WAITAKI DISTRICT COUNCIL
INFRASTRUCTURE STRATEGY
2021 – 2051

Document History		
Version	**Date**	**Approver**
1.0	18 December 2020 – 80% complete draft	Neil Jorgensen
2.0	February 2021 – 90% Draft	Joshua Rendell
3.0	March 2021 – Final Draft	Joshua Rendell
4.0	April 2021 – Revisions post-Audit and Governance review	Joshua Rendell

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STRATEGY LAYOUT

The Strategy document sections and corresponding Local Government Act (LGA 2002) sections are tabled below:

Table 1-1: Strategy Layout

Strategy Section		LGA 2002 (Section 101B)
1	Executive Summary	
2	Describes the district and illustrates the linkage between strategic documents	2(a)
3	Identifies the purpose of the Infrastructure Strategy and the core infrastructure included in this strategy. Discusses Council's response to key issues and the significant decisions to be made during the term of this strategy. Identifies the response options for the significant issues and documents the benefits, cost, when and funding source	2(a), 2(b); 3(a) to (e) & 4(a) to (c) and 6
4	Discusses the emerging issues that will impact on the core infrastructure assets, and Council's response to these issues	3 (b) to 3(e)
5	Describes the core infrastructure, its condition and performance while recording the significant assumptions, risks and mitigation	2, 3(e), 4 (c) & (d)
6	Identifies the costs associated with the actions proposed. Also, the revenue plan, financial strategies and policies that are required to support implementation of the Infrastructure Strategy	4(a)

1.0 EXECUTIVE SUMMARY

The Infrastructure Strategy for Waitaki District Council 2021 – 2051 sets out Council's strategic direction for infrastructure assets and service delivery for the next 30 years. Infrastructure plays an important part in our everyday lives, providing a platform for our vision: **Waitaki – the best place to be** and our collective purpose of **empowering our people and place to thrive**.

Our infrastructure decisions underpin our ability to achieve our strategic outcomes: **prosperous district**, **strong communities**, **quality services**, and **valued environment.**

This is the third Infrastructure Strategy, with a continued focus on maintaining core services and infrastructure for roads and footpaths, 3 Waters, recreation, solid waste, and property. The 2021-2051 strategy continues the theme of the 2018 Strategy focusing on high quality core infrastructure services that meets the needs of the Community. This aligns well with the direction of the Financial Strategy which is to concentrate on delivering good quality services that meet the changing needs of the community while ensuring rates affordability and financial flexibility through efficiency and effectiveness, maximising value and repaying debt.

Our Strategy is also future focussed and developed in response to ten key challenges, namely:

- 3 Waters reform
- Safety
- Environment
- Asset condition
- Resourcing
- Climate change and natural hazards
- Demographic change
- Land use change
- Technology
- Continuous improvement

Our strategic responses to these challenges include investment in infrastructure, people and systems.

Infrastructure responses

- Further improve water supply quality, capacity and resilience.
- Upgrade wastewater capacity and storage, improve wastewater quality and reduce stormwater impact.
- Improve the condition of our footpaths and urban roads.
- Strengthen key bridges for high productivity motor vehicle use.
- Deliver road safety improvements and manage speeds.
- Improve drainage and unsealed road maintenance.
- Multi use sports fields, not investing in assets for narrow interests.
- Oamaru airport and harbour upgrades.

People responses

- Build capacity and capability of our people to delivery our strategy and other legislative or government driven initiatives such as the 3 Waters Reform.
- Communicating the resourcing needs and potential trade-offs to agreed levels of service.
- Responding to the 2020 customer survey to review waste management provision.

Systems responses

- Optimise condition assessment and renewal programmes. Include systematic risk assessment as part of all asset planning.
- Improve our transport planning and asset management.
- Set a new strategic direction for Recreation and Property activities.

- Develop forward plans for property asset types showing future changes and needs.

The Strategy reflects our decision hierarchy:

1. Safety – address dangerous situations as a priority
2. Resilience - address immediate and core threats
3. Look after existing assets (provided they are still needed)
4. Make better use of existing assets
5. Build new assets or augment existing ones

Our strategy is summarised as a "strategy on a page" following the executive summary.

The combined infrastructure capital and operational expenditure forecast is presented below:

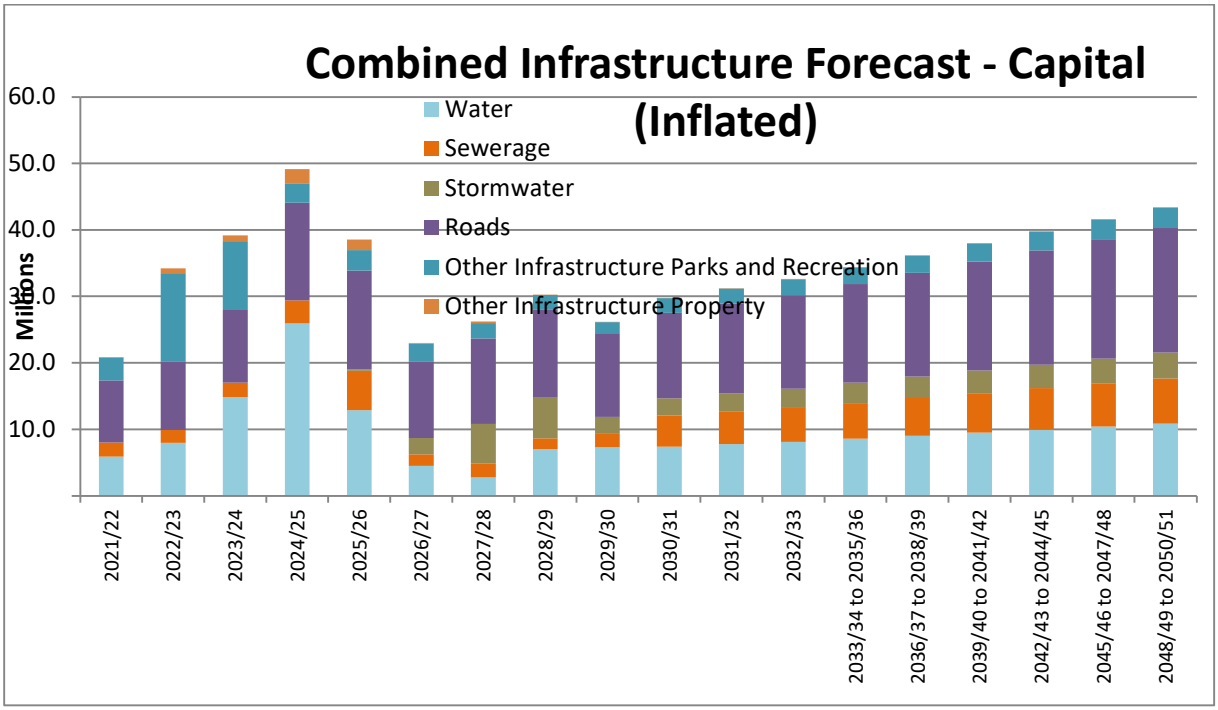


Figure 1-1: Combined Infrastructure Forecast – Capital (Inflated)

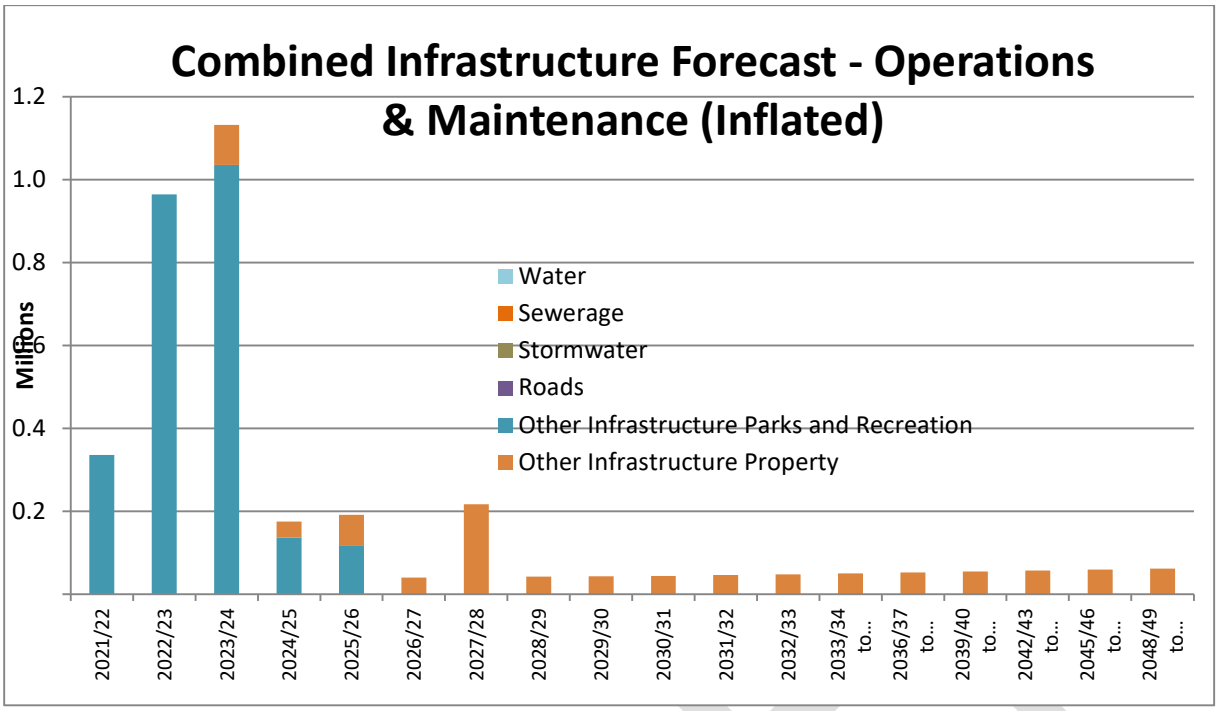


Figure 1-2: Combined Infrastructure Forecast – Operations and Maintenance (Inflated)

Prosperous District

- Increase staff capacity and capability to manage delivery, support planning, and get ahead of our key challenges
- Dedicate resources to our key compliance challenges
- Communicate needs and potential trade-offs to agree levels of service

People

Strong Communities

- Further increase water supply capacity and resilience
- Upgrade wastewater capacity and storage, and reduce stormwater impact
- Improve the condition of our footpaths & urban roads
- Strengthen key bridges, deliver safety improvements
- Multi use sports fields
- Oamaru airport and harbour upgrades

Investment

Quality Services

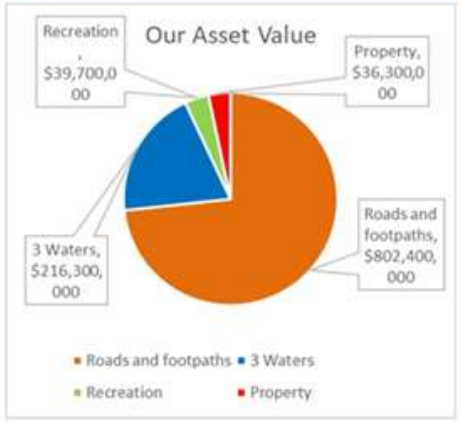
- Safety
- Environment
- Asset condition
- Resourcing
- Climate change and natural hazards
- Demographic change
- Land use change
- Technology
- Continuous improvement

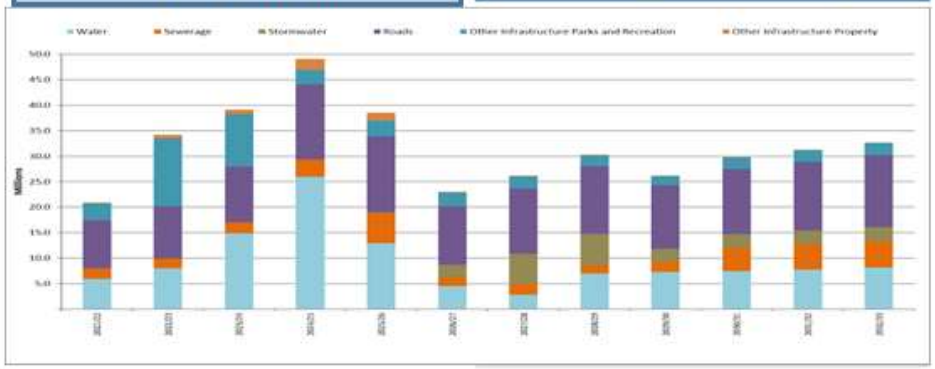
Coming Challenges

Valued Environment

- Optimise condition assessment and renewal programmes. Systematic risk assessment
- Integrate our transport planning
- Set strategic direction for recreation and property
- Improving asset data quality and use

Systems





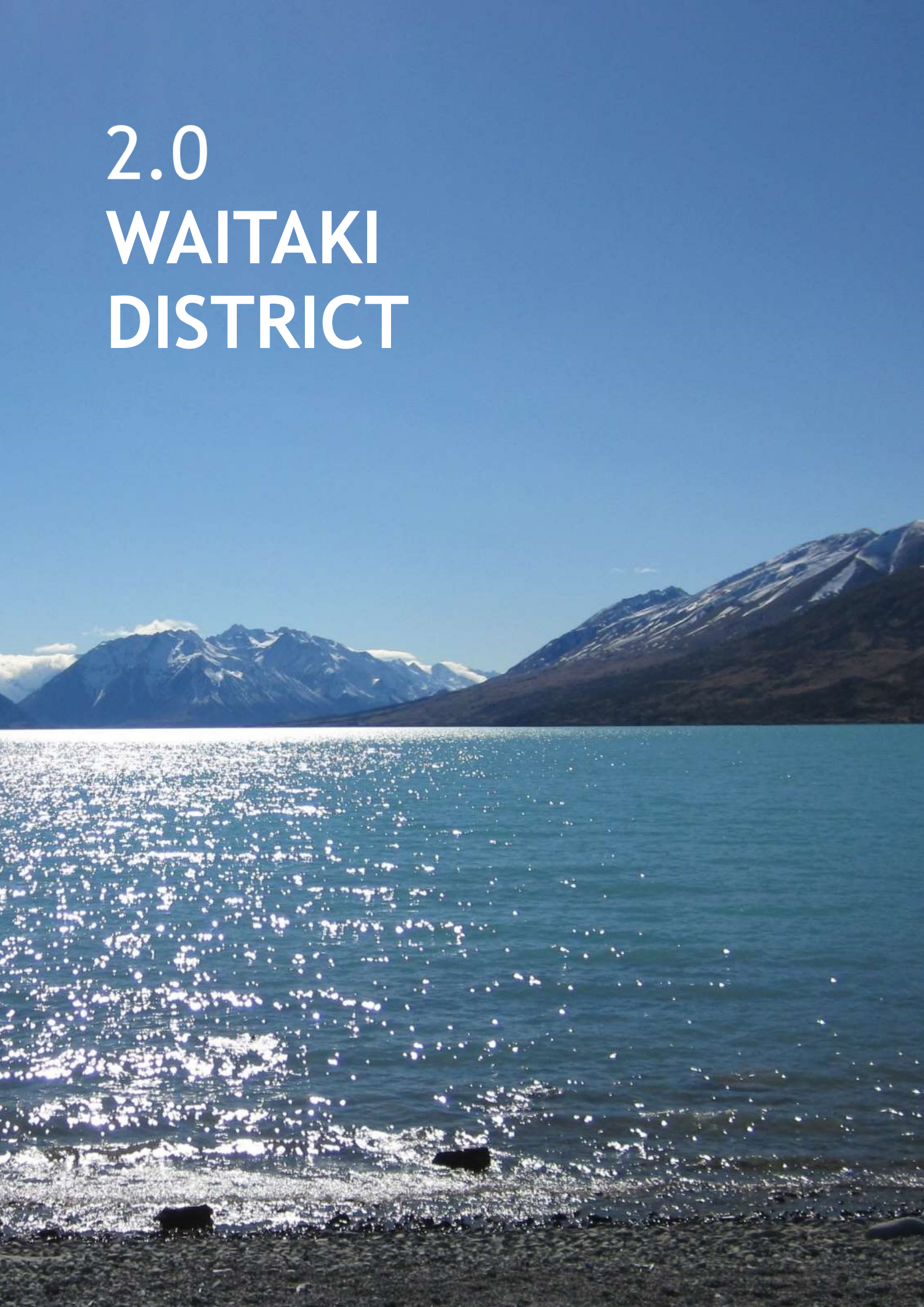
Decision Hierarchy

1. Optimise condition assessment and renewal programmes. Systematic risk assessment
2. Integrate our transport planning
3. Set strategic direction for recreation and property
4. Improving asset data quality and use of existing assets
5. Build new assets

CONSIDER FIRST

CONSIDER LAST

2.0 WAITAKI DISTRICT



2.1 WAITAKI DISTRICT

The Waitaki District reaches inland from the Waitaki River mouth, up the Waitaki River Valley, through Ohau to the top of the Ahuriri River Valley to Lindis Pass. It extends south down the east coast beyond Palmerston to Flag Swamp, across to Macraes and covers 714,805 hectares (7,148km^2).

The main centre is Ōamaru located on the east coast of the district. Other urban centres in the district include Kurow, Ōmārama, Otematata and Palmerston. Popular holiday spots include Hampden, Kakanui, Moeraki, Lake Ohau and the Waitaki Valley. Waitaki District's population in 2018 was 22,300, of which 13,900 (63%) live in Ōamaru. The district's population is currently estimated to be ~23,500. Growth projections anticipate 8% population growth in the Waitaki District to 2043.

Traditionally a rural and farming district, Waitaki's tourism market continues to grow. There are many attractions and activities, including beautiful lakes ideal for all sorts of water activities, ski fields, tramping, fishing and hunting, and beaches with great surf and brilliant white sand. In 2014 Lonely Planet named Ōamaru NZs Coolest Town and it is, offering some pretty special things – the historic Victorian precinct (including Victorian Heritage Week), little blue penguins and Steampunk HQ. Further afield we have award-winning restaurants, wineries, craft breweries and special archaeological sites.

The largest sectors of employment in the Waitaki District are manufacturing and retail trade. Manufacturing has declined since 2000 (by 4.2%) but retail has grown by 18.7% (to 2020).

Ethnicities in the Waitaki District as identified at the 2018 census were:

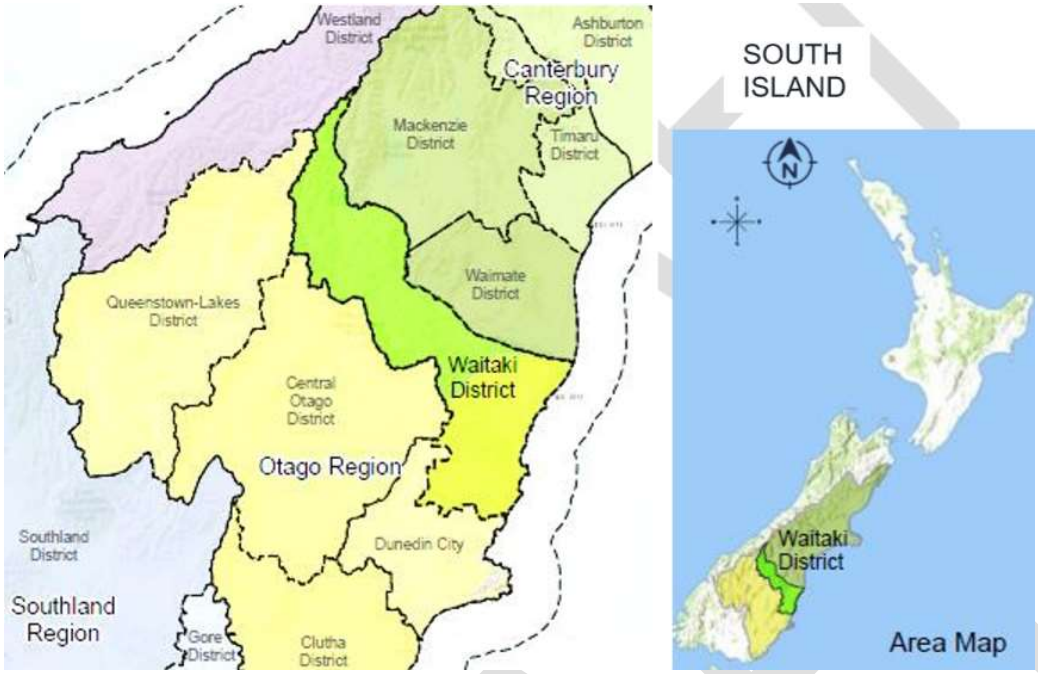
- 88.0% European / Pākehā
- 8.2% Māori
- 3.8% Pacific peoples
- 5.3% Asian
- 1.9% other ethnicities.

From the 2018 census:

- GDP per capita in the Waitaki District was $57,379, compared to NZ $58,271.
- Annual average household income in the Waitaki District was $79,200 (2018) - lower than the NZ figure of $104,400.
- Annual average house price in the Waitaki District was $327,671 - lower than the Otago region which was $550,340.

Waitaki is the only district in the South Island that lies within two regions. A major reason for this split was the governance of the Waitaki River, which forms a political boundary between Canterbury and Otago. Therefore, the district has two regional authorities – the Otago Regional Council (ORC) and the Canterbury Regional Council/Environment Canterbury (ECan).

Figure 2-1: Waitaki District



2.2 COMMUNITIES OF THE WAITAKI DISTRICT

Ōamaru is the home to 13,700 people (58.3% of the district's population). This includes Ardgowan and Weston. In the Corriedale Ward there are 53 settlements and localities with Kakanui being the largest township (population 372).

In the Waihemo Ward there are 29 settlements and localities with Palmerston being the largest township (population 795).

In the Ahuriri Ward there are 13 settlements and localities with Kurow being the largest township (population 312).

Council has engaged through the District Plan review process in 2019 with a number of communities across the District to determine preferences for future development and growth. Key themes are listed below:
Palmerston (population ~795)

- Support for the provision of low maintenance, affordable housing (especially to cater for mine workers).
- Support for a range of residential lot sizes to accommodate smaller houses including tiny housing, and larger (lifestyle) sections.
- A desire to make available more sub-dividable land opportunities on the flat land immediately west of the town.
- Support for Council to ensure the existing water supply infrastructure will meet future growth demands.

Kakanui (population ~372)

- A desire to retain the coastal village atmosphere.
- Some support for higher density housing (in appropriate locations) but not necessarily smaller section sizes.
- A desire for more effective storm water infrastructure in the southern part of the town.
- Support for some rural-residential zoned land on the edge of the town away from the coast.
- A desire to carefully manage development to ensure 'over development' does not occur.
- A desire for future growth to take place inland away from coastal hazard risks.

Hampden (population ~360)

- Concerns around the ability of existing infrastructure in the town to support future higher density development (especially wastewater).
- Given that SH1 splits the town, a desire to consider pedestrian footpaths on either side of the highway to encourage the safe movement of pedestrians through the town.

Kurow (population ~312)

- A desire to retain the compact size of the town.
- A desire to protect the historic buildings in the main street of the town.
- Support for the provision of more housing suitable for the elderly.
- Support to encourage affordable housing options suitable for workers.

Ōmārama (population ~291)

- A desire to retain the small community feel of the town.
- Support to encourage some growth while maintaining the town's identity.

- Some support for higher density housing in specific appropriate locations.
- Support for Council to recognise the need for on-site parking space for vehicles, boats and caravans.
- A recognition of the value and long-term protection of dark sky viewing in the town.
- Support to address traffic and congestion in conjunction with NZTA, including the provision of more car parking.
- Support for Council to encourage affordable housing options.
- Support for Council to facilitate mixed-use development on SH8.
- Support for more commercial zoned land (including negotiations with ECan on the future of the former Rabbit Board land).

Otematata (population ~183)

- A desire to retain the hydro town history and identity.
- Support to encourage some growth without losing Otematata's current sense of place and identity.
- Some support for higher density housing in specific and appropriate locations.
- Support for Council to recognise the need for on-site parking space for vehicles, boats and caravans.
- Consider restricting the height of buildings to a maximum of 2 storeys.
- Support to encourage use of business land behind the existing retail area for more retail activity.

Duntroon (population ~115)

- Ensure that sufficient infrastructure is in place to support future growth and development.

Moeraki (population ~110)

- A desire for Council to carefully manage development to ensure the town retains its identity as a sea village community.
- A recognition that there are significant infrastructure constraints to future development (sewer and storm water).
- Support for Council to appropriately manage known land instability constraints in the town.
- Limited support for higher density development.
- A desire for light spill controls to encourage dark sky viewing.

Lake Ohau village (permanent population ~18)

- A desire to retain the unique, remote and peaceful nature of village including the retention of its current scale.
- Support for larger section sizes (currently 300m^2).
- No support for any future commercial zoning (currently none) e.g. for cafes / shops.
- A desire for Council to better manage the increasing pressures on the existing infrastructure (especially water).
- Support to manage threats from future development e.g. subdivision / development in the current Rural Scenic zones surrounding the village and lake.
- A desire for all development to blend into the natural environment.

2.3 WAITAKI DISTRICT COUNCIL

Waitaki District Council (WDC) was established in 1989 when it replaced the Ōamaru Borough, Waitaki County and Waihemo County Councils.

The purpose of Council is to enable democratic local decision-making and action; including meeting the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.

WDC's vision, collective purpose, community outcomes, and strategic priorities have been used to connect the Strategy to Waitaki's objectives.

2.4 INFRASTRUCTURE PROVISION

Figure 2-2: Infrastructure Provision Charts

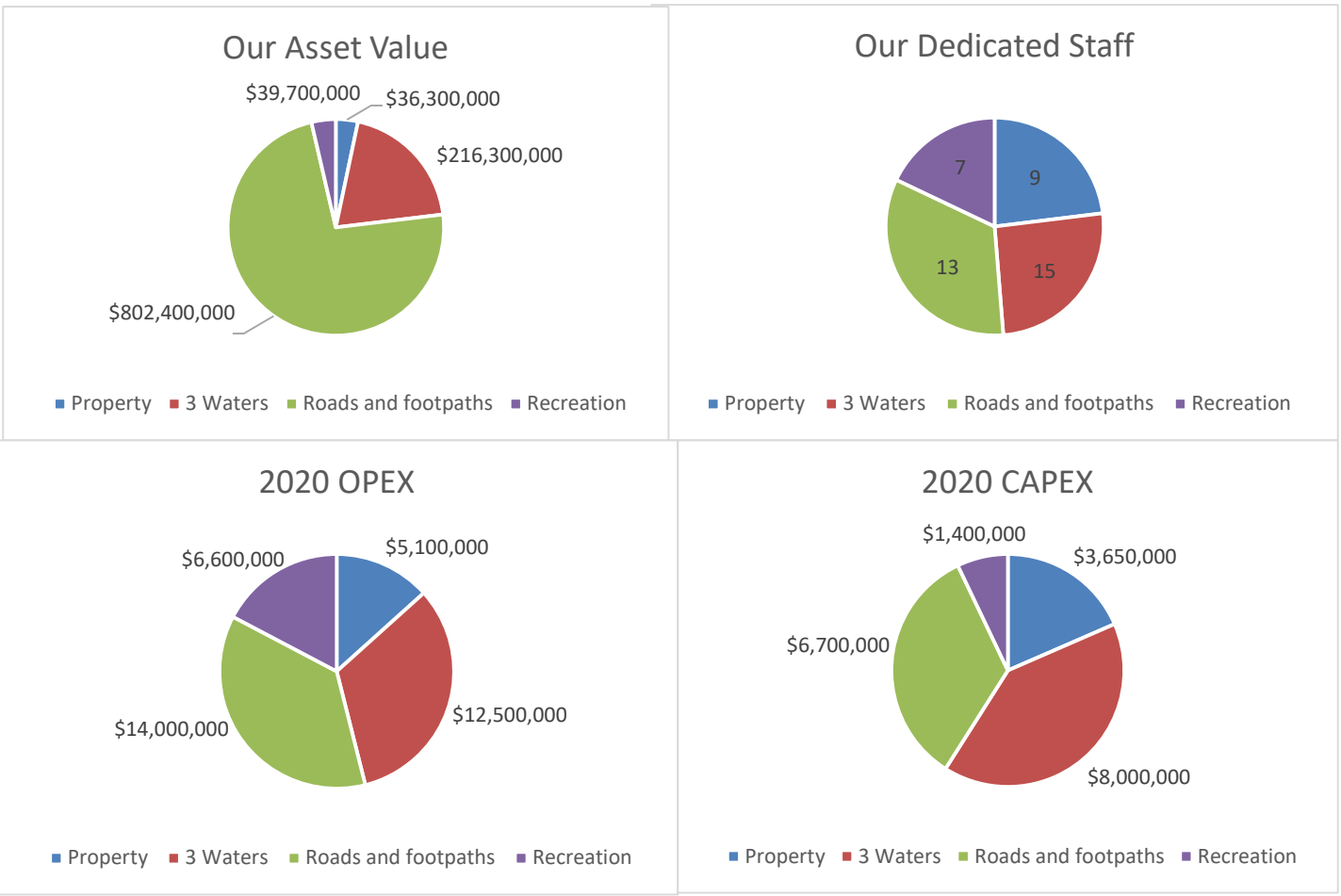


Figure 2-3: WDC Vision and Community Outcomes

3.0 STRATEGY

3.1 STRATEGY SCOPE

The scope of the Strategy is primarily defined by the LGA 2002.

Section 101B of the LGA 2002 notes:

(1) A local authority must prepare and adopt, as part of its LTP, an infrastructure strategy for a period of at least 30 consecutive financial years; and

(6) Infrastructure assets include:

a. Existing or proposed assets to be used to provide services by or on behalf of the local authority in relation to the following groups of activities:
   i. Water supply:
   ii. Sewerage and the treatment and disposal of sewage:
   iii. Stormwater drainage:
   iv. Flood protection and control works:
   v. The provision of roads and footpaths:
   vi. Parks, reserves and recreation facilities:
   vii. Solid Waste and landfill facilities; and
   viii. Property and community buildings.

b. Any other assets the local authority, in its discretion, wishes to include in the strategy.

The 2021 Strategy includes WDC's infrastructure activities under the following portfolio categories:

Table 3-1: Portfolio Categories

Portfolio	Activities
3 Waters	• Water supply • Sewerage and the treatment and disposal of sewage • Stormwater drainage.
Roads and Footpaths	• The provision of roads and footpaths.
Recreation (& Solid Waste)	• Parks, reserves and recreation facilities • Solid Waste and landfill facilities.
Property	• Property and community buildings • Port and coastal protection • Airport.

Specific assets and activities within each portfolio are described in more detail in the Activity/Asset Management Plans (AMP).

While not included in the scope of this Strategy, the Waka Kotahi (NZTA) managed state highway, rail networks, power and communication utilities, private water supplies and sewer assets such as laterals are also important parts of the District's infrastructure provision and could be incorporated in future.

Where possible, this Strategy aligns with the requirements of ISO 55001 (2014) Asset Management — Management systems. This is part of WDC's longer-term pathway for asset management processes.

3.2 STRATEGY PURPOSE

This is WDC's third Infrastructure Strategy. The Strategy has been developed from the top down, and the bottom up. The top down development reflects WDC's vision, purpose, outcomes and priorities. The bottom up development is informed by WDC's AMPs and a series of forecasts and assumptions.

The Strategy is aligned to WDC's Financial Strategy that documents how the priorities and underlying requirements will be funded. The financial forecasts are estimates. Forecast reliability decreases beyond the first ten years.

While previous WDC Infrastructure Strategies only included the Water and Roading asset groups, the 2021 Strategy now includes all infrastructure asset groups and is informed by all existing and new activity AMPs.

The Strategy reflects the current legislative environment and identified community priorities across the District.

3.3 STRATEGY OVERVIEW

The "strategy on a page" in the executive summary outlines the key elements of the Strategy. This shows the Strategy response through people, investment, systems and facing the coming challenges.

Planned investment in infrastructure considers the affordability issue posed across the District.

Planned investment is spread across multiple years and uses loan funding where able to counter generational equity issues.

Depreciation is accumulated for most activities to alleviate funding shortfalls in the future.

Development contributions are sought from developers to assist with growth requirements of projects and to counter future inequity issues.

The following headers and bullets are an overview of the Strategy highlights.

Outcomes sought (refer Section 2.2):

- Prosperous district
- Strong communities
- Quality services
- Valued environment.

Key challenges (refer Section 4.0):

- 3 Waters reform
- Safety
- Environment
- Asset condition
- Resourcing
- Climate change and natural hazards
- Demographic change
- Land use change
- Technology
- Continuous improvement.

Strategic actions (refer Section 5):

- Further improve water supply quality, capacity and resilience.
- Optimise condition assessment and renewal programmes. Systematic risk assessment to be part of all asset planning.
- Building capacity and capability of our people and systems in the 3 Waters space.
- Upgrade wastewater capacity and storage, improve wastewater quality and reduce stormwater impact.
- Improve the condition of our footpaths & urban roads.
- Strengthen key bridges for High Productivity Motor Vehicles (HPMV) use.
- Deliver safety improvements & manage speeds.

- Improve our transport planning & asset management.
- Improve drainage & unsealed road maintenance.
- Set a new strategic direction for Property.
- Have multi use sports fields, no longer invest in assets for narrow interests.
- Respond to the 2020 customer survey to review waste management provision.
- Communicate resourcing needs and potential trade-offs to agree levels of service.
- Develop forward plans for property asset types showing future changes and needs.
- Implement a plan to improve core property asset data and update for future update activities.
- Developing and implementing a consistent framework for strategic decision-making.
- Reviewing service delivery of Recreation and Waste, resourcing and capacity.
- Undertaking a review of Alps to Ocean governance and management.
- Developing a Waste Activity/Asset Management Plan.
- Reviewing the delivery of camping at Waitaki Lakes.

Significant Forecasting Assumptions (refer Attachment 1)

Council has made a number of assumptions about the future. These assumptions are predictions that Council will use as a basis for planning, budgeting and decision-making across the ten years of this Plan (see Attachment 1). Assumptions are necessary to allow Council to plan for expenditure and costs over the next ten years. They form the best reasonable basis of currently available information. These are important in that they provide the community with a level of transparency about decisions Council makes about service priorities, projects and funding.

3.4 STRATEGIC STATEMENTS

Under the LGA 2002, Section 10, WDC is required to meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.

The four Strategic Statements below expand on the LGA 2002 requirements and guide the Infrastructure Strategy.

We will invest in high quality core infrastructure

- Improve infrastructure resilience to ensure our infrastructure can deal with disruptions and changing circumstances.
- Use robust design and construction standards and operational practices to minimise the risk of service failure to our communities.
- Keeping our district affordable and ensure value for money, whilst meeting WDC's strategic priorities and regulatory obligations.

We will tailor our services to the needs of our community

- Collaborate with stakeholders to target appropriate levels of response.
- Regularly review funding mechanisms (including user-pays, development contributions, metering, trade waste bylaw and charging).
- Monitor demographic and land use changes in our community to consider the impacts on service delivery.
- Protect our people, property and places, and respond to higher environmental standards.

We will empower our people to deliver our strategy

- Do the right things right and enhance WDC's organisational capacity.
- Increase our people capacity and capability for infrastructure planning.
- Set limits and monitor in order to sustain, protect and support Waitaki's people, property and places.

- Develop systems and processes to better manage staff workloads.
- Provide better support services (IT, finance and project management).

We will plan our future and face our challenges

- Consider the impacts of climate change and coastal erosion on demand and availability as it affects the district, plan and budget for impacts.
- Strive to ensure that core infrastructure services and land use are planned to cope with the expected changes over the 30-year period.
- Participate in Lifelines processes.

To measure the effectiveness of our strategy against these statements, we have identified the need for SMART (Specific, Measurable, Attainable, Relevant, and Time-Bound) goals in our Improvement Plan (Attachment 2). This includes a 3-year improvement action plan to help focus attention on implementing the strategy.

3.5 SYSTEMS & ASSET MANAGEMENT

WDC's goal is to provide safe, affordable, sustainable core infrastructure systems to residents and visitors that meet the environmental, economic and social needs of the District and wider region. The infrastructure strategy provides a long-term strategic view to help make prudent decisions regarding looking after what we have and funding new infrastructure.

WDC has a governance role in the management of asset infrastructure services, and as such, may need to alter an existing asset expenditure programme to meet changing community expectations outside the agreed Asset Management Plan. We recognise the need for this flexibility in our plans and programmes.

This strategy is partially aligned with the requirements of ISO 55001 and the guidance of the International Infrastructure Maintenance Manual (IIMM). Further alignment will assist the future development of both the Strategy and the associated AMPs.

3.5.1 ASSET MANAGEMENT SYSTEM

The Asset Management System covers all elements of our asset management, decision making and operational activities. This Strategy is part of that system and provides a "Line of Sight" between asset policy and asset management plans.

Elements of the asset management system that support this strategy are:

- Roles and leadership
- Asset management data and data systems
- Lifecycle asset planning and processes and procurement
- Decision-making (confidence).

Other plans relevant to our asset management system are:

- WDC's Long-Term Plan (LTP)
- Waitaki District Plan
- Financial Strategy
- Asset Management Policy
- Infrastructure Strategy
- Activity/Asset Management Plans
    1. Water AMP
    2. Wastewater AMP
    3. Stormwater AMP
    4. Land Transport AMP – Parts A, B & C

5. Recreation AMP
6. Property AMP
7. Waste AMP (yet to be developed).

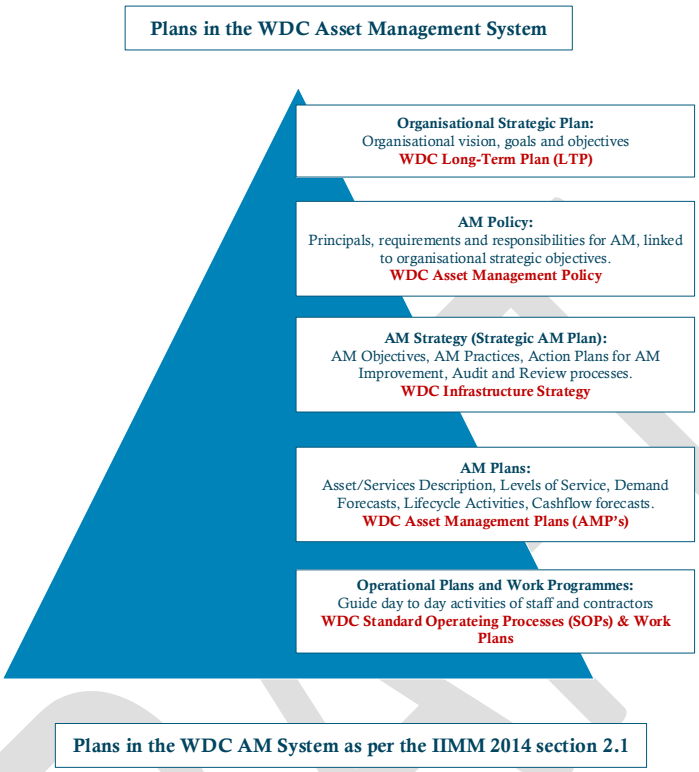


Figure 3-1: WDC Plans

3.5.2 RISK MANAGEMENT FRAMEWORK FOR ASSET MANAGEMENT

WDC uses asset information and level of service performance data from operational practices to assess the risks of not achieving the required levels of service. This risk-based approach is a means of assessing importance across all portfolios. The risk approach considers asset criticality, the likelihood and consequence of asset failure, and the impacts of potential decisions and scenarios.

WDC's risk management policy and framework is summarised in Figure 3-2 below:

Figure 3-2: WDC Asset Management Risk Management Policy and Framework

3.5.3 ACTIVITY MANAGEMENT PLANS

To demonstrate that the delivery of services is efficient, effective and appropriate, WDC has developed a suite of AMPs for its infrastructure portfolios as part of the 2021-31 Long Term Plan. The AMPs assist WDC to meet its obligations under Section 10 of the LGA 2002 and requirement to meet the current and future needs of the community. The Land Transport AMP is subject to regular audit by NZTA as part of measuring overall effectiveness and efficiency.

3.5.4 ADDRESSING RESILIENCE

Resilience to disruption is an important element in the Strategy. WDC's approach to resilience has three aspects:

Enduring stress

Infrastructure and services that don't break down in the face of disruption. Infrastructure cannot be 'bullet proof', but WDC can minimise losses.

Restored quickly

Some disruption is inevitable; however, our services can be quickly restored.

Redundancy

If we temporarily lose infrastructure functionality, alternatives are available to keep core services going.

Figure 3-3 below shows the planned resilience response:

Up front
Identify disruptors; acute shocks and gradual changes Estimate the impacts
Identify critical assets
Put resources in place

Endure stress	Restore quickly	Redundancy
Renewal strategy	Business continuity plans	Identify core redundancy gaps
Maintenance strategy	Insurance provision	New infrastructure to address gaps
Across all		
Update design and construction standards		
Adjust procurement practices		

Figure 3-3: Planned Resilience Response

WDC's approach to resilience decisions follows a hierarchy:

Decision Hierarchy

1. Safety – address dangerous situations as priority
2. Resilience - address immediate and core threats
3. Look after existing assets provided they are still needed
4. Make better use of existing assets
5. Build new assets

The key challenges WDC must be resilient to are detailed in Section 4.0.

3.5.5 EVIDENCE BASE

Part of the Strategy is to improve decision-making by addressing gaps in asset data. WDC is targeting collection, validation and analysis of the data used as primary evidence for infrastructure decisions.

More information on data reliability is available in the AMPs for the respective activities. The planned data improvements below will increase data reliability and therefore decision-making confidence.

Collection	Validation	Analysis
Condition data (all)	Asset register (3 Waters)	Renewal risk assessment
Asset register (property)	Customer satisfaction	Targeted maintenance strategy
Fault data	Data supporting investment priority	Resilience
Investigate "big data" technologies	Supervisory Control and Data Acquisition (SCADA) requirements	Accessibility
Stormwater (Waitaki Valley challenges)	Demand assumptions	Compliance monitoring

Figure 3-4: Planned Data Improvements

Part of the improvement programme is collection of better and more reliable data, and grading of data reliability for key infrastructure groups.

3.6 PEOPLE & ORGANISATION

Our strategy recognises that in order to make good infrastructure decisions we need the right people capacity and capability in place. Resourcing is one of the specific challenges we face and is described in more detail in Section 4.0. A focus on people is an intentional highlight for further investment and focus within our strategy.

A people-focussed initiative labelled "Navigating 3 Waters" has been adopted by WDC in 2020 to ensure that resourcing meets the burgeoning challenges across the 3 Waters activity. An assessment of the other infrastructure portfolios (Roads and footpaths, Recreation and Property) is yet to be completed to ensure the current day-to-day activity focus is paired with the necessary long-term focus.

4.0 CHALLENGES WE FACE

WDC faces challenges (as well as opportunities) over the next 30 years in achieving its vision of growing Waitaki and making it the best place to be. The 3 Waters reform is a three-year programme to reform local government three waters service delivery arrangements. The outcomes of these reforms will result in significant changes to the delivery of 3 Waters in the Waitaki District.

The following section discusses the main challenges for our infrastructure and service delivery. These are:

- 3 Waters reform
- Safety
- Environment
- Asset condition
- Resourcing
- Climate change and natural hazards
- Demographic change
- Land use change
- Technology
- Continuous improvement.

Figure 4-1 provides a summary of these challenges with respect to this strategy.

	Impact	Timing	Uncertainty
3 Waters reform	High	Next 3 years	High
Safety	Moderate	Next 10 years	Low
Environment	Moderate	Next 10 years	Moderate
Asset condition	Moderate	Next 10 years	High
Resourcing	High	Next 3 years	Low
Climate change and natural hazards	Moderate	Next 10 years	High
Demographic change	Low	Next 30 years	Moderate
Land use change	Moderate	Next 10 years	Moderate
Technology	Moderate	Next 10 years	High
Continuous improvement	Low	Next 30 years	Low

Figure 4-1: WDC Challenges

Where challenges are immediate, the response will be delivered in the next 3 years as described in our AMPs and Long-Term Plan.

Where challenges are gradual or anticipated over a longer timeframe, the response within the Strategy is to focus on further investigation now so that more informed decisions can be made in the future. We will implement our approach and invest where benefits can be achieved with minimal cost or where the benefits provided cover multiple areas of our strategy.

There are several macro trends and drivers that link to these challenges in some way; including:

- 3 Waters reform: local Government service delivery changes, central and local government relationships more broadly, as well as public/private infrastructure funding and service delivery possibilities. This includes **Safety** and **Environment.**

- Persistent challenges facing local government through historic and current underinvestment and continuing affordability issues. This specifically relates to these WDC challenges: **Asset condition**, and **Resourcing.**
- Climate emergency and low carbon economies. This specifically relates to these WDC challenges: **Climate change and natural hazards**, as well as **Resourcing.**
- COVID-19 public health and economic impacts. This relates somewhat to these WDC challenges: **Resourcing**, and **Land use change.**
- Other broadly forecast disruptors; e.g. ageing population, technology disruption, future of work. This relates somewhat to these WDC challenges: **Demographic change, Land use change**, and **Technology**

4.1 SAFETY

4.1.1 ROAD SAFETY

Nationally there is a drive to increase road safety which is reflected in Waka Kotahi's Road to Zero strategy for 2020-2030 to support "A New Zealand where no one is killed or seriously injured in road crashes. This means that no death or serious injury while travelling on our roads is acceptable".

Otago's safety record is poor with issues on high-risk rural roads, at high-risk urban intersections, and in urban areas with high numbers of vulnerable users.

This holds true for Waitaki where WDC's safety level of service measures have shown deterioration on rural secondary collector and low volume roads. WDC's challenge is a combination of attitudes and behaviour together with inconsistent quality of routes in the region. The consequences of not addressing this challenge will be an increasingly poor safety record which affects personal and collective risk and increased social cost to the community.

There is also the related challenge of how the land transport network will perform with changing tourist volumes and their potential impact on travel safety.

4.1.2 DRINKING WATER SAFETY

The 2016 Havelock North water incident has led to a greater focus on drinking water safety across New Zealand. Central Government has conducted a 3 Waters Review, established a new water regulator (Taumata Arowai) and is progressing a Water Services Act, expected to be enacted and operational by mid-2021. These changes are part of the renewed focus on the very high standard of care and diligence required to supply drinking water. This level of focus and changing legislative environment will be a driver of investment in infrastructure, people and systems in the coming years.

WDC is going into this changing environment with a relatively strong baseline of drinking water safety. Since the Health Amendment Act 2007 and the Drinking Water Standards NZ 2005, the water treatment plants have been progressively upgraded to comply with current legislation, associated standards, and in anticipation of higher standards. Some smaller schemes in Waitaki currently have safety related upgrades planned or in progress.

The new drinking water regulatory framework is still to be confirmed but will likely require WDC to:

- Strengthen Water Safety Plans.
- Provide multi-barrier approaches to ensuring drinking water safety.
- Identify and manage risks, source protection, treatment and reticulation.
- Maintain effective disinfection residuals in the reticulation.
- Demonstrate qualification standards of operational staff.

- Increase monitoring and reporting.

The district also faces the challenge of ensuring private (non-WDC) supplied drinking water also meets the safety duty of care under new legislation.

4.2 ENVIRONMENT

WDC faces the challenge of lowering the environmental impact of its infrastructure and services. This challenge is primarily around compliance with the progressive requirements of national standards and regional/district plans. The key environmental impact areas are: water use, wastewater and stormwater discharge, reducing carbon, and waste minimisation.

The National Policy Statement for Freshwater Management – Te Mana o te Wai is a concept for fresh water, which when given effect, the water body will sustain the full range of environmental, social, cultural and economic values held by iwi and the community. The outworking of these environmental values will impact the amount of water available and the level of treatment required in wastewater and stormwater to improve water quality downstream of WDC's activities. This will require investment to improve treatment processes, system management, monitoring, and reporting.

The New Zealand Ministry for the Environment discussion document 'Action for Healthy Waterways' (released September 2019) signals the direction for urban development, rural land and water management including Risk Management Plans for wastewater systems and stormwater systems.

Reducing carbon is another environmental challenge that cuts across all WDC's infrastructure portfolios, with roading/footpaths and wastewater treatment being the largest carbon contributors. This is discussed further in Section 4.5 Climate Change.

Waste minimisation and reducing the environmental impact of waste will continue to be a challenge. Waitaki's waste management is provided by the private sector with WDC operating in a facilitative role. Responses to changing community expectations and central government environmental direction will have to be considered alongside the current private sector model and cost recovery.

4.3 ASSET CONDITION

WDC has assets across each portfolio that need to be renewed. Typically, these are older assets at the end of their useful lives. Without planned renewal or condition management strategies the services relating to the assets will degrade, for example potholes, leaking pipes, vulnerable buildings or loss of amenity.

In 3 Waters there are a large number of underground pipes that are coming up for renewal for the first time with significant investment needed to address this specific challenge. In Roads and Footpaths, asset renewal continues to be a focus. For Property and Recreation portfolios there is a need to focus on collecting the right condition related data so that more informed decisions can be made on renewal planning.

In the Recreation portfolio, there are a large number of "good" condition assets maintained indefinitely. This status will need to be reviewed and refined.

There may be limited choices regarding the replacement of certain assets, however the renewal process does present options for improving capacity, resilience or levels of service at the same time.

The asset condition challenge requires a response in new infrastructure investment, data collection, condition management and renewal decision making.

4.4 RESOURCING

Part of the infrastructure challenge is WDC's ability to resource what needs to be done. Having the right people in place and funding the necessary improvements are key areas of focus.

Waitaki competes with other councils and companies for suitably skilled engineers and infrastructure professionals, many of which are on the New Zealand skills shortage list. WDC is particularly constrained in resourcing infrastructure planning, given that capable staff are regularly pulled towards day-to-day activity management.

With current staff stretched to capacity there is a large impact when staff are sick or on leave, and an even larger impact if they leave the organisation or retire. This can result in project burden and stretch. There is the opportunity for further upskilling in asset management, condition assessment and forecasting.

Council currently outsources a large part of its asset management services. The role of specialist professional service providers is typically to boost capacity or knowledge beyond what Council can achieve from its in-house resources. Using outsourced staff ensures Council benefits from the learnings of other entities and front-foot issues experienced by others before we need to experience them. It is also an important part of knowledge sharing with other TA's. While outsourcing a large component of asset management could result in a potential risk to Council, there has been continuity with this outsourcing over a number of years. Work is being done to expand Council's in-house professional services capability to reduce reliance on external professionals.

The level of investment Council intend to make over the next 10 years draws into question whether it is able to deliver the proposed programme, both from an internal resource and a contractor perspective. The waters unit has conducted an internal review of its staffing, with Council approving several new positions to assist with this resourcing. In recent years the Property and Recreation teams have also bolstered their ranks with additional project delivery staff.

The local range of contractor services required by Council is limited. Ōamaru is close to the Otago/Canterbury boundary and specialist services can be sourced from Timaru (85km), Dunedin (115km) or Christchurch (250km). Many of the large national/international organisations have bases in Ōamaru, Dunedin and Timaru, and there are numerous small-medium enterprises based in the District. Generally, there is a sufficient level of interest in tenders and competition between suppliers.

Council has historically never had a problem with attracting contractors to work in the area, both from a local contractor capability perspective and a national contractor capability perspective. If there are national skills shortages and unavailability at a national level, there may be issues in the future, but this needs to be dealt with at a national level and cannot be controlled by Council.

Currently WDC is focusing on maintaining agreed service levels within its resourcing constraints. This means providing the core services within each portfolio and achieving compliance levels. Inflation rates on construction and maintenance programmes [Consumer Price Index (CPI) and Local Government Cost Index (LGCI)] have been rising faster than rates increases and will continue to challenge our ability to deliver core maintenance and levels of service.

Funding the community's level of service expectations is a balancing act where customers want more but oppose rates rises. Customer expectations are increasing; people require more communication therefore a broader skillset is becoming more important, and more involved in decision-making, expect higher service resilience and responsiveness, and desire higher levels of service. Determining the willingness to pay for improvements and understanding the rates impact of level of service changes is a continuing challenge.

The central government's 3 Waters reform process poses a specific resourcing challenge. Under proposed 3 Waters reform models the water supply and wastewater infrastructure and service delivery will become

separate from WDC under a new entity. If separated, this will directly impact the scale of WDC's remaining operations, affecting both people resources and rating revenue.

4.5 CLIMATE CHANGE & NATURAL HAZARDS

Waitaki faces a range of effects from climate change. Sea level rise, a drier and hotter climate, increased frequency and intensity of severe events such as droughts and storms are predicted over the next 30 years. This is likely to produce cascading effects including increased slips and erosion, water scarcity, flooding, forest fire, changing lake levels, changing groundwater levels, biosecurity, and agricultural viability. We know change is occurring, but we are still in the process of understanding the full consequences.

Council's Strategic Framework has identified meeting environmental and climate change challenges as a key community outcome.

Council's ongoing response to climate change will be influenced by central and regional government leadership with respect to quantifying risks, collecting data, and integrating this into our long-term plan decision-making.

Using the best available information, climate change considerations are becoming a core part of our planning. The impacts of climate change are being considered in our work on strategies and plans, including this plan, the AMP's, our Financial Strategy, our Coastal Roads Strategy and our District Plan, and through design and construction standards, identification of hazards, and redundancy and mitigation (such as insurance) over the life of the Long-Term Plan.

A number of projects are currently being progressed primarily in response to indicative climate change impacts including:

1. Works to eliminate waste from the closed Beach Road and Hampden landfills to a non-erosion prone landfill because sea level rise is causing erosion;
2. Coastal protection at the Kakanui River mouth;
3. Investigating erosion near the mouth of Little Kuri creek in Hampden that in the long-term may threaten the Hampden Cemetery;
4. Works in the north-end of Ōamaru in response to increasingly high intensity rainfall events; and
5. Coastal roading resilience (erosion protection).

We are also anticipating increasing expectations to partner with the community and Iwi to develop more sustainable solutions and address how to respond to climate change mitigation and adaptation.

4.5.1 ADAPTATION

In 2019 the Government introduced the Climate Change Response (Zero Carbon) Amendment Act that requires the Government to develop a national adaptation plan by August 2022. This will outline what New Zealand needs to do to respond to the risks from climate change. The flow on effect will be that we will also have to report on our progress on climate change adaption.

Emissions budgets arising from the Climate Change Response (Zero Carbon) Amendment Act will require significant changes. WDC is similar to other local authorities with substantial carbon tied up in transportation and wastewater treatment. WDC is in the early stages of carbon accounting and reduction planning. The initial challenge is identifying the first steps that need to be taken alongside the development of a longer-term action plan.

4.5.2 MITIGATION

Dealing with and mitigating the risks of climate change and the potential impacts of climate change events are considered in capital projects. We are reviewing rules in our District Plan and are now required to consider the effects of climate change in our resource consenting process.

Climate change resilience is being included in existing projects where we can design for changes in demand or consider future climate change impacts within the scope of the project. Larger scale policy and district-wide response to climate change adaption require more certainty to build the appropriate investment case. Further investigation of climate change risks and building the case for a change in infrastructure decision-making is one of our immediate challenges.

We introduced our Rural Resilience Project in response to the frequency and severity of storm events and that work has included improving drainage, installing more wash-over pads, strengthening water course embankments, culvert clean-outs and re-instating roadside swales. This work has now become part of our normal business.

Our Coastal Roads Strategy is in place to make sure that we maintain the connectivity of our coastal roads that are subject to coastal erosion. The work that we have undertaken to date on dealing with coastal erosion includes placement of rock protection in erosion prone areas, realigning a section of road (including land purchase) and increasing resilience by upgrading a bridge to enable an alternative route in case of road closure.

Council recognises the importance of reducing our greenhouse gas emissions. In 2019 we commissioned a greenhouse gas inventory report to provide some base data to help understand our organisation's emissions. This will be used to track and compare emissions over time.

4.5.3 NATURAL HAZARDS

The impacts of flood, storm surge, drought and fires are exacerbated by climate change and discussed above. Other key natural hazards WDC faces are earthquake and tsunami. Potential seismic events on the Alpine Fault will have widespread impacts on infrastructure services. This includes compliance with regulation for earthquake prone buildings within WDC's property portfolio. Direct examples of these impacts on Council infrastructure include the Alps to Ocean cycle trail and the Kakanui Coast.

4.6 DEMOGRAPHIC CHANGE

4.6.1 POPULATION

Waitaki has a growing elderly population with 22% of the population aged over 65 - higher than the national average of 14% (2018) - and this trend is projected to continue to over 35% by 2030. People are generally healthier, active and more likely to travel than 40 years ago, which may create further demand on and raise expectations of levels of service.

Over the period 2000-2019, the majority of areas in the District had an increase in population, with most of the population growth occurring in Ōamaru and some townships (Duntroon, Hampden, Kakanui, Kurow, Ōmārama, Palmerston) and the surrounding rural areas.

The largest increases in houses were in Ōamaru and the surrounding rural areas, specifically Lower Waitaki, Maheno and Ngapara. The townships predominately all had positive growth in houses, noticeably Hampden, Kurow, Moeraki, Ōmārama and Otematata.

Growth projections suggest the population is projected to grow moderately over the next 30 years (around 8% to 2043). Much of this growth is expected in rural areas (and areas surrounding Ōamaru). WDC has time to respond to these gradual changes and is opting to provide multifunctional facilities that can cater for a range of activities rather than facilities that cater for specialist requirements.

4.6.2 TOURISM GROWTH

Tourism is an important industry and attractor for the district. Prior to COVID-19 the tourists coming into Waitaki were predominantly domestic tourists rather than international. The loss of international tourists in 2020 and post COVID-19 will have some impact however further growth in domestic tourism is predicted. A growing tourist population creates additional demand for infrastructure and services in specific areas (often outside of urban boundaries) which may need specific investment.

It is anticipated that there will be growing demand for lower cost camping, especially in the Waitaki Lakes. Ongoing use of the Alps to Ocean cycle trail is also anticipated to build as New Zealanders seek to explore their backyard instead of travelling overseas.

4.7 LANDUSE CHANGE

The NPS Urban Development (NPS UD) sets out the rationale to ensure that local authorities develop, maintain and monitor an evidence base about demand, supply and prices for housing and business land and the impact planning has on them.

Council commissioned reports in 2019/2020 as part of its District Plan review to establish the likely future demand for business space and land, and undertake a housing demand assessment for Ōamaru (Waitaki's largest urban area and one of 22 NZ medium urban areas (population range 10-30,000)). No assessments have been undertaken for the smaller settlements in the district as this is not a requirement of the NPS UD.

Population growth rates have varied across the district since 2013 as shown below.

Population growth across the Waitaki District – 2013 to 2019

	2013	2018	2019	2013-19 Change	2013/19 Change %
Waitaki district	21,400	23,000	23,200	1,800	**8.4**
Weston	1,010	1,080	1,100	90	8.9
Ōamaru North Milner Park	2,370	2,610	2,570	200	8.4
Ōamaru North Orana Park	2,720	2,990	3,000	280	10.3
Ōamaru Gardens	1,110	1,210	1,250	140	12.6
Glen Warren	1,550	1,680	1,730	180	11.6
Holmes Hill	1,320	1,370	1,390	70	5.3
Ōamaru Central	280	310	290	10	3.6
South Hill	2,260	2,250	2,240	-20	-0.9
Lower Waitaki	1,300	1,430	1,460	160	12.3
Maheno	1,880	2,020	2,060	180	9.6
Ōamaru	14,790	15,870	15,990	1,200	8.1

Source: Robin Miller Understanding Data – July 2020

For the period 2017-2019 there was an average of 77 new dwelling consents a year in Ōamaru.

Household size in the wider Waitaki District is projected to drop from 2.3 persons to 2.2 persons across the District.

Estimates for future household growth have been made based on medium and high growth scenarios as shown in the table below.

Households/Dwellings Output estimates for Ōamaru

	2020-23	2023-30	2030-50
Medium	34	68	192
High	147	373	893

Source: Robin Miller Understanding Data – July 2020

Estimates for future business land demand in Ōamaru have also been made (based on anticipated commercial, industrial and retail demand to 2050) as shown in the table below.

Additional Demand Requirements for Business land in Ōamaru

		2020-23	2023-30	2030-50	Total
Minimum	Office Sq M	525	1225	3500	5250
Up to	Office Sq M	1365	2065	11,148	14,578
Minimum	Industrial Sq M	10,800	27,000	81,000	118,800
Up to	Industrial Sq M	19,170	52,245	139,995	211,410
Minimum	Retail Sq M	3680	8840	20,100	32,620
Up to	Retail Sq M	5775	19,091	33,845	58,711

Source: Robin Miller Understanding Data – July 2020

Development contributions are sought from developers to assist with growth requirements of projects and to counter future inequity issues.

4.7.1 AGRICULTURE

Agriculture forms a significant part of the Waitaki economy. Over the last decade farming practices have increasingly shifted from traditional dryland sheep and beef to dairying through irrigation schemes like the North Otago Irrigation Company (NOIC) scheme. This development has resulted in significant benefits to the local and national economy through the creation of more jobs and increasing the number of younger people in the district. The roading network is fundamental to servicing this growth and transporting wealth requires more and larger heavy vehicles travelling into the hinterland.

Another challenge is greater stress on water sources from 'up stream' agriculture activities. It is likely that regulation will be a driver in changing water use behaviours and new restrictions may occur.

4.7.2 BUSINESS

WDC faces several choices in the alignment of the District Plan and Infrastructure Strategy. Choices made as part of the District Plan (particularly in relation to residential and businesses) are likely to inform the location, affordability and performance of the infrastructure network. Hydroelectric generation and mineral

extraction are also key activities within the district. However, indications are that mining may decrease in the early years of this strategy. Both sectors are major contributors to the rates which in turn help fund infrastructure across the District.

4.7.3 LIFESTYLE

The demand for lifestyle/'hobby farms' development still exists but is less than historical demand. The preference now is for large executive housing set in expansive grounds around the fringes of the urban centres (mainly Ōamaru). The result is customers expect a level of service for roads, water, WDC buildings and recreational facilities equal to urban standards in a rural environment.

Increased options for mobility and recreation is driving demand for walking and biking facilities.

4.8 TECHNOLOGY

Technology is constantly changing and improving and is likely to have a significant effect especially in terms of providing and managing more efficient and effective infrastructure and services over the life of the strategy. For example, waterless toilets can decrease both water use and discharges to the wastewater system, thus impacting on water demand and wastewater treatment/discharge. Other changes could include on-farm removal of the water content in milk products, reducing the need for large trucks to cart large volumes of milk on our roads. The implications of future technological change need to be considered given the long term and ongoing nature of infrastructure investment.

4.9 CONTINUOUS IMPROVEMENT

This Strategy has given attention to the improvement areas identified in Audit NZ's review of the previous 2018 Strategy below:

- Condition, performance and lifecycle asset management of critical assets.
- Alignment with financial strategies.
- Levels of service agreements.
- Reliability of WDC underlying asset information.
- Identification of significant assumptions
- Effects of climate change.
- Alignment to current AMP's.

The improvements made since the 2018 Strategy are throughout the content of this Infrastructure Strategy, however some specifics are outlined below in Table 4-1.

Table 4-1: Improvements incorporated into this Infrastructure Strategy

Asset Group	Infrastructure Strategy Improvements / changes
Water	• Specific Water team staff positions have been approved to manage the forecasted increase in water asset developments and workloads. • All three Water AMP's have been updated and aligned to this Infrastructure Strategy.

Asset Group	Infrastructure Strategy Improvements / changes
Roading	• The Land Transport AMP has been developed and aligned to this Infrastructure Strategy. • Staff resources have increased to give effect to improved road safety and road maintenance. • Strengthened transport planning, asset management capabilities.
Recreation	• Recreation group is now included as part of the Infrastructure Strategy. • The Recreation AMP has been updated and aligned to this Infrastructure Strategy. • The Solid Waste area is now managed within the Recreation group.
Property	• Property group is now included as part of the Infrastructure Strategy. • Property now has a new AMP which is aligned to this Infrastructure Strategy.

We are continuously improving how we develop and execute our infrastructure strategy to help us face our key challenges. At a strategic level we have a challenge to:

- Make strategic decisions.
- Collect and analyse data relating to condition, performance and lifecycle asset management of critical assets.
- Develop our levels of service agreements that reflect increasing customer expectations and willingness to pay through rates.
- Align our strategies and processes internally (Infrastructure Strategy, Financial Strategy, Asset Management Plans), and externally (to ISO 55001 and IIMM – 2020).

To measure our improvement progress, we have developed a draft Infrastructure Strategy improvement plan (Appendix A). This includes an improvement register and a 3-year action plan to help focus attention on implementing the strategy. A summary of the improvement areas is shown below.

A draft WDC Infrastructure Strategy Improvement Register and 3 Year Action Plan has been provided separately for WDC to update and use further if desired (see Appendix A). All of the Infrastructure groups have updated AMP's within their own specific Improvement Plans.

Attached: Appendix A WDC Infrastructure Strategy Improvement Register and 3 Year Action Plan

4.10 PLANNING SCENARIOS

Over the 30-year planning horizon there are several different scenarios that may play out. We have made assumptions in order to plan in the face of uncertainty. The asset portfolio specific assumptions and limitations are listed in Section 5 under each portfolio heading. All Infrastructure Groups have their own specific Improvement Plans with updated AMP's.

5.0 INFRASTRUCTURE PORTFOLIOS

5.1 INFRASTRUCTURE PORTFOLIOS

The WDC infrastructure portfolios are tabled below by replacement value.

Table 5-1: Waitaki District infrastructure portfolios

Asset	Description	Replacement value ($ million)	% of total	Annual Dep. ($ million)
Water *(1 July 2018 valuation)*	Water extraction, treatment and distribution.	$122.1	10%	$2.1
Sewerage *(1 July 2018 valuation)*	Wastewater collection, treatment and discharge.	$89.3	7%	$1.3
Stormwater *(1 July 2018 valuation)*	Stormwater collection and discharge.	$32.0	3%	$0.3
Roads and footpaths *(30 June 2020 valuation)*	Roads (arterial, collectors, local; curbs and gutters), bridges, footpaths.	$806.5	64%	$7.4
Recreation *(1 July 2019 valuation)*	Parks, reserves, playgrounds, recreational facilities (including A2O) and solid waste.	$33.9	3%	$1.0
Property *(1 July 2019 valuation)*	WDC owned properties and buildings. Also land packages.	$179.4	14%	$2.5
TOTAL		**$1,263.20**	**100%**	**$14.60**

5.2 3 WATERS

5.2.1 3 WATERS STRATEGIC CHALLENGES AND RESPONSES

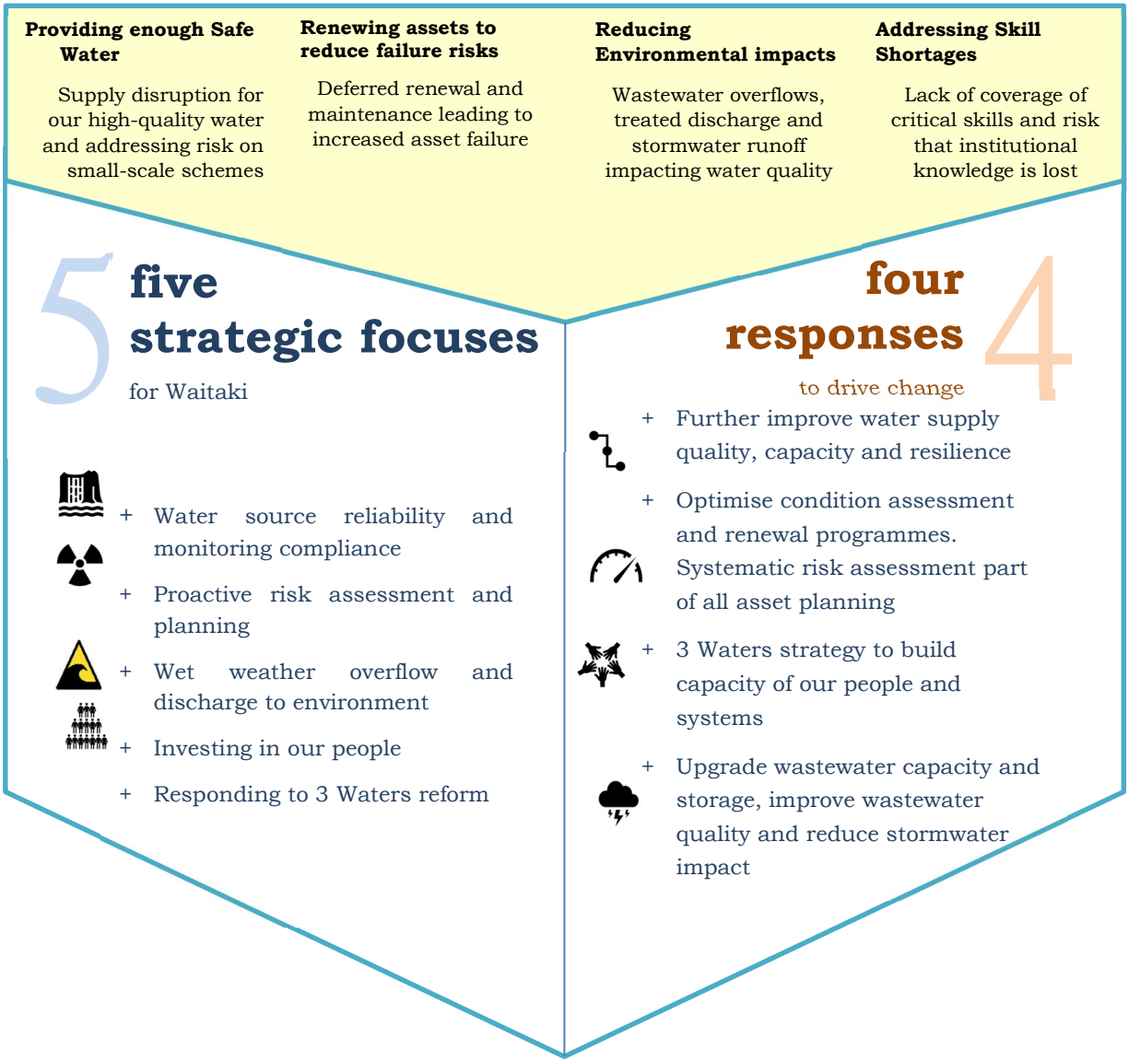


Figure 5-1: 3 Waters Strategic Challenges and Responses

5.2.2 3 WATERS 30 YEAR GOALS

Purpose statement and goals:

- Sustaining Waitaki's households, businesses and communities; The wellbeing and sustainability of Waitaki's households, businesses and communities is supported through the provision of affordable, fit-for-purpose, reliable and resilient water supply, wastewater and stormwater infrastructure.

- Protecting Waitaki's people and places; Waitaki's water supply, wastewater and stormwater infrastructure are designed, built, operated and maintained to ensure people, property and the environment is protected from harm.
- Supporting growth, prosperity and wellbeing; Waitaki's water, wastewater and stormwater infrastructure have the capability and capacity to cost-effectively and sustainably respond to, and support, population and business growth.

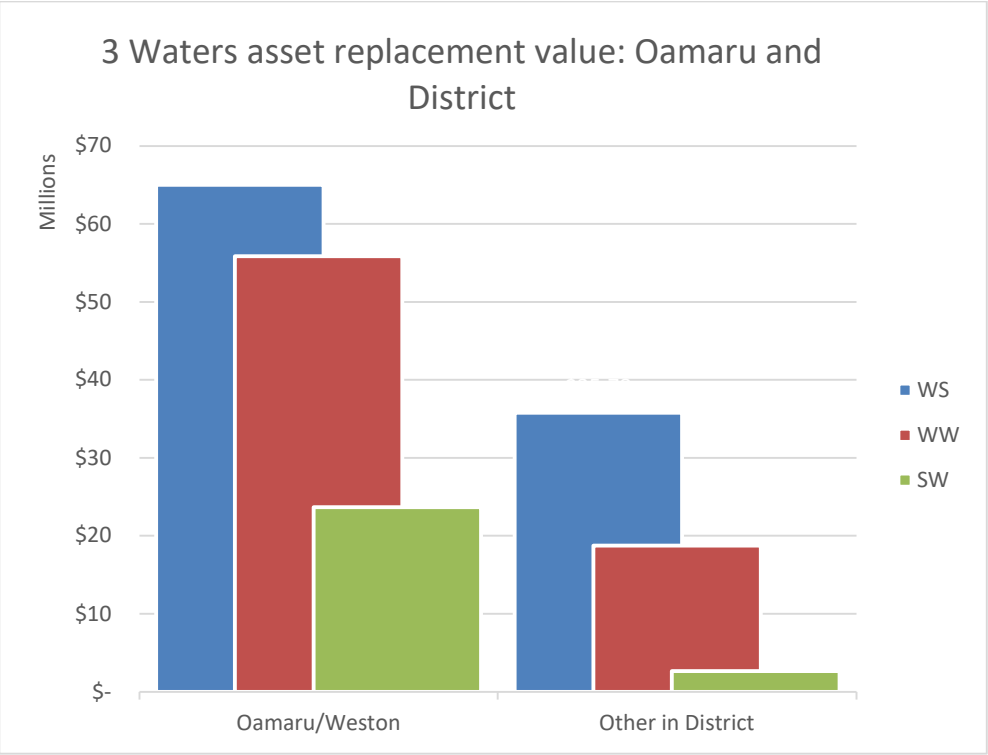
This includes:

- Being committed to existing services, while also being responsive to our customer's needs.
- Responding to higher environmental standards by setting limits and monitoring things in order to sustain, protect and support Waitaki's people, property and places.
- Sustaining services for current and future customers, recognising and providing for climate change implications.
- Improving economic sustainability and resilience through sustaining, protecting and supporting people, property and places.
- Doing the 'right things right' and enhancing WDC's organisational capacity.
- Keeping our district affordable and ensuring value for money, while also meeting WDC's strategic priorities and regulatory obligations.

In response to the Three Waters reform programme, Council is not changing its existing approach of continuing to maintain the Three Waters Infrastructure programme at appropriate levels. We will continue to operate the services as a good steward of public assets . However, Council will take account of the separation of water services from the other Council operations.

While the budget has not been amended to reflect removal of either assets or income linked to Three Waters, Council have considered and taken a conservative position in order to plan for this in relation to debt planning for strategic projects. An opt-in or opt-out decision is expected to take place in late 2021. If a new body is formed to manage water, it is expected to begin operating in the 2023/2024 financial year.

5.2.3 3 WATERS ASSETS



WS = Water Supply
WW = Wastewater
SW = Stormwater

Figure 5-2: 3 Waters Asset Replacement Value

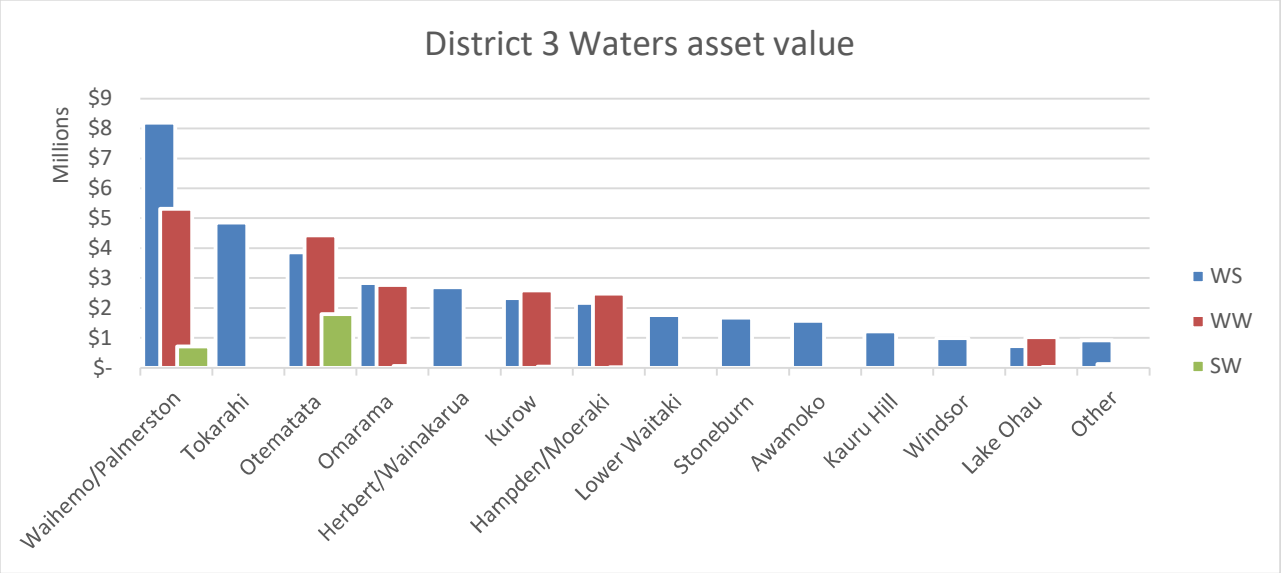


Figure 5-3: District 3 Waters Asset Value

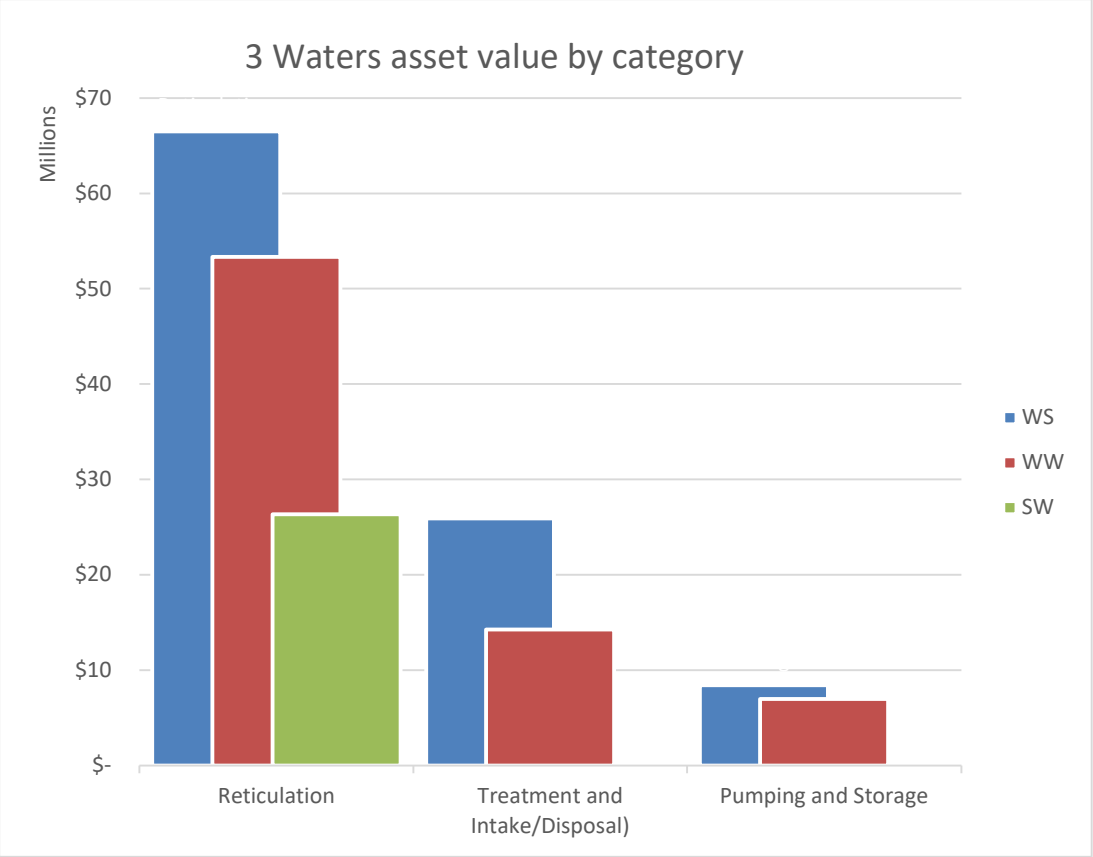


Figure 5-4: 3 Waters Asset Value by Category

Figure 5-5: Costs breakdown for 3 Waters

5.2.4 3 WATERS INFRASTRUCTURE STRATEGY HIGHLIGHTS

5.2.4.1 Providing enough safe water

Continued investment is required to meet compliance with the Health Act and the New Zealand Drinking Water Standards. This includes continuous improvement in water safety management at the large supplies, and specific infrastructure upgrades at smaller schemes: Awamoko, Tokarahi, Windsor, Kauru Hill, Stoneburn, Bushy Creek, Ōmārama, Lake Ohau, Otematata.

New drinking water regulation will be in place in the near future, which adds to WDC's existing focus on water safety. The extent of the regulation is still to be confirmed but wide-reaching impacts are anticipated. WDC's response will include new asset investment, operational and maintenance improvements, increased monitoring and accountability, risk management improvements, and adopting a new competency framework.

WDC will ensure that the community has enough water through a programme of capacity and resilience upgrades of major schemes: Ōamaru, Weston zone and Waihemo. The focus at Ōamaru is ensuring sufficient capacity and resilience of raw water so that treated water can be produced regardless of weather impacts.

WDC is developing a sustainable water use/demand management strategy to ensure water is being used appropriately and not wasted. This includes leakage reduction, increased metering, pressure management, customer education and incentives.

It is predicted that due to climate change the district will become warmer and dryer. This increases water scarcity at source and puts pressure on waterbody ecology. Irrigation and stock use consumption may increase to overcome soil moisture and feed moisture deficit. Even though these climate effects are not being felt immediately, WDC is continuing to gather data, assess the risks, and allocate resources to undertake deliberate planning action. The first three-year period of the strategy will provide this planning so that well considered infrastructure investments can be included in 2024 and beyond.

5.2.4.2 Renewing assets to reduce failure

The deliberate investment focus for the 2010 – 2020 decade has been to meet compliance standards for drinking water across the district. In order to fund these necessary drinking water safety upgrades a "do minimum" approach was adopted for asset renewal over this period. With significant drinking water upgrades successfully completed, the investment strategy is now refocussed with a greater priority on asset renewal. The renewal focus increases from 2025 and beyond after some further compliance related projects are completed.

On an age-basis, a significant portion of the 3 Waters assets are operating at the end of their useful life. By value most of these assets are in the reticulation network. The reticulation asset cohorts at the end of their useful lives include cast iron, steel, galvanised steel and asbestos cement water pipes, and earthenware wastewater pipes. The metallic water supply pipes listed above are experiencing high rates of failure and are the priority for inclusion in the renewal programme. Some renewal projects directly correspond to assets with history of failure and will reduce the operation and maintenance burden.

The old asbestos cement water supply pipes and earthenware wastewater pipes are vulnerable to seismic disruption or any other ground movements given their brittle nature. Damaged wastewater pipes contribute to issues with infiltration overloading the network during wet weather. There is potential for rising sea level and groundwater level to increase this infiltration impact.

Part of the renewal response is further developing the rationale for identifying renewal needs and planning the appropriate intervention. This focus on risk and evidence-based decision-making is part of the strategy for addressing vulnerable assets in poor condition.

Stormwater assets will receive proportional investment to address condition related issues.

We are also targeting investment in wastewater treatment and pumping facility assets at the end of their useful life through a split of proactive and reactive renewals as we don't have any stormwater treatment and pumping facilities.

5.2.4.3 Reducing Environmental impacts

WDC is investing in infrastructure that will improve environmental outcomes, for example reducing wastewater overflows and upgrading wastewater treatment at Duntroon. These investments are aligned with new central government regulation, standards and oversight. In dealing with existing and new wastewater, WDC will engage with iwi so that options are aligned to Māori values.

The Duntroon communal septic tank is no longer a permitted activity. WDC applied for a short-term resource consent for the existing system to allow appropriate investigation, consideration of options in meeting regional rules and environmental standards and consultation. The preferred option will be constructed and will bring about improved environmental outcomes.

The strategy also focusses on mitigating wastewater overflows during wet weather events. This includes an increased organisational focus on managing this risk, separation of stormwater from the wastewater network, as well as new and upgraded infrastructure. Wastewater pipe renewal and rehabilitation investment under this strategy will also reduce risk of wastewater exfiltrating from damaged pipes into the environment.

The stormwater management paradigm has shifted from “to collect, convey, discharge” to an integrated approach of “slow it down, spread it out, and soak it in”. This introduces a range of new considerations to include in our stormwater service delivery through planning, design, operation and maintenance, construction, and financing.

Some of WDC’s highest value wastewater assets are located on the coast and are vulnerable to erosion. WDC will do its part in response to climate change by investigating options for reducing carbon emissions associated with the 3 Waters activities. Further analysis will be conducted as part of the strategy to identify what next steps are needed such as material selection, procurement rules, operational and maintenance consideration and carbon friendly design.

Although Waitaki’s climate is expected to become warmer and dryer, there will likely be an increase in high intensity rainfall events. This will exacerbate existing stormwater and wastewater overflow challenges. These impacts are considered when setting current design limits and are part of the wider climate change investment investigations needed to plan for future.

With the new environmental water regulation WDC will need to significantly increase sampling, monitoring, operation and maintenance methodologies and regular reporting.

5.2.4.4 Addressing skill shortages

Part of this strategy is specifically focussed on people capacity and capability. There is a national shortage of water infrastructure professionals across planning, design, management and operational roles. Attracting and retaining the right people to deliver our response to 3 Waters challenges in the district is difficult. WDC is responding to this challenge through it’s internal “Navigating 3 Waters” initiative that provides the case for increased people resourcing.

This additional resourcing provides the capacity for more future orientated planning to ensure the ambitions of the strategy are delivered alongside improved long-term outcomes.

WDC is delivering on its strategy to meet future Government and Council direction for 3 Waters planning and delivery through the location of 3 Waters staff in a dedicated facility.

The priority areas for additional capacity and capability are:

- planning and best practice
- risk management and business continuity
- asset resilience and capacity
- public health and environmental responsibilities
- project panagement.

New government regulation will also require a high level of training and qualification for 3 Waters operations and maintenance staff.

The tables below highlight the significant costs and decisions in delivering the Strategy, with a focus on the actions required in the first 10-year period.

5.2.5 3 WATERS KEY INFRASTRUCTURE DELIVERABLES

Table 5-2: 3 Waters Significant Costs and Decisions

Key Infrastructure Deliverable	Indicative Cost/Funding	Indicative Timeframe	Key Challenges Reference
Water Supply: Capacity and resilience upgrades of major supplies: Ōamaru, Weston zone, Lower Waitaki and Waihemo	$45M	2021– 2030	Continuous improvement
Water Supply: Treatment and water safety improvements at smaller supplies: Awamoko, Tokarahi, Windsor, Kauru Hill, Stoneburn, Bushy Creek, Ōmārama, Lake Ohau, Otematata	$20M	2021-2025	Safety
Water Supply: Asset renewals. Reticulation ($17M), facilities ($4M), and SCADA ($4M).	$26M	2021-2031	Asset condition
Other options: Do more or less renewals. Adopt a more conservative approach. Do sooner.			
Wastewater: Overflow mitigation	$6M	2021– 2028	Environment
Wastewater: Duntroon treatment upgrade	$2M	2030– 2031	Environment
Wastewater: Asset renewals. Reticulation ($12M), facilities and ponds ($3M), and inspection/cleaning ($1M).	$16M	2021-2031	Asset condition
Other options: Do more or less renewals. Adopt a more conservative approach. Do sooner.			
Stormwater: Capacity study, management plan and resource consent	$0.4M	2024-2027	Environment
Stormwater: Asset renewal and capacity reinstatement	$22M	2025 - 2031	Asset condition

The focus for 3 Waters delivery is ensuring enough high-quality drinking water, reducing wastewater discharge and overflow environmental impacts, and renewing assets to reduce failure risks. Water and wastewater are priority delivery areas with stormwater delivery increasing from 2025 onwards. In addition to the anticipated direct infrastructure investment, delivering the infrastructure strategy across 3 Waters requires the following decisions and non-asset actions:

Table 5-3: 3 Waters Key Decisions and Non-Asset Actions

Key Non-Asset Deliverable	Indicative Timeframe	Key Challenges Reference
Climate change (decision): WDC must decide its target carbon reductions, particularly for wastewater treatment, and set funding levels for expanding planning and design to account for climate change mitigation and adaption.	2023-2024	Climate change and natural hazards
Private water supplies (decision): WDC must decide whether to step in for small private water supply schemes in the district so that minimum safety standards are met.	2023-2025	Safety
Service levels consultation (non-asset deliverable): Consultation with community on the agreed levels of service provided by WDC for 3 Waters has not happened for a long time. New engagement is required in order to partner with community to discuss expectations, trade-offs, and values.	2023-2025	Continuous improvement
Sustainable water use (non-asset deliverable): WDC must develop a sustainable water use/demand management strategy to ensure water is being used appropriately and not wasted. This includes leakage reduction, increased metering, pressure management, customer education and incentives.	2025-2030	Environment
SCADA (decision): WDC must decide whether to continue with, upgrade or replace the SCADA system that is beyond its useful life and presents operational risk. A stocktake of monitoring requirements across the district is needed to inform the SCADA decision.	2022-2023	Asset condition, Technology

5.2.6 3 WATERS KEY ASSUMPTIONS

Table 5-4: 3 Waters Key Assumptions

Key Assumption	Uncertainty	Impact	Our Response / Options	Key Challenges Reference
Sustainability Agenda: Central government will continue its increased focus on water quantity and the sustainable management, and waterway values.	Low	Achieving more with less resource consumption will become more important as well as protecting water sources from contamination.	Be responsive to changing environmental standards and water value perspectives. Improving wastewater discharge, mitigating overflows reducing leakage and wasteful behaviour	Environment
Climate Change (adaptation): That more extreme weather patterns will impact on the District in ways similar to that noted in the Ministry for the Environment guidance.	Med	Hotter, dryer and more frequent high intensity rainfall. Sea level rise and coastal erosion. Uncertain the rate of climate change and the timing of impacts on 3 Waters services.	Consider the impact that climate change will have, and the investment required under different response approaches Invest now in gathering data and evaluating risks	Climate change and natural hazards
Climate Change (mitigation): WDC will be required to cut carbon emissions in the delivery of 3 Waters services over the asset lifecycle	Low	Changes to design, procurement, construction and operation of assets with potential additional costs	Identify what next steps are needed ourselves or wait for industry guidance and leadership to determine what our approach will be.	Climate change and natural hazards
Asset Information: That our asset information is reliable and sufficient.	Low	Poor asset information impedes decision quality for maintenance, renewals and future planning	Invest in the asset information most useful for assessing risk and supporting decision making	Asset condition Technology
Skills:	High	Insufficient capacity and capability mean that we cannot deliver our strategy	Invest in the appropriate resource capacity and capability.	Resourcing

Key Assumption	Uncertainty	Impact	Our Response / Options	Key Challenges Reference
That there will be a shortage of technically skilled people to design, construct and manage 3 Waters assets.		and end up with poor outcomes	WDC builds a collaborative centre of excellence hub for 3 Waters.	
Meeting legislative requirements: That WDC continues to meet requirements for drinking water quality and environmental water quality	Med	Significant overhaul is needed in the way the 3-Waters service is delivered, managed, operated, maintained, monitored and reported on.	Plan to meet anticipated higher water quality standards that will come with future regulation	Safety Environment Continuous improvement
Affordability: That the community is prepared to pay for the levels of service provided from the 3 Waters activity	Med	The community may deem 3 Waters levels of service unaffordable. Insufficient WDC funding available to deliver the strategy and outcomes.	Better understand our assets and quantify the challenges we need to communicate. Proactively engage with community and WDC to agree outcomes expected through 3 Waters investment	Asset condition Continuous improvement Demographic change Resourcing
Managing growth and increased demand: That growth and changes in demographic composition will occur faster or slower than expected.	Med	More demand for water connections may constrain development. Reduced population could put pressure on activity funding.	Ensure that we have infrastructure with growth forecast able to adapt to positive population changes. Continue to monitor demographic changes.	Demographic change, Landuse change Resourcing

5.3 ROADS & FOOTPATHS

5.3.1 ROADS & FOOTPATHS STRATEGIC CHALLENGES AND RESPONSES

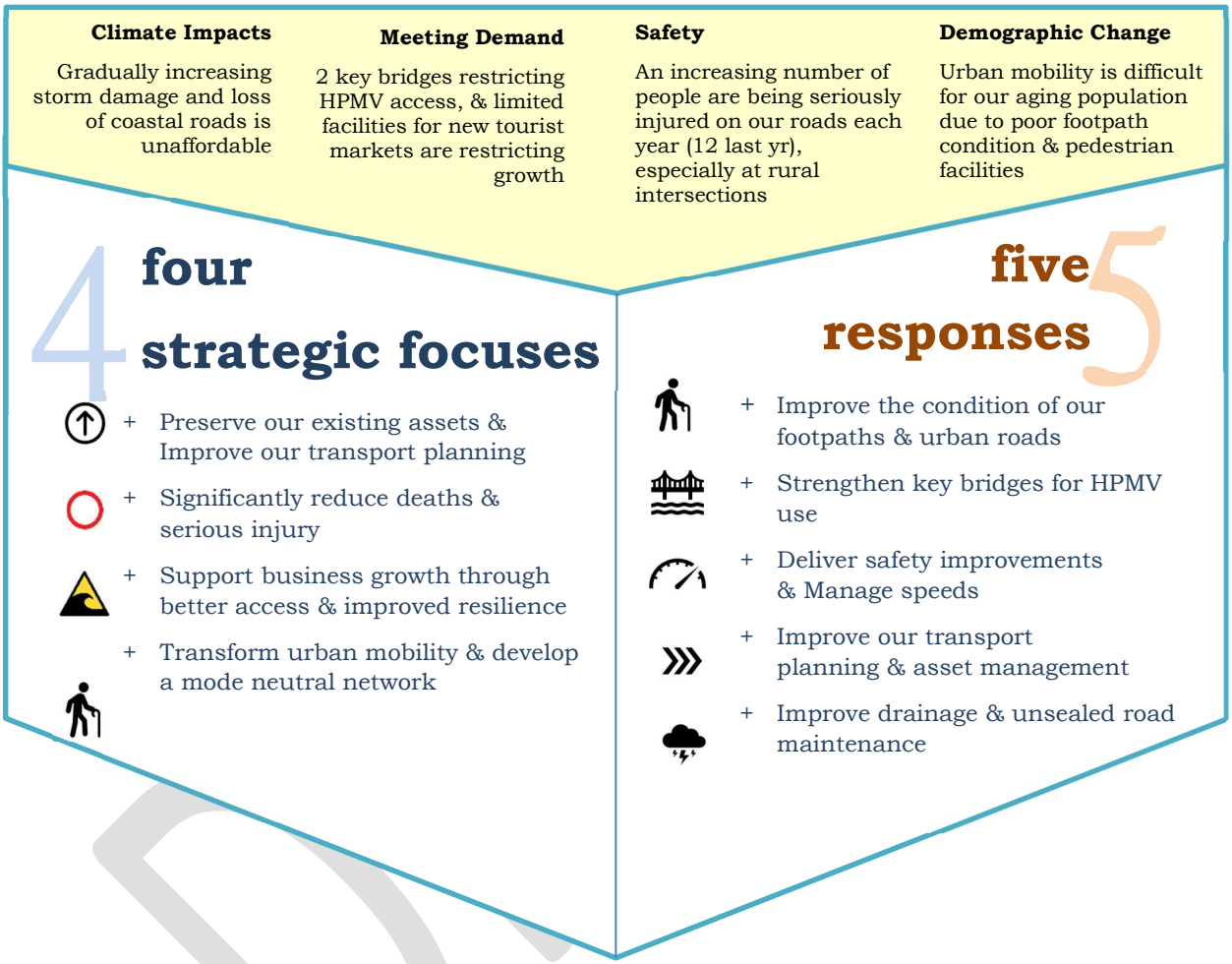


Figure 5-6: Roads and Footpaths Strategic Challenges and Responses

5.3.2 ROADS & FOOTPATHS 30 YEAR GOALS

Our Mission: We are transport focussed, making lives better for our communities and visitors. We maintain and develop a safe, effective, efficient, accessible, affordable and fit for purpose transportation network.

5.3.3 ROADS & FOOTPATHS ASSETS

Our Purpose: Our road corridor networks connect people with destinations, are lines of communication and are used for vital, underground infrastructure reticulations. Our roads also link goods and freight from our farms and high-country stations to far away markets. Without a reliable roading network, much of the economic activity within our district and region would not be possible.

Key Network Statistics:

- The Waitaki District covers 7,152 km² with a network characterised as a rural, low volume network comprised predominantly of unsealed roads that provide effective access to properties and people.
- 90% of roads are rural (i.e. have a speed limit of more than 70 km/h).
- 59% of roads are unsealed.
- 94% of roads have traffic volumes of less than 500 vehicles per day.
- Over 85% of the roads within the District are owned and operated by WDC, with the NZTA operating the remaining 15% on state highways.
- Walking and cycling are comparatively low but are increasingly important parts of the urban transport network, especially as our population ages.

The level of investment in our Roading assets is an overall replacement cost of $800m and annual depreciation of $7.3m. The annual economic activity benefits generated by these physical assets, is more than 1 billion dollars per annum, while the social benefit is immense and immeasurable. These assets require ongoing annual maintenance and in some cases replacement, to sustain the benefits generated.

Table 5-5: Waitaki Roading Assets

Waitaki Roading Assets	
Length of local roads managed and maintained by WDC (km)	1,812
Length of state highway managed and maintained by NZ Transport Agency (km)	306
Length of footpath (km)	164
Kerb and Channel (km)	185
Retaining Structures (km)	13
Bridges and major culverts (number)	160
Streetlights (total number including State Highways)	2,505
Car parking areas (number)	11
Signs (number)	5045
Walking & Cycling Assets (number)	22

ASSET	ASSET COMPONENT	UNIT	QUANTITY
Road Pavements	Sealed Local Roads	km	777
	Unsealed Local Roads	km	1,023
Bridges & other structures	Bridges	ea	171
	Large Culverts	ea	10
	Fords	ea	8
	Railings	m	7,360
	Retaining Walls	ea	90
Drainage	Culverts	ea	7,950
	Subsoil Drains	ea	73
	Sumps & Catch Pits	ea	1,143 & 41
	Manholes	ea	12
	Drainage Flumes	ea	6
	Scour Protection	ea	7
	Soak Pits & Deep Well Shafts	ea	16 & 24
	Washover structure	ea	34
	Water Race	ea	77
	Vehicle crossing pipe	ea	113
Surface Water Channel	Dished Channel	km	10.47
	Kerb & Channel	km	184.09
	Roadside Drain	km	3,151.06
	Other	m	861
Traffic Services	Signs	ea	5,389
	Road Markings	km	2,772
	Sight Rails	m	3,756
Street Lighting	Street Lights	ea	2,014
Footpaths & cycleways	Footpaths	km	166
	Cycleways/Walkways	km	7.39
Car Parks	Off-Street Car parks	m2	21,000

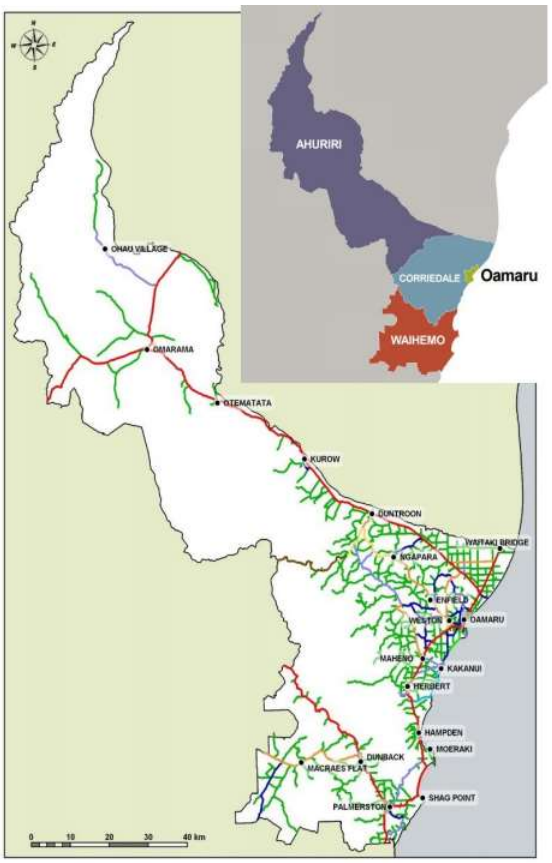
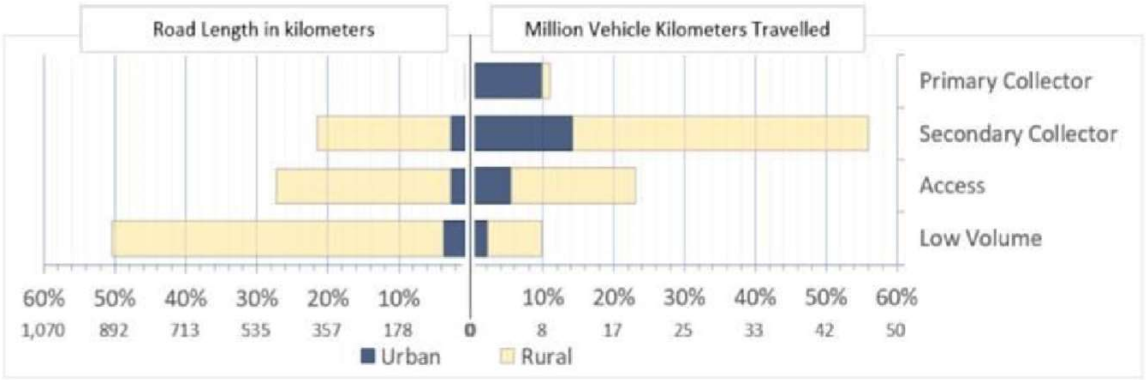


Figure 5-7: Waitaki Roading Assets

Waitaki District ONRC Road Classifications



- ***Primary Collector***: *locally important roads linking significant local economic areas or populations*
- ***Secondary Collector***: *roads linking local areas of population and economic sites (may be the only route available)*
- ***Access***: *all other roads but split further into the low volume subset below*
- ***Low Volume***: *a further subset of access roads with less than 200 vehicles per day*

Figure 5-8: WDC ONRC Road Classification

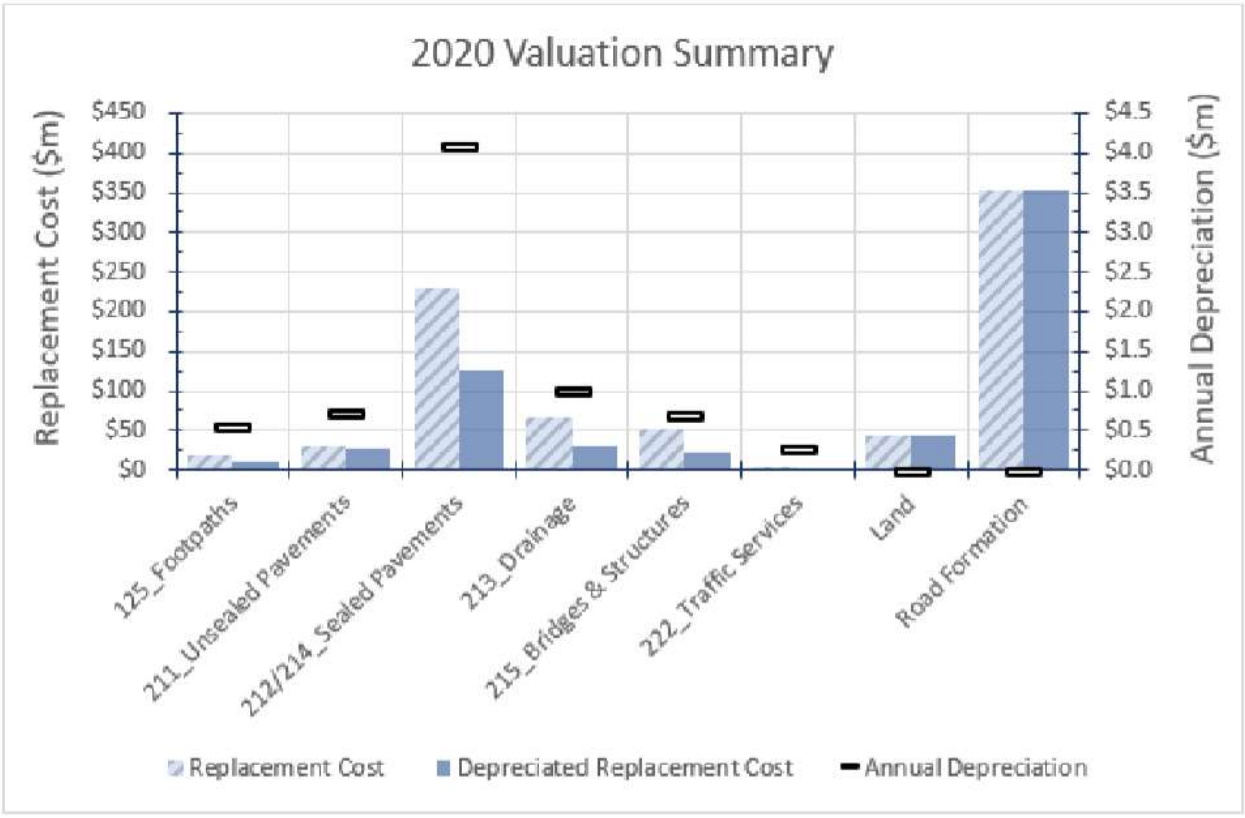


Figure 5-9: Roading 2020 Valuation Summary

Revenue & Expenditure Forecast[1]

$402.01m	$195.10m	$51.82m	$26.97m
Total network GCRC (excluding land)	10-year expenditure forecast (32% change from 2018-28 forecast)	3-year budget (17% change from 2018-21 NLTP)	Subsidies (NZTA and others) for the 2021-24 NLTP (52% of total budget).

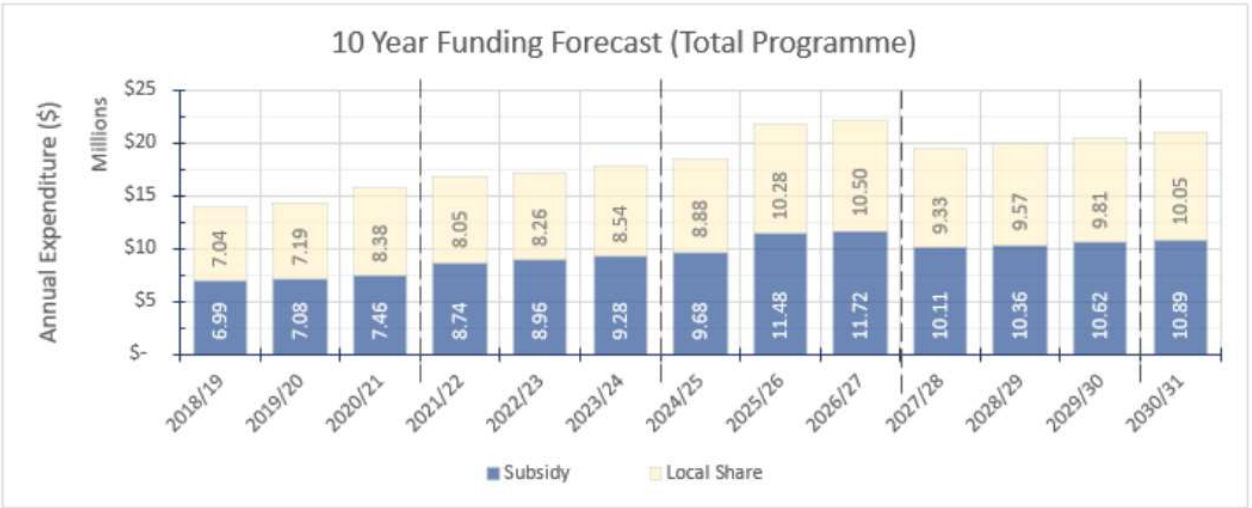


Figure 5-10: Roading 10 Year Funding Forecast

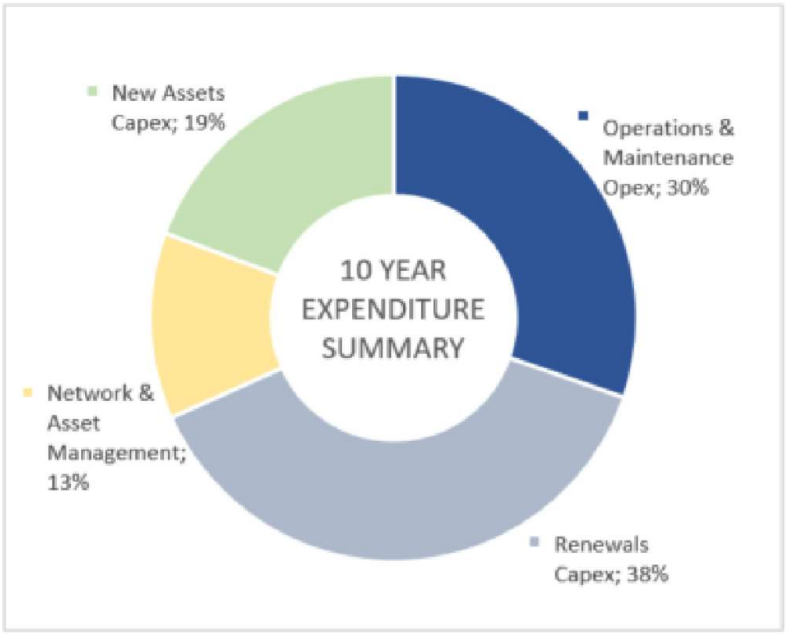


Figure 5-11: 10 Year Expenditure Summary

Figure 5-12: Roading Statistics

5.3.4 ROADING AND FOOTPATH INFRASTRUCTURE STRATEGY HIGHLIGHTS:

Climate Impacts:

We anticipate accelerating changes because of climate change over the next 10-years. The biggest impact is expected to be from heavy rainfall events and sea level rise, with effects such as:

- Transport network exposed to regular and increasingly severe weather events.
- Coastal erosion affecting parts of the district through the loss of roads.
- Emergency reinstatement works moving from 1-in-10-year events to 1-in-40-year events or greater. Investment requirements are that the reinstated works be more than $100,000 per event for financial assistance or greater than 10% of the annual programme for escalated financial assistance rate.

Key strategic focus:

- Continue to investigate where climate change impacts are likely and how best to mitigate these impacts.

- Improve resilience of the transport network.
- Improve condition of our footpaths and urban roads.
- Optimise the capacity of our existing bridges.
- Improve drainage maintenance.

Meeting Demand:

The difficulty in meeting HPMV demand combined with limited facilities for new tourist markets are challenges which will restrict growth in the District. Other challenges include:

- Commercial land use change altering the rural traffic composition.
- Heavier and wider vehicles on the network, which results in greater wear and tear on existing assets and road user safety concerns.
- Tourism within New Zealand has increased exponentially, including the Waitaki region.
- Forestry and logging activities are impacting the roading network.
- Mining activities in the Waihemo ward will continue for 10 plus years. Withdrawal from the district will significantly impact WDC's rates component revenue.
- Meridian Energy, as a result of roads inundated by man-made lakes within the Waitaki River catchment, also contributes significantly to WDC's rates component revenue; but offset by the vestment of 14km of sealed road.
- Examining network demands to provide a flexible environment to address change using the Roading Network Plan.

Key strategic focus:

- Improve our transport planning to ensure we manage the growth on the appropriate assets.

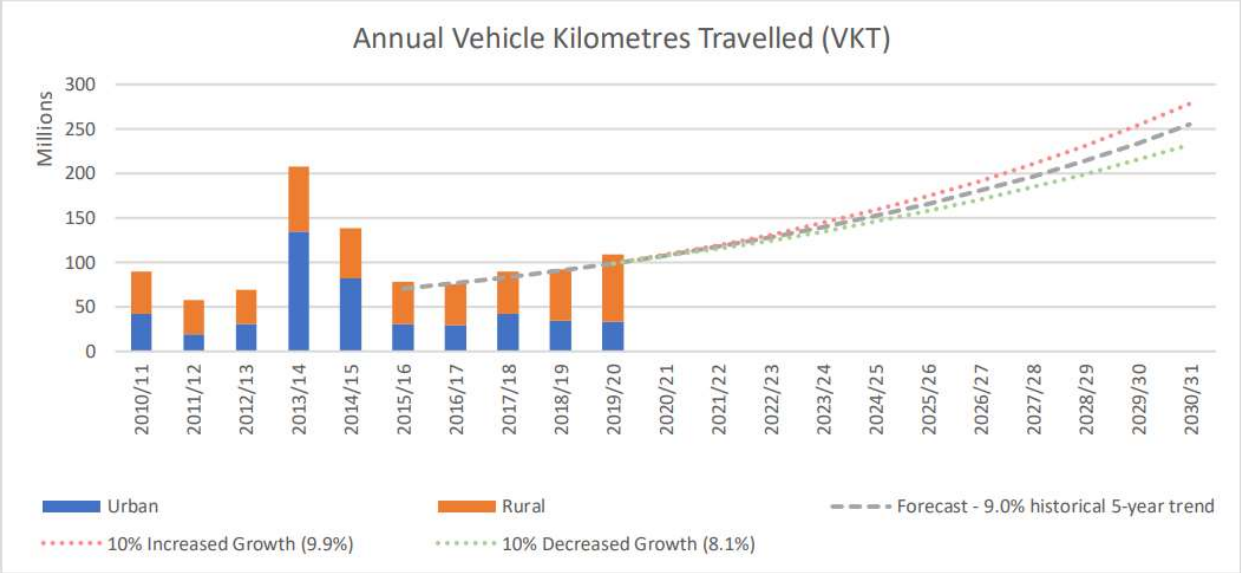


Figure 5-13: Annual Vehicle Kilometres Travelled

Over the last five years, an average traffic growth of 9.0% has been observed. Projected forward 10 years, this results in a forecast Annual Vehicle Kilometres Travelled (VKT) of approx. 255 million in 2030/31. Note: 2013/14 and 2014/15 there was a significant spike (understood to be a combination of urban demand from UFB activity and rural demand from the NOIC scheme development).

Safety:

As the transport network continues to grow to meet expected demand increases, the safety of the network also needs to continue to improve.

- In the past, 50% of 2015/16 Survey respondents stated that WDC roads are not safe to travel on.
- Low customer satisfaction and raised expectations of stakeholders and customers.

- Continual safety improvements to Roading (e.g. speed, realignment, barriers).

Key strategic focus:

- Deliver safety improvements and manage speeds.

Demographic Change:

As the demographics of the District continue to change (including an ageing population which is currently greater than the national average), the Roads and Footpaths assets must change to meet the needs of the District. Focus areas are likely to include: Providing good quality footpaths, cycleways and car parking in urban and peri-urban areas

- Improved transport planning, with a specific focus on this growth area.

Internal Asset Management Improvements:

To enable highlighted asset management improvements within the Roads and Footpaths assets, several strategic improvement areas will be targeted including:

- Increased in internal planning resources to enable improved asset planning for future improvements.
- Management and planning of inground services installations (water, fibre, power etc.) along the road and footpath corridor.
- Improved management of resources, both internal and contracted resources.

5.3.5 ROADS AND FOOTPATHS KEY DELIVERABLES

The tables below highlight the significant costs and decisions in delivering the Strategy, with a focus on the actions required in the first 10-year period.

Table 5-6: Roading and Footpath Significant Costs and Decisions

Key Deliverable	Indicative Cost/Funding	Indicative Timeframe	Key Challenges Reference
Total subsidised and unsubsidised operations, maintenance, renewal and improvement programmes (broken down further below)	$15.5m to $22.5m per annum	2021 - 2031	Asset condition Continuous improvement
Other options: Not considered as this work is required to meet levels of service set by WDC.			
Maintenance and Operations subtotal (subsidised and unsubsidised)	$13.0m to $16.6m per annum	2021 - 2031	Asset condition Continuous improvement
Other options: Not considered as this work is required to meet levels of service set by WDC.			
Capital Works subtotal (subsidised and unsubsidised)	$3.6m to $4.2m per annum	2021 - 2031	Asset condition Safety Climate change and natural hazards
Other options: Not considered as this work is required to meet levels of service set by WDC.			
Kakanui Point Bridge Replacement	$7,000,000	2030 / 2031	Asset condition Safety
Other options: Replace the bridge with a two-lane bridge. This would increase the cost to around $14m and it is likely that NZTA co-investment is not be available for the increased level of service. WDC could choose not to replace the bridge meaning it would be left with weight restrictions and will eventually effectively separate the Kakanui community. Delayed 10 years			
Widening of high risk sealed roads, more metal on high priority rural roads, smoothing of rural and urban roads. Improve response levels, undertake improvements to safety, resilience, efficiency, accessibility, amenity and travel time.	$2.9M Over 3 years	2018 – 2021	Asset condition Safety
Other options: Fund a lesser amount or do not fund this level of service increase. Increased expenditure is in response to Community dissatisfaction with WDC roads. Reducing or removing the project will save WDC's share of the cost (45%) but is unlikely to improve dissatisfaction levels.			
Maintenance, operations and renewals: WDC's roading maintenance contract reflecting the current market value.	$4,135,777 per Annum	2018 – 2048	Asset condition Resourcing
Other options: Increase or reduce the levels of service provided for the in the Contract. A reduced level of service is likely to increase community dissatisfaction with WDC roads.			
Road Safety programme: Programmes to reverse the increasing trend of fatalities on all roads.	$170,200 per Annum	2018 – 2048	Safety

Key Deliverable	Indicative Cost/Funding	Indicative Timeframe	Key Challenges Reference
Other options: Reduce expenditure - This is likely to impact on road safety in Waitaki.			
Walking and cycling projects: Enable cyclists to safely commute from the Penguin Colony in Ōamaru to the north end of Ōamaru	$550,000 Over 3 years	2018 – 2021	Safety Demographic change
Other options: Not fund the cycleway projects, saving WDC's share of the cost of the work (45%) however this would reduce the effectiveness of Council's cycle network and require the return of investment to NZTA for the Oamaru Creek bridge.			
LED Street Lights - Reduction in costs due to efficiencies of LED, allowing for renewals of infrastructure e.g. poles and brackets.	$300,000 Over 3 years	2018 – 2021	Safety Technology
Other options: Not considered, this renewal work is needed to maintain levels of service and provide significant maintenance and electricity savings. Now completed?			

In addition to the anticipated direct infrastructure investment, delivering the infrastructure strategy across Roads and Footpaths requires the following decisions and non-asset actions:

Table 5-7: Roading and Footpath Decisions and Non-Asset Actions

Key Non-Asset Deliverable	Indicative Timeframe	Key Challenges Reference
Continue to develop the Land Transport Asset Management Plan document (Parts A, B and C)	2021 - 2023	Resourcing Continuous improvement
Continue to develop and update the core asset management software tools (e.g. RAMM, dTIMS, OBIS)	2021 – 2023	Resourcing Technology Continuous improvement
Continue to improve transport planning activities and increase resourcing as appropriate	2021 – 2023	Resourcing Continuous improvement
Continue to develop the Road Safety Improvements & Community Focussed Activities and Low-Cost (LCLR) Improvement Programme	2021 – 2023	Safety Continuous improvement
Continue to investigate how climate change will impact on the assets and what practical solutions can be planned for.	2021 - 2031	Resourcing Climate change and natural hazards
Maintain physical works contract schedule (currently 9 focus areas)	2021 – 2023	Resourcing Asset condition Continuous improvement

5.3.6 ROADING AND FOOTPATH KEY ASSUMPTIONS

Table 5-8: Roading and Footpath Key Assumptions

Key Assumption	Uncertainty	Impact	Our Response/Options	Key Challenges Reference
Climate Change: That the resilience of our transport network will be exposed to regular and increasingly severe weather events; that the effects of coastal erosion that are being seen in parts of the district through the loss of roads, will continue to worsen.	Med	That these effects may reduce resilience and accessibility of the network and an increase in travel time resulting in lost economic productivity and growth in the district.	Monitor the impact of climate change and be responsive to changes by building resilience required to WDC's assets (including mitigation and adaptation). NIWA are currently mapping the 100-year coastline. WDC can then make more informed decisions regarding coastal erosion and investment, and the WDC's Coastal Erosion Strategy will be consistent with this new information.	Climate change and natural hazards
Demographic Changes: That the district will experience a change in land use - larger rural vehicles; larger tourist vehicles with drivers unused to the conditions; an ageing population greater than the national average requiring good quality footpaths for pedestrians and mobility scooters, walking and cycling tracks, footpaths and improved accessibility for the elderly, car parking in our town centres.	Low	That these factors will test the resilience of our roading network, and lead to deterioration of the district's roads.	Maintain a resilient roading network, including funding drainage maintenance, renewals and improvements, and responding to coastal erosion threats. Ongoing monitoring around signs of deterioration of the district's roads. Regular reviews of levels of service to ensure they are appropriate and achievable.	Demographic change

Key Assumption	Uncertainty	Impact	Our Response/Options	Key Challenges Reference
Asset Information: That our asset information is reliable and sufficient.	Low	Poor asset information quality may impede effective and efficient maintenance, renewals and future development of the water network e.g. projections currently age based not on condition or performance.	Asset information has been assessed as reliable. WDC could increase asset information resourcing.	Asset condition Resourcing Continuous improvement Technology
Under-investment in roads – investments in local roading infrastructure compared to other peer councils is low (the focus of roading spend has been in the rural areas for a number of years - this is unsustainable).	Low	Roads cannot be maintained to the agreed Level of Service stated.	Plan for changing demands. Continue to monitor road condition	Asset condition Resourcing
Skills: That there will be a shortage of technically skilled people to design, construct and manage roading and footpath assets.	High	With less technically skilled resources available, projects and maintenance may not be able to be appropriately planned and managed.	WDC is considering the impact of this issue when planning. WDC could intervene sooner and divert resourcing to planning for a skill shortage.	Resourcing

5.4 RECREATION (& SOLID WASTE)

5.4.1 RECREATION (& SOLID WASTE) STRATEGIC CHALLENGES AND RESPONSES

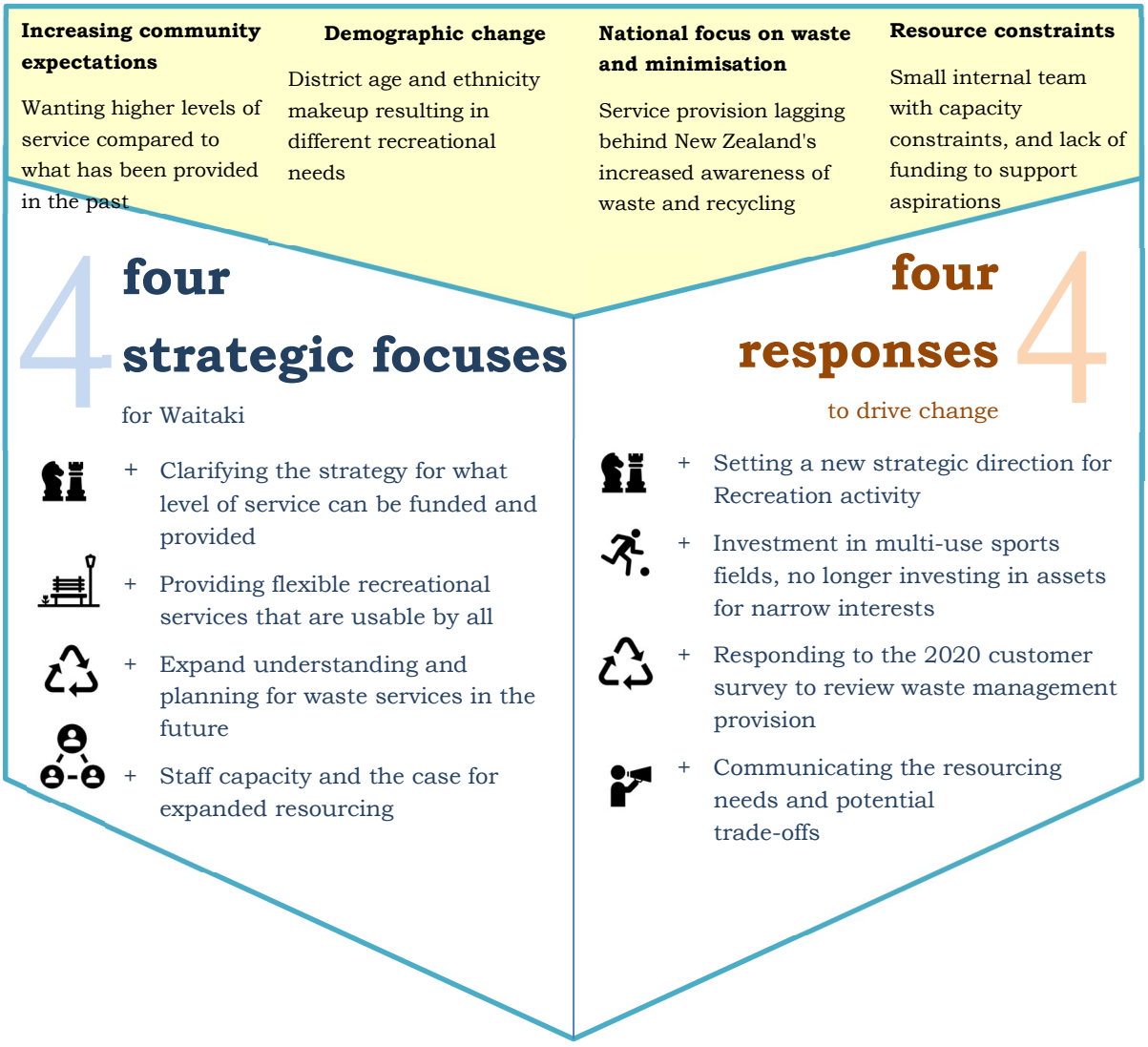


Figure 5-14: Recreation (and Solid Waste) Strategic Challenges and Responses

5.4.2 RECREATION (& SOLID WASTE) 30-YEAR GOALS

- To provide safe, effective, efficient and affordable services and facilities to communities which are fit for purpose.
- Expand understanding and planning for waste services in the future
- Renewal funding of assets

5.4.3 RECREATION (& SOLID WASTE) ASSETS

Table 5-9: Recreation Assets

Waitaki Recreation Assets		
Activities	**Number**	**Area (ha)**
Park land – total	318	1,164
Parks – actively maintained (excluding Cemeteries)	220	187
Cemeteries	13	26.3
Camping grounds	12	61
Public toilets	43	
Aquatic facilities	1	
Forestry blocks	30	127
Solid Waste	6	
Landfills	1	12
Closed landfills	13	29.28

Numbers of Recreation Assets:

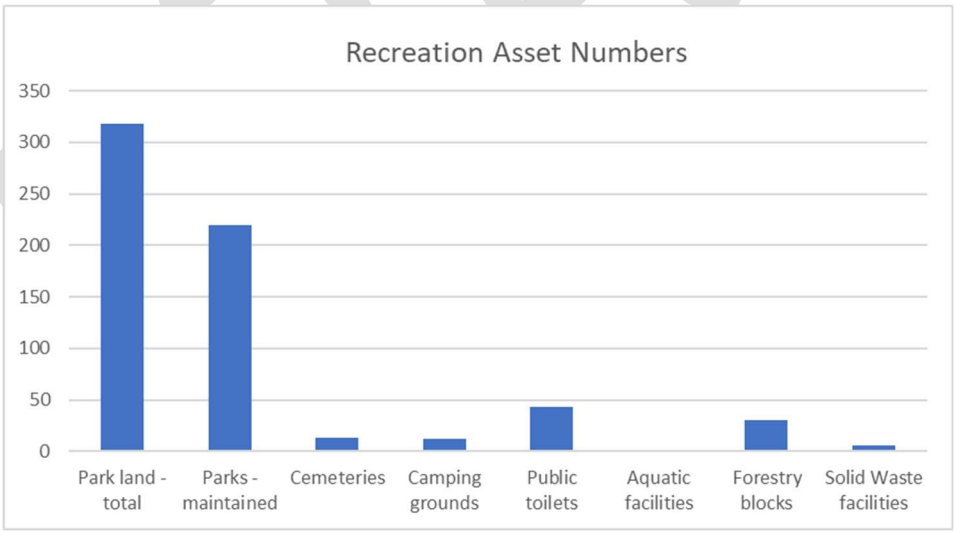


Figure 5-15: Numbers of Recreation Assets

Recreation Assets by Value:

Currently the Recreation valuation information is limited to the following:

- Parks Asset Value Summary

	Replacement cost	Optimised Depreciated Replacement Cost	Annual Depreciation
Valuation as at 30 June 2019	$32,709,383	$12,958,741	$734,525

Figure 5-16: Parks Assets Value

- Aquatic Asset Value Summary as at 30 June 2020.

Building Name	Replacement Cost	Fair Value (DRC)	Annual Depreciation Requirement
Waitaki Aquatic Centre	$7,080,000	$4,283,800	$139,800
Components			
Structure		$1,865,200	
Roof		$245,500	
Building services		$1,577,000	
Fit out		$592,000	
Site Improvements		$4,100	

Figure 5-17: Aquatic Assets Value

- Total Replacement Value = $39,789,383 (not including Solid Waste).

Figure 5-18: Recreation Statistics

Recreation covers the following assets and services:

- parks, including sports & recreation parks, neighbourhood parks, nature parks, outdoor adventure parks, public gardens, cultural heritage parks, civic parks, playgrounds
- sports fields
- aquatic Facilities
- public Toilets and Dump Stations
- cemeteries
- streetscape and Trees
- camping Grounds
- forestry.

A total of 1,164 hectares of parks and reserves is managed by the WDC.

Of this, a total of 624 hectares of publicly accessible park land is provided at 26.1 hectares per 1,000 residents. The remaining area represents recreation land leased as campground or commercial farming enterprise where general public access is not available. These figures exclude commercial forestry areas where the public may have assumed recreational access rights. For comparison purposes the park land is split between:

- **A - Actively maintained/urban park** - 187 hectares of at 9.0 hectares per 1,000 residents compared to national median of 8.7 hectares per 1,000 residents.

- **B - Natural/conservation park** – 357 hectares at 17.1 hectares per 1,000 residents compared to Yardstick national median of 7 hectares per 1,000 residents.

A total of 22 playgrounds and 4 skate parks are provided. An additional 4 school playgrounds in Ōamaru are available to the public outside school hours in return for grounds maintenance. This equates to 5.8 playgrounds per 1,000 children under 15, which is above the national median of 3.9 playgrounds per 1,000 children under 15.

The WDC operates 13 cemeteries (11 open), with a total land area of 38.44 hectares (26.27 Ha actively in use with the remaining area grazed for future expansion). The main bulk of the interment activity occurs at the Oamaru Cemetery.5

The WDC provides 11 campgrounds totalling 60.99 hectares. 4 of these campgrounds are leased to commercial entities, another is about to be leased and one is to be returned to crown management.

A total of 43 public toilet blocks are provided across the district. 14 are provided in WDC managed Campgrounds and are available for general public use, 20 on parks (many near the centre of towns) and 9 are located on other land in the centre of towns. 1 dump station is provided in Oamaru with a further one planned for Ōmārama.

One aquatic centre is provided at Ōamaru and grants are provided to assist with community access to school pools at Kurow and Palmerston.

WDC's provision of Solid Waste & Landfill facilities currently consists of:

- one open landfill (Palmerston)
- closed landfills
- four rural recovery parks/transfer stations (Hampden, Kurow, Otematata and Ōmārama)
- three rural recycling centres (Enfield, Papakaio and Herbert).

5.4.4 RECREATION (& SOLID WASTE) INFRASTRUCTURE STRATEGIC HIGHLIGHTS

Recreation Strategic Direction

It is planned to review specific Recreation strategies to ensure alignment with WDC objectives. Areas such as the following will be reviewed:

- Location and number of parks.
- Demographic changes – investigate what this may require in the future.
- Completion of off-road section of A2O bike trail, plus how to best promote the A2O bike trail.
- Cycleway Ōamaru to Palmerston.
- Growth of Aquatic Centre.
- Camping grounds – potential extension for opportunities due to changing nature of holidaying in New Zealand.
- Review Playground Policy (proximity, quantity, Destination playgrounds etc.).
- Active Recreational Facilities developments, including proposed Sports and Events centre.
- Walkways, Cycleways and Passive Recreation developments and connections.
- Development of Cemeteries.

Aquatic Centre

Undertake a building and plant condition assessment of the Aquatic Centre by qualified personnel, to update the building maintenance plan and prepare a plant replacement plan. Due to these assets specific plant and equipment requirements, specific, specialist plant lifecycle planning is required.

Recreation asset management process improvements

The following improvement activities are planned:

- Asset data collection and condition assessment process improvements.
- Creation of Standard Operating Procedures (SOPs) as part of an overall Recreation procedures operating manual development program.
- Collect and record Recreation building major component asset information to provide effective base information for building asset renewal and maintenance planning.

Sports and Events Centre

- A significant piece of proposed Infrastructure is proposed to be built in the first three years of the LTP, the Sports and Events Centre. This centre will be a facility that provides improved opportunities for sport and physical activity for all age groups, as well as one that can hold cultural events. The make-up of the centre will be determined following community consultation through the LTP process.

Waste Management Strategy

Continue to develop the Waste Management Strategy to ensure it aligns with WDC future direction. This will include a review of the following Solid Waste and Landfill area topics:

- Replacement of the Oamaru Landfill – now a private transfer station facility owned and operated by Waste Management NZ Limited.
- WDC's decision to encourage the private market to provide waste services wherever possible and appropriate.
- Encourage households and businesses to have access to a range of options for managing and minimising their waste.
- Townships in the Waitaki Valley and Waihemo area have growth challenges affecting waste management facilities.
- Closure of the Palmerston landfill – several years away.
- Removal of the Hampden Landfill.
- Managing the 14 closed landfills to meet consent conditions.
- Monitor and manage littering and illegal dumping throughout the District.
- Peak demands - Townships such as Otematata face some unique seasonal challenges due to their increasing popularity as holiday destinations.
- Waste Minimisation Act compliance – which will require updating of the current Waste Management & Minimisation Plan 2018-24.

5.4.5 RECREATION (& SOLID WASTE) KEY DELIVERABLES

The tables below highlight the significant costs and decisions in delivering the Strategy, with a focus on the actions required in the first 10-year period.

Table 5-10: Recreation Significant Costs and Decisions

Key Deliverable	Indicative Cost/Funding	Indicative Timeframe	Key Challenges Reference
Total Parks Direct Operations and Maintenance Expense (Excludes Depreciation, & Overheads)	$3,273,000	Annually	Asset condition Continuous improvement
Other options: Reduce expenditure - This is likely to impact on service delivery			
Total Indirect Costs	$1,485,000	Annually	Asset condition Continuous improvement
Other options: Reduce expenditure - This is likely to impact on service delivery			
Annual parks assets renewals	$435,000	Annually	Asset condition
Other options: Reduce expenditure - This is likely to impact on service delivery			
Total Solid Waste Direct Operations and Maintenance Expense (Excludes Depreciation, & Overheads)	$1,161,000	Annually	Asset condition Continuous improvement
Hampden Closed Landfill Remediation	$1,500,000	One Off	Asset condition

Note: this does not include renewal budgets / replacement funding

In addition to the anticipated direct infrastructure investment, delivering the infrastructure strategy across Recreation requires the following decisions and non-asset actions:

Table 5-11: Recreation Key Decisions and Non-Asset Actions

Key Non-Asset Deliverable	Indicative Timeframe	Key Challenges Reference
Continue to maintain and update Aquatic Centre building maintenance plan and update on 3 yearly cycle	2021 - 2024	Asset condition Continuous improvement
Review Recreation Strategy 2012 – 2022	2022	Resourcing Continuous improvement
Review Waitaki Reserves Management Plan – 2014 (as required under the Reserves Act 1977)	By 2024	Environment Resourcing Continuous improvement
Review of Waitaki Policy for WDC Trees 2014	2024	Environment Continuous improvement
Review of Public Toilets and Dump Station Plan (2018 – 2028)	2026	Environment Continuous improvement
Aquatic Centre - undertake a building and plant condition assessment by qualified personnel, update building maintenance plan and prepare plant maintenance plan	2022	Asset condition Continuous improvement
Asset data collection/assessment and procedures operating manual development	2023	Asset condition Continuous improvement
Collect and record Recreation building major component asset information to provide effective base information for building asset renewal and maintenance planning.	2021 - 2022	Asset condition Continuous improvement
Review service delivery of Recreation and Waste, resourcing and capacity	2022	Resourcing
Develop a policy around the use of glyphosate for weed control	2022	Environment
Undertake a review of Alps to Ocean governance and management	2022	Resourcing Continuous improvement Asset condition Environment
Expand understanding and planning for waste services in the future	2023	Resourcing Continuous improvement Environment
Develop a Waste Activity/Asset Management Plan	2022-23	Asset condition Continuous improvement

5.4.6 RECREATION (& SOLID WASTE) KEY ASSUMPTIONS

Table 5-12 Recreation Key Assumptions

Key Assumption	Uncertainty	Impact	Our Response/Options	Key Challenges Reference
Climate Change: That the resilience of our recreation assets will be exposed to regular and increasingly severe weather events	Med	That these effects may reduce resilience and accessibility of the recreation assets.	Monitor the impact of climate change and be responsive to changes by building resilience required to WDC's assets. Incorporate impacts into planning and budgeting.	Climate change, coastal erosion and natural hazards
Demographic Changes: That the district will experience a continued change in demographic makeup of its communities, both in ethnicity (increasing Pacifica) and age profile (ageing population)	Low	The ongoing appropriateness and effectiveness of our community recreational assets will need to be monitored.	Ongoing monitoring around signs of deterioration of the district's recreational assets. Regular reviews of levels of service to ensure they are appropriate and achievable.	Demographic change
Asset Information: That our asset information is reliable and sufficient.	Low	Poor asset information quality may impede effective and efficient maintenance, renewals and future development of the recreation assets	Asset information has been assessed as reliable. WDC could increase asset information resourcing.	Asset condition Continuous improvement
Under-investment in recreation assets: In previous years, funding restrictions have been required which have restricted some asset management activities.	Low	Recreational assets cannot be maintained to the agreed Levels of Service stated.	Plan for changing demands. Continue to monitor recreation asset condition and provide forward planning to ensure assets can meet agreed Levels of Service.	Asset condition Resourcing
Skills: That there will be a shortage of technically skilled people.	High	With less technically skilled resources available, projects and maintenance may not be able to be appropriately planned and managed.	WDC is considering the impact of this issue when planning.	Resourcing

Key Assumption	Uncertainty	Impact	Our Response/Options	Key Challenges Reference
			WDC could intervene sooner and divert resourcing to planning for a skill shortage.	

5.5 PROPERTY

5.5.1 PROPERTY STRATEGIC CHALLENGES AND RESPONSES

Figure 5-22: Property Strategic Challenges and Responses

5.5.2 PROPERTY 30-YEAR GOALS

The Property assets are spread across the spectrum of WDC's strategic goals and operations. Ownership of buildings is justified by the activity for which it is intended and/or the certainty that ownership provides.

Recreation, heritage protection, economic development and community support outcomes give rise to asset ownership. These assets provide for strong vibrant communities and contributes to WDC's 'Community Outcomes' as follows:

Economic

- Prosperous District
    - Attractive to new opportunities
    - Support local businesses
    - Foster a diverse economy.

Social and Cultural

- Strong Communities
    - Enable safe and healthy communities
    - Connected, inclusive communities
    - Celebration of our common identity.
- Quality Services
    - Community facilities and services, we are proud of.

Goals:

- To provide safe, effective, efficient and affordable services and facilities to communities which are fit for purpose.
- To build on the recently developed Property AMP, to ensure the following asset management processes are achieved:
    - Continue to develop the Property AMP with associated asset information on the assets, levels of service targets, lifecycle forecasts, ongoing condition assessments, service delivery plans and renewals/capital expenditure forecasts, to provide the following improved outcomes:
- Improved property asset management decision making.
- Ensure 'no surprises' with respect to assets.
- Future developments to cater for growth requirements.

5.5.3 PROPERTY ASSETS

The following assets and services fall under the responsibility of the WDC Property Team:

Table 5-3: Property Assets and Services

Activity/Asset Owner	Property Manager	Landowner
Oamaru Airfield Community Housing Harbour Community Buildings Commercial • Tier One – Land and Buildings • Tier Two – Land only (Endowment). Council Land Holdings Abandoned Properties	Operational Buildings • WDC Offices • Library • Art Gallery • Museum • Opera House • Aquatic Centre • Other service buildings. Residential and Other Council Properties	Community Halls

The Property Team has three distinct management roles:

1. **Activity/Asset Owner** – For this group of buildings and properties, the Property Team is fully responsible for the assets and delivery of services associated with these assets.
2. **Property Manager** – For this group of buildings the Property Team is primarily responsible for building maintenance and related services to support the activity teams responsible for the delivery of the services.
3. **Community Halls** – All community halls are currently managed independently by local community trusts and committees. Council has land ownership obligations for six of the 33 halls, meaning Council has responsibilities in respect of the land at these six sites.

Property Asset Categories:

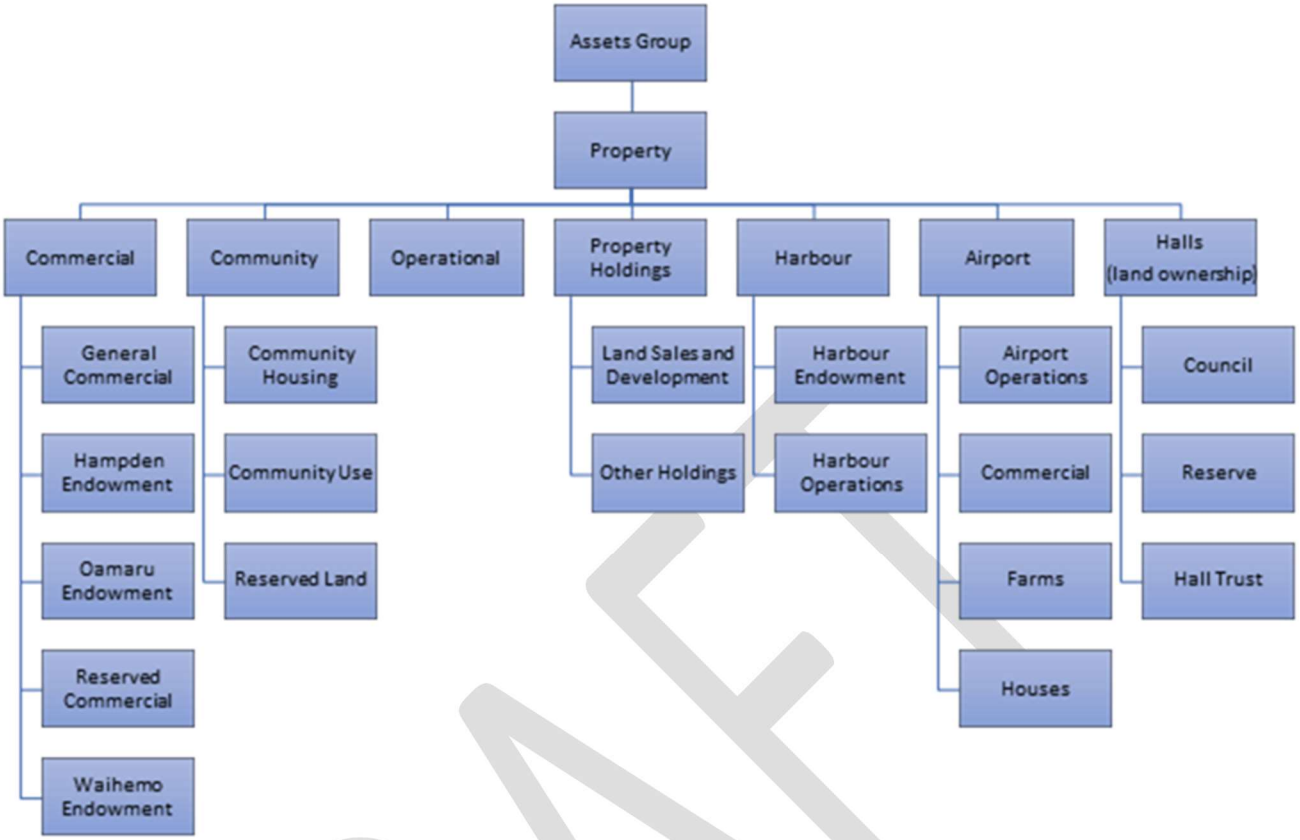


Figure 5-23: Property Categories

Table 5-4: Property Assets Groups and Numbers of Assets

Waitaki Property Asset Groups and Numbers of Assets	
Operational	9
Community Use	10
Community Housing	91
Commercial	7
Commercial – Ōamaru Endowment	28
Commercial – Waihemo Endowment	3
Hall	5
Harbour Endowment	48
Airport	7
Property Holdings	10
Total Number of Property Assets	**218**

A high-level summary of Council's Property unit portfolio is found below.

Figure 5-24: Property Statistics

5.5.4 PROPERTY INFRASTRUCTURE STRATEGY HIGHLIGHTS

5.5.4.1 Oamaru Harbour

The harbour and waterfront areas are used for a wide variety of activities, from commercial to recreational and industrial, as well as being the hub for many groups, clubs, and organisations. It is host to many popular community events and home to a range of marine wildlife, including shags, penguins, and seals. The variety of users and their interests, along with the heritage story and the wildlife in the harbour, creates an interesting space for a mixture of needs.

Maintaining structures and navigation facilities to safely access the coastal marine area is considered a critical infrastructure service.

The Oamaru Harbour asset management improvements include improvements to the following:

- buildings
- wharves
- ongoing dredging of channels
- slipway upgrade.

Currently the 'Oamaru Harbour Plan 2020 and Beyond, Property Strategy' exists and is to be reviewed in 2025.

5.5.4.2 Oamaru Airport

Currently the Oamaru Airport comprises a single sealed runway and two grass runways. It also provides for night flying with lighting and is currently a non-certificated airfield. There are a range of buildings including a WDC owned terminal building, control tower, various hangars and other aviation related buildings owned by lessees.

Airfield capability plays a critical role in emergency civil defence planning for the District.

The Oamaru Airport property developments are considered an asset area requiring improvement in the future. Improvement items such as the following will be considered:

- runway replacement
- lighting upgrades
- additional hangers.

These improvements are proposed to enable new business opportunities and to retain the level of service that we currently have.

5.5.4.3 Property asset information and systems improvements

Property asset information and systems improvements. Including improvements to the processes associated with:

- The current WDC asset management system (AMS) (Hansen) has not been used for property and building assets. A new AMS (Adapt) is being implemented, with the intention that this will be used for property asset information.
- Property asset condition assessments. Currently there is limited data which in the majority of cases has been classified as "Uncertain" data confidence. In future it is planned to undertake a building condition assessment by qualified personnel and prepare long term (30yr) Building Maintenance Plan.

- Compliance with BWOF requirements.
- Compliance Earthquake Prone Buildings Regulations requirements.
- Asbestos identification and management plans – currently limited.
- Water tightness and structural integrity assessments of many historic buildings (especially local stone cladding buildings).

5.5.4.4 Community Housing

Currently the Property team manages 91 Community Housing units, across nine sites in the District. These are 1 bedroom or bedsit self-contained units.

The supply of housing is primarily for over 60's and also for people with limited incomes/assets or other identified needs.

It is planned to undertake an improvement process to look at the following:

- Review the Community Housing Policy.
- Identify the changing core requirements of Community Housing tenants in the existing assets (e.g. more vehicle/motorised scooter parking/garaging, reconfigure bedsit units to one-bedroom units).
- Determine the intent of Council's role in an expected increasing demand for Community Housing, not just in urban areas.

5.5.4.5 Community Halls Strategy/Policy

It is planned to undertake the preparation of a Community Halls Strategy/Policy to address the provision and management of Community Halls across the District during the period 2025-2030.

5.5.5 PROPERTY KEY DELIVERABLES

The tables below highlight the significant costs and decisions in delivering the Strategy, with a focus on the actions required in the first 10-year period.

Table 5-5: Property Significant Costs and Decisions

Key Deliverable	Indicative Cost/Funding	Indicative Timeframe	Key Challenges Reference
Maintain the desired functionality and compliance of WDC owned properties to meet LoS targets	Existing Budget	2020 - 2050	Asset condition Continuous improvement
Other options: Some services could be outsourced. Level of services could be reviewed.			
Oamaru Airport - Improvements to compete for business opportunities and to provide ongoing maintenance.	$2.1m + inflation	2021 - 2030	Asset condition Continuous improvement
Other options: Airport masterplan review may provide other options.			
Oamaru Harbour – Breakwater maintenance, dredging, slipway upgrade	$2.8m + inflation	2021 - 2031	Asset condition Safety Climate change and natural hazards
Other options: Oamaru Harbour Plan 2020 and Beyond considers other improvement options			
WDC HQ building developments	$4.0m + inflation	2021 – 2025?	Asset condition Continuous improvement
Other options: Consider alternative accommodation arrangements including lease or development of Council owned buildings			

In addition to the anticipated direct infrastructure investment, delivering the infrastructure strategy across Property requires the following decisions and non-asset actions:

Table 5-6: Property Decisions and Non-Asset Actions

Key Non-Asset Deliverable	Indicative Timeframe	Key Challenges Reference
Continue to develop improved Property asset management processes to enable more effective decision making and long-term asset planning	2021-2025	Asset condition Resourcing Continuous improvement
Undertake the preparation of a Community Halls Strategy to address the provision and management of Community Halls across the District	2025-2030	Demographic change
Ongoing research and monitoring of demographic and social changes and funding opportunities for community housing initiatives	2024-2025	Demographic change
Ongoing monitoring of harbour marine assets in relation to impacts of sea level rise and storm impacts	2021-2025	Climate change and natural hazards Resourcing

5.5.6 PROPERTY KEY ASSUMPTIONS

Table 5-7: Property Key Assumptions

Key Assumption	Uncertainty	Impact	Our Response/Options	Key Challenges Reference
Climate Change: That the resilience of our property assets will be exposed to regular and increasingly severe weather events	Med	That these effects may reduce resilience, functionality and accessibility of the property assets (e.g. at the Harbour)	Monitor the impact of climate change and be responsive to changes in resilience required to WDC's property assets. Design future property developments with these impacts in mind.	Climate change and natural hazards
Demographic Changes: That the district will experience changes associated with an ageing population.	Low	That this will change the needs and property requirements of the community.	Regular reviews of levels of service to ensure they are appropriate and achievable.	Demographic change
Asset Information: That our asset information is reliable and of sufficient quality to allow effective decision making.	Low	Poor asset information quality may impede effective and efficient maintenance, renewals and future development of property assets	Property asset information requires development along with the Property AMP. WDC may need to increase asset information resourcing and process effectiveness.	Continuous improvement Asset condition
Under-investment in property assets: In previous years, funding restrictions have been required which have restricted some asset management activities.	Low	Property assets cannot be maintained to the agreed Levels of Service stated.	Plan for changing demands and agreed Levels of Service needs. Continue to monitor property assets condition and provide forward planning to ensure assets can meet agreed Levels of Service	Asset condition Resourcing
Skills: That there will be a shortage of technically skilled people.	High	With less technically skilled resources available, projects and maintenance may not be able to be appropriate planned and managed.	WDC is considering the impact of this issue when planning. WDC could intervene sooner and divert resourcing to planning for a skill shortage.	Resourcing

5.6 FINANCIAL IMPACTS

The Local Government Act 2002 Amendment Act Section 101B – Infrastructure Strategy states:

(4) The infrastructure strategy must outline the most likely scenario for the management of the local authority's infrastructure assets over the period of the strategy and, in that context, must—

"(a) show indicative estimates of the projected capital and operating expenditure associated with the management of those assets—

"(i) in each of the first 10 years covered by the strategy; and

"(ii) in each subsequent period of 5 years covered by the strategy

Therefore, it is important to note that each year is shown for the first ten years and then the average for each three-year period within the graphs below.

5.7 PROJECTED CAPITAL EXPENDITURE

The projected capital expenditure associated with the significant infrastructure assets are graphically represented as follows:

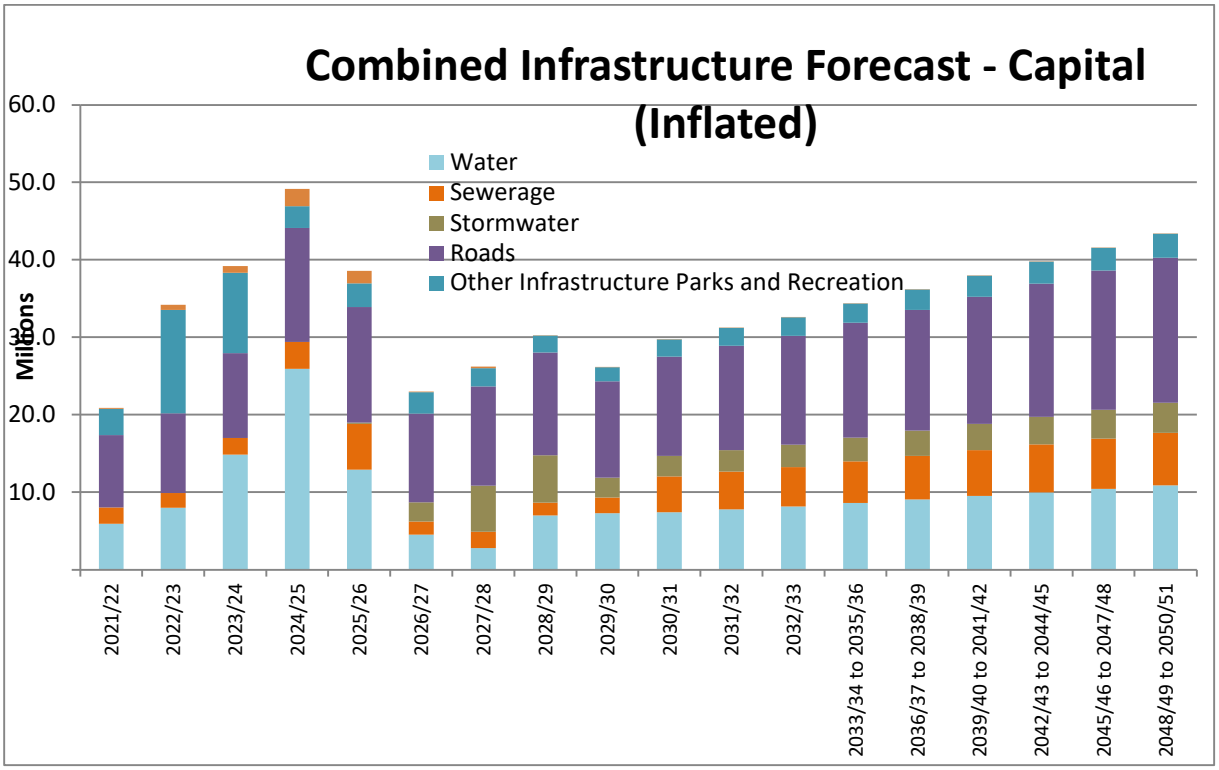


Figure 5-25: Combined Infrastructure Forecast - Capital

5.7.1 3 WATERS

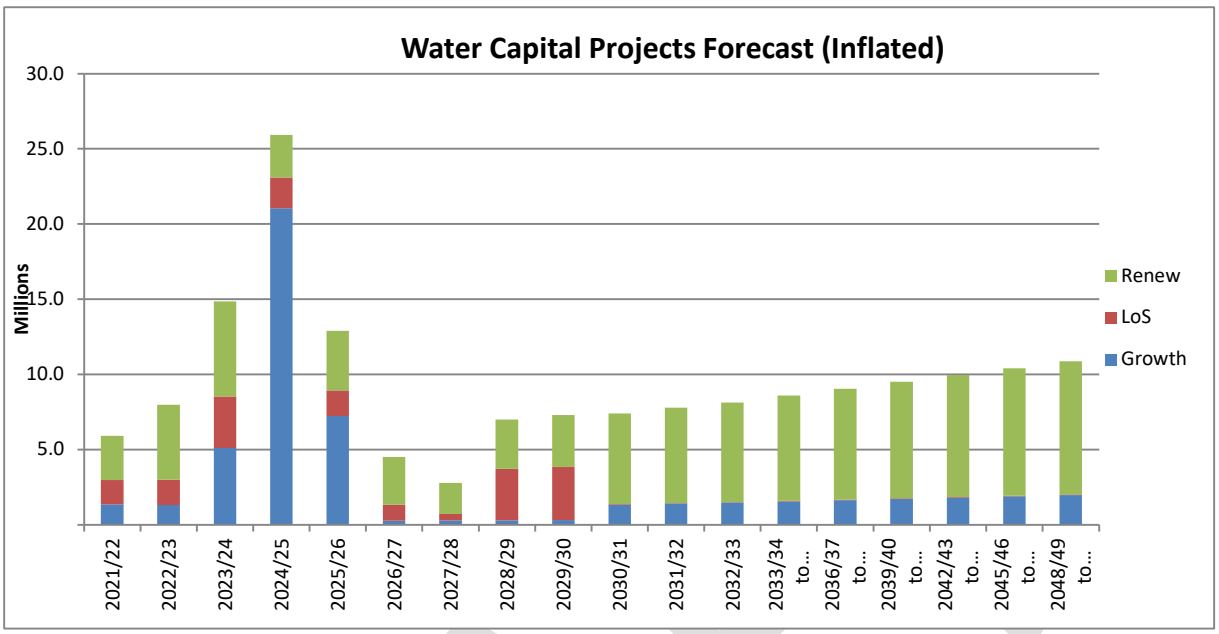


Figure 5-26: Projected Forecast – Water (Inflated)

Note: 2018/23 Level of Service (LoS) work includes the remaining drinking water upgrades on WDC's smaller water supplies. It is planned to increase the capacity of the Oamaru water treatment plant in 2024/25 by increasing the number of membrane cells at the plant, as well as making improvements to the Redcastle Raw Water Pumping Station and Ardgowan Dam..

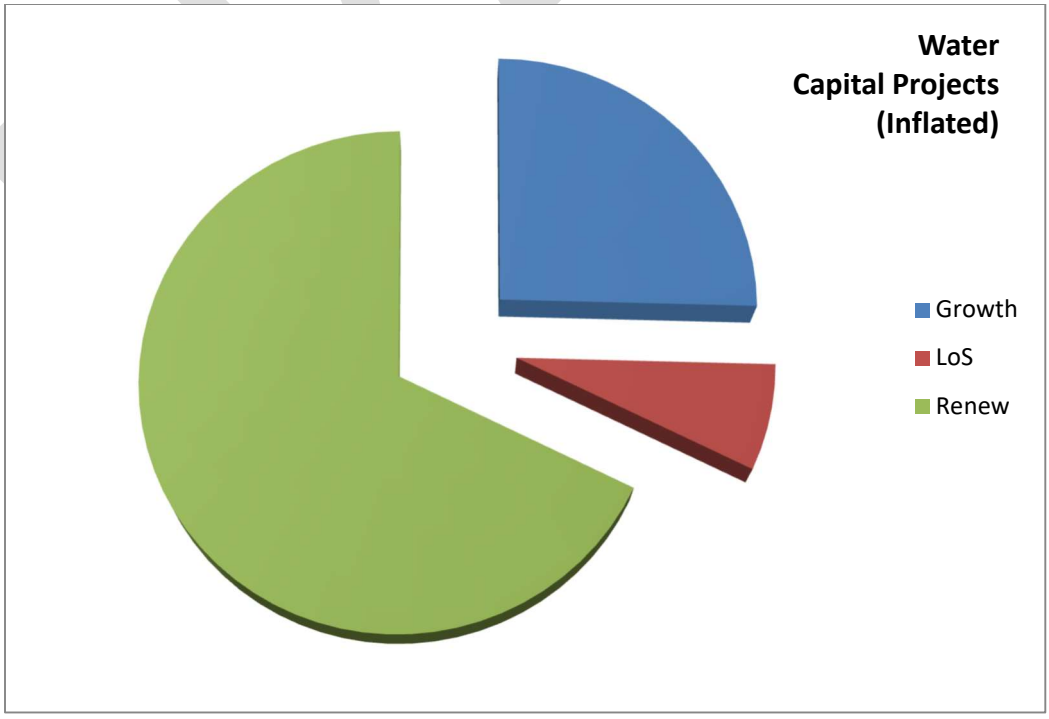


Figure 5-27: Projected Capital Expenditure – Water (Inflated)

This figure (and similar ones for Sewerage and Stormwater) show the portion of overall capital expenditure on the three areas of growth, level of service and renewals. The bulk of capital expenditure is on renewal work for the assets already in place over the life of the plan with much of the level of service work impacts when treatment plants are being upgraded.

5.7.2 SEWERAGE

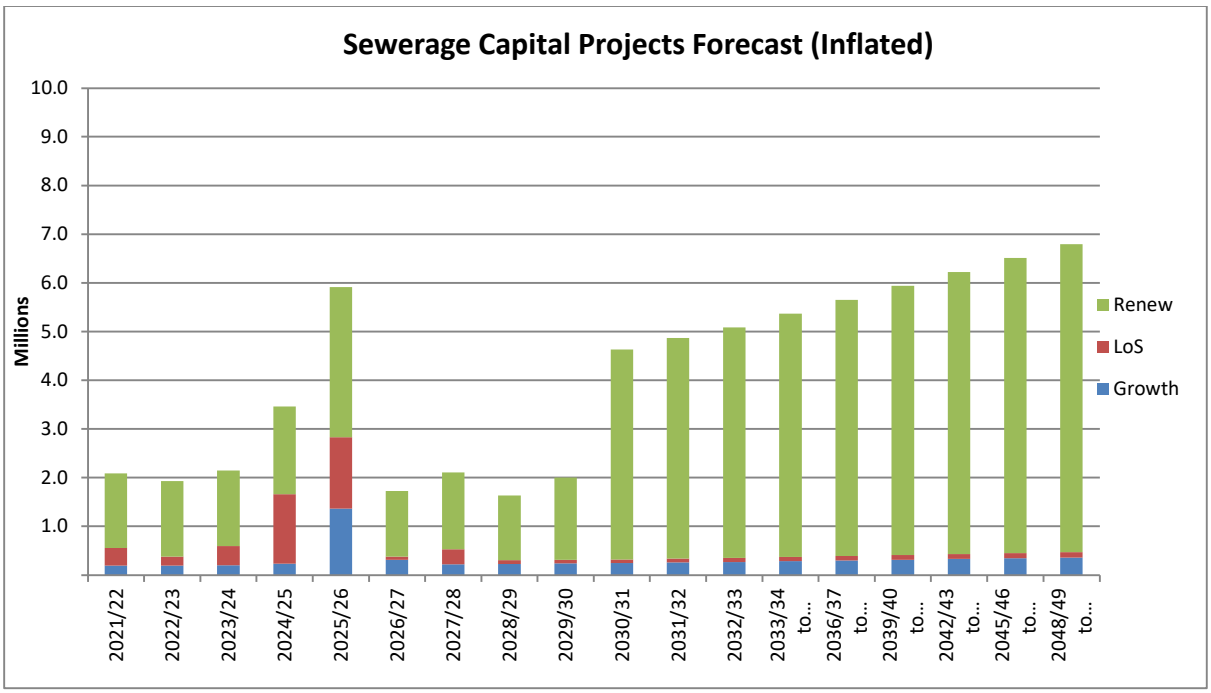


Figure 5-28: Projected Forecast – Sewerage (Inflated)

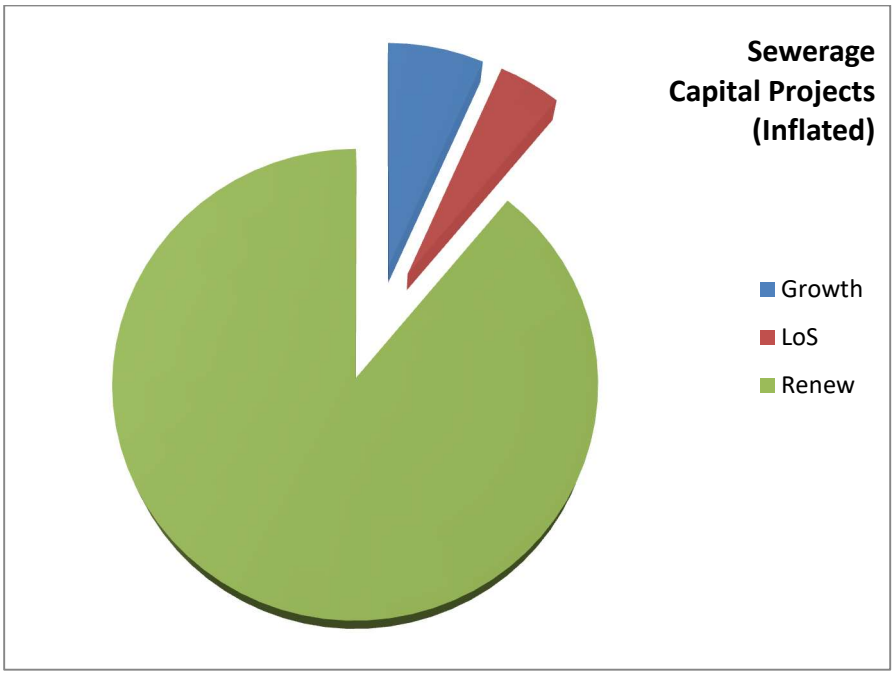


Figure 5-29: Projected Capital Expenditure – Sewerage (Inflated)

5.7.3 STORMWATER

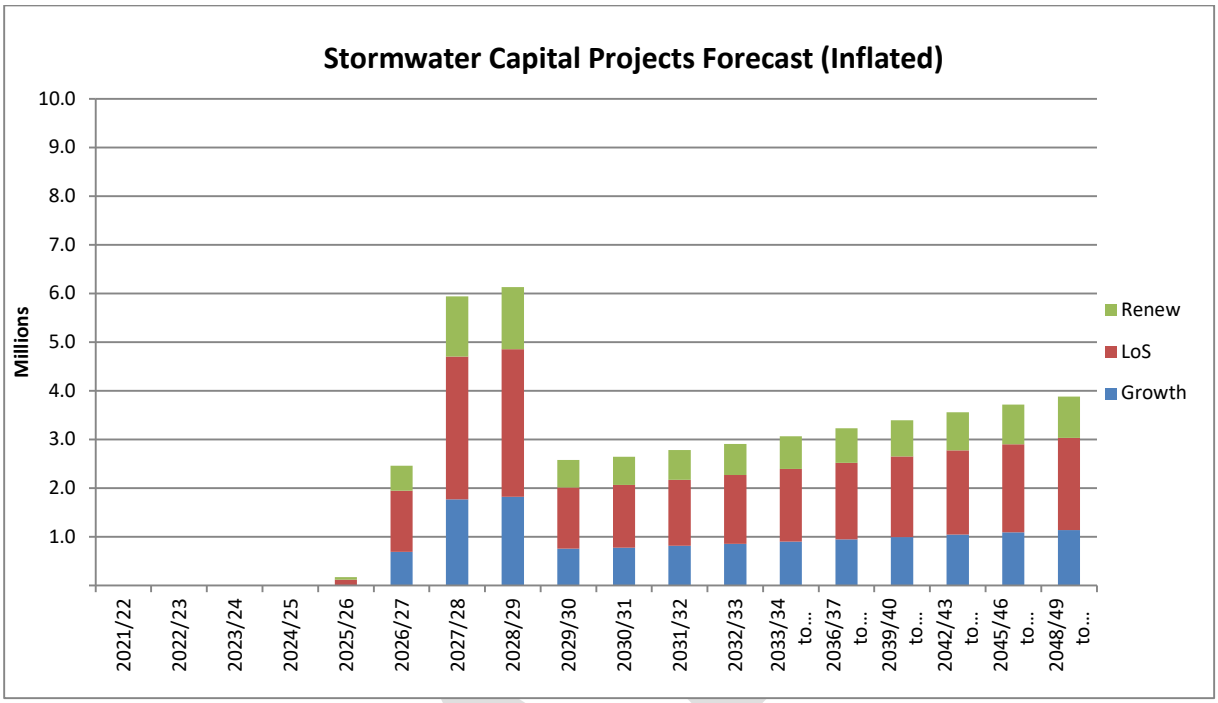


Figure 5-30: Projected Forecast– Stormwater (Inflated)

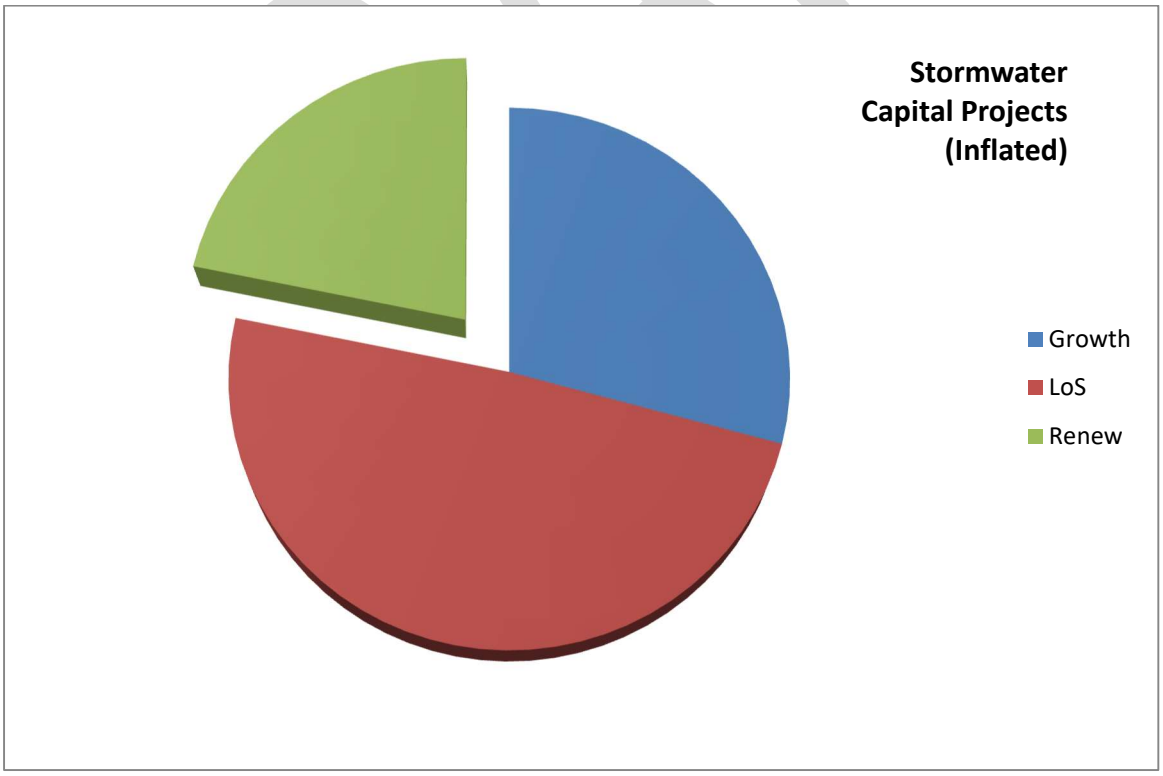


Figure 5-31: Projected Capital Expenditure – Stormwater (Inflated)

5.7.4 ROADS AND FOOTPATHS

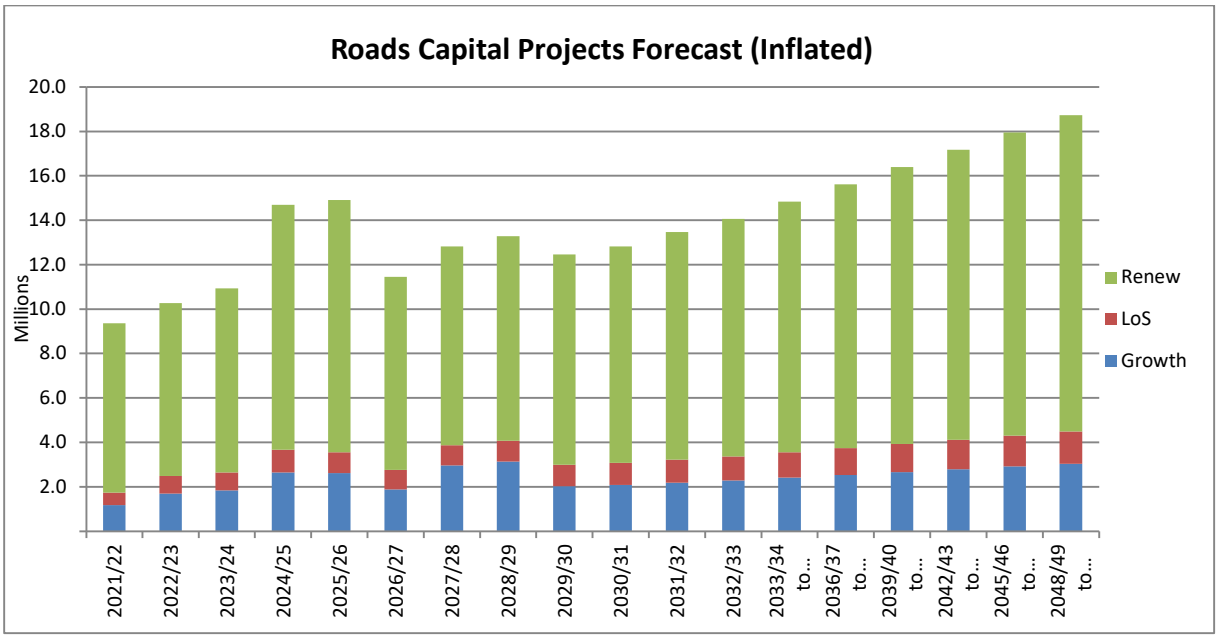


Figure 5-32: Projected Forecast – Roads and Footpaths (Inflated)

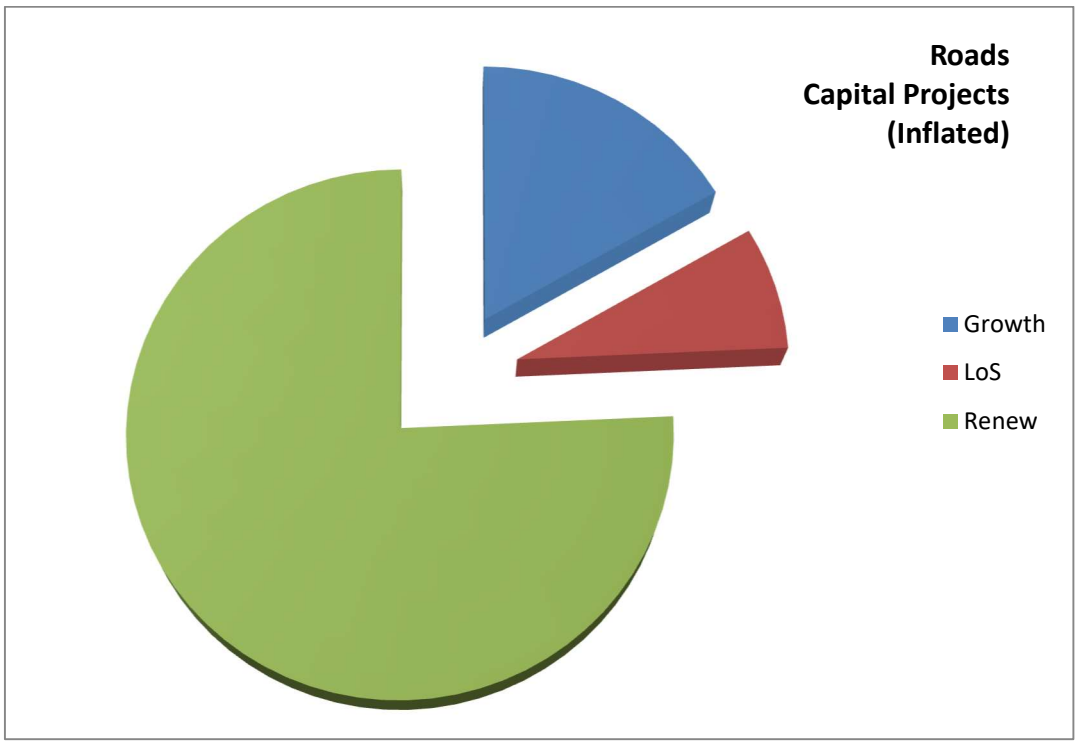


Figure 5-33: Projected Capital Expenditure – Roads and Footpaths (Inflated)

5.7.5 RECREATION

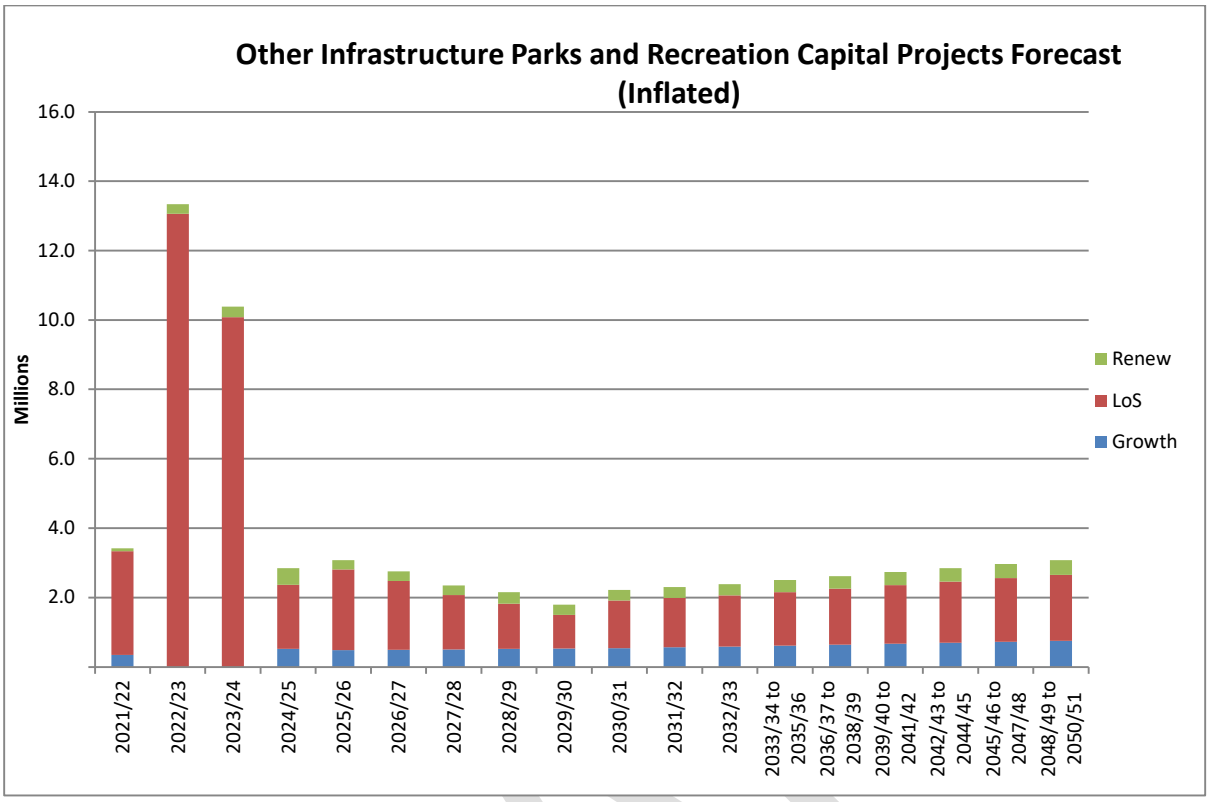


Figure 5-34: Projected Forecast – Recreation

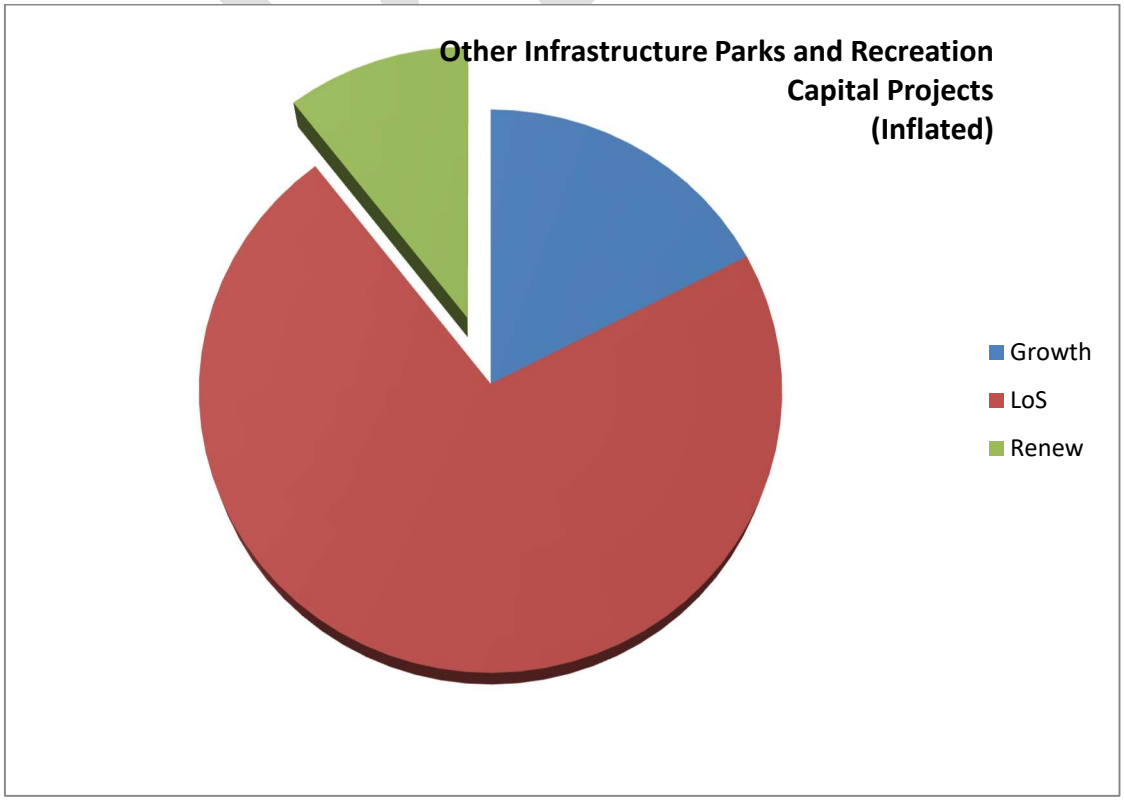


Figure 5-35: Projected Capital Expenditure – Recreation

5.7.6 PROPERTY

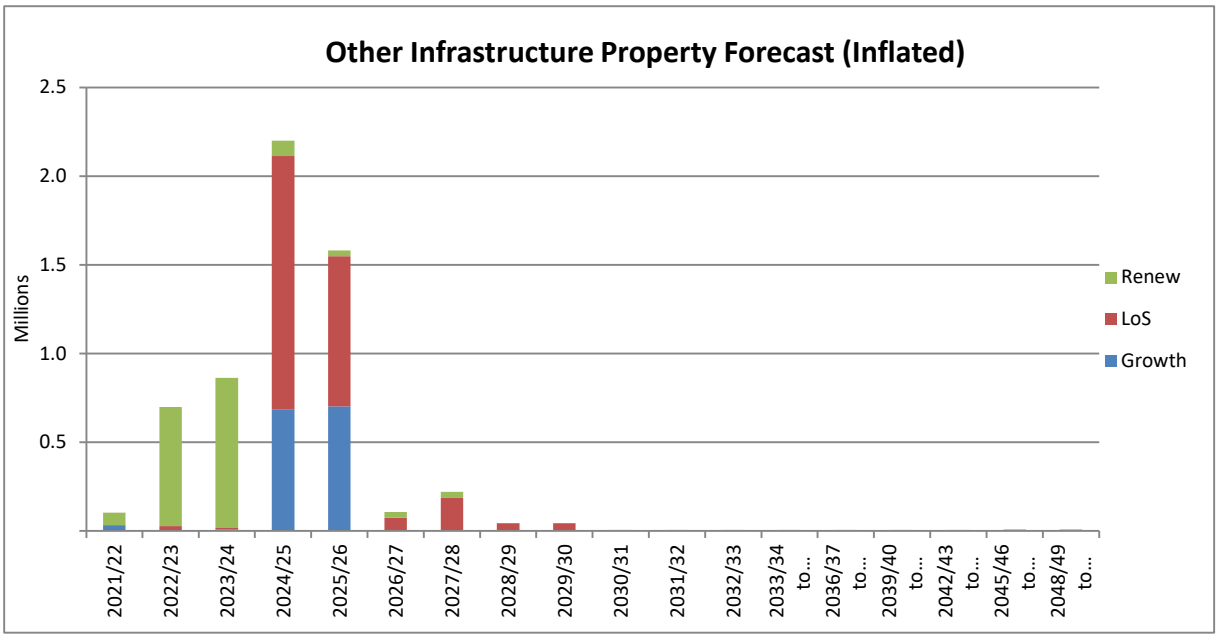


Figure 5-36: Projected Forecast – Property

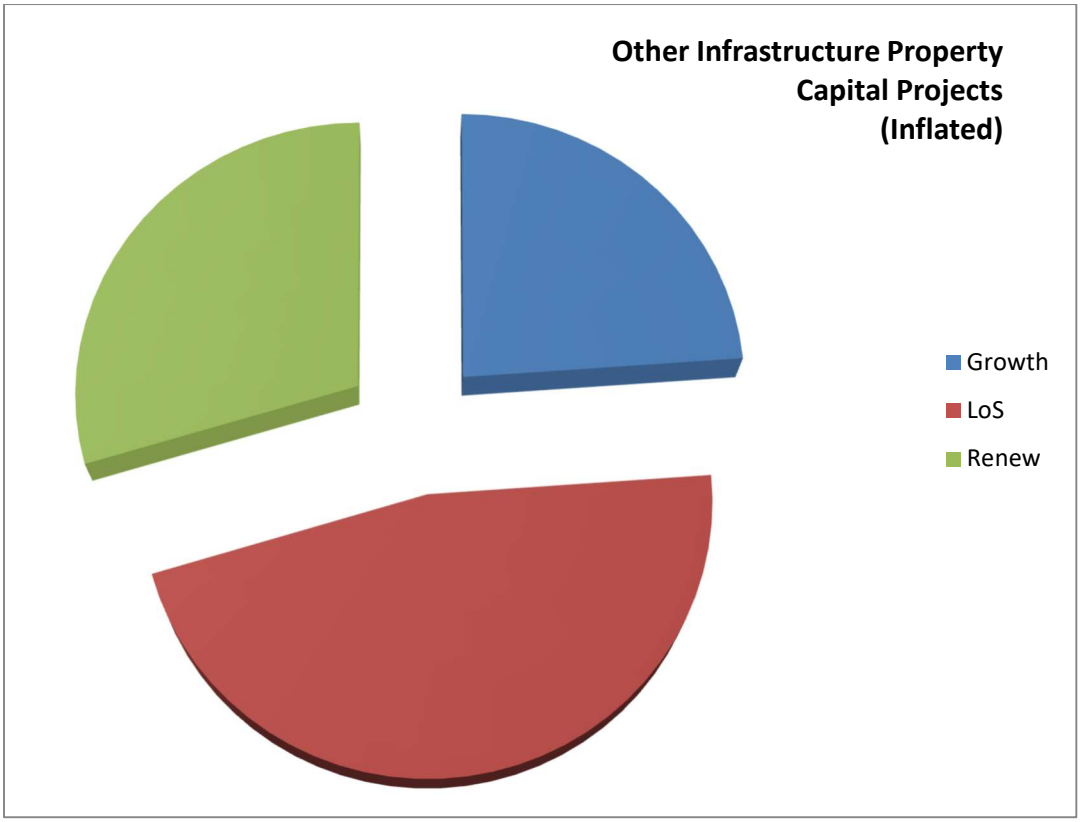


Figure 5-37: Projected Capital Expenditure – Property

5.7.7 COMBINED INFRASTRUCTURE EXPENDITURE

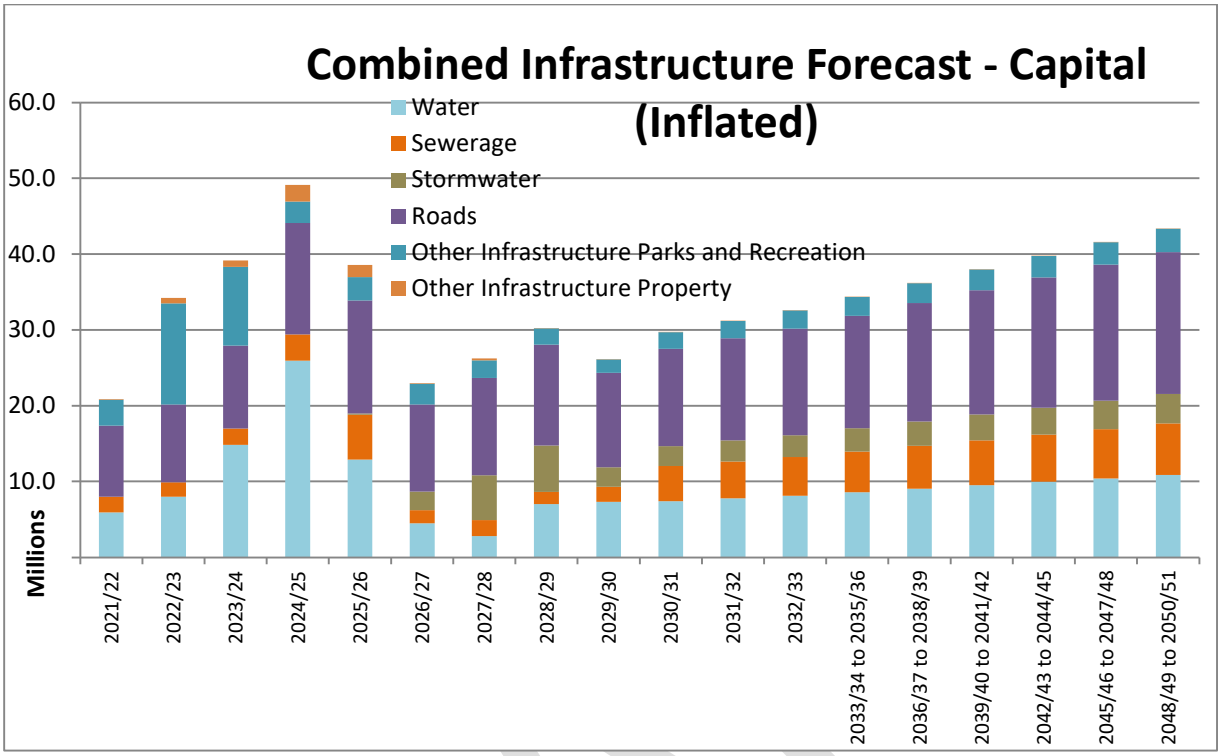


Figure 5-38: Combined Infrastructure Forecast– Capital (Inflated)

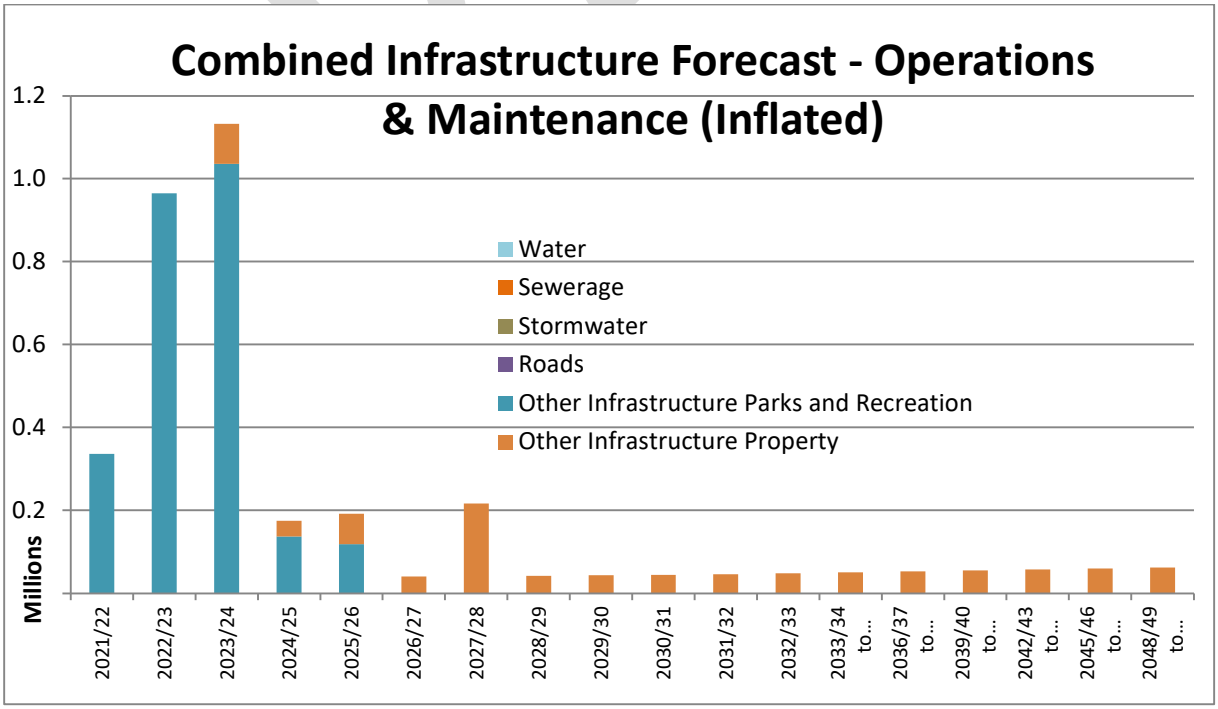


Figure 5-39: Combined Infrastructure Forecast – Operations and Maintenance (Inflated)

ATTACHMENT 1 SIGNIFICANT FORECASTING ASSUMPTIONS 2021-2031

Assumption grouping	'What' – the strategic issue	Forecasting assumption/s	Risk if assumption is not correct (refer key) • Insignificant • Minor • Moderate • Major	Level of uncertainty (degree of confidence/level of information) (refer key) • Low • Medium • High	Potential effects and mitigation measures (on Council financial estimates)
Demographics	**Population profile** – the demographic make-up of the community influences the services that Council provides to the local community, and how Council may empower and enable communities to express and celebrate their diverse cultural heritages.	In 2018, 33% of the population in Waitaki is in the 44-65 age category, 25% in the 15-39 age category, and 23% in the over 65 age category. The over 65 category in Waitaki is well above the New Zealand national average of 15%. The 15-39 category in Waitaki is lower than the national average of 34%. <Stats NZ Population by age 2018> In 2018, 3.7% of Waitaki's population were identified as being of Pacific origin. 7.9% of Waitaki's population was identified as being Māori, and 5% Asian. The proportion of Pacific Islanders and other migrant groups living in our community may still be underestimated, and this population will continue to rise slowly. <Stats NZ Population by ethnicity 2018>	Insignificant The mix of ages and ethnicities within the population is significantly different than forecast impacting on the range and type of services provided and facilitated by Council.	Medium	The higher proportion of people aged over 65 requires a focus on ensuring there are appropriate facilities and services for older people. In this sector of the population, many people are on fixed incomes, and management of rates affordability impacts on this group is important to Council. Changes to projected population may place increasing pressure on some Council services due to increased demand over time. Council will continue to monitor demographic change in the District and adapt or redirect activities to meet needs where possible within reasonable cost increases in population can be managed within the existing level of service. An underestimated Pacific population in the official statistics records may also misrepresent the make-up of the district's population, and their needs may not be met. It is also noted that the 2018 Census had the lowest response in fifty years and therefore the data is less complete than in previous censuses.
	Population growth - affects the demand for Council services and infrastructure, and the ability to cover the costs. Slower or faster population growth may impact service levels, infrastructure expansion, renewal programmes, and costs (where there is an increased or decreased rate requirement).	The population in the District in 2018 was 23,000 (2018 census data). Council is planning for an average population growth of 8% to 2043. This is part-way between the Stats NZ high and medium population projections (2018). • The population is projected to grow by 20% to 27,600 by 2043. This represents the Statistics NZ high projection. • The population is projected to grow by 4.78% to 24,100 by 2043. This represents the Statistics NZ medium projection. • The population is projected to decline by 10.4% to 20,600 by 2043. This represents the Statistics NZ low projection.	Insignificant The population may change at rates different than projected. A reduction in population will impact the rating base and the ability of communities to fund services. Either scenario could result in Council's planned services not matching community requirements.	Low	Over or under-estimating the demand for services based on planned growth (positive or negative) can have a significant effect on financial estimates. The potential effects include: • The availability of funding to sustain services • Changes in estimates to reconfigure service levels, e.g. there can be an additional cost, albeit short-term, to scale back service. • Underestimated demands for service results in a 'catch-up' scenario where a Council and community face a reactive situation. Financial estimates are likely to be more robust and reliable in a planned approach. • A growth scenario is likely to have a positive impact on the rating base. Council will continue to monitor population growth change in the District and adapt or redirect activities to meet needs

		<Stats NZ Population growth 2018>			where possible. Generally, small increases in population can be managed within existing levels of service. Where growth requires additional infrastructure (e.g. through subdivisions), Council can require development and financial contributions. Costs over this amount may result in additional Council expenditure. Council's rating base is reviewed annually.
	Household change – indicates what the future demand for housing stock is likely to be	Council is planning for an average household change of 8% to 2043. This is part-way between the Stats NZ high and household change projections (2018). • Between 2018 and 2033, 1200 more households are anticipated (+12%). This represents Statistics NZ high projection. • Between 2018 and 2033, 600 more households are anticipated (+6%). This represents Statistics NZ medium projection. • Between 2018 and 2033, there is no change to household numbers anticipated (0%). This represents Statistics NZ low projection. <Stats NZ Households 2018>	Insignificant Household change across the District may occur at a higher or lower rate than expected.	Low Slower rates of growth may mean some activities have overinvested in infrastructure	Council will continue to monitor household change in the District. Where growth requires additional infrastructure (e.g. through subdivisions), Council can require development and financial contributions. Costs over this amount may result in additional Council expenditure.
Affordability	**Average household income –** helps to inform affordability issues.	The average household income in Waitaki in 2018 is $79,200. This compares to the national average of $104,400 and 95,100 in the Otago region. <Stats NZ Income and Earnings 2018>	Minor Economic pressures lead to more residents defaulting on rates payments than expected. This may be exacerbated post COVID-19.	Low	Council is mindful of the high number of fixed income households in the District, particularly as the population is projected to continue to age. Kiwisaver has now been in place for 13 years and is anticipated to a positive impact on affordability, but this is not yet quantified. In a post COVID-19 economy, the District's ratepayer base may face even more constrained household budgets. The issue of affordability of services is relevant when setting fees and charges and rates. Council is taking a cautious approach to prospects for the district's economy, noting that the ageing demographic will mean older residents who are no longer in employment and potentially less able to afford increasing rates.

	3 waters – drinking water, wastewater and stormwater	Across New Zealand there has been underinvestment in three waters infrastructure along with the need for additional investment to meet improvements in national freshwater outcomes, increase resilience to climate change and natural hazards, and enhance community wellbeing. In light of this, Central government is reviewing how to improve the regulation and supply arrangements of the three waters to better support New Zealand's prosperity, health, safety and environment. At this stage, Council is assuming that it will continue to deliver these services over the life of this LTP, however, through the three waters review, central government has indicated its intention to provide funding to stimulate investment to enable improvements in water service delivery, and support economic recovery and progress. The mix of funding will be determined by Council through a delivery plan. Should the proposed Government reforms result in the transfer of the 3 Waters activity to an external operator, there are likely to be material consequences for Council's overall operations – financial position, financial forecasts and financial strategy. The full implications of such a significant change cannot be accurately assessed until the full scope and detail of the reforms and related financial arrangements are known. • At 30 June 2020, the book value of assets potentially affected by the reforms was: Water Supply schemes $75m Sewerage schemes $39m Stormwater/Drainage $18m Assets work in progress $3m TOTAL $135m • Assets included in these three categories will be revalued at 30 June 2021, and then every three years after that. Each revaluation is expected to result in significant increases in the value of the assets – over the life of this LTP, revaluations are projected to add $62m to the total value of 3 Waters assets • Over the life of this LTP, Council anticipates capital expenditure amounting to: Water Supply schemes $96m Sewerage schemes $40m Stormwater/Drainage $20m TOTAL $156m	Moderate Council may be required to undertake significant capital works in relation to drinking water.	High	Council has accepted and signed an MoU with central government, and is participating in exploring future service delivery options including: • Publicly owned water service delivery entities of a significant scale e.g. multi-regional with preference for a collective Council ownership • Delivery of drinking and wastewater services as a priority • Mechanisms to enable community input

		• Council uses internal loans to ensure inter-generational equity for much of the works associated with 3 Waters projects. At 30 June 2020, balances outstanding on internal loans were: Water Supply schemes $11m Sewerage schemes $2m TOTAL $13m Council expects to continue to utilise internal loans for much of the capital expenditure projected in this LTP • Over the life of this LTP, the following operating impacts are anticipated – Rates income Water Supply schemes $96m Sewerage schemes $35m Stormwater/Drainage $8m TOTAL $139m Operating revenue Water Supply schemes $0.5m Sewerage schemes $3.5m TOTAL $4m Operating expenses Water Supply schemes $44m Sewerage schemes $18m Stormwater/Drainage $0.6m TOTAL $62.6m Internal charges budgeted to be recovered by other business units based on timesheets and other bases Water Supply schemes $23m Sewerage schemes $11m Stormwater/Drainage $3m TOTAL $37m Further information concerning the activities covered by the reforms can be found in the 3 Waters part of the significant activities section of this plan where Funding Impact Statements show forecast operating funding and application of that funding, capital expenditure and capital funding over the life of the LTP. The proposed water reforms are expected to have potentially significant effects on other Council business units, particularly those providing support and other services to the 3 Waters business unit. The specifics of those impacts cannot yet be determined but will be assessed by Council as part of its analysis of the final proposal when this is received.			

	Roading	There is need for increased funding to maintain or increase levels of service in the roading network where possible within the NZTA approved allocation.	Moderate	Medium	The Council remains of the view that the roading network is vital infrastructure and that it is important to maintain the current levels of service. If Council receives less subsidy from NZTA than expected, there is likely to be an increase in the level of service associated with data collection and planning, and no change to its level of service in the roading network. The increase in planning is required if co-investment from central government is limited to prioritise all work to mitigate any level of service reduction resulting.
	Capital works – programmes and projects	Programmes and projects are delivered within budget and on time.	Moderate Actual costs may vary from estimates resulting in budget shortfall.	Low	Projects may be carried forward if not completed as planned, and if the work is still considered to be needed. Any consistent backlog of work will have an impact on levels of service. This may result in increased costs due to inflation, possible reduction in levels of service, possible additional reactive operational expenditure.
	Asset depreciation rates	No changes are assumed.	Insignificant Additional work on planned capital works may change depreciation expenses.	Low	Asset life is regularly reviewed through asset monitoring and testing. Although depreciation rates are determined in accordance with relevant accounting policies, based on expected economic lives of individual assets, Council may resolve to not fully fund selected assets or classes of assets as circumstances dictate.
	Asset revaluations	Asset revaluations occur three yearly on the following cycle: • Property, Parks & recreation 2022, 2025, 2028, 2031 • Roading activities 2023, 2026, 2029 • 3 Waters activities 2024, 2027, 2030 These are expected to be in line with price level adjustments.	Minor Periods of high inflation or changes in technology may affect the value of assets (and therefore depreciation and rates) requiring revaluations outside of the normal cycle.	Low	Revaluations take place regularly. Fair value of assets is assessed annually between the regular three-yearly revaluation cycle to ensure that values are not overstated
	Asset replacement and useful life	Council infrastructure is aging and will require ongoing renewal and upgrades. Assets will be replaced at the end of their economic life. Asset information is reliable and reflects the condition and performance of the assets. Useful lives of significant assets are detailed in Asset Management Plans (AMPs) which provide information to support the replacement and renewal of Council infrastructure. Significant assets will not fail earlier than estimated.	Moderate Council's renewal profiles may be inaccurate. Asset lives may be shorter than expected. There may be inadequate replacement reserves.	Low	Asset Management Plans and data are regularly reviewed and updated. Assumptions on asset lives are independently reviewed as part of the revaluation process. If assets require replacement more quickly, capital expenditure projects may need to be brought forward. Asset life is reviewed regularly through asset monitoring and testing. Council has the ability to bring capital projects forward if assets wear out earlier than projected. Mitigation may involve reprioritising the capital expenditure programme.

	Sources of funds for future replacement of significant assets	Council will 'cash-fund' depreciation on assets, particularly those with significant intergenerational equity, including: • Water Sewer and Stormwater infrastructure • Roading network • Council operational properties • Computer and other key Council systems In other cases, depreciation will not be cash funded, for example on community buildings and harbour structures. Council may also resolve not to cash-fund depreciation in instances where there are sufficient reserves on hand or for other reasons. Council maintains various reserve funds for cash funded assets. These include bequests, depreciation or asset renewal reserves, financial contribution reserves, and development contribution reserves. These are used when projects meet specific criteria. Council will borrow if there is a shortfall in the total funding required.	Moderate The risk that the cost of replacing significant assets materially exceeds the level of deprecation and forecast borrowing. Risk associated with borrowing includes exposure to future interest rates, access to funding, and the rating base servicing depreciation funds.	Medium	Council models renewal requirements and associated expenditure. If the asset replacement proves more expensive than the forecast, further borrowing will be required.
	Resource consents	Council is anticipating upcoming renewal requirement for resource consents e.g. sewer.	Minor Conditions of resource consents altered and significant new compliance costs or consents cannot be renewed as expected.	Medium	Budgets are in place for renewal of resource consents.
	Technology	Advances in technology over the life of the plan could change the way activities are carried out, the forecasts are based on known technology as currently applied within Council.	Insignificant The economic lives of network assets (particularly waste water) may change due to future technologies that remove the need for a reticulation network. New technology could change the way activity is carried out, affecting both financial estimates and levels of service.	Low	The impact of changing technology is unknown but is reviewed on an ongoing basis and would be considered in the next Long-Term Plan. The effects in the interim would be considered in Annual Plans and provided for where necessary.

Organisation	Council political structure	There are no anticipated changes to Council's political structure.	Insignificant	Low	Formal reviews will be undertaken through representation review processes or formal processes driven either by the community, Council or central government.
	Resource constraints, procurement of contractors, human resources and materials	The ability to procure contractors and human resource for Council may be diminished due to other work underway in the district and surrounds. The supply of skilled persons in some areas of Council is limited across the whole of New Zealand, and not just in the Waitaki District. The impacts of COVID-19 may shift the demand of contractors.	Moderate May disrupt delivery of established levels of service.	Medium	Council and its Management Team review its budget annually through the Long-Term Plan/Annual Plan process and can adjust work programmes/budgets as necessary.
	Levels of service	Levels of service will be maintained unless otherwise stated for the duration of the 2021-2031 Long Term Plan.	Moderate External factors such as increased uncertainties post COVID-19 may influence levels of service discussion.	Medium	Service levels may need adjusting in response to issues identified by the community or other external factors. Council and its Management Team review its budget annually through the Long-Term Plan/Annual Plan process and can adjust work programmes/budgets as necessary.
	Costs	Costs are anticipated to be stable over the lifetime of the Plan based on historical trends. Capital expenditure estimates are based on Council's best estimates and known planned expenditure.	Minor Costs are higher or lower than expected e.g. contracting costs, resource costs.	Low	Council and its Management Team review its budget annually through the Long-Term Plan/Annual Plan process and can adjust work programmes/budgets as necessary.
	Technology	Changes in technology will impact on the delivery of key activities e.g. Online Council meetings, more information available on-line. There will be likely greater access to fibre connectivity resulting in greater use of online digital services. There may be less demand for face-to-face customer service. Artificial intelligence is likely to alter the way Council delivers its services.	Insignificant	Low	Council will continue to monitor the impacts of technology on activities and services.
	Debt levels	Council has determined that membership of the Local Government Funding Agency will enable it to access necessary external funding to ensure that key projects and operations can progress	Minor Debt levels differ from forecast due to increased uncertainty in the economy post COVID-19	Medium	To achieve desired outcomes for the communities of the Waitaki District, Council has determined that it is desirable to undertake a programme of external borrowing for cash flow requirements. Borrowing requirements are strictly monitored and reported on a regular basis. Refer to the Liability and Investment Management Policy.

	Return on investments	Returns from bank deposits and other investments are expected to remain depressed over the term of the LTP. Interest rates projected in this LTP range from 2.65% to 5% over the life of the plan. Over the same period, dividends from CCO's are expected to remain steady. The focus of the forestry activity over the term of the LTP will be on re-establishing Council's forestry holdings for future harvesting.	Moderate Interest rates may vary from those projected.	Medium	Forecast returns may vary from forecast. Refer to investment portfolio breakdown.
	Credit availability	Credit will be available if required on competitive terms and conditions.	Insignificant	Low	Credit may not be obtained when required and funding is required from another source. Council will continue to maintain prudent debt levels.
	Borrowing costs	Council expects to borrow externally over the life of the Plan in order to provide adequate funding to progress capital projects for the benefit of its communities. Council also utilises internal debt, and expects to charge interest at rates that range from 2.9% to 3.75% over the life of this long-term plan.	Moderate	Low	Aside from planned borrowing, Council may also need to borrow externally for unanticipated events e.g. sudden and material service level failure and/or rates of borrowing are higher than forecast. Council would first consider internal loan funding using reserve funds or using overdraft facilities, depending on its assessment of the viability of the options available. Refer to the Liability and Investment Management Policy.
	Insurance costs and natural disaster financing	**Insurance costs -** Insurance premiums will continue to rise at rates in excess of inflation to take into account the effects of previous earthquake and weather events on the insurance industry nationally. Council will continue to be able to obtain 100% cover. The Local Authority Protection Programme Disaster Fund will continue; and the scope of asset insurance will not extend beyond the current scope of activities and insurance cover. Council adjusted its approach post the Canterbury earthquakes and continues to monitor and assess its exposure to risk in this area.	Insignificant Premiums could increase above inflation and/or Council cannot get 100% cover. Any increase in premiums above the level assumed will have an impact on rates.	Medium	Council will continue to monitor insurance costs and may need to make decisions about cover levels during the life of the Plan.
External factors	Coronavirus (COVID-19) pandemic response and recovery	The BERL mid-scenario anticipates a gradual economic recovery from the September quarter 2020, reaching pre-COVID-19 levels of activity by early 2022. BERL also predicts that while New Zealand remains at alert level 1, employment levels in the accommodation, food services, arts and recreation services (tourism sector) are predicted to be around 30 percent lower than pre-COVID levels. This could be until mid-2022. The medium-long term impacts of COVID-19 remain largely unknown. Economic	Moderate COVID-19 is a new virus, and its long-term effects are unknown.	Medium	Council will facilitate and support the District's recovery in a fair, sustainable and integrated way.

		• Some businesses could close permanently and there may be an economic recession • The unemployment rate can be expected to remain elevated for an unknown time period Social • Older persons are particularly susceptible to the risk of infection from COVID-19. • Health and economic impacts of the virus may be borne disproportionately by poorer people. • Refugees, migrants, or displaced persons also stand to suffer disproportionately both from the pandemic and its aftermath. • Possible increase in mental health issues, heart attacks, strokes and general health issues induced by stress and/or loss of wealth, long-term health problems. • Continued use of new technology to stay in contact. • Need to strengthen social ties. • Provision of remote access for workers. • Increased demand for community-led development and seeking new opportunities in light of the challenges now faced Environmental • Environmental legislation/reforms could be delayed e.g. national policy standards change, national three water regulations, Resource Management Act			
	Climate change Anticipated changes in temperature, rainfall and sea level rise due to climate change will impact on Waitaki's social, economic and environmental outcomes. These impacts will influence Council decisions around land use, regulation, investments in infrastructure, and associated adaptation and mitigation measures to counteract the effects of climate change. The key service requirement relates to protection of Council owned assets vulnerable to coastal erosion, in particular, the local roading network and Council's stormwater infrastructure.	As Waitaki is situated in both the Otago and Canterbury regions, climate change projections have been included for both regions. Otago Regional Council projections mainly relate to coastal areas of the district, except those areas inland from Palmerston to the border of the Central Otago District. ECan projections mainly relate to inland areas of the district. The scenarios are a range using the RCP4.5 (mid-range scenario where greenhouse gas concentrations stabilise by 2100), and RCP8.5 ('business as usual' scenario with greenhouse gas emissions continuing at current rates) calculated on a 1996-2005 baseline year. Sea-level rise: Otago • 0.19m to 0.27m by 2040 • 0.49m to 0.9m by 2090 Maximum mean temperature:	Moderate Negative effects associated with climate change may occur at a faster rate and with more detrimental effects. Risk based insurance may influence investment in built development in higher risk areas.	Medium	Council will utilise guidance from central government (MfE), regional councils (NIWA) and LGNZ based on the best available climate science to underpin our planning. If projections are not considered in Council planning, this could impact on the development of capital expenditure projects. Greater than projected climate change will require Council to accelerate its climate change mitigation and adaptation plans. Council will continue to monitor and consider the impacts of climate change and respond to changes required to Council's infrastructure (including mitigation and adaptation). Through its Infrastructure Strategy 2021-51, Council will develop a coordinated response to adapt to the effects of climate change on its assets. Planning for key infrastructure located on the coastal fringe and vulnerable to coastal erosion is considered in the 30 to 50-year infrastructure planning horizon. Financial estimates include provision for Council assets and sites that may be affected. New

		• Ōamaru – currently 15.7°C (+0.8 to +0.9 for 2040 and +1,2 to +2.5 for 2090); • Otago region + 0.5-1.5°C for 2040 and +1 to +4 for 2090; • Western Canterbury (inland areas of Waitaki District) **+5.0-6.0°C in spring and summer by 2090** • Canterbury region +0.5-2.0°C by 2040 and +1.0-5.0°C by 2090 Minimum mean temperature: • Ōamaru - currently 5.7 °C (+0.4 to +0.5 °C in 2040 and 0.7 to 1.3°C in 2090); • Otago region +0-1.0°C by 2040 and + 0.5 to + 2.0°C by 2090 • Canterbury region +0-1.0°C by 2040 and +0.5-2.5°C by 2090 Extreme hot days per annum: • Ōamaru – currently 1.3; (+0.9 to +1.6 for 2040 and +2.1 to +5.3 for 2090); • Coastal Otago (+0.1 to 4 days to 2090) Number of frost days per year (days <0°C): • Ōamaru – currently 43.1 (-7 to -9 for 2040, -11.5 to -17.9 for 2090); • Otago region - 10-15 fewer frost days per year by 2040, and 20-40 fewer frost days per year by 2090 • Canterbury region – (-10 to 30 frost days per year for inland areas by 2040; -20 to 50 frost days for inland areas by 2090) Rainfall: Total rainfall: • Ōamaru currently 523mm/year; (+4% to +5% for 2040; +5% to +15% for 2090); • Otago region +0-10% for 2040 and +10-20% for 2090 Canterbury region -0 to 10% for the Mackenzie Basin by 2040; Seasonal: winter +15 to 40% by 2090; summer +5 to 15% for some inland areas by 2090 whereas some other inland areas will see a decrease of 5 to 15% Heavy rainfall days: • Ōamaru currently 2.1; (+0.1 to 0 for 2040; +0.3 to +0.7 for 2090); • Otago region +0 to 1 day per year for 2040 and 2090 * Heavy rainfall = above 25 mm in one day Rainfall depth 6-hour rain event with a 50-year ARI:			developments will be undertaken with a view to mitigating exposure to natural disasters. Council will implement the Civil Defence regional model introduced in 2017 to best effect. Council has increased its disaster fund capacity and has the ability to deal with adverse weather events. Council has developed a Business Continuity Plan. If an event were to occur, Council will focus its operational resource on response and recovery.

		Ōamaru currently 66.2; (71.8 to 72.6 for 2040; 75.3 to 85.5 for 2090) 24-hour rain event with a 100-year ARI: • Ōamaru currently 141; (150 to 151 for 2040; 155 to 172 for 2090) Dry days: • Ōamaru currently 280 per year; (-2 for 2040; -2 to -7 for 2090); • Otago region coastal areas (1-4 fewer dry days by 2040; 2-6 fewer dry by 2090) * Dry days = < 1 mm of rainfall is recorded Snowfall: Otago • Significant decreases in seasonal snow • Duration of snow cover decreasing • Earlier spring melts – larger winter floods Canterbury • Less across region especially in mountainous areas • Significant decreases in seasonal snow • Duration of snow cover decreasing **Sources:** ➢ **NIWA Climate change projections for the Canterbury Region prepared for ECan, February 2020;** ➢ **NIWA Climate change projections for the Otago Region prepared for Otago Regional Council, October 2019;** ➢ **Ministry for the Environment Climate change Guidance for Local Government – Otago and Canterbury regions.** Coastal inundation: • Significant coastal inundation hazard limited to Kakanui **Coastal erosion:** (coastal erosion hazard zone defined using a projection of the future shoreline position over 100 years taking into account historical retreat rates, sea-level rise and slope failure) • More than 60% of the coast in the district is retreating at a rate of 0.15 m/y or more • Conservative estimates: CHZ50 (50 year predicted shoreline retreat) **most common width between 5 and 15 m** • Continued erosion expected at the current hotspots of Katiki Beach, Beach Road, Kakanui, North Ōamaru, and Kaika and Karita settlements. ➢ North of Hampden 2.0 m/y			

		➢ Kakanui spit tip 1.3 m/y ➢ **North of Ōamaru, the entire coastline is retreating at rates between 0.3 and 0.9 m/y**, 0.4 m/y near Waitaki Boys High School, 0.35 m/y near Foyle Street, and 0.3 m/y near Weaver Street ➢ Kakanui gravel barrier 0.7 m/y ➢ Southern portion of Beach Road - average rate of 0.38 m/y ➢ Southern portion of Katiki Beach, alongside SH1, 0.4 – 0.6 m/y **Source:** ➢ **Coastal erosion and inundation projections sourced from NIWA "Waitaki District Coastal Hazards, Prepared for the Otago Regional Council, January 2019."**			
	Emissions trading scheme	The Emissions Trading Scheme is retained in its present form. Changes could occur to the scheme via Government policy. Council financial forecasts that embody carbon pricing would be affected.	Insignificant	Low	Forestry assets are maintained with a long-term view and programmes are regularly reviewed. Council will replant harvested forests to negate any liability. Council will monitor waste volumes on an ongoing basis.
	Tourism numbers and composition - Influence the demand for, and type of services required e.g. transport infrastructure, communications, regulation and enforcement, sanitation services, and Council's Funding Policy.	Overseas visitor numbers (28% of tourists to the District) are projected to remain low over the first part of the 2021-31 LTP following the impact of COVID-19. Domestic numbers (72% of tourists to the District) are projected to remain constant or slightly increased over the same period.	Moderate A radical decrease in visitor numbers would impact on the local hospitality industry. A decrease in the district's GDP would heavily influence Council decisions on current and future service levels.	Medium	Council, in conjunction with Tourism Waitaki will continue to monitor and report tourism trends.
	Legislative changes and environmental standards	Council assumes there will be changes to legislation over the period of this LTP e.g. through the RM reforms, 3water reforms. Regional council policy frameworks are subject to change as regional policy statements and plans are reviewed and amended. The amendment to the Climate Change Response (Zero Carbon Bill) may alter the delivery of Council activities.	Moderate The impact of government legislation is usually anticipated and well signalled. New legislation and regional government may alter the scope and nature of some Council activities.	Medium	Council may be required to change expenditure or income (for instance rates or user charges). An example could be a sudden and un-signalled change to superannuation. Council must continue to meet regional council obligations including higher environmental standards for air and water. Asset management plans will be updated. New consent requirements from regional councils will be factored in to proposed works.

	Inflation	Inflation rates may vary from those forecasted resulting in changed revenue and expenditure. Inflation rates used for periods beyond 2020/21 have been based on data sourced from Local Government Cost Adjuster Forecasts issued by BERL in September 2020, using BERL's "mid-scenario", which assumes a rebuild after COVID that is neither "stalled" nor "faster", as detailed below.	Insignificant	Low	Council and its Management Team review budgets annually through the Long-Term Plan/Annual Plan process and can adjust work programmes/budgets as necessary.
	Interest rates on borrowing	Interest rates will not rise significantly. They are assumed to be between 0.9 and 2.10% over the period of the LTP. Forecast interest rates on borrowing may be higher or lower than forecasted. Council costs could increase or decrease as interest rates fluctuate up and down.	Insignificant	Low	Council hedges interest rate exposure as per the Liability and Investment Management Policy.
Funding sources	New Zealand Transport Agency (NZTA) financial assistance	Council currently undertakes its roading programme based on a contribution from our ratepayers and a contribution from government through the NZTA. The subsidy provided by NZTA has increased for the next three years starting from 2022, and Council has assumed for the purposes of this LTP that the new rate will remain unchanged over the term of the LTP.	Minor Changes in central Government funding for roading could impact on Council's contribution to its roading programme.	Low	Council and its Management Team review its budget annually through the Long-Term Plan/Annual Plan process and can adjust work programmes/budgets as necessary.
	External funding opportunities	Council will take advantage of external funding opportunities through the Local Government Funding Agency where appropriate to top up the ratepayer base.	Insignificant Significant changes in funding or funding sources may result in a revised capital work programme or changes in levels of service.	Low	Refer to the Revenue and Financing Policy.
	Revenue	Council will continue to generate revenue from the key areas of rates, regulatory, grants, subsidies, interest, dividends, investments, although some revenue sources may be lower due to the impacts of COVID-19 in the first 1-2 years of the long-term plan.	Insignificant The level of revenue is not received or budgeted and debt levels, interest costs and rates requirements will be higher than planned.	Low	Refer to the Revenue and Financing Policy.
	Co-funding arrangements	It is assumed that, where projects are reliant on other partners contributing some or all of the funding, this funding will still be available. Council will seek external funding where possible.	Moderate Partners may no longer be in a position to provide funding which will result in an increased level of input from Council, or the termination of a project.	Medium	Council will continue to monitor and consider its ongoing funding commitment as the need arises.

	Development and financial contributions	Assumptions on development contributions are included in the updated Development and Financial Contributions Policy. Development contribution income is included in financial forecast statements for all asset groups.	Insignificant The level of development contributions collected could be insufficient to cover the costs of required growth infrastructure.	Low	Costs for infrastructure may need to be met from other allocations. Council will continue to refine cost estimates through the implementation of an updated Infrastructure Strategy. Council and its Management Team review its budget annually through the Long-Term Plan/Annual Plan process and can adjust work programmes/budgets as necessary.
	Return on investments	The return on investments and retained earnings on subsidiaries will continue at current depressed levels over the first few years of the LTP	Insignificant Returns lower than expected would impact on Council's ability to fund services and infrastructure and would likely require an increase in rates.	Low	There is an expectation when agreeing on annual performance that higher returns will be generated.
	CCO Income	Dividend income will be received at the levels forecast in this plan.	Moderate Dividend producing CCO's may deliver a lower than projected dividend and Council will need to source additional funding	Medium	Council and its Management Team review its budget annually through the Long-Term Plan/Annual Plan process.
	LGFA - New Zealand Local Government Funding Agency Scheme Council joined this scheme in 2020 in response to the impacts of COVID-19,	Council will secure additional funding at the lowest possible cost, providing greater certainty and duration of funding. The interest payable on the LGFA loans is the Official Cash Rate less 50 basis points.	Insignificant Other borrowing sources will be available, but not necessarily at the lowest rate possible.	Low	Council and its Management Team review its budget annually through the Long-Term Plan/Annual Plan process.
Councils strategic direction	Council's strategic direction influences the way Council delivers services and infrastructure to Waitaki's residents. The strategic priorities are: • Providing high quality core infrastructure and services • Determining the best way to deliver 3Waters for the community • Working with the community to respond to COVID-19 challenges • Creating a District Plan that is fit for the future • Striving towards better Council performance • Driving best value for rates	Council's strategic direction will remain constant in years 1-3 of the LTP.	Insignificant	Low	Council can change direction at any point and invest in activities focused on attracting residents, business, and/or visitors. There would be a short-term cost associated with staff redundancies and this expense would need to be included in future financial estimates.

	Insignificant	Minor	Moderate	Major
Strategic	• No significant adverse public comment. • No impact on achievement of LTP objectives. • Key stakeholder relationships unaffected.	• Adverse comment in local or social media. • Letter to CEO, complaints to Councillors. • May slow achievement of LTP objectives. • Minor impact on key stakeholder relationships.	• Local or regional media coverage. • Will impact achievement of one or more LTP objectives. • Negative impact on key stakeholder relationships.	• National media coverage. • Will significantly impact the achievement of multiple LTP objectives.
Operational	• No loss of operational capacity. • Minimal change to service levels. • Minimal loss of internal capacity.	• Loss of operational capability in some areas. • Some disruption to service levels. • Internal capacity lost for up to 4 weeks.	• Serious loss of operational capacity for 6 + weeks. • Disruption to service levels for 4-8 weeks • Loss of internal capacity up to 8 weeks.	• Serious loss of operational capacity for over 8 weeks and major disruptions to service levels of internal capacity. • Loss of internal capacity greater than 8 weeks.
Financial	• No impact on financial targets	• Up to 2% impact on financial targets	• 2-7% impact on financial targets	• Greater than 7% impact on financial targets

Assumption	Uncertainty description	Description	Likelihood of risk occurring if assumption is incorrect
	Low uncertainty	Good level of information / confidence in the assumption	Unlikely
	Moderate uncertainty	Moderate level of information / confidence in the assumption	Possible
	High uncertainty	Poor level of information / confidence in the assumption	Likely

ATTACHMENT 2 WDC INFRASTRUCTURE STRATEGY IMPROVEMENT REGISTER

WDC Infrastructure Strategy Improvement Register and 3 YR Action Plan

ID	PRIORITY	PROJECT	THEME	ASSET	BRIEF SCOPE	JUSTIFICATION / DRIVER (Growth, LoS, compliance etc.)	RAISED BY	RESPONSIBLE	EST COST	INTERNAL or EXTERTAL RESOUCED	LINKED ISSUE	DUE DATE
Theme 1: Infrastructure Strategy												
	Medium	Asset Responsibility Matrix Plan / Do / Check / Act	Asset mgmt.	All	Plan to update the Infrastructure Strategy document well in advance of the required deadline.	Asset Management Improvement	WSP	WDC		Internal, with external support		
	High	SMART goal development Plan / Do / Check / Act	Asset Mgmt.		Develop SMART goals to measure effectiveness of strategy implementation	Asset Management Improvement	WSP	WDC		Internal		
Theme 2: Asset Management System												
	Very High	Asset Management Policy Plan / Do / Check / Act	Asset Mgmt.	All	Update the current 2010 Asset Management policy document	Asset Management Improvement	WSP	WDC		Internal, with external support		
	Medium	Create SAMP Plan / Do / Check / Act	Asset Mgmt.	All	Decide if it is desired to create a Strategic Asset Management Plan (SAMP)	Asset Management Improvement	WSP	WDC		Internal		
	High	Capex projects extension Plan / Do / Check / Act	Asset Mgmt.	All	Capex projects extended to cover 30 year period of IS	Asset Management Improvement	WDC	WDC		Internal		
	Medium	Project scoping Plan / Do / Check / Act	Asset Mgmt.	All	Develop scope for projects with options and detailed costings to enable modelling. Differentiate between Responsive Level of Service, Do Minimum Level of Service, Current Level of Service for each key infrastructure deliverables.	Asset Management Improvement	WDC	WDC		Internal		
	High	Data reliability Plan / Do / Check / Act	Asset Mgmt.	All	Collection of better and more reliable data, and grading of data reliability for key infrastructure groups	Asset Management Improvement	WDC	WDC		Internal		
	Low	FM Contract Improvements Plan / Do / Check / Act	Asset Mgmt.	All	Undertake an Infrastructure wide Asset Management Maturity Assessment (Gap Assessment) against IIMM 2015 guidelines. Once IS and AMP's have been updated.	Asset Management Improvement	WSP	WDC		Internal, with external support		
Theme 3: 3 Waters												

	High	Skills shortage Plan / Do / Check / Act	Resources		Investigate the skills and resource numbers required to meet future demand	Staff Development / Improved Asset Management Capability	WSP	WDC		Internal		
	Medium	Environmental outcomes Plan / **Do** / Check / Act	Asset Mgmt.		Invest in infrastructure that will improve environmental outcomes,	Continuous Improvement	WSP	WDC		Internal		
	Medium	Vulnerable assets in poor condition Plan / Do / **Check** / Act	Asset Mgmt.		Continue to ensure Council can meet compliance standards for drinking water across the district.	Continuous Improvement	WSP	WDC		Internal		
Theme 4: Roading and Footpaths												
	High	Climate Impacts **Plan** / Do / Check / Act	Asset Mgmt.		Continue to investigate where climate impacts are likely and how best to mitigate these impacts	Continuous Improvement	WSP	WDC		Internal		
	Medium	Meeting Demand: Plan / **Do** / Check / Act	Asset Mgmt.		The inability to meet High Productivity Motor Vehicles (HPMV) demand and limited facilities for new tourist markets are seen as challenges which will restrict growth in the District.	Continuous Improvement	WSP	WDC		Internal		
	Low	Internal Asset Management Improvements **Plan** / Do / Check / Act	Resources		Internal planning resource increase required. Management and planning of inground services installations. Improve management of resources, both internal and contracted resources	Staff Development / Improved Asset Management Capability	WSP	WDC		Internal		
Theme 5: Recreation												
	High	Review of structure, roles and capacity of Recreation/Waste team **Plan** / Do / Check / Act	Resources		Internal planning resource increase required. Management and planning of inground services installations. Improve management of resources, both internal and contracted resources	Resource / Structure review	WDC	WDC		External, with internal support		
	Medium	Recreation Strategic Direction Plan / **Do** / Check / Act	Asset Mgmt.		It is planned to review specific Recreation strategies (including environmental) to ensure alignment with Council objectives. This needs to be progressed.	Asset Reporting	WSP	WDC		Internal		
	Medium	Aquatic Centre Plan / **Do** / Check / Act	Asset Mgmt.		Undertake a building and plant condition assessment of the Aquatic Centre	Asset Reporting	WSP	WDC		Internal, with external support		
	Medium	Recreation asset management process improvements Plan / **Do** / Check / Act	Asset Mgmt.		The following improvement activities are planned: Asset data collection and assessment process improvements Creation of Standard Operating Procedures (SOPs) Collect and record Recreation building major component asset information	Continuous Improvement	WSP	WDC		Internal		
	Low	Waste Management Strategy / Planning **Plan** / Do / Check / Act	Resources		Continue to develop the Waste Management Strategy to ensure it aligns with Council future direction	Continuous Improvement	WSP	WDC		Internal		

Theme 6: Property												
	Medium	Property AMP Plan / Do / Check / Act	Asset Mgmt.		Continue to develop the content of the new Property AMP	Continuous Improvement	WSP	WDC		Internal, with external support		
	Medium	Core Asset Information Plan / Do / Check / Act	Asset Mgmt.		Consider using the latest Insurance Valuation Report - Specific Building information as a reasonable source of basic property asset information. These report show basic details, asset ID, year of construction and remaining life of main components.	Continuous Improvement	WSP	WDC		Internal		
	Medium	AMS Improvement Plan / Do / Check / Act	Asset Mgmt.		A new AMS (Adapt) is being implemented, with the intention that this will be used for property asset information. This needs to be progressed.	Asset reporting	WSP	WDC		Internal, with external support		
	Medium	Community Housing Policy Plan / Do / Check / Act	Asset Mgmt.		Complete the Community Housing Policy	Continuous Improvement	WSP	WDC		Internal		
	Low	Community Halls Strategy/Policy Plan / Do / Check / Act	Asset Mgmt.		It is planned to undertake the preparation of a Community Halls Strategy/Policy to address the provision and management of Community Halls across the District. This needs to be progressed.	Continuous Improvement	WSP	WDC		Internal		