Infrastructure Strategy

What is Infrastructure?

Infrastructure is the term for the pipes, treatment plants (three waters), roads, facilities and other assets that are essential for sustaining public health, getting around and doing business. Infrastructure helps us meet the economic (Mana oranga) and social (Mana tangata) well-beings for the District.

Section 101B of the Local Government Act 2002 (LGA02) requires us to have an infrastructure strategy that includes:

- Water supply
- Wastewater
- Stormwater
- Flood protection and control works
- Roads and footpaths

South Taranaki has no flood protection works as most of the coastline is well above sea level and rivers drain quickly from Mount Taranaki. However, the Council owns and maintains the moles (breakwaters) at the mouth of the Pātea River, which have a significant replacement value. For this reason coastal structures have been included in this Strategy along with:

- Solid waste
- Parks and reserves
- Community facilities

The LGA02 requires us to have a significance policy that identifies the assets we consider are strategic. The LGA02 defines strategic assets as those we have identified to achieve or promote any outcome we consider is important for the current or future well-being of the community. Our strategic groups of assets are:

- Water – all assets except buildings;
- Wastewater – all assets except buildings;
- Stormwater – all assets except buildings;
- Roading – all assets;
- Solid waste – all assets except buildings;
- Coastal structures; and
- Housing for older people – all units.

We have ten potable water supplies, eight wastewater schemes, an extensive roading network of 1,663km of transport corridor and a good range of parks, reserves, and community facilities. The assets used in the delivery of services to our communities are currently valued at $1.279 billion.

Previously Council had been told by the Government not to include anything related to three waters delivery in our long term plans, except for the first year. The new Government and new direction has meant a late inclusion of three waters services and budgets into our long-term planning. Because of the uncertainty and complexity around three waters, and to make it more manageable for Council, the Government has allowed us to have an un-audited consultation document. Another consequence of the late inclusion is that some of the three waters renewals in our current proposed long term plan budget and Infrastructure Strategy may differ. This will have an impact on rates and the amount of

loans needed for the three waters activities. We will provide the updated renewals for the final Long Term Plan which will be audited and adopted by 30 June 2024. Until the Government's new legislation is in place, we won't know for sure what the options for funding three waters infrastructure are. Until then we will continue to fund three waters infrastructure in the same way we have in the past – through a combination of loans, targeted rates and user fees and charges.

About the Strategy

This Strategy states how the Council intends to manage its infrastructure assets over the next 30 years. It outlines:

- The key infrastructure challenges we face;
- The main options for dealing with these issues;
- The cost and service delivery implications of those options; and
- The preferred scenario for infrastructure provision.

The Strategy takes a long-term view of the sustainability of our infrastructure. We have identified three themes for the development of the 2024-34 Long Term Plan (LTP):

- Affordability – value for money
- Intergenerational equity – sharing the cost
- Partnerships – achieving together

These themes are the basis for our priorities and the projects we plan to carry out over the next 30 years. They reflect the balance between focusing on the basics and providing value-added services for our community at an affordable cost. The projects outlined in this Strategy have been planned to help achieve these key outcomes.

This Strategy has been developed in the context of a number of other documents and projects, including:

- Asset Management Plans – provide an outline of the asset management works required to prudently manage infrastructure and deliver essential services to the community.
- Financial Strategy – outlines the financial context in which the Council operates and the financial implications of the projects planned through this Strategy.
- 2024-34 LTP – while this Strategy has a 30-year planning horizon, the projects planned for the first ten years are included in other sections of the LTP.
- The South Taranaki District Plan – identifies areas where new or upgraded infrastructure will be required to cater for growth in the District over the next ten years.
- Hāwera Town Centre Strategy and Ōpunakē, Manaia, Eltham, Pātea and Waverley town centre plans – highlight actions for the redevelopment of our town centres.
- Environment and Sustainability Strategy – outlines projects we are working on to minimise waste and the impacts of climate change.

Many of our infrastructure assets have a very long life. For example, water pipes have an expected life of 60-100 years, which means there is a long planning horizon for initial provision and renewal, and both can present cost peaks that need to be planned for well in advance. This Strategy provides the long-term perspective required to assess whether there are hidden investment gaps or affordability issues beyond the ten-year planning horizon provided in the 2024-34 LTP.

We need to provide the services and facilities our communities expect while keeping rates at an affordable level, from a relatively small base of ratepayers spread across a large geographic area. Spending on infrastructure accounts for around 65% of our operating budget and 91% of capital expenditure.

While we are mindful of anticipated changes to legislation and the need to upgrade infrastructure to meet new requirements, our biggest challenge is to build and deliver what we have said we will do. At times priorities may change due to unforeseen circumstances, such as legislation changes, severe weather events, or changes in the economy. Our forecasting assumptions outline these risks further. Failure to deliver on key projects and programmes is identified as a strategic risk for the organisation and has been a focus for improvement.

Infrastructure assets cannot be planned in isolation because issues that shape our community can also influence the management of our infrastructure. Significant issues may include economic factors and/or demographic changes that affect the community's ability to pay for infrastructure; growth or decline in population in particular areas within the District; natural hazards and climate change.

Our Themes for the 2024-34 Long Term Plan

This Strategy focuses on three themes:

Affordability

Our plans for the District must be balanced with the need to keep rates affordable for our community while maintaining our current levels of service. To achieve this, we have taken the following measures:

- smoothing rate increases over ten years by managing fluctuations through reserves;
- loan funding bridge replacements and upgrades;
- resetting our approach to depreciation by working towards fully funding depreciation of our key strategic assets; and
- working with Waka Kotahi to improve our funding assistance rate (FAR rate) for our roading infrastructure, which has increased from 63% to 65%.

We aim to achieve the projects in the LTP without raising our rates above the cap of 6.0% per year (the Local Government Cost Index ten-year average of 2.40% plus 0.60% for adding back three waters and, 3% for improvements, compliance and growth). Increased compliance costs and planning for growth mean that our rates cap is higher than the previous ten year plan. The cap will be breached in years 1, 2 and 3 mainly to allow for significant increased operational costs such as contractors, borrowing costs, and materials. The average total rate increase over the life of this ten year plan is 5.47%.

Intergenerational Equity

We recognise that the infrastructure we build, maintain, and operate serves the community over many generations, and so we fund our infrastructure in a way that is fair to current and future users. This usually means the use of debt, which is repaid over a period of 30-35 years to ensure that future generations who will enjoy the benefits will also contribute to the costs. Before taking on new debt, we consider other funding mechanisms such as funded depreciation, external contributions, capital contributions and special reserves, while ensuring that intergenerational equity is maintained. We will continue to seek external funds to help our community to pay for key projects.

Partnerships

We pursue 'shared services' arrangements and partnerships with external organisations where we can achieve efficiencies and cost savings. We are involved in about 50 shared service arrangements with the other Taranaki councils, ranging from three water services to insurance, civil defence to roading, where there is a financial or economic benefit to the Region's ratepayers due to economies of scale. A good example of this collaborative approach is the Taranaki regional waste collection contract, which has resulted in major cost savings to ratepayers.

Before the Government-driven water reforms the three Taranaki councils (South Taranaki, Stratford and New Plymouth) had started to examine what benefits there were to the operation of our water services as a single Taranaki unit. We will continue to investigate the possibility of being part of a regional water entity, as we seek to deliver the best and most efficient water services to our communities.

The following sections of this Strategy detail how the three priorities will be achieved.

Significant Projects

Activity	Infrastructure Project	Est Cost	Year/s
Water Supply	Water Supply pipe renewals	$43.3 million	2024/34
	Treatment plant renewals	$32 million	2024/34
	Replace Waimate West Reservoir 1	$10.5 million	2029/32
	Normanby resilience (second water main)	$5.4 million	2030/33
	Waimate West Trunk main duplication	$4.2 million	2025/28
	Water meter installations	$4.2 million	2032/34
	Backwash recycling and filter renewal	$3.7 million	2024/27
	Second Kāpuni bore	$2.8 million	2028/30
	Eltham reservoir	$2 million	2024/27
	Ōpunakē reservoir 2 and treatment upgrade	$3.4 million	2024/26
	Waverley reservoir 2 and replacement bore	$3.1 million	2025/26
	Replace Rāhotu reservoir	$939,000	2030/31
	Demand management (leak detection)	$816,000	2024/34
	Eltham flushing enhancement	$157,000	2025/26
Roading	Bridge Replacement Programme – average two per year	$40.5 million	2024/34
	Footpaths	$11.2 million	2024/34
	South Taranaki Business Park roading	$4.2 million	2024/26
	Total road renewals, resurfacing, upgrades and minor improvements	$145.9 million	2024/34
Wastewater	Tertiary treatment WWTP – Hāwera, Pātea, Kaponga, Manaia & Waverley	$43.2 million	2025/34
	Wastewater pipe renewals	$25 million	2024/34
	Hāwera new anaerobic lagoon	$6.3 million	2024/27
	South Taranaki Business Park wastewater	$3.8 million	2024/26
	CCTV programme	$2 million	2024/34
	Treatment plant renewals	$2.7 million	2024/34
	Ōpunakē wetland soakage field enhancements	$495,000	2024/25
Stormwater	South Taranaki Business Park	$2.6 million	2024/26
	Matangarara landfill drainage	$2.3 million	2025/28
	Stormwater pipe renewals	$2.3 million	2024/34

	Stormwater reticulation CCTV	$376,000	2024/27

Table 1: Key Projects

Where we are Now

The majority of the works planned in this Strategy involve renewing existing infrastructure, maintaining current assets and core services. Thanks to the work we've done over the last 20 years, our infrastructure is in good shape. However, there are some key issues we face, which include: meeting new environmental legislation requirements (for example the Government's freshwater requirements will introduce higher standards for doing things like taking water from our rivers and discharging wastewater to the environment), minimising the impacts of climate change, improving our resilience to more extreme weather events and reducing waste going to landfill.

Managing our Assets

Managing and maintaining our infrastructure assets to ensure consistent and reliable service delivery to the community requires good asset management practices and a clear strategy. The maintenance, renewal, and capital expenditure programme for our core assets is based on the information in our asset management plans and asset databases. This is the best information available to us about the assets. For some (for example, underground pipes) the information around age, type, and quantity is very reliable. However, information around condition has limitations and will be updated as new information becomes available. This could change the costs or timing of planned expenditure.

Capital works programme

Over the past two decades, we have implemented a major capital works programme to bring our core infrastructure up to standard. The implementation of the New Zealand Drinking Water Standards for potable water impacted the District's water supply schemes, and new reservoirs and water treatment plants have been constructed. Over several years, water treatment plant upgrades have been completed at Kāpuni, Ōpunakē, Eltham, Rāhotu, Pātea, Waverley, Inaha, Waimate West, Waverley Beach and Waiinu. The capital works programme also included the continued construction of Te Ramanui o Ruapūtahanga, completion of Nukumaru Station Road, renewals on the roading network and community facilities such as the Hāwera Aquatic Centre.

The COVID-19 pandemic in 2020 halted our capital works programme for two months and this had a flow-on effect into our forward programme. As a result, we are still recovering from the consequences of the pandemic.

Capital works delivery plan

Over recent years there has been a lot of activity around how our three waters services (our water, wastewater and stormwater) are delivered. This was driven by the previous Government, which sought to create an independent water regulator and move the ownership and running of three waters services from local councils to four new multi-regional water entities. The goals were to improve water quality and to reduce costs by operating at a larger scale. With the repeal of this legislation, we have now included three waters infrastructure in all ten years of this plan. Our biggest challenges will be managing our debt levels and building and delivering what we have said we will.

In the last financial year we achieved $34m of our capital works programme. On average, we have achieved $29m per year over the last three years. To ensure we can complete our capital works programme, we've taken a number of steps, including employing more project engineers and hiring external support for major projects. We also have in place a continuous monitoring programme of our critical infrastructure so, if required, we can prioritise our capital works programme to make sure we continue to meet our existing levels of service. There are things we can't control, such as the

availability of contractors, outcome of consultation with the community and legal requirements which could impact our ability to complete the capital works programme.

We have placed a strong focus on preparing designs for infrastructure projects ahead of the budget for construction in this LTP. Several projects are currently being designed or have already been designed and are ready to go as soon as the LTP is adopted, including watermain replacements and stormwater renewals.

Risks

Non-delivery of key projects and our capital works programmes is considered a strategic risk along with the failure to manage critical and strategic assets within the District. Inability to complete our capital works programmes could expose our communities to the following risks:

Water Supply

- Watermain breaks causing service interruptions and increasing the amount of water we must take to make up for the water loss, which may exceed our water take consents.
- Continued levels of unaccounted for water that mean we must take more water to make up for these losses, which increases our treatment costs.
- Lack of resilience – insufficient storage in emergencies such as natural disasters and during flooding events when the source water is too dirty to treat.

Wastewater

- Continued levels of inflow and infiltration that overload our treatment plants and reduce the effectiveness of the treatment processes, so that partially treated effluent is discharged to the environment, contravening our consents in terms of quality and quantity.
- Overloading of the reticulation during heavy rain events, causing overflows at our pump stations and contamination of the surrounding areas.
- Loss of electricity supply to our pump stations, resulting in wastewater overflows and contamination of the surrounding areas.
- Failure to improve our networks and treatment systems to meet more stringent consent requirements.

Stormwater

- Flooding of properties and roads.
- Increased inflow to our wastewater systems, causing overloading of the wastewater reticulation and treatment plants.

Roading

- Reduced levels of service and deterioration of the roading network.
- Loss of access to properties and services.
- Increased number and severity of crashes.

Financial risks are explained in detail in the Financial Strategy.

Levels of Service

The service provided by each infrastructure area is defined by the levels of service that are described and measured for each activity. These are set out in the Long Term Plan.

Levels of service have a direct impact on rates and user fees and charges. They are directly related to performance measures that provide a balanced picture of the important aspects of the levels of service as well as the purpose of the activity. We are required to use a standard set of performance

measures for the three waters and the roading and footpaths activities when reporting to the community. In addition to the mandatory measures, we have performance measures that show how satisfied residents are with the services and facilities we provide. The annual resident satisfaction survey gathers feedback about how well people think our services are being provided, whether directly by the Council or via its contractors.

Through the Long Term Plan process, we communicate with the community about the current levels of service. At times we have proposed reductions in some levels of service or discontinuing some levels of services. In each case the public soundly rejected the proposals, preferring to keep the model the same and therefore paying for the services they receive.

Through satisfaction surveys and customer requests, our residents have been telling us that their biggest concern is the condition and maintenance of our roads, which they believe have been falling over time, and they would like to see more done to improve this situation. Despite the fact that expenditure on roading has increased, it has not kept up with the higher increases in costs (for things like contractors and materials) that occurred after COVID-19. This has meant that we haven't been able to complete as much asset maintenance or renewals as previously.

This Strategy is based on the assumption that our current levels of service will be maintained for the next 30 years. In order to maintain existing levels of service, infrastructure assets will need to be maintained in a condition that will support these levels. This means we will focus on the renewal of assets rather than major new projects, apart from those outlined in Table 1 above.

Table 2 below shows the key levels of service for our core infrastructure areas.

Category	Level of Service
Water Supply	Our water supply is managed sustainably. Consumers are satisfied with our water supply service.
Wastewater	We manage wastewater without risk to public health. Wastewater does not affect the quality of the environment. Residents are satisfied with our wastewater services overall.
Stormwater	We provide a reliable stormwater system that prevents houses from flooding. Our stormwater system is managed sustainably. We will respond promptly to reports of flooding and customer requests. Residents are satisfied with the stormwater system.
Solid Waste	We provide a reliable kerbside recycling and rubbish collection service. We provide a reliable, well managed user pays fortnightly kerbside greenwaste collection service. Our transfer stations are safe and well maintained. We encourage recycling and reducing waste sent to landfill.
Roads and Footpaths	We provide roads that are safe and comfortable to drive on. Our roading network is maintained in good condition. Our footpaths are maintained in good condition and are fit for purpose. We will respond promptly to customer service requests for roads and footpaths.
Coastal Structures	We comply with the Taranaki Regional Council resource consent conditions for our coastal structures.

Table 2: Key Levels of Service

Water Supply

Water is recognised as essential for the health and well-being of our population and is required in large volumes to sustain our domestic, agricultural, and industrial customers. Our community expects to be able to receive good quality drinking water and that additional water is accessible to facilitate

economic development. Reducing water wastage and making sure we manage our water resource in an environmentally sustainable way is also important.

Our goals for water supply are:

- Ensuring reservoir security of supply during flooding events (dirty water).
- Compliance with our water safety plans.
- Improved water demand management.
- Security of supply for water sources.
- Ongoing asset renewals.

Our assets include water treatment facilities, reservoirs, water mains and service connections. Water sources are streams and bores and the supplied water meets the Drinking Water Standards of New Zealand. We also own the Nukumaru Water Supply assets, but this non-potable supply is managed by the farmers it serves.

Our priorities are ensuring that there is enough capacity for the existing population and reducing water loss (leakage) within our water networks to reduce the demand on our treatment plants and delay the need for further investment. Along with this we are also focused on data quality improvement across our asset base.

We need to improve the data on our assets so we can optimise our whole-of-asset-life decision-making and planning. Examples of this include testing physical samples of water pipes (planned and following a pipe failure).

Assets

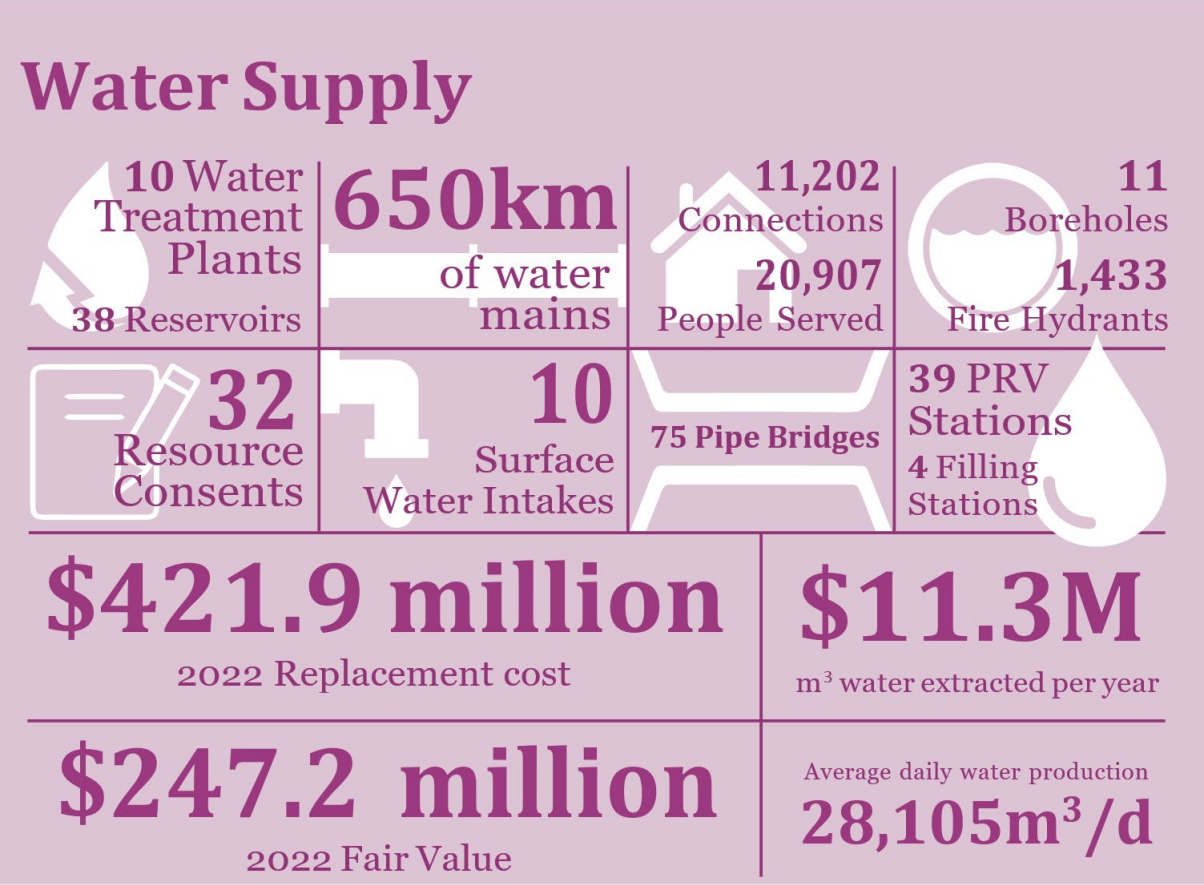


Figure 1: Water Supply Assets

Challenges

We have set challenging targets for leakage and loss (unaccounted for water), which are high in some parts of the network. For example, losses are 11.5% in the Waimate West scheme, 24% in Rāhotu, 28% in the Eltham supply and 34% in Waverley. Water leakage and loss are impacting the water take consents we hold with the Taranaki Regional Council. This will be partly addressed through pipe renewal projects, and a leak detection programme to identify leaks on both our reticulation assets and private properties. In years one and two of this plan we have budgeted for additional resources to reduce leakage and loss and water demand.

The installation of remote monitoring has given us greater visibility and faster response around failure rates of meters for large users. We will improve our meter replacement programme to better reflect the established lifecycle of meters. Likewise, our meter-backflow project has demonstrated a number of users who were taking excessive amounts of water from our network, and we plan to continue auditing demand for extraordinary users to ensure that they are being fairly charged for water.

We are required to provide sufficient storage capacity and meet water quality standards. To achieve this we have included funding to construct new reservoirs in Ōpunakē, Waverley and at the Eltham water treatment plant.

Pātea has a vulnerable supply due to its full reliance on bore water and the unsuitability of the nearby river water. High residential water demand and low rates of aquifer recharge during dry summers can potentially hinder the continued supply of the bore water. These issues may result in an increase in water restrictions and/or metering for new residential connections.

Due to changes in compliance standards, we are required to upgrade the Pātea and Ōpunakē water treatment plants. The Pātea upgrade has been budgeted for in years one to three and the Ōpunakē upgrade in years one and two.

We are working to identify additional water sources to meet an increasing demand for water and our highest priorities are Waverley and Kāpuni. These are respectively budgeted in years one (Waverley) and five and six (Kāpuni).

Key Issues/ challenges	What we will do
Reducing unaccounted-for water through improved demand management to ensure there is enough water to go around.	• Quantifying leakage and loss in all water supply schemes and actively managing water demand. • Water conservation initiatives, leak detection and repair. • Complete metering and monitoring of extra-ordinary users. • Improvements to monitoring of treatment plant performance. • Publicity campaigns.
Building more resilience into our water supplies.	• Ensuring design consideration includes climate change and mitigates the effects of natural disasters. • Increasing reservoir capacity up to a minimum of one day's peak demand volume. • Improving linkage among schemes.
New growth areas, for example the South Taranaki Business Park in Hāwera and housing developments.	• Infrastructure development structure plans. • Hāwera to Normanby water supply resilience.
Asbestos cement pipes that are deteriorating faster than initially expected.	• Monitor condition and continue the renewal programme.
Renewal of water extraction consents is becoming more difficult, creating issues with security of supply during dry summer months.	• Increased demand and loss management. • Increase publicity. • Investigate feasibility of rainwater tanks for domestic irrigation. • Water supply agreements for major users. • Restrictions as required.
Improving asset performance monitoring, condition assessment and maintenance system.	• Developing systems to improve asset data quality. • Ensure we better understand how our assets are performing and their condition.
Maintenance and renewal of site services assets, for example buildings, electrical and instrumentation, communication	• Asset data needs improvement. • Condition assessment and maintenance strategy to be deployed.
Developing more accurate predictions for water main renewal	• Improved methods of pipe condition assessment.
Full compliance with the Drinking Water Standards for New Zealand	• Upgrade potable water treatment plants to meet the drinking water standards.
New regulator and increases in the Standards.	• Include future changes in design consideration.

Table 3: Key Water Issues and Challenges

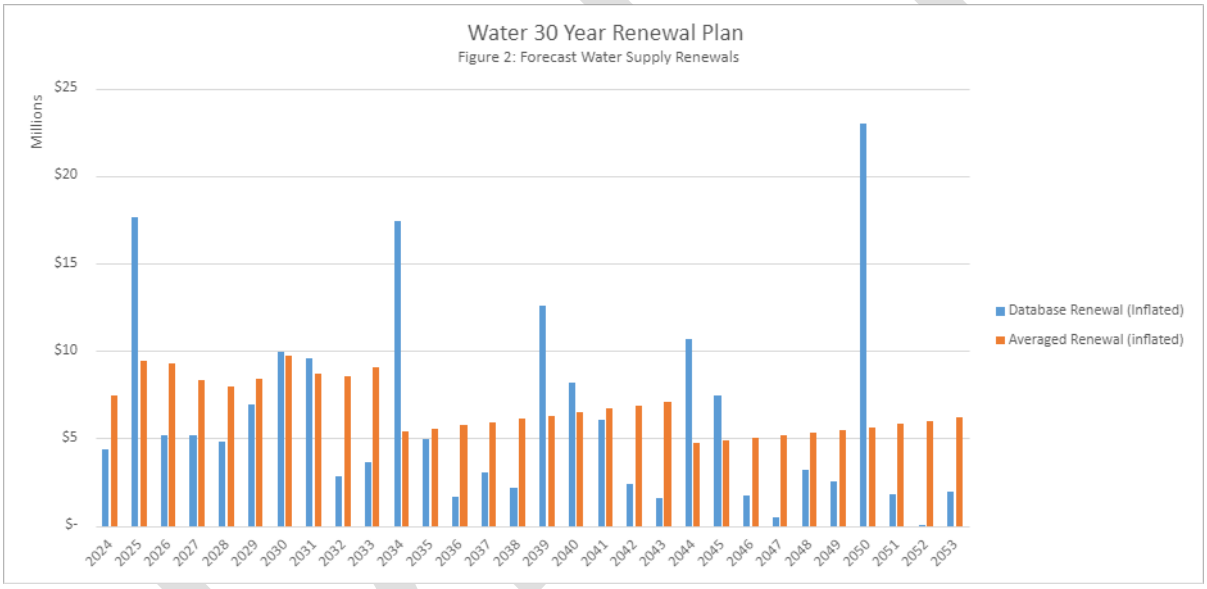
Renewals

We consider condition assessment data, together with performance matrices such as records of water main failures to generate the renewals programme and we have developed a rolling programme of pipe renewals.

We have focussed and continue to focus on condition assessment of asbestos cement (AC) water mains and we have revised our renewals programme for AC pipe.

Figure 2 shows the detail of the reticulation and treatment plant renewals programme based of the assessment of our water assets (blue bar). The database renewals show a spike in years 2025, 2034, 2039,2044 and 2050. In order to manage the work required to replace these assets the programmed budgets for achieving this work have been smoothed over 30 years (orange bar).

There is a risk that not completing our renewals programme could result in watermain breaks, exceeding our water take consents, continued levels of unaccounted for water, insufficient storage in emergencies and/or damage caused by natural disasters.



Wastewater

Protecting public health by taking domestic, commercial, and industrial wastewater and treating it before discharge is an important issue for our community. We have eight urban wastewater schemes where wastewater is transferred to treatment plants before it is safely disposed of.

The discharges are monitored and regulated by the Taranaki Regional Council (TRC), which grants resource consents that include conditions that must be met. All but the new Waiinu Beach treatment plant consist of oxidation ponds and the treated effluent is discharged in line with the consents.

Like most wastewater networks around New Zealand, our reticulation suffers from rainwater getting into the pipes, either from the direct connection of roofs or paved areas or from ground water infiltrating into buried pipes through defects such as cracks. The impact of this is that the reticulation

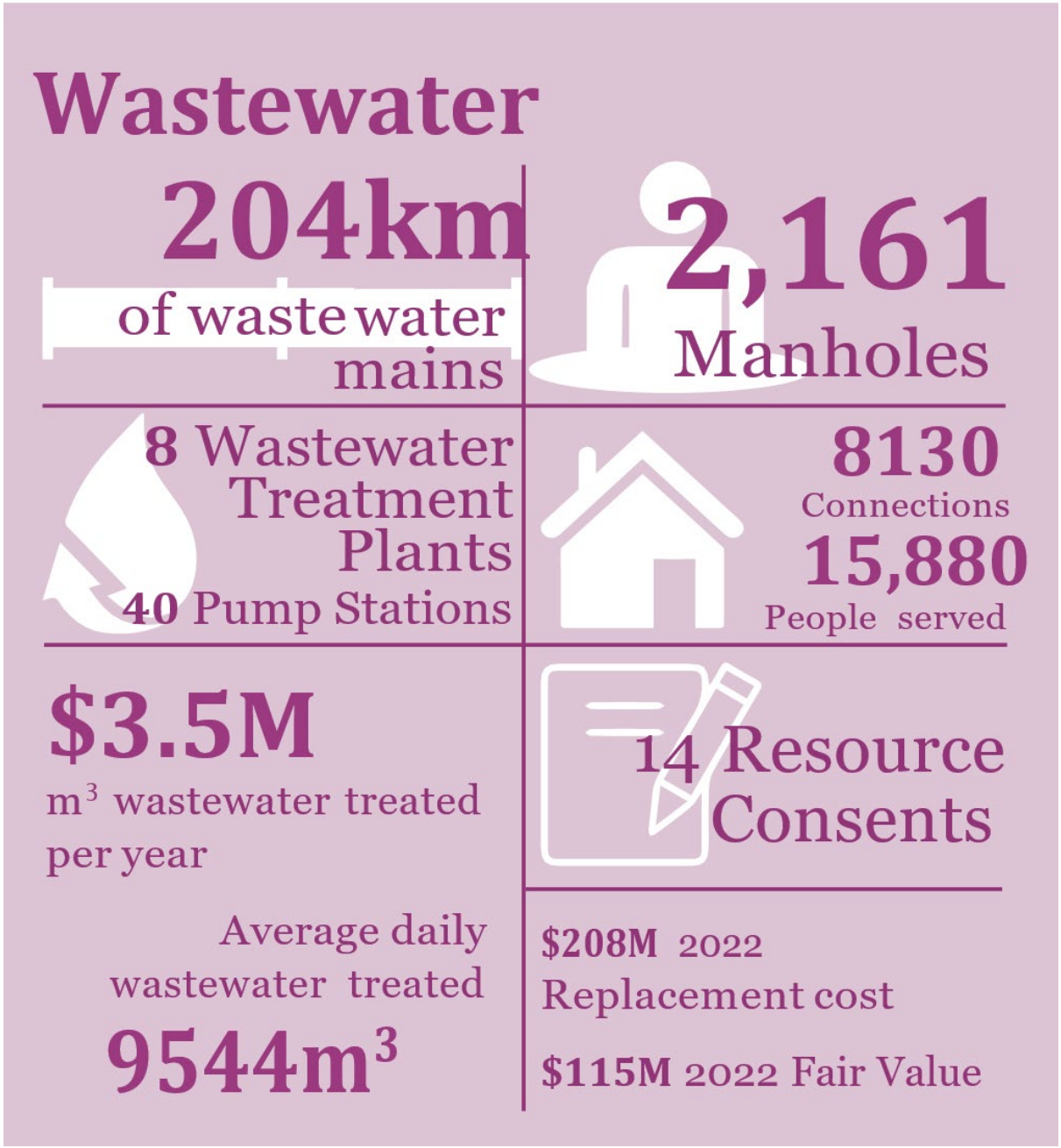
system may exceed its capacity and overflow during high rainfall events. Ongoing management of these issues is a high priority, both to protect the health of the community and the environment and to ensure we can demonstrate our environmental compliance.

Disapproval of uncontrolled emergency discharges of untreated wastewater to the environment is increasing. As consents are renewed it is likely that increased treatment of wastewater will be required, along with identifying and implementing alternative ways of discharging from the plants.

Our goals for the wastewater activity are mostly associated with:

- Continuity of electrical power supply for pumps and treatment plants.
- Improving resilience, performance, and monitoring of wastewater pump stations.
- Reduction of infiltration and inflow of water into the sewer networks.
- Discharge quality improvements resulting from consent renewals.
- Compliance with our regulatory requirements.
- CCTV condition assessments and renewals.
- Improved management of trade waste.
- Ongoing asset renewals.

Assets



Challenges

The majority of wastewater collection and treatment systems are under increased pressure as a result of inflow and infiltration. This is partly due to increased rainfall intensity as a result of climate change. Other causes of inflow and infiltration are the condition of the existing reticulation system, as well as rainwater entering our system through private properties. Future challenges include managing wastewater pond sludge and reducing the levels of inflow and infiltration into our pipe network, especially with the likely removal of consented emergency overflows in the coming years.

Our single biggest capital expense over the next 10 years is to upgrade our wastewater treatment plants ($43 million) to meet the Government's freshwater standards. A large portion of the $43 million budgeted is for tertiary treatment at wastewater treatment plants. This will help the Council meet the freshwater discharge standards.

The expenditure for wastewater is increasing significantly over the life of this plan, which will create affordability challenges for the community. We will need to consider how costs can be recouped in the future. There a number of different funding mechanisms and agreements with large trade waste producers and these will need to be reviewed and considered.

 Key Issues/ challenges	 What we will do
Stormwater inflow and infiltration into the wastewater network.	• Inflow and Infiltration reduction by repairing pipes and manholes. • Pump station monitoring. • Stormwater modelling. • Private property inspections and as necessary repair enforcement.
High discharge from wastewater treatment plants caused by high volume of trade waste loading.	• Replacement and/or upgrade of wastewater infrastructure to meet consent compliance. • Monitor compliance of industry discharges.
Resource consent compliance.	• Replace/upgrade wastewater infrastructure to meet consent compliance.
Expiring resource consents. Renewal is expected to result in expensive tertiary treatment of wastewater prior to discharge.	• Planning for tertiary treatment.
Ensuring discharge consents are not exceeded.	• Manage and reduce inflow and infiltration.
Poor asset condition data for wastewater pipes, pump stations and manholes.	• Undertake CCTV inspections, condition assessment and evaluation for all wastewater pipes, pump stations and manholes.
Demand management to ensure we can cope with the wastewater demand of today.	• Invest in more treatment and flow capacity within the network and wastewater treatment plants.
Building more resilience into our wastewater network.	• Ensuring design consideration includes climate change mitigation against natural disasters.
Developing more accurate predictions for wastewater main renewals.	• Improve methods of pipe condition assessment.

Table 4: Key Wastewater issues and challenges

Renewals

We have established a programme of sewer CCTV, network smoke testing and private property inspections to assess the condition of sewers and develop a prioritised schedule of pipes to be repaired, replaced, or relined, and to remove stormwater inflow from the sewer system. We have engaged specialist contractors to assist us with inspecting and evaluating the condition of our pipes.

Low levels of potentially harmful organisms (norovirus) in shellfish have periodically been found after monitoring near the marine outfall in Hāwera. This can be infectious to humans, resulting in sickness.

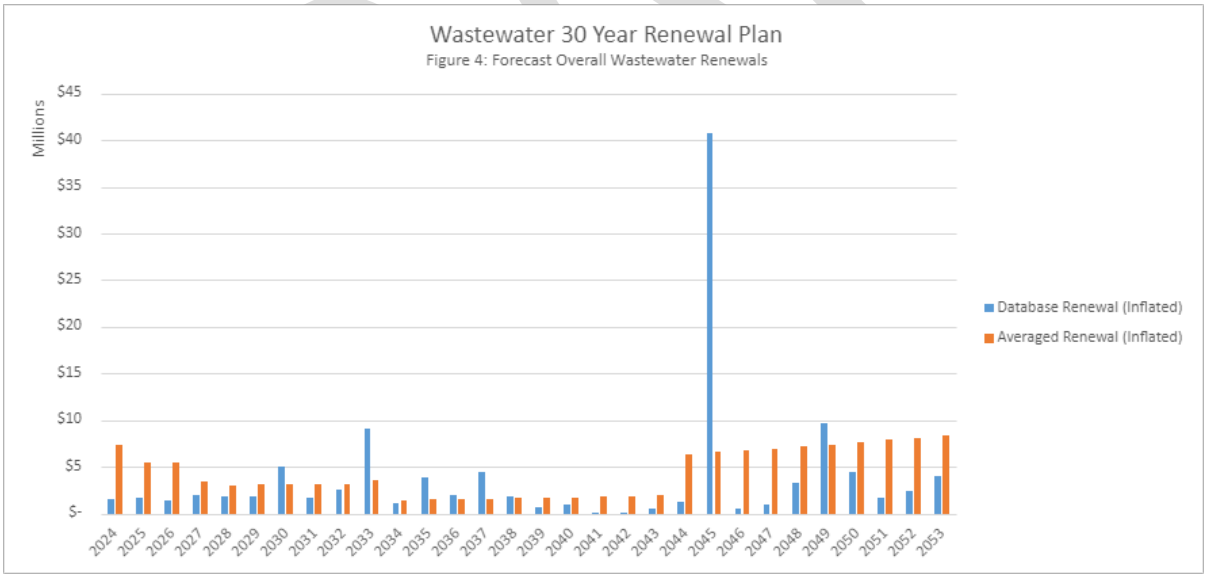
We are working with Iwi and the TRC on possible long-term solutions, including additional treatment at the ponds, an increased monitoring regime and an intensified public warning system. We have highlighted that there will be an additional cost to minimise re-occurrences of the norovirus reappearing in the medium term. Renewal of our discharge resource consents may require works to improve the treatment of sewage to comply with new consent conditions. This is a key driver for the treatment plant upgrades.

Figure 4 shows a spike in 2033 and a huge one in 2045 in the renewals required (blue bar), according to renewal dates derived from the asset database, based wholly on the installation year. As with water, in order to manage the work required to replace these assets the programmed budgets for achieving this work have been smoothed out over 30 years (orange bar).

If renewals for wastewater are unable to be completed, there is a risk that we will continue to:

- experience inflow and infiltration that overload our treatment plants;
- discharge partially treated effluent to the environment;
- experience overflows at pump stations and contamination of surrounding areas as a result of heavy rainfall events; and
- breach our consent requirements.

While the wastewater asset data accurately reflects the assets we own, improvement of metadata across all asset classes will remain a focus. The ultimate goal is to drive all asset renewals and maintenance from the asset database.



Stormwater

The community expects our stormwater reticulation to protect homes and core infrastructure such as roads and wastewater systems and prevent these from flooding. To respond to this, we build and operate stormwater infrastructure in urban areas to help prevent the flooding of properties and reduce or eliminate water ponding on roads that could create safety hazards. In extreme rainfall events however, when the pipe network is overloaded, stormwater will take overland flow paths, often along roads.

The maintenance, renewal, and capital expenditure programme for our core assets is based on the information in our asset management plans. This is the best information available to us about these assets. We have less confidence in the information about our stormwater pipes; however, our ongoing stormwater inspection and condition assessment programme will continue to improve our knowledge and, as a result, the future renewal programme may be different to what is currently planned. This could also result in us having to spend unplanned money on fixing stormwater assets if they break unexpectedly.

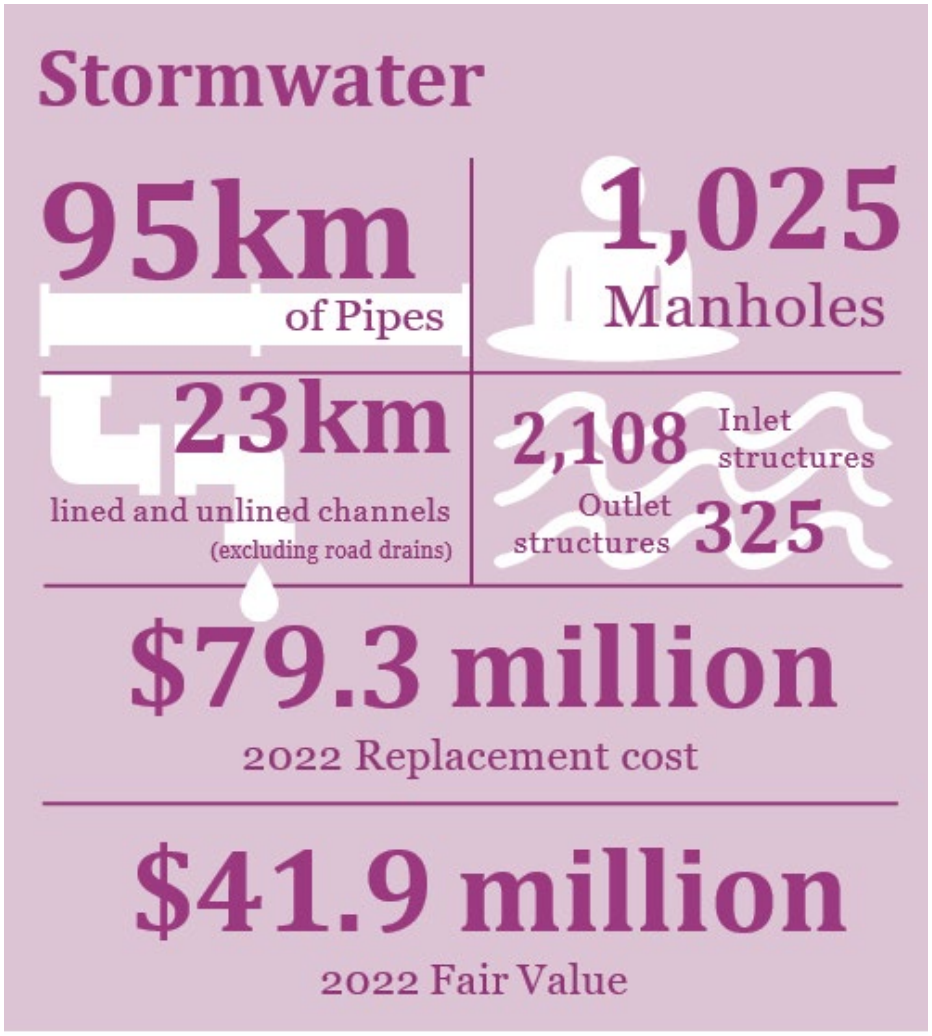
We manage and maintain stormwater assets made up of culverts, water channels, water collectors, stormwater ponds, outfalls, and pipe reticulation networks. Stormwater from residential properties is normally disposed of on-site via soakage, not through the stormwater system.

Surface flooding of roads by stormwater is a common complaint and this can be due to blocked sumps or blocked downstream pipework. Flooding such as that in Ōpunakē during August 2015 occurred because of the significant contribution of overland flow from farmland in the uphill catchment. The Taranaki Regional Council has responsibility for stormwater control outside urban areas, so we need to work closely with the TRC to ensure that appropriate solutions are found to flooding issues in our communities.

Stormwater infrastructure is not fully developed throughout the District. In response to climate change and an increase in rain fall intensity we will need to focus on developing stormwater infrastructure in at risk areas throughout the District. We are developing stormwater network models for urban areas and the focus for our stormwater networks performance is therefore to minimise the occurrence of flooding of houses (excluding garages and sheds). However, prevention of flooding of all properties in all circumstances is not feasible or affordable.

Our focus over this LTP will be to improve stormwater network data.

Assets



Challenges

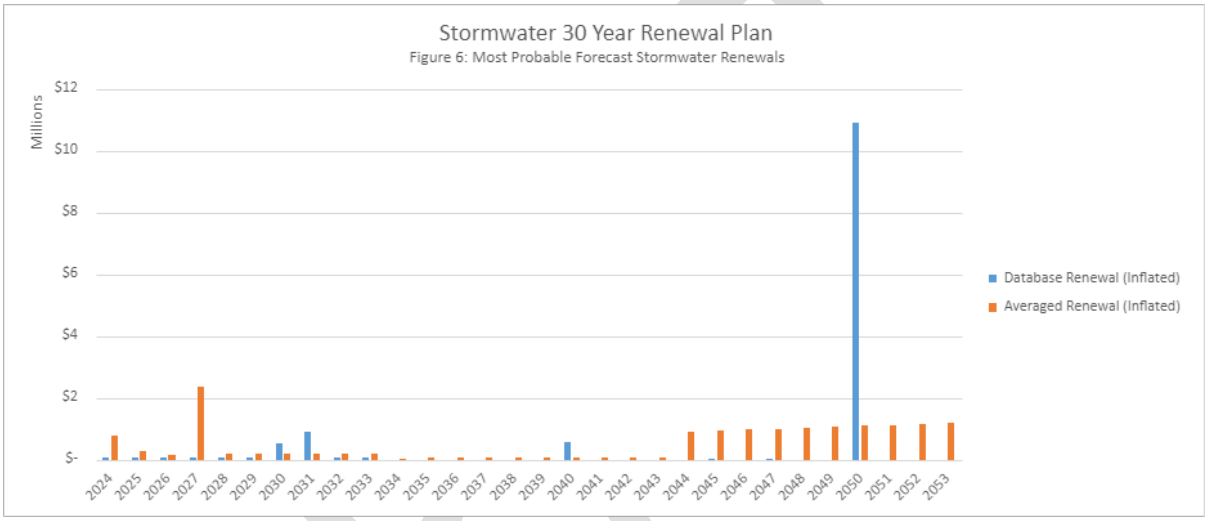
Key Issues/ challenges	What we will do
Flooding.	• Areas of frequent flood events are identified and included in long term planning. • Improve stormwater network data.
Lack of stormwater network.	• Investigate feasibility of developing town stormwater reticulation networks.
South Taranaki Business Park, Hāwera.	• Complete the development of the South Taranaki Business Park.
Renewal of discharge consents is expected to result in treatment prior to discharge.	• Plan for possible treatment of stormwater discharges to waterways, due to upcoming freshwater reforms.
Deferral of inspections and condition assessments for manholes, laterals, and pipelines, leading to underinvestment.	• Inspections programme to improve asset data quality.
Improving asset performance monitoring, condition assessment and maintenance system.	• Developing systems to ensure we better understand how our assets are performing and their condition and forward work planning.

Table 5: Key Stormwater issues and challenges

Renewals

Our stormwater infrastructure is not developed to the same extent as our water and wastewater networks. Having received the highly accurate LiDAR (Light Detection and Ranging) data, we are now able to plan our stormwater networks development and renewals, even though some of our infrastructure is due for renewal now. However, flooding problems are obvious in some of our urban areas and we need to proceed with upgrades and/or renewals without the required catchment data.

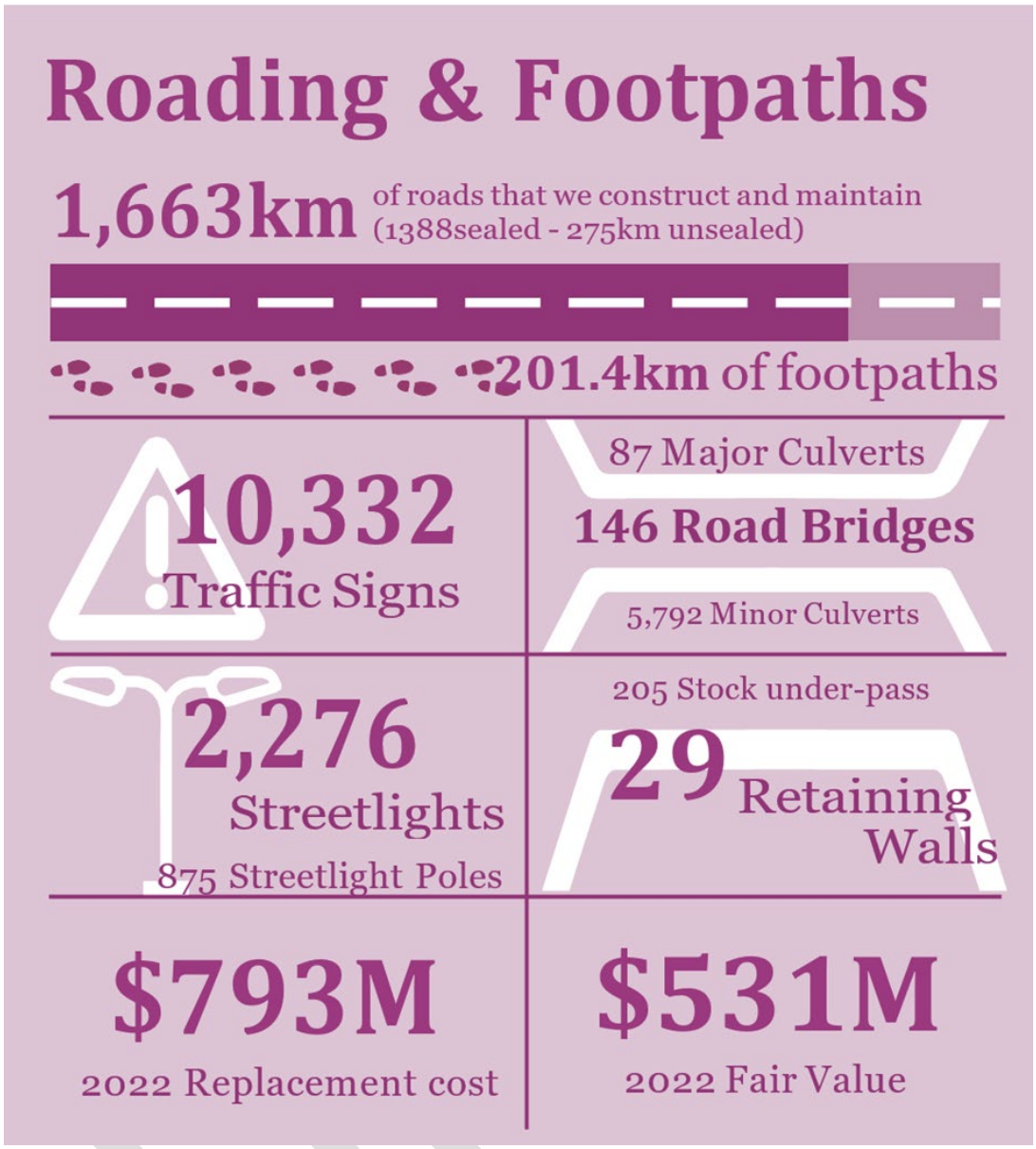
Our current data shows a spike in renewals in 2050 based on the installation date. The programmed budgets have been smoothed out over 30 years, and this will continue to be reviewed as more accurate data becomes available. The risk of not completing our stormwater renewals includes flooding of properties and roads and increased inflow to our wastewater systems, causing overloading of the wastewater reticulation and treatment plants.



Roading and Footpaths

We maintain and develop a substantial roading network to meet the needs of residents and road users within the District. This includes the road corridor that typically consists of roads (carriageways), footpaths, pathways, streetlights, signs, road markings, retaining walls, bridges, culverts, grass verges and road shoulders. Safe, reliable, and accessible roading infrastructure provides access to health and social services and an efficient distribution network for residents and businesses. Roading infrastructure is essential for both the community and economic development of the District. The road strategy enables us to plan and carry out this work under the requirements of various statutes and our own relevant plans, policies and bylaws.

Assets



In addition to these key assets there are about 1,007 km of "paper" or unformed legal roads that we do not maintain. Waka Kotahi operates and maintains the state highway network, which interfaces with our local road network. Waka Kotahi is also our co-investment partner for funding of the local road network. Our Financial Assistance Rate (FAR) received from Waka Kotahi was 63% and has increased to 65%.

Challenges

Because of the uncertain economic environment and a change in central government priorities, it is possible that the FAR from Waka Kotahi could decrease over the life of this plan.

We have submitted our roading work programme budget to Waka Kotahi for approval; however, we are unlikely to receive confirmation of the requested budget prior to the adoption of this plan. There is a risk that the requested budget may not be fully approved, which will impact the proposed programme of work.

Through satisfaction surveys and customer requests, our residents have been telling us that their biggest concern is the condition and maintenance of our roads, which they believe have been reducing over time, and they would like to see more done to improve this situation. If our proposed budget is reduced there is a risk that customer satisfaction could further decline. However, there are other funding options available such as loan funding or increasing targeted rates, which will result in rising costs to the community.

There has been a considerable increase in materials and contractor costs since the COVID-19 pandemic. Over the next ten years we are proposing to increase the expenditure on roading to compensate for the rise in costs so we can better manage the lifespan and resilience of our infrastructure, maintain existing levels of service and increase work done on our bridges. More specifically, each year for the next ten years, we propose to maintain 1663km, widen 9km and reseal 80km of road, renew 2km of footpaths, upgrade a one-lane-bridge to two lanes, upgrade or replace one bridge and improve key rural road intersections.

Rural roads servicing forestry blocks can suffer a huge increase in the numbers and weights of vehicle movements when the forests are harvested, which can effectively destroy a road's structure and require significant unplanned renewal expenditure. Additional expenditure of $0.7 million a year for road renewal (pavement rehabilitation) is anticipated in 2025 and 2027.

We are developing a comprehensive renewal and replacement programme for our bridges and major culverts. Of these bridges, 13 are posted for weight limits or the maximum 50 tonnes loading ("50 Max") is not permitted, and many bridges on lowly trafficked rural roads are nearing the ends of their serviceable lives, so they will need to be replaced within the next 30 years. We are investigating high risk bridges to determine whether some can be strengthened rather than replaced, to extend their life. A recent change in Waka Kotahi criteria under the low-cost, low-risk work category will allow us to replace more bridges.

Key Issues/ challenges	What we will do
Customer expectations – misalignment between the Council and community about the appropriate level of service, increasing customer complaints and investment demands. Roading consistently ranks the lowest in our annual resident satisfaction surveys.	• Education, including targeting key audiences with messages through various media and developing relationships with key groups to build trust and credibility. • Increase programme and funding. • Timely response to complaints.
Increasing demand for the skills and resources we need, resulting in the likelihood of increasing costs, time delays and quality issues.	• Change work programme to avoid materials shortages. • Order scarce materials early to give suppliers long lead times. • Partner with other organisations to access complementary skills.
Increasing HCV movements, especially on 'low volume roads', causing damage to assets and increasing financial burden for our ratepayers.	• Increase road renewal and bridge strengthening. • Change levels of service and pass bylaws. • Reduce demand by posting/restricting use. • Increase funding to counter damage. • Develop relationship with trucking companies to manage situation.
Increasing death and serious Injury crashes and poor driver behaviour	• Increase work programme. • Develop policy for speed and demand management.

causing increased harm and disproportionately affecting vulnerable users.	• Lower the safety risk. • Increasing funding. • Communications – safety messages.
Of our 233 bridge and major culvert structures, more than 60% are older than 50 years. We expect a surge in renewals over the next 30 years. The current renewal rate of one per year is insufficient to renew the bridges within a 100-year cycle.	• Monitor the condition of bridges and plan upgrades as required.
Major weather and environmental events increasing in severity and frequency resulting in increased costs to withstand and recover from these events.	• Increase the work programme and funding to improve resilience. • Increased preventative maintenance.

Table 6: Key Roading issues and challenges

Renewals

The asset database indicates a significant apparent spike in renewal expenditure of $60m in 2024 (year 1). The forecast renewal work along with proposed renewal budget, and the cumulative increase, is illustrated in figure 8. The renewals consist largely of roading basecourse that is beyond its expected remaining life as shown in the database. The timing of capital renewals based on the asset register is applied by adding the useful life to the year of acquisition or the year of the last renewal. We use asset condition to determine our forward renewal programme, and may be supplemented with, or based on, expert knowledge.

While the life of the roading surface above the basecourse has been extended through condition assessments and renewals (resealing), the remaining life of the basecourse underneath is not adjusted when roads are resealed. This is fundamentally a data quality issue and remaining life will need to be revised to match actual condition.

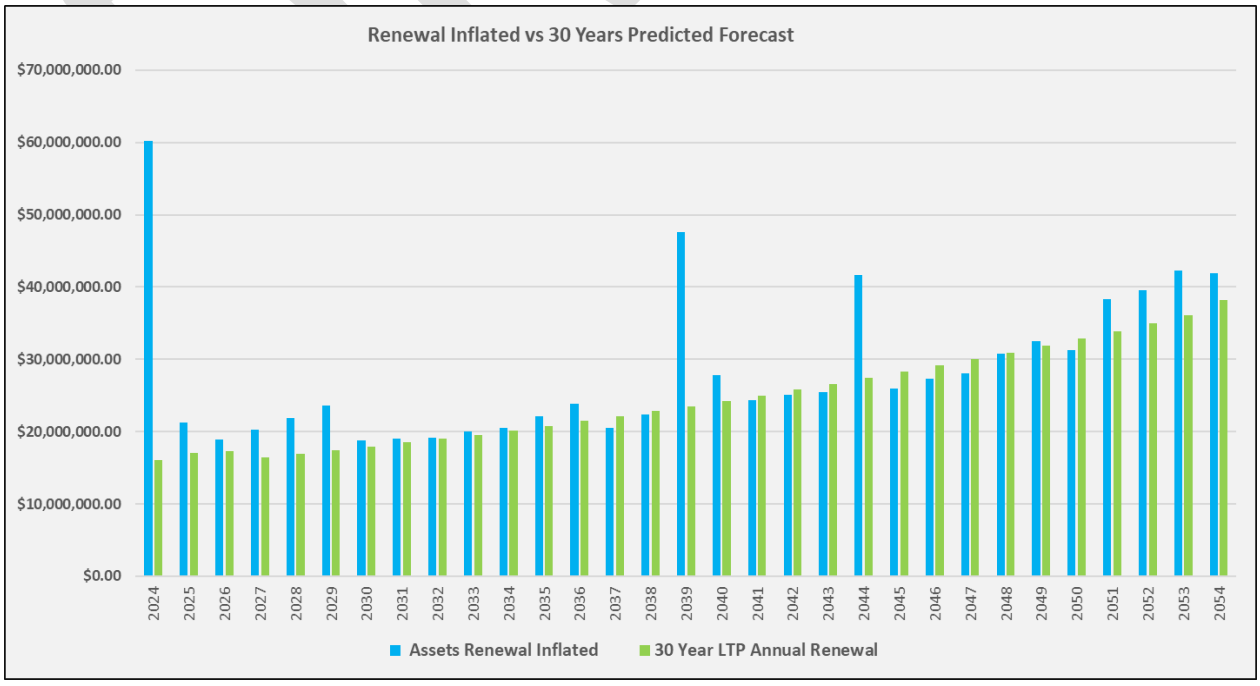


Figure 8

District Pathways Programme

In 2015 we adopted a programme to build several new pathways (walkways/cycleways) and upgrade some existing ones. The programme was strongly supported in public submissions and was a key project designed to enhance lifestyle and recreational opportunities across the District. Six of the original pathway projects have been completed. We plan to continue with the programme, but the new Government has indicated potential changes to priorities that may not include pathways.

The pathways programme is funded from Waka Kotahi subsidies, loans, and rates.

Solid Waste

We operate transfer stations at Eltham, Ōpunakē, Hāwera, Manaia, Pātea, Waverley and Waitōtara. We also hold consents for the discharge of leachate and stormwater from seven closed landfills and legacy sites. These are at Kaponga, Manaia, Pātea, Ōpunakē, Hāwera, Otakeho and Eltham.

The collection and disposal of solid waste is conducted regionally, through a shared arrangement between the New Plymouth, Stratford, and South Taranaki District Councils. As part of the review of the Waste Management and Minimisation Plan and the re-tender of the solid waste services contract the Council decided to introduce a food waste collection and move from a weekly collection service to a fortnightly service. The new contract takes effect from 1 October 2024.

The refuse from the collections and transfer stations was transported to the Colson Road Landfill in New Plymouth, which closed in 2018. The three district councils' waste is transported and disposed of at the Bonny Glen landfill in Rangitikei. All of the recyclable materials collected are transported to the Materials Recovery Facility (MRF) in New Plymouth where they are sorted.

The Government charges a levy on all waste disposed of to landfills across the country. The Ministry for the Environment (MfE) has increased waste levies, which affects the Council's disposal costs. We will continue to promote initiatives to lower waste generation and disposal and to find more environmentally friendly ways to treat waste within our District.

The three district councils across the Taranaki region are working together to investigate the possibility of an organic waste processing facility. Where and how this will be established is still to be determined. However, it will reduce the emissions across the District dramatically because organic waste will be transported and managed within the Taranaki rohe.

Assets

Figure 9: Solid Waste Assets

Challenge

Escalating costs for the collection and disposal of solid waste are putting increasing pressure on our community, and affordability is major concern.

Key Issues/ challenges	What we will do
Expected increase in waste minimisation levies resulting in higher costs of providing the service.	• Waste reduction will be key, along with behaviour change.
We are becoming aware of un-consented landfills in the District, including at least two on the coast.	• Monitor.

Table 7: Key Solid Waste issues and challenges

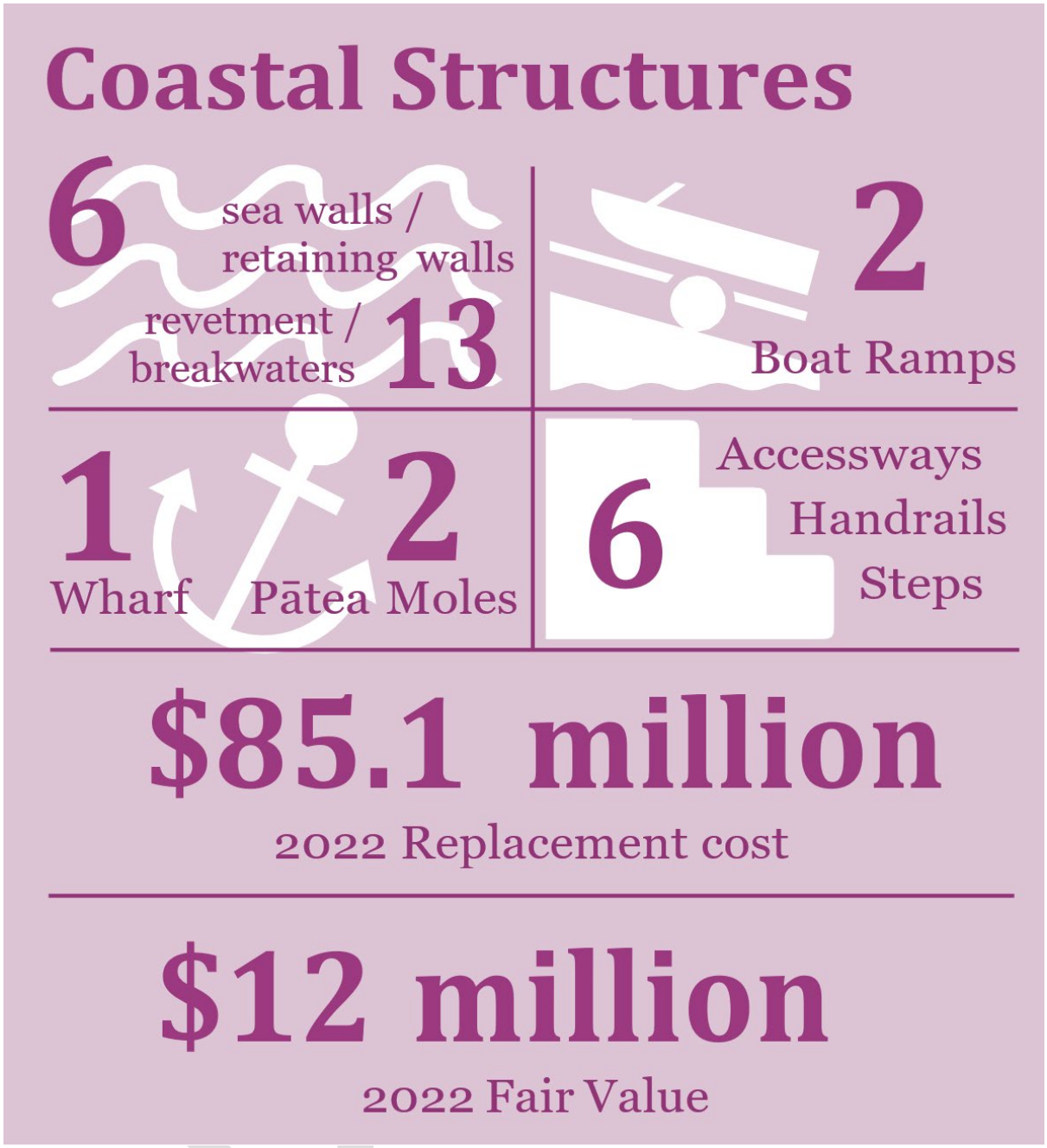
Solid Waste Renewals

Some renewals are planned for transfer station infrastructure that include pump station and drainage renewals at Hawera as well as some concrete surface renewals. Other larger structures renewals are planned in years 2034 and 2044. Asset database improvements will also be made in 2024 and 2025 to ensure that all assets and their condition are accurately recorded to improve asset data quality.

Coastal Structures

There are numerous coastal structures along the South Taranaki coast, including the Pātea moles (breakwaters) that direct river water through the sand bar at the mouth of the Pātea River. The moles were originally built for the shipping industry and now serve recreational and emergency craft, while most other coastal assets are minor, such as seawalls and accessways, paths and steps to the sea and a number of boat ramps to allow recreational craft to access water bodies.

Assets



We aim to manage our coastal structures to provide reliable and continuous:

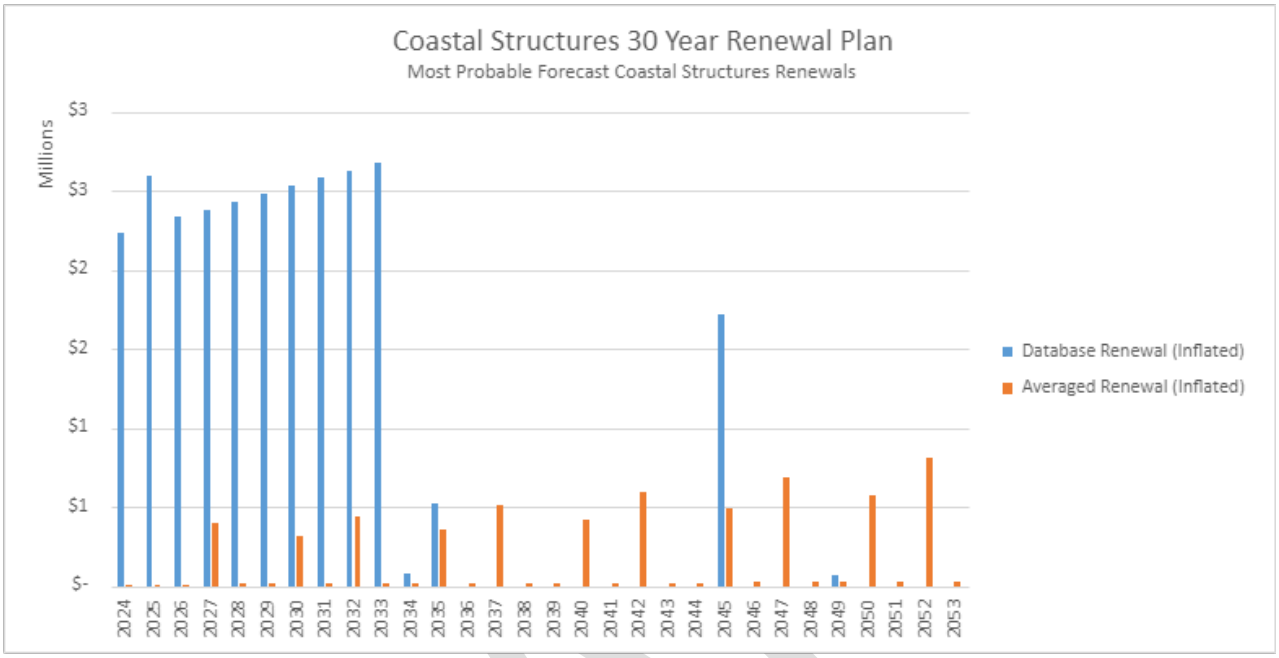
- Access to beaches for pedestrians;
- Access to rivers, lakes, and the sea for boat users; and
- Protection of erosion-prone sections of coast in the vicinity of existing infrastructure and cultural sites.

Challenge

The main challenge in managing our coastal structures is the on-going degradation of assets due to the harsh marine environment. We monitor their condition and programme works as required. For example, the erosion in Middleton's Bay is an area of concern we are continuing to monitor.

Coastal Structures Renewals

We plan to include the coastal structure renewals in the final LTP budget. The asset that need the most attention is the Patea moles. The graph shows the value of the replacement of the existing moles. However, a Report done in 2017 shows that if we continue to do periodic renewals of sections of the moles, we are effectively extending their life by 50 to 70 years.



Parks and Reserves

We own and maintain parks and reserves across the District, varying in type and size from neighbourhood 'pocket parks' and playgrounds and main street gardens to sports fields, premier parks and the 240ha Rotokare Scenic Reserve east of Eltham. At this stage, there is little demand for additional parks because the existing stock provides enough recreational space across the District for the current and projected population. However, we received feedback from the community on providing for improved maintenance of parks and gardens particularly through the townships.

In October 2023 the Council adopted the Collaborating for Active Spaces and Places Strategy, a regional approach to providing an integrated and connected recreational facilities network. The Strategy was co-developed in collaboration with key partners and stakeholders in the Taranaki Region, including providers and potential funders, operating as the Taranaki Facilities Consortium. This will see the preservation of local autonomy while ensuring good practice in planning for facility development and funding co-ordination.

Assets

Info Graphic:
38 Playgrounds
12 sportsgrounds
5 premier parks
6 pathways

Challenges
Life expectancy is increasing, and we are becoming more aware of the need to keep fit and healthy and enjoy our retirement and independence for longer. The main challenges for our parks and reserves activity reflect changing demographics and recreational preferences. We recognise the changes in recreation needs as our population ages, the decline in participation of structured sports and increasing demand for informal recreation facilities, particularly pathways for walking and cycling. We have a pathways development programme to address this demand.

Renewals
Renewals for our parks and reserves includes Hāwera's King Edward Park gates; horticultural renewals (plants, shrubs, and trees); and Eltham's Bridger Park Bridge renewal.

Community Facilities

As shown below, we have a wide range of community facilities that provide the mostly non-core services our communities expect.

Assets

Add to infographic
37 Public Toilets
72 Housing units

Figure 12: Community Facility Assets

Challenges

- Competition from other community facilities.
- Earthquake-prone building legislation.
- Changing social patterns – less interest in organised meetings and other gatherings.
- A need to make our pools more environmentally sustainable.
- Possible increases in standards for swimming pool water and lifeguard accreditation.
- Increasing demand for Housing for the Elderly units.

Renewals

Planned renewals for community facilities include cemetery mats and berms; playground upgrades; new toilets at Pātea, Ōhawe, Ōpunakē Lake and Rāhotu; campground security gates, driveway resealing and chattels; Hāwera Aquatic Centre and rural pools plant; and TSB Hub air conditioning, roofing, lighting and carpets.

Affordable Rates

The ability of our ratepayers to continue funding services and the maintenance and renewal of the assets needed to provide sustainable infrastructure is an on-going issue. We will mostly concentrate on maintaining and replacing existing assets rather than creating new ones that will increase operational costs. Exceptions are:

- New assets as part of the Town Centre Master Plans;
- New assets for the South Taranaki Business Park; and
- Tertiary level wastewater treatment plants.

We want South Taranaki to be an affordable place to live and do business. Our plans for the District – to retain our population, maintain our current levels of service, consolidate, and reduce debt – must be balanced with the need to keep rates affordable for our community. We need to respond to our community's needs in a manner that is sensitive to economic factors, keep costs down by focusing on the basics, deferring or deleting projects where appropriate and utilising various funding mechanisms as well as rates without raising our rates above 6.0%.

Limits on Rates and Rates Increases

Our total rates income is forecast to increase from $48.9 million in 2023/24 to $54.4 million in 2024/25 and to $83 million by 2033/34. We want to provide ratepayers with a degree of certainty over future rates movements and propose to limit average rate increases over the next 10 years to no more than 6.0%. This 'cap' is made up of the Local Government Cost Index ten-year average of 2.40% plus 0.60% for adding back three waters and, 3% for improvements, compliance and growth.

Our forecast income for 2024/25 will be made up of rates (53%), subsidies, grants and capital contributions (23%) investment income (10%), and user fees and charges (11%).

The quantified limit for rates income is 65% of total projected revenue, and we will seek to reduce the amount collected by rates while continuing to fund activities as per our Revenue and Financing Policy.

Our Plan for the Future – the Most Likely Scenario

This Strategy provides an overview of the most likely scenario for managing our infrastructure. In general, we plan to maintain our current levels of service while focusing on the three themes described earlier – affordability, intergenerational equity and partnerships.

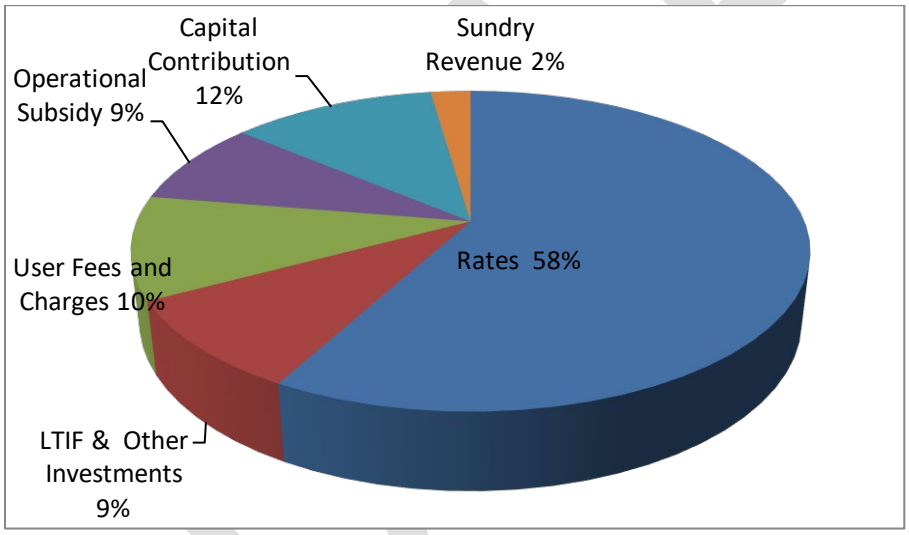
We have included our preferred options for significant capital expenditure in our Long Term Plan budgets. The forecasts for the first three years are the most detailed, while those in years four to ten are a reasonable outline of the most likely scenario. The forecasts beyond year ten are indicative estimates and will be developed further as more information becomes available.

Forecast Expenditure and Income

The forecast expenditure shows what we intend to spend on each group of activities over the next ten years. The forecast spending on water, wastewater, stormwater, roading, solid waste, coastal structures, parks and reserves and community facilities totals about 78% of our overall spending.

Forecast Income

The following graph shows the income we are forecasting from different sources over the next ten years. Our total income from rates makes up about 58% of the total income, followed by 12% from Capital Contributions.



Graph – Total Income

Lifecycle management

The management of the lifecycle of assets is the key to delivering cost effective services. Table 8 shows the approach taken to lifecycle management for the various asset categories.

Asset Categories	Main Issues	Maintenance Strategy	Lifecycle Approach
Water Treatment	Water treatment plant upgrades have been completed over recent years. Treatment of all groundwater as result of new water services standards is planned. An improved planned maintenance system is needed	Maintenance is undertaken based on plant performance, criticality and known plant issues. Improvements are needed to meet the equipment manufacturer's maintenance recommendations.	Use AssetFinda to record maintenance regimes and asset performance. Use information gathered to refine and optimise the maintenance programme, renewal strategies and plant performance.

	to ensure optimal asset performance is achieved.		
Water Reticulation	Unaccounted for water needs reducing to better demonstrate good resource stewardship. Detailed three-year renewals programme of improved asset condition assessments. Review assets within ten years of renewal.	Proactive management of the minimum night flows (MNF). Ongoing pipe flushing, valve and hydrant exercising, backflow preventer testing. Periodic town-by-town reticulation cleaning to be introduced.	Improve data set and test physical samples (planned and following a water main burst) to better establish remaining lives. Verify based on actual asset performance before committing to renewal. Extend remaining life if asset is still serviceable.
Wastewater Treatment	No major issues where there is no trade waste, as treatment ponds allow time to rectify issues before compliance is compromised. Additional aeration capacity, sludge management and trade waste management are needed where trade waste loads are high, to mitigate risk.	Scheduled maintenance carried out, electrical annually and mechanical six-monthly. Better capturing of maintenance and performance data will improve decision making.	Utilise better performance and condition data capture to improve whole of life decision making.
Wastewater Reticulation	Inflow and infiltration (I&I) of water into the pipe network reduces the hydraulic performance and may also result in the failure to meet volumetric resource consents.	Routine CCTV inspection of the sewer network to identify faults and target rehabilitation efforts. Flush problematic sewer lines and inspect manholes. House inspections and smoke testing to identify wrongly connected stormwater.	Manage levels of I&I by rectifying defects to ensure network overflows don't occur from hydraulic overloading. Repair or renewal selected based on number and types of defects. Consider independent stormwater systems.
Stormwater Reticulation	Lack of information about condition of pipe assets.	Sump and open channel clearing and manhole inspections.	Gather CCTV condition data to refine the renewals programme.
Roading Pavements	From an asset management perspective, there are no significant issues, as performance indicators mostly show good condition with slight declining trend predicted due to increasing heavy vehicle usage. However, we acknowledge that this is not the community's perception.	Maintenance treatment chosen based on condition rating and required level of service of the pavement. Methods employed are patching, reseal or rehabilitation. Reduce volume of reactive maintenance in preference for preventative maintenance.	RAMM roading asset information system is used to select appropriate treatment based on Waka Kotahi criteria.
Roading Bridges	There is an upcoming peak of renewals over the next 30 years. Some bridges may not qualify for NZTA funding under current criteria unless the replacement cost is less than $2 million.	Visual inspection every two years with detailed examination every six years on some critical structures to prioritise maintenance and renewal. Raise individual business cases for bridge replacements >$2m.	Manage renewals to give smoothed cash flow to ensure funding from Waka Kotahi is available.

Table 8: Lifecycle Management Approach

Capital expenditure decisions

Our decisions on how much to spend on infrastructure have three main drivers:

1. When should existing infrastructure be replaced?
2. When should we invest to improve the existing service?
3. What investment is needed to cater for growth and development?

Some capital development is determined by regulation:

- Drinking Water Standards.
- Regional Council consent conditions that determine the amount of fresh water that can be taken from a river or the ground and the quantity and quality of discharges back to rivers from water and wastewater treatment plants and stormwater runoff.

Community expectations in these areas tend to align with the regulators' requirements.

Replacing infrastructure

An asset needs to be replaced when it can no longer provide a level of service. For example, a water main may be renewed if it is bursting too frequently, has too much water leaking from it, or its internal condition causes dirty water. Our renewal programmes are based on established criteria for the lives of assets, as recorded in our asset management systems, and details are provided in our asset management plans. Most wastewater plants and nearly all water supply treatment facilities have been upgraded over the last nine years to meet the required standards, which means there are few imminent high value asset renewals in these areas. However, the pipe assets for water supply, wastewater and stormwater would typically be expected to last between 80 to 100 years and many have reached that age range. These networks have a value in excess of $135 million and a significant quantity of renewals is scheduled over the next 30 years.

The accuracy of our reticulation renewal programmes improves as we improve the quality of the information we have about the assets and their condition. Condition assessments will continue to be a priority, to improve our knowledge across our reticulation networks. The focus for condition assessments will be those assets with the shortest theoretical remaining lives and those that serve the highest numbers of customers.

Our financial projections for renewals assume that technology will not advance substantially, so the cost of renewal will not reduce with time. Where appropriate we use the range of 'no-dig' and relining technologies available for rehabilitating sewers, as these are less expensive than replacing the pipes with new ones.

Improving the existing service

We may increase the level of service we provide for a number of reasons and that usually increases the cost of the service. Examples are:

- An increase in legislative requirements.
- Higher environmental expectations.
- Climate change impacts.
- Providing improved resilience to earthquake and volcanic eruption.

Given the extent of our borrowing (debt), it is important that we prioritise our capital investment, which we have done against the four criteria above.

Legislative changes

We improve parts of our infrastructure when there is a legislative requirement to do so, including upgrades to our water treatment plants to comply with the New Zealand Drinking Water Standards 2005. The Havelock North water supply enquiry made numerous sweeping recommendations in relation to ground water sources, many of which we had already decided to implement. These will see all ground-sourced drinking water supplies fully treated to meet the bacteriological standards.

Through consenting, the Taranaki Regional Council determines the amount of fresh water that can be taken from a river or the ground and the quantities and quality of discharges back to rivers from water treatment plants, wastewater treatment plants or stormwater runoff.

We expect water treatment standards will increase and an allowance has been made for this.

Growth Planning

Minimal predicted population growth means that maintaining our infrastructure to meet current levels of service will be the primary strategy, particularly for the water supply and wastewater activities, where reducing water loss and water entering sewers can significantly delay the need for further investment. These areas are the key strategic focuses over the next five years, as they yield other benefits too.

Rather than growth planning, a managed retreat may be required in some areas, where capacities might be reduced when assets are renewed.

The likely impacts of growth on our core infrastructure are summarised in Table 9 below.

Category	Impact	Management Strategy
Water Supply	Population changes and increases in demand for water are anticipated in Hāwera's new residential area (Hāwera Western Structure Plan). A small and continuing increase in demand is expected from dairy farming. Demand for commercial and industrial sections is expected to be focused around the Hāwera and Normanby areas.	The primary response to growth has been the Hāwera Western Structure Plan to encourage growth where demand for water can be managed affordably. Stages Two and Three of the South Taranaki Business Park are under way, which include additional water, wastewater, and stormwater infrastructure. We are ensuring water leaks are repaired and process losses at treatment plants are minimised.
Wastewater	Population changes will have a small impact on wastewater systems. New industries will be considered as trade waste customers with possible on-site treatment if existing Council facilities have insufficient treatment capacity.	Maintain the existing wastewater treatment plants. Inflow and infiltration of water into the wastewater network is a key strategic issue and will be managed to ensure unconsented overflows don't occur. The primary response to growth has been the Hāwera Western Structure Plan to encourage growth where infrastructure can be provided and accessed affordably. Stages Two and Three of the South Taranaki Business Park are under way, which include additional water, wastewater, and stormwater infrastructure.
Stormwater	Predicted growth is not expected to have a significant impact on stormwater infrastructure.	Continue to monitor system performance.

Roads and Footpaths	Population or business growth is not predicted to have a significant impact on roading infrastructure.	The emphasis is on maintaining the existing network. No significant upgrades are anticipated as a result of growth with the exception of the South Taranaki Business Park.

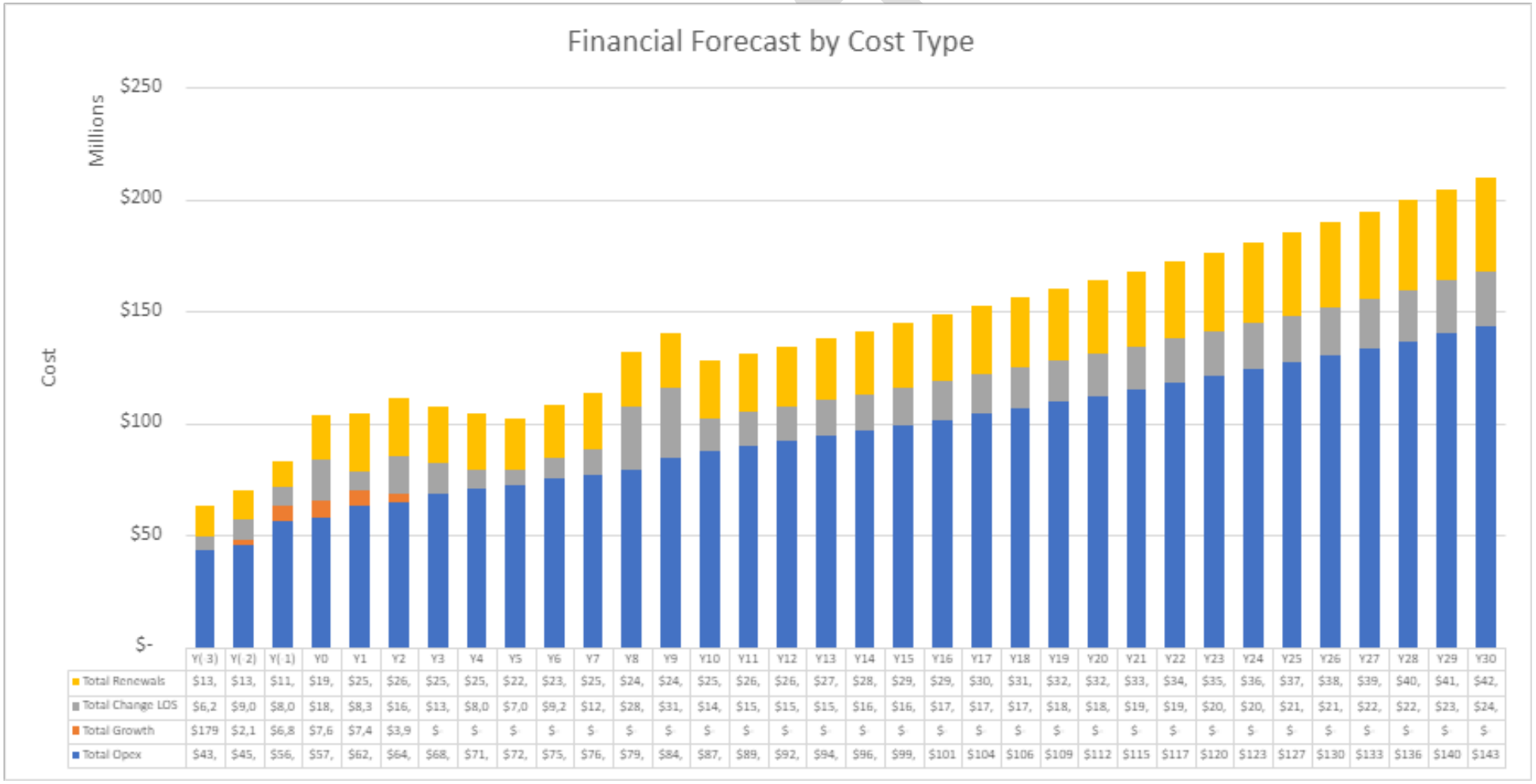
Table 9: Growth Impact

When will it happen?

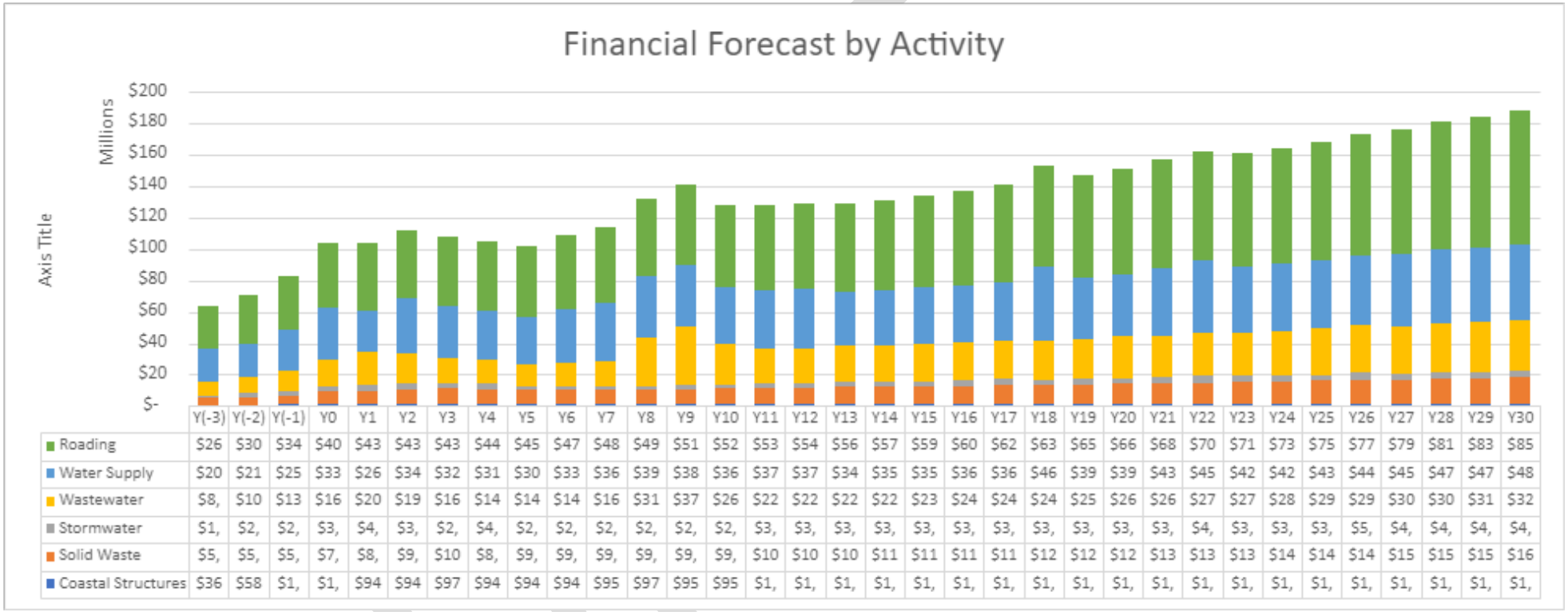
The timeline in Figure 14 shows the most likely scenario for our infrastructure investment. This provides a view about our planned expenditure over the next 30 years. The timeline is colour coded as shown below to identify each activity. *New graph to be added.*

What will it cost?

The following graphs show the annual capital and operating costs of the most likely scenario. These are split by activity and funding sources.



	Y(-3)	Y(-2)	Y(-1)	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29	Y30
Total Renewals	$13,	$13,	$11,	$19,	$25,	$26,	$25,	$25,	$22,	$23,	$25,	$24,	$24,	$25,	$26,	$26,	$27,	$28,	$29,	$29,	$30,	$31,	$32,	$32,	$33,	$34,	$35,	$36,	$37,	$38,	$39,	$40,	$41,	$42,
Total Change LOS	$6,2	$9,0	$8,0	$18,	$8,3	$16,	$13,	$8,0	$7,0	$9,2	$12,	$28,	$31,	$14,	$15,	$15,	$15,	$16,	$16,	$17,	$17,	$17,	$18,	$18,	$19,	$19,	$20,	$20,	$21,	$21,	$22,	$22,	$23,	$24,
Total Growth	$179	$2,1	$6,8	$7,6	$7,4	$3,9	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
Total Opex	$43,	$45,	$56,	$57,	$62,	$64,	$68,	$71,	$72,	$75,	$76,	$79,	$84,	$87,	$89,	$92,	$94,	$96,	$99,	$101	$104	$106	$109	$112	$115	$117	$120	$123	$127	$130	$133	$136	$140	$143



	Y(-3)	Y(-2)	Y(-1)	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29	Y30
Roading	$26	$30	$34	$40	$43	$43	$43	$44	$45	$47	$48	$49	$51	$52	$53	$54	$56	$57	$59	$60	$62	$63	$65	$66	$68	$70	$71	$73	$75	$77	$79	$81	$83	$85
Water Supply	$20	$21	$25	$33	$26	$34	$32	$31	$30	$33	$36	$39	$38	$36	$37	$37	$34	$35	$35	$36	$36	$46	$39	$39	$43	$45	$42	$42	$43	$44	$45	$47	$47	$48
Wastewater	$8,	$10	$13	$16	$20	$19	$16	$14	$14	$14	$16	$31	$37	$26	$22	$22	$22	$22	$23	$24	$24	$24	$25	$26	$26	$27	$27	$28	$29	$29	$30	$30	$31	$32
Stormwater	$1,	$2,	$2,	$3,	$4,	$3,	$2,	$4,	$2,	$2,	$2,	$2,	$2,	$2,	$3,	$3,	$3,	$3,	$3,	$3,	$3,	$3,	$3,	$3,	$3,	$4,	$3,	$3,	$3,	$5,	$4,	$4,	$4,	$4,
Solid Waste	$5,	$5,	$5,	$7,	$8,	$9,	$10	$8,	$9,	$9,	$9,	$9,	$9,	$9,	$10	$10	$10	$11	$11	$11	$11	$12	$12	$12	$13	$13	$13	$14	$14	$14	$15	$15	$15	$16
Coastal Structures	$36	$58	$1,	$1,	$94	$94	$97	$94	$94	$94	$95	$97	$95	$95	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,	$1,

The forecasts are based on the assumptions listed in the risk analysis section and elsewhere in the LTP. The funding of operational expenditure and capital expenditure is set out in the Revenue and Financing Policy.

Our Financial Strategy gives an overall direction in terms of debt, investments, various benchmarks and rates cap. We have an obligation to meet various ratios within the Financial Strategy. The rates cap is based on the Local Government Cost Index ten-year average of 2.40% plus 0.60% for adding back three waters and, 3% for improvements, compliance and growth. The rating impacts of the above forecasts are mostly within the rates cap. The Financial Strategy explains in detail how these projections affect various ratios and what impact they will have on the overall District. The financial risks recognised in this Strategy are also explained in detail in the Financial Strategy.

Additional detail on the most likely scenario and costs implications is given in Appendix 1.

Risk analysis

Our planning requires us to make certain assumptions about what is likely to happen in the future, and many of these assumptions relate to infrastructure. Non-delivery of key projects and our capital works programmes is a strategic risk, along with the failure to manage critical and strategic assets within the District. The risk around the principal assumptions is shown in Table 10 below with risk graded on a scale of 1 to 3, 1 being the highest risk.

Assumption		Uncertainty	Risk Management
Depreciation	2	If depreciation calculations are significantly different from the amount budgeted, rates will need to be increased.	While information around condition has some limitations, we are continually working to improve what we know about our assets, including their condition, how well they're performing and their expected remaining life.
Major capital projects "do ability"	1	We have experienced difficulty in completing projects because of issues with contractor and resource availability, feedback via community consultation and legal issues. There is a risk that we will not be able to achieve our planned capital works programme.	We have taken a number of steps to ensure that we can deliver our capital works programme including increasing the capacity of the Projects Team, pre-purchasing materials, engaging external project managers for larger projects and placing a strong focus on preparing designs ahead of budgets.
Lifecycle of significant assets	3	Our significant assets have been assessed against the IIMM framework. However, there is a risk that the assessment may not match the actual condition of our strategic assets. Failure of strategic infrastructure would result in the need to undertake unbudgeted replacement or maintenance.	For most assets the information around age, type, and quantity is reliable. While information around condition has some limitations, we are continuously working to improve what we know about our assets, including their condition, how well they're performing and their expected remaining life. We have less confidence in the information we have available about our stormwater pipes, but our ongoing stormwater inspection and condition assessment programmes will continue to improve our knowledge.
Funding replacement of significant assets	3	If we decide to change our Revenue and Financing Policy on how to fund assets, it will have an impact on rates.	It is unlikely that we would make this decision without a thorough review of the full Revenue and Financing Policy and the impacts on our rate payers and residents.

Revaluation of non-current (fixed) assets	3	If there is a large difference between how much we forecast the assets to be worth and the actual value of the assets, there will be an impact on our budgets and rates.	While information around condition has some limitations, we are continually working to improve what we know about our assets, including their condition, how well they're performing and their expected remaining life.
Population growth for South Taranaki is predicted to be 2.9% to 2037 across the District.	2	There is a risk that the population increases or declines more than projected, which means we would need to review our growth-related projects and work programmes.	Small increases or decreases in population have a relatively small impact on established infrastructure. A sizeable increase in population and growth will require growth-related projects and work programmes to be reviewed or brought forward.
Waka Kotahi funding will continue at current levels over 30 years	3	Government reduces the funding assistance rate (FAR).	There is a possibility that central government will decrease our FAR rate and/or the funding available to subsidise Council's roading costs. If this occurs the Council would need to consider their levels of services provided or pay for a percentage of the roading programme through a targeting roading rate.
Environmental standards will increase as predicted	1	Standards don't increase as predicted or increase beyond expectations.	This would result in the deferral of the projects that are scheduled to proceed following a change in standards.
Water quality standards will increase as predicted.	1	Standards don't increase as predicted or increase beyond expectations.	This would result in the deferral of the projects that are scheduled to proceed following a change in standards.
Demand management practices will manage water demand as predicted.	3	Demand grows more quickly than predicted, requiring investment to increase supply.	Leak detection and mains renewal will reduce losses. If increasing the capacity of water supplies is necessary, it would have an impact on targeted water rates.
Expenditure to reduce I&I will maintain sewer flows to the required levels.	3	Level of expenditure is not sufficient.	Current performance indicates that the level of expenditure is sufficient. Should further reduction in I&I be needed there would be a financial impact on the wastewater rate.
Renewals forecasts don't meet the predictions.	2	The smoothing of renewals as predicted is unachievable.	This would result in some peaks of expenditure, as shown in Figures 2, 4, and 6.

Table 10: Principal Assumptions Uncertainty

Project	Issue	Most Likely Scenario	Principal Alternatives	Probable year	Likely Cost
Growth					
South Taranaki Business Park	A feasibility study confirmed the strategic need for developing additional suitable land for industrial purposes in the District.	Continue with the development (Stages 2 and 3) of the South Taranaki Business Park.	Not completing the project is likely to deter potential commercial and industrial businesses from establishing in South Taranaki.	2021-2027	$12.2m
Town centre masterplans	Implementation of masterplans for five of our town centres: Ōpunakē, Manaia, Pātea, Waverley and Eltham.	The masterplans have been designed in consultation with the community and will be consulted on again as projects are developed.	Doing nothing would see these town centres continue to lack vibrancy and not attract residents and visitors.	2021-2031	$10.6m
Town Centre Strategy Hāwera – additional projects	We have initiated a Hāwera town centre strategy to restore the town centre to a vibrant and successful place for business and people. A key project, Te Ramanui o Ruapūtahanga, our new civic centre, is due to be completed in August 2024 and is being funded from a mixture of sources, including the Government's 'shovel ready' projects. Additional projects have been planned to continue to improve the District's main town centre.	Continue with revitalising Hāwera's town centre.	Doing nothing would slow down the progress of restoring the town centre to a vibrant and successful place and disappoint residents who anticipate continued progress.	2023/24	$4.6m
Water					
Ōpunakē Water coagulation and optimisation (discolouration)	Historical complaints throughout Ōpunakē about discoloured (brown) water. It is suspected to be caused by high levels of iron and manganese in the water source.	Continue with the intake condition assessment and the planned work to correct the issues of iron and manganese that discolour the water.	Continue with flushing regimes and managing complaints.	2024/25 2025/26	$1.5m
Ōpunakē Reservoir 2	As the water is coming from the Waiaua River, it is getting difficult to have enough water to treat,	Continue detail design and construction of the new reservoir.	Not completing the project will create capacity issues.	2024/25 2025/26	$3.2m

	especially in storm events, which creates capacity issues.				
Urban firefighting improvements - Normanby second supply line	Modelling has shown locations where water supplies don't meet the New Zealand Fire Service Fire-fighting Water Supplies Code of Practice (COP). This non-mandatory standard represents best practice. Hundreds of improvements have been identified. The Fire and Emergency New Zealand (FENZ) Act 2017 requires a new COP to be produced, consulted on, and published, but no timeframe has been set.	Making network improvements to meet the current COP for schools, hospitals, and places of assembly. Other improvements will be made when pipes are renewed. Improve the Normanby water supply, which also has benefits of serving the South Taranaki Business Park.	Doing nothing exposes the Council and the community to risk; however, due to the lack of funding available we plan to review the capacity of the reticulation networks again when FENZ publishes the new mandatory COP. A revised programme of work will then be developed.	2030/31 2031/32 2032/33	$4.7m
Pātea Water Treatment Plant enhancement	Pātea has a vulnerable supply due to its full reliance on bore water. To ensure the Pātea water supply complies with the Drinking Water Standards the treatment plant requires enhancement.	We are undertaking trials at the moment to come up with the best possible solution, at an affordable cost.	Continue with the current water treatment plant and risk breaching the Drinking Water Standards.	2023/24 2026/27	$2.5m
Kāpuni borehole 2	Kāpuni scheme resource consent is due for renewal and Regional Council may cut back in the water extraction quantities. As Kāpuni also provides water to Inaha and Waimate West, we need to insure that we can get enough water.	Drilling of a new bore in Kāpuni.	Not completing the project with create capacity issues.	2028/29 2029/30	$2.8m
Waimate West trunk main duplication	The Waimate West supply is a vital network, particularly to the large numbers of agricultural operations that rely on this source. An additional trunk main running parallel to the current trunk main will enhance resilience.	Construction of an additional trunk main running parallel to the current Waimate West trunk main.	If we continue to rely on the single trunk main, we run the risk of not being able to deliver water to the entire network. This would put significant pressure on the agricultural operations and health and well-being of people and livestock.	2024/25, 2025/26	$2.4m
Waimate West replace reservoir 1	Waimate West's reservoir 1 holds 9 million litres of water and is coming to the end of its life.	Replace Waimate West reservoir 1.	Continue to rely on Waimate West reservoir 1 to deliver water to the network.	2026/27, 2027/28, 2028/29	$9m

Waverley replacement bore & Waverley reservoir 2	A replacement bore is required in the Waverley township to ensure enough future supply, as well as a new reservoir	Investigate water source and commission replacement bore.	We can continue with the current bore; however, it will begin to decline and we will struggle to supply water to the Waverley township.	2025/26	$3.1m
Rāhotu reservoir replacement	A new reservoir is needed to increase capacity. But also the age the reservoir.	Replace Rāhotu reservoir	We will have capacity issues and resource consent non-compliance.	2030/31	$939k
Eltham Reservoir replacement	A new reservoir is needed to increase capacity. But also the age the reservoir.	Replace Eltham Reservoir	We will have capacity issues and resource consent non-compliance.	2024/25 2025/26 2026/27	$2m
Kāpuni Water Treatment Plant capacity upgrade	Increase capacity of the Kāpuni Water Treatment Plant - treatment upgrade from 13 mega litres per day to 19 mega litres per day.	With some growth predicted in Hāwera and Normanby, there will be a need to increase the capacity of the Kāpuni treatment plant at some time in the next 25 years. Managing demand for water might see this project delayed or higher than expected growth may bring it forward.	The likely changes to the Drinking Water Standards will see all water requiring treatment, including any new bore source. If we were to do nothing and the increasing demand for water was not met, the result would be an adverse impact on all customers and an inability to meet our levels of service.	2043/44	$2.2m
Enhanced water treatment for viruses	We expect the Drinking Water Standards will be enhanced by requiring a greater level of water treatment that destroys viruses.	UV treatment would need to be added to all surface water plants to kill viruses. Secure ground water will not require further treatment.	There are no alternatives as it is anticipated that this would be enacted through legislation.	2034/35	$2.5m
Demand management and efficiency enhancement	As a result of the freshwater reform, local authorities must account for water consumption accurately. Monitoring how much is lost can be achieved by universal water metering, which we anticipate will become a legislative requirement in the next ten years.	Introduce universal water metering, unless other technologies are developed before legislation changes are enforced.	It is anticipated that this would be enacted through legislation. At this stage, universal water metering would be the most efficient method of monitoring water losses and leakages.	2032 – 2034	$5m
Wastewater					

Inflow and infiltration (I&I)	The amount of water entering the wastewater networks in a number of our towns causes problems with treatment and compliance with resource consents. This comes from direct connection of stormwater to the wastewater system (Inflow) and ground water entering the pipes though cracks and other defects (Infiltration).	A programme of defect identification, inspections and remedial works should manage the performance of the pipe networks to the required level.	Doing nothing or doing insufficient work will result in failure to perform at the standards defined in our resource consents.	2025 - 2034	$95km (appx) pa
Disinfection of wastewater discharges – tertiary treatment	As water quality standards for watercourses increase based on the National Policy Statement for Freshwater Management and other environmental pressures, disinfection of wastewater treatment discharges will be required.	This could be resolved by installing an additional treatment process stage such as ultraviolet light disinfection of the discharge from wastewater treatment plants.	There are no alternatives as it is anticipated that this will be enacted through legislation.	2024 - 2034	$43.2m
Replacing Hāwera anaerobic lagoon	Hāwera's anaerobic lagoon was installed in 1985. Due to the industrial waste that has been diverted into the lagoon since then, it is now reaching its capacity. To ensure efficiency and continued capacity of the treatment plant, we need to build a new lagoon.	The design is under way to construct a new lagoon on the same site.	As the anaerobic lagoon reaches its capacity, effluent transferred to the stabilisation ponds damages the chemistry and the capacity of the ponds.	2024/25 2025/26 2026/27	$6m
Ōpunakē wetland soakage field enhancement	Population growth means the wastewater treatment plant has insufficient storage and an undersized effluent disposal and soakage system	Construct a new wetland soakage field.	Doing nothing: potential overflow that can lead to abatement notice.	2024/25	$495k
Stormwater					
Network developments	Develop and improve stormwater networks across South Taranaki including Hāwera, Normanby and Eltham.	Stormwater modelling will need to be undertaken initially followed by design and construction.	Continue to rely on the current stormwater network, which will increase the risk of damage and flooding to properties.	2024 - 2034	.
South Taranaki Business Park Stormwater				2024/25 2025/26	.

Roads and Footpaths					
Roading renewals	Continue to maintain and renew roading assets as identified.	The programmed works for this Plan include: • Road resurfacing - $35.9m • Drainage renewals - $9.3m • Road renewals (pavement rehabilitation) - $36.7m • Minor improvements - $51.9m	The inability to, or decision not to deliver this programme of works will result in the deterioration of our roading assets.	2024 - 2023	