bridges & culverts throughout the District, many over 100 years old in need of repair or replacement.

Redruth Landfill

Waste is managed at Council's Class 1 landfill, co-located at Redruth with its Resource Recovery Park.

Roads & Footpaths

Timaru has over 1,700km of roads (57% sealed) with a replacement value of $600M, and 350km of footpaths valued at $77M. Additionally, there are drainage assets worth $145M and $40M worth of street lighting, furniture and fixings.

TIMARU'S COMMUNITY INFRASTRUCTURE

AORANGI STADIUM

Three court indoor stadium set for $28M redevelopment for 10 court indoor netball, futsal, basketball centre

LIBRARIES

Libraries and Service Centres in Timaru, Temuka, and Geraldine; Timaru roof repairs planned and Temuka renewal

THEATRE ROYAL

Currently closed; awaiting $57M redevelopment with Heritage Centre

PARKS AND PLAYGROUNDS

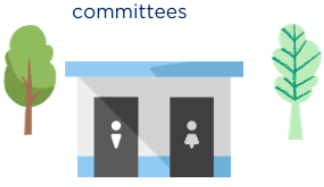
Timaru District has 636Ha of parks, and 43 playgrounds including CPlay.

COMMUNITY HALLS

Council owns and/or operates 21 community hall assets throughout the District, with another 12 halls owned by rural committees

CBAY & SWIMMING POOLS

CBay Aquatic Centre in Timaru and community swimming pools in Temuka, Pleasant Point, and Geraldine



PUBLIC TOILETS

Timaru has numerous public toilets in 15 strategic locations throughout the District

AIGINTIGHE ART GALLERY & SOUTH CANTERBURY MUSEUM

Cultural facilities offering art and heritage collections; the Art Gallery is awaiting an extension and Museum will relocate to Heritage Centre with Theatre Royal

MOTORCAMPS

Two Holiday Parks in Temuka and Geraldine, plus three motorcamp or campgrounds in Pleasant Point, Rangitata, and Winchester

TIMARU AIRPORT & PRIMEPORT TIMARU

Richard Pearse Airport offers daily Air NZ flights to Wellington; Port offers cargo and marine services for industry

Council's Strategic Priorities

As a result of consultation with the community, the Long-Term Plan 2021-31 contained a refreshed set of Community Wellbeing Outcomes. Listed below are five Wellbeing Outcomes that guide Council's goals and focus areas.

The Five Community Wellbeing Outcomes are:

- Connected Citizens
- Enhanced Lifestyle
- Sustainable Environment
- Diverse Economy
- Resilient Infrastructure

In each of these, there are four or five focus areas with some action statements that define the desired outcome, and these were used to establish the following priorities.

Priority 1: Resilient Infrastructure - Invest for Future

We will invest in high quality infrastructure to meet the needs of our community. In order to deliver the community services and infrastructure residents expect and deserve, the Council has laid out its funding priorities in this Strategy.

Priority 2: Enhanced Lifestyle - Facilities & Services

We will provide future-proofed services and facilities to enhance the community. A key goal of this Strategy and the Draft Long-Term Plan is to update key cultural and recreational facilities as well as invest in high-quality water services infrastructure, such as membrane filtration plants.

Priority 3: Diverse Economy - Leverage Local Strength

We will leverage local strengths to retain and grow local talent. Due to the scale of the proposed capital works programme and Council's procurement policies, Council relies heavily on external expertise within Timaru and wider Canterbury.

Priority 4: Sustainable Environment - Clean Environment

We will prioritise sustainable land and water use to help regenerate our environment. Some key projects in this Strategy relate to water supply sustainability, stormwater or wastewater land protection, and ensuring access corridors meet community needs.

Priority 5: Connected Citizens - Enabling Community

We will enable community ownership of projects, by supporting community groups and initiatives. Community involvement is often required for infrastructure activities, either through engagement for specific projects or by partnering with key stakeholders to deliver the assets needed.

Climate Change and Natural Hazards

The Council considers climate change to be a critical factor in its long-term planning. Council supports its planning by following guidelines from the New Zealand government, which are based on the best climate science available at the time.

Infrastructure resilience faces climate threats. Timaru assets risk damage through floods, landslides, high groundwater, and liquefaction in seismic events - heightened over time by climate change. Impacts include intensified rainfall, storms, and flooding. Low-lying areas are especially vulnerable to rising groundwater, amplifying flood and surface ponding risks. Weather variability flattens the bell curve of extreme event frequency, meaning more regular acute impacts.

The Ministry for the Environment information on http://www. mfe.govt.nz/climate-change/how-climate-change-affects-nz/how-might-climate-change-affect-my-region/canterbury provides an overview of projected climate changes over the period 2031- 2050 and 2081-2100 compared with 1986-2005.

Potential key impacts are likely to include:

- Water shortages – Drier conditions, reduced rainfall, and more evapotranspiration will increase the strain on water resources. The frequency and severity of droughts are likely to increase.

- More frequent storm events – Storm events can cause raw water quality to be negatively impacted in streams and shallow bores, requiring additional treatment in order to comply with drinking water standards.

- Fire risk – Fires are more likely to occur during periods of high winds, high temperatures, low humidity, and seasonal droughts. As a result, fire seasons are expected to last longer.

- Sea level rise – Climate change and rising sea levels will increase the risk of flooding and coastal erosion.

- Biosecurity – Pests and weeds may spread more quickly as a result of climate change. Changes in the distribution of disease vectors may also pose a threat to native species.

- Agriculture – A longer growing season, warmer temperatures, increased intensification, and fewer frosts could lead to new crops which will result in increased source water treatment mechanisms. In addition to faster pasture growth, farmers may also benefit from better crop growing conditions. In addition, severe storms and floods, as well as prolonged droughts, may limit these benefits due to the negative effects of climate change. Water resources are also likely to be under increasing pressure through increased demand.

- Changes in average temperatures have the potential to increase:
  - Increased dust on unsealed roads due to longer dry periods
  - Bitumen softens due to high temperatures, causing flushing
  - Changes in planting regimes for parks and reserves, resulting in greater stress on plantings and increased maintenance
  - The adoption of legislative measures to mitigate the negative effects of climate change (e.g. the adoption of building codes requiring rainwater collection)
  - Volumes of landfill gas and leachate.

Land Transport (Roading & Footpaths)

The climate change effects posing the greatest risk to some infrastructure includes:

- Sea level rise
- Adverse weather events: Intensity of rainfall
- Strong winds
- Droughts
- Snowfall
- Changes in average temperatures

These effects have the potential to increase:

- Unsealed roads become dustier because of prolonged dry periods
- Flushing and reduced skid resistance due to high temperatures causing bitumen softening
- Damaged roads and bridges due to increased flooding and scouring
- Blocked roads due to trees and other structures falling

Road accessibility and network resilience can be affected by all of these factors. Through timely responses and repair works, these will be mitigated as needed.

Water Supply

A key risk to water supply is the quality and availability of source water. Droughts are becoming more common, leading to an increase in the odds of severe restrictions occurring in any given year over 5%. Rainfall that is more frequent and intense could negatively impact the quality of our raw water sources, making it harder to treat to drinking water standards. As a result of these factors, Council plans and operates its assets with environmental considerations in mind, and measures are being put in place progressively to adapt to the impacts of climate change (e.g. in design standards).

The immediate goal is to upgrade the take, treatment, and storage options. It will allow the treatment of significantly poorer quality raw water to be appropriate and effective. As a demand management measure to increase water availability and efficiency, universal urban water metering is also proposed in the medium term. The development of new water sources and investment in additional storage and/or further treatment upgrades may be required in the long run to become more resilient to climate change.

Wastewater

Inflow and infiltration (I&I) could be exacerbated by more intense rainfall events, which could affect the asset performance. If the wastewater network's existing design capacity cannot cope with these more intense rain events, service failure could occur.

Increasing I&I rates into wastewater networks also play a critical role in determining future volumetric demands. Stormwater constitutes 20% to 40% of wastewater volume in most urban systems across New Zealand.

Overflows from sewer networks caused by high levels of I&I increase the likelihood of resource consent breaches. Council’s pipe renewal program is informed by testing results from the city's ongoing I&I Assessment Program. Sewer network overflows can be mitigated by timely replacement of defective pipes.

The focus on climate change mitigations means future measuring and management of greenhouse gas emissions from wastewater is an emerging area nationwide.

Stormwater

To quantify the impact of climate change on the District's stormwater network accurately requires significant investment which is hard to justify in the current economic environment. By using the Annual Exceedance Probability (AEP) measure against our levels of service, we need to consider the duration and type of event and its impact on our stormwater assets and system .

It is generally accepted that the district's stormwater network is aged. Increasing rainfall intensity will result in overflows and ponding in some parts of the network, causing the network to fail at its intended capacity. The Council and the community, need to develop an agreed level of service to handle higher stormwater flow rates and volumes, which will require significant investment in network capacity upgrade and development. Stormwater improvements were included in previous Long-Term Plans, along with funding and timing decisions.

In order to meet the Canterbury Land and Water Regional Plan (CLWRP) requirements, the Council previously decided to spend $15M over the 15 years on stormwater management improvements to address the water discharge quality as opposed to the volume or flow rates. It is planned to improve environmental outcomes gradually over time (short- and long-term) through a staged approach.

Waste Minimisation

Climate change is exacerbated by the generation of methane gas from waste. A system of gas collection and destruction is required for Redruth Landfill under the National Environmental Standard for Air Quality. Every stage of cell development, capping, and closure is planned to accommodate landfill gas systems. By installing the new LFG capture system and burn off flare, Council has ensured compliance with the NES and is able to offset carbon credit purchases through UEF credits.

The site's stormwater flow and that of the surrounding catchment are expected to increase when there is heavy rainfall. Climate change mitigation controls will be examined as part of stormwater planning.

Landfills in coastal areas are subject to erosion over time; Redruth Landfill is actively monitored to asses the risk from sea level rise. There is, however, a railway that passes between the Redruth landfill and the coast in the South Island, which provides some protection from the sea. High bunds and swales at the Redruth site mitigate flooding risks because of their ability to divert stormwater.

Among the Council's climate change initiatives is the assessment of the impacts on its waste management assets, including the current Closed Landfill Risk Assessment.

Coastal Erosion & Inundation

Coastal erosion and inundation pose no immediate threat to significant roading or wastewater treatment infrastructure in the district. However, low lying recreation areas such as the Otipua Wetlands and associated pathways and bridges are subject to it. A potential erosion or inundation of the Redruth landfill and other closed landfills in the District also exists during this strategy's lifetime.

The issue can be summarised as follows:

- Most of the South Canterbury Coastline is being eroded; however, Caroline Bay is being accreted.
- The erosion problem has worsened in recent years due to the decline in beach shingle, particularly during heavy northeasterly swells.
- Otipua Beach and Otipua Wetlands are the most at risk from current levels of erosion, along with coastal walkways, the Rail Corridor, and the South Island main trunk railway line.
- Over the next 25 to 50 years, coastal erosion may affect more significant infrastructure assets. Sea levels are predicted to rise, making erosion and flooding more frequent if extreme weather events occur more frequently. An example would be Washdyke Lagoon, which if completely eroded would put a sewer line at risk of damage from coastal erosion if the seaward side of the lagoon were completely eroded.

Environment Canterbury defines the coastal erosion zone as the area outside of which the Council Wastewater Treatment Plant and Oxidation Ponds are located. However, it is unlikely that the plant and ponds will be threatened within 100 years.

Within 50 years, erosion and inundation could cause damage to the Redruth landfill. KiwiRail may be able to protect the main trunk railway line in the South Island if they take measures to do so. In that case, the landfill would likely be protected. Otherwise, a landfill could be at risk depending on erosion rates

There's no linear process to coastal erosion and inundation; it's a dynamic, variable and hard to predict event. As a result, Council needs to monitor closely and address this issue as needed.

Our infrastructure planning has taken into account these key likely impacts.

An Achievable and Affordable Plan

Council is faced with significant infrastructure challenges, which make it difficult to deliver ongoing affordable service delivery in an appropriate manner.

As part of its Financial Strategy (FS), this strategy seeks balance between meeting the future infrastructure development and renewal needs, while maintaining affordability for residents and ratepayers. Considering the long life expectancy of assets and the benefits they bring, they should be paid for across generations in a fair and equitable manner.

A two-way relationship exists between the Infrastructure and Financial Strategies. Ratepayer affordability is balanced in the FS with matters and issues outlined in the IS, such as:

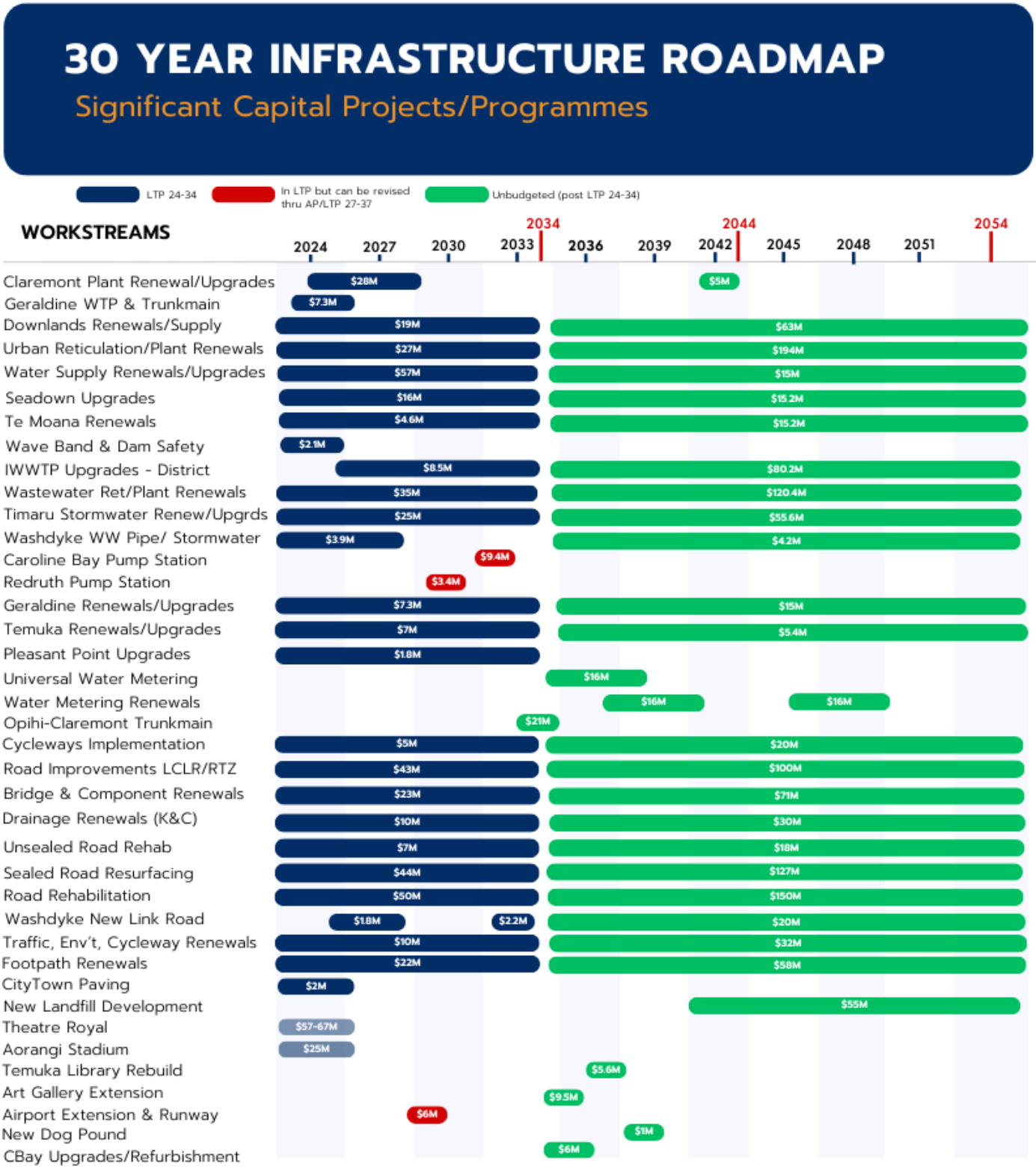
- Infrastructural maintenance, replacement, and renewal
- Standards and requirements that must be met under legislation
- To respond to community aspirations for new and better infrastructure
- In addition to climate change, we must also plan for other big issues.

Given Council's funding constraints and reliance on rate revenue to meet these demands, maintaining affordability is a significant challenge. Council's debt to revenue limits have been increased and rates funding has been increased to meet this need. Rates for the Council are very low when compared with those of similar councils, and this has affected our ability to meet these demands. As part of its investigation, Timaru is also considering how it can reduce the rate impact through other mechanisms, such as implementing development contributions. All councils face this affordability issue, and it is a major discussion point between central and local government.

As a result of deferred renewals and underfunding of depreciation, Council finds itself with a large renewal works programme that may be beyond the capacity of its contractors. It is crucial to balance the community's increased demands for modernising community assets with a clear plan for renewing core infrastructure that meets legislatively mandated levels of service. As a result, large investment decisions will be needed during the life of this strategy for projects that are not currently funded. A number of these projects have been included in previous Long-Term Plans but have been deferred because of funding constraints.

30 Year Project Timeline

Below is the projected timeline for the major capital works with inflated costs included. The colour codes indicate when decisions need to be made - for blue, decisions need to be made in the LTP 24-34, in red the budget is included in this LTP but future decisions can be made either through Annual Plans or the next LTP 27-37, and green is unbudgeted projects for future consideration.



High Level Options Analysis

Project	Options	Preferred Option
Claremont Water Treatment Plant Upgrades; $28.5million for years 1-3	1. Undertake works with UV treatment and installation of microfiltration membrane in Years 1-3 to address resiliency and future demand 2. Delay works until later years with potential risk of failure of service (boil water notices) 3. Do not undertake works with risk of failure to meet compliance standards and potentially put public health at risk for water supply	Council has chosen Option 1: to do the upgrades in Years 1-3 to mitigate any potential risk to the Timaru water supply and enhance resilience for future demands for industrial users in Washdyke
Downlands & Timaru reservoir linings & covers; $12million for years 1-5	1. Undertake works to install new linings and roof covers for reservoirs in Timaru and for Downlands water supply networks in Years 1-5 2. Delay all works for future years and risk leaks and/or contamination in reservoirs	Council has chosen Option 1: to address any potential issues and do the work necessary to protect the reservoirs for Timaru & Downlands
Timaru/Washdyke Stormwater Upgrades; $13.7million for years 1-10	1. Invest in stormwater upgrades for Timaru and Washdyke areas for this LTP period to improve resilience and protect the environment in times of flooding 2. Delay any stormwater upgrades or works until after legislation has passed and risk damage from intense weather events until then	Council has chosen Option 1: to invest in the stormwater upgrades in anticipation of expected legislative standards to address immediate needs of the community
Caroline Bay Pump Station Installation; $9.5million for years 8-9	1. Install a pump station at Caroline Bay to address stormwater flooding issues in Year 8 2. Bring forward the work to install the pump station to enhance the resilience of Caroline Bay sooner	Council has chosen Option 1: to install the pump station in Year 8 at Caroline Bay as a future project due to costs and will manage stormwater issues accordingly in the interim
Inland Towns WWTP; $8.5million for years 2-10	1. Invest in wastewater treatment plant upgrades for townships throughout the district in a sequential order over the years to ensure compliance and public health safety for all residents 2. Bring forward the planned works programme to do all at once 3. Delay any works on WWTP for smaller townships until after year 10	Council has chosen Option 1: to phase in WWTP upgrades to all townships over the ten year plan to help spread out the costs and to prioritise based on need
Redruth Pump Station Renewal; $3.4million for years 5-7	1. Invest in Redruth Landfill pump station to replace old pump to protect public from contamination from stormwater runoff on landfill 2. Delay renewal and risk failure of existing pump station	Council has chosen Option 1: to schedule the pump station renewal at the scheduled end-of-life to ensure stormwater issues are addressed
Washdyke New Link Road - Heaton Hayes; $4.6 million for years 4-5 & 10	1. Develop the road in accordance with roading programme to address demand from heavy vehicle traffic 2. Delay or defer road development until after Year 10 and risk further deterioration on roading network in area due to heavy traffic	Council has chosen Option 1: to proceed with road development and help address demand issues on roading network in adjacent area
Cycleways Implementation; $5million for years 1-10	1. Invest full amount ($1m p.a.) in developing cycleways to help promote active transport and carbon emission reduction targets for district 2. Reduce investment to $500k p.a. to keep cycleways in development but at a slower pace than planned 3. Remove cycleways investment to follow lead of central government	Council has chosen Option 2: to reduce investment by half due to budgetary constraints, but still keep the commitment to developing the cycleway network as a means of active transport for the district
Closed Landfill Risk Mitigation; $100k for years 1-2; potentially millions in future years	1. Invest in developing the management plan for closed landfills from the risk assessment conducted to determine future need for removing or mitigating landfill breaches 2. Cease development of the plan and address closed landfill issues on a needs basis when breaches occur	Council has chosen Option 1: to develop the plan to address closed landfills so it can adequately mitigate potential breaches and lobby central government for assistance

NZ Infrastructure Strategy

Rautaki Hanganga o Aotearoa, the NZ Infrastructure Strategy (NZIS), was released by the Te Waihanga (NZ Infrastructure Commission) in 2022. In many cases, there are overlaps between national infrastructure challenges facing the government and local infrastructure challenges. A growing and aging population, coupled with climate change, aged assets requiring high expenditures in renewal, and a shortage of workers in the construction sector are a few of the common challenges identified.

In general, the NZIS makes 68 recommendations to central and local government, as well as the infrastructure sector. These recommendations have two main objectives:

1. Lifting the contribution that infrastructure makes to wellbeing by addressing five strategic objectives.
2. Improving the performance of infrastructure planning, funding and financing, and delivery.

Key Recommendations for Councils

A role for local government has been identified in 20 of the Infrastructure Commission's recommendations. Briefly stated, they focus on the following key areas:

- Increasing capacity and capability of Māori in infrastructure
- Improve water infrastructure pricing, management, and water conservation
- Increase supply and use of low-emission transport options
- Optimise the use of urban land, improve urban planning through standardisation, increase housing development in areas of infrastructure access
- Reduce congestion, improve urban mobility, target transport investment to high priorities
- Enhance resiliency of access to essential materials to build and maintain infrastructure (ie aggregates)
- Minimise waste through market intervention (increased fees and enforcement for illegal dumping), improve recycling infrastructure, improve social marketing to effect behaviour change, reduce landfill emissions from organic waste, increase use of recycled materials in infrastructure builds, improve waste data, require waste plans for infrastructure building
- Improve transparency of long-term infrastructure planning and investment, consider non-built options for infrastructure challenges
- Ensure infrastructure charges are inflation-adjusted

Timaru's Alignment to Recommendations

Council's infrastructure planning and practice already incorporate many recommendations made by the Infrastructure Commission. We engage Aoraki Environmental Consultancy (Arowhenua's entity for iwi/local government engagement) for infrastructure and planning related issues through monthly meetings and a Service Level Agreement. Waters, Land Transport, and Waste Minimisation are continuously reviewing pricing, identifying business improvement practices, and focusing funding on Council's identified priorities. Infrastructure Services and District Planning collaborate on urban development areas to integrate urban and infrastructure planning. With Council's Financial Strategy and prudent financial management, all budget models are inflation-adjusted for infrastructure projects and future planning.

Part Three:
Three Waters

Overview

Timaru's drinking water, wastewater, and stormwater systems fundamentally enable quality of life, health, and economy. Governing legislation spans the Health Act, Local Government Act, Water Services Regulator Act, and Resource Management Act alongside consumer protection regulations. New safety requirements around district dams, ponds and reservoirs also demand more resources for monitoring and audits. Further three waters legislative reform likely looms ahead, influencing this Strategy's trajectory.

Taumata Arowai, the national water regulator, oversees drinking water standards, while monitoring wastewater and stormwater discharges (ECan still regulates compliance). The Water Services Regulator Act outlines its duties alongside those of drinking water suppliers and councils over provision. Additionally, the 2023 Water Services Consumer Protection Act tasks the Commerce Commission to oversee economic and consumer oversight across the reformed three waters sector.

In developing this Strategy, Council has assumed retaining ownership and operational responsibility for three waters for the next 30 years, but will continue working in partnership with neighbouring councils to deliver water activities where appropriate.

The infographic overleaf summarises and updates the three waters information sent to the Transition Unit as part of the preparation for the Affordable Water Reforms.

Three Waters

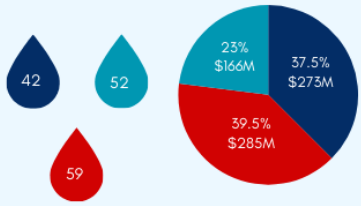
Overview

- Timaru District covers 2,732 km^2
- Important natural water bodies for water supply are Pareora, Opihi, Te Moana, Te Awa rivers
- WW discharged into Pacific Ocean after treatment
- SW drainage occurs in the Waihi, Temuka rivers and Pacific Ocean
- 48,500 estimated population (Stats NZ)
- 44,000 population serviced drinking water
- 35,000 population serviced wastewater

Top Priority Projects

Year	Project	Cost (est)
2024-25	Geraldine WTP Upgrade & Trunkmain Installation	$7.3M
2024-26	Claremont Water Treatment Plant Upgrades	$28.5M
2024-29	Downlands & Timaru reservoir linings & covers	$12M
2024-34	Timaru/Washdyke Stormwater Upgrades	$13.7M
2032-33	Caroline Bay Pump Station Installation	$9.5M
2024-26	Geraldine Syphon Trunkmain Upgrade	$1.25M
2025-34	Inland Towns WWTP	$8.5M
2029-31	Redruth Pump Station Renewal	$3.4M

Asset Information



Average Age of Water Pipes (years)

REPLACEMENT VALUE ($724M total)

RETICULATION
2,025 km of water supply mains
469 km of wastewater pipes
260 km of stormwater pipes

TREATMENT ASSETS
12 water treatment plants
1 wastewater treatment plant
4 wastewater oxidation plants

STATIONS
13 water supply pump stations
19 water supply oxidation ponds
18 wastewater pump stations
2 stormwater pump stations

Critical Assets

WATER SUPPLY
- Claremont treatment plant & reservoirs
- Temuka treatment plant & reservoirs
- Pleasant Point treatment plant & reservoir
- Te Moana treatment plant & reservoir
- Geraldine treatment plant & reservoir
- Reticulation (water mains)

WASTEWATER
- Timaru wastewater treatment plant
- Ocean outfall
- Geraldine, Temuka, Pleasant Point ponds
- Reticulation (pipes, manholes)

STORMWATER
- Washdyke & Redruth pump stations
- Geraldine, Pleasant Point, Gleniti, West End detention dams
- Temuka retention & filtration basins
- Reticulation (pipes, manholes, sumps)

Risks & Issues

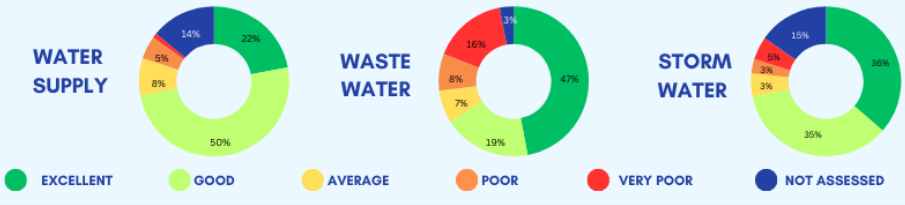
THREE WATERS
- Climate change - rainfall events, dry weather, high temperatures, sea-level rise pose risks to servicing the area and infrastructure damage
- Stretched resources, staff recruitment for skilled 3 waters staff for asset management, design, and operations
- Dependency on ECan for processing resource consents within statutory timeframes
- Dependency on high-use industrial consumers
- increasing environmental standards & compliance with resource consents
- Legislative creep

WATER SUPPLY
- Drinking water standards require water treatment upgrades & monitoring
- Managing high water demand in summer
- Water Safety Plans identify storage & backflow issues

WASTEWATER
- Non-compliant industrial waste from Primary Processing Industries
- Performance & durability of oxidations ponds

STORMWATER
- Obtaining approval for comprehensive Stormwater Management Plans and area-wide discharge resource consents

Asset Condition



Water Supply

Water Supply Schemes

The Timaru District's water supply activity involves managing, operating and maintaining water supplies in a manner that safeguards and promotes community wellbeing while minimizing environmental impacts.

Timaru District Council provides drinking water and stock water across ten public water supplies and two stock-only schemes. Sources include rivers, bores, and underground aquifers. The Opihi and Pareora Rivers supply 60% of drinking water to Timaru. Water takes require resource consents which may restrict volumes during drought when river flows decline.

Public drinking water systems serve Timaru, Temuka, Geraldine, Pleasant Point, Winchester, Peel Forest, Orari, Te Moana, Seadown, Downlands (jointly governed with Mackenzie/Waimate but Timaru-managed), and stock-only schemes in Beautiful Valley and the Rangitata-Orari area.

Asset Summary

For water supply, Council has plant assets including intakes, treatment plants, reservoirs, pump stations, telemetry, and land such as Pareora River Scenic Reserve where the key intake from the Pareora River occurs. Key assets comprise 16 treatment facilities, 10 pump stations, 11 reservoirs and approximately 2,025 kilometers of piping network valued at over $350 million. In 2020, assessments found 92% of pipes in good to excellent condition and 8% in poor to very poor condition. Assessments evaluate physical sampling, expected life based on installation dates, and failure rates.

The water supplies being managed by TDC consist of:

- Five urban drinking schemes for Geraldine, Peel Forest, Pleasant Point, Temuka (including Winchester) and Timaru;
- Four rural drinking and stockwater schemes for Downlands, Orari, Seadown and Te Moana;
- Two stockwater only schemes for Beautiful Valley and Rangitata-Orari; and
- Two smaller supplies at Upper Pareora Gorge and at Rangitata Huts, the latter being operated on behalf of TDC’s Property Unit.

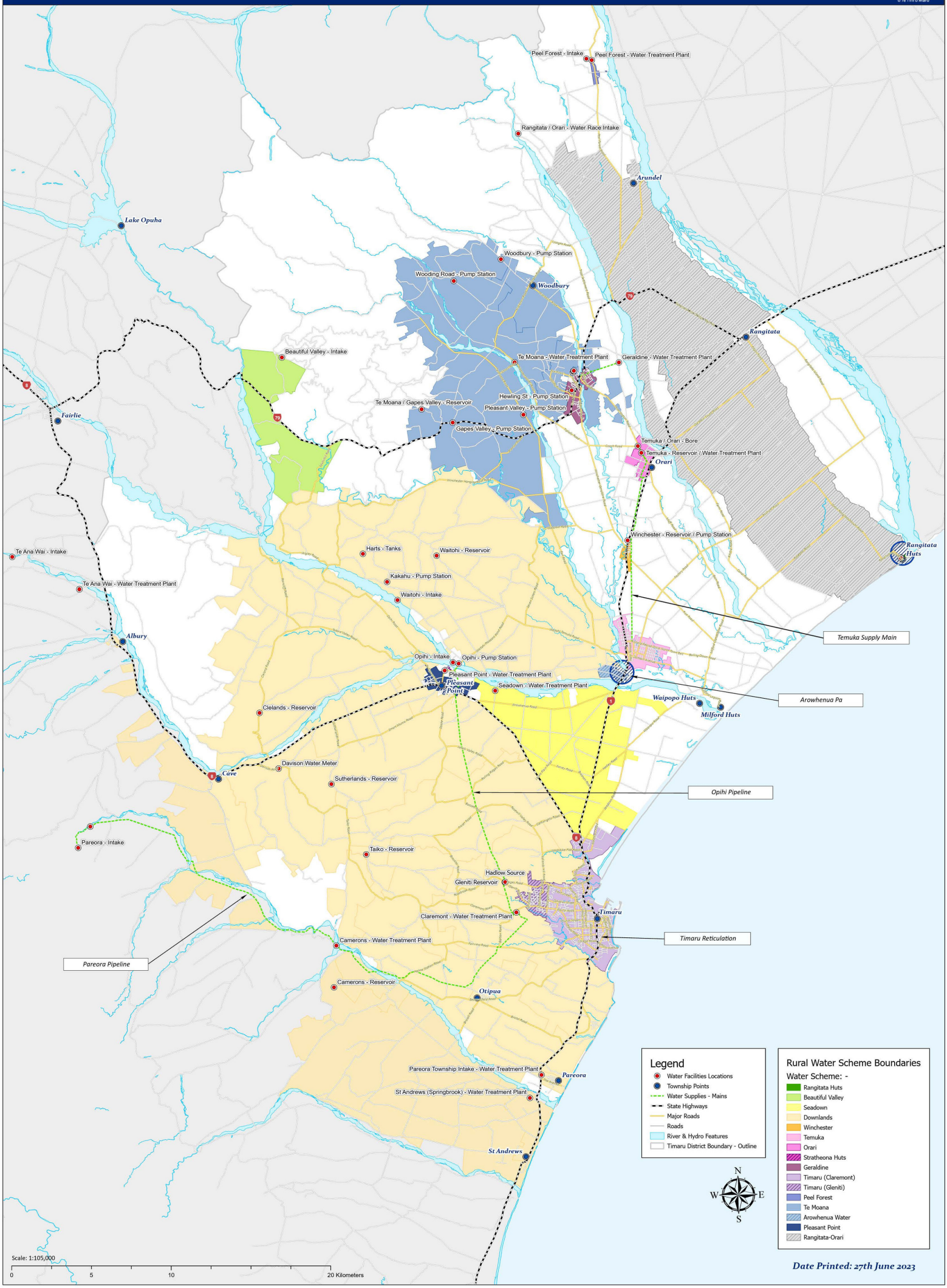
A map of the District’s water supply network showing intakes, treatment plants, reservoirs and pump stations can be found overleaf.

As of the year ended 30 June 2023, there were a total of over 21,000 residential and non-residential connections.

Council prioritizes renewing pipes in poor condition, balancing age, condition, criticality, maintenance history, and failure rates. Where feasible, pipe renewals are coordinated with road works. Renewal priorities undergo annual review incorporating new information. Ongoing pipe maintenance also mitigates service failure risks.

Recent annual water supply asset renewal expenditure was over $11 million (2023 Annual Report).

Timaru District Water Scheme - Location Map



Date Printed: 27th June 2023

Asset Summary

The Timaru District's water supply assets are facing significant renewal costs in the next ten years due to age and performance issues. An assessment of the remaining life of pipe assets indicates this need for renewals. The accelerated failure of the asbestos-concrete pipes in the Temuka Water Supply in December 2017 has underscored the importance of robust data and methodologies for estimating the remaining life of pipes to prevent premature failures. The need for significant renewals suggests that some assets may be nearing the end of their service life or have performance issues. Key factors influencing the condition of these assets include compliance with Drinking Water Standards, the effects of climate change, and the need for water treatment upgrades to meet public health risks

The general condition of water supply plant assets is typically dependent on age, with expected lifespans ranging from 5 to 100 years depending on the asset type. Methods for determining the condition of water supply assets include:

- Operational Records: Regular staff visits for water sampling can detect issues
- Maintenance Records: Ongoing issues measured as a performance indicator
- Telemetry: Continuous monitoring with alarms for anomalies
- Water Quality Monitoring: Detects non-performance in treatment processes
- Professional Services: Commissioned for focused condition assessments
- Periodic Checks: By experienced personnel using tools like infrared cameras
- Specialized Contractor Maintenance
- Age of Asset: Used as an indicator of condition. Outcomes from these assessments are used for planning renewals, replacements, or upgrades, and are summarized in reports such as the 2012 condition assessment and the 2008 and 2014 Pipe Condition Assessment Reports.

Reservoirs and water treatment/storage structures were evaluated for the 2021-2051 Infrastructure Strategy. Seismic vulnerabilities were identified in several assets. A new control/office building was constructed at the Claremont Water Treatment Plant, while seismic strengthening and an extension were completed at Pleasant Point. Above-ground asset condition assessments have generally been informal. A protocol to standardize evaluations is in development. Accessibility enables routine checks on treatment facilities, providing confidence in condition knowledge.

Currently household and industrial usage each account for roughly 50% of supply. Climate change threatens future water security. Asset planning and management incorporate measures to meet rising demand.

There is good confidence in the condition data for pipes with about 98% of the network already assessed. However, the accuracy of data may decline with its age. For above-ground assets, the condition assessment is largely informal, but due to their accessibility, there is good confidence in the condition data. A more formal protocol for plant/facilities condition assessment is identified as an improvement action to be carried out in the short term.

Asset Summary

The Asset Lifecycle Management Process utilised by Timaru District Council includes operation and maintenance planning for optimal asset utilisation, and programming of capital works like asset development, renewals, upgrades, and disposal to sustainably deliver the required level of service. The framework aims to provide and maintain assets economically, deliver services affordably, achieve the asset's service potential, customer levels of service, health and safety standards, and reduce Council's exposure to risk from unforeseen asset failure. This encompasses renewal/replacement, disposal, operations and maintenance (both unplanned and planned), and creation and/or development of assets.

The Asset Renewal Strategy for the Timaru District's water supply system focuses on maintaining asset integrity to ensure efficient and effective performance. This involves significant treatment upgrades for all supplies to comply with the Drinking Water Quality Assurance Rules that define the Drinking Water Standards of New Zealand (DWSNZ), including the installation of membrane filtration and UV treatment plants. Upgrades are planned for all urban water treatment plants within the next 30 years, with the possibility of schedules being accelerated by the regulator, Taumata Arowai. The strategy aims to address system losses and high demand resulting from poor asset condition and performance, which will likely have levels of service standards set by the Commerce Commision.

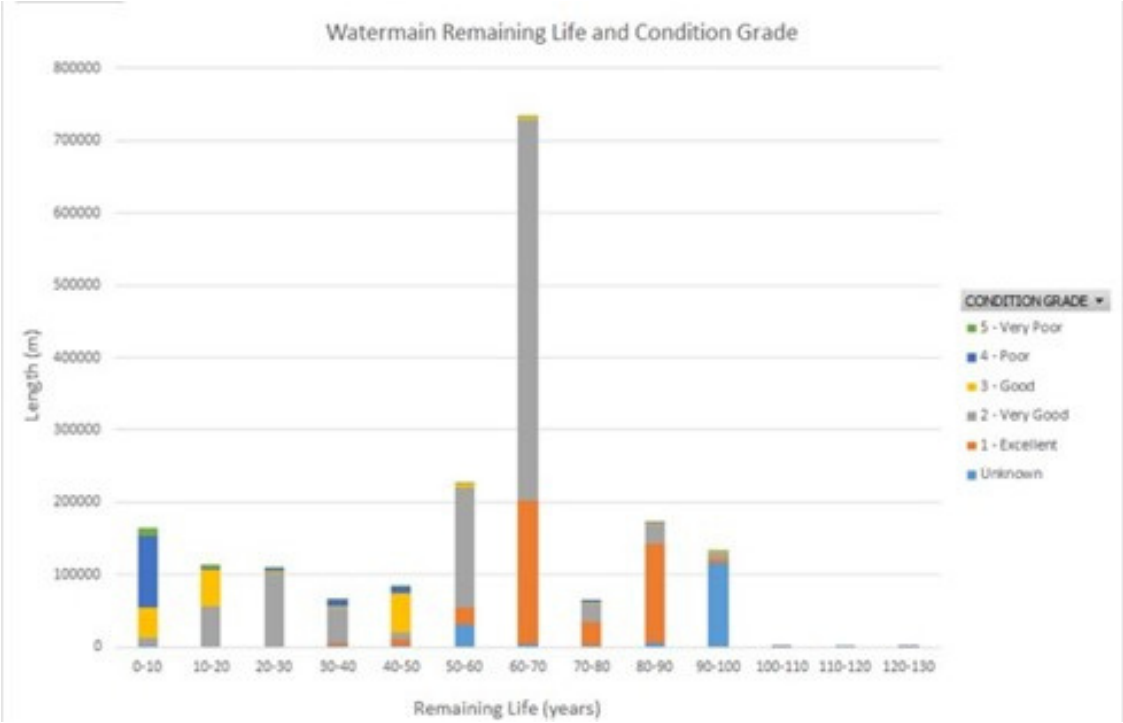
The process for planning capital works in the Timaru District's water supply system involves defining strategies for asset renewals/replacements, upgrades/improvements, and new capital projects, including asset disposal. The Asset Renewal Strategy follows cyclic renewal strategies for progressive replacement of assets that have reached the end of their useful life. This is based on factors like the asset's age profile, physical condition assessments, criticality, maintenance repairs, customer service issues, and performance monitoring. Key capital projects for the next 10 years are detailed in the Asset Management Plan.

The Water Supply Activity Management Plan 2024-34 does not provide specific current conditions for all water supply assets but outlines key projects and replacements for the LTP period, indicating areas of focus for asset management. These include Seadown reticulation reconfiguration and renewals, Timaru Urban Supply intake renewals, membrane treatment installation for urban water treatment plants, fluoridation considerations, Geraldine Urban Supply reservoir replacement and treatment plant upgrade, Temuka Urban Supply reservoir renewal, Downlands reservoir relining and roof covers, universal water metering rollout, and network modeling for better criticality assessment.

The Timaru District Water Supply Asset Management Plan outlines the process for planning operations and maintenance of water supply assets. The Asset Management Team within the Drainage and Water Unit of TDC's Infrastructure Group, comprising in-house personnel and contractors, is responsible for technical and administrative functions, projects, and asset maintenance services. They manage asset lifecycle, conduct periodic checks, and monitor outputs like pressure from pumps continuously. Regular visits to pump stations and treatment plants for intermediate inspections and maintenance are part of the routine. This ensures efficient and effective performance of the assets and compliance with environmental standards.

Asset Summary

The graph below shows the remaining life of the watermains of the Timaru Water Supply Network, with the impending issues for those with less than ten years showing in the condition assessment.



The maps overleaf shows the criticality of the Timaru Water Supply Network, with the key to decipher the different colours shown below

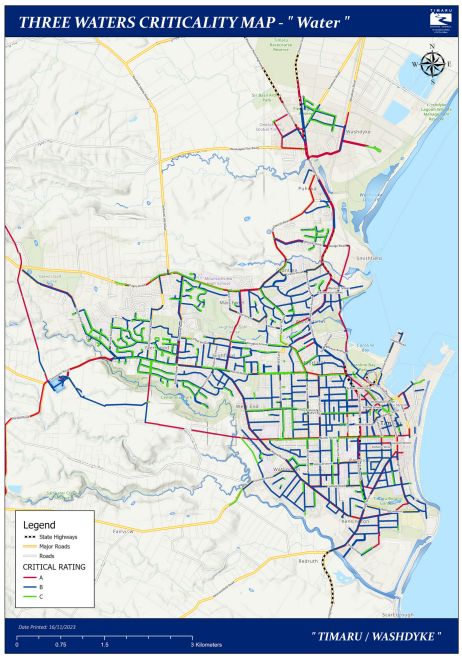
ASSET CONDITION GRADING		
Score/ Severity	**Category**	**Description**
1	Near as new condition with no defects. Asset is fully serviceable.	Excellent Condition
2	Superficial deterioration. Minor issue with reliability. Minor maintenance only is required.	Very Good Condition
3	Significant deterioration. Assets are operational but display efficiency deficiencies. Routine maintenance and/or refurbishment is required.	Good Condition
4	Major or serious deterioration is evident. Asset is not operating effectively and major problems are imminent. Major maintenance or rehabilitation is required.	Poor Condition
5	Asset has failed, is about to fail or has stopped working. The asset is unserviceable. Asset replacement or renewal is required immediately or within 12 months.	Very Poor Condition

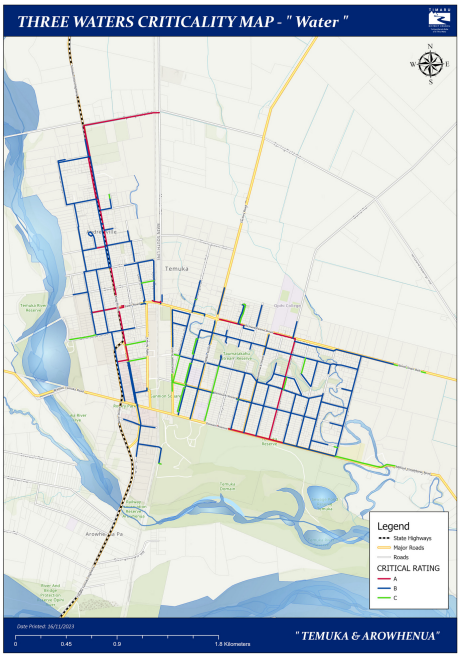
CRITICALITY	SCORE	LEVEL	DESCRIPTION
A	> 120 pts	High	Asset components considered so important that contingency plans in the event of their failure must be in place to avoid unacceptable loss of service.
B	101 – 120 pts	Medium	Asset components that are important to the effective day to day operation of the system where redundancy or contingency should be available for restoration of service within a reasonable time.
C	< 100 pts	Low	Asset components which can fail without affecting the operation and service and where repairs or renewal can be realistically deferred.

WATER SUPPLY SERVICES

Table 6. Asset Risk Rating Scale

RISK RATING			CRITICALITY		
			A	*B*	*C*
			High	**Medium**	**Low**
CONDITION GRADING	*5*	*Very Poor Condition*	Extreme	High	Moderate
	4	*Poor Condition*	High	Moderate	Low
	3	*Good Condition*	Moderate	Low	Insignificant
	2	*Very Good Condition*	Low	Insignificant	Insignificant
	1	*Excellent Condition*	Insignificant	Insignificant	Insignificant


THREE WATERS CRITICALITY MAP - " Water "
Legend
State Highways
Major Roads
Roads
CRITICAL RATING
A
B
C
" TIMARU / WASHDYKE "


THREE WATERS CRITICALITY MAP - " Water "
Legend
State Highways
Major Roads
Roads
CRITICAL RATING
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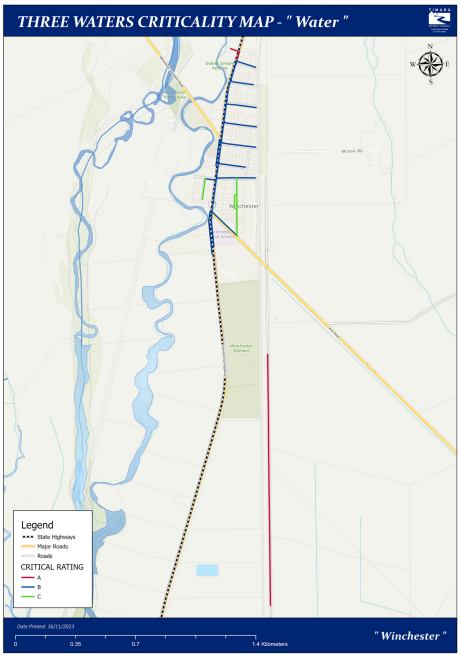
B
C
" TEMUKA & AROWHENUA"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State Highways
Major Roads
Roads
CRITICAL RATING
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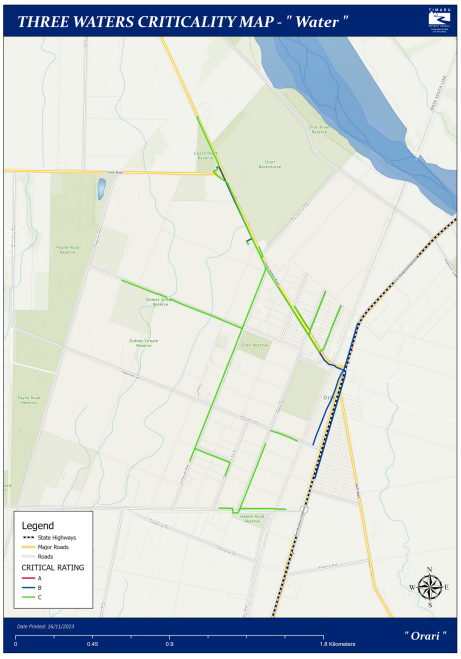
C
" Winchester "


THREE WATERS CRITICALITY MAP - " Water "
Legend
State Highways
Major Roads
Roads
CRITICAL RATING
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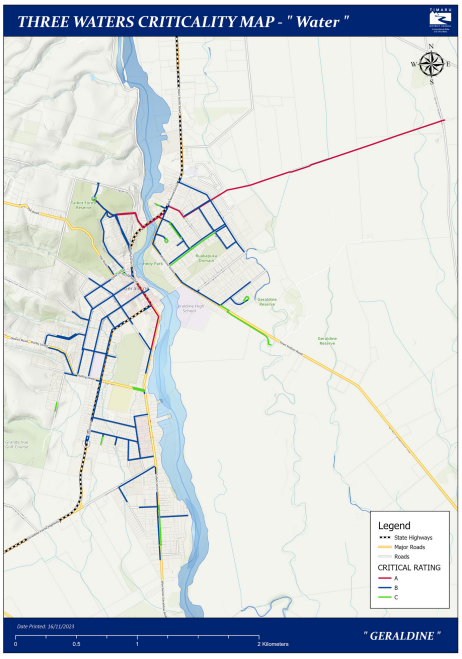
B
C
" Orari "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State Highways
Major Roads
Roads
CRITICAL RATING
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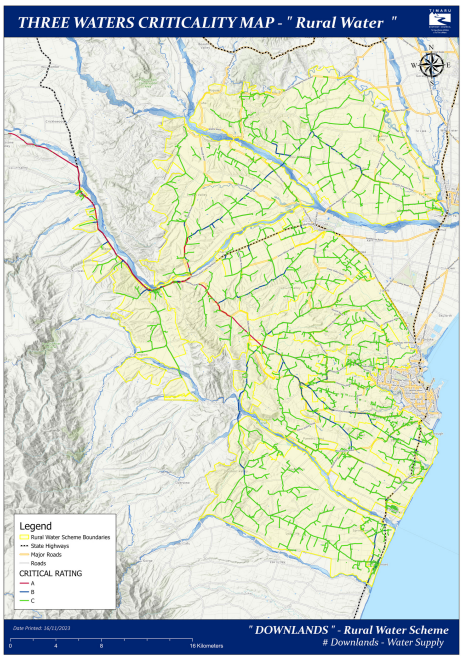
B
C
" GERALDINE "


THREE WATERS CRITICALITY MAP - " Rural Water "
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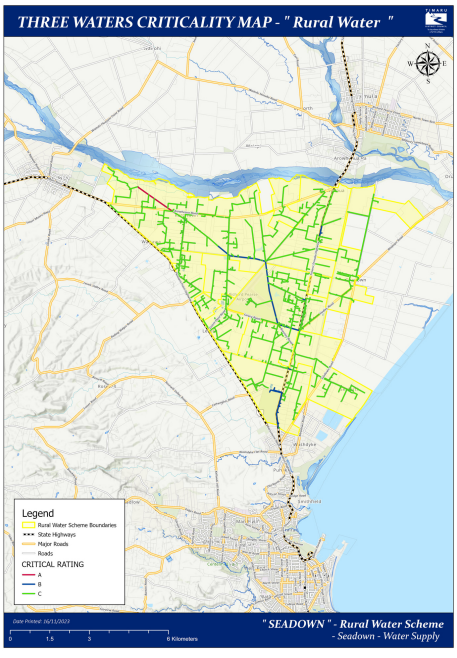
Rural Water Scheme Boundaries
State Highways
Major Roads
Roads
CRITICAL RATING
A
B
C
" DOWNLANDS " - Rural Water Scheme
Downlands - Water Supply


THREE WATERS CRITICALITY MAP - " Rural Water "
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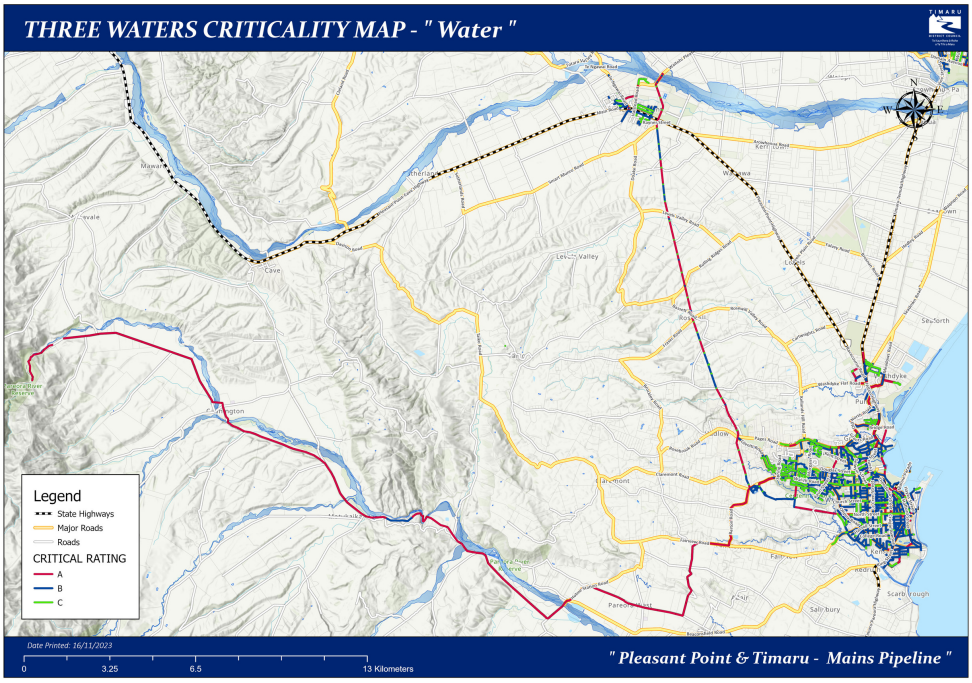
Rural Water Scheme Boundaries
State Highways
Major Roads
Roads
CRITICAL RATING
A
B
C
" SEADOWN " - Rural Water Scheme
- Seadown - Water Supply


THREE WATERS CRITICALITY MAP - " Water "
Legend
State Highways
Major Roads
Roads
CRITICAL RATING
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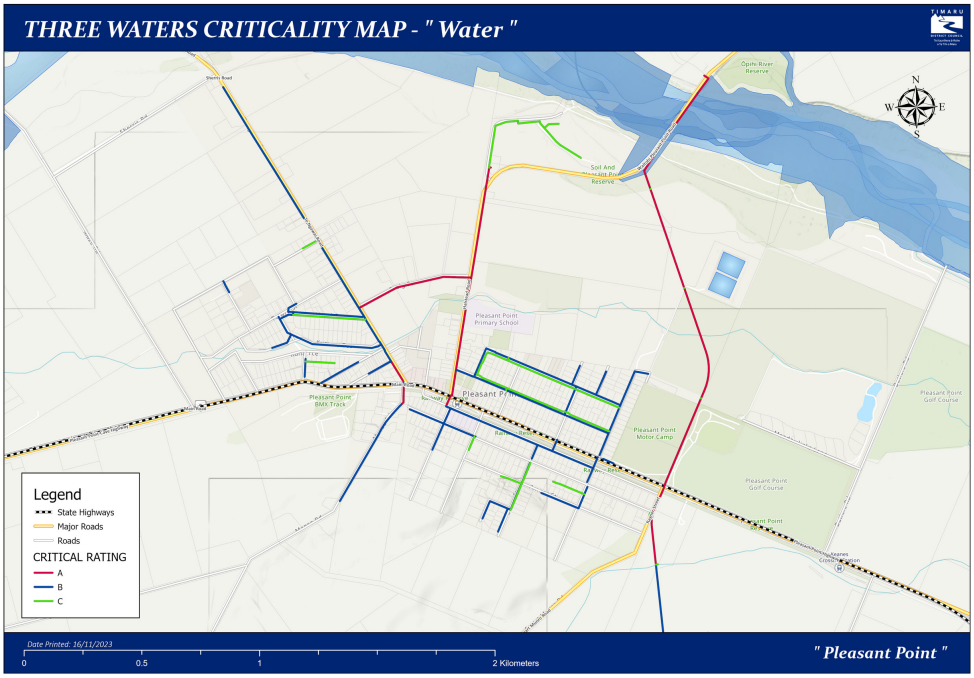
B
C
Date Printed: 16/11/2023
0
3.25
6.5
13 Kilometers
" Pleasant Point & Timaru - Mains Pipeline "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Legend
State Highways
Major Roads
Roads
CRITICAL RATING
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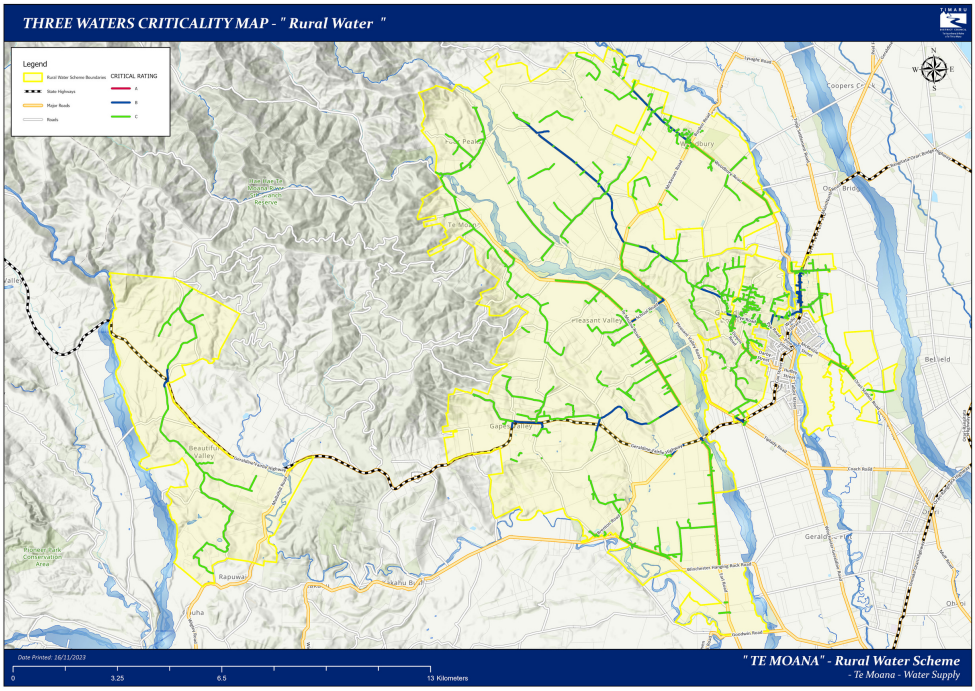
Date Printed: 16/11/2023
0
0.5
1
2 Kilometers
" Pleasant Point "


THREE WATERS CRITICALITY MAP - " Rural Water "
Legend
CRITICAL RATING
A
B
C
Date Printed: 16/11/2023
0
3.25
6.5
13 Kilometers
" TE MOANA " - Rural Water Scheme
- Te Moana - Water Supply

Key Issues

The council faces several key challenges in providing water supply services:

- Demographic changes leading to more connections despite stable population numbers, impacting revenue to cover water costs
- Tighter regulations and the need for more qualified staff
- An aging workforce with expected retirements and difficulties in recruiting qualified staff
- High demand exceeding infrastructure capacity and the need for substantial upgrades
- Affordability of service as costs are likely to increase
- Ensuring sufficient water supply amidst competing demands and potential industry growth.

The most critical short-term issues facing water supply systems include compliance with drinking water standards to ensure safe drinking water, managing real water loss from the network to conserve resources, and maintaining excellent customer service through timely attendance and resolution of urgent and non-urgent callouts. Additionally, addressing customer complaints regarding water clarity, taste, odor, pressure, flow, and continuity of supply is essential for maintaining public trust and satisfaction with water supply services.

The major issues impacting water supply systems include severe weather events, earthquakes, tsunamis, consent restrictions, poor contractor performance, pressure reduction, excessive demand or leakage, asset failure, poor water treatment, inadequate maintenance, power failures, third-party damage, demand growth, poor construction of assets, third-party contamination, inadequate water source supply, insufficient pressure in reticulation, reduced storage volumes, insufficient firefighting supply, sea water intrusion, public health concerns, inability to meet abstraction limits or demands in extreme dry conditions, regulatory issues, negative social and media impacts, disruption to essential services, economic downturn, and flooding.

The key issues affecting the condition and performance of water supply assets include the age of the plant assets, as their condition is usually dependent on their expected life span. Performance is also determined by the asset's ability to produce an output, which is continuously monitored. Regular visits and inspections, along with maintenance, provide an indication of the condition of these assets. Most assets are above ground and easily accessible, except for certain items like bores and submersible pumps. Onsite inspections, pump efficiency checks, power monitoring, and flow rate tracking help evaluate plant asset condition.

Demand Management

Demand for water supply is influenced by various factors including population and household number changes, urbanization and development of lifestyle blocks, industrial and commercial usage, tourism growth, and firefighting requirements. Additionally, water demand is affected by the need to maintain sufficient pressure in the reticulation network, especially for high elevation connections, and to provide adequate firefighting capacity. Council monitors these demand drivers and uses hydraulic modelling to assess the impact on the water supply infrastructure, ensuring sustainability and efficiency in operation.

The Demand Management Strategy (currently in development) for the water supply system includes asset-based approaches like timely repair and maintenance, asset renewal or development, and scheme modification or upgrade. Non-asset approaches involve leak detection and reduction, customer education campaigns, pressure management, and exploring additional water sources. The strategy aims to address excessive or wasteful consumption, provide for future demand, ensure efficient operation of the schemes, and optimise asset utilisation.

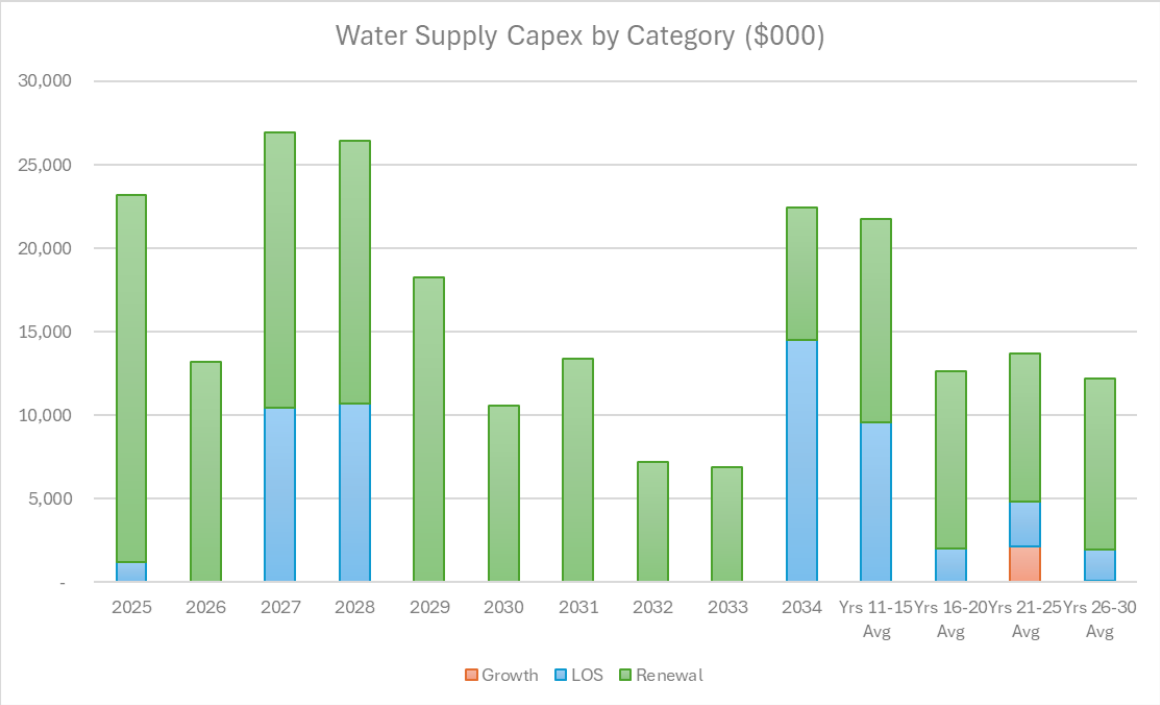
Major Projects

Project	Years	Financials
Geraldine Treatment Plant Upgrades & Trunkmain Installation	2024	$7.3M Year 1
Claremont Renewal & Upgrade	2024-28	$7.5M Years 1-2 $21M Years 3-4
Seadown Water Supply Upgrades	2024-34	$9.6M Years 1-10
Downlands Additional Water Supply Delivery	2027 - 2034	$1.9M Years 4-10
In-Ground Reservoir Lining and Solid Roof Cover Installation - Downlands	2025 - 2029	$5.5M Years 2-5
Timaru In-ground reservoir lining & roof cover	2024 - 2029	$6.5M Years 2-5
Pareora Pipeline Replacements & Extensions	2027-2030	$9.5M Years 4-8

Financial Forecasts

Year	Operations (millions)	Capital Renewals (millions)	Capital LOS (millions)	Capital Growth (millions)
2025	17.8	21.7	1.2	0
2026	19.3	12.9	0	0
2027	20.5	15.7	10.5	0
2028	21.9	14.9	10.7	0
2029	24.1	17.4	0	0
2030	25.6	10.3	0	0
2031	25.5	13.1	0	0
2032	26.1	6.9	0	0
2033	27.2	6.6	0	0
2034	27.6	7.6	14.5	0
2035-39 (AVG)	29.3	60.9	47.8	0
2040-44 (AVG)	32.2	53.2	10.1	0
2045-49 (AVG)	34.7	44.4	13.5	2.1
2050-54 (AVG)	38.9	51.2	9.5	0.1

Financial Forecasts



Wastewater

Wastewater Schemes

The wastewater schemes in the Timaru District are designed to provide cost-effective services that meet the needs of the community and support economic growth. The schemes include the provision of quality wastewater systems, safe sewage treatment, and disposal to protect public health and the environment. The Timaru District Council (TDC) has developed a strategy to address wastewater management, including the transition from discharging to rivers to ocean outfall discharge, and has established individual Tradewaste Agreements with major industries. Upgrades to infrastructure, such as the Geraldine Wastewater Trunkmain and Ponds, are planned to ensure compliance with consent conditions and to accommodate future demand and growth.

Timaru District Council currently operates a total of five wastewater schemes. These include one wastewater treatment plant with associated facilities and three oxidation ponds in the inland towns of Geraldine, Pleasant Point, and Temuka. Additionally, there is a small collection scheme at Arowhenua that feeds into the Temuka oxidation pond.

A major wastewater risk involves timing of reconsenting amidst a shifting regulatory backdrop requiring heightened environmental standards, which may impact Council resourcing to achieve compliance. Upcoming application reviews fall under newly stringent expectations that necessitate upgrades from previous consent conditions, presenting financial and operational challenges.

Asset Summary

The Timaru District Council provides wastewater services that include the collection and treatment of domestic and industrial wastewater, returning clean water to the environment. Services cover urban areas of Timaru, Temuka, Pleasant Point, and Geraldine, with pipelines to a treatment plant and ocean outfall north of Timaru. There's also a scheme at Arowhenua feeding into the Temuka oxidation pond. The Timaru sewer network serves two major industrial areas, the Port and Washdyke. These services cater to 15,326 residential and 1,103 non-residential connections as of 30 June 2023, which equates to a total of 85% of the district's population.

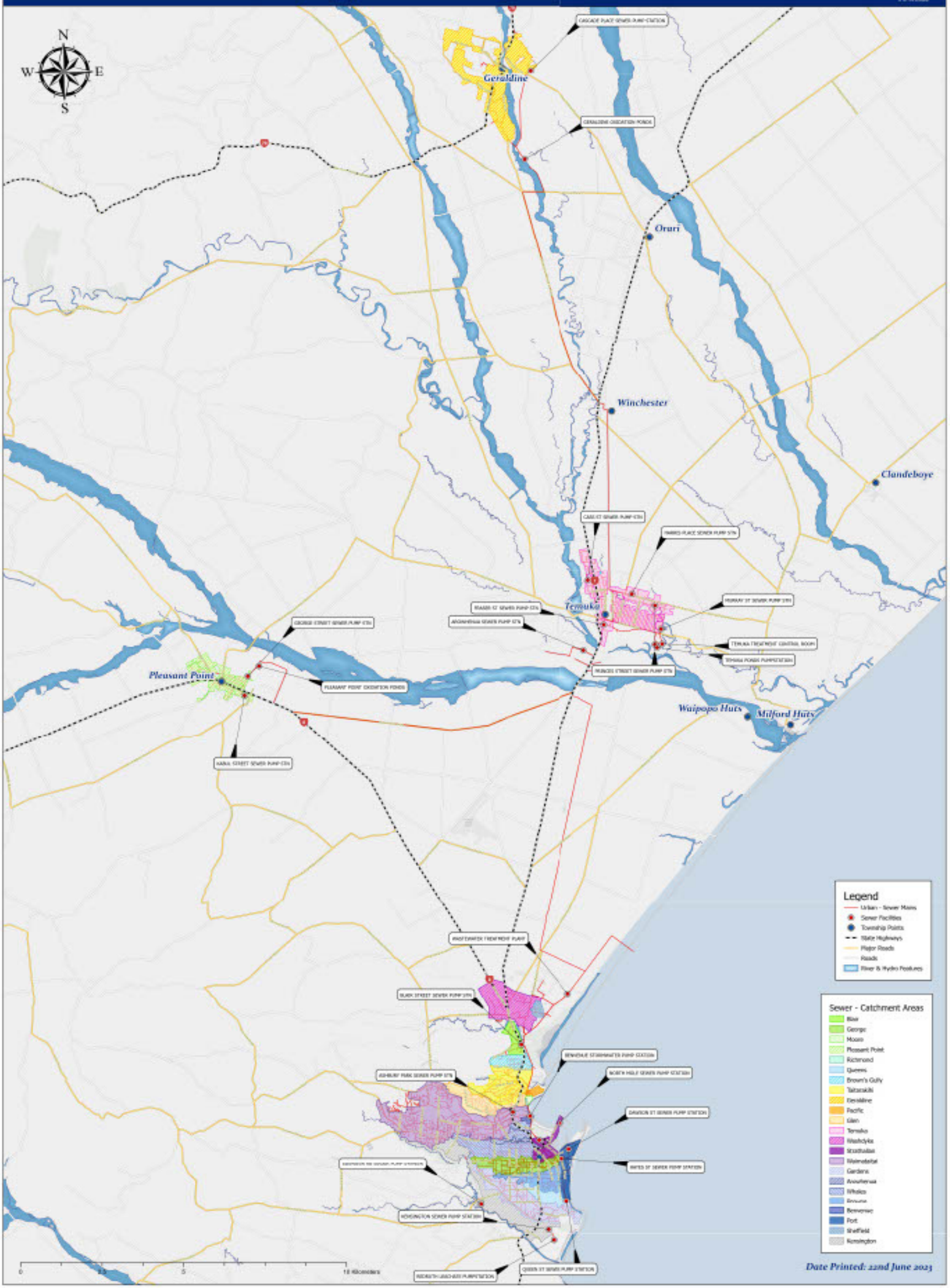
In rural areas, residents are responsible for managing their own effluent.

In addition to three oxidation ponds in Geraldine, Pleasant Point, and Temuka, the infrastructure base includes domestic and industrial wastewater treatment plants, 23 pump stations, a tanker discharge reception facility, a sea outfall, around 354 km of sewer pipe, and around 4,000 maintenance holes.

The District-wide Wastewater Strategy has led to upgrades to pump stations and treatment plants at different times. Generally, these assets remain in excellent condition. Renewals of the treatment plant facilities will occur at various periods within the next 30 years with a total estimated cost of around $9.4 million.

Assets are expected to perform for a specified period of time after they receive a nominal life. By the end of the next five years, 70km of district sewer pipes are projected to reach the end of their economic lives.

Timaru District Sewer Scheme - Location Map



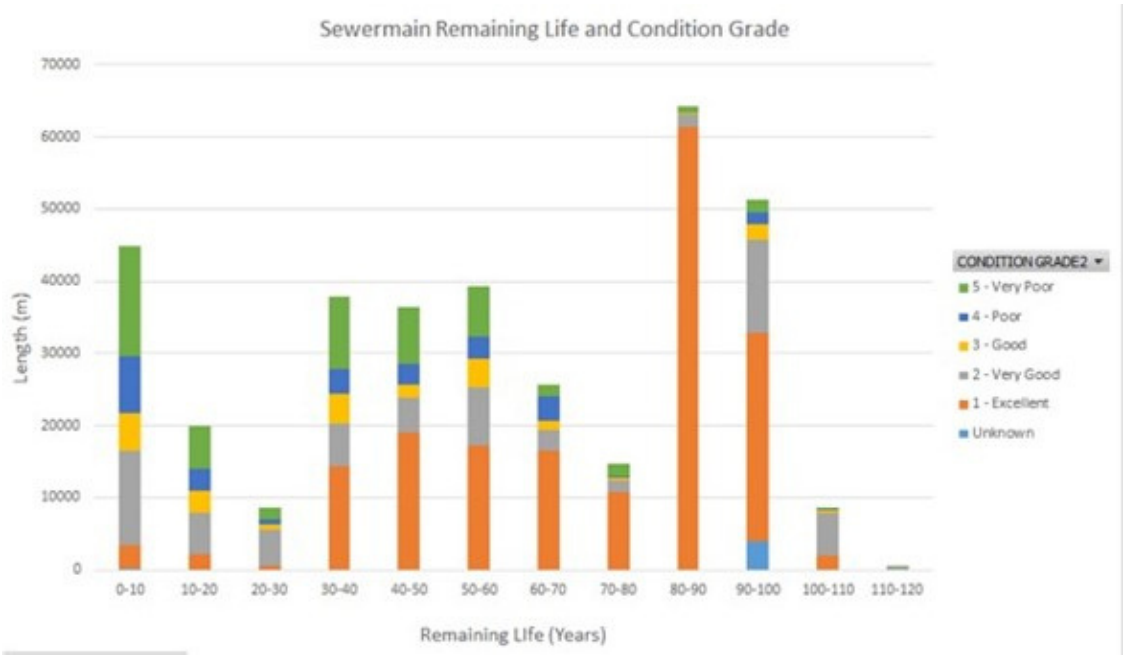
Asset Summary

Coarse Condition Grading is used for sewer pipes without CCTV data, and CCTV Condition Grading for pipes with CCTV data. Approximately 74% of the 418km sewer pipe network (including service lines) had been inspected via CCTV by 2020. A CCTV pipe condition assessment is an ongoing program targeting aging, high flow and high criticality sewer mains. This ensures the pipes are structurally sound and serviceable enough to deliver the LOS without harming the environment, public health, or other infrastructure. In the absence of CCTV inspection, laser and sonar inspections or other available inspection technologies are used to analyse and determine the condition of assets. CCTV results and maintenance scores indicate that around 85% of the sewer network is in good or excellent condition.

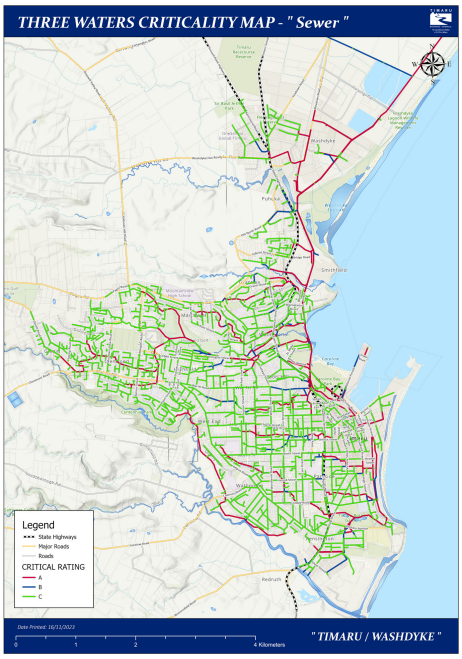
While some pipes still have significant remaining lives, they show signs of deterioration. Poorly maintained sewer pipelines are prioritized for replacement, just as they are with the water supply network. Prioritising pipe renewals is based on remaining life, criticality, condition, maintenance history, future capacity requirements, and the option of repairing rather than replacing, as appropriate. Physical sampling of pipes and additional information are taken into account when reassessing the renewal programme. In the event that a pipe fails, the ongoing reticulation maintenance programme mitigates the risks to service levels.

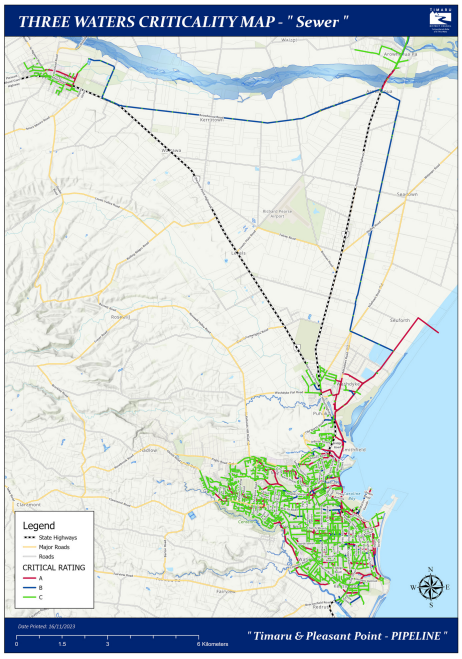
During the past three years, the annual pipe renewal program averaged $1.7 million, with the priority placed on work needed to maintain the level of service. The estimated total replacement value of assets is around $285 million (2021 assessment).

The following graph shows the remaining life of the sewermains in the District:



The maps overleaf shows the criticality of the Timaru Wastewater Network using the same key as found in the Water Supply Section.


THREE WATERS CRITICALITY MAP - " Sewer "
Legend
State Highways
Major Roads
Roads
CRITICAL RATING
A
B
C
Date Printed: 16/11/2023
0 1 2 4 Kilometers
" TIMARU / WASHDYKE "


THREE WATERS CRITICALITY MAP - " Sewer "
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State Highways
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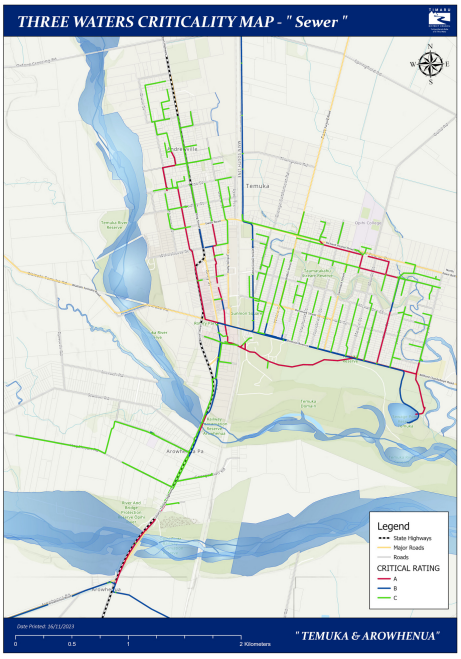
" Timaru & Pleasant Point - PIPELINE "


THREE WATERS CRITICALITY MAP - " Sewer "
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State Highways
Major Roads
Roads
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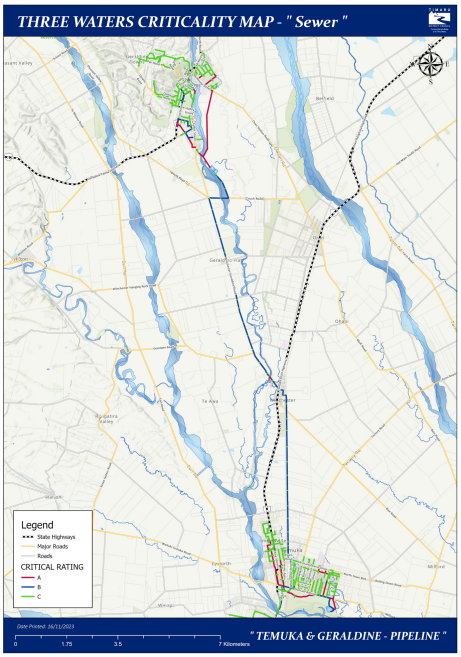
" TEMUKA & AROWHENUA"


THREE WATERS CRITICALITY MAP - " Sewer "
Legend
State Highways
Major Roads
Roads
CRITICAL RATING
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Date Printed: 16/11/2023
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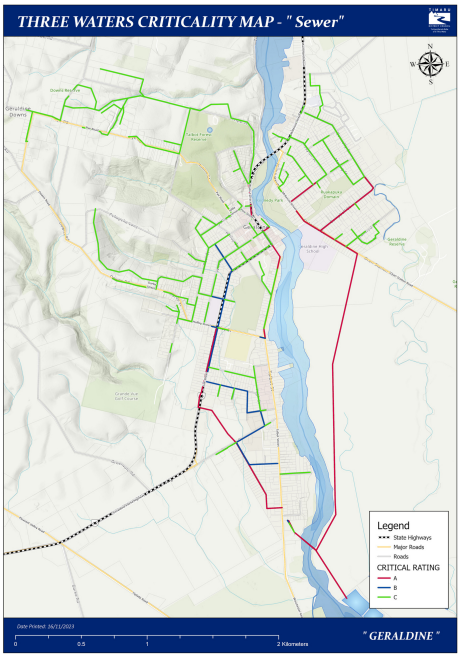
" TEMUKA & GERALDINE - PIPELINE "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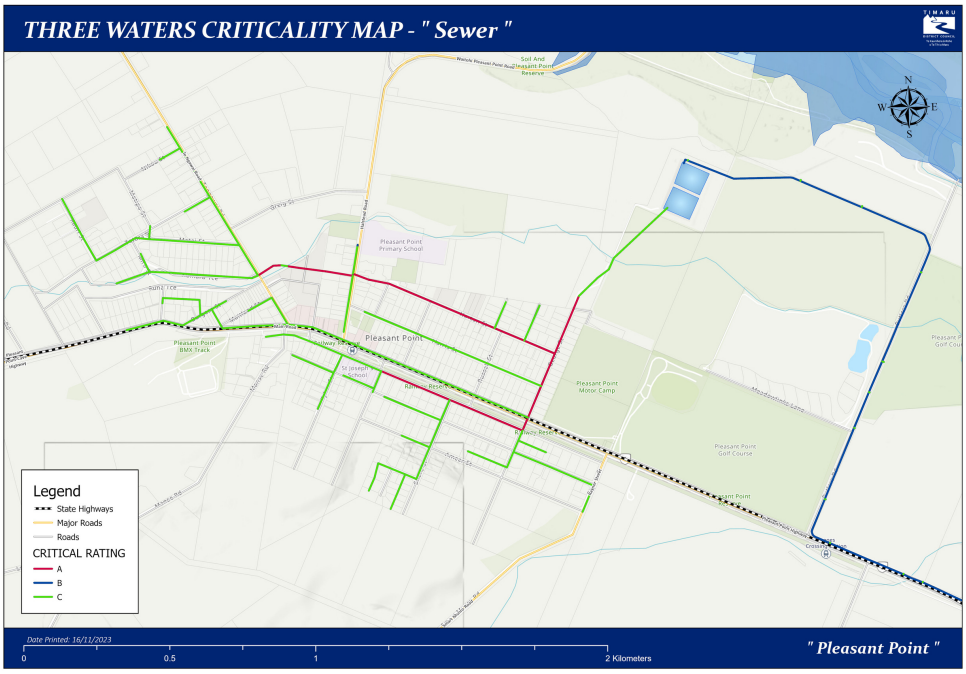
" GERALDINE "


THREE WATERS CRITICALITY MAP - " Sewer "
Legend
State Highways
Major Roads
Roads
CRITICAL RATING
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Date Printed: 16/11/2023
0 0.5 1 2 Kilometers
" Pleasant Point "

Key Issues

The Timaru District Council faces several challenges in managing wastewater, including legislative and regulatory changes with Taumata Arowai and Commerce Commission oversight for performance and economic regulations, asset renewals due to network degradation, climate change impacting network operations and sustainability, system operations and maintenance complexity, development in the District requiring extended services, industrial and commercial growth with capacity limitations, new regulations on dam safety that now apply to the oxidation ponds, and the need to balance affordability and fair charging for users.

Council's consent compliance is also challenged by industries complying with tradewaste agreements. A minority of businesses often discharge excessive amounts of tradewaste into the industrial sewermain, jeopardising Council's Ocean Outfall consent. All tanker discharges are handled by one site, requiring close monitoring to prevent biological processes from being upset. Council is currently investigating alternative mechanisms to manage tradewaste agreements with industrial customers, including using contracts and strengthening the bylaw to help address non-compliance.

The Timaru District's wastewater management faces climate change-related risks such as severe weather events, drought, and sea level rise, which could lead to asset failure, pollution of waterways, and breach of consent conditions. To mitigate these risks, the Council has implemented controls such as a Preventative Maintenance Programme, infrastructure renewal and upgrade programme, crisis and emergency response management guidelines, and monitoring telemetry and alarms. Additionally, they have backup generators and support from CDEM, as well as consumer education on wastewater disposal to reduce the likelihood and impact of these risks. What should and should not be disposed of in wastewater drains is an ongoing issue of public education.

Staffing is a nationwide issue for the water industry, with adequately qualified candidates being in short supply and creating capacity issues. A proactive approach is being taken by Timaru District Council to attract prospective employees, and it is working towards accreditation as a Welcoming Community to assist newcomers.

Council has developed an Industrial Wastewater Strategy Programme to ensure compliance with consent conditions and improve discharges, with individual Tradewaste Agreements for major industries which it is looking to expand upon as mentioned previously. There is a focus on maintenance programs to address asset renewals and prevent system degradation. To combat climate change impacts, Council is working towards carbon accounting and developing strategies to decrease/mitigate emissions. The unit has already identified the main sources of carbon emissions and is working with the Climate Change Advisor to develop specific actions to lower its carbon footprint. Operations and maintenance are prioritised to prevent consent breaches. The plan for growth is to extend services and managing industrial capacity. Affordability is addressed by balancing service costs with fair charging for commercial and industrial users. These strategies support the Council's commitment to sustainable, high-quality wastewater services.

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Demand Management

Currently, domestic wastewater accounts for 40% of wastewater flows, while industrial wastewater accounts for 60%.

In support of future industrial growth, there is now more capacity for industrial wastewater treatment due to the construction of a separate facility for domestic wastewater treatment. The majority of these industries are located in Timaru's Washdyke and Port areas.

The demand for domestic sewer lines may increase as urban services are extended to the periphery of residential areas.

Apart from demand factors, very old pipes have issues with infiltration and inflow. There are also frequent wet weather conditions that cause groundwater and storm water to infiltrate into sewer pipe defects, resulting in overflows of the sewer network.

The Council has developed a strategy to manage wastewater which includes ongoing sampling and reviewing to ensure consent conditions are met and discharges are improved. Individual Tradewaste Agreements with major industries are a key part of the strategy's implementation. The Wastewater Activity Management Plan outlines plans for asset renewals to address the degradation of the network and maintenance programs to prevent system failures. Additionally, the plan accounts for growth and development, ensuring services cater to future demands, and manages industrial and commercial growth by planning for industrial level capacities and considering industrial growth.

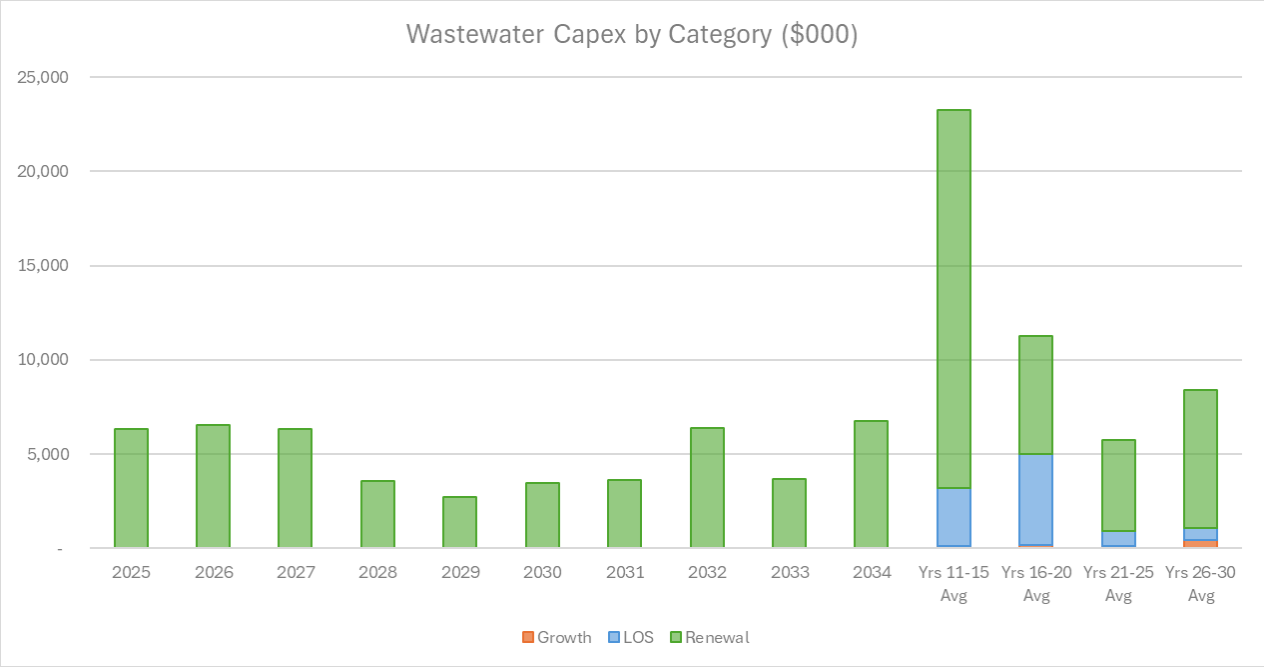
Major Projects

Project	Years	Financials
Geraldine Syphon Trunkmain Upgrade	2024 - 2026	$250k Year 1 $1M Year 2
Inland Towns WWTP Upgrades	2025- 2034	$2.8M over Years 2-3 $200k Year 7 $3M Year 8 $100k Year 9 $2.4M Year 10
Wave Band and Dam Safety Improvements	2024 - 2026	$100k Year 1, $2M Year 2
Arowhenua Pump Station Refurbishment	2024-2025	$500k Year 1

Financial Forecasts

Year	Operations ($millions)	Capex Renewals ($millions)	Capex LOS ($millions)	Capex Growth ($millions)
2025	11.7	0	0	6.4
2026	12.0	0	0	6.5
2027	12.6	0	0	6.3
2028	12.6	0	0	3.6
2029	12.8	0	0	2.7
2030	13.3	0	0	3.5
2031	13.3	0	0	3.7
2032	13.4	0	0	6.4
2033	14.0	0	0	3.7
2034	14.2	0	0	6.8
2035-39 (AVG)	15.0	0.1	3.1	20.0
2040-44 (AVG)	16.5	0.2	4.8	6.3
2045-49 (AVG)	17.8	0.1	0.8	4.9
2050-54 (AVG)	20.0	0.4	0.7	7.3

Financial Forecasts



Stormwater

Stormwater Management Plans

Stormwater management plans are designed to sustainably support the environmental, social, cultural, and economic well-being of communities by managing runoff from urban surfaces, particularly during rainfall events. They aim to prevent hazardous overflows and flooding, minimize property and environmental damage, and ensure that water flowing into natural waterbodies is free of contaminants. These plans impact the activity by guiding the management of stormwater infrastructure, informing decision-making, and ensuring compliance with regulatory requirements, thus mitigating risks associated with stormwater such as property damage, public health concerns, and environmental degradation.

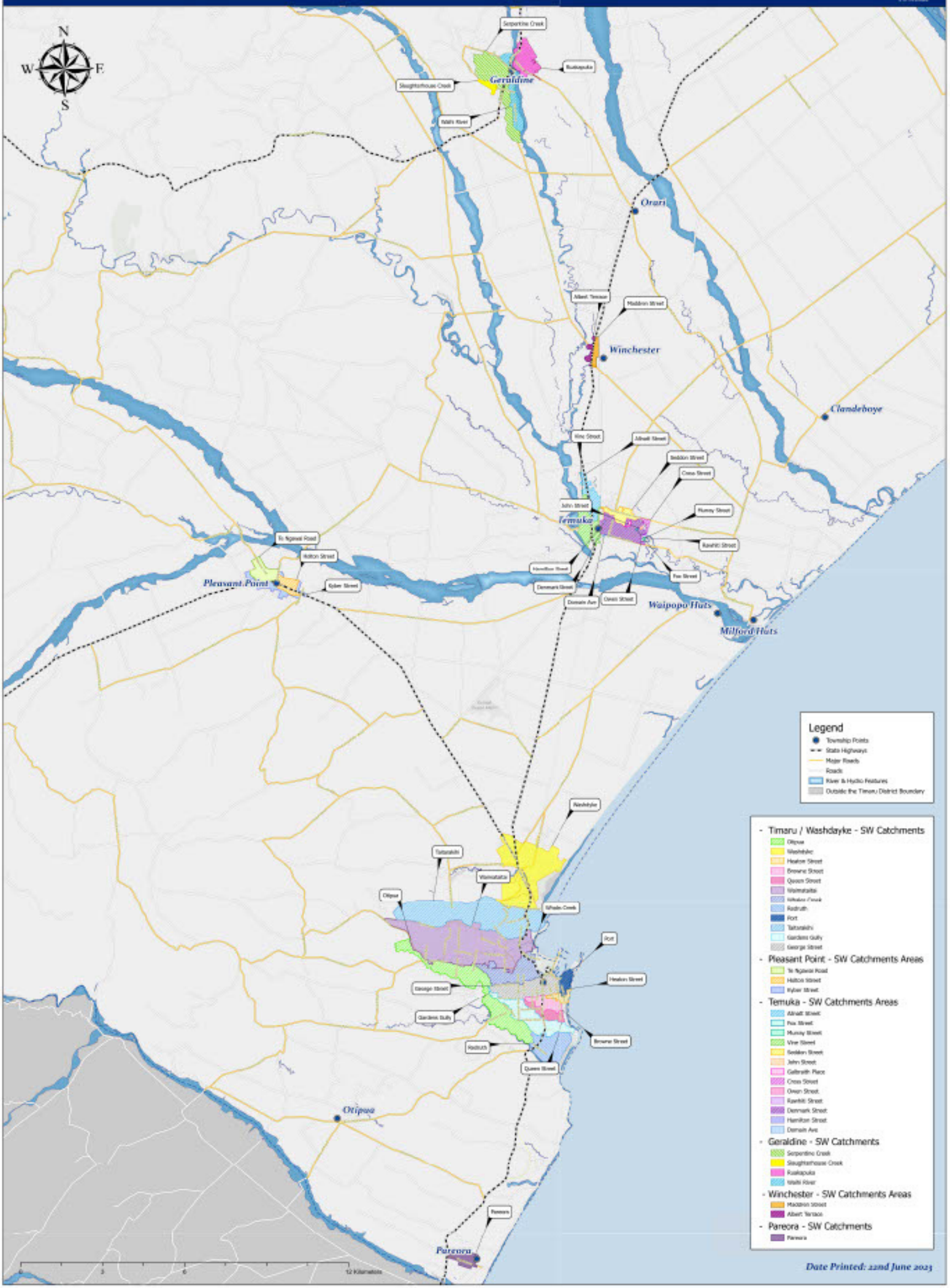
There are several active stormwater management plans and strategies in Timaru, including the four main Stormwater Management Plans developed in 2022. These plans and strategies guide the operation and management of Timaru District's stormwater services, as listed below:

1. Canterbury Land and Water Regional Plan (LWRP)
2. Regional Coastal Environment Plan for the Canterbury Region
3. Canterbury Water Management Strategy (CWMS)
4. Opihi River Regional Plan 2000 (ORRP)
5. National Policy Statement for Freshwater Management 2020 (NPS-FM)
6. Stormwater Management Activity Management Plan 2024-34
7. Timaru Stormwater Management Plan 2022
8. Pleasant Point Stormwater Management Plan 2022
9. Temuka Stormwater Management Plan 2022
10. Geraldine Stormwater Management Plan 2022

Stormwater Catchments

The Timaru District has 35 stormwater catchments as part of its Stormwater Management Strategy. Stormwater systems in the District begin with the catchment source. The drainage systems include waterways, pipes, and channels, as well as manholes, pits, and roadside drains. The purpose of retention areas such as retention ponds is to capture and filter stormwater before it enters natural water sources, and to slow down the flow of stormwater to prevent flooding. In addition, they allow stormwater to be treated before it enters natural waterways. Waterways can slow down stormwater flow and prevent flooding downstream when stormwater outlets carry it away from the catchment area. Pollutants are reduced in rivers, lakes, and streams by stormwater treatment systems. Sedimentation basins, gravity separators, oil-water separators, bioremediation and chemical treatment are all examples of these systems.

Timaru District Stormwater Scheme - Location Map



Asset Summary

Council provides stormwater services in the urban townships of Timaru, Temuka, Geraldine and Pleasant Point, equating to around 2,780 hectares of land within Stormwater Management Areas. Rural stormwater is managed mainly through land drainage with minimal infrastructure provided in Winchester, Cave and Pareora. Around 70% of the district's population is served.

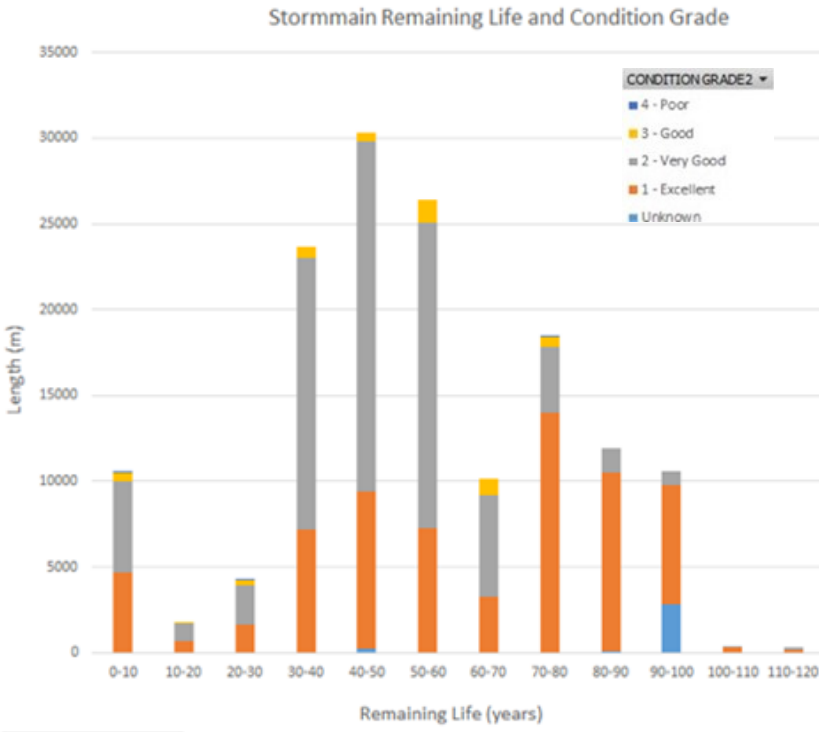
Key stormwater assets in Timaru include two pump stations at Washdyke and Redruth, 2 detention dams and basins, treatment structures like over of swales and around 216 soakpits, and a reticulation network consisting of 260km of pipes, 2,344 manholes, over 3,000 sumps, 112km of open drainage channels, bunds, and secondary flow paths. Overall, the network is outdated. The Council manages these assets through the Drainage and Water Unit, which maintains and updates the asset register in Infor (Hansen). This register informs renewal schedules and identifies gaps in service provision. Asset management is conducted by in-house staff for technical and administrative functions, with contractors for projects and maintenance services.

CCTV has been used to record some of the pipe network and the data is highly reliable. The Council's piped networks are subject to an ongoing CCTV inspection program. Unassessed stormwater networks are evaluated based on their age and repair and maintenance history. This data is largely based on desktop estimates and has lower confidence. Contrary to sewer assets, which operate every day, stormwater assets only operate when it rains. For the past decade, there have been no failure issues related to them because they lie dormant for most of their lives.

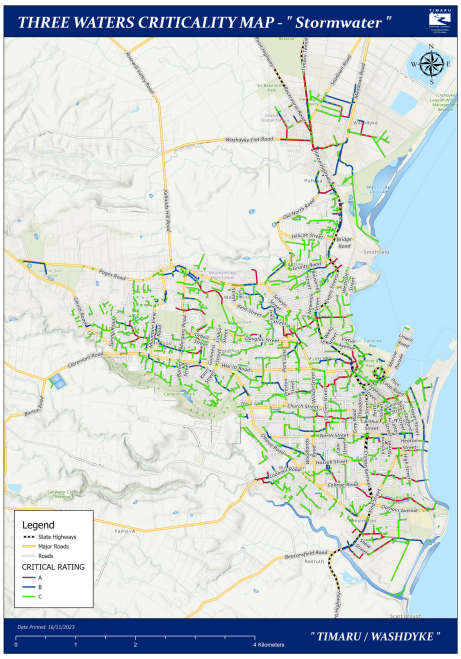
Despite still having significant theoretical lives remaining, some pipes have shown signs of wear and tear. Pipelines in poor condition are prioritised for renewal, similar to the water supply and sewer networks.

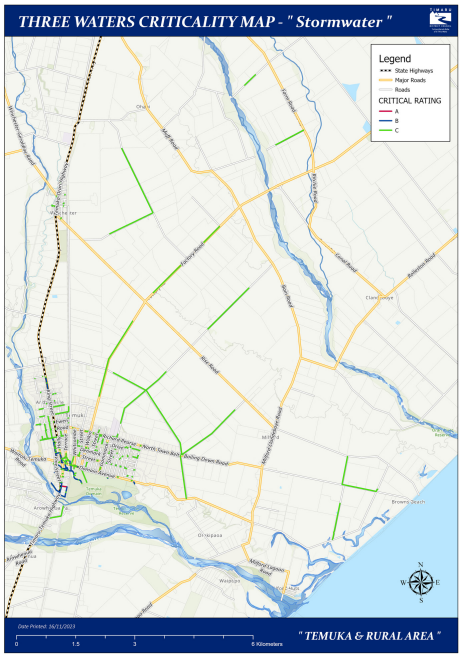
Every year, the renewal programme is re-prioritised if necessary. Continual reticulation maintenance mitigates the risk of service breakdown caused by underperforming assets. Pipe renewals are projected to cost on average $1,800,000 per year. Stormwater assets are estimated to be worth over $300 million in replacement.

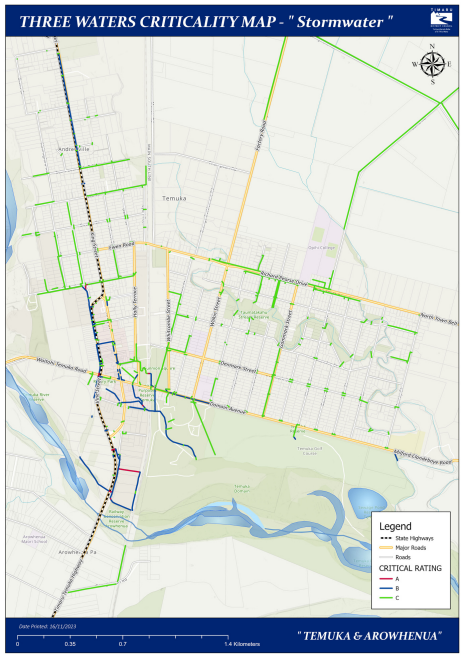
The figure following below summarises the age and condition profile of the network:

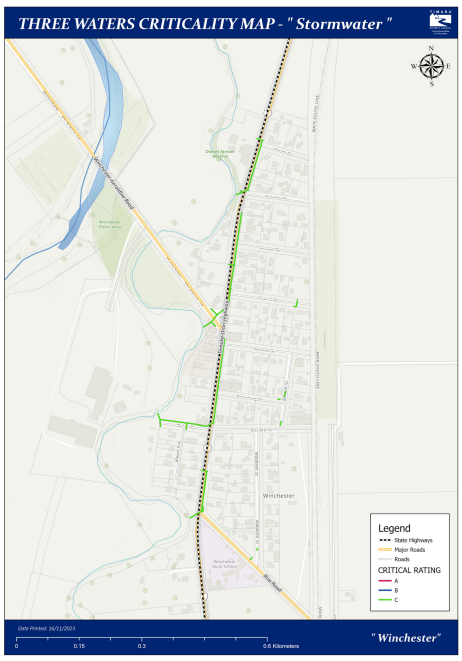


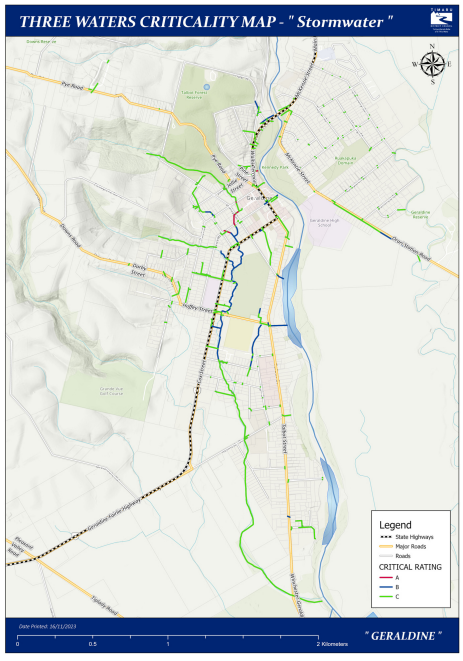
The following maps below summarise the criticality profile of the network.

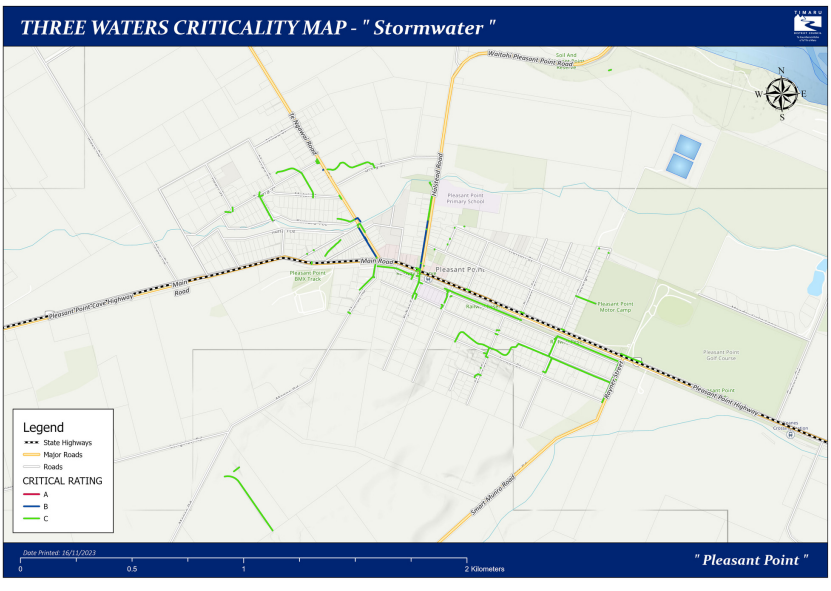












Key Issues

The key issues affecting stormwater management in the Timaru District include legislative/regulatory changes, increased environmental standards (particularly with new consents currently submitted for application), staffing shortages, climate change, asset renewals, flood management and stormwater management tensions between local and regional authorities, and community expectations during higher rainfall events. To address these, TDC has been preparing for Taumata Arowai's regulatory role, working to implement Stormwater Management Plans by 2025, dealing with staffing challenges, planning infrastructure upgrades for extreme weather, maintaining ongoing network work, and conducting community outreach to prevent contaminants in the stormwater system.

Council obtained community feedback through a survey as part of the development of Stormwater Management Plans in late 2021. The greatest perceived risks from stormwater for the community, as identified by the survey respondents, were fertilizers/pesticides as the highest threat, with rubbish/litter and industrial pollution being the second equal threats. Vehicle pollution and sediment from rural land or bank erosion were also seen as high threats by over a third of all respondents. These risks indicate concerns about the impact of various pollutants on local waterways and the broader environment.

A number of stormwater issues affect Timaru's catchment area, including flooding caused by poor drainage, high tides, and inadequate infrastructure; pollution caused by untreated stormwater containing nutrients, heavy metals, and hydrocarbons; habitat loss and barriers reduce aquatic life; maintenance challenges across multiple organizations; development pressures increase runoff and system strain; and climate change causes flooding, pollution, and coastal erosion to worsen.

Among the six stormwater issues facing Washdyke are flooding caused by poor drainage and high tides, pollution caused by untreated stormwater discharges, habitat loss and barriers to fish passage, challenges in maintaining the system with many responsible organizations, and the rise of sea levels and extreme weather as a result of climate change. Heavy metals and nutrient pollution and stormwater treatment are two major concerns for the Waitarakao-Washdyke Lagoon, which is culturally significant. The Timaru District Council and Te Rūnanga o Arowhenua are collaborating to address these issues through the Stormwater Management Plan.

In the Temuka catchment area, stormwater management challenges include:

- Having a network with insufficient capacity and treatment levels as a result of previous development approaches.
- Stormwater runoff increases in severity as a result of increased development.
- Increased flooding and pollution due to climate change.
- A reduction in aquatic life due to pollution and habitat loss.
- Maintenance issues impacting the flow of stormwater and waterways.
- The impact of untreated stormwater outfalls, nutrient and heavy metal concentrations, and the potential for sewage overflows.

Pleasant Point faces several stormwater issues: flooding due to flat terrain, high groundwater, and inadequate drainage; pollution from stormwater runoff carrying heavy metals, nutrients, and hydrocarbons into streams and the Opihi River; reduced aquatic life in streams that are dry for much of the year; maintenance challenges with an ageing stormwater network and divided responsibilities; increased runoff from development overwhelming current systems; and climate change leading to more intense rain events and the need for a resilient stormwater management system.

Demand Management

Council has adopted a district-wide Stormwater Management Strategy which provides the overall framework and direction to Council's decision-making on stormwater using an integrated management approach. Based on this Strategy, individual Stormwater Management Plans have been developed for Timaru, Temuka, Pleasant Point, and Geraldine. Washdyke will have its own dedicated Stormwater Management Plan due to its heavily industrialised environment and the close proximity to the ocean. The Strategy and subsequent Plans are driven by the policies and rules of the Canterbury Land and Water Regional Plan (CLWRP) which now requires that Council obtain a resource consent for its stormwater discharges, and comply with set standards and limits to the stormwater discharges from its reticulated network. There are a number of units within Council that are involved in stormwater regulation and management, including Land Transport, Waste Minimisation, and Parks.

Council's Stormwater Strategy aims to streamline its approach by setting specific goals, directives and methods relating to stormwater planning and regulation, asset management, the receiving environment, and stakeholder engagement and education. The Asset Management component of the Stormwater Strategy is implemented through the Stormwater Activity Management Plan and the stormwater-related activities of the Land Transport Plan and the Waste Minimisation Plan.

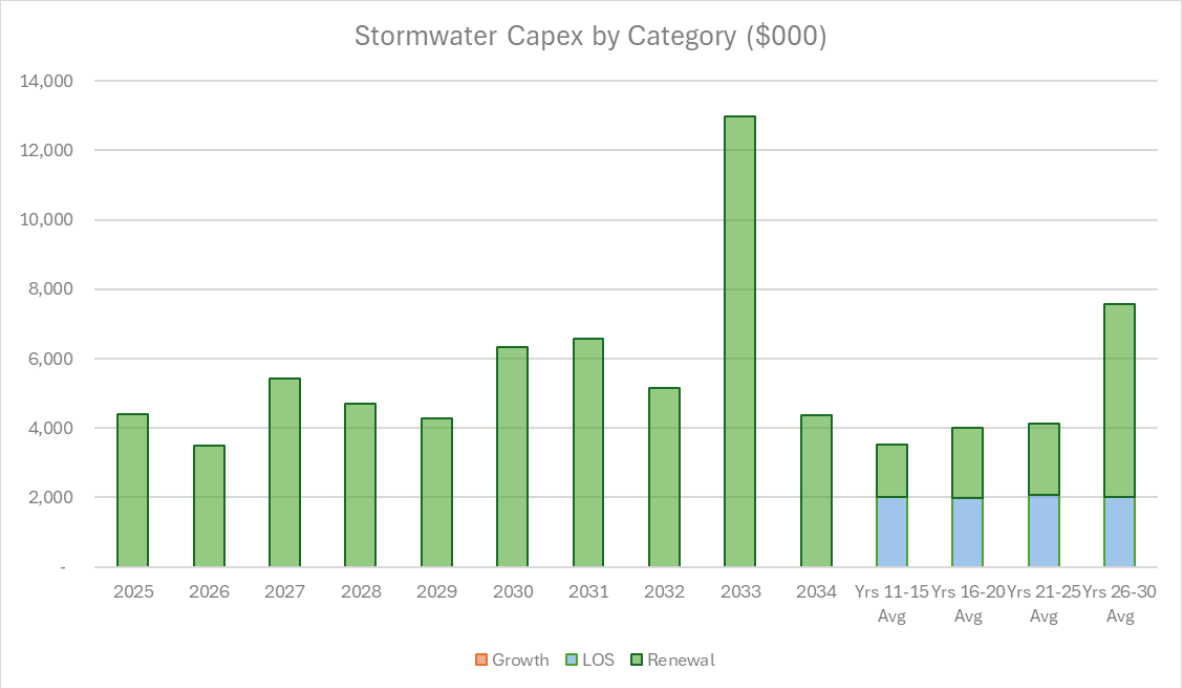
Overall, Council's approach to stormwater asset management is to acknowledge the requirements of the CLWRP. This includes progressively upgrading the network at the time of renewal to incorporate systems for attenuation and treatment of stormwater flows using low impact design or green infrastructure approaches where appropriate. The ongoing development of Stormwater Management Plans for urban catchments within the district will identify more specific infrastructure requirements. This will shape the asset renewal/development programme in the longer term and is expected to have significant cost and funding implications.

Although growth within the district is not projected to be at a high level, population and household number changes will still impact on stormwater services in the next 30 years. As more areas are built-up, or with increasing infill development, more impervious areas will be created with increased levels of contaminants and there is further potential for the natural paths for stormwater flows and soakage to be occupied. This puts greater pressure on the existing capacity of stormwater networks which increases the infrastructure requirement to manage stormwater flows.

To address these issues, it is necessary to provide treatment for the removal of contaminants and the attenuation of stormwater flows to better match the natural pre-development flows. The use of low impact options, such as first flush retention dams, swales and rain gardens provide appropriate solutions, and these are being built into new residential development areas.

Major Projects

Project	Years	Financials
Washdyke Stormwater Improvements	2024 - 2028	$100k Year 1 $500k Year 2 $1M Year 3 $550k Years 4-6
Caroline Bay Pump Station Installation	2032 - 2033	$1.2M Year 8 $8.3M Year 9
Redruth Pump Station Renewal	2029 - 2031	$1.1M in Year 6 $2.3M in Year 7



Financial Forecasts

Year	Operations ($millions)	Capex Renewals ($millions)	Capex LOS ($millions)	Capex Growth ($millions)
2025	5.1	0	0	4.4
2026	5.3	0	0	3.5
2027	5.2	0	0	5.4
2028	5.4	0	0	4.7
2029	5.5	0	0	4.3
2030	5.9	0	0	6.3
2031	6.1	0	0	6.6
2032	6.2	0	0	5.1
2033	6.6	0	0	13.0
2034	7.2	0	0	4.4
2035-39 (AVG)	7.6	2	1.5	3.5
2040-44 (AVG)	8.3	2	2	4
2045-49 (AVG)	9.0	2	2	4.2
2050-54 (AVG)	10.1	2	5.6	7.6

Part Four:
Land Transport

Overview

Land Transport involves managing and enhancing the transport network in Timaru to support community wellbeing and economic growth. As part of its role as a transportation leader, the Council provides, maintains and renews sealed and unsealed roads and bridges, footpaths, cycleways, bus stops, benches and shelters for people and businesses. Additionally, the Council provides road signs, markings, and street lighting to help make travel safer and more convenient. Among its responsibilities are promoting active transport options, building a high-quality infrastructure, using recycled materials, and maintaining a street tree network that contributes to a sustainable environment. Additionally, it addresses matters such as the aging road network, the increased movement of heavy vehicles, and the resilience of the network to hazards.

To capture how Land Transport contributes to community wellbeing, the following transport activity outcomes were developed. Council will provide:

- Fit for purpose roads and structures that enable areas of economic strength to thrive and maximises local economic growth
- Resilient and affordable roading infrastructure that meets community needs
- Walking and cycling options across the district
- Safe roads, footpaths and street networks
- Sustainable transport options are facilitated and provided

Asset Summary

Land Transportation is a very heavy asset-based activity, with the whole activity being reliant upon the infrastructure assets to function. Hence, asset management is the primary function of the unit to support the activities happening on and in those assets. With the partnership approach in co-funding the work programme with Waka Kotahi, asset management is regularly assessed and reported against to Central Government and Council.

The asset management follows the strict protocols of International Infrastructure Maintenance Manual (IIMM), adheres to the national standards set by government, and adopts industry best practice techniques (where affordable and justified) to help lengthen the functional life of the infrastructure assets.

Asset	Quantity
Roads	1 1,726km of road 2 930km Chipseal surface 3 46km Asphalt 4 750km Unsealed The network is 14% Urban vs 86% Rural
Footpaths	5 354km of footpaths 6 86% of footpath is AC material
Drainage Facilities	7 3181 Catchpits, soak pits or sumps 8 4080 Culverts or side culverts 9 155 Fords (either concrete or natural ground) 10 2,799 Drains (Subsoil, cut-offs, other channels) 11 1,452km of Stormwater channel 12 363km of Kerb and Channel
Bridges and Major Structures	13 258 Road Bridges 14 38 Large culverts 15 8 Retaining Walls
Cycleways	
Street Furniture and Minor Structures	16 200 Litter Bins 17 25 Bus stop shelters 18 219 Seats or benches 19 343 Bollards 20 3.7kms of Railing
Signals and Technology	21 5 sets of Traffic Signals 22 30 Surveillance Cameras
Signs	23 7,636 Signs 24 954 kms of Line marking
Streetlights	25 4,419 Street lights 26 2,834 Street Poles

Asset Summary

The total value of the assets within Land Transport total over $1 billion, comprising of the following:

- Roads with a replacement value of approximately $600 million, with 57% sealed and 43% unsealed.
- Bridges and structures worth $160 million, including 176 bridges, 147 large culverts, 25 retaining walls, 57 concrete fords, and 12,700m of railings.
- Footpaths valued at $77 million.
- Drainage assets worth $145 million, including catchpits, soak pits, sumps, culverts, fords, drains, stormwater channels, kerb and channel.
- Street furniture, street and traffic lights, street signs, and markings valued over $40 million.

Assets in the Timaru District are managed through a comprehensive Activity Management Planning Policy, which includes assessing roading and footpaths against the IIMM Maturity Index. This assessment helps identify areas where asset management capability needs to be enhanced. The document acknowledges that in some instances, the advanced asset management levels recommended by the IIMM may not be necessary due to the district's size and scale. Instead, a development level appropriate to the operation's size is chosen. The Asset Management Plan (AMP) includes various initiatives for improving asset management capability, which are identified throughout the document and prioritised in the Improvement Plan . The execution of these initiatives depends on the availability of resources from the Timaru District Council and/or Waka Kotahi.

The Council also has other relevant strategies and policies that influence asset management delivery, such as the Active Transport Strategy, the Transportation Vision, and various policies on footpaths, road bridges, and other related areas. Compliance with standards like NZS4404 and guidelines like the Timaru District Backfill and Reinstatement Guidelines ensures the quality of works and services on the TDC network.

The AMP also outlines the levels of service, aiming to match the service provided by assets with customer expectations, financial, technical, and legislative constraints, and the benefits outlined in the investment logic map for Land Transport Activities. This includes understanding the options for service levels, managing the risk of asset failure, and improving decision-making based on cost-benefit analyses.

The AMP is structured to deliver on its purpose, which includes ensuring prudent stewardship of land transport assets and providing inputs to funding sources. It is aligned with the NZ Treasury Business Case approach and includes a strategic case, programme case, and sections focusing on the assets, managing the activity, options analysis, and work programmes.

Lastly, the AMP is built on a robust investment logic that reflects key problems affecting the network, strategic responses, and investment challenges. It includes a differential services approach for managing the road network and invests in pedestrian and cycling infrastructure to promote sustainable travel.

Asset Summary

Assets in the Timaru District are assessed for their condition using a variety of advanced techniques. These include High-Speed Data Capture, comprehensive fault inspections, Multi-Speed Deflectometer testing, Falling Weight Deflectometer testing, and enhanced visual condition assessments conducted by independent experts. The data gathered from these assessments is analysed using JunoViewer modelling, which provides a more nuanced understanding of asset conditions compared to historical DTIMS data. Additionally, the International Infrastructure Maintenance Manual (IIMM) Maturity Index is used for assessing roading and footpaths prior to the preparation of the Activity Management Plan.

It is important to maintain a level of service that meets legislative requirements and customer expectations, which Council tracks by road user surveys, consultations, and engagement on specific projects. Furthermore, risk identification and management are integral to the process, with a risk register capturing key components such as risk ID, description, source/cause, impact, inherent risk assessment, mitigations, and residual risk assessment.

Overall, the approach to asset condition assessment is comprehensive, employing both technological and manual inspection methods, and is supported by a policy framework that emphasises continual improvement and risk management.

The status of the condition of various infrastructure elements in the Timaru District is managed through a comprehensive approach, with investments made to improve road conditions and ongoing risk management efforts. The sealed roads are maintained to meet nationally accepted standards, with investments in advanced techniques for condition assessment and a commitment to renewal to ensure safety for all road users. However, it is noted that at the current rate of investment, it would take 100 years to renew the existing sealed network, indicating long-term challenges.

Unsealed roads have seen increased complaints regarding dissatisfaction with the level of service provided despite meeting NZTA Waka Kotahi standards. Footpaths are maintained to contract specifications and are part of an urban walking program with a target of 60% resident satisfaction with maintenance. Bridges and large culverts are aging and require increasing maintenance, with a significant number of replacements anticipated in the coming years.

Cycleways have a low number of existing pathways, so the renewal need is currently low, but there is a focus on ensuring effective maintenance and renewal to support mode shift. Street furniture and streetlights are maintained in usable condition, and urban areas are kept clean. Drainage facilities are also considered, with an increasing need to consider stormwater treatment when undertaking renewals.

In general, while there is a commitment to maintaining and renewing these assets, there are challenges related to funding constraints, ageing infrastructure, and increasing demands for service improvements.

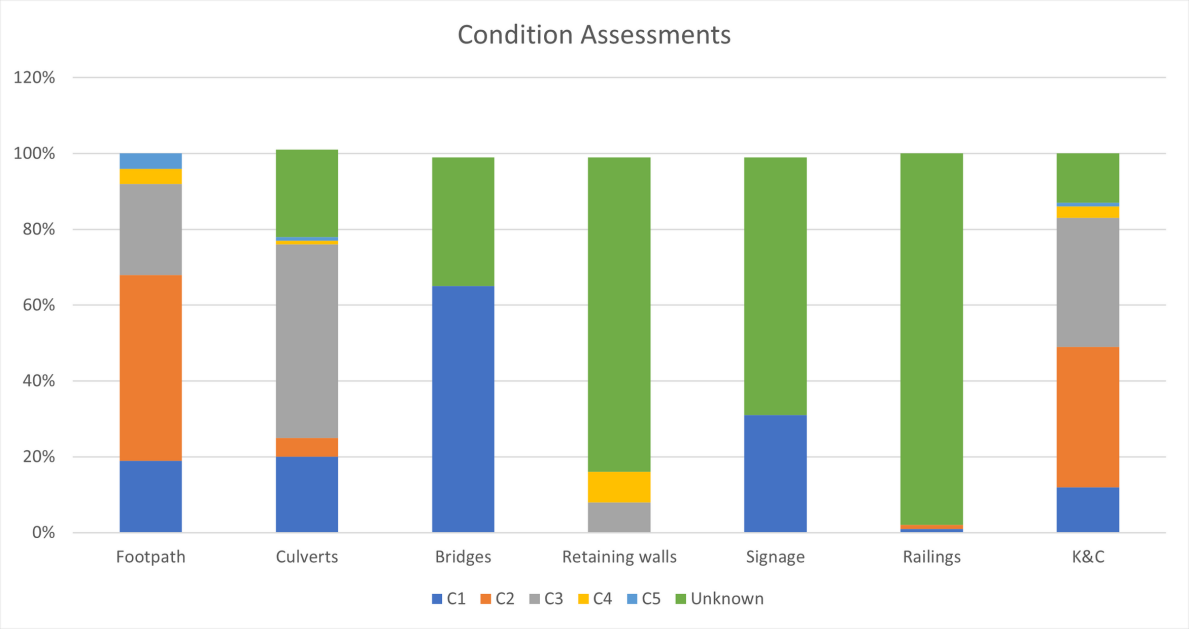
Asset Summary

Land Transport assets have had conditional assessments to report and update records for renewals planning. Some are done annually, like sealed roads, and some on a rotational basis, like bridges assessed on a three yearly cycle.

The document provides a detailed assessment of various assets, their current condition, and the data confidence levels for each asset class. Here's a summary of the conditional assessments for different assets:

Asset class	C1	C2	C3	C4	C5	Unknown
Footpath	19%	49%	24%	4%	4%	0%
Culverts	20%	5%	51%	1%	1%	23%
Bridges	65%	0%	0%	0%	0%	34%
Retaining walls	0%	0%	8%	8%	0%	83%
Signage	31%	0%	0%	0%	0%	68%
Railings	1%	1%	0%	0%	0%	98%
K&C	12%	37%	34%	3%	1%	13%

The scale goes from C1 which is in top condition to C5 which is very poor condition. For assets, the unknown element is crucial; the higher the level of uncertainty, the less reliable the data is. A visual representation of this is shown below. The more green, the less is known or understood about the asset.



Timaru has a confidence level of Grade B for its data, which indicates there are some minor shortcomings in the data itself. There is a dedicated effort going into improving the data collection within the Land Transport Unit in order to assist in better maintenance and renewals planning for the various assets.

Key Issues

The key issues for land transport in the Timaru District are influenced by various factors, including land use changes, climate change, and mode choice. Urban settlements are experiencing increased rural subdivisions and urban boundary growth, impacting the roading network and community expectations for service levels on rural roads [29]. Industrial, pastoral farming, and horticulture activities are increasing heavy traffic, leading to network pressure and deterioration. Forestry operations also contribute to heavy traffic, especially during harvesting.

Climate change is expected to increase extreme weather events, challenging infrastructure resilience and leading to potential damage to bridges, roads, and public utilities. Coastal communities and infrastructure are threatened by sea level rise and coastal inundation.

Mode choice is another issue, with a lack of infrastructure supporting mobility alternatives, which limits transport options and hinders the transition to a lower carbon transport system. The lack of connected infrastructure for walking, biking, and other mobility modes in both rural and urban areas, as well as the disestablishment of scheduled public bus services, are contributing to these challenges.

Investment logic has confirmed these key problem areas of ageing and deteriorating networks, lack of resilience, safety concerns, and limited mode choice. Addressing these issues would lead to a transport network that meets the needs of the community and freight sector, supports sustainable urban and regional development, and facilitates a lower carbon transport system.

The specific investment challenges identified and subsequent effects are:

1. Ageing and deteriorating network: Economic growth and an ageing road network are leading to asset deterioration, movement restrictions for freight, and community dissatisfaction.
2. Resilience: The roading network is vulnerable to natural and anthropogenic hazards, which affects accessibility and increases costs.
3. Safety: Deficiencies in the road network, inappropriate speed environments, and poor driver attitudes contribute to road fatalities and serious injuries.
4. Mode choice: The lack of infrastructure to support mobility alternatives limits transport options, hinders the transition to a lower carbon transport system, and impedes the development of sustainable urban environments.

The issues identified in the Timaru District will be managed by land transport through strategic responses that align with government policies and priorities. The management strategies involve maintaining and operating the system efficiently, increasing resilience, reducing emissions, ensuring safety, supporting sustainable urban and regional development, and integrating the freight system. These strategies are informed by the Government Policy Statement on Land Transport, which guides investment and resource focus for the next decade. The strategic direction is clear: to create a transport network that meets community needs, supports economic growth, and transitions to a lower carbon system.

Key Issues

The risks to the assets identified in the Timaru District include threats and opportunities, vulnerabilities and capabilities, changes in the external and internal context, and the nature and value of assets and resources. The consequences and their impact on objectives, limitations of knowledge and reliability of information, time-related factors, and biases, assumptions, and beliefs of those involved are also considered. A semi-quantitative matrix is used to identify the causes/sources and impacts of a risk, assess inherent risk, identify mitigations, assess mitigation effectiveness, and assess residual risk. Mitigations not assessed as effective are categorized into Preventative, Recovery, or Administrative to prioritise resource allocation and effort. A quarterly risk review updates the status of mitigations and assesses new operational risks.

The specific risks identified for each type of asset are as follows:

1. Roads: Risks include reduction in funding, pressure to reduce rate increases, increased frequency of natural hazard events, land use changes, increased economic activity, changing regulations, increased traffic loading, detritus on road, poor quality of work by contractors, unaffordable community expectations, and lack of resources leading to network deterioration, uncomfortable and inefficient travel, resident dissatisfaction, increased wear and costs, and projects being delayed or scrapped.
2. Bridges: Risks include increased frequency of natural hazard events, land use changes, increased economic activity, changing regulations, increased traffic loading, collapse, damage, deterioration, erosion, blockage of bridges, reduction in funding, poor quality of work by contractors, aging bridge stock, lack of maintenance, leading to uncomfortable, unsafe, and inefficient travel, impassable routes, increased disaster recovery costs, restriction of vehicle movement, economic impact, and resident dissatisfaction.
3. Footpaths: Risks include poor design, inferior materials used, poor quality of work by contractors, poor reinstatement of work by third parties, leading to unsafe footpaths resulting in slips, trips, and falls, and resident dissatisfaction.

These risks are managed through various mitigations and treatments, and their effectiveness is assessed to determine the residual risk. The document also discusses the importance of regular reviews and updates to the risk register to ensure that risks are being managed effectively.

The risk register captures key components such as risk ID, description, source/cause, possible impact, inherent risk assessment, mitigations, effectiveness of mitigations, and residual risk assessment. Examples of risks such as roads not meeting community expectations, bridges not being fit for purpose, and footpaths not being safe or well-maintained, along with their sources, impacts, and mitigations.

Key Issues

In this Infrastructure Strategy, the risk of limited funding for Land Transport programmes is of greater significance. Because of budgetary constraints, certain projects or programs have been reduced in budget, resulting in a probable change in plan. Previously, Council overfunded the NZTA Waka Kotahi FAR amount, making up for the difference to maintain service levels. It is unlikely that Council will be able to continue to provide additional funding as it did previously due to the impacts of retaining the Three Waters portfolio and having to fully fund work that was previously deferred, coupled with the timing of the community facility rebuilds.

Land Transport has several consequences when its budget is reduced, including:

1. Network Deterioration: Roads not designed, constructed, and maintained to community expectations could lead to network deterioration, uncomfortable and inefficient travel, resident dissatisfaction, increased wear and associated costs, projects being delayed or scrapped, and a reduction in road safety.
2. Bridges Not Fit for Purpose: This could result in uncomfortable and unsafe travel, inefficient travel, impassable routes, increased disaster recovery costs, restriction of vehicle movement, economic impact, and resident dissatisfaction.
3. Footpaths Not Safe: Poorly designed and maintained footpaths could lead to slips, trips, and falls, and resident dissatisfaction.
4. Failure to Meet Levels of Service: This could lead to resident dissatisfaction with the level of service provided, increased debt levels, significant rate increases, degraded asset life, and diverted resources to manage customer expectations.
5. Failure to Complete Major Projects: This could lead to budget and scope overruns, substandard construction, financial loss, reputation damage, project deliverables not met, dissatisfied ratepayers, and councillor disquiet.

Additionally, not addressing the lack of appropriate infrastructure for mobility alternatives could slow the transition to a lower carbon transport system and sustainable urban environments, leading to missed opportunities for leveraging active transport for urban development and a transport network that does not support sustainable development or meet the changing needs of the community.

Demand Management

The demand drivers for land transport in the Timaru District Council area include population changes, economic and industry growth, transport demand and usage, land use, climate change and seasonal factors, continual demand for improvements in levels of service, everchanging legislative/regulatory requirements, funding organisations setting higher standards, and strategic linkages with other significant transport assets in the District, such as PrimePort Timaru.

Population growth throughout the Canterbury region affects transport demand, with projections indicating an increased population in neighbouring districts who often travel and are road users travelling through Timaru. The District's population is not projected to be a large increase (additional 3,000 people over the next 30 years), but the demographics will be changing with an aging population that will become more ethnically diverse, necessitating different transport modes. Economic growth, including a drop in unemployment to 3.4% in 2023, implies a need for a transport network that supports economic development and increased heavy transport requirements. Transport demand and usage are expected to grow, especially for active transport as the population ages and climate change impacts become more apparent. Land use changes, such as urban settlements and industrial, pastoral farming, and horticulture, affect the roading network by increasing traffic and pressure on the network. Climate change and seasonal factors are anticipated to increase extreme weather events, challenging traditional expectations and responses for land transport. Lastly, there is a continual demand for levels of service improvements, with road user satisfaction surveys indicating a downtrend in satisfaction, despite stable network conditions.

Demand management tactics in the context of the Timaru District's asset management are outlined as strategic responses to various demand drivers. These tactics include:

1. Reviewing the District Plan against the current network and developing an investment improvement program in response to mild population growth estimates by Stats NZ.
2. Supporting Council Planning and Development Units and Venture Timaru to encourage urban living, which helps manage severe demand due to population growth estimates by Venture Timaru.
3. Ensuring strong asset management and prioritization, formalizing pavement and surfacing strategies, and exploring a development contributions policy to address moderate impacts from economic/district growth and land use.
4. Implementing an Active Transport Strategy with a significant annual delivery program to manage moderate transport demand.
5. Reviewing critical assets and developing a prioritised bridge replacement and 'build back better' program in response to the severe impact of climate change.
6. Aligning affordability with demand by capturing customer request management (CRM) data, developing Council Policy to define Levels of Service, and engaging stakeholders to manage increased community expectations.

These tactics are part of a broader strategic approach to asset management that includes understanding customer expectations, managing asset risks, and ensuring that levels of service align with network priorities and available funding

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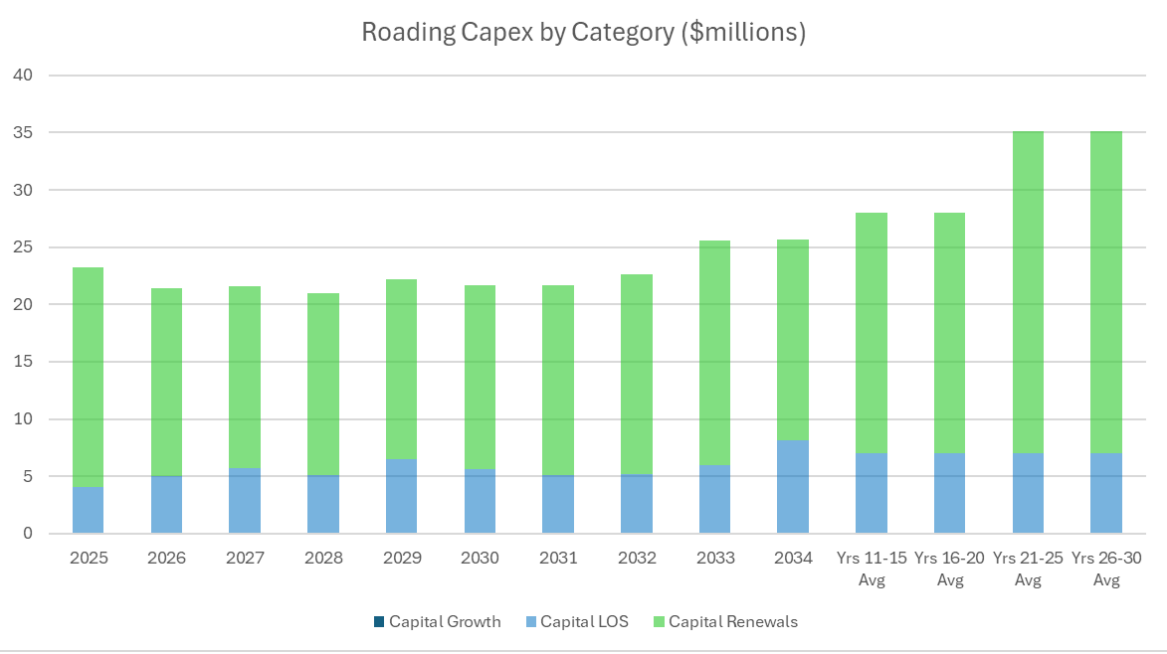
Major Projects for Land Transport

Land Transport has scaled back its work programme due to the budget constraints from an ambitious work programme with Three Waters and the community facilities Council has previously committed to building. As a result, the items below are substantially reduced compared to previous budgets. In Land Transport, this will likely result in modifications to some core programmes.

Project	Years	Financials
City Town Paving Replacement	2024 - 2026	$1M Year 1 $500k Year 2
Road Improvements LCLR, Road to Zero	2024 - 2034	$2M Year 1, $4.5M Years 2-3 $4.3-4.8M Years 4-10
Cycleways Implementation	2024 - 2034	$500k annually
Washdyke New Link RoadHeaton-Hayes	2027/28 & 2034	$267k Year 4 $1.6M Year 5 $2.7M Year 10



Financial Forecasts

Year	Operations ($millions)	Capex Renewals ($millions)	Capex LOS ($millions)	Capex Growth ($millions)
2025	32.5	0	4.1	19.1
2026	35.2	0	5.0	16.4
2027	37.2	0	5.7	15.9
2028	37.6	0	5.1	15.9
2029	39.2	0	6.5	15.7
2030	41.4	0	5.6	16.1
2031	41.6	0	5.1	16.6
2032	43.2	0	5.2	17.4
2033	45.4	0	6.0	19.6
2034	46.2	0	8.1	17.6
2035-39 (AVG)	49.0	0	7.0	21
2040-44 (AVG)	53.8	0	7.0	21
2045-49 (AVG)	58.1	0	7.0	28.1
2050-54 (AVG)	65.0	0	7.0	28.1

Part Five:
Waste Minimisation

Overview

The Waste Minimisation Activity provides comprehensive waste management services, including kerbside waste collection using a four-bin system, operation of four refuse transfer stations, and disposal at Redruth Landfill. It also manages a Class A landfill with gas and leachate collection systems, a resource recovery center for waste diversion, and educational initiatives to promote sustainable waste practices. The unit is responsible for various assets, including landfill, transfer stations, kerbside bins, and a gas flare for methane disposal. These services are crucial for public health, environmental protection, and align with the New Zealand Waste Strategy. The waste management activity is contracted to Envirowaste Services Ltd. and overseen by a Council Waste Team, with no proposed changes in the LTP 2024-34. Asset management considers population growth, economic indicators, and environmental sustainability to ensure resilient infrastructure and community wellbeing outcomes.

These services contribute to the economy, lifestyle, sustainability, and resilience of the community, aligning with the Council's vision and strategic priorities, such as enhancing lifestyles, connecting citizens, investing in resilient infrastructure, leveraging local economic strengths, and maintaining a clean and sustainable environment. Information for decision-making is collected, monitored, used, updated, and stored appropriately. The activity also contributes to community wellbeing outcomes through stakeholder engagement, waste management, communication, and investment in infrastructure.

Waste Minimisation & Management Plan

The Waste Minimisation & Management Plan is a comprehensive strategy that contributes to the management of waste by providing for the collection and disposal of waste to protect public health and the environment. It includes a kerbside collection service with a four-bin system for rubbish, recyclables, glass, and organics, with the aim of separating waste materials and minimizing waste to landfill. The plan also involves the management of transfer stations and a Class A landfill with gas and leachate collection systems at Redruth Landfill. Additionally, it includes resource recovery initiatives for waste diversion, such as reuse, recycling, recovery, and treatment facilities, and promotes education on reuse, repair, repurpose, recycle, resource recovery, and circular economy outcomes in line with the New Zealand Waste Strategy.

The plan is aligned with international and national legislation requiring consideration of climate change and sustainability in planning, and it aims to enhance community resilience by incorporating sustainability into core planning. The plan also creates jobs and opportunities for secondary industries, contributing to the local economy and sustainability. Key stakeholders include residents, businesses, community facilities, waste industry operators, government agencies, and environmental protection groups. The plan is driven by various legislative acts and guided by principles of responsibility, enabling change, shifting waste management costs to industries and consumers, and accountability with transparent data and reporting.

Asset Summary

Each Council-owned asset within the Waste Minimisation & Management Plan is managed through a contracted service with Envirowaste Services Ltd. This includes the Materials Recovery Facility (MRF), the Organics Composting Facility, transfer stations, kerbside collection wheelie bins, and the Redruth landfill.

Among the infrastructure activities at Redruth Landfill and Resource Recovery Park are roading, water supply, waste water, stormwater, parks maintenance, and building maintenance. Further, a great deal of underground and above-ground infrastructure is essential for the ongoing operations of managing the landfill due to the landfill gas (LFG) capture system and telemetry.

Council also owns several closed landfill sites around the District, many of which are near waterways. As part of the Long-Term Plan 2021-31, a Closed Landfill Risk Assessment was commissioned, and the work is now being completed to develop a Closed Landfill Management Strategy.

Capital expenditure for the waste assets focuses on facilities owned by the Council, such as the landfill, closed landfills, buildings, weighbridge, and site infrastructure. The Contractor is responsible for the construction, renewal, and repair of the assets required to deliver the services. There is a comprehensive capital program for Redruth, and an allowance for renewal of assets at transfer stations. Closed landfills are assessed for risks, and a management plan is developed to prioritize mitigating actions. Wheeled bins are supplied by the Council to households and are replaced on a rolling schedule.

Funding considerations for these activities are guided by principles such as user-pays, exacerbator-pays, inter-generational equity, and separate funding. The Waste Minimisation Team may also fund some projects through the Ministry for the Environment Waste Minimisation Funds.

Key Issues

The key issues and risks for waste management identified include:

1. High levels of contamination in recycling bins, which affects the quality and volume of material recycled and leads to potentially recyclable material being landfilled. A new glass bin and ongoing education are part of the strategy to reduce contamination.
2. Transition to a new waste management contractor, which now includes activities previously managed by the Council.
3. Effective use and analysis of RFID data for rating purposes.
4. Environmental hazards from closed landfills, particularly the Peel Forest landfill, which has breached its contents to the Rangitata River banks.
5. The proximity of other closed landfills to waterways, necessitating risk assessments and management plans.
6. Legislative changes for waste, including product stewardship schemes and the impact of amendments to the Emissions Trading Scheme and Waste Levy.
7. Volatile export markets for recyclables, which have led to an increase in materials going to landfill.
8. Introduction of landfill gas burnoff infrastructure to offset carbon credits.
9. Reduced landfill life expectancy at Redruth due to increased waste from COVID-19 impacts and commercial waste.
10. Climate change risks, including coastal inundation around Redruth landfill, which could impact infrastructure and necessitate additional mitigating measures.

The rationale for changes in financial line items is to accommodate the capital expenditure required for the maintenance and improvement of waste management facilities, such as landfills, closed landfills, buildings, weighbridges, and site infrastructure. This includes the construction, renewal, and repair of assets necessary to deliver waste management services.

The council is addressing climate change risks and managing issues through various mitigation strategies and performance management. For instance, to combat greenhouse gas emissions, particularly methane, a new Gas Flare has been installed at Redruth Landfill, which is expected to destroy methane and carbon dioxide gases and reduce emissions. However, a year's worth of data is required before the benefits of lower emissions can be assessed. To protect against coastal erosion and river erosion, the council is relying on existing infrastructure like the South Island Main Trunk railway line and undertaking risk assessments and removal of high-risk closed landfills, such as the one at Peel Forest.

In terms of emissions reduction, the Council has installed a larger flare at Redruth Landfill that will destroy 99.9% of methane emissions, with the benefits to be realized after a year of operation and data collection. This will enable the Council to offset methane emissions and report accurate data to the Environmental Protection Agency.

The council has committed to providing levels of service that ensure waste facilities are adequate, there are no adverse environmental or health effects from waste services, waste is diverted from landfill, and public information and programs promote waste minimisation.

Overall, the Council is proactively managing waste issues and risks through a combination of strategic planning, infrastructure investment, performance management, and risk mitigation measures.

Demand Management

The demand drivers for waste include:

- Consumption - the behavior of consumers which increases the demand for waste services due to the high volume of waste collected at kerbsides and over weighbridges at transfer stations.
- Capacity of landfills - being able to dispose of waste in a safe manner and mitigate environmental risks.
- Climate change - extreme weather events can create hazards, such as increased flooding resulting in leaching or a breach of content, high temperatures resulting in methane gas and fire hazards, and sea level rise that exposes closed landfills and the Redruth Landfill to spilling waste into waterways.
- Economic prosperity - in times of greater development, more waste is produced through construction or industry, particularly in the manufacturing and food processing industries within Timaru, requiring higher waste disposal needs.
- New legislation - the adoption of product stewardship regulations and higher standards for stormwater discharge consents and wastewater treatment increases the cost of implementing these regulations.

Council manages all these drivers through actively monitoring changes in waste volumes, regularly measuring landfill capacity, and keeping current with modern practices to ensure Timaru District's waste needs are met, and aims to reduce waste going to landfill through supporting consumer education initiatives and diversion actions.

Major Projects

Waste Minimisation has few projects to implement in the coming years, but the Closed Landfill Management Strategy may create the need for rehabilitation and/or removal of closed landfills in future years. Redruth Landfill has a remaining 20-24 years of landfill life, so a new landfill must be developed over the life of this Strategy.

Project	Years	Financials
Closed Landfill Management Plan	2024 - 2026	$50k Years 1-2
New Landfill land purchase & development	2040- 2054	$55M (estimated)

Financial Forecasts

Year	Operations ($millions)	Capex Renewals ($millions)	Capex LOS ($millions)	Capex Growth ($millions)
2025	12.3	0	0.6	0.3
2026	12.7	0	0.6	0.3
2027	13.0	0	0.6	0.3
2028	13.3	0	0.7	0.3
2029	13.7	0	3.2	0.3
2030	14.2	0	0.3	0.3
2031	14.5	0	1	0.3
2032	14.8	0	3.2	0.3
2033	15.3	0	0.3	0.3
2034	15.7	0	1.1	0.3
2035-39 (AVG)	16.6	1	1	0.3
2040-44 (AVG)	18.3	2	3.2	0.3
2045-49 (AVG)	19.7	4.5	0.3	0.3
2050-54 (AVG)	22.1	4.5	1.1	0.3