INFRASTRUCTURE STRATEGY

Long Term Plan
2024-2034

WAIMAKARIRI
DISTRICT COUNCIL

CONTENTS


SMITH

EXECUTIVE SUMMARY

This Strategy summarises the current state of Council's infrastructure and importantly outlines the key strategic issues facing the Council and its proposed response.

The Infrastructure Strategy has been prepared in accordance with the requirements of section 101B of the Local Government Act 2002 and includes the mandatory Roading and Footpath, Flood Protection and Control works, Sewerage and the Treatment and Disposal of Waste, Stormwater drainage, and Water Supply activities as well as Solid Waste, Green Space, Aquatic Centres, Libraries, and Property.

Current state of Council infrastructure

The Waimakariri District's infrastructure is in very good condition. There are four key reasons for this:

Young infrastructure

As a fast-growing District a large proportion of the infrastructure has been installed within the last 35 years. The majority of it is therefore relatively new with the average age of Three Water systems being less than 30 years old. As most of this infrastructure is expected to last for between 80 and 100 years, much of the renewals do not fall due until later this century and the first part of the next century.

Ongoing investment

For more than twenty years the Council has invested heavily in ensuring it is planning adequately for growth. Accordingly, essential systems to support a growing community are in place. Examples include building the Eastern District Sewerage Scheme with sufficient capacity until about 2070, upgrading all Council water supplies to meet current standards, constructing Rangiora's water supply to support a community double the town's current population, building key new recreation facilities such as the Dudley Park Aquatic Centre and Mainpower Stadium, and working with strategic partners to realise the construction of the Western Bypass and Northern Corridor thereby improving transport connections with Christchurch.

Building back better

When the Canterbury earthquake series caused major damage and disruption to the community and the Council's infrastructure, the Council decided to take the opportunity to 'build back better'. It strengthened all of its buildings to at least 67% of the new building standard, and where rebuilds were required, it wisely invested in buildings that are fit for the future, including the Ruataniwha - Kaiapoi Library, Rangiora and Oxford Town Halls, Kaiapoi Aquatic Centre and the Oxford Service Centre. It also took the opportunity to replace underground infrastructure with more resilient solutions.

Focusing on resilience

Reinforced by its experience of the Canterbury earthquake series, the Council has invested heavily in understanding the condition and performance of its assets, with modelling of flooding and 3 Water networks providing a high degree of information and knowledge about potential risks and how its assets perform. In conjunction with this, the Council uses a risk-based renewal strategy that enables it to assess the critically, vulnerability, performance and condition of its infrastructure. This allows investment to be prioritised in a way that protects the most critical infrastructure and minimises asset failure. Council has also ensured sufficient financial resources are set side to allow it to fully recover from a major natural disaster.

Key strategic issues and Council's response

The Council's vision for its infrastructure is *'to provide well maintained infrastructure that meets the needs of today's community and caters for the projected growth in the District's population in a manner that is sustainable and anticipates a changing environment.'* Strategies for continuing to achieve this are divided into the following six key themes:

Providing appropriately for a fast growing district

For more than twenty years the District has been one of the fastest growing districts in the country and this trend is set to continue. Within the next ten years the population is expected to grow from its current level of nearly 69,700 to about 81,000 by 2034 and 100,000 by 2053. Ensuring there is an overall strategy to support the growing population with appropriate infrastructure and community facilities is critical.

Key strategies are to ensure main transport and roading routes provide multi-modal choices to support community expectations, 3 Waters infrastructure is available when new developments commence, town centres are vibrant, and community facilities are developed and sized to cater appropriately. The major projects anticipated in the next 30 years include new community facilities in the Pegasus/Woodend area to accommodate a likely doubling of population, improving transport routes into and around Rangiora and increasing car parking in central Rangiora, revitalising and expanding the Trevor Inch Memorial Library in Rangiora and Rangiora Civic Centre, and possibly extending the District's aquatic facilities and MainPower Stadium approaching 2040. Council consulted on bringing forward the 'Rangiora Eastern Link' road as part of this Long Term Plan. This will help reduce congestion in Southbrook.

Responding nimbly to a changing operating environment

A number of factors are influencing delivery of services including increased inflation and interest rates, government reforms, legislative changes and policy statements, and the reversal of the previous government's 3 Waters reform. All of these challenges provide a level of uncertainty in the manner in which the Council manages its business.

Increasing standards, particularly in terms of improving the quality of drinking water and the quality of stormwater discharged into lowland streams and waterways, is requiring the Council to invest significantly in understanding the implications and provide for any capital works required to ensure those standards are met. In respect of improving waterways, substantial investment is likely to be needed over the next two decades.

Meeting levels of service and community expectations

The Council continues to survey the community to understand its needs and respond accordingly. Council's overall satisfaction rating has continued to improve to 86%, from 85% in 2016 and 2019 and 76% when first surveyed in 2013. Continuing to deliver current levels of service remains a high priority for the Council. Renewal and maintenance programmes are in place to ensure service levels are consistently met.

Rates affordability is a key factor Council takes into account when deciding on its programme of new capital works.

Planning for natural hazards and climate change

The Council continues to invest in making its infrastructure resilient to significant natural hazards risks, especially from major earthquakes and floods.

Reducing and mitigating greenhouse gases will increasingly be of concern as the Government strives to achieve its target of zero emissions of all domestic greenhouse gases, other than biogenic methane, by 2050 under the 'Climate Change Response (Zero Carbon) Amendment Act 2019'. The Council has a number of initiatives underway to understand the implications of climate change and further work is intended to develop adaptation measures that take account of these.

Council consulted as part of this LTP on the establishment of a permanent Infrastructure Resilience Team to respond to the increasing frequency and intensity of weather events in the District.

Transitioning to a sustainable future

The Council has developed its strategy and is implementing actions to improve its sustainability and, in its planning for the community, is seeking to bed sustainability principles into its decision making and procurement practices.

In addition to lowering its carbon footprint, Council seeks to improve environmental outcomes by enhancing waterways through its 'Arohatia te Awa (cherish the river)' programme of work, by providing more transport modes options, particularly for walking and cycling, and by encouraging greater use of public transport through provision of park and ride facilities.

In early 2024, Council has adopted its first Integrated Transport Strategy, which, within a framework that is driven by a number of factors including climate change challenges and sustainability, sets out how we will manage our transport and mobility needs towards 2035 and beyond. Council also consulted as part of this LTP on its new draft Natural Environment Strategy which will provide direction for the Council's future investment in protecting and enhancing the natural environment within the District over the next thirty years.

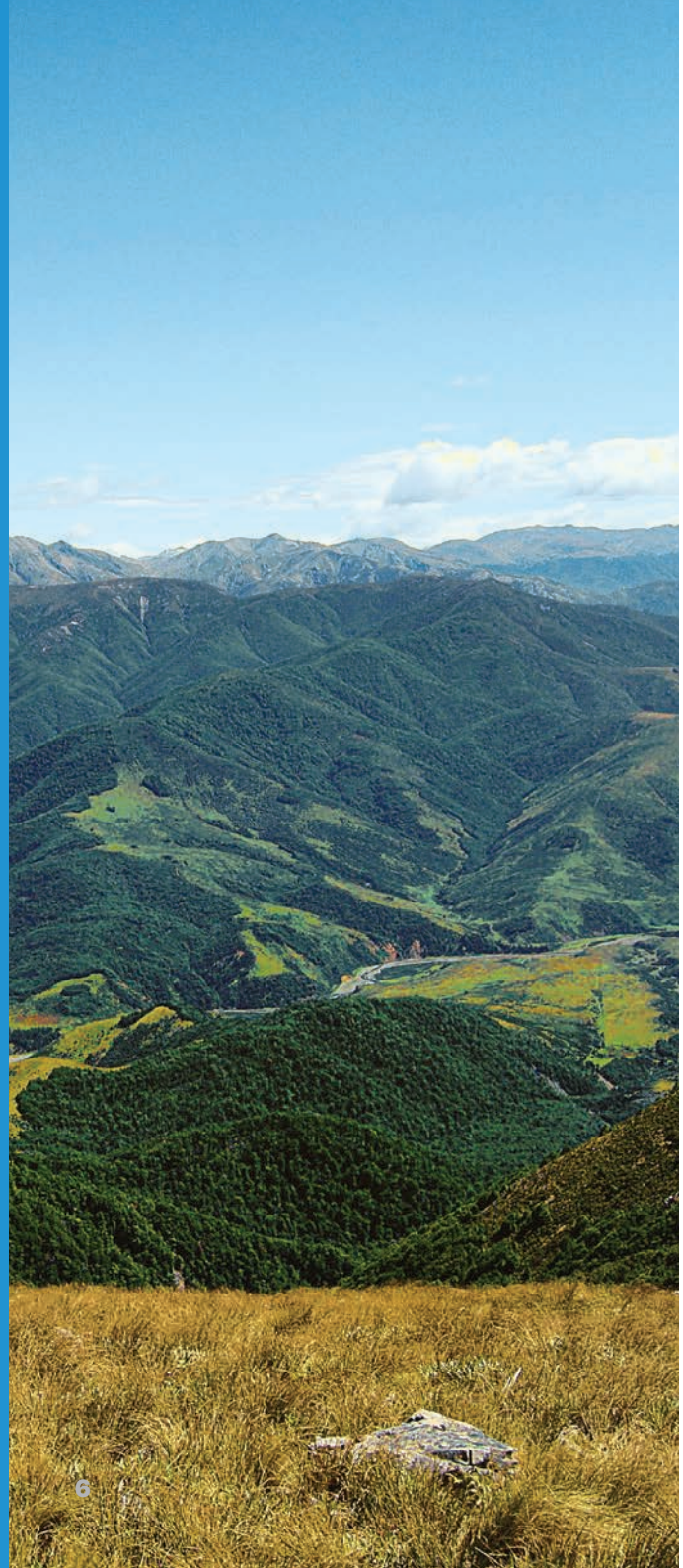
Renewing infrastructure in a timely manner

Maintaining the infrastructure the Council owns is its first priority. The Council has developed a renewals programme for the whole of life of its assets for the next 150 years. Revenue levels are set to ensure sufficient funds are available for when the renewal needs to occur. When combined with a risk-based renewal policy, where the condition, performance, criticality and vulnerability of the assets are factored in, infrastructure is able to be maintained to the appropriate standards to meet the current and long-term needs of the community.

Conclusion

In developing its programme of significant works for this Infrastructure Strategy, the Council aims to maintain appropriate levels of service as the District continues to grow, and plan responsibly for future asset renewals, while keeping rates affordable for an increasingly aging population.

Considering how Council can transition itself and the community it serves to a carbon zero economy by 2050, and adapt to the effects of climate change, while continuing to promote community and environmental wellbeing will also need to be key focus areas for the next few years.



1. INTRODUCTION

1.1 Purpose and scope

The Infrastructure Strategy (IS) is part of a suite of documents and policies that form the 2024-2034 Long Term Plan (LTP). There is a strong relationship between the Infrastructure Strategy and the Financial Strategy (FS) contained within the LTP, with the IS describing the key infrastructure issues the Council needs to face over the next thirty years, along with principal options for addressing these, and the FS identifying the key financial parameters and limits the Council plans to operate within.

There are Activity Management Plans for each of water supply, wastewater, urban stormwater, rural drainage, Roading and Footpaths, Community Facilities, Green Space/Aquatic Facilities, Stockwater and Solid Waste.

While section 101B of the Local Government Act 2002 (LGA) requires the core activity areas of 3 Waters, Roads and Footpaths, and Flood Protection and Control works to be included in an infrastructure strategy, other assets can be included at the discretion of the local authority. Council has also included the activity areas of Solid Waste, Property, Library Services, Green Space and Aquatics in this Strategy because they are a group of infrastructure assets, significant either in terms of number of assets, level of expenditure, or community expectations for service delivery. The Council also considers it to be valuable for the strategic planning of these discretionary activity areas to be extended to a 30-year time frame. Major river flood control works and assets located within the District are managed by Environment Canterbury, and therefore not included in this document but the Council-owned and managed localised stormwater mitigation assets are.

In accordance with the LGA 2002 this strategy outlines how the Council intends to manage its assets including:

- The need to renew or replace assets
- Responding to growth or declines in demand for services reliant on these assets
- Allowing for planned increases or decreases in levels of service
- Maintaining or improving public health and environmental outcomes or mitigating any adverse effects on these; and
- Increasing the resilience of assets by identifying and managing natural hazard risks and providing appropriate funding for these.

Sections 4 and 5 of this IS provide further information about WDC's infrastructure activity areas. The principle goal of each activity area is explained in Section 4, along with its critical assets and extent (quantity). In addition, a detailed overview of asset condition and performance, as well as how the council identifies and manages risk by activity area, are presented in Section 5.

A table outlining the key assumptions and risks that underpin this document can be found in the LTP proper. Sections 3, 4 and 5 discuss the risks associated with our infrastructure. Table 1.1 gives a snapshot of how this strategy considers risk and the assumptions presented in "Risks and Assumptions" of the LTP proper.

Capital works for years one to three of this Strategy are projects the Council sought feedback on through the LTP process. Projects from years' four to ten are signalling budgets that will be subject to further consultation either as part of the next LTP process or earlier. The risks regarding the accuracy of the

underlying assumptions for these projects increase over time. Projects identified in years eleven onwards should be considered to be fluid due to the greater degree of uncertainty about the operating environment and underlying assumptions. These are also subject to the three yearly LTP consultation process, but generally will only be highlighted in the LTP Consultation Document in the LTP period just prior to their detailed project planning and implementation. All figures in this document are not inflation adjusted unless otherwise stated.

The Council's IS has been developed based on the best information available to it and the Council has used assumptions based on what it reasonably considers could occur over the next 30 years. Undoubtedly, the actual outcomes will vary to those contained within this document as better information comes to hand.

The Council will continue to monitor and review the information available to it and will refine and update its IS every three years to reflect any significant changes.

The task of building, operating and maintaining infrastructure assets in an affordable manner is influenced by external factors; the most significant of these being population growth, community expectations for service, the legislative environment the Council operates within and mitigation of natural hazards, climate change and environmental degradation. The recent increase in inflation and interest rates also have an impact on Council's ability to fund infrastructure. In addition, emerging technologies may have more of an impact in the future, particularly with regard to roading.

Table 1.1 Risks and assumptions considered in the infrastructure strategy

Risks associated with our infrastructure		Relevant section of the IS when the specific risk is discussed alone, including assumptions and planned responses
E1	Earthquakes – Alpine Fault Magnitude 8 + (AF8)	3.5 Planning for natural hazards and climate change
E2	Other Natural Disasters	
E3	Impacts of Climate Change	
E4	Water Quality	3.3.2 Changing Government Priorities and legislative environment
E5	A Pandemic or Similar Event	3.3 Responding nimbly to a changing operating environment
M1	Changes to Central and Regional Government Policy	
E6	Bio-diversity, Natural Environment and Degradation	3.5 Planning for natural hazards and climate change
N1	Inflation (including wage inflation)	3.3 Responding nimbly to a changing operating environment
N2	Economic Growth	
N3	Interest Rates	
N4	Central Government Revenue	In table in Section 4 - Assumption made for significant infrastructure projects
N5	Timing and Level of Capital Expenditure	3.7 Renewing infrastructure in a timely manner
		3.9 Financial impacts of the Infrastructure Strategy
N6	Asset Revaluation	
N7	Insurance	3.5 Planning for natural hazards and climate change
		3.9 Financial impacts of the Infrastructure Strategy
N8	Growth Distribution	3.2 Providing appropriately for a fast-growing district 3.4 Meeting levels of service and community expectations
N9	Population Growth	
C2	Diversity (demographics and language)	
S1	Impact of Demographic Change	
S2	Community Wellbeing on society	
N10	Useful Life of Significant Assets and Depreciation Funding	3.7 Renewing infrastructure in a timely manner

1.2 A vision for Waimakariri

Waimakariri District Council's Vision is:

> **To make Waimakariri a great place to be, in partnership with our communities**

Consultations carried out to develop strategies, policies and plans, regular community surveys, and ongoing feedback to staff, community boards and politicians help to define what residents think 'a great place to be' is. This is reflected in the Community Outcomes which guide Council's decision-making in implementing the 2024-2034 LTP and 30 Year IS.

Social Wellbeing

Economic Wellbeing

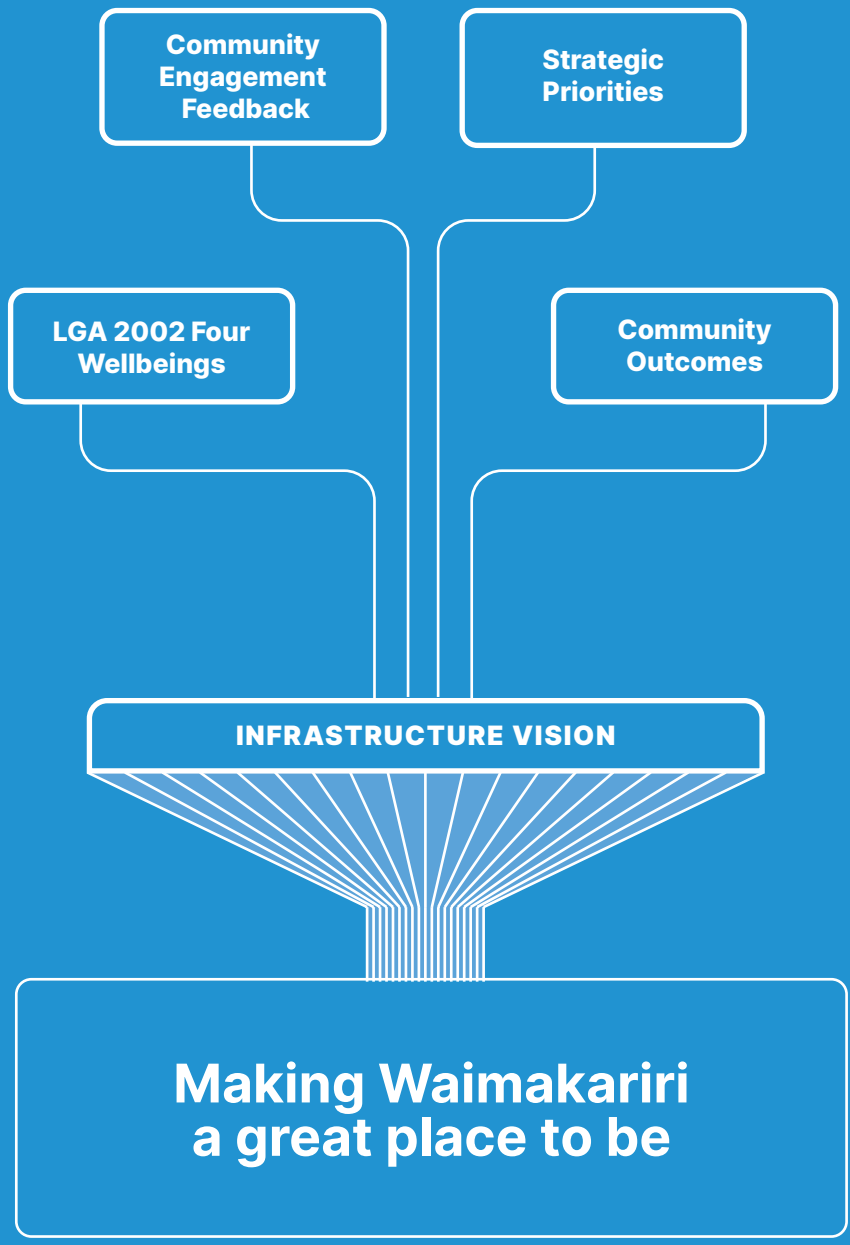
Cultural Wellbeing

Environmental Wellbeing

Each community outcome is associated with one or more of four wellbeings - social, economic, environmental, and cultural, which the LGA 2002 requires Council to promote. Each infrastructural activity is aligned to specific community outcomes. Council has also identified its strategic priorities for the next three years.

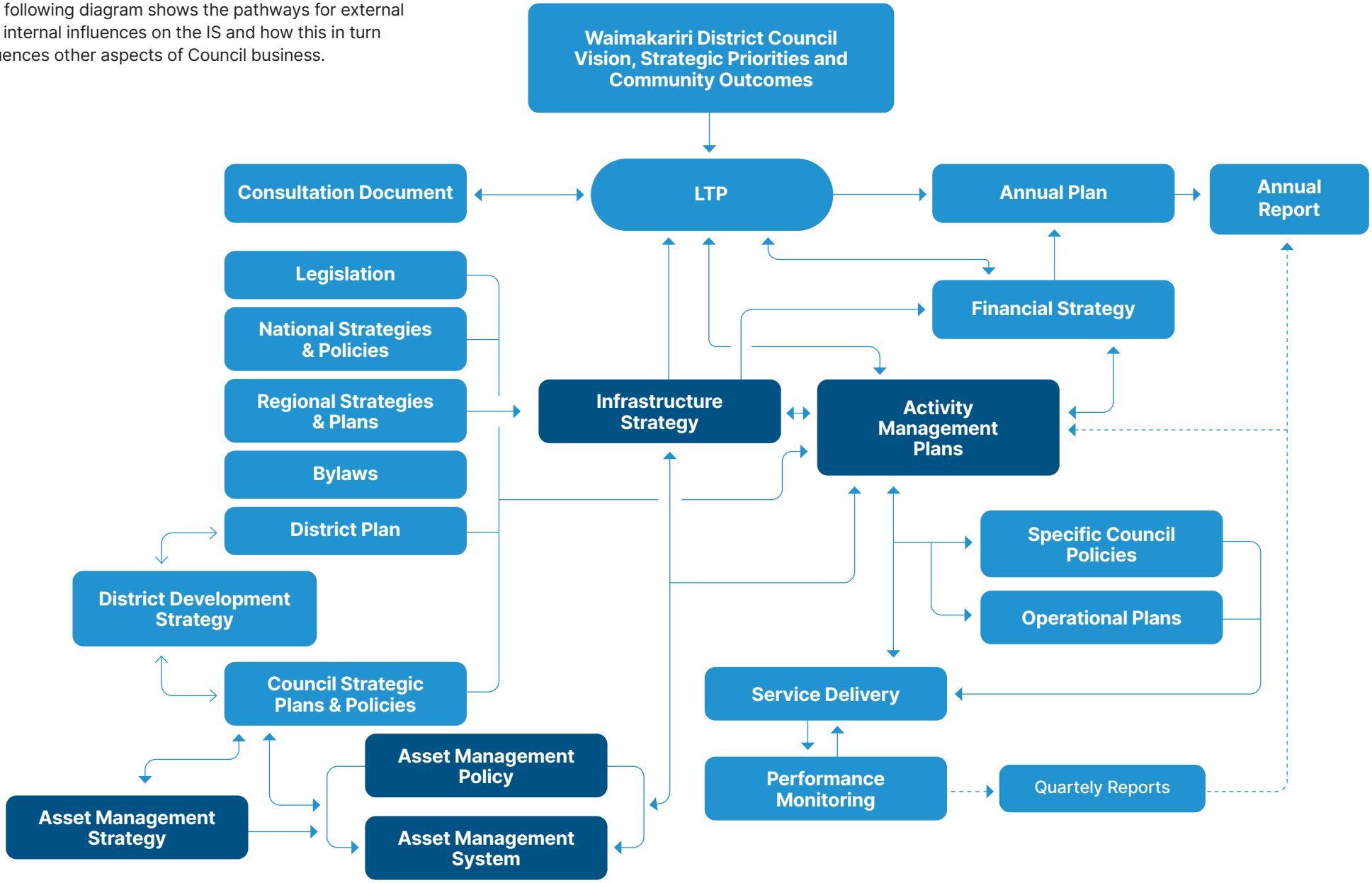
Wellbeing defined

Our quality of life, including: civic and human rights, culture and identity, housing, knowledge and skills, leisure and recreation, material standard of living, employment status and job satisfaction, the physical and natural environment, safety and security, health and social connectedness.



1.3 Infrastructure strategy relationships and influences

The following diagram shows the pathways for external and internal influences on the IS and how this in turn influences other aspects of Council business.



2. OUR DISTRICT

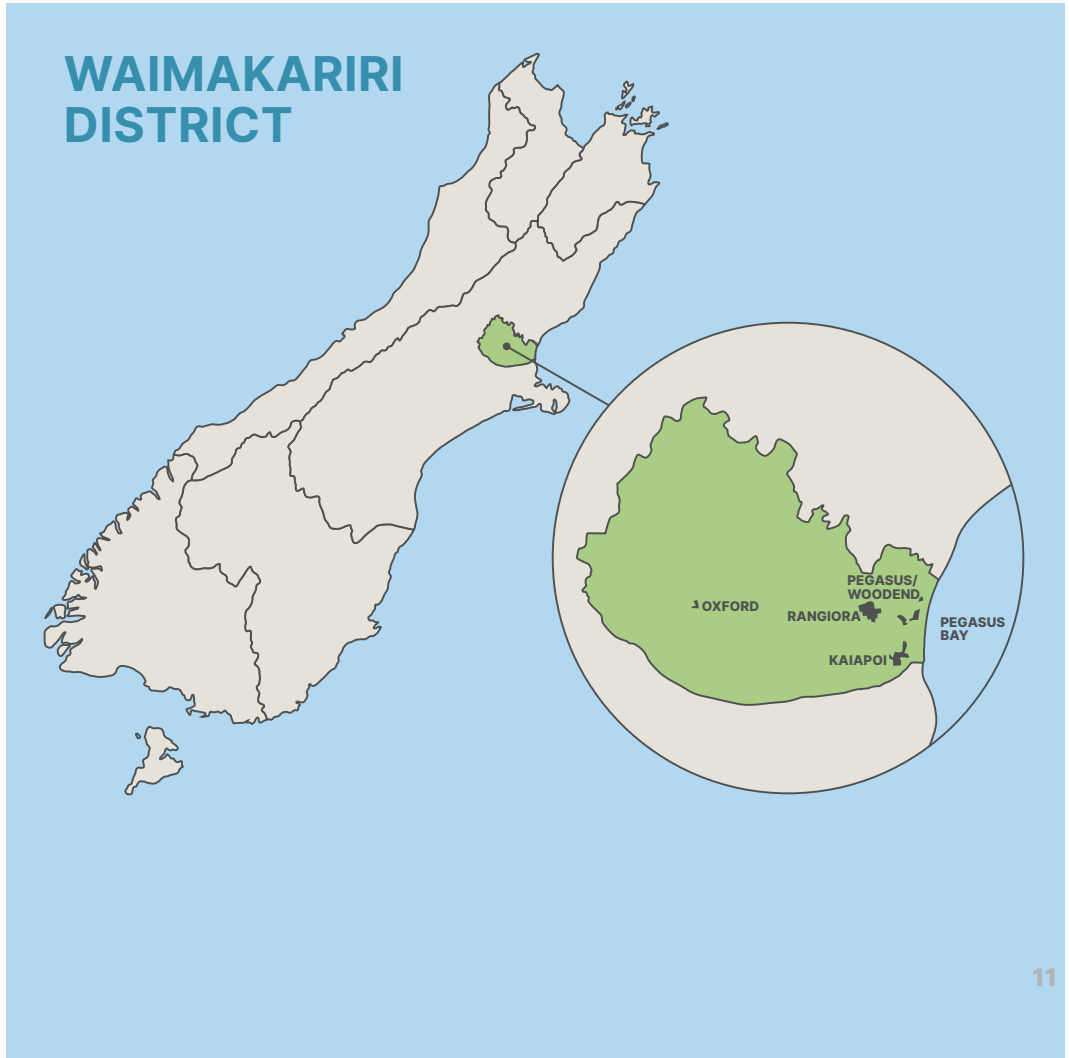
Waimakariri (meaning river of cold rushing water or cold river)

2.1 Location and character

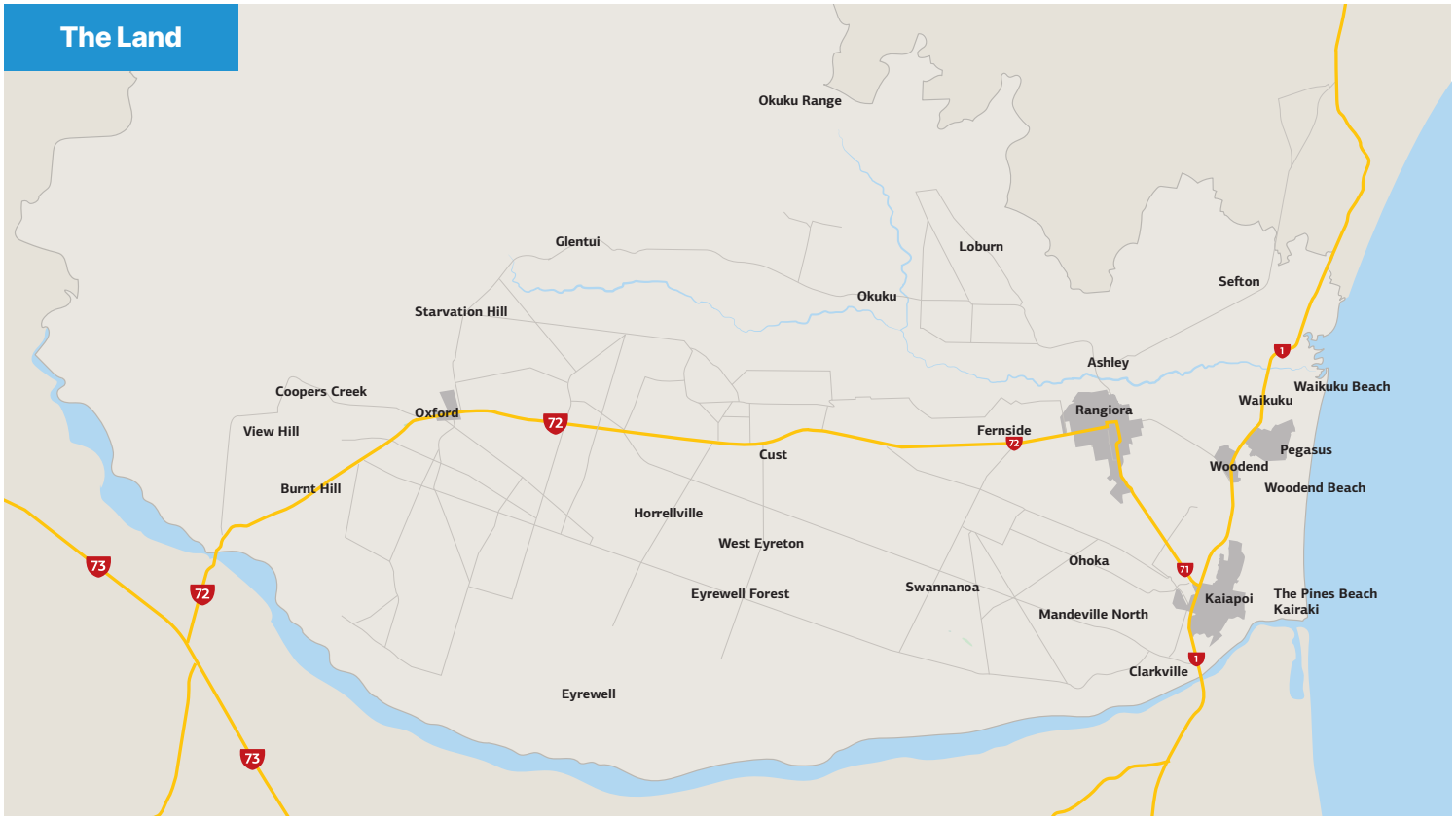
The Waimakariri District lies to the north of Christchurch on the Canterbury Plains, extending from the Waimakariri River to the south, Pegasus Bay in the east and the Puketeraki Range in the west. It is bounded to the north by Hurunui District.

More than 80% of the population is concentrated in the eastern part of the District in the main urban areas of Rangiora, Kaiapoi, and Woodend/Pegasus/ Raenswood. Oxford is the largest town in the western part of the District. These larger towns are supplemented by smaller rural villages and four beach settlements. The District also has a large number of people living on smaller lots in the rural and rural residential areas, with around 2,400 households living on properties sized between 0.5ha and just under 4ha, and around another 3,300 households living on small holdings sized between 4ha and just under 8ha. Many of these properties have their own sewerage system and some have their own water supply systems.

Most people live within a 30 minute drive from one another and all of these areas are within commuting distance of Christchurch City. Despite rapid population growth, Waimakariri has retained its small town/rural character and the District's close proximity to Christchurch makes it an attractive location for those wanting to live near a city but enjoy the country environment.



The Land



Main towns

Rangiora
Kaiapoi
Oxford
Woodend/Pegasus

Rural villages

Cust
Sefton
Ohoka
Ashley
Mandeville
Tuahiwi
(Hapū of Te Ngāi O Tūāhuriri Rūnanga)

225,500ha

Land area of the District

Beach settlements

Waikuku
Woodend
The Pines
Kairaki

$14,626m

Land value (January 2024)

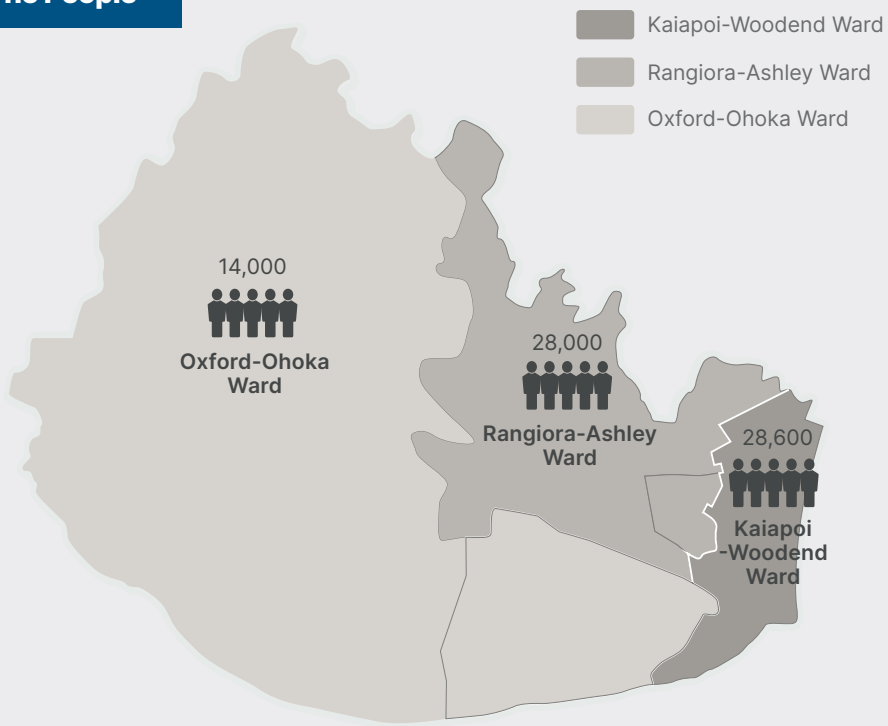
$27,764m

Capital value (January 2024)

28,752

Rateable properties (January 2024)

The People



Data source:
Sub-national population estimates at December 2023, Statistics NZ

71,000
Estimated usually resident population as at 30 June 2023

Main ethnic groups

European (93%)
Maori (9%)
Asian (3%)

Population age

0-14 years (19%)
15 to 64 years (62%)
65+ (19%)

+16%
Population change 2018 - 2023

Employment

Employed full time (50%)
Employed part-time (16%)
Not in the labour force (31%)
Unemployed (3%)

Gross income

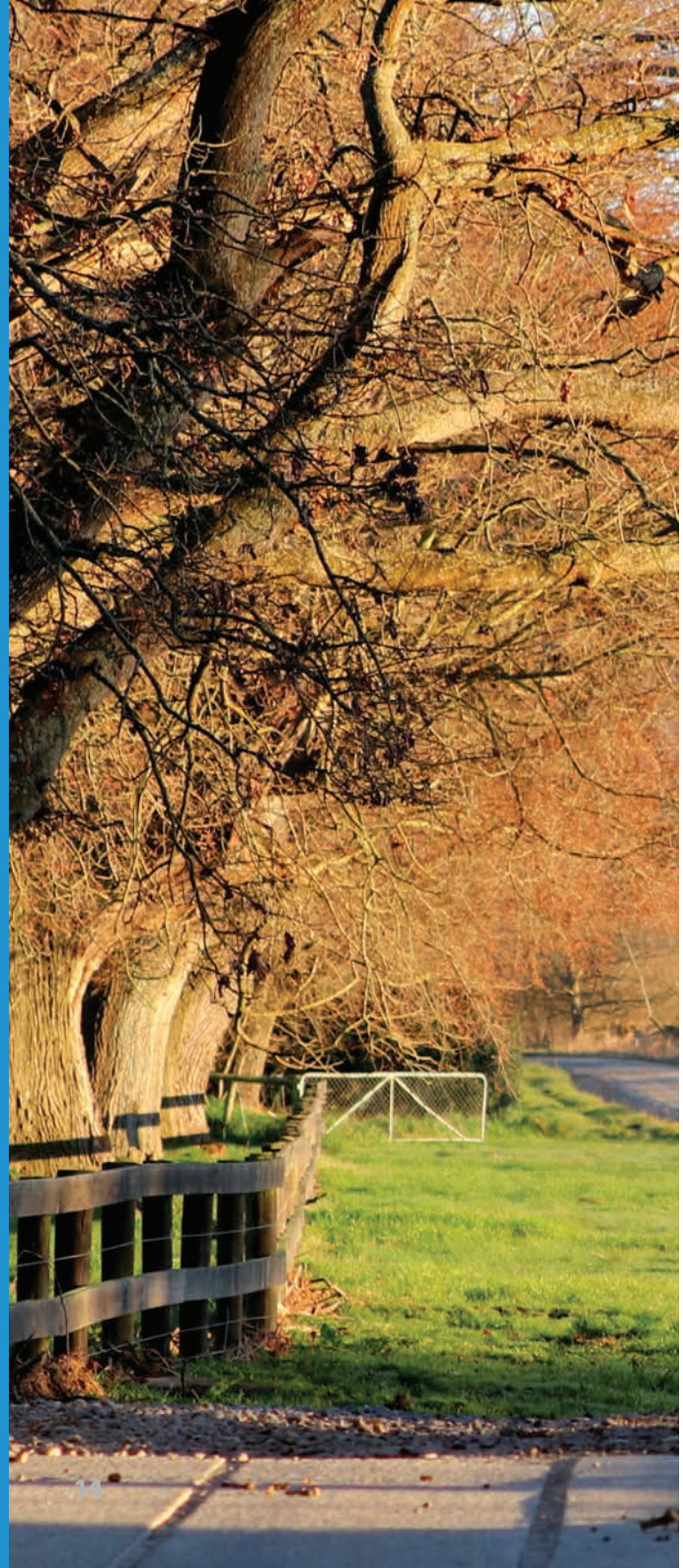
46% earn < $30,000 pa
36% earn between $30-$70,00 pa
18% earn > $70,000 pa
Mean income $33,600

Household composition

One-family households (77%)
One-person households (20%)
Multi-person housholds(3%)

Home ownership

80% of households live in a privately owned dwelling



3. THIRTY YEAR STRATEGY

3.1 Strategic vision

The 2018 and 2021 IS main focus' were catering for growth, ensuring the renewal of assets was supported by an appropriate funding strategy, addressing increasing community expectations for services, making development more holistic and sustainable, ensuring on-going community wellbeing, preventing and mitigating negative effects of climate change and enhancing the resilience of communities and the infrastructure they rely on.

In addition, the Council's operating environment became more uncertain in 2023 with the Resource Management Act 1990 review, 3 Waters reform and the Future of Local Government review initiated by Central Government.

More recently Council has been impacted by economic factors like increasing inflation and interest rates that increase costs. Council costs have also increased in recent years for responding to adverse weather events, which are increasing in frequency and severity.

Council are providing for and responding to greater levels of service for activities that are being driven by regulation and a growing district.

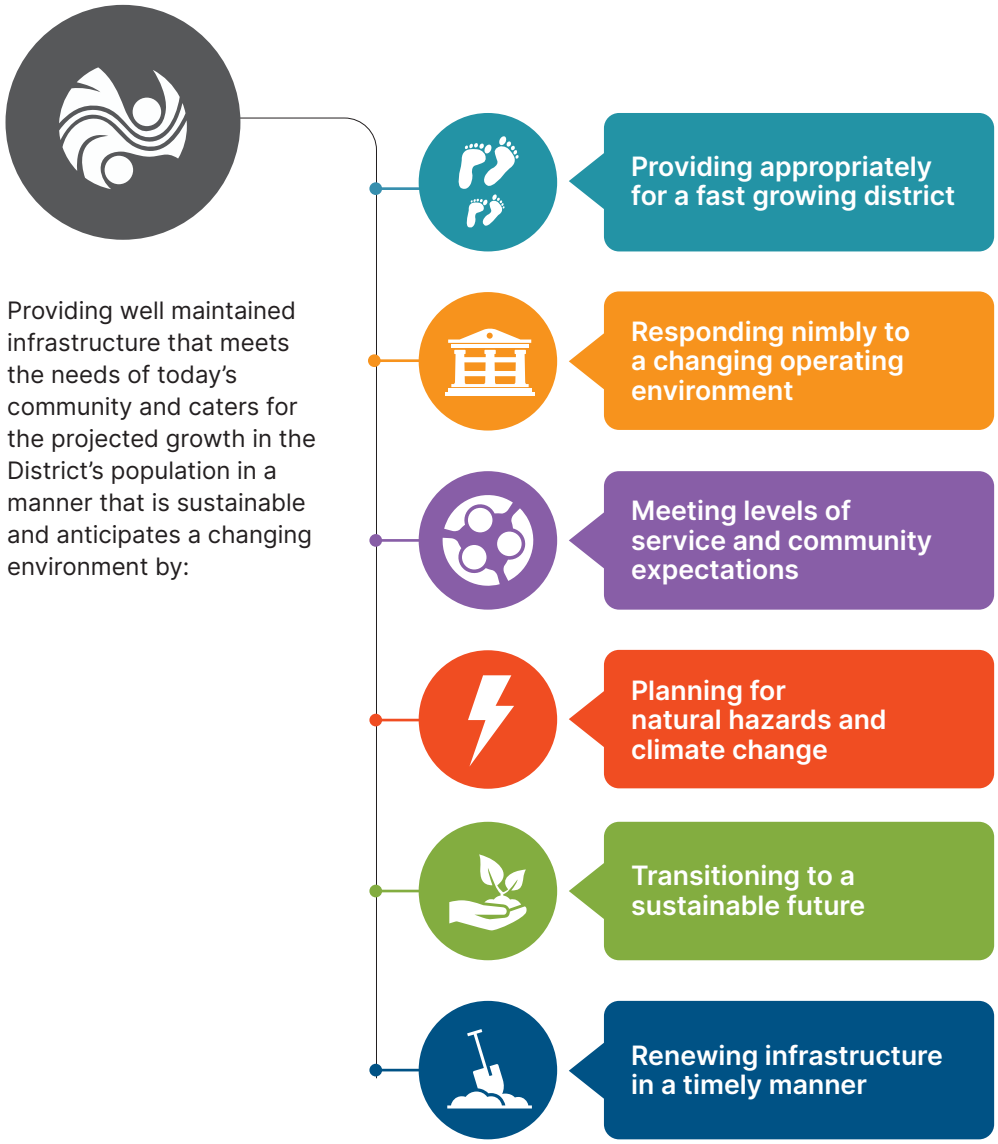
Figure 3.1 sets out the Council's vision for infrastructure provision and management. The vision supports the Council's community outcomes outlined in appendix 5.4.

The Council's first priority is to maintain the infrastructure it already owns. The six key themes as shown in Figure 3.1 provide a focus for Council's infrastructure planning and within this framework, specific priorities, in no particular order, are to:

- Complete infrastructure expansion/improvements required to cater for population growth
- Complete the assessment of climate change risk for the District and develop a Council Response Strategy in consultation with the community
- Continue to allow borrowing headroom for natural disaster mitigation
- Transition firstly the organisation and then the District to a more sustainable way of operating
- Continue to manage flooding risk
- Improve the quality of stormwater network discharges
- Carry out indigenous biodiversity enhancement and ecological improvement of waterways
- Create a well-connected multi-modal district and supporting alternative travel choices, whilst delivering a safe transport system for everyone and making the network efficient for freight
- Ensure town centres continue to be vibrant places for commercial and community activity
- Continue to provide for a range of community and recreation spaces and facilities.

Key projects that give effect to the above are included in section 4 of this Strategy.

Figure 3.1 Infrastructure vision and key themes



Providing appropriately for a fast growing district

3.2 Providing appropriately for a fast growing district

Key issues

The strong ongoing population growth in the District affects the demand for infrastructure and services. The aging of the population is also predicted to have an influence on the services provided. Ensuring the right infrastructure is provided at the right time and in the right location to cater for an expected population of 102,000 by 2053 is a key issue for the Council's infrastructure planning.

Description

Population growth

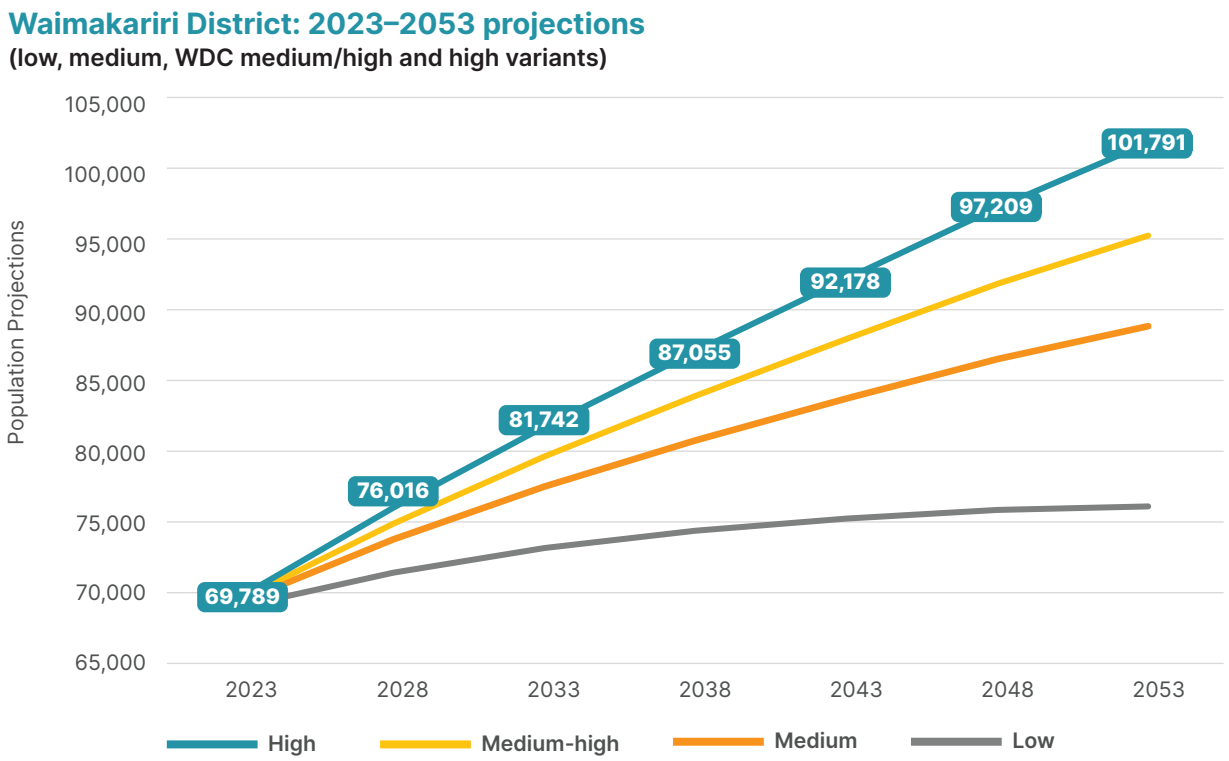
The District's population has increased significantly over the last nearly three decades, increasing from around 33,000 in 1996 to the current estimate of 70,900. The District's population grew by 2.5% in the year to 30 June 2023 (Source: Stats NZ).

Population projections used in the strategy are based on a high growth scenario developed by Formative Limited. The scenario has increased from the medium/high scenario used in the previous LTP. Under the new high growth scenario, the District's population is forecast to increase from approximately 70,900 in 2023 to around 83,000 in 2033. Over the 30-year period covered by this IS, the population is forecast to grow to over 100,000, with approximately 36% of this being over 60 years of age. Council's population projections have proved reliable over time.

To meet the demand from an increasing population, building consents have exceeded forecasts in recent years, which supports the change in the population growth scenario. Building consent forecasts have increased to 495 per annum over the period of this LTP.

The Council acknowledges changes in geopolitical landscapes and national migration policies may affect growth estimates in the future. Statistics New Zealand also requires users to cite they have produced their projections according to a set of agreed assumptions and advise that extending the projections beyond 2034 may result in the population becoming unrealistically high or low by 2053. The Council intends to closely monitor its population scenario planning and revise accordingly.

Figure 3.2 Population projection scenarios



Source: WDC scenario projections (The projections have as a base the estimated resident population of the area at 30 June 2017).

Table 3.1 2023–2053 population projections

Waimakariri District Projected Population 2023 – 2053							
	2023	**2028**	**2033**	**2038**	**2043**	**2048**	**2053**
WDC high variant	69,789	76,015	81,742	87,055	92,178	97,209	101,791
Stats NZ medium variant	69,100	74,300	77,100	80,500	83,500	86,400	no data

Source: WDC scenario projections and subnational population projections, by age and sex, 2018(base)-2048 update of Statistics NZ.

Aging population

The medium age of those living in the District at 43.6 years is slightly older than the national average of 38 years (2023); and the number of residents aged over 65 is expected to more than double from 11,500 in 2018 to 24,700 in 2048 (Statistics NZ).

In addition to this the population of the Waimakariri District is structurally aging. Table 3.2 shows the proportion of children under 15 years old living in the District at the 2018 Census (Statistics NZ) slightly exceeded the proportion of the population over the age of 65 years. The Waimakariri population estimate at 30 June 2020 shows this situation has reversed. Professor Natalie Jackson, in her paper to the Community Board Conference in 2019, suggests that *"once a population has more older people than children it is a short step, of around one decade, to more deaths than births and the end of natural increase"*. Professor Jackson goes on to suggest that once a population gets into a situation of natural decrease, growth can only occur through migration.

The biggest change expected in household family type projections is an increase in two and one person households. Infrastructure planning is currently based on 2.5 persons per household.

This change in demographic composition is likely to see demand shifts for types and locations of housing, transportation and recreation activities. Changes in demand will also need to be carefully considered when planning future expansions of waste transfer stations and landfill sites, and their associated consenting requirements.

An aging population could increase the demand for alternative forms of transport, transport services within towns, more bus stops, wider footpaths to accommodate more mobility devices, more accessible parking, and improved footpath surfaces. Peak-hour travel could also reduce and off-peak travel increase.

Table 3.2 Proportion of children and older people in District population

Age Groups	2018 Census		30 June 2023 Population Estimate	
	Number in District	Proportion of population	Number in District	Proportion of population
Children (0-14 years)	11,600	19.4%	12,000	17.4%
People over 65 years	11,500	19.3%	14,800	21.4%

Source: 2018 Population Census and subnational population projections, by age and sex, 2018 (base)–2048 update of Statistics NZ.

Changing age demographics have varying effects for solid waste. Aged residents and smaller housing units produce less waste, but this could be offset by an increase in home-medical waste, such as dialysis bags/ tubing and adult incontinence products, and higher density housing. Aged care facilities and retirement complexes may manage their waste without subscribing to Council kerbside services, resulting in a decrease in Councils rating base and a change in waste flows through the Southbrook Resource Recovery Park (SRRP).

An older population, combined with new technology such as E-bikes, is expected to increase the demand for walking and cycling facilities. Other infrastructure requested by older people is more public toilets, additional seating along popular routes and better pathway surfaces in reserves and walkways.

There is a need for housing stock to be intentionally planned to ensure it is appropriate to meet changing demographics. In 2019 Council carried out a survey to inform its Age Friendly Plan. Respondents to this wanted to see a mix of housing types provided to accommodate older people including 'life mark' housing, housing with a mix of shared facilities and private space, more community housing and additional retirement villages in the east of the District.

A substantial assessment was undertaken by Council in 2020 to predict the likely future demand for housing within the District over the next 30 years. This concluded that it was highly likely Council's current modest waiting lists for Housing for the Elderly would increase significantly over time due to increased demand for affordable 1-to-2-bedroom housing units.

The rents for the current units adequately cover the long-term cost of owing, operating and replacing the existing stock. The cost of debt servicing the construction of new units, along with operational costs, have in the past made it uneconomic to build new units. However, the potential of Central Government funding support may result in the addition of new units. Funds generated from the sale of seven houses, associated with a historic Rata Foundation grant, are also available for re-investment in a targeted housing activity.

Population distribution

Since the mid to late 1990s, the Council has signaled in its District Plan where the District should expand to cater for growth and in the next thirty years residential and commercial growth is expected to occur predominantly in the priority growth areas depicted in Figure 3.3. Infrastructure boundaries have been established around the main towns, and these are set out in the Canterbury Regional Policy Statement 2013.

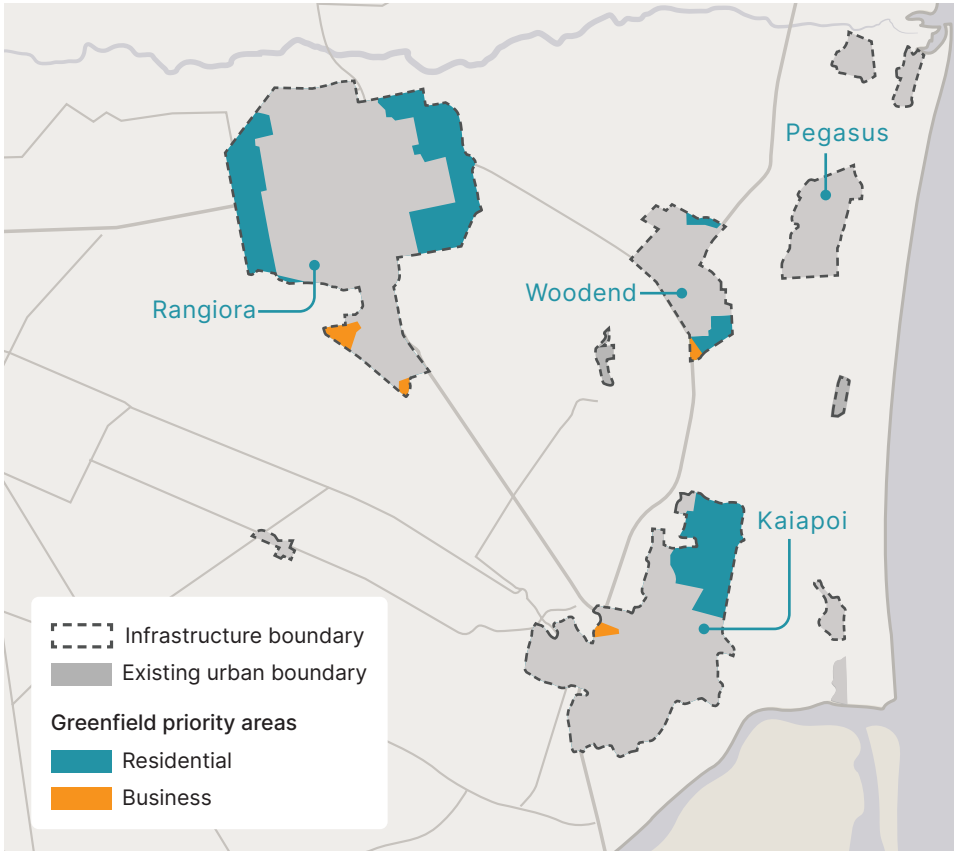
The areas proposed to grow are identified and planned for collaboratively in conjunction with Environment Canterbury, Christchurch City Council, Selwyn District Council, mana whenua, the NZ Transport Agency Waka Kotahi (NZTA) and the Te Whatu Ora Health NZ Canterbury and relevant Crown agencies through the Greater Christchurch Partnership. This helps to ensure there is a coordinated and equitable approach to providing for growth and provides more certainty to each council about their infrastructure investment decisions. The Council is an active partner in the Greater Christchurch Partnership, which has been collaborating closely on the development of the Urban Growth Programme. This Programme includes the development of key strategic spatial and transport investigations and plans such as the draft Greater Christchurch Spatial Plan, Turn up and go / Mass Rapid Transit Business Case, and the Greater Christchurch Transport Plan. Underpinning some of this work is the need to work collaboratively to accurately identify sufficient future housing and business capacity and demand.

The priority growth areas, together with existing zoned but undeveloped land, provide sufficient capacity to provide for the anticipated population increase over the 30-year planning period.

In the past 20 years, most growth has occurred in Rangiora, Kaiapoi and Woodend (including substantial urban development at North Woodend within the Ravenswood development) and with the building of the new town Pegasus. Recent land use changes also include additional large lot residential development (typically lots sized 0.5ha to 2ha), an increase in the number of small holdings in the rural zone (typically lots sized 4ha to 8ha), and increased dairying across the District.

The Council has been reviewing its District Plan, and a Proposed District Plan was notified in September 2021. Hearings on submissions to the Proposed District Plan, including a variation to implement the requirements of the Resource Management Housing and Amendment Act 2021 are currently underway.

Figure 3.3 Priority growth areas



As part of this review the 'Our District, Our Future - Waimakariri 2048, District Development Strategy' adopted by Council in 2018 provided strategic directions and a spatial framework to guide the anticipated growth in the District over the next 30 years. The Strategy confirmed that residential growth is expected to continue to occur predominantly in Rangiora, Woodend/Pegasus/Ravenswood, and to the north and west of Kaiapoi over the next 30 years but recognises constraints to some of these locations.

The National Policy Statement on Urban Development 2020 requires Councils to at all times provide at least sufficient development capacity to meet expected demand for housing and for business land over the short, medium and long term. As such, Housing Capacity Assessments are developed by the Greater Christchurch Partnership, with the most recent dated 2023.

The District has seen strong demand for large lot residential development, as well as small rural holdings ('lifestyle blocks'), most likely due to its proximity to Christchurch City. The Council adopted a Rural Residential Development Strategy in 2019, informed by directions signalled in the District Development Strategy, that identifies areas for additional large lot development. These have then informed the Proposed District Plan's directions for large lot development. In 2021, the Council was successful in gaining immediate legal effect to raise the minimum lot size in the proposed General Rural Zone from 4ha to 20ha, in order to protect productive potential and rural character and amenity.

Commercial growth is centred in Southbrook with about another 60 hectares of zoned land yet to be fully developed. Further commercial development is expected in the town centres of Rangiora, Kaiapoi and Pegasus and North Woodend (Ravenswood). These areas are also depicted in figure 3.3 and have been planned for in the Kaiapoi Town Centre Plan and the Rangiora Town Centre Strategy.

Kaiapoi Māori Reserve 873

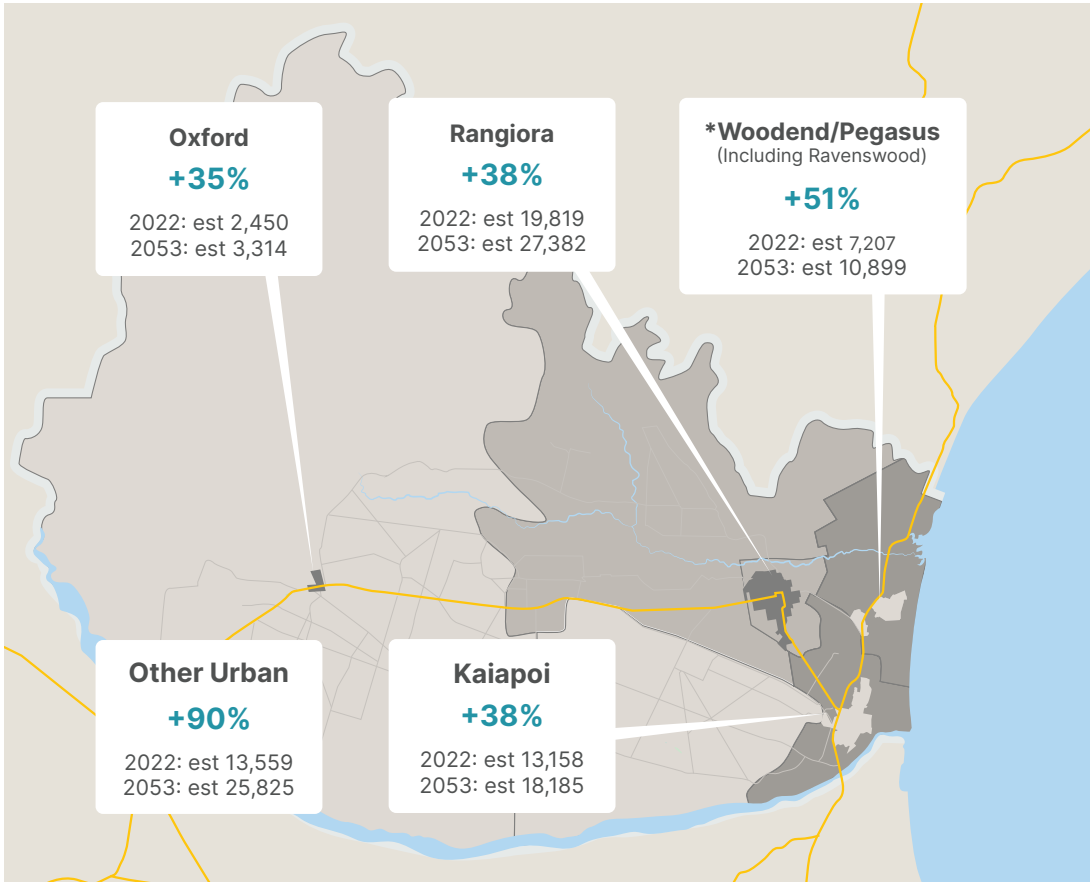
The Tuahiwi Village area, known as Kaiapoi Māori Reserve 873 (MR873) was a Crown grant to the Ngāi Tūāhuriri people in 1848, following from the Kemps Deed. Today the reserve land totalling 1,056ha is mainly farmland, with Tuahiwi village and the important Tuahiwi Marae at its centre. The land is held in a combination of both Māori and freehold property titles and most of it has been alienated through the acts and omissions of government agencies over more than 150 years.

In recent years the Council has sought to recognise and provide for development rights held by descendants of the original grantees of the land through its District Plan. More housing is a consequence of this along with the associated increase in demand for services and facilities.

Recently the water supply network in the reserve area was extended and its supply made more resilient. Now, aided by $3.6m of 'stimulus funding', Council has completed a further extension of the water supply and a significant upgrade and extension to wastewater services to support additional housing.

Figure 3.4 shows the projected population increase for the District from 30 June 2023 (70,900) to 30 June 2053 (102,000) divided into the areas where growth is anticipated.

Figure 3.4 Distribution by town of projected population increase



Planning ahead

Confirming where growth should occur has given the Council confidence for major infrastructure investment decisions. In the past 20 years two significant infrastructure projects have exemplified this:

- The construction of the $36m Eastern Districts Sewerage Scheme that connects and treats wastewater from nine eastern towns and communities and disposes of the effluent through a 1.5km long ocean outfall discharge. This system which was implemented in circa 2005 has improved the environment by replacing discharges to lowland rivers and streams or disposal onto land. While the Eastern Districts Sewerage Scheme has hydraulic capacity for future growth until 2069, treatment upgrades are planned to keep pace with growth.
- A $16m major upgrade of the Rangiora water supply, which includes a new deep artesian water source and in-ground infrastructure.

The Council's commitment over the past 20 years to investing in infrastructure to cater for growth means that for the next thirty years the backbone of the major infrastructure is in place. Future work therefore focuses on 'plugging-in' new growth areas to existing systems.

The Council's infrastructure planning to accommodate future growth has been based on the WDC Corporate Population Scenario - high variant and the projections for the towns are shown in figure 3.4. Modelling has been carried out to identify new works or upgrades that will be required in the future to service this growth, while continuing to meet the agreed levels of service, and these have been incorporated into capital project budgets.

The inherent uncertainty underlying the rate of growth will be managed by carrying out annual reviews. This will enable short term capital planning adjustments to be made in response to changing market requirements, avoiding unnecessary expenditure on growth works before they are actually needed. It will also highlight projects that need to be accelerated because growth is occurring faster than anticipated.

Water Supply

Council works closely with Environment Canterbury, the regulatory authority for protecting both the availability of water and its quality, to protect the quality of the aquifers that supply water to the majority of the District's inhabitants.

Water source supply is from ample and secure artesian aquifers for Kaiapoi, and deep secure sources for Woodend and Pegasus towns. Kaiapoi source wells are also used to supply Rangiora, via a pressure main from Kaiapoi. Finding additional water to cater for growth for these communities is therefore not seen as a significant issue, although there will be ongoing projects to extend existing well fields.

The adoption and implementation of a revised Water Conservation Strategy in 2020 is aimed at helping Council meet peak water demands. This Strategy includes;

- Incorporation of performance measures for water loss from the system and actual peak day usage
- Establishment of specific protocols to measure leakage
- Establishment of a specific methodology to determine 'reasonable water use'.

Wastewater

A review of the Ocean Outfall wastewater network in 2020 concluded sufficient capacity was available until at least 2069. There are also opportunities to extend this with better management of storage and pumping control. Consideration needs to be given to consent renewal before the consent expiry in 2039.

The Oxford Wastewater treatment plant is approaching the need for new consent. This will necessitate a significant upgrade. The upgrade is beyond the first three years of this LTP. Council will consider upgrade options and options for funding this upgrade prior to consulting with the community on a way forward in three years time as part of the next LTP.

Four significant wastewater upgrade projects will ensure there is sufficient capacity for growth in both the reticulation and treatment plants until 2038. The Rangiora network upgrade is currently underway and the Kaiapoi network upgrade is planned for 2024. Treatment plant upgrades are planned for Rangiora to commence in 2024 and Woodend in 2029.

Stormwater

The growth modelling included establishing projected increases in the number of properties expected to receive drainage services. However, growth-related works are minimal as nearly all the costs for these fall directly to the developer. This is because infrastructure is required to be constructed in new development areas in a way that ensures any discharge is treated to the quality standards required by the Canterbury Land and Water Regional Plan. The discharge rate can also not be greater than what existed before the development in up to a 50-year event.

Roads and Foothpaths

While car use is declining internationally there is no evidence of this in the Waimakariri District, and any future reduction is likely to be accompanied by a corresponding increase in walking, cycling and use of public transport.

The completion of the Western Belfast By-pass Motorway and the Northern Arterial ensured that the District remained well connected to Christchurch. The new Government has also signalled a commitment to the delivery of the Christchurch Northern Link – State Highway 1, which includes the Woodend Bypass.

During 2023 Council consulted on an Integrated Transport Strategy (ITS), which was adopted in early 2024. The transport vision in the ITS is: *It is safe, easy, and sustainable to journey to where we want to go*. The five key moves identified to achieve the vision are:

1. Create a well-connected multi-modal district
2. Integrate land use and transport to underpin higher density living in urban areas
3. Design transport network for the efficient movement of freight
4. Deliver a safe transport system for everyone
5. Support alternative travel choices.

Council will continue to work with the Greater Christchurch Partnership and Environment Canterbury to seek improvements to modal options such as enhanced public transport infrastructure and services, whilst providing better walking and cycling facilities connecting our towns and the District.

Council consulted in the LTP on bringing forward the planned Rangiora Eastern Link road in order to reduce traffic congestion through Southbrook and to provide for growth in the eastern portion of Rangiora. If confirmed, the estimated completion time would be brought forward to 2028/29 from 2032/33.

Generally, the District's roads and intersections are far from their ultimate capacities and many are unlikely to reach those points in the near future. However, there are some parts of the network that are having difficulty meeting the demand and where growth will put them under strain with longer delays at peak times being more likely in future, or where significant deterioration of the road will be likely to occur.

This deterioration is particularly the case where the roads carry a higher than usual proportion of heavy traffic. Reducing congestion on existing roads no longer fit for purpose because of growth will help to ensure safer travel and a number of network improvements are included in this Strategy.

Solid Waste

The primary solid waste assets are the Councils resource recovery parks at Southbrook and Oxford. For Southbrook in particular, population growth throughout the District has put pressure on existing facilities particularly over peak periods. Upgrades are planned to ensure there is sufficient capacity for growth in the SRRP transfer station site and reuse and recycling area until 2039, with the upgrades to the resource recovery park planned for the first four years of the LTP. A further expansion of the SRRP is provided for in 2039 through to 2042.

Community Facilities Green Space

Due to the rebuilding and strengthening of community infrastructure following the 2010-2011 Canterbury earthquakes, the District is very well served with community facilities, apart from in the new eastern growth areas of Pegasus and nearby Ravenswood subdivision. A new community centre is proposed in each of these areas with land purchases for Pegasus in 2023-2024 and Woodend in 2023-2024. The development of the Pegasus facility is planned for 2024-2025 and the north Woodend facility in 2034-2035.

Council's recently completed Community Facilities Network Plan has identified opportunities to activate our spaces more, potential building sales, and financial contributions towards new facilities. It proposes an increase to building replacement budgets in outer years of the LTP of $3.8m to replace other key community facility halls and sports pavilions. Southbrook Sports Club needs urgent work, planned for 2028, at a cost of $1.34m.

Council has developed a Natural Environment Strategy during 2023, which was consulted on as part of this LTP. This strategy identifies that Council will require an additional 505ha of land by 2053 to meet its adopted benchmark of 5-15ha of natural park per 1,000 residents. However, Te Kohaka te Tuhaitara Trust (TKTT) manages 750ha of land along the Pegasus Bay coastline which mitigates the shortfall to some extent.

Allowance has also been made in 2040 for a possible expansion of the available indoor court space at the new MainPower Stadium in Rangiora. Some of the sporting codes using the stadium have already indicated to Council that the four courts provided in the facility will be at capacity and therefore will not be sufficient

to cater for population growth or unrelated growth in the sports. Council is also looking to invest $0.5 million towards the development of a new cricket oval and training facility in order to continue to host first class cricket. Usage levels will be monitored, and a review carried out after the first three years of operation.

Aquatic Facilities

Aquatics Facility Strategy has identified a need for a new pool to be developed in the eastern part of the District within the next 15 years to cater for growth. While the Kaiapoi and Rangiora pools were built or rebuilt within the last 15 years, major upgrades are planned for these pools after 2033/34 financial year to cater for growth and to ensure the facilities continue to meet community expectations. Potential upgrades to meet changes in demographics using aquatics facilities include hydrotherapy pools and leisure facilities.

Libraries

Responding to the increased population over recent decades has put pressure on Library services and this is set to continue over the next 20 to 30 years. Rangiora library extension has been identified as a significant project to be implemented within next 10 years.

Property

Waimakariri has an older demographic than many other parts of New Zealand and the recent increasing demand for Council's Housing for the Elderly Units sets the scene for the more significant increase in demand associated with the retirement of the large Baby Boomer generation over the next 20 to 30 years.

Planning

Council's planning contemplates the employment of between 50 and 150 additional office-based staff in Rangiora by 2050 to cater for growth in the District and the subsequent increased demand for services. An extension or rebuild of the Council's headquarters is planned for 2038-39.

Amenities

The Council recognises that it needs to continually invest in amenity areas within the town centres if they are to remain vibrant and attractive spaces to visit. In the previous Infrastructure Strategy $21.6m had been set aside to implement the refreshed Rangiora and Kaiapoi town centre strategies, and another $6m to address parking issues in the Rangiora town centre in the first three years of the LTP and was topped up by an additional $10m in 2035. In order to help maintain rates affordability in the near term, around $20m of this funding has either been removed or delayed until after the 10-year period of this LTP.

Summary of Council's strategic response

Issue	Council's Response
Predicting level and distribution of growth and using this to inform infrastructure planning	Adopting a corporate growth model, including changing demographic projections, that informs Council decision making. Adopting strategies, such as the District Development Strategy, that signal directions for growth and implementing these through the District Plan review. Integrating land-use planning and infrastructure provision, especially for transport services, by adopting a multi-modal approach to deliver sustainable solutions. Modelling key 3 Water infrastructure networks and implementing water conservation/management strategies to ensure sufficient capacity is available. Designing infrastructure on a minimum 50 year planning horizon. Preparing/refreshing strategies for transport, community facilities, aquatics, walking and cycling, sportsfields, access and Age Friendly to determine future requirements.

Responding nimbly to changing operating environments

3.3 Responding nimbly to a changing operating environment

3.3.1 Financial environment

Key issue

Continuing to progress the District in an uncertain domestic and international financial environment.

Description

The last LTP period was significantly impacted by the lockdowns put in place to counter the global Covid-19 pandemic. New Zealand's response to Covid-19 was largely successful in keeping deaths and the impact on our health system to an acceptable level.

Early forecasts of recession and negative financial consequences proved incorrect, with the Government providing significant stimulus to support the economy. Council, in order to maintain rates affordability, revised its 2020/21 rates increase down from 4% to 1.5% by reducing costs, deferring some capital works and borrowing to cover funding shortfalls.

The easing of the Covid-19 pandemic resulted in the Government removing most of the Protection Framework rules in August 2023. It is expected that new variants of Covid-19 will evolve over time and impact the health of the population, however we must now learn to live with this in much the same way we do with influenza. Council anticipates minimal impact from Covid-19 in future.

The global supply chain disruptions caused by Covid-19 and the financial stimulus provided by countries across the globe resulted in a sharp rise in inflation starting in 2021. The resulting price increases has negatively impacted household and business budgets thereby reducing discretionary incomes for many. In addition, employees began to seek wage increases to maintain lifestyles.

The increase in inflation prompted Central Banks across the world to increase Official Cash Rates significantly and at a record pace. The increase in interest rates, while good for those with interest-based investments, has severely impacted mortgage holders and other borrowers. The full effect of lending rate increases is not expected to be fully recognized in the economy until later in 2024 or even into 2025. Central Banks globally have indicated they anticipate interest rates to remain 'higher for longer', with many forecasts suggesting it will be late 2024 or 2025 before reductions are likely. Like most economic forecasts, these are subject to on-going review.

Inflation, and therefore interest rates, may also be impacted by geopolitical shifts across the world in the months and years ahead. Conflicts, such as those in Ukraine and Gaza, appear to be increasing and risk impacting global trade thereby increasing costs.

Like households and businesses, Council is impacted by inflation and interest rate increases, which impact rates affordability. Council has reviewed proposed budgets for this LTP and taken action, such as deferring capital projects, to keep rates increases as affordability as it can, while still providing the levels of service expected by the community, meeting compliance requirements and providing for District growth. Council has maintained its AA credit rating, which lowers the cost of debt, and has maintain debt headroom.

Summary of Council's strategic response

Issue	Council's Response
Addressing rates affordability	Keeping rates increases to a minimum by smoothing rates via a combination of loan funding, implementing austerity measures and deferring some infrastructure projects to later years.
High cost of infrastructure projects	Get the maximum benefits out of existing infrastructure assets through careful maintenance, renewals and encouraging community to utilise them with care. Make decisions regarding infrastructure projects based on cost-benefit analysis.
Increasing community concerns on use of public money to derive maximum outcomes	Use work processes, combination of inputs that minimise project costs, reduce waste and conserve resources.

3.3.2 Changing Government priorities and legislative environment

Key issue

Ensuring infrastructure planning is able to anticipate and respond agilely to external change.

Description

With the change of Government in 2023 comes changes in policy and priorities, including changes to government expectations, requirements and priorities for the delivery of infrastructure. While a number of potential changes have been signaled, the full extent and outcome of these is as yet unknown. Council therefore bases its current planning on known priorities and legislation but continues to engage in discussions and consultations regarding future options at both a regional and national level. Looking ahead the most likely scenario will require Council to be agile enough to be able to adapt to fast-paced legislative change. This Infrastructure Strategy may need to be reviewed once the full impacts of the following proposed changes are known. Other relevant legislative and regulatory changes that could impact on the provision or management of Council's infrastructure are described in appendix 5.3.

3 Waters reform

The Water Services Act 2021 (WSA) came into effect in November 2021 and replaced Part 2A of the Health Act 1956. The primary purpose of the Act and its associated standards and rules is to ensure a safe supply of drinking water. The WSA was introduced as part of water reforms that took place as a direct response to the Havelock North water contamination event which affected a large number of people in 2016. The WSA has created a new regime for managing and monitoring private and public drinking water supplies. The water reforms also established a new water services regulator called Taumata Arowai, who is responsible for regulating all drinking water supplies in New Zealand.

Council as a drinking water supplier is subject to the WSA and must meet its regulatory requirements. In 2022, Taumata Arowai introduced new Drinking Water Standards and Drinking Water Quality Assurance Rules (DWQAR) that provide the minimum requirements drinking water suppliers must comply with to demonstrate they are supplying safe drinking water.

The previous government's Water Services Reform programme introduced a suite of legislation, including:

- Water Services Act – which established a new water regulator, Taumata Arowai.
- Water Services Entities Act / Water Services Entities Amendment Act / Water Services Legislation Act – which proposed the establishment of new water service entities.
- Water Services Economic Efficiency and Consumer Protection Act – to establish an economic regulation and consumer protection regime to be overseen by the Commerce Commission.

Our Council will respond to the new government direction and work proactively to ensure the best outcome for the Waimakariri Community.

The National Policy Statement for Freshwater Management 2020

Essential Freshwater is part of a new national direction to protect and improve our rivers, streams, lakes, and wetlands. The Essential Freshwater package aims to:

- Stop further degradation of our freshwater
- Start making immediate improvements so water quality improves within five years
- Reverse past damage to bring our waterways and ecosystems to a healthy state within a generation.

The National Policy Statement for Freshwater Management 2020 (NPS-FM 2020) is part of the Essential Freshwater package. It provides national

direction which regional councils translate into action on the ground through their regional policy statement and regional plans and city and district councils through their district plans. It replaced the NPS-FM 2017.

The requirement for all urban stormwater discharges to be treated before entering any waterway has major implications for the Council as all its urban stormwater discharges flow into streams and rivers. While more recently developed areas of the District have appropriate stormwater treatment and retention ponds in place, all of the areas developed before about 2000 are subject to the new standards.

National Environmental Standard

The National Environmental Standard regulations have come into force. This requires Environment Canterbury to define wetland areas within the District. It is expected that limited works will be permitted within these areas, and the ability to farm some of them, as has traditionally occurred, could be in doubt. Council will inevitably be involved in this process however it unfolds, which is likely to be different under the new Government.

Canterbury Land and Water Regional Plan

Environment Canterbury's Land and Water Regional Plan requires the Council to take responsibility for the quality of the stormwater discharge from its urban stormwater systems. To this end discharge consents from Environment Canterbury are required for all of the Councils urban drainage networks. These have been applied for, with the outcome pending, and provisional budgets have been included in each of the relevant scheme budgets totalling $21m.

Consent application draft conditions propose that by 2025 Council will have developed and costed a strategy for meeting water quality standards that will be implemented in the 2025 to 2040 period. Council is partnering with Environment Canterbury, the University of Canterbury, Te Rūnanga O Ngāi Tahu and other Canterbury territorial local authorities to test new technologies to improve water quality in existing urban areas. Some are currently being field trialled with other desk top assessments expected to be trialled before 2025.

Council has also recently obtained a global consent for the ongoing maintenance work it carries out on its rural open drainage network. The global consent takes account of the new regulations in the National Environmental Standards for Freshwater that are associated with the National Policy Statement for Freshwater Management 2020. The Drainage Maintenance Management Plan 2020 associated with the consent signals a more ecological approach to open drain management within the District. Accordingly, drain maintenance practices will increasingly include ecological improvement works such as drain re-shaping, riparian planting, creation of low flow channeling and meanders, and installation of sediment traps. Trials of lower levels of intervention are also planned. Additional funding for these enhancements has been included in the 2024-2034 LTP for projects that were developed under the guidance of the Waimakariri Water Zone Committee.

The Council has a resource consent to discharge effluent from its Eastern District Sewerage Scheme (EDSS) ocean outfall to mid-2039. The process to renew the consent will need to begin well in advance and there is likely to be opposition to the continued discharge to sea. Any changes to consent conditions related to effluent quality may have a significant impact on existing treatment plants. Other than providing additional treatment capacity within the EDSS to cater for growth, this Infrastructure Strategy has not made any provision for increased levels of treatment to effluent, although consideration of this will occur in the lead-up to the consent renewal.

Four treatment plants at Rangiora, Kaiapoi, Woodend and Waikuku Beach discharge treated effluent into the Ocean Outfall pipe. Fernside and Loburn Lea communities previously had their own treatment plant, and discharged to land. However, the Loburn Lea and Fernside schemes have now been connected to the Rangiora network and their treatment plants decommissioned.

Oxford has its its own treatment plant, and discharges to land. The Oxford WWTP discharge consent expires in 2031. There is a significant upgrade to the WWTP programmed in this LTP period.

The Rangiora and Kaiapoi reticulation network upgrades will reduce the frequency that levels of service are unable to be met, particularly with respect to overflow frequency.

Waste Minimisation Act

The government has revised the Waste Minimisation Act, which the Council needs to give effect to. It is reviewing the current Waste Management and Minisation Plan, and as a result there may be changes required to the Council's operations in future years. Any changes to the current operation are not included in this IS, and will be incorporated into future plans and budgets.

A new landfill levy is now in place. This has increased the Councils charges accordingly. The revenue from this levy will be used to assist with a range of improvements in the solid waste area.

The Council shares some services with Christchurch City Council (CCC) including organic waste treatment and some recycling activities. The CCC is reviewing its approach to the provision of some of these services and this may impact on the Council at some stage in the future.

Summary of Council's strategic response

Issue	Council's Response
Compliance standards come with a timeline for responding, and it is usually challenging to deploy resources to meet compliance requirements without interfering with other infrastructure activities or projects. e.g. The review of the waste minimisation legislation will necessitate more reporting of items received at transfer stations and cleanfill pits. This could result in serious financial consequences for the Council.	Once the legislative requirements are clear about particular compliance needs, prioritise infrastructure projects considering government requirements, community needs and available resources to deliver best for the community.
Meeting Land and Water Regional Plan requirements for urban stormwater discharge standards by 2025.	Securing consents for all urban discharges. Assessing the improvement programme (capital, operational, educational) required to improve discharges to waterways and enhance the receiving environment. Developing and consulting on a long term plan of work and associated budget provision to give effect to the programme. Monitoring and evaluating network and system performance and condition. Continuing to work collaboratively with partners, particularly mana whenua, to develop affordable and viable solutions to meet the consent conditions.
Meeting expectations that lowland stream environments and groundwater will be protected and enhanced.	Working in partnership with the Waimakariri Water Zone Committee to implement the Zone Implementation Programme Addendum (ZIPA) aimed at improving water efficiency and environmental sustainability. Including funding in the LTP to support this work.
Expectations that higher standards of flood protection will be provided in high rainfall events.	Extensive flood modelling work has been completed, and will continue to be refined, to identify at-risk areas, influence where further network upgrades should occur, and inform decisions about future development and building proposals. Implementing an ongoing programme of flood improvement works in Ohoka and Rangiora in response to 2014 and 2017 storm events. Carrying out a major upgrade of Kaiapoi stormwater systems, utilising shovel-ready funding from the Government.

3.3.3 New technology

Key issue

Identifying the impact changes in technology will have on the way infrastructure is used and being nimble in adapting management and provision of assets and services in response to this.

Description

Technology can have a large impact on the type and timing of infrastructure required and can assist in delivering services differently. It can be used to increase the effective capacity of infrastructure, reduce maintenance and operating costs, and improve reliability and safety. There can also be big gains in wellbeing when new technology is used to mitigate carbon emissions and improve environmental outcomes.

New technology may create a demand for new infrastructure or redefine how existing infrastructure is used. An example of this is the increasing demand for footpaths to be shared with E-scooters and for electric charging stations to be provided for vehicles. In some cases increased access to technology may decrease demand for certain types of infrastructure. The Covid-19 pandemic, for example, fast forwarded Council's flexible working programme and this may change the amount and nature of office space required in the future.

New technology has the potential to change how human settlements look and function in the future, particularly with regard to transport and the viability of town centres. Council makes its plans for infrastructure years ahead and new assets usually plug into existing fixed systems. The challenge is being able to anticipate the changes ahead and proactively adapt to these.

Significant improvements have been made in recent years in the development of new asset information management systems. An example is the AMIS project that went live in November 2020, achieving an outstanding level of integration and functionality in the Council's Technology One business software. A key benefit of AMIS is that much better asset management information will be able to be collected, enabling smarter long term decisions about assets to be made, and ultimately saving money and improving levels of service. The full benefits are unlikely to be seen until sufficient data has come into the system to allow it to be analysed.

RFID tags were introduced on waste collection bins in 2018/19 resulting in better management of bins by the contractor, optimised cash flow for the Council, and more equitable levels of service. Solid Waste is moving towards infrastructure as a service (IT) with the SRRP transfer station weighbridge information now being held on a cloud-based database. There are plans to extend this to other sites to enable waste data to be more easily tracked for the Waste Levy.

Consideration has also been given as to how improvements in technology can be used to reduce carbon emissions, for example, replacing some corporate and waste collection fleet vehicles with electric vehicles and installing electric charging stations at the Rangiora Service Centre.

Summary of Council's strategic response

Council's Response
Council will continue to keep a watchful eye on changes in technology that improve infrastructure provision and management and utilise these as appropriate.

Meeting levels of service and community expectations

3.4 Meeting levels of service and community expectations

Key issue

Continuing to respond to changing community needs and expectations as the population grows, ages and becomes more diverse. This includes the need for services to be affordable for residents 'as a whole'.

Description

While surveys generally show general satisfaction with the services Council provides (with some exceptions), levels of service are constantly under pressure from continued growth and increases in community expectations for infrastructure provision. Changing climatic conditions and higher regulatory standards also add to this pressure.

Balancing community expectations and affordability

The Council has capital works, renewal and maintenance programmes in place to ensure agreed levels of service are consistently met and there is no deferred or back log of planned works or maintenance which could impact these.

In recent years the expected standard to which services are provided has increased, particularly in rural residential areas where there is now an expectation that services will be provided to effectively an urban standard. An example of this is the provision of kerbside rubbish collection services to rural residential areas in Ohoka/Mandeville as a result of levels of service consultation carried out for the 2018 Waste Management and Minimisation Plan and Long-Term Plan.

There is a need to balance the demand for upgraded services with affordability. In some cases the Council engages with specific communities to ascertain an acceptable balance between providing a higher level of service and the cost of doing so. An example of this is the decision made by Council not to provide an organics collection service in the Ohoka/Mandeville rural residential area, as requested by a small number of residents, as it was not considered to be economically viable.

The employment data in the 2018 Census showed that just under half of the District's residents over 15 years of age were employed full time and nearly half of those who were employed earned less than $30,000pa before tax. At least 44% of Waimakariri households had an annual income of less than $70,000. Affordability has become an issue with the rise in inflation and interest rates post Covid and in the longer term as the population ages and more people end up on fixed incomes.

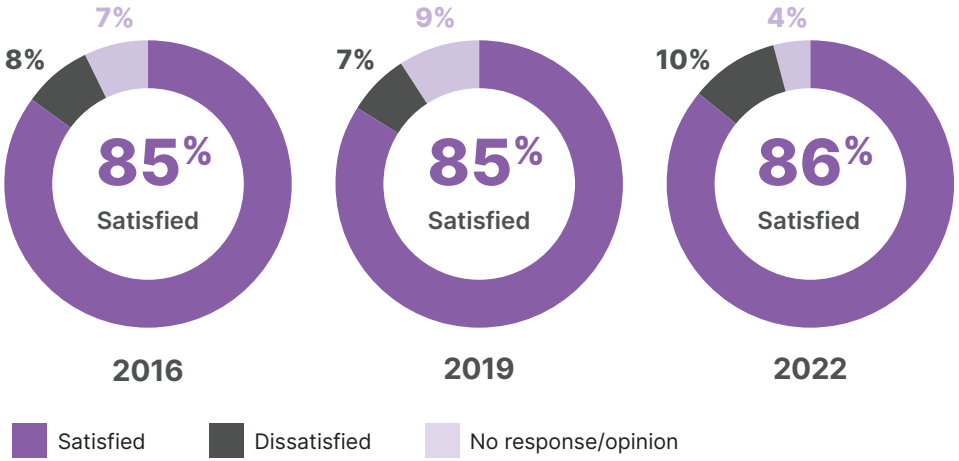
The Council carries out technical investigations and uses a wide range of engagement techniques to ascertain satisfaction with the services it provides and predict future demand. In addition to public feedback and service specific customer surveys, general satisfaction is primarily measured by the Council's Customer Satisfaction Survey. This survey has been run on a triannual basis since 1996, and many of the results have been relatively consistent over time.

Customer satisfaction survey

In 2022 the Council surveyed 772 randomly selected households to determine residents' satisfaction with its services and ask what changes, if any, they wanted to see. The methodology used ensured the results were statistically representative of the District's population as a whole.

Satisfaction with the Council's overall performance has been consistent over the last two surveys and improved from the 2013 rating (76%) when the question was first introduced. Overall dissatisfaction is low. Key messages from the qualitative data about overall performance were about the amount being paid in rates and the need to ensure value for money.

Figure 3.5 2022 Customer Satisfaction Survey - satisfaction with Council's overall performance.



Services that stood out for having satisfaction ratings over 90% were Waste Management, Water Supply, Wastewater, Green Space and Library Services. Other activity areas to receive very high ratings for aspects of the service provided were Wastewater, Roads and Footpaths and Green Space. Lower ratings for services were received for elements of the Roading and Footpaths, and Stormwater drainage, which the Council is aware of and working at improving. In some instances, lower satisfaction correlated with a higher non-response rate.

Activity area	Range of satisfaction	Range of dissatisfaction	Range of no opinion/no response	Aspects of service measured
Solid Waste	100–10%	48–0%	79–0%	12
Library Services	97–31%	5–1%	66–24%	9
Water Supply	91–78%	20–4%	9–2%	5
Wastewater	91%	2%	7%	1
Roads and Footpaths	81–21%	28–6%	67–1%	11
Green Space	91–44%	20–1%	56–3%	8
Stormwater Drainage	71%	20%	8%	1

The above table shows the range of satisfaction for different services within an activity area. For example within the Green Space activity area Parks and Reserves were rated 91% satisfaction and Cemeteries were rated 44% satisfaction, but had a No opinion/No response rate of 56%.

The issues highlighted in the surveys are usually ones the Council is already aware of, and in many cases planning improvements for. Increased satisfaction in subsequent surveys reflects the investments made by Council in these improvements.

Proposed changes to levels of service

No major changes to existing levels of service are proposed for the 2024 LTP, although water supply levels of service and solid waste operations could change as a result of pending legislation as described in this section.

Water Supply

A review of levels of service for water supply was approved by Council in 2020 for inclusion in the 2021-2031 LTP, with changes mostly clarifying and strengthening existing levels of service. In the lead up to the updating of the 2024 Activity Management Plans (AMPs), it was expected that the Council would not be preparing AMPs to support the 2024-2034 LTP, due to the 3 Waters reform. When the situation changed in May 2023, it was too late to carry out a review of LoS (Level of Service). As a consequence, there has not been a review of levels of service and they remained largely unchanged from the 2021 AMP version.

For Water Supply, the only difference in the LoS are changes arising from the introduction of the new Drinking Water Quality Assurance Rules (DWQAR) which supersedes the Drinking-water Standards for New Zealand (DWSNZ) 2005 (revised 2018) since the new water regulator Taumata Arowai came into force in 2011.

Historically, the primary level of service driver has been an ongoing programme of upgrades to achieve compliance with the Drinking-water Standards for New Zealand (DWSNZ). These standards have been replaced by the DWQAR. The measures relating to bacterial, protozoal, chemical, radiological and aesthetic compliance remain in the new rules, but the testing regime has become considerably more extensive. In addition testing for compliance for some parameters in the distribution networks is now required.

Until mid 2023, there was some uncertainty for the Council regarding chlorination, as it took some time for the new regulator (Taumata Arowai) to respond to Council's first application for an exemption from chlorination. This was declined for the first supply that was assesed, and in October 2023 Council resolved to progressively turn on chlorination for all of its previously unchlorinated supplies. Council intends to continue exploring options for chlorination exemptions.

Budget provision has already been made to install UV treatment on all water supplies. It is expected that all of these treatment plant upgrades will be completed by year 1 of the 2024-34 LTP.

Reducing leakage to enable Council to achieve its target level of less than 22% remains a key focus.

Wastewater and Stormwater

Levels of service, both mandatory and elective are remained unchanged from 2021. Levels of service have usually been reviewed as part of the three yearly Activity Management Plan review and update, but there was insufficient time to carry that out for this cycle, due to the delay in starting the Activity Management Plan (AMP) reviews caused by the 3 Waters reform process.

Solid Waste

District-wide review of waste transfer/recycling services is currently happening, and the outcomes will result in a new WMMP 2024/25. This may be a catalyst for changes to levels of service across all solid waste activities.

Roads and Foothpaths

For the Transport activity, Levels of Service measures are based on Department of Internal Affairs (DIA) measures, which are primarily customer focused, with targets adopted to meet Council requirements as appropriate.

Technical Levels of Service (which the Maintenance Contractor is required to meet under the contract agreement) were developed a number of years ago and have remained largely unchanged since that time.

Community responses through service requests, customer satisfaction surveys and Annual Plan / Long Term Plan submissions are reviewed to identify where Levels of Service may need further consideration or changing. There are no major changes to the current Levels of Service planned as part of this Long Term Plan.

Green Space

As part of the review of Green Space activities the current levels of service are reviewed to ensure that they remain relevant.

Aquatics

No changes have been made to the levels of service for aquatic facilities for the 2024 LTP.

Property

The proposed increase in elderly housing will have an impact on current service levels.

Libraries

The proposed Rangiora Library extension will have an impact on current service levels.

Summary of Council's strategic response

Issue	Council's Response
Identifying customer satisfaction with services provided.	Carrying out a Customer Satisfaction Survey every three years in conjunction with the LTP cycle and feeding results into AMP's. Carrying out service specific surveys as required. Regularly assessing any gaps between community expectations and services delivered and considering any changes required.
Ensuring a whole of life renewal and investment programme is developed and implemented for all infrastructure.	Adopting a risk-based renewals policy in conjunction with a 150 year renewal programme that ensures renewal investment occurs when assets are due for renewal. Developing a funding strategy to ensure revenues are set at appropriate levels and funding is available to enable the timely renewal of infrastructure, as required. Implementing a risk-based renewal programme taking account of asset condition, performance, criticality and vulnerability of the infrastructure. Anticipating potential changes to levels of service arising from legislative changes and making budget provision for these, for example, UV treatment of water supply. Delivering annual capital works and renewal programmes as planned. Reporting quarterly to Council on performance achieved in meeting agreed levels of service.

Planning for natural hazards and climate change

3.5 Planning for natural hazards and climate change

3.5.1 Natural hazards

Key issue

Increasing the resilience of Council infrastructure to natural disasters, including the effects of climate change.

Description

Like many places in New Zealand, the Waimakariri District is geographically diverse, reaching from the mountain ranges to the ocean. This makes the District susceptible to a number of possible natural hazards including flooding in lower lying areas, local earthquake faults, and tsunami and liquefaction in areas along the Pegasus Bay coastline. The Alpine Fault poses a major risk for Canterbury and GNS Science assumes there is more than a 75% probability of an Alpine Fault earthquake occurring within the next 50 years, and there is a 4 out of 5 chance that it will be magnitude 8+ event. If this occurs the effects on the region's infrastructure is likely to be significant.

While floods or a tsunami could cause significant damage to Council assets, risk assessments have identified that the greatest damage would be caused by either an Alpine Fault rupture or a major local earthquake. The Council's Risk Assessment and Financing Strategy has therefore been based on the expected worst-case scenario of a major earthquake.

The Council estimates the loss or damage to Council assets, along with the costs to recover from a major earthquake, to be about $315m . As well as incurring a share of the cost, and having prudent insurance arrangements in place, the Council will need to rely on continuing Crown and NZTA funding support. Any Council share of the recovery costs will need to be funded by borrowing, as in the short to medium term, the Council does not anticipate having any significant cash or investment assets available to realise and contribute to a recovery. Accordingly, since 2015 the Council has allowed $84m borrowing headroom in its LTP to cater for a significant natural hazard event. In the current LTP, the amount has been updated to $126m to reflect inflation and growth in assets.

If a significant disaster occurs within this period the Council could cancel and postpone programmes to later years so that Council debt level live within its Treasury and Borrowing Policy limits.

The Risk Assessment and Financing Strategy considers the unlikely, but possible, scenario where because of another major natural disaster in the country, or insurance region, insurance cover may not be in place when a major earthquake event occurs that seriously impacts the District. In this instance the Council's share of recovery costs would be about $156m. The shortfall between borrowing headroom and recovery costs means the Council will need to undertake a prioritisation process for recovery. Council's current strategy is to restore most infrastructure assets and all its highest priority community facilities, such as town halls, libraries and aquatic facilities, but assess the repair of lower priority assets against the funds available, desired levels of service, and the District's future needs.

The 2010/2011 Canterbury earthquake series has enabled the Council to have a good understanding of how its assets will perform in a major earthquake event. Much of the $139m recovery spend has been invested into strengthening buildings to higher standards and improving the resilience of assets in any future events. It is expected that all pipes at risk from earthquake in liquefiable ground will have been replaced by 2030.

While damage to infrastructure and buildings poses huge public and private costs, the impact on wellbeing can have the most profound effect. Some of the flow-on effects from the Canterbury earthquakes, for example, were disruption to business and employment, psychological trauma, dislocation of communities, creation or exacerbation of social issues, disruption to normal lives, and uncertainty in the future.

Many of the risks the District faces now and into the future can be readily identified. However, some such as those posed by climate change are becoming increasingly complex and uncertain. Resilience is a key factor in successfully negotiating this uncertain future environment.

Resilience defined

The ability to anticipate and resist the effects of a disruptive event, minimise adverse impacts, respond effectively post-event, maintain or recover functionality, and adapt in a way that allows for learning and thriving.

The 2019 National Disaster Resilience Strategy sets out the following three priorities to improve New Zealand's resilience to disasters:

- Managing risks
- Effective response to and recovery from emergencies
- Enabling, empowering, and supporting community resilience.

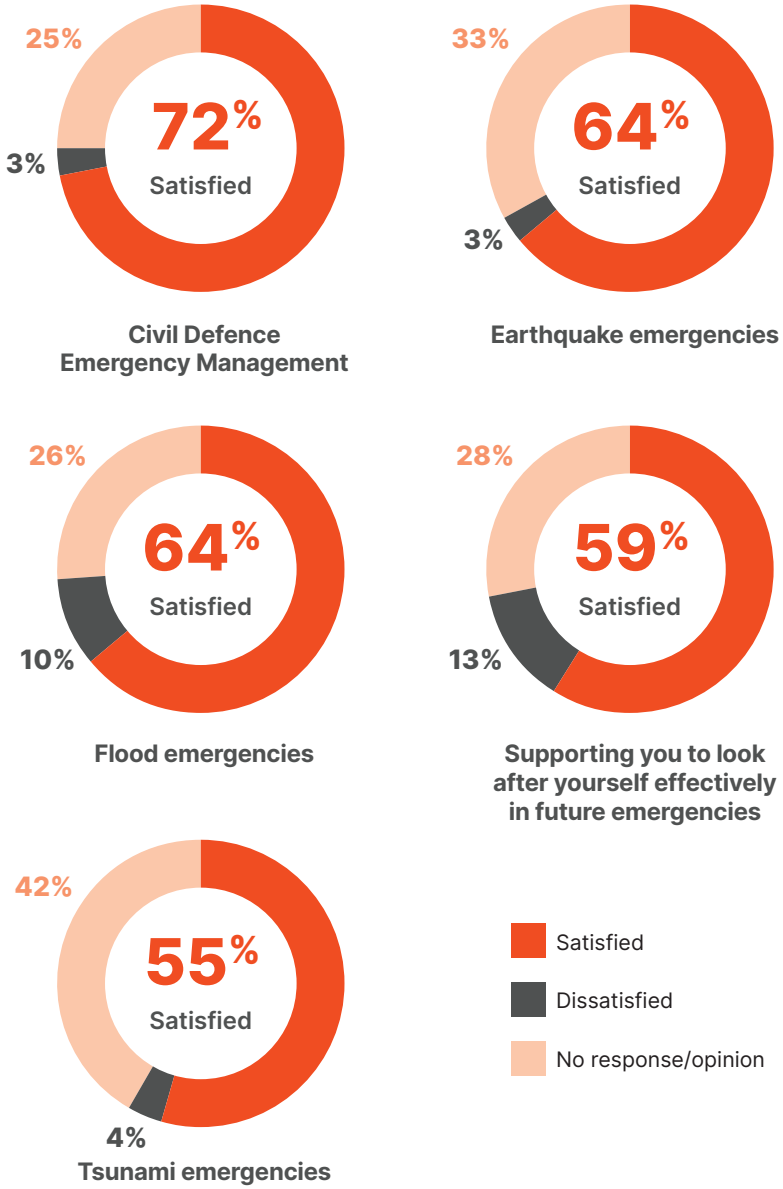
The Emergency Management Bill is being developed to replace the Civil Defence Emergency Act 2002 that currently provides local, regional and national powers for managing emergencies.

The Council's Civil Defence Emergency Management Unit is responsible for responding to emergencies. This Strategy is primarily concerned about managing risks by identifying and minimising these and limiting the impacts on infrastructure if hazards occur. Enabling, empowering, and supporting community resilience is a cross-Council function.

Figure 3.6 shows there is very little community dissatisfaction with the Council's Civil Defence Emergency Management and natural hazards planning, although there is room for improvement in raising community awareness.

Risks specific to activity areas are outlined in appendix 5.2.

Figure 3.6 2022 Customer Satisfaction Survey - satisfaction with CDEM and natural hazards planning



3.5.2 Climate Change

Key issue

Responding to climate change challenges in a way that ensures the long-term wellbeing, sustainability and resilience of the District's communities and businesses.

Description

Greenhouse gas emissions are causing significant changes to the Earth's oceans, atmosphere and climate which are expected to be very long-lasting and in some cases, irreversible. These changes have wide-ranging consequences for New Zealand's culture, economy, infrastructure, coasts and indigenous biodiversity. The scale and impact of both adaptation and mitigation on people and business has little precedent; and while climate change affects everyone, the most vulnerable people are the most exposed.

Lots of actions aimed at reducing or adapting to climate change offer opportunities and potential benefits that could for example make us healthier, save us money, make our District easier to get around and help us to improve our natural environment.

Climate change defined

Climate is a statistical description of weather in terms of the mean and variability of relevant quantities over a period of time. A change in these patterns that persists for an extended period, typically decades or longer, is referred to as climate change.

Researchers in New Zealand, and around the world, are beginning to understand the different ways our communities will be impacted by climate change. Some of the impacts are already clear, for example, sea-level rise and coastal erosion. Others are not so clear. It's important for us to look into the future so we can best prepare ourselves to respond to potential impacts. The 2023 6th Assessment of the Intergovernmental Panel on Climate Change (IPCC) states that *'Human-induced climate change is already affecting many weather and climate extremes in every region across the globe. Evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and, in particular, their attribution to human influence, has strengthened since AR5 (5th assessment). Global surface temperature will continue to increase until at least mid-century under all emissions scenarios considered. Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO_2 and other greenhouse gas emissions occur in the coming decades.'*

Both the World Bank[1] and the New Zealand Treasury[2] have warned that the longer reducing emissions is delayed, the harder and more expensive it will be to mitigate and adapt, and that while mitigation involves risks, those risks are not as great as those from a changing climate.

In 2015 New Zealand was one of 200 countries which signed up to the Paris Agreement to limit global warming this century to between 1.5 and 2 degrees Celsius above pre-industrial levels. Following this the government passed the Climate Change Response (Zero Carbon) Amendment Act 2019 which set into law a new 2050 domestic target of net zero emissions of all greenhouse gases other than biogenic methane by 2050.

The 2022 National Adaptation Plan sets out the Crown's long-term approach to adaptation and includes the first Emissions Reduction Plan, that sets the direction for climate action for the next 15 years providing targets and actions for the government and all sectors of the economy.

A Climate Change Adaption Act is being developed which is expected to empower local authorities to deal with managed retreat, including the ability to change established land use; provide funding mechanisms for adaptation and options for transition and compensation; and clarify issues of risk and insurance.

All Canterbury councils acknowledge climate change as a significant and long-term challenge and that we all share a role in driving solutions and adapting. Following the completion of the Canterbury Climate Change Risk Assessment in late 2021, there was consensus between the Canterbury Climate Change Working Group and the Canterbury Mayoral Forum to investigate options for collaborating on climate action planning in the region. After discussions with each Canterbury council, the Canterbury Mayoral Forum endorsed in November 2022 a scope and approach for regional collaboration on climate action planning including the development of a partnership plan. The Canterbury Climate Partnership Plan (CCPP) aims to outline the collaborative effort of Canterbury councils towards mitigating and adapting to the effects of climate change on Canterbury's communities and ecosystems. This includes:

- Responding proactively to known risks from climate change hazards
- Decreasing climate change risks through reducing greenhouse gas emissions
- Enhancing communities' resilience and capacity to respond well to climate change impacts.

Since 2018 Council has undertaken a number of stocktakes relating to its corporate climate change response. The Council's district-wide flood model, incorporating the effects of a 1m sea level rise, has also been updated.

1 *World Bank Climate Change Action Plan 2021-2025.*

2 *Ngā Kōrero Āhuarangi Me Te Ōhanga: Climate Economic and Fiscal Assessment 2023.*

In 2020 the Council adopted a Climate Change Policy as an initial statement to inform Council's role in climate change mitigation and adaptation and this will be implemented through actions contained within a Climate Change Response Strategy to be developed following completion of the Council's climate change risk assessment. Policy objectives are to:

- Enhance the Council's preparedness to respond to climate change challenges in an appropriate, co-ordinated, timely, cost-effective, and equitable way.
- Enable the Council to provide transformational leadership that will ensure the long-term wellbeing, sustainability and resilience of the District's communities and businesses.
- Provide for a planned approach to mitigating and reducing emissions, including minimising activities, that contribute to climate change.
- Work collaboratively with the community and other organisations to adaptively plan for, and increase resilience to, climate change effects on the District's social, cultural, environmental and economic wellbeing.

In 2022 NIWA prepared the Waimakariri District Climate Change Scenario Technical Report to provide a summary of potential impacts of climate change based on two greenhouse gas (GHG) scenarios: a moderate GHG scenario (RCP4.5) and a high GHG scenario (RCP8.5). The report identifies average air temperature in the District to rise by a minimum of 0.80°C by 2050. Changes to hot temperatures are likely, reflected in an increase in the number of days over 25.0°C. The District is projected to experience a relatively consistent increase in rainfall across all seasons, except spring when decreased rainfall is projected in some scenarios. The District will likely become more drought prone in the future as temperatures increase and precipitation changes. Wind speed is generally projected to increase and relative humidity to decrease as the climate warms during the 21st century.All infrastructure planning and reviewed District Plan rules are based on the IPCC 8.5 RCP scenario and NIWA's sea level rise predictions of 0.5m in 50 years and 1 metre in 100 years. In 2023 a climate change risk assessment for Council's 3 Waters infrastructure was undertaken, the final report is expected to be released early in 2024. Climate change risk assessments for the remainder of Council's assets are also planned for 2024. A visualisation tool will also help Council to spatially consider current and future infrastructure in relation to the NIWA climate change scenarios and the climate change risk assessments, this will allow a more targeted approach to be taken in the Response Strategy.

A large part of the District's built-up environment is located on flood plain and this makes it vulnerable to significant flood events. Climate change is likely to impact sea levels, ground water levels, rainfall, temperatures and biodiversity within the District, among other things. In particular, rain events significant enough to cause flooding are likely to increase in intensity and frequency, making drainage systems near the coast problematic. Detailed flood modelling has been undertaken to help inform where future development should occur and identify the potential effects of large flood events on Council infrastructure.

The Council's engineering practices ensure all new and replaced assets are built to standards that take account of known risk factors and are designed for resilience. Climate change effects have been factored into infrastructure sizing, particularly new stormwater pipes, to take account of intense rainfall events.

Flood mitigation works were carried out across the District following the 2014 flood event with three projects in Rangiora still outstanding. Extreme weather events in 2021, 2022 and 2023 cost $11.37 million in flood response and recovery works that required $10.5 million of additional Council budget.

General effects of climate change

Coastal changes

Sea level rise and associated ground water rises, increased frequency and intensity of storm surges and wave impacts, and changes in the dominant direction of waves.

Temperature

Increased temperatures, particularly during winter, fewer frost days, increased frequency and intensity of heat waves, and extended periods of drought.

Rainfall, flooding and snow

More intense rain falling less frequently, more frequent very heavy rainfall events, significant decreases in seasonal snows, increased flows in the large alpine-fed rivers such as the Waimakariri River and more severe winter flooding events, particularly in these rivers.

Less rain falling in the east affecting groundwater recharge and foothills-fed rivers such as the Ashley-Rakahuri River.

Winds

Increased frequency of extreme winds in winter and dry westerly winds and greater frequency and intensity of storms.

Once completed, the reticulation upgrades in Rangiora and Kaiapoi will also reduce the frequency of wastewater overflows in wet weather events. These measures, along with proposed new District Plan rules for floor levels and hazard zones will help to increase resilience to flood events.

Summary of Council's strategic response

Issue	Council's Response
Maintaining financial capacity to recover from a major natural disaster.	Adopting a Risk Assessment and Financing Strategy estimating the financial impact of a major natural disaster and determining how recovery can be funded. Providing financial 'headroom' in the Council's borrowing policy so that the Council can fund recovery, even in the unlikely event insurance is not available, and still live within borrowing limits. Maintaining comprehensive insurance arrangements.
Adopting a risk-based renewals and investment strategy.	Ensuring renewals investment is prioritised to the most vulnerable and critical infrastructure so that the overall resilience of the infrastructure networks is continually enhanced. Ensuring all council-owned buildings are maintained to a minimum of 67% of the New Building Standard for earthquake resilience.
Identifying climate change and natural hazard risks.	Preparing an annual stocktake of Council's climate change issues and response. Refining comprehensive flooding modelling carried out to assess potential flood impacts and where further land development should occur. Incorporating results from flood and reticulation network modelling into AMP's and the District Plan Review. Completing and consulting on natural hazards risk assessment in 2020 as part of the District Plan review. Carrying out risk assessments for essential infrastructure. Work with ECan to understand and reduce the risk of Ashley River breakout over the coming years.

Issue	Council's Response
Setting a strategic framework in place for climate change mitigation and adaptation.	Adopting a Corporate Sustainability Strategy and Action Plan in 2019. Adopting a Climate Change Policy in 2020. Adopting a Waimakariri District Climate Change Scenario Technical Report in 2022. Developing a Climate Change Response Strategy in 2024/25. Developing a community-based sustainability strategy in 2024/25.
Mitigating climate change.	(Covered in section 3.6)
Increasing the resilience of Council infrastructure and the wider community to natural disasters and climate change.	Adopting design and modelling standards for infrastructure that reflect the latest climate change information and enable infrastructure to be built using resilient materials and best-practice technologies. Allowing for the implications of sea level rise and changing weather patterns in asset management planning. Making appropriate District Plan provisions in relation to known active faults, flooding and sea level rise.
Increasing governance and collaboration.	Participating in national and regional climate change forums to influence and ensure best practice is developed and implemented. Participating in the Canterbury Climate Partnership Plan. Utilising a Climate Change Coordination Group to ensure climate change response efforts are co-ordinated across Council.

Transitioning to a sustainable future

3.6 Transitioning to a sustainable future

Key issue

Ensuring infrastructure provision, replacement and management is a key part of creating a sustainable and resilient future for the District.

Description

All aspects of life in Aotearoa New Zealand rely on a thriving natural environment including our physical and mental health, economy, and culture. Current global biodiversity loss is so great it is called the 'sixth extinction'. The biodiversity crisis and the climate crisis are acknowledged to be closely linked and healthy and diverse ecosystems can adjust more effectively to climate threats.

Caring for natural resources and putting the environment at the heart of decision making is an essential part of mitigating climate change. As the national economy and businesses shift towards a low-emissions future by 2050, an emissions-rich business-as-usual culture is becoming increasingly undesirable.

Sustainability defined

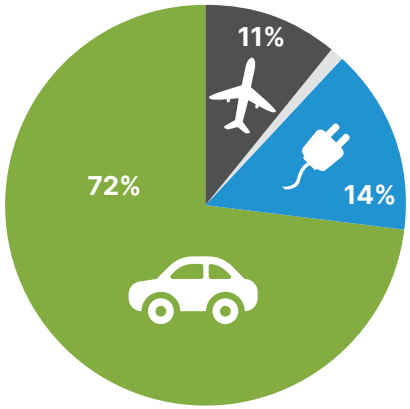
Sustainability refers to the quality of a state or process that allows it to be maintained indefinitely. In the context of this Strategy it is about achieving wellbeing in the present while living within the carrying capacity of supporting ecosystems, and not compromising the ability of future generations to meet their own needs.

Corporate emissions

In the 2017/18 financial year the Council carried out a greenhouse gas emissions inventory in order to understand its corporate emissions profile, and to provide a base year for tracking future emissions. The total corporate emissions for that year were calculated as being 507 tonnes of CO^2. The major contributing sources were vehicle travel (363 tonnes), electricity (73 tonnes) and air travel (56 tonnes).

The Council, as part of New Zealand-wide network, are currently investigating a GHG emissions modelling tool to help monitor the Council and District carbon footprint.

Figure 3.7 Corporate emissions by source



Sustainability strategy

In 2019 the Council adopted a 2018-2048 Corporate Sustainability Strategy and in doing so, made a commitment to reducing its environmental impact by finding practical and innovative solutions to mitigating emissions, managing waste and developing a culture which embraces sustainability 'as something we just do'.

Projects to date have included improvements to the Rangiora Service Centre which have significantly reduced energy consumption at our main corporate office, the introduction of hybrid vehicles into the Council fleet, and changes to our report templates to ensure we consider the impacts of climate change and sustainability through all of the projects we undertake.

Council's vision for sustainability

> **'Investing in a sustainable and resilient future for our people, our businesses, our infrastructure and our environment by taking responsibility and showing leadership.'**

The Strategy's broad statement of intent was followed up in 2020 by an Organisational Sustainability Strategy and Action Plan. This plan considered existing practices for a wider range of Council business including wastewater treatment plants, libraries, swimming pools and forestry and included 33 actions to be implemented.

The Council's 2019 Sustainability Strategy and 2020 Action Plan complement parallel work streams within the organisation including climate change mitigation and adaptation, natural hazards, biodiversity enhancement, procurement and wellbeing.

In 2024 the Council plans to review progress on the 2020 Action Plan and potentially refresh the Action Plan. Once this is complete work will commence on delivering a community-based sustainability strategy.

Procurement strategy

In 2019 the Council adopted a Procurement Policy and Strategy after a review of its procurement practice. These documents include sustainable procurement principles that enable Council to assess whole of life social, economic and environmental impacts of the goods and services it procures.

Further work needs to be done to identify how Council's carbon footprint can be reduced in the procurement, construction and management of infrastructure. This includes giving Asset Managers the tools to measure the carbon footprints of proposed projects prior to procurement. Going forward new infrastructure needs to be as efficient and sustainable as possible, utilising low-energy solutions and minimising the amount of embodied carbon in the materials used.

The Procurement Strategy includes the following tasks aimed at improving the sustainability of the supply chain to be completed within the next two years:

- Develop Supply Chain Sustainability Policy
- Review procurement processes and policies to ensure supply chain sustainability is reflected
- Review Council's operating expenditure to understand opportunities for improvements in sustainability
- Amend sourcing documentation to encourage sustainability within the supply chain.

In the interim sustainability is being considered on a case-by-case basis in the tenders being released by Council. The Council's Climate Change Policy helps to drive changes in the way infrastructure is procured and managed in the future.

Environment strategy

Green infrastructure solutions such as swales, stormwater retention basins and naturalised drainage systems are increasingly being used to manage stormwater better and have the added benefit of helping to reduce greenhouse gases. The District's reserves, street trees, forestry, wetlands and waterways also have a significant role to play in providing a more sustainable environment.

Figure 3.8 shows a higher level of dissatisfaction with Council's environmental management than many other services and a cross-Council approach is being taken to improve efforts in this area.

Figure 3.8 2022 Customer Satisfaction Survey - satisfaction with environmental management

Council consulted on a Natural Environment Strategy during this LTP and has provided funding to implement identified actions. The Natural Environment Strategy takes into account strategic directions outlined in the Local Government Act 2002 (4 wellbeings), National Adaptation Plan, National Policy Statement for Indigenous Biodiversity, Aotearoa Biodiversity Strategy and others. It also complements the work of other organisations such as Environment Canterbury's Zone Implementation Plan Addendum (ZIPA), Forest and Bird's 'Make Every Wetland Count' campaign, QEII Trust and the Waimakariri Biodiversity Trust. The NES Implementation Plan will provide actions and targets that have been considered and costed for the Council's Long Term Plan 2024-2034.

Summary of Council's strategic response

Issue	Council's Response
Measuring and monitoring greenhouse gas emissions.	Canterbury region carbon footprint assessment was undertaken in 2023 and the release of the report is expected in early 2024. Following release of this report, the Waimakariri District portion of the analysis and report will be provided to the Council. Council are working others councils across New Zealand to investigate opportunities for a GHG emissions modelling tool to help the Council monitor emission levels.
Reducing the organisation's carbon footprint.	Reviewing the adopted Corporate Sustainability Strategy and ensuring action plans are implemented. Implementing initiatives to embed sustainability practices in the organisation such as sustainable purchasing policies and practices, flexible working policies and investigating sustainable energy efficiency opportunities.
	Investigating opportunities for turning low-return forestry areas into natural habitats and carbon sinks.
Developing a more sustainable District.	Developing a community-based sustainability strategy in 2024/25. Introducing and maintaining sustainable solutions such as kerbside recycling, organics collection, electric vehicle charging stations, and enabling and encouraging alternative transport modes such as public transport, cycling and walking Implementing education programmes for schools and the community that increase awareness and promote opportunities to be more sustainable.
Addressing environmental degradation.	Finalising and adopting a Natural Environment Strategy and Implementation Plan. Maintaining specialist biodiversity capacity to advise on best practice and lead environmentally focused projects. Ensuring adequate funding is provided for biodiversity and waterway enhancement.
Improving the health and capacity of waterways.	Committing funding to support the Arohatia te Awa programme of work of $125,000 in FY24/45 and then $100K per financial year for the remainder of the LTP 2024-2034. Partnering with Ngāi Tūāhuriri to ensure cultural values are understood and respected in managing and improving District waterways. Working closely with Environment Canterbury and mana whenua regarding the allocation of groundwater to ensure there is adequate resource. Investigating and addressing risks to 3 Waters infrastructure from climate change and natural hazards. Improving stormwater discharges. Taking a long term view of the risks associated with wastewater treatment plant discharge consents.

Renewing infrastructure in a timely manner

3.7 Renewing infrastructure in a timely manner

Key issue

Ensuring replacements are able to be fully funded with no deferred maintenance issues.

Description

As a fast growing District a large proportion of the infrastructure has been installed within the last thirty years. The majority of it is therefore relatively new with the average age of 3 Water systems being less than 30 years old. As most of this infrastructure is expected to last for between 80 and 100 years, much of the renewals do not fall due until later this century and the first part of the next century. A key exception is the roading and footpaths activity which requires ongoing comprehensive maintenance such as resurfacing and rehabilitation which has been planned for in LTP budgets.

The Council has modelled its infrastructure and developed a renewal programme that stretches over the next 150 years. A risk-based model is used to inform these renewal investment decisions. This model incorporates the following criteria to establish a relative likelihood and consequence of failure:

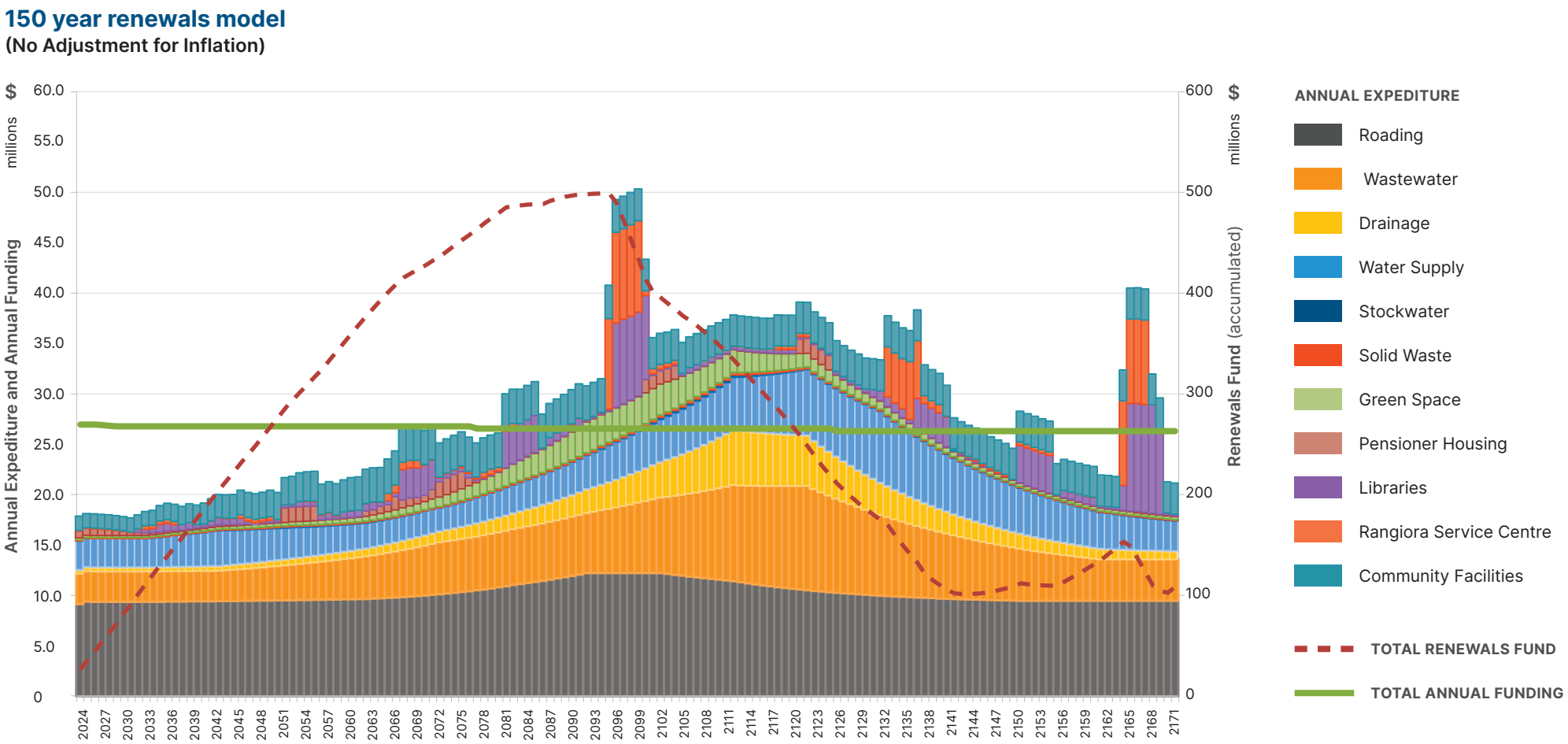
- Condition rating (includes CCTV survey data)
- Burst and blockage history
- Seismic vulnerability to liquefaction
- Asset criticality.

Improvements have been made to the Council's risk-based renewals model, so that different levels of acceptable risk can be applied to the various categories of criticality. While the model allows for highly critical assets to be renewed before 85% of their expected life, the lowest criticality assets may not be replaced until 120% of their expected life. Based on these risk profiles the model provides a prioritised list of pipe renewals needed across the District, identified by scheme, which Asset Managers assess and adjust to factor in any operational benefits of renewal, including co-ordinating with other works planned in the same corridor to limit disruption.

The model provides an annual expenditure profile and identifies the annual revenue required to enable this renewals expenditure to be made without the renewals fund falling into debt. The implementation of InfoAsset Manager to manage and analysis CCTV pipe inspection data will improve the modelling of pipe renewals by allowing the remaining life of the assets to be adjusted.

Figure 3.9 shows the annual expenditure required for the next 150 years to replace the assets covered by this Strategy in relation to the accumulated renewals fund. The vertical bars show the expected combined annual renewals expenditure through to 2172. The renewal programme starts to significantly accelerate from 2050 and then there is a steady rise until about 2123. This is because most of the below ground assets in the District have been built over a relatively short space of time and will therefore reach the end of their lives over a similarly short space of time, in about 100 years' time.

Figure 3.9 Combined 150 year replacement cost forecast (in 2023 $)



The amount of annual expenditure, which has been smoothed, can be read against the left hand axis of the graph. The green line is also read against the left hand axis. This represents the recommended average annual amount of funding that needs to be put away into a dedicated fund to ensure that money is available to meet the demands of the peak expenditure, without the fund going into debt or maintenance being deferred. The red line is read against the right hand axis and shows the total value of the fund over the 150 year period.

The graph demonstrates how the renewal programme is able to be financed from depreciation reserves, built up in early years. The reserve fund in the outer years from 2050 will be required to fund $25–30m per annum of the replacement programme. Peak expenditure is forecast to be nearly 2.3 times the current renewals expenditure. At its lowest point the accumulated reserve fund will be about $25m. This graph displays the importance of establishing sufficient depreciation replacement funds now to ensure current levels of service are still affordable enough to continue to be provided for future generations.

Table 3.5 shows the renewals expenditure included in the 2024 LTP for the next ten years. Community facilities renewal expenditure has increased from $515,000 over twelve years to $8.5m, and Aquatics from $500,000 over twelve years to $3.3m. This is in response to deficiencies identified in the improved asset capture and condition assessment recently carried out for Green Space and Aquatics.

Table 3.5 2024–2034 LTP renewal expenditure

Activity Area	Renewal Expenditure 2024-2034
Water Supply	$35.1m
Wastewater	$34.6m
Stormwater	$3.5m
Roading and Footpaths	$106.2m
Solid Waste	$1.3m
Reserves (Green Space)	$16.8m
Community Facilities (Green Space)	$8.5m
Public Toilets (Green Space)	$2.2m
Aquatics	$3.5m
Property	$14.9m

Significant projects with renewals components in the first three years of the LTP are the Skew Bridge replacement, Eastern District wastewater network upgrades, Southbrook Resource Recovery Park pit and access upgrades, Rangiora town centre parking and Kaiapoi town centre improvements.

Significant renewals projects programmed for the latter half of the LTP period are general town centre development and Kaiapoi Aquatic Centre upgrade.

Further implementation of town centre strategies is planned for 2035, and in 2040 the Dudley Park Aquatic Centre in Rangiora is programmed for an upgrade and the Old Waimakariri Bridge is due for replacement.

Detailed information about activity specific asset condition and performance is included in section 5.1 of this document.

3.8 Service delivery

S17A Reviews

The Council maintains a schedule of S17A reviews to ensure the cost-effectiveness of its infrastructure service delivery and carries out these reviews in accordance with the requirements of the Local Government Act 2002 (section 17A).

Capital works

Delivery of most capital works is via competitive tendering practice in accordance with the Council's Procurement Policy. Design is usually carried out in-house, or where resources are insufficient, via external consultants, again engaged in accordance with the Procurement Policy.

Maintenance

Water Supply and Wastewaster

Routine maintenance for water supply and wastewater is carried out by the Council's in-house Water Unit. A Service Level Agreement (SLA) exists that defines the relationship between 3 Waters and the Water Unit, and provide a mechanism for measuring performance. Rates are reviewed annually. The majority of this work is with water supply assets

Wastewater jobs that are too large, or outside the scope of what the Water Unit can cope with are managed via a suite of contractors who are on a pre-approved "panel". Quotes from three contractors are required for jobs estimated to cost more than $20k.

Stormwater

Routine maintenance of the rural drainage network is carried out via a long term contract. The contract is included as a component of the District-wide roading maintenance contract, which is competitively tendered at the end of its term.

Urban drainage is divided between roading and drainage assets according to a set of ownership rules. The drainage assets are maintained under the Green Space maintenance contract, and the roading assets under the roading maintenance contract.

Solid Waste

Solid Waste contracts for the provision of kerbside collection services and facilities operations and maintenance are carried out via a long-term contract, competitively tendered at the end of its term. These contracts were tendered in 2018 and commenced in July 2019. Maintenance of the kerbside bins is the responsibility of the collection contractor, who will own the bins until the end of the contract term. The service to supply and deliver Council-branded rubbish bags to retail outlets, including Council service centres, was competitively tendered in 2022 and commenced in 2023.

Routine site maintenance at the two waste transfer facilities is generally carried out by Council's Solid Waste Contractors as specified in the Solid Waste Contracts, with infrastructure maintenance undertaken by contractors from the Council's Trades Supplier Panel. Maintenance at other sites is carried out by the Council's Road maintenance contractors, contractors from the Council's Trades Supplier Panel, or lessees (where applicable).

Roading and Footpaths

Maintenance of roading assets is carried out through two competitively tendered contracts, both of which were let for a three year period, with two further one year extensions subject to suitable performance (five years in total).

Road maintenance activities are delivered under the road maintenance contract which commenced in November 2020. The contract was extended to 31 October 2024 in June 2023 and final extension approved in February 2024 to 31 October 2025. This contractor also carries out some renewal and improvement works as specified in their contract, while the remainder is competitively tendered.

Carriageway lighting maintenance and all associated renewal and improvement works are carried out by another contractor under a contract that started in April 2019. The initial contract period was for three years, with two one year rights of renewal. Approval to extend the contract for the first one year extension was granted in April 2022, and took the contract period out to 30 March 2024. The second right of renewal was granted in April 2023 and took the contract out one further year to March 2025. This means no further extension are available beyond 30 March 2025, and work is about to begin on development of a new tender document.

Green Space

Greenspace has two different Maintenance Contracts. One that services the Council's parks and reserves, and another separate tree contract. The Parks and Reserves Maintenance Contract ends on 28 February 2024 and will have a two year extension following this date. The Parks and Reserves Maintenance Contract involves the maintenance and upkeep of parks and reserves. This work covers programmed maintenance, reactive maintenance and day works which covers one off work required generally in response to service requests.

The Street, Reserve and Cemetery Trees Maintenance Contract expires on 30 September 2024 with a one year right of renewal. This contract is for the maintenance of Street, Reserve and Cemetery Trees and other trees that Council may own or have an interest in managing or maintaining within the Waimakariri District.

During 2024 and 2025 council staff are required to conduct a Section 17A review of the contracts and report back to Council on options for delivering its Levels of Service following the contract end dates.

Community Facilities

Cleaning of community facilities and exterior building maintenance is included within Council-wide contracts for these services which are competitively tendered at the end of each term.

Aquatic Facilities

While routine minor plant maintenance is carried out in house, contractors from the Council's Trades Supplier Panel carry out larger complicated plant and site maintenance tasks at the four aquatic facilities.

Libraries

Routine and annual maintenance of library facilities is carried out via approved Council contractors. The contract for the most recent capital improvement (new HVAC system in the Rangiora Library) was project managed by an approved Council contractor.

All maintenance of property assets is carried out by external contractors.

Programmes and services

Most infrastructure-related Council programmes and services are designed and delivered in-house. Exceptions are the delivery of the library KidsFest programme and the Enviroschools education programme; the latter being facilitated by Environment Canterbury under a long-standing Memorandum of Understanding. The Waste Minimisation and Water Conservation education programme, which is delivered to schools, preschools and the wider community, is also carried out under contract. A Section 17a review in 2023 extended the existing contract for two years (1 July 2024 to 30 June 2026), with a further review scheduled before 1 July 2026.

3.9 Financial impacts of the Infrastructure Strategy

The Council's 2024 Financial Strategy reflects the directions contained in the LTP and IS, and models the financial effects on the Council and the District.

The Financial Strategy is aimed at responding to the needs of the community in an affordable way, while funding long term projects, so that future generations who benefit from community infrastructure, pay their share. The capital budget for core infrastructure activities for 2024-34 is $690 million. This will be funded by a combination of rates, user fees, debt, subsidies, and development contributions.

As the District's population grows, the demands for increased levels of service grow, as do the requirements of new legislation and national standards. These cost drivers are a constant pressure on increases in rates. In addition, an ageing population means there is an increasing proportion of ratepayers who are on fixed incomes, placing greater pressure on the affordability of annual rates increases.

The key components of the Council's strategic direction are to:

- Restrict operating expenditure movements to the rate of Local Government Cost Inflation (LGCI), excluding catering for population growth and improved levels of service
- Continue to progressively fund the cost of reinstating the Council's community assets relating to the 2010 and 2011 earthquakes at levels that keep rates increases to a minimum and affordable
- Maintain debt within policy limits, while maintaining headroom to recover from a significant natural disaster
- Maintain the current prudent financial management while still providing high quality levels of service to both current and future generations
- Gradually fund the spike in additional depreciation funding over the next 5 years, but keeping with the long term funding of the replacement of assets.

Total expenditure

The projected capital expenditure associated with the significant infrastructure assets is graphically represented in figure 3.10. The projected operational and maintenance expenditure is shown in figure 3.11. The figures shown in the graphs for each of the five year blocks between 2031/32 to 2050/51 are the average annual expenditure over that period.

Figure 3.10 shows that over the next 30 years the Council expects spending between approximately $40m – 90m annually. In 2027-28 and 2028-29 Capital expenditure is budgeted for approximately $90m. The project to extend the Rangiora library is planned for these years, with a budget of $21.3 million. Later years have a relatively consistent level of capital expenditure of between $40m – $60m until the period 2031 to 2036 when expenditure rises to approximately $80m again to accommodate the proposed civic precinct development. The balance of capital expenditure will be funded by development contributions, where it is growth-related, and the remainder by way of subsidies and grants, asset sales, depreciation funding and reserves, loans and rates.

Funding depreciation

As shown in figure 3.9 in section 3.7 the Council has a significant asset renewal programme forecast to occur later in the 21st Century.

The Council's policy is to ring fence funding of depreciation into separate accounts so that the funds can only be applied to the renewal of infrastructure. This policy takes into consideration the inflationary effect on the assets replacement cost and investment rate that is applied to any depreciation funds. Modelling shows that this approach will enable renewals to be comfortably funded from accumulated depreciation funds.

Renewal expenditure over the 30 year period averages approximately $30m per annum in total and will be funded from accumulated depreciation reserves and NZTA roading subsidies.

Figure 3.10 Projected capital expenditure for combined infrastructure assets

Combined infrastructure forecast – capital

(Inflation adjusted)

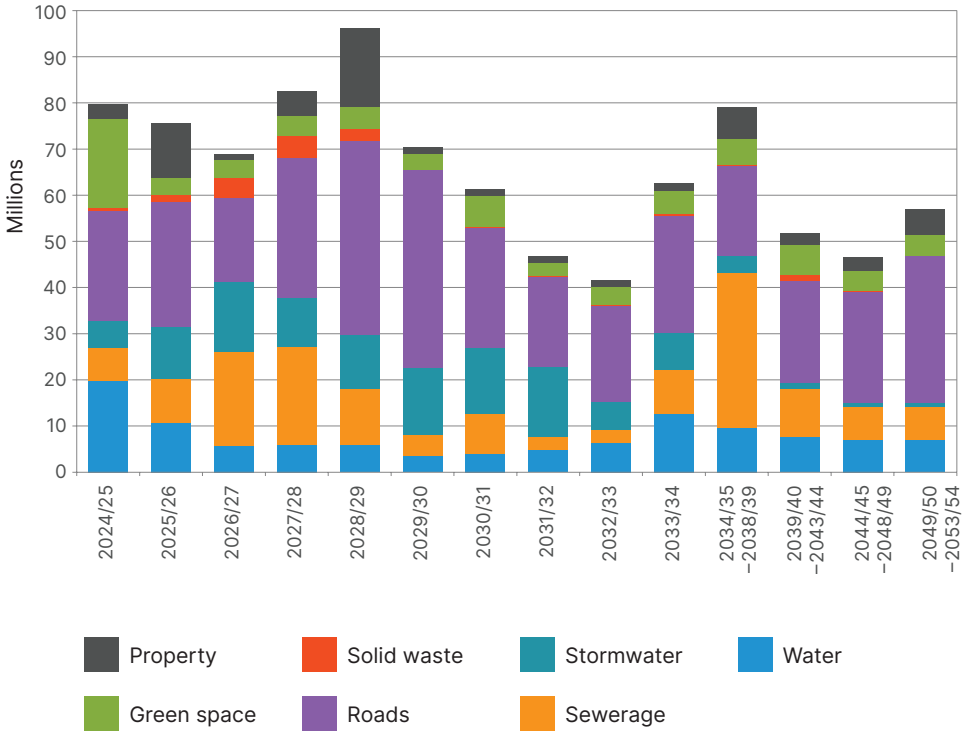
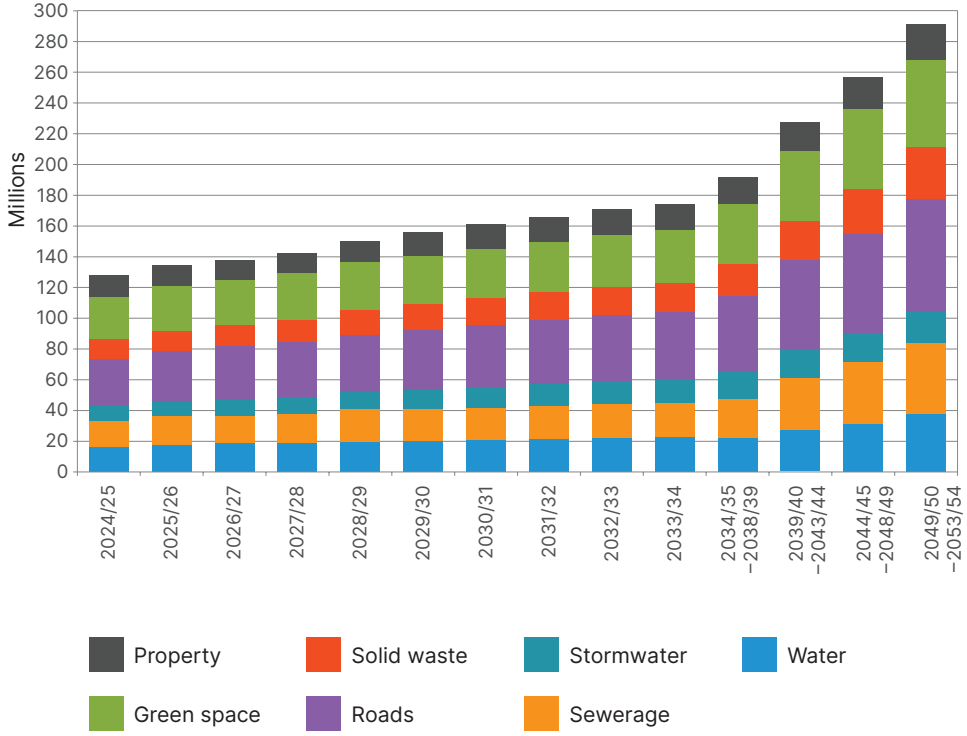


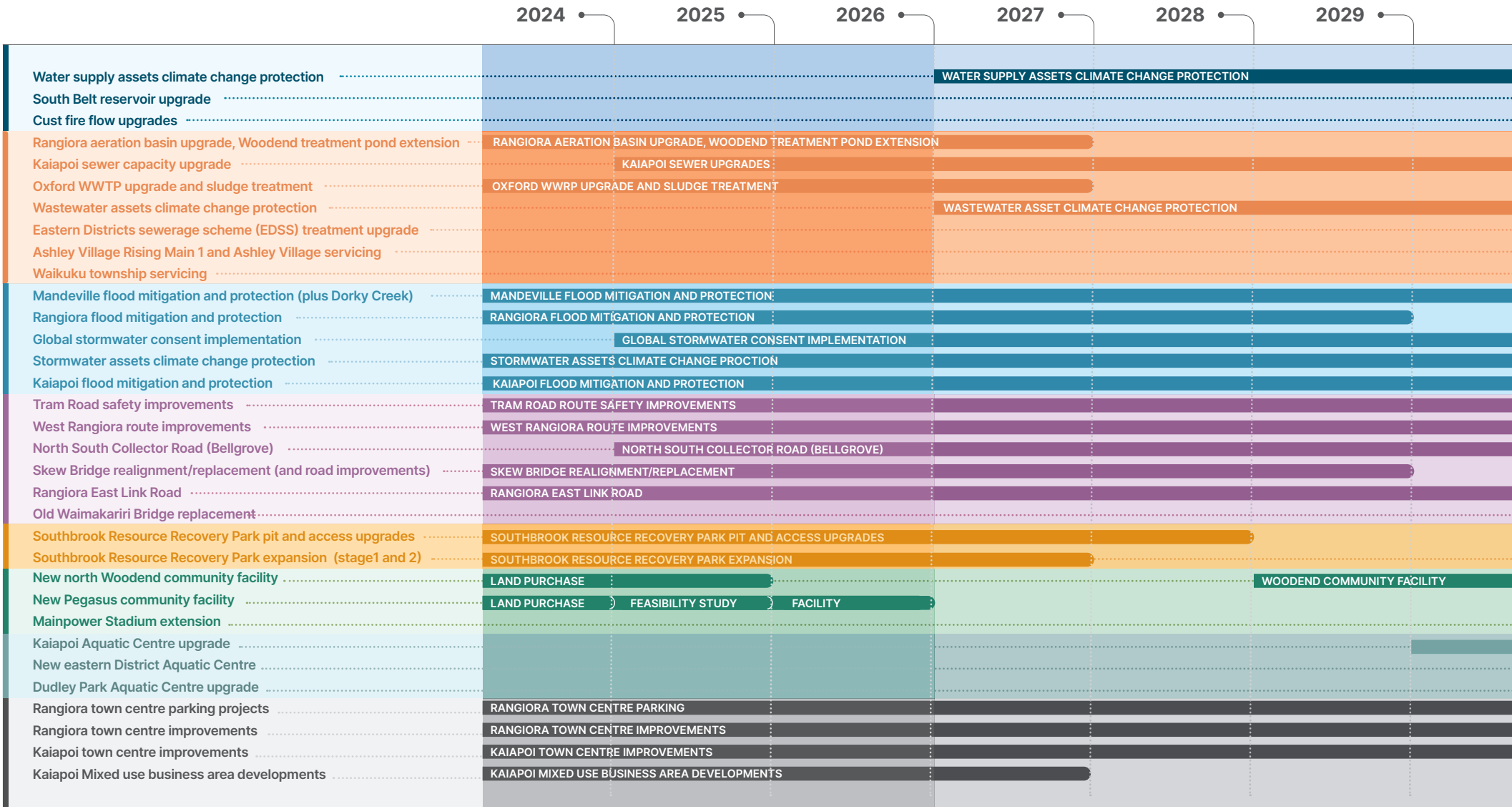
Figure 3.11 Projected operational and maintenance expenditure for combined infrastructure assets

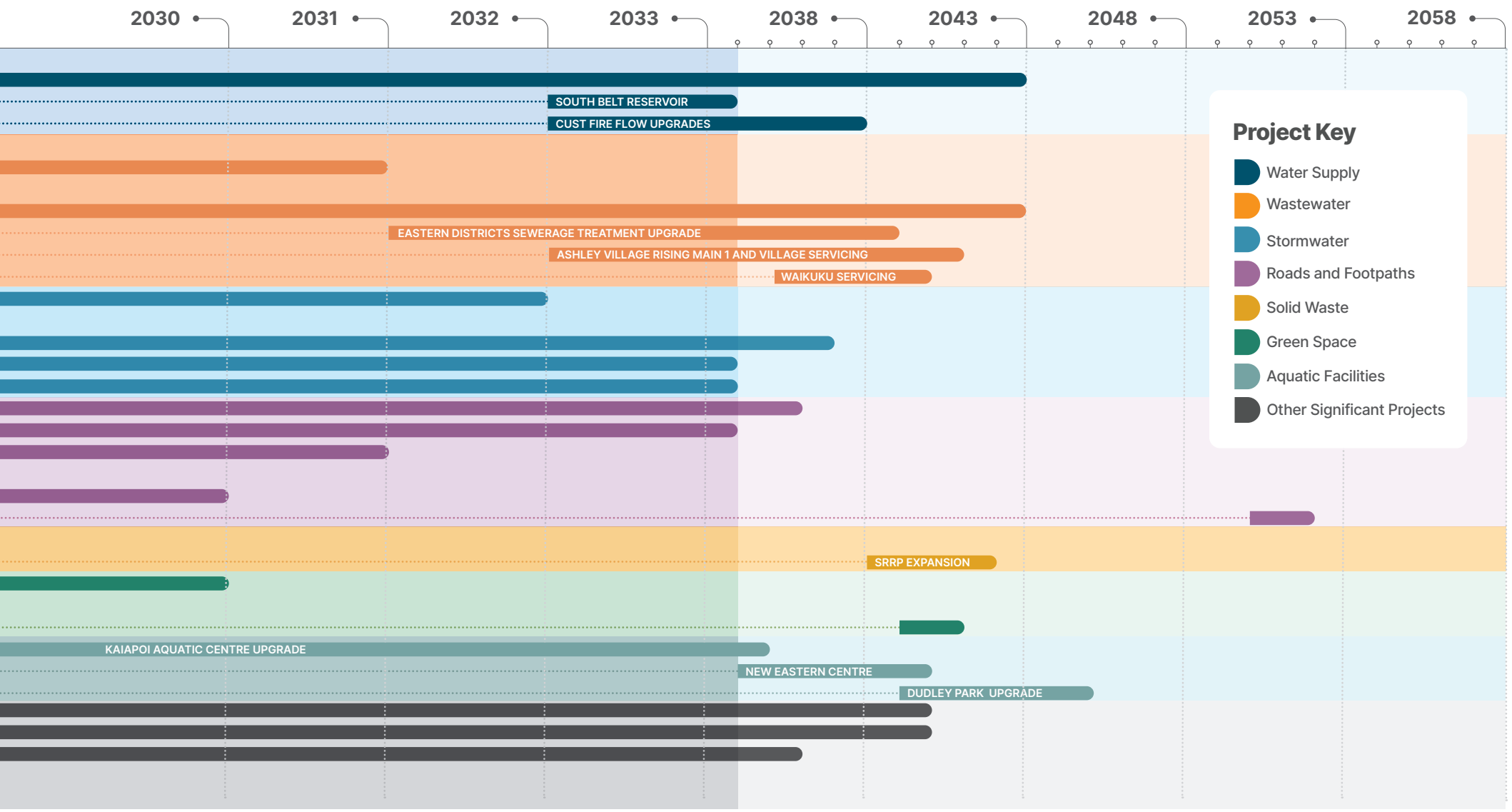
Combined infrastructure forecast – operations and maintenance

(Inflation adjusted)



3.10 Summary of significant infrastructure projects




2030
2031
2032
2033
2038
2043
2048
2053
2058
SOUTH BELT RESERVOIR
CUST FIRE FLOW UPGRADES
EASTERN DISTRICTS SEWERAGE TREATMENT UPGRADE
ASHLEY VILLAGE RISING MAIN 1 AND VILLAGE SERVICING
WAIKUKU SERVICING
SRRP EXPANSION
KAIAPOI AQUATIC CENTRE UPGRADE
NEW EASTERN CENTRE
DUDLEY PARK UPGRADE
Project Key
Water Supply
Wastewater
Stormwater
Roads and Footpaths
Solid Waste
Green Space
Aquatic Facilities
Other Significant Projects

4. OUR INFRASTRUCTURE ACTIVITIES

This section describes our significant infrastructure projects, issues council anticipates facing over the next 30 years, the options for addressing these, and the benefits and costs of the Council's preferred options (significant decisions), key priority areas related to each infrastructure activity area and capital work programmes.

Significant infrastructure projects

The criterion applied to determine whether projects were significant is as follows:

- High expenditure ($4m or more)
- Strategic priority
- High risk
- High public interest.

In some cases, the significant projects are an amalgamation of a number of smaller projects which individually cost less than the $4m trigger point. An example is a roading project which consists of improvements along a whole route instead of a single street.

All of the inflation adjusted graphs are created out of the same data used for the LTP which include the corporate inflation assumptions.

Council management has taken into account staff resources, procurement capacity, consenting issues and the availability of contractors when determining the capital works programme. Expenditure spikes for the Utilities and Roading Department in the initial draft budgets have been smoothed by adjusting the timing of projects to ensure the programmes are able to be delivered.

Water Supply

4.1 Water supply

Principal goal

To provide community water supplies that are affordable, sustainable, and reliable, and that provide capacity for anticipated growth, and meet all required drinking water quality standards. Services are to be delivered in accordance with Council's Drinking-water Commitment Statement.

To provide stockwater to enable farming on dry land.

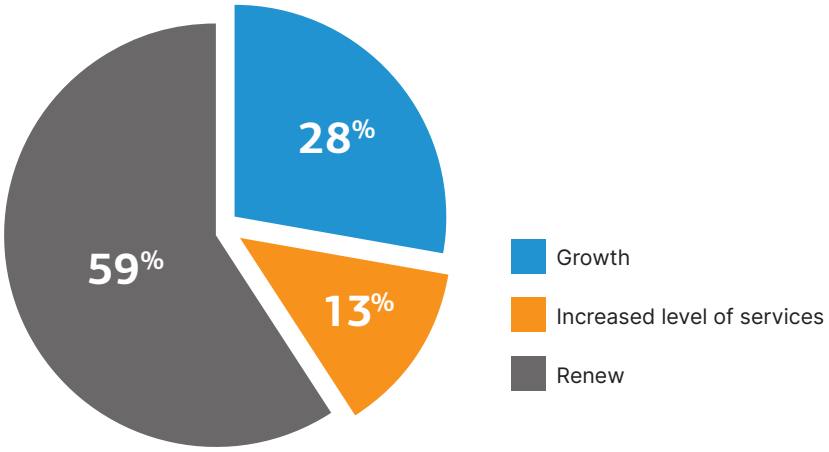
Extent	Asset
	WATER
30	Pump stations and treatment plants
56	Reservoirs and tanks
47	Wells
1007.2km	Water mains
	STOCKWATER
6,640m	Culverts
1	Intake tunnel (Browns Rock)
34km	Main race channel
793km	Open water races
33	Other structures (weirs, gates and bridges)
1,890m	Siphons
2	Small takes on the Cust River

Waimakariri District Council owns and operates 11 separate water supplies, which provide water to about 55,900 people. There are a total of about 21,500 connections. Water schemes are either “on demand” (unrestricted), “restricted” (a specific amount of water per day is made available to the customer), or “semi restricted” (connections are allocated 19m^3 per day which is close to an on-demand supply). The Ashley Rural Water Supply, which supplies water to about 1,680 properties within the WDC boundaries, is owned, managed and operated by the Hurunui District Council.

Total value of water supply assets:
$258.4m (Depreciated replacement cost - 30 June 2023)

Total value of stockwater assets:
$16.9m (Depreciated replacement cost - 30 June 2023)

Figure 4.1 Type of capital expenditure – Water supply



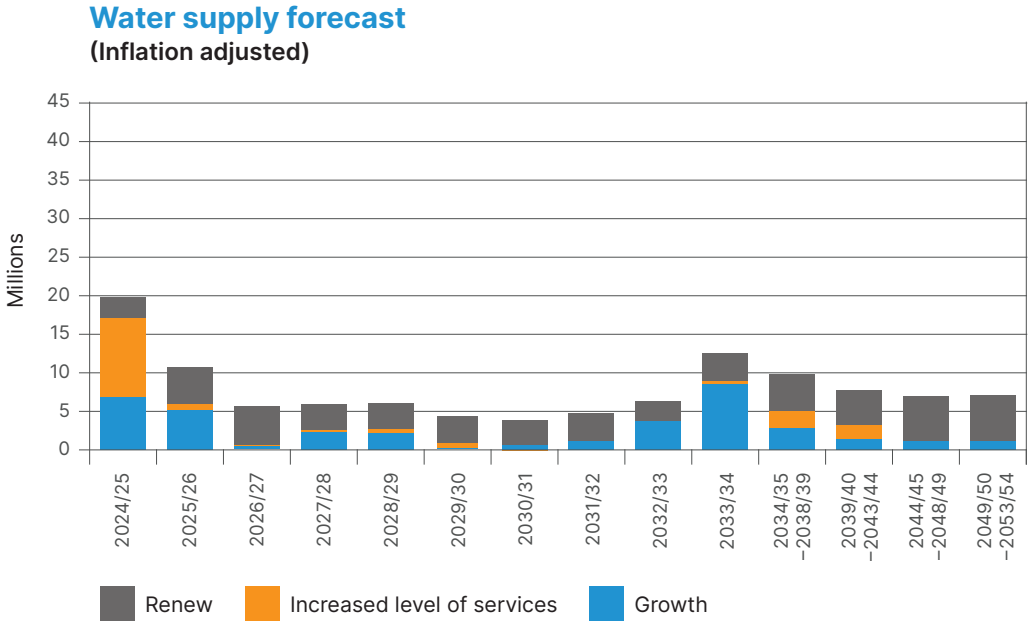
4.1.1 Capital work programme

Replacements make up the majority of the capital expenditure (59%) over the next 30 years associated with the water supply infrastructure assets (Figure 4.1).

Figure 4.2 shows the projected capital expenditure each year for the first 10 years, followed by five-year blocks to cover the following 20 years. The figures shown for each of the five year blocks between 2034/35 and 2053/54 are the average annual expenditure over that period.

In the first two years of LTP, there are higher expenditure than other years. These initial years (2024/25 and 2025/26) include a considerable number of levels of service projects, renewals along with some growth. Later years are dominated by renewals and some growth of related works. This is because works are required to address existing or expected deficiencies and meet Draft Drinking Water Quality Assurance Rules (DWQAR) requirements once all levels of service measures are met, future projects should either be to accommodate growth, or renew existing assets. Growth is expected to occur at a faster rate in the LTP period and then slow in later years and this is reflected in the higher number of growth-related works in the first 10 years.

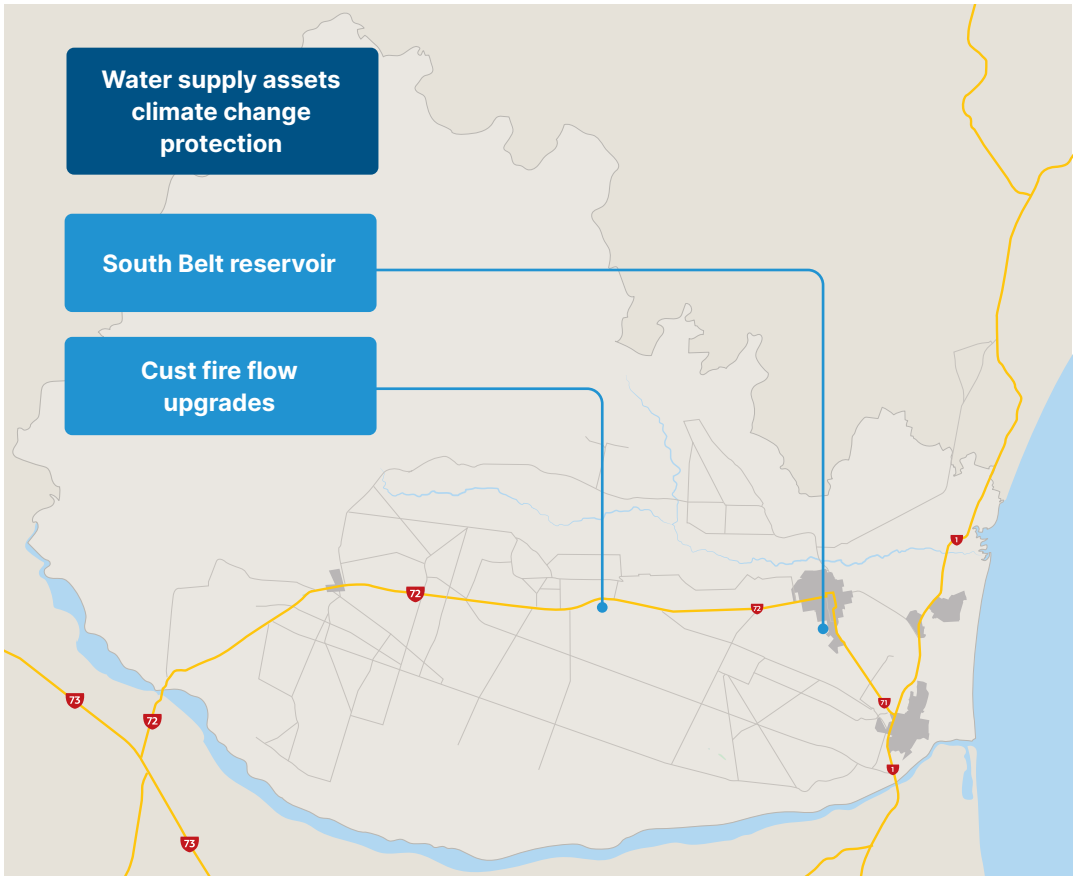
Figure 4.2 Projected capital expenditure – Water supply



4.1.2 Significant water supply projects

Table 4.1 Significant water supply capital projects

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Climate change	Water supply assets climate change protection (New project). • Kaiapoi water climate change adaption. • Oxford water climate change adaption. • Woodend Pegasus water climate change adaption. • Rangiora water climate change adaption. • District water climate change adaption.	Reduce risks to assets from climate change.	20.4m	2034-2044		✓	
	Wellbeing linkages						
	Assumptions	• The adopted risk reduction assumptions will eventuate. • Uncertainty as to when the work should be completed.					
	Alternative option/s	• One of the two alternative options is 'Do Nothing' however this is expected to have negative consequences for service delivery and hence negatively impact the community. • The second alternative would be to partially implement the current $14.64m rather than the full extent of currently identified projects.					
Improvement of water system capacity	South Belt Reservoir upgrade.	Accommodate growth: Ensures emergency storage requirements are met, and growth is catered for.	4.9m	2033–2034	✓		
	Wellbeing linkages						
	Assumptions	• The adopted growth assumptions will eventuate.					
	Alternative option/s	• Ayers Street could be an alternative site, however, South Belt is the preferred option as it is the primary headworks and land is available there.					
Water system capacity	Cust fire flow upgrades. (Cust Road central fire flow main, Mill Road fire flow main and Cust Road fire flow main).	Allows full fire flows to be provided in Cust in accordance with the firefighting code of practice.	2.7m	2033-2038		✓	
	Wellbeing linkages						
	Assumptions	• Funding will be problematic.					
	Alternative option/s	• Full fire flows do not have to be provided as the code is voluntary and some other small areas do not have full firefighting capacity. The approach will need to be decided after consultation is carried out.					


Water supply assets climate change protection
South Belt reservoir
Cust fire flow upgrades
72
73
71
1

4.1.3 Water supply replacement programme

Figure 4.3 represents the 150 year replacement forecast expenditure for all of the Districts water supplies, based on the Council's renewals model. The model relies upon an accurate understanding of expected useful life of each asset, which is assessed through pipe burst history analysis. The objective is to ensure the optimum balance is achieved between assets being left in service longer than they should be, leading to unacceptable failure rates, versus assets being replaced prematurely and not realising their full value.

It can be seen that with the average asset age being relatively new, the rate of renewals remains relatively stable between now and the 2070's, before increasing to a peak in approximately 2135. Pipes being renewed in early years generally includes asbestos cement (AC) pipe that is now reaching the end of its useful life, as well as some early generation plastic (PE and PVC) pipes.

The graph includes all asset class renewals, not just pipes. Reservoirs, pump stations, water supply headworks etc, some of which will go through a number of lifecycles over the 150 year period.

Figure 4.4 shows the replacement forecast for stock water. Depreciation is set at a level to fully fund future renewals which means the fund builds up around the turn of the century and the peak of renewals occurs shortly thereafter. This is not considered to be a significant issue as the annual expenditure and funding level for renewals is relatively small.

Figure 4.3 150-year replacement cost forecast for Water supply (in 2023 $)

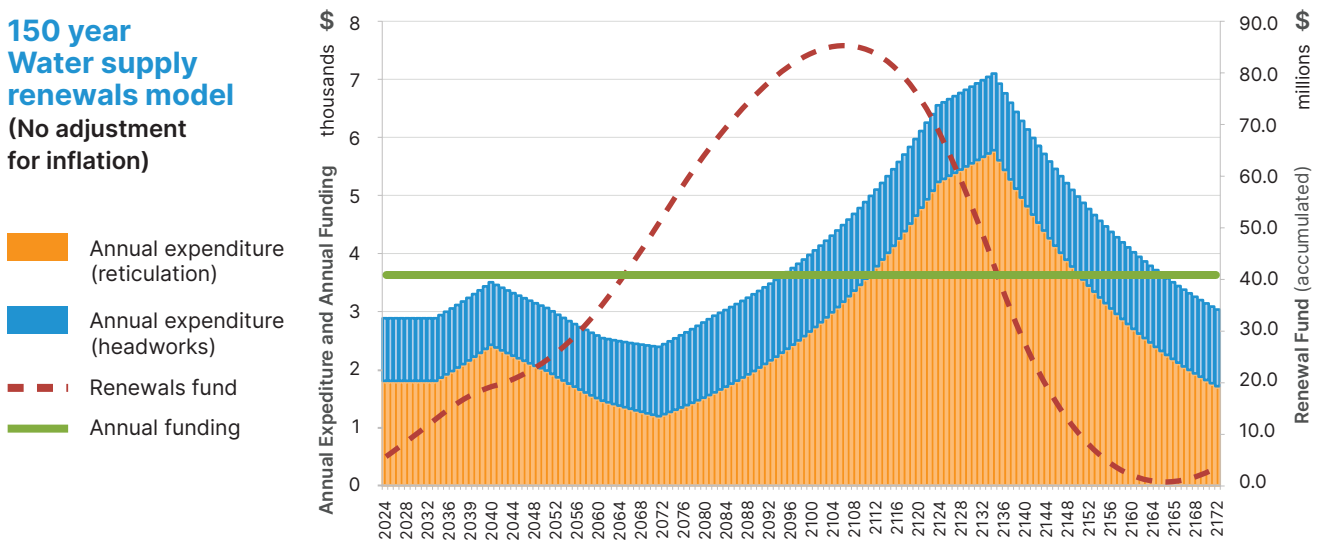
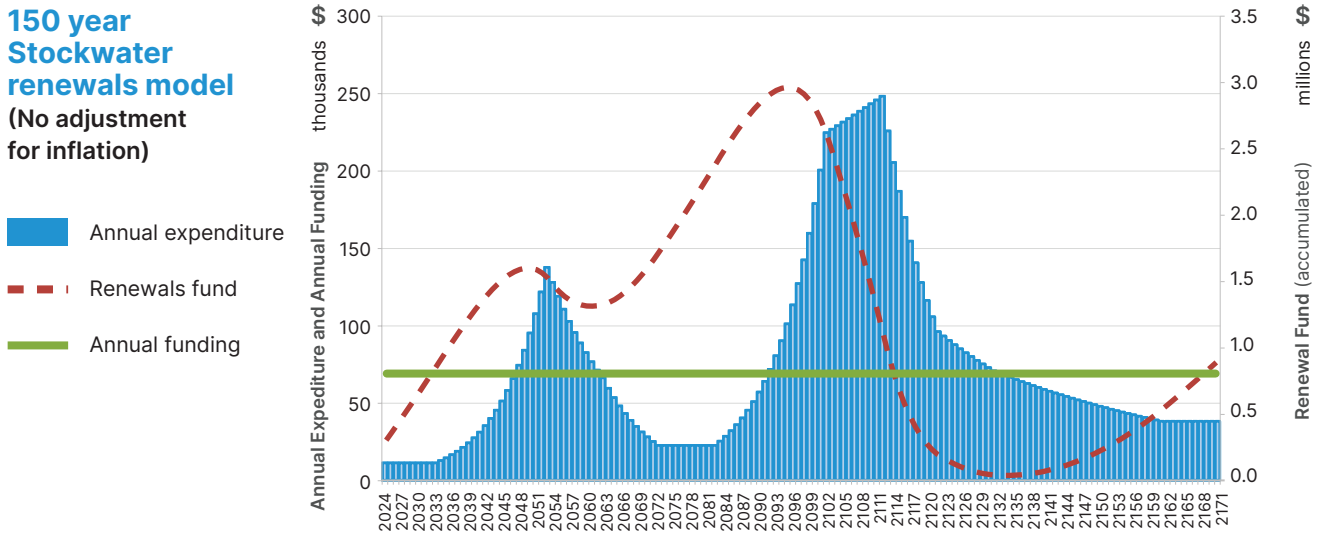


Figure 4.4 150 year replacement cost forecast for Stockwater (in 2023 $)



4.1.4 Water supply – significant issues, options for managing them and implications of the options

Issue	**Pathway to chlorine free water** Changes to the regulations have required Council to chlorinate all of its previously unchlorinated urban water supplies and this is likely to be a significant cost for the Council. Exemptions may be applied for, but significant upgrades of each supply would be required. The work to determine what might be required and its cost has not yet been carried out. The Cust scheme is being considered as a pilot.
Indicative timeframe	2024–2028

Available options	Implications	Cost (in 2024 $)	Type of capital work
Quantify extent of upgrades required but not re-apply for chlorine exemptions.	• Some cost associated with carrying out investigations required to inform the extent of upgrades required. Potentially customers not satisfied with the water supplied.	Cost of investigation	N/A
Quantify extent of upgrades required and implement for all supplies so that they are of a suitable standard to re-apply for chlorine exemptions.	• Likely to be significant costs, with no certainty of outcome. • Communities may be divided as to whether to proceed.	Cost of investigation plus capital works which is unknown at this stage. Possibly in the order of hundreds of millions for the District.	Yet to be determined

Issue	**Council infrastructure asset protection** An initial screening for increased risk to assets from the effects of climate change has been carried out. Further work is required to better quantify costs, and decisions made as to the extent and timing of protective works that are considered necessary.
Indicative timeframe	2024/25 – 2026/27

Available options	Implications	Cost (in 2024 $)	Type of capital work
Implement protective works as part of ongoing capital works programme and where reactive works are carried out.	• Increasing risk of loss of services as will be a slow process and unlikely to address all assets at risk.	No additional cost	N/A
Develop a programme of work to mitigate risks. May include relocation of some assets.	• Levels of service maintained, subject to affordability of work.	Initial high level estimate 14.6m	Various

Issue	**Meeting fire flow LOS for Cust** Small supplies can struggle to afford mandated upgrades, for example the required upgrades for Cust to meet firefighting code requirements. The issue has been overcome in the past with the introduction of a District wide rate, justified by the required upgrades to all treatment plants, but that does not resolve the problem for Cust. Council has considered District wide rates in the past but delayed any actual decision.
Indicative timeframe	2024–2026

Available options	Implications	Cost (in 2024 $)	Type of capital work
Engage with the community to determine if they are willing to fund the upgrade.	• Unlikely to succeed based on previous experiences. • If unsuccessful, fire flow LOS for Cust remains not met.	No additional cost	N/A
Move to a District wide rating scheme.	• Evens out rating costs, and overcomes the problem of funding small scheme upgrades, but there are winners and losers. • A significant exercise administratively and politically.	2.01m (capital cost of the upgrade)	Various

Wastewater

4.2 Wastewater

Principal goal

To provide reliable and efficient wastewater treatment plants of sufficient capacity to cater for growth and to minimise harm to the environment from the discharge of contaminants to ground, water or air.

Extent	Asset
5	Treatment plants
59	Pump stations
246.3km	Piped gravity networks
145.9km	Piped pressure networks

The Council owns and operates two separate wastewater schemes: Eastern Districts Sewerage Scheme (EDSS), Oxford Scheme. Altogether the schemes provide wastewater services to approximately 18,800 properties, with just under 18,000 of those serviced by the EDSS. These connections in total service approximately 73% of the population. The remaining 18,000 people in the District are serviced by private wastewater schemes, or privately owned septic tanks on rural properties.

Total value of assets:
$375.3m (Depreciated replacement cost - 30 June 2023)

Figure 4.5 Type of capital expenditure – Wastewater

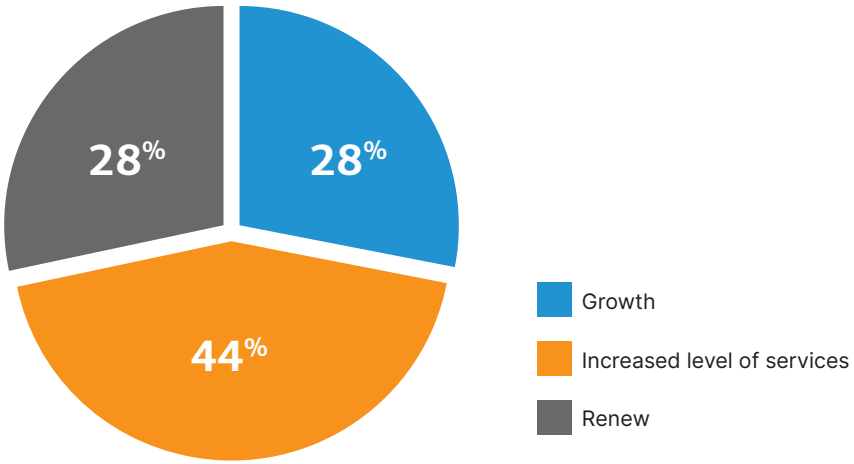
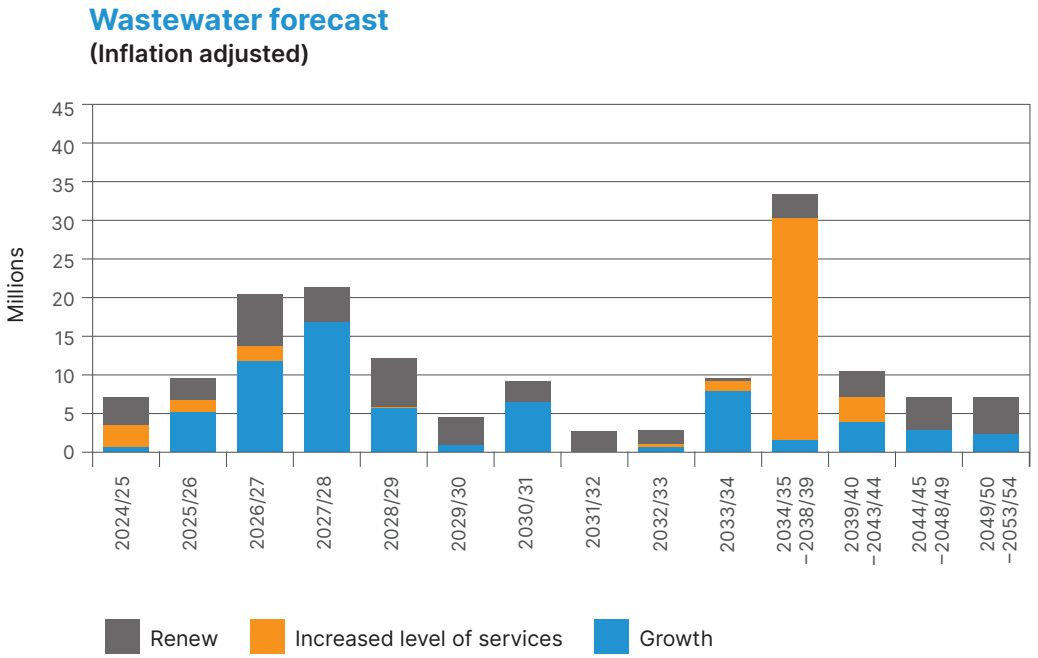


Figure 4.6 Projected capital expenditure – Wastewater



4.2.1 Capital works programme

Levels of services make up the majority of the capital expenditure (44%) over the next 30 years associated with the wastewater infrastructure assets (Figure 4.5).

Figure 4.6 shows the projected capital expenditure for the first 10 years, followed by five year blocks to cover the 20 years. The figures shown for each of the five year blocks between 2034/35 and 2053/54 are the average annual expenditure over that period.

In general, the initial years are dominated by growth, and renewals work along with some levels of service projects. Individual significant projects contributing to the 2024/25 year spend are continuation of the Rangiora wastewater aeration basin upgrade, Kaiapoi sewer capacity upgrade and Oxford Wastewater Treatment Plant (WWTP) Upgrade and Sludge Treatment which is a new project. The relatively high expenditure in the 2026/27 financial year, relates principally to the Wastewater Assets Climate Change Protection Projects.

4.2.2 Significant wastewater projects

Table 4.2 Significant wastewater capital projects

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Wastewater network capacity and legal compliance	Kaiapoi sewer capacity upgrade.	Meet levels of service, provide capacity for growth, and improve environmental outcomes by reducing wastewater overflows.	20.0m	2025-2031	✓	✓	
	Wellbeing linkages						
	Assumptions	• Modelling of network deficiencies confirms the estimated budget, and indicative timeframe is appropriate. • Attempts to reduce Infiltration and Inflow may not be effective.					
	Alternative option/s	• Years 1 to 3 of this project involve assessing options and selecting a strategy which will confirm capital costs. The outcome will depend on the catchment Infiltration and Inflow investigations network modelling to be completed in 2021.					
Growth and legal compliance	Rangiora wastewater aeration basin upgrade and Woodend wastewater treatment pond extension (new oxidation pond).	Accommodate growth.	Rangiora aeration basin 4.6m Woodend treatment pond extension 3.0m	2024-2027 2029-2031	✓		
	Wellbeing linkages						
	Assumptions	• May have negative climate change impacts (not quantified).					
	Alternative option/s	• If growth in serviced properties is slower than projected, the upgrade may be deferred.					
Compliance	Oxford WWTP Upgrade and Sludge Treatment.	Meet consent conditions.	14.0m	2024-2028	✓	✓	
	Wellbeing linkages						
	Assumptions	• May have negative climate change impacts (not quantified).					
	Alternative option/s	• Wastewater is pumped to Rangiora wastewater treatment plant for treatment.					

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Growth	Ashley Village rising main 1 and Ashley Village servicing.	Extend services to existing communities.	8.5m	2033-2041	✓		
	Wellbeing linkages						
	Assumptions	• Existing septic tanks are no longer a viable option for the village. • Growth is likely to occur in the surrounding area.					
	Alternative option/s	• Alternative options have already been considered as part of the Loburn Lea connection to the Eastern District sewage scheme.					
Growth	Waikuku township servicing.	Extend services to existing communities.	5.6m	2038-2040	✓		
	Wellbeing linkages						
	Assumptions	• Growth will continue to occur north of Ravenswood. • The Waikuku Township requires reticulated servicing.					
	Alternative option/s	• Preferred alignments and treatment locations to be confirmed through the project.					
Consent/ climate change	Eastern Districts Sewerage Scheme (EDSS) treatment upgrade.	Reduce negative effects from wastewater treatment.	88.4m	2032-2039	✓	✓	
	Wellbeing linkages						
	Assumptions	• Obtaining consent likely to be a lengthy process. • It is proposed that the Ocean Outfall will continue to be used.					
	Alternative option/s	• Options for any treatment improvements and consenting will be considered as part of this process. • An alternative discharge option other than the Ocean Outfall has not been budgeted for and would have significant costs and environmental challenges.					
Climate change	Wastewater assets climate change protection.	Reduce risks to assets from climate change.	34.0m	2034-2044		✓	
	Wellbeing linkages						
	Assumptions	• Uncertainty as to when the work should be completed.					
	Alternative option/s	• Treatment options are being developed and a range of options will be considered through this process.					

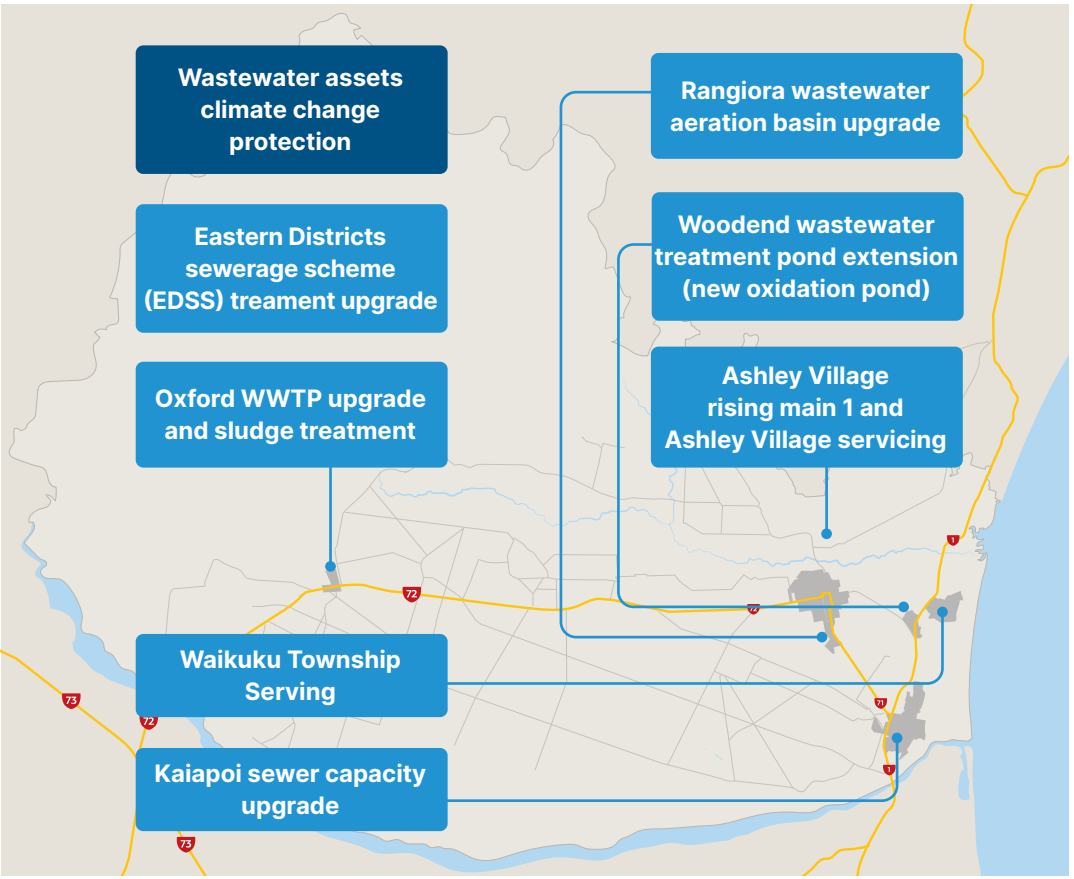
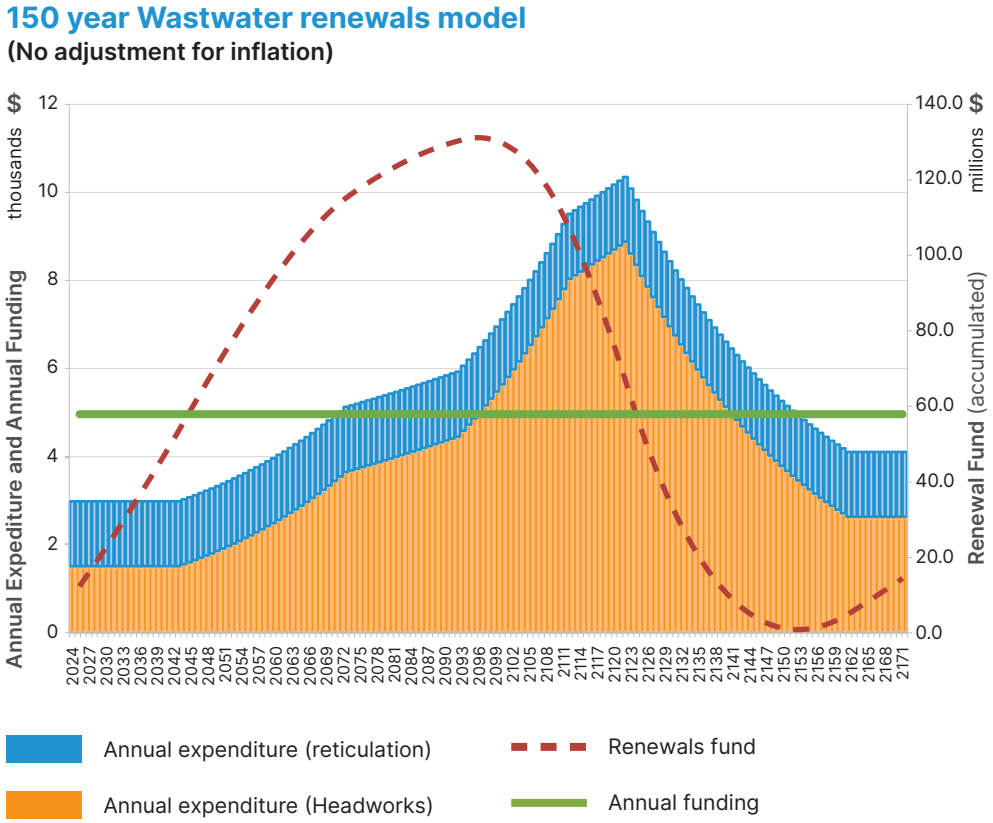


Figure 4.7 150 year replacement cost forecast for Wastewater (in 2023$)



4.2.3 Wastewater replacement programme

Figure 4.7 represents the 150-year replacement forecast expenditure for all of the Districts wastewater supplies, based on the Council's renewals model. The model relies upon an accurate understanding of expected useful life of each asset. The objective is to ensure the optimum balance is achieved between assets being left in service longer than they should be, leading to unacceptable failure rates, versus assets being replaced prematurely and not realising their full value.

It can be seen that with the average asset age being relatively new, the rate of renewals remains relatively stable between now and the 2080's, before increasing to a peak in approximately 2125.

The graph includes all asset class renewals, not just pipes. Pump stations, wastewater headworks etc, some of which will go through a number of lifecycles over the 150 year period. There are no deferred renewals of wastewater assets.

4.2.4 Wastewater – significant issues, options for managing them and implications of the options

Issue	Parts of the Kaiapoi network is undercapacity in wet weather, due to infiltration and inflow (I and I), and a system upgrade is required. Funds have been budgeted to resolve the situation.
Indicative timeframe	2024–2025

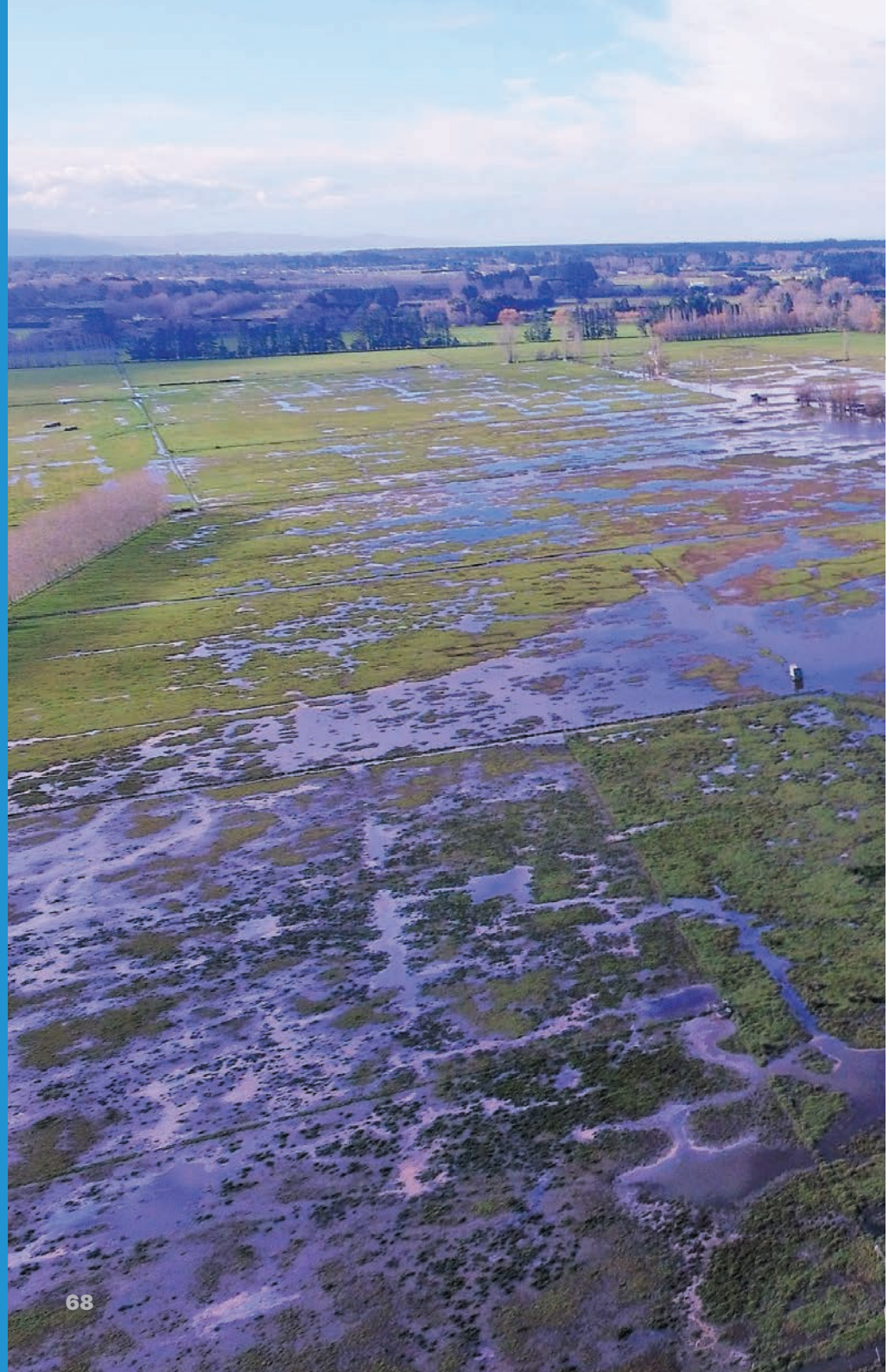
Available options	Implications	Cost (in 2024 $)	Type of capital work
Attempt to reduce I and I, together with some capacity improvements.	• Reduction of I and I presents a risk of not achieving the required outcome, and having to increase capacity improvements.	19.84m	Improve structural integrity of existing pipes, and construct additional capacity (pipes/ pumpstations)
Accept I and I, and increase capacity to accommodate it.	• Highest cost option but greater certainty.	36.5m	Construct additional capacity – pipes and pump stations

Issue	**Whether to move to District wide rating** The Oxford scheme is likely to struggle to afford consent driven upgrades. The issue has recently been alleviated as a consequence of the government stimulus funding, but that does not overcome the underlying problem. Council has considered District wide rates in the past but delayed any actual decision.
Indicative timeframe	2024–2026

Available options	Implications	Cost (in 2024 $)	Type of capital work
Continue rating Oxford separately from the Eastern District Sewer Scheme.	• Funding scheme upgrades for Oxford remains a problem.	No additional cost	N/A
Move to a District wide rating scheme	• Evens out rating costs, and overcomes the problem of funding small scheme upgrades, but there are winners and losers.	50,000 to carry out consultation	N/A

Issue	**Extending wastewater networks to service Ashley and Waikuku Townships** A number of townships within the District do not have reticulated wastewater services, and rely on septic tanks, which will be ageing. Council should engage with the communities to determine if there is appetite for funding reticulated systems. Potentially Sefton and Cust may also require services, but currently this has been placed outside the IS timeframe.
Indicative timeframe	Ashley – years 10-11 Waikuku – years 15-16

Available options	Implications	Cost (in 2024 $)	Type of capital work
Maintain the status quo.	• Households replace individual septic tanks as they fail. • Potential environmental issues, if replacements delayed too long.	No additional cost to Council	N/A
Engage with individual communities to determine if a reticulated system is worth investigation.	• Engagement may result in deciding not to proceed. • Potential improved environmental outcomes if reticulated system installed.	Approx Ashley 6.04m Waikuku 3.97m	Yet to be determined



Stormwater

4.3 Stormwater

Principal goal

To develop public drainage infrastructure that is effective and efficient in reducing risks of flooding to residential areas and business zones, to an acceptable level and at an affordable cost.

Extent	Asset
44	Stormwater Management Areas
54.5km	Open drains (lined and unlined)
119.4km	Piped stormwater networks
13	Stormwater pump stations
8	Treatment devices

There are seven rural and five urban rated drainage areas within the Waimakariri District. Together the 12 drainage schemes cover approximately 11% of the District's land area but service approximately 90% of the District's population.

The urban scheme assets include piped stormwater networks, treatment devices, basins, stormwater pump stations and open drains while in the rural schemes assets are primarily open drains and waterways which the Council maintains.

Total value of assets:
$197m (Depreciated replacement cost - 30 June 2023)

4.3.1 Capital works programme

Levels of services make up the majority of the capital expenditure (90%) over the next 30 years associated with the stormwater infrastructure assets (Figure 4.8).

Figure 4.9 shows the projected capital expenditure for the first 10 years, followed by five-year blocks to cover the 20 years. The figures shown for each of the five-year blocks between 2034/35 and 2053/54 are the average annual expenditure over that period.

The high level of service expenditure showing in 2026/27 and 2029/30 relates to ongoing flood mitigation and protection works triggered by the 2022 and 2023 flood events, as well as general ongoing stormwater improvements. Larger projects within that timeframe, and typically spread over a number of years are Mandeville flood mitigation and protection, Global stormwater consent implementation (Rangiora, Kaiapoi, Oxford and Coastal Urban) and Kaiapoi flood mitigation and protection.

Figure 4.8 Type of capital expenditure – Stormwater

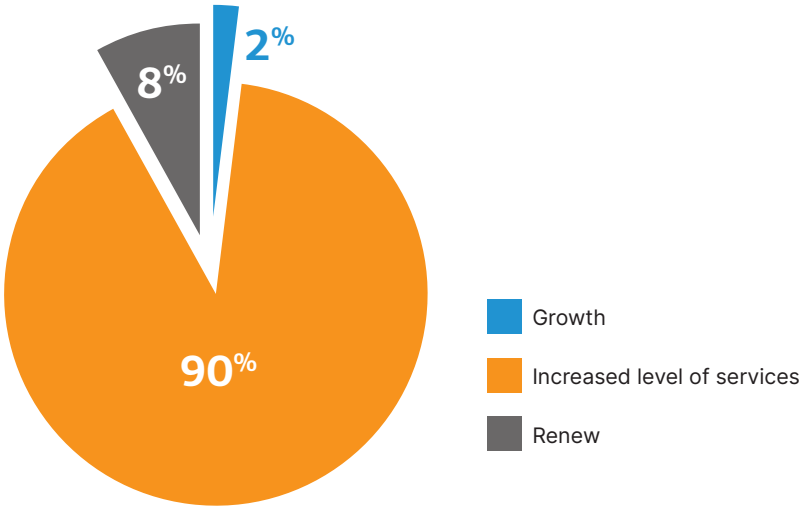
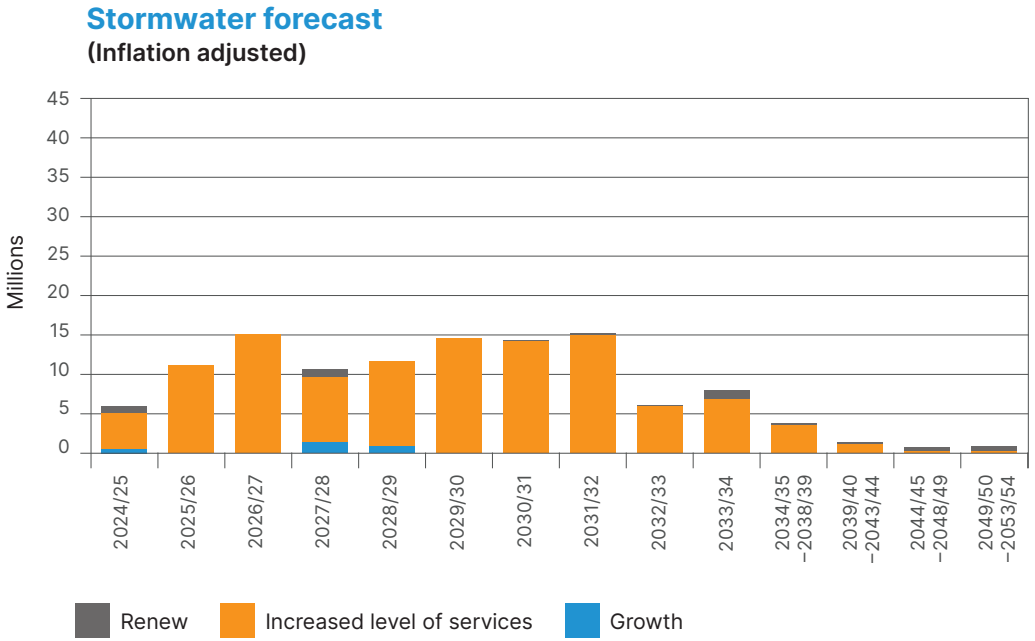


Figure 4.9 Projected capital expenditure – Stormwater

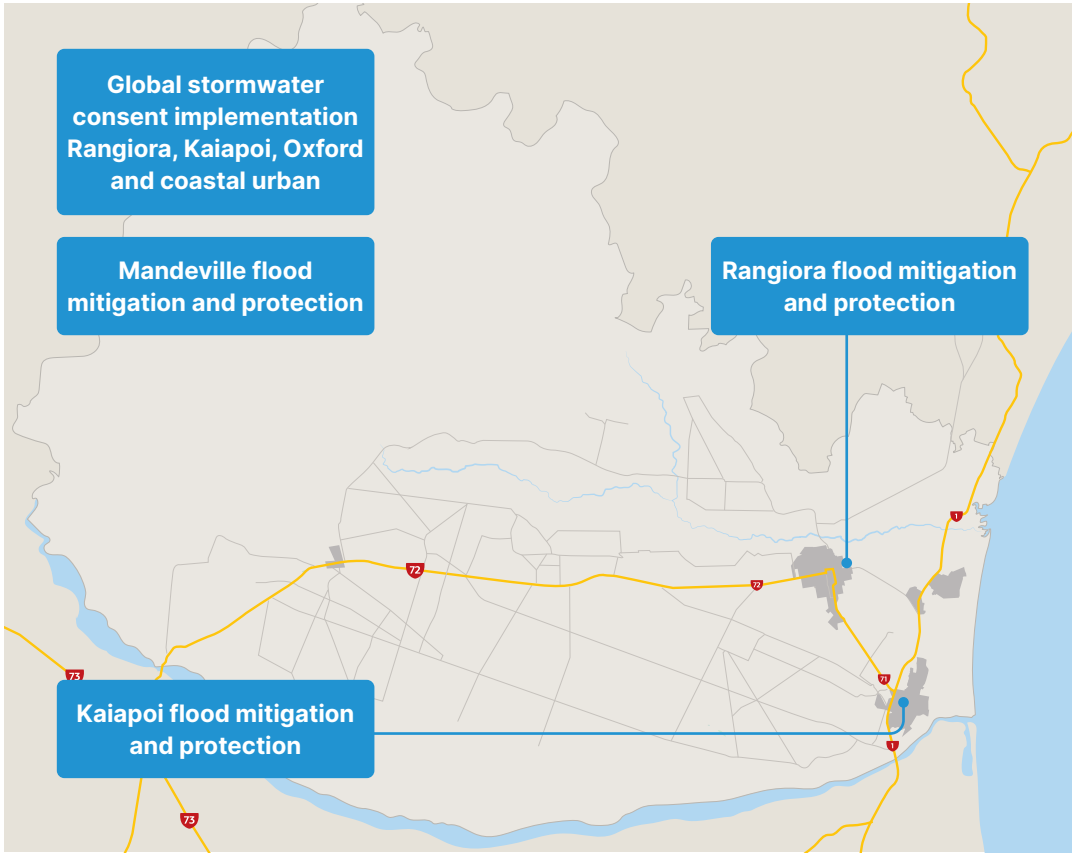


4.3.2 Significant stormwater projects

Table 4.3 Significant stormwater projects

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Stormwater network capacity	Rangiora flood mitigation and protection.	Reduce property flooding risks.	6.1m	2024-2029		✓	
	Wellbeing linkages 						
	Assumptions	• Works will meet level of service, but future rain events may be more than design event.					
	Alternative option/s	• Further investigations identify other options that could alleviate known flooding issues. • Maintain current levels of flood mitigation and protection.					
Stormwater network capacity	Mandeville flood mitigation and protection (plus Dockey Creek).	Reduce property flooding risks.	26.6m	2024-2032		✓	
	Wellbeing linkages 						
	Assumptions	• Works will meet LOS, but future rain events may be more than design event.					
	Alternative option/s	• Options assessments will be carried out as part of investigations and preliminary design. • Maintain Current levels of flood mitigation and protection.					
Legal compliance	Global stormwater consent implementation Rangiora, Kaiapoi, Oxford and Coastal Urban.	Meet requirements of the Land and Water Regional Plan, and improve environmental outcomes for waterways.	25.7m	2025-2037		✓	
	Wellbeing linkages 						
	Assumptions	• Ecan accepts the proposed approach of developing a costed strategy between 2024 and 2025, and that full implementation will be a long-term process (Consent for Rangiora in place. Awaiting for Ecan to issue consents for other urban areas). • Uncertainty as to final costs that will be required to achieve compliance with consent.					
	Alternative option/s	• Develop and trial affordable approaches to stormwater management and treatment in collaboration with Ecan, Ngāi Tahu and other industry and community stakeholders.					

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Stormwater Network Capacity	Kaiapoi flood mitigation and protection (Final works arising from 2014 flood event).	Reduce property flooding risks.	13.8m	2024-2034		✓	
	Wellbeing linkages						
	Assumptions	• Works will meet LOS, but future rain events may be more than design event.					
	Alternative option/s	• Further investigations identify other options that could alleviate know flooding issues. • Maintain Current levels of flood mitigation and protection.					



4.3.3 Stormwater replacement programme

Figures 4.10 and 4.11 represent the 150-year replacement forecast expenditure for all of the Districts drainage supplies, based on the Council's renewals model. The model relies upon an accurate understanding of expected useful life of each asset. The objective is to ensure the optimum balance is achieved between assets being left in service longer than they should be, leading to unacceptable failure rates, versus assets being replaced prematurely and not realising their full value.

It can be seen that for rural assets the peak renewal period between about 2080 and 2140 is much longer than the peak for urban assets at 2115. However, the amount spent p.a. at this peak is some 40 times lower for the rural drainage assets. This is to be expected given the significantly lower number of rural drainage assets within the networks.

The graph includes all asset class renewals, not just pipes. Pump stations, storm filters etc, some of which will go through a number of lifecycles over the 150 year period.

Figure 4.10 150-year replacement cost forecast for Rural Stormwater (in 2023$)

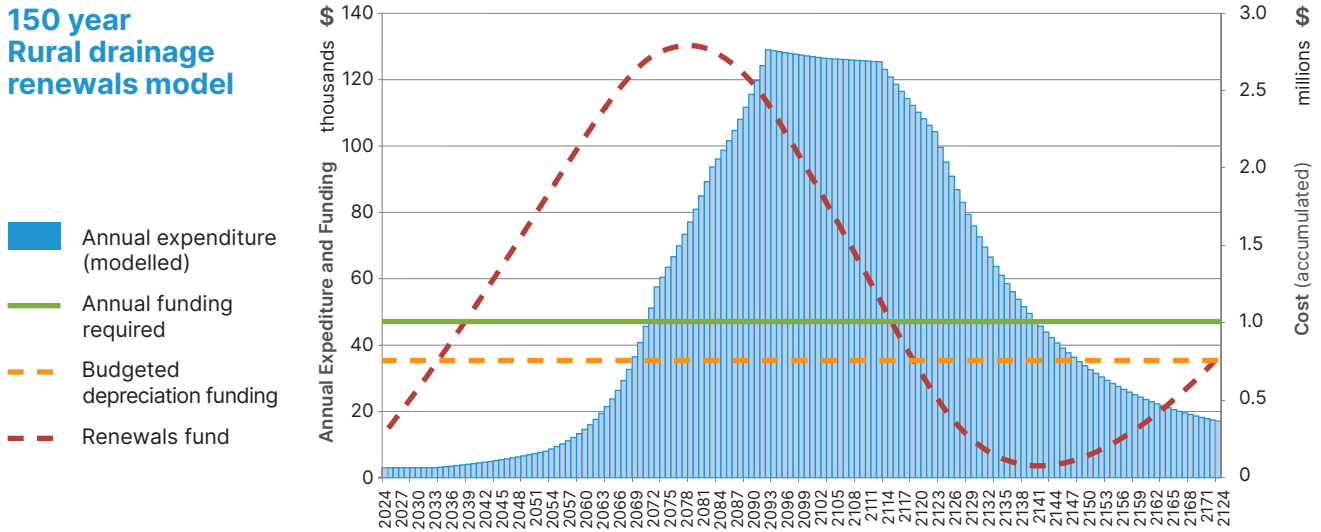
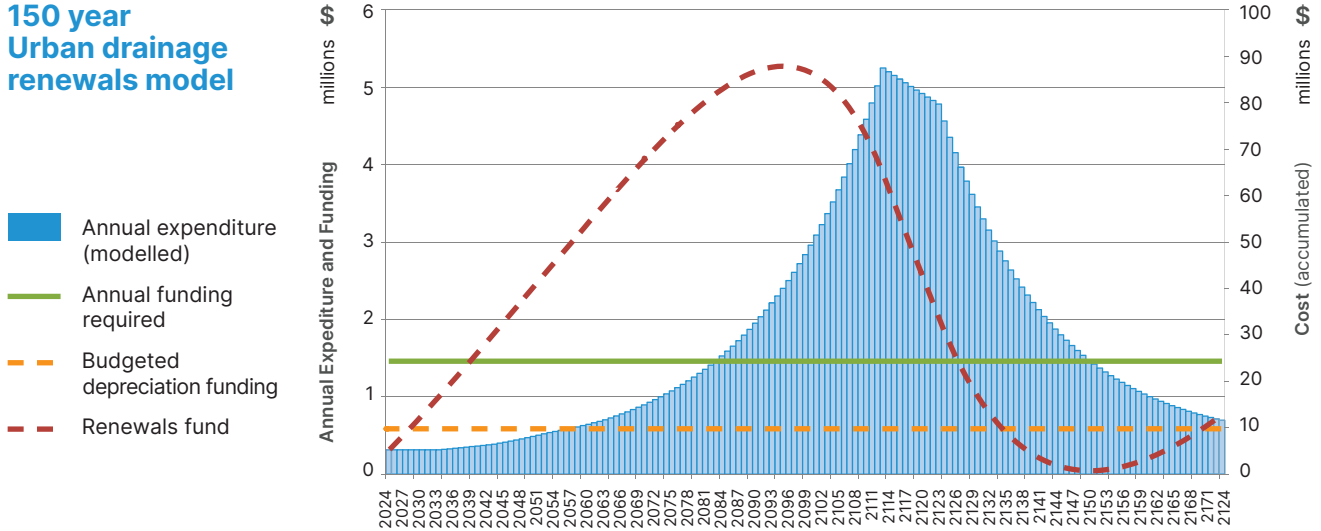


Figure 4.11 150-year replacement cost forecast for Urban Stormwater (in 2023$)



4.3.4 Stormwater – significant issues, options for managing them and implications of the options

Issue	**Meeting tormwater Discharge Consent conditions including environmental limits** The Council has a consent for the Rangiora urban area to discharge stormwater into the town streams. It is expected the conditions for the other district towns when Ecan issues the consents will be similar. Council has not yet determined how it is going to meet the conditions, although funding is in the budget.
Indicative timeframe	10 years
Costs	Will require a combination of operating cost (e.g. stormwater sampling, construction site monitoring, compliance reporting) and capital cost (e.g. construction of new stormwater treatment facilities, systems or devices).

Available options	Implications	Cost (in 2024 $)	Type of capital work
Implement improvements within available consented budgets. Stormwater management area construction. Proprietary device installation. Other stormwater treatment system e.g. raingarden, filter system.	• Unlikely to meet most consent environmental limits within the current consent term. However if the Council can demonstrate some progress and improvement toward achieving the limits, this could be viewed as “compliant” or “partly compliant”.	20m	
Scope improvements to stormwater treatment beyond existing budgets to seek to achieve consent limits within current consent term or alternative future timeframe. Stormwater management area construction. Proprietary device installation. Other stormwater treatment system e.g. raingarden, filter system.	• Could meet some / most consent limits within current consent term or within future specified timeframe, subject to scale of intervention.	20 – 100m+	

Issue	**Council infrastructure asset protection** An initial screening for increased risk to assets from the effects of climate change has been carried out. Further work is required to better quantify costs, and decisions made as to the extent and timing of protective works that are considered necessary.
Indicative timeframe	2024/25 – 2026/27

Available options	Implications	Cost (in 2024 $)	Type of capital work
Implement protective works as part of ongoing capital works programme and where reactive works are carried out.	• Increasing risk of loss of services as will be a slow process and unlikely to address all assets at risk.	No additional cost	N/A
Develop a programme of work to mitigate risks. May include relocation of some assets.	• Levels of service maintained, subject to affordability of work.	Initial high level estimate 5.4m	Various

Issue	**Flood mitigation and protection – funding and timing** There has been a marked increase in flood events in the last 10 years that have required substantial retrospective capital works to reduce risk of future flooding at the same locations from similar sized events. It is anticipated that such events will continue to occur and consideration should be given to putting in place some form of event response fund to reduce the likelihood of this unplanned expenditure occurring again.
Indicative timeframe	Ongoing

Available options	Implications	Cost (in 2024 $)	Type of capital work
A budget of $20 million spread over the first 10 year of the LTP to be included for Flood Resilience Projects.	• A budgeted fund is available to meet the needs of responding to future extraordinary rain events.	Past rain events have cost in the region of 3–4m each	Drainage works
Include $5M every 5 years in the future in a "stormwater response fund", and bring the funds forward if and when needed.	• Rates in the short term are not affected, but an allowance has been made for the expenditure if needed.	Past rain events have cost in the region of 3–4m each	Drainage works
Delay the decision until the following LTP.	• Risk of unplanned expenditure in the short term if significant storm events occur.	Past rain events have cost in the region of 3–4m each	Drainage works

Roads and Footpaths

4.4 Roads and footpaths

Principal goal

To plan, develop, operate, maintain and improve the District's transport infrastructure, delivering an affordable, integrated, safe, responsive and sustainable transport network.

Extent	Asset
289	Bridges
32	Bus shelters
26	Bus stop seats
5,648	Streetlights
385km	Footpaths
44km	Shared paths and off-road cycleways
979km	Sealed road
587km	Unsealed road

Our transport network comprises 979km of sealed roads, 587km of unsealed roads and 385km of footpaths. Approximately 99.5% of urban roads and 53.8% of rural roads are sealed. State Highway 1 and State Highway 71 which run through the District, are vested in the Crown and are maintained by New Zealand Transport Agency (Waka Kotahi).

The total value of assets excluding land:
$1.03B (Depreciated replacement cost – 30 June 2023)

4.4.1 Capital works programme

The capital expenditure over the next 30 years has a strong renewals focus, as well as improvements associated with safety and growth (45%). Level of service increases remain a smaller but consistent component of the work required throughout the period apart from during the proposed Rangiora Eastern Link Road construction (Figure 4.12).

Figure 4.13 shows the projected capital expenditure for the first 10 years of this IS, followed by five year blocks to cover the 20 years. The figures shown for each of the five year blocks between 2034/35 and 2053/54 are the average annual expenditure over that period.

Capital expenditure is anticipated to peak from 2027/28 to 2029/30 primarily due to the planned replacement of Skew Bridge, and the construction of the Rangiora Eastern Link Road. The other key projects which include Tram Road Safety Improvements and West Rangiora Route Improvements, while substantial, are spread more evenly over the LTP period.

The Levels of Service component of the five-year blocks have a high level of certainty is because this is generally Council planned work, whereas the Growth component of capital works is subject to planning development, and as such this programme has less certainty as the this horizon is less certain.

The cost of renewals also increases gradually over time, however, this is mainly due to inflation, as most renewal activity is smoothed, with large bridge renewals being the exception.

Figure 4.12 Type of capital expenditure – Roads and footpaths

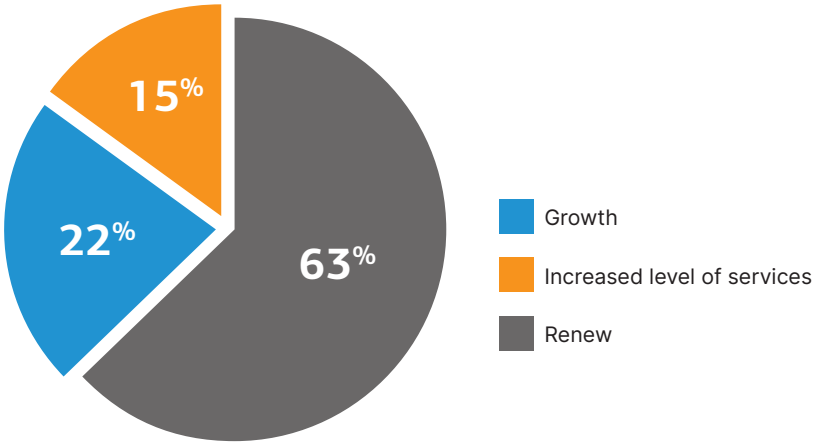
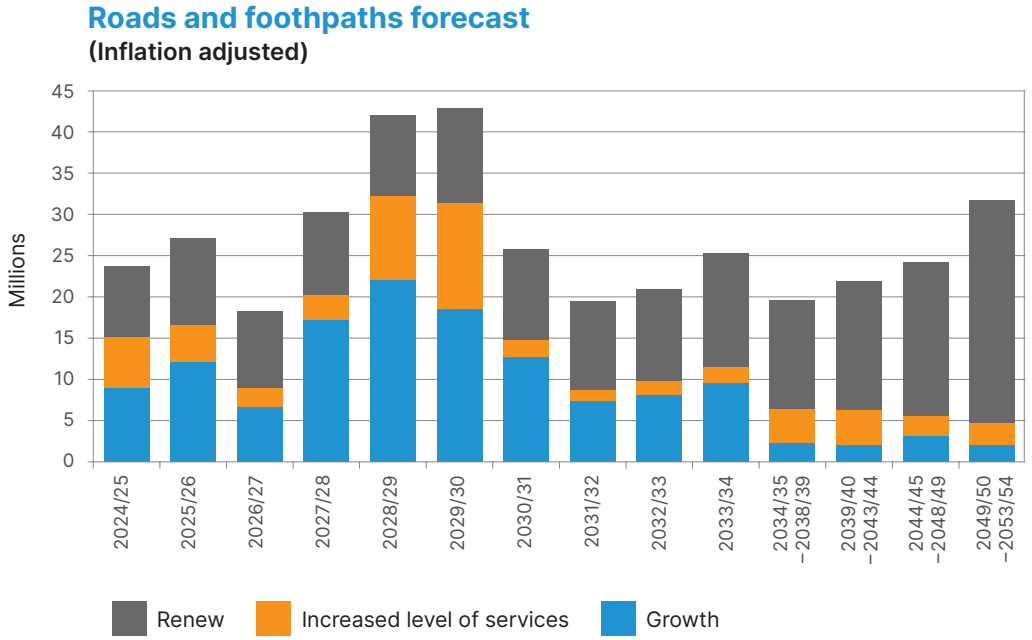


Figure 4.13 Projected capital expenditure – Roads and footpaths



4.4.2 Significant roads and footpath projects

Table 4.4 Significant roads and footpath capital projects

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Road safety improvements	West Rangiora route improvements.	Intersection improvements such as right turn bays allow traffic to flow more steadily, and make entry to /exit from side roads safer. The route is wider and hence safer and more attractive to heavy transport, therefore diverting some demand from the Lineside Road and Southbrook Road corridor.	19.1m	2024-2034	✓	✓	
	Wellbeing linkages						
	Assumptions	• The level of public interest is such that they are most likely to recognise the benefits once the improvements have been carried out. • Funding remains a challenge as 51% co-funding is sought from NZ Transport Agency (Waka Kotahi), however this is dependent on the outcome of the National Land Transport Plan considerations. • Failure to secure subsidy could result in either increased costs to Council and the ratepayer or on the project being put hold until co-funding can be secured.					
	Alternative option/s	• Undertake a significantly reduced programme of safety improvements along the corridor. Safety benefits will only partially be realised, and corridor will not adequately cater for anticipated growth. • Decision not to build or upgrade. Safety will continue to be a concern as traffic volumes and risk increases.					
Road safety improvements	Tram Road safety improvements.	Improved safety at intersections along a high crash risk corridor.	15.7m	2024-2035	✓	✓	
	Wellbeing linkages						
	Assumptions	• Funding remains a challenge as 51% co-funding is sought from NZ Transport Agency (Waka Kotahi), however this is dependent on the outcome of the National Land Transport Plan considerations. • Failure to secure subsidy could result in either increased costs to Council and the ratepayer or on the project being put hold until co-funding can be secured.					
	Alternative option/s	• Undertake a significantly reduced programme of safety improvements along the corridor. Safety benefits will only partially be realised, and corridor will not adequately cater for anticipated growth. • Decision not to build or upgrade. Safety will continue to be a concern as traffic volumes and risk increases.					

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Growth	North South Collector Road.	This new road will provide an important north/ south connection with a new development area in north-east Rangiora and will connect to the Rangiora Eastern Link Road (when built).	6.6m	2025-2031	✓	✓	
	Wellbeing linkages						
	Assumptions	• Timing is dependent on development occurring.					
	Alternative option/s	• Decision not to build the road linkage. As this road enables growth and within an area already under development, this is not considered a viable option.					
Road safety improvements	Skew Bridge realignment/replacement, including associated road improvements.	Reducing crash/injury risk due to poor alignment and high traffic volumes. Encouraging more traffic to travel via the western route rather than Southbrook Road.	12.8m	2024-2029 with main construction in 2027-2028	✓	✓	
	Wellbeing linkages						
	Assumptions	• Traffic volumes on the route will continue to grow, justifying the replacement.					
	Alternative option/s	• Replace the bridge without provisions for cyclist or pedestrians. This option does not make provision for alternate modes which is a missed opportunity. • Widen the existing bridge including provisions for cyclists and pedestrians. This would not address the heavy freight issues and leaves a structure with a short remaining life. • Postponing replacement until bridge is due for renewal due to condition. This option does not address the safety issues associated with this narrow bridge on a key transport corridor with increasing traffic and restrictions on heavy vehicle use.					
Roading connections	Rangiora Eastern Link Road.	Manages impacts of growth. Reduces traffic congestion on Southbrook Road.	38.5m	2024-2030	✓	✓	
	Wellbeing linkages						
	Assumptions	• Land is available for any road building/widening required.					
	Alternative option/s	• Upgrade the existing road corridors to cater for the anticipated growth. This option would result in increased access issues through the Southbrook area and would not adequately allow for growth. • Decision not to build or upgrade. This option does not allow for anticipated growth and would lead to a transport system which struggle to function. Travel time delays would significantly impact freight movements.					

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Roading connections	Old Waimakariri River bridge replacement.	Ensures continuity of service by replacing aging infrastructure. Provides better level of service for pedestrians and cyclists.	12.2m	2051-2052		✓	✓
	Wellbeing linkages						
	Assumptions	• The bridge life lasts until replacement funding is available. • CCC and NZTA will approve funding for their share of the replacement.					
	Alternative option/s	• Extend the life of the bridge by carrying out more major maintenance and strengthening work although this option will only delay the need for replacement. • Decision not to build or upgrade. This would result in the bridge needing to close. As this is the detour route when SH1 is closed, this is not considered a viable option.					

4.4.3 Roads and footpaths replacement programme

Roading and footpath renewals are programmed with the objective of achieving:

- A net benefit to the national and/or local economy from the renewals
- The lowest life-cycle cost for the asset (where it is uneconomic to continue repairing the asset)
- An affordable medium-term cash flow
- Other savings by co-ordinating renewal works with other planned works within the road reserve or adjacent to it
- Reduced risk, including the risk of failure and associated financial and social impacts, and increased risk of crashes, or other health risks.

The roading network has few large-scale infrastructure items that would potentially impact on Council budgets, as most work is able to be spread over a longer term. The only exceptions to this are large pieces of infrastructure, such as bridges. The key structures in Waimakariri are the Ashley Bridge which was replaced in 2014, the Old Waimakariri Bridge, the Waimakariri Gorge Bridge and Skew Bridge.

The Waimakariri Gorge Bridge is shared with Selwyn District, and managed by them, and has an indefinite life which is not likely to need significant component replacements in the foreseeable future other than a deck replacement which is due

to be carried out in 2024, and then subsequently every 1-2 decades. Council's share of the cost of this work is less than $1m.

The Skew Bridge is located on the West Rangiora Route and crosses the Cust Main Drain near West Kaiapoi. The bridge has challenging approach geometry and is narrow in nature. The replacement of Skew Bridge is included in the LTP at a cost of $11.0m. Following this replacement work, the Skew Bridge should not require renewal for at least another hundred years.

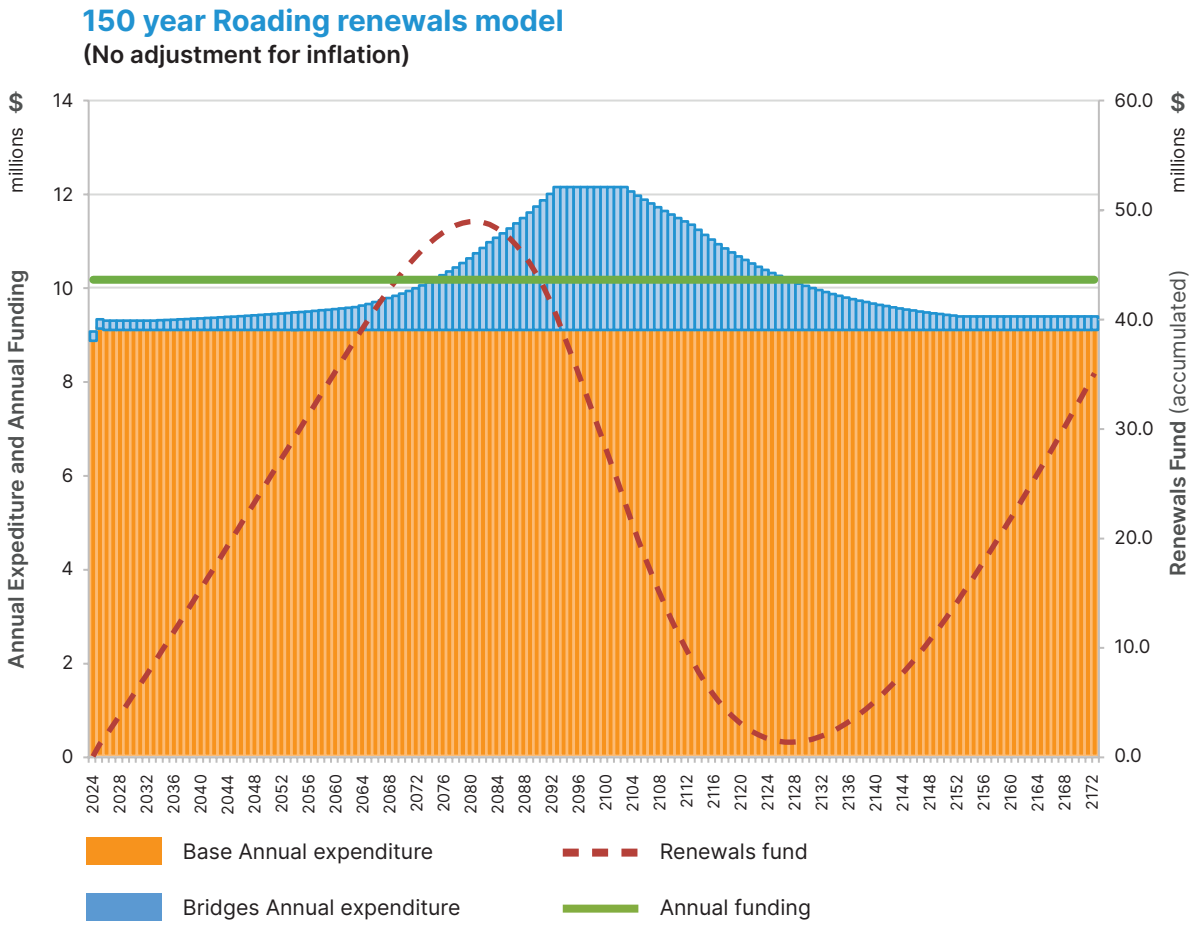
The Old Waimakariri Bridge, which links Christchurch and Waimakariri, is programmed for replacement in 2051/52 at a cost of $12.49m, of which $6.1m is to be funded by Waimakariri District Council.

The next major renewal planned in the District is the replacement of the Middlebrook Culvert, at a cost of around $1.1m, and this is purely a renewals project, with no Level of Service increases required. This culvert is on Southbrook Road which is a key strategic road within the Waimakariri District.

Other significant bridges in the District should not need replacing in the next 30 years.

The steady increase in renewals, shown in figure 4.15, reflects the new assets the Council anticipates acquiring as subdivision occurs. The peak in expenditure in 2051 relates to the Council's share of replacing the Old Waimakariri Bridge.

Figure 4.15 150-year replacement cost forecast for Roading and Footpaths (in 2024 $)



4.4.4 Roads and footpaths – significant issues, options for managing them and implications of the options

Issue / decision No. 1	**Is the funding for maintenance, operations and renewals activities sufficient to meet current levels of service?**
Background	As is the case across the country, inflation has had a significant impact on the ability to carry out necessary programmes of maintenance and renewals work. Current inflationary costs over the last 3 years are at 24.84% as at November 2023. The corresponding significant increase in Maintenance and Renewals budget sought, including the NZTA co-funding. In addition to this severe weather events and increasing growth continue to impact the transport network with maintenance more work required in these areas to maintain the current levels of service.
Cost	Average estimated cost – $20m per year

Available options	Implications	Cost (in 2024 $)	Type of capital work
Increase funding in the maintenance, operations and renewals activities to meet network needs.	• Cost implications of increased maintenance, operations and renewals activities.	20m	Maintenance, Renewals and Operations
Provide a lower level of funding increase in the maintenance, operations and renewals activities, to allow a limited increase to partially meet network needs.	• A reduced level of investment will likely result in existing Levels of Service not being met.	16.6m	Maintenance, Renewals and Operations
Retain current funding level.	• Not considered a viable option due to the impacts on the transport network.	13.2m	N/A

Issue / decision No. 2	**Whether to build key multi-modal linkages to provide for growth, in a safe and sustainable manner.**
Background	The current transport network is inadequate for anticipated growth, particularly in the North-East Rangiora area. Southbrook Road currently carries up to 26,000 vehicles per day on a two-lane road, and continuing growth to the north-east of Rangiora will result in increased traffic using Southbrook Road creating further congestion and safety issues or travelling via Rangiora Woodend Road to access SH1 (which has similar issues).
Indicative timeframe	Within 10 years
Cost	Average estimated cost – $35.05m

Available options	Implications	Cost (in 2024 $)	Type of capital work
Build key linkages to allow for future growth, including provision for alternate modes (e.g., walking and cycling).	• Cost implications of building new infrastructure.	35.05m	50% Growth 50% LOS
Upgrade the existing road corridors to cater for the anticipated growth.	• Not considered feasible as this would create safety issues and social disconnection as access around these corridors will become more challenging.	10m	50% Growth 50% LOS
Decision not to build or upgrade.	• This option would result in Increased congestion, decreasing Levels of Service, and increased safety issues. This would also have economic impacts on the community and is not considered a viable option.	0	N/A

Issue / decision No. 3	**Whether to undertake safety improvements along the West Rangiora Route, including replacement of Skew Bridge**
Background	The West Rangiora Route is a key transport corridor in the Waimakariri District which connects Rangiora and Kaiapoi / SH1. This corridor is continuing to see increased traffic growth and increasing safety risks along its length. This package or corridor improvements including intersection improvements, widening for safety and the replacement of Skew Bridge aims to provide safety improvements along this corridor.
Indicative timeframe	2024/25 – 2034/35
Cost	Average estimated cost – $26.2m (Route Improvements $14.2m and Skew Bridge Replacement $12m)

Available options	Implications	Cost (in 2024 $)	Type of capital work
Undertake safety improvements on this key transport corridor, including the replacement of Skew Bridge.	• Improved safety along the corridor and at intersections / Skew Bridge.	26.2m	50% Growth 50% LOS
Undertake a significantly reduced programme of safety improvements along the corridor and continue with the replacement of Skew Bridge.	• Safety benefits would not be full realised, and the effectiveness of this alternate route would be significantly reduced.	17m	50% Growth 50% LOS
Decision not to build or upgrade.	• This option would result in increased safety issues along the corridor and reduce the effectiveness of this route as an alternative to SH71 Lineside Road. This would have longer term economic impacts on the community and is not considered a viable option.	0	N/A

Solid Waste

4.5 Solid waste

Principal goal

Sitting underneath this are the vision and principal goals for the Solid Waste activity, as articulated in the 2018 Waste Management and Minimisation Plan. The vision for the future is *"To value resources and eliminate waste and its harm to the environment"* and the two goals, which were adopted from the New Zealand Waste Strategy, were *"Improving the efficiency of resource use" and "Reducing harmful effects of waste"*..

Extent	Asset
2	Cleanfill sites
5	Closed landfills
2	Hazardous waste storage facilities
2	Transfer stations

WDC owns and contracts out operations for two waste transfer stations and two clean fill pits, and provides a recycling drop off for rural residents Cust. We provide a kerbside collection service for recycling and rubbish, which is available to 19,900 urban and rural properties (71.5% of the District's population), and for mixed food and green waste which is available to 18,890 urban properties (68% of the District's population).

Total value of assets:
$5.7m (Depreciated replacement cost – 30 June 2023)

4.5.1 Capital works programme

Figure 4.16 shows that the majority of the capital expenditure (89%) over the next 30 years is associated with growth.

Figure 4.17 shows the projected capital expenditure for the first 10 years, followed by five-year blocks to cover the 20 years. The figures shown for each of the five-year blocks between 2034/35 and 2053/54 are the average annual expenditure over that period.

The capital expenditure in the first 10 years of the Infrastructure Strategy period relates to purchase of additional land and upgrade projects at the Southbrook Transfer Station's rubbish pit, and the recycling and reuse area. New allowances have been made for upgrades at the Oxford Transfer Station and clean fill pits. These are driven by capacity issues caused by growth, adopted diversion targets, and anticipated changes to reporting requirements to track waste materials handled at Council facilities.

Figure 4.16 Type of capital expenditure – Solid waste

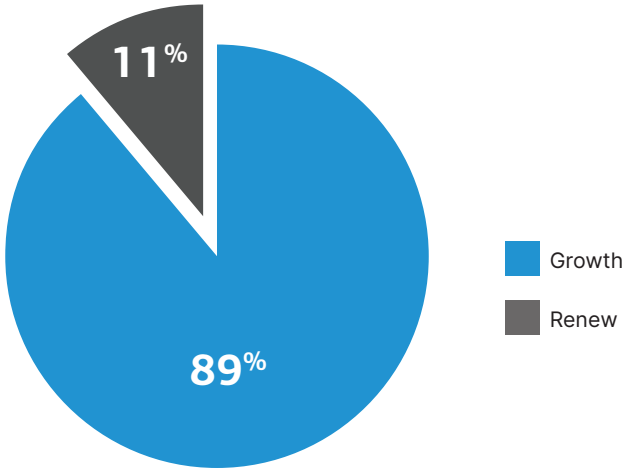
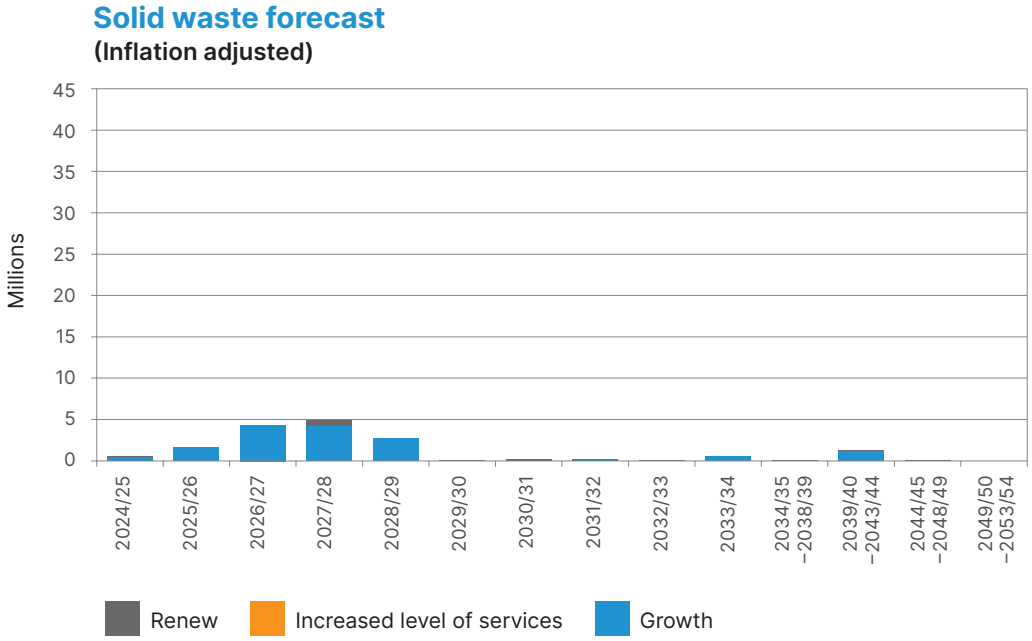


Figure 4.17 Projected capital expenditure – Solid waste



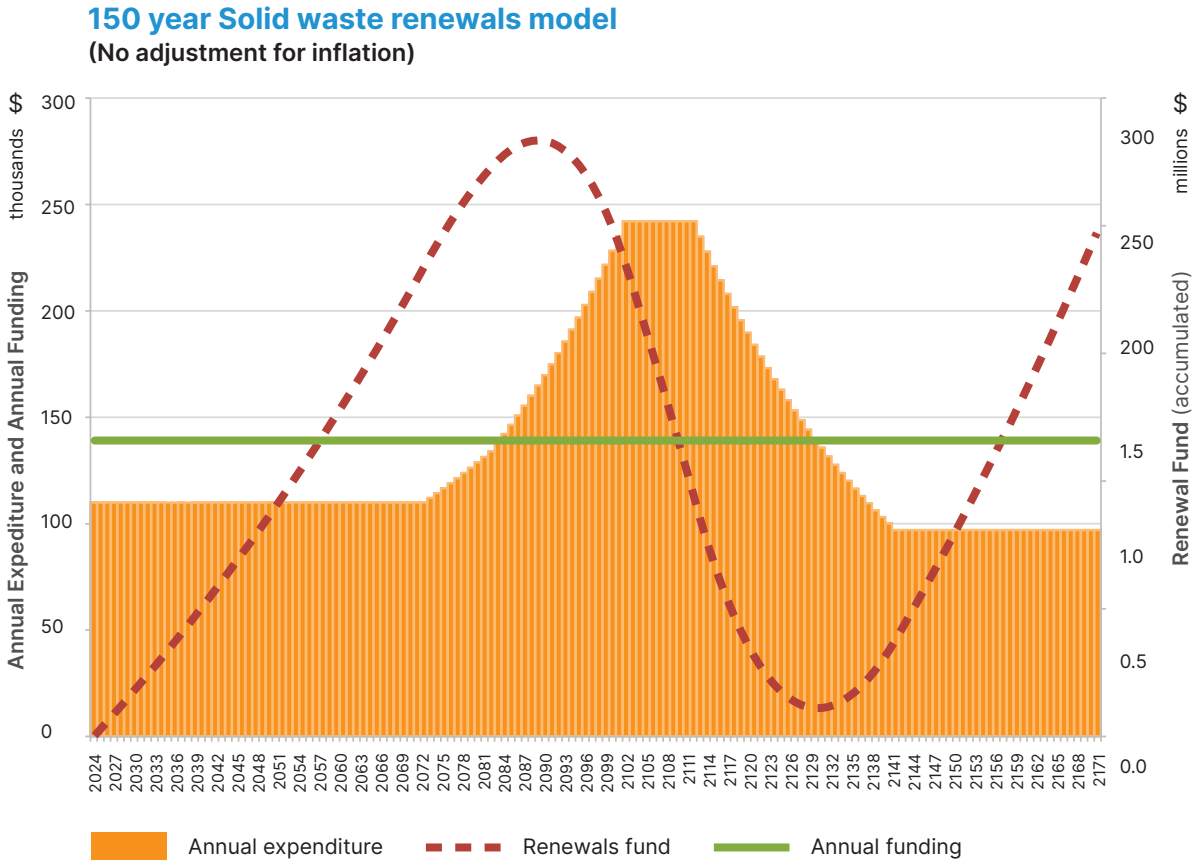
4.5.2 Significant solid waste projects

Table 4.5 Significant solid waste projects

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Capacity **Health and safety** **Changing technology**	Southbrook Resource Recovery Park pit and access upgrades.	Ensures consent compliance. Improves LOS and waste minimisation/diversion. Reduces waste going to landfill.	4.5m	2024-2028	✓	✓	✓
	Wellbeing linkages 						
	Assumptions	• Any increases to the scale of works is likely to result in an increase to the total costs for this project. • Risk of not getting funding from WMF and Council/ratepayers required to cover all costs via a loan.					
	Alternative option/s	• The pit upgrade could be delayed until necessary for capacity. This is expected to be 2040 with diversion and new collection methodology. Future works will come at a higher cost, the pit floor will need continual maintenance until it is upgraded which disrupts customers and transportation to landfill, and there is limited space in the current configuration of the pit to allow for diversion of materials. The shared service area currently presents health and safety risks to customers which are being managed through traffic control measures such as speed bumps and flexible bollards. There is potentially a need for stop/go control of customer vehicles. Not upgrading the facilities also means a wider variety of materials will not be able to be separated. • Building facilities at a separate site will involve costs for land purchase and consenting and there is the potential for additional transportation costs. • A partnership could be formed to construct and operate facilities on a cost-share basis, either at the SRRP or another location.					
Capacity **Levels of service** **Changing technology**	Southbrook RRP expansion Stage 2.	Caters for future growth and allows for in-District processing of 'dry waste' materials to better divert these from landfill.	6.0m	2039-2042	✓	✓	✓
	Wellbeing linkages 						
	Assumptions	• Uncertainty of necessary size of land for future expansion, may relocate waste transfer site rather than expand existing infrastructure. In that event, costs would be significantly higher.					
	Alternative option/s	• Continue to send materials to receiving plants in Christchurch or other centres. Income is unlikely to be received from the sale of the materials and there would be additional transport costs on top of the processing costs. • Open an additional site within the District. This would require either land purchase or a lease arrangement. Site availability may be limited. It is best to co-locate facilities at or adjacent to disposal facilities to minimise transport costs, and there may be consenting and compliance issues owing to sensitivity of nearby land-us. • A partnership could be formed to construct and operate facilities on a cost-share basis, either at the SRRP or another location. Utilising an alternative location would require either land purchase or a lease arrangement. Site availability may be limited because of specific requirements and consenting or compliance issues due to sensitivity of nearby land-use.					

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Capacity **Health and safety**	Southbrook Resource Recovery Park reuse and recycling area expansion and Education Centre.	Improves LOS and waste minimisation/diversion. Reduces health and safety risks. Community engagement improved through education centre activities.	6.6m	2024-2029	✓	✓	
	Wellbeing linkages						
	Assumptions	• Recently identified potential increases to the scale of works are likely to result in an increase to the total costs for this project. • Customer usage will increase in relation to population growth.					
	Alternative option/s	• Provide satellite recycling stations for rural customers. This increases the risk of illegal dumping and contamination at these sites; there would be additional ongoing maintenance and compliance costs and bringing recycling to the SRRP for consolidation would incur additional transport costs. Equity issues relating to different levels of service for urban and rural ratepayers, and who pays for what, would also need to be considered. • Not providing an education centre as part of the upgrade. Council's delivery of waste facility site tours for schools and communities is constrained by not having an education facility at the SRRP.					

Figure 4.18 150-year replacement cost forecast for solid waste (in 2023 $)



4.5.3 Solid waste replacement programme

The solid waste renewals work required over the next 30 years is relatively low given the major assets are in good condition overall, being 25 years into a 100-year life cycle. The planned upgrades at Southbrook RRP will result in the replacement or repair of many of this site's assets, and this is likely to impact on the future renewals programme in the next Solid Waste Activity Management Plan.

As shown in figure 4.18, the annual renewals budget is set at a rate necessary to build up the renewals fund enough to fund the large amount of renewals work due in later years. Consequently, depreciation will exceed renewals expenditure resulting in a growing account balance until around 2085. The peak occurring from 2102 to 2114 relates to the replacement of buildings, concrete structures and other major infrastructure at the Southbrook Resource Recovery Park and Oxford Transfer Station.

4.5.4 Solid waste – significant issues, options for managing them and implications of the options

Issue	**Southbrook RRP upgrade – Resource Recovery Hub (shop, education centre, maker's space)** The current reuse area and second-hand shop are under-capacity, which limits the amount of goods that can be accepted and sold through the shop, so limits the amount of diversion that can be achieved. Having the drop-off at the shop is creating conflict between donors and potential buyers, which is an identified health and safety hazard. Operations are constrained by the layout, and there are health and safety risks from vehicle and pedestrian conflicts. Council is considering three optional layout plans, each of which has a large shop, workshops for community use, and education centre sited on the Flaxton Road frontage of the resource recovery park site.
Indicative timeframe	Design in 2024/25 and construction in 2025/26.

Available options	Implications	Cost (in 2024 $)	Type of capital work
Retain existing shop, build education centre on current recycling site.	• No improvement to LOS, will not minimise traffic conflicts, recycling area disconnects education centre from wetlands.	0.5m	New Works
Relocate shop buildings to west of RRC and construct classroom, office, and carpark adjacent to wetland.	• No improvement to LOS, shop no larger, reduces traffic conflicts, may impact wetlands/spring.	0.9m	New Works
Build 850m^2 shop, develop 500m^2 makers space and 500m^2 education centre activity areas on Flaxton Road frontage, with shared carparking and 1,000m^2 future expansion site. **This is the preferred option.**	• Greenfields development, space to expand, improved LOS. • Prime site, visible to passing traffic, minimises operational vs. customer traffic conflicts.	3.2m	New Works – Partial Growth
Build 1,000m^2 shop, develop 500m^2 makers space and 600m^2 education centre activity areas on Flaxton Road frontage, with shared carparking and 350m^2 future expansion site.	• Greenfields development, space to expand, improved LOS. • Prime site, visible to passing traffic, minimises operational vs. customer traffic conflicts.	Estimate over 3.2m	New Works – Partial Growth
Build 400m^2 shop, develop 400m^2 makers space and 500m^2 education centre activity areas on Flaxton Road frontage, with shared carparking and 1,000m^2 future expansion site.	• Greenfields development, space to expand, improved LOS. • Prime site, visible to passing traffic, minimises operational vs. customer traffic conflicts.	Estimate under 3.2m	New Works – Partial Growth
Sell Flaxton Road frontage to fund land purchase and construction (same sized development as above) on neighbouring land – this is not recommended as there is insufficient financial benefit and will further delay the upgrades.	• Greenfields development, space to expand, improved LOS. • Delays upgrades, sale of frontage insufficient to fund land purchase and construction cost. • Disconnect between education centre and wetlands. • Does not minimise traffic conflicts.	3.2m+	New Works – Partial Growth

Issue	**Southbrook RRP upgrade – Resource Recovery Centre (Recycling, hazardous waste and reuse drop-off)** The current recycling and hazardous waste drop-off area are under-capacity, operations are constrained by the layout and high use of the site, and there are health and safety risks from vehicle and pedestrian conflicts. Council is considering three optional layout plans, each of which increases the size of the reuse drop-off and provides an enlarged, covered recycling drop-off facility at the resource recovery park site. This enables the existing shop and workshop to be utilised for a mix of operations and staff facilities.
Indicative timeframe	Design in 2024/25 and construction in 2026/27

Available options	Implications	Cost (in 2024 $)	Type of capital work
Widen seal for new recycling area west of RRP – this is not recommended.	• Minor improvement to LOS. • Unable to expand operations. • Reduces traffic conflicts. • Will replace assets that are 22 years old.	2.3m	New Works, Partial Growth
Build two-level recycling drop-off on current site over current footprint – this is not recommended.	• Minor improvement to LOS. • Unable to expand operations. • Reduces traffic conflicts. • Will replace assets that are 12 years old.	3.5m	Renewal and Partial Growth
Upgrade and expand RRC on current site, 1,400m^2 building to enclose recycling, 300m^2 reuse drop off, retain existing shop for operational use. T**his is the preferred option.**	• Improves LOS, capacity, and operations. • Utilise majority of existing infrastructure. • Reduces traffic conflicts.	Budgeted 3.4m	New Works – Partial Growth
Upgrade and expand RRC on current site, 760m^2 building to enclose recycling, 150m^2 reuse drop off, retain existing shop for operational use – this not recommended.	• Similar LOS and capacity to current, improved operations. • Utilise majority of existing infrastructure.	Estimate under 3.4m	New Works – Partial Growth
Upgrade and expand RRC on current site, 480m^2 shelter to cover recycling and reuse drop-off – this not recommended.	• Lower LOS and capacity to current, improved operations. • Utilise majority of existing infrastructure. • May impact wetlands/ spring.	Estimate under 3.4m	New Works – Partial Growth
Sell Flaxton Road frontage to fund land purchase and construction on neighbouring land – this is not recommended as there is no financial benefit and will further delay the upgrades.	• Greenfields development, space to expand, improved LOS and capacity. • Delays upgrades, sale of frontage insufficient to fund land purchase and construction cost. • Higher overall cost. • Does not fully minimise traffic conflicts.	4.6m+	New Works – Partial Growth

Issue	**Southbrook RRP upgrade – Transfer Station** The rubbish pit and greenwaste disposal area are operating at capacity, and there is a limit to the amount of available hardstand to increase diversion activities. Current operational areas are located close to customer traffic flows, and there are health and safety risks from vehicle conflicts. Council is considering three optional layout plans, each of which increases the size of the current 'pit' building and greenwaste disposal pad. Organics consolidation would be managed in a building, reducing 'nuisance' issues. Additional facilities are proposed for the disposal of building and construction waste, cleanfill, etc., which will increase landfill diversion. Domestic vehicles will be separated from operational plant, commercial and kerbside collection trucks, which will reduce traffic conflicts. Additional hardstand areas and storage facilities will be built to improve operational efficiencies.
Indicative timeframe	Design 2024/25; procurement 2026/27 and construction 2027/28.
Cost	Average estimated cost - $4.5m

Available options	Implications	Cost (in 2024 $)	Type of capital work
Expand greenwaste operational area, road widening behind pit, repair pit facilities.	• No additional capacity at pit • Minor improvement to LOS • Minor improvements to traffic conflicts • No additional diversion.	0.4m	Renewal
Increase size of pit building to contain rubbish, greenwaste, recycling and organics disposal (approx. 1,700m^2); Expand concrete bund area to provide seven bunkers for diversion; operational and storage improvements. **This is the preferred option.**	• Increased LOS, capacity, diversion, and operations. • Retains one-way flows, separates operational and user traffic, separates commercial and domestic traffic, increased diversion. • Additional compactor to provide resilience.	Budgeted 4.5m	New Works, Renewal and Partial Growth
Increase size of pit building to contain rubbish, greenwaste and recycling (approx. 1,100m^2); retain portion of 'bunker' area for greenwaste overflow; separate organics building (375m^2); Expand greenwaste area to provide 4 bunkers for diversion; operational and storage improvements.	• Increased LOS, capacity, diversion, and operations; internal loop for domestic users (potential conflicts). • separates operational and user traffic; separates commercial and domestic traffic; increased diversion. • Additional compactor to provide resilience.	Approximately 4.5m	New Works, Renewal and Partial Growth
Increase size of pit building to contain rubbish and recycling; separate area/ building for greenwaste disposal (360m^2); use existing consolidation shed for organics; Expand concrete bund area to provide six bunkers for diversion; operational and storage improvements.	• Increased LOS, capacity, diversion, and operations. • Separates operational and user traffic, separates commercial and domestic traffic, increased diversion. • Additional compactor to provide resilience.	Estimate below 4.5m	New Works, Renewal and Partial Growth

Green Space

4.6 Green space

Principal goal

To provide sports grounds and reserves to enable many recreational opportunities for communities as well as protect and enhance areas of indigenous vegetation.

To provide buildings and halls as community focal points, and meeting spaces for events, gatherings and recreational activities.

Extent		Asset
		SPACES AND PLACES
1		Airfield in Rangiora
8		Cemeteries
8	(3.47ha)	Civic Spaces
27		Community buildings
19	(38.35ha)	Cultural Heritage sites
75	(95.14ha)	Neighbourhood Parks
16	(215.34ha)	Natural parks
1	(50.79ha)	Open adventure site
3	(2.82ha)	Public gardens
63		Public toilets
248	(173.35ha)	Recreational and ecological linkages
28	(280.48ha)	Sports and recreation areas
356	(22.49ha)	Streetscapes
23,800		Trees

The Council is a significant provider of public open space within the District, managing over 882ha. Just under half of this land is provided primarily for sports and recreation purposes, including neighbourhood recreation. Some assets are located on reserves while others are located on roading assets.

Total value of assets:
$109.7m
(Depreciated replacement cost – 30 June 2023)

4.6.1 Capital works programme

Figure 4.19 shows that replacements make up one half (53%), and increased levels of services makes up a third (33%) of the capital expenditure associated with the Green space assets.

Figure 4.20 shows the projected capital expenditure for the first 10 years, followed by five-year blocks to cover the 20 years. The figures shown for each of the five-year blocks between 2034/35 and 2053/54 are the average annual expenditure over that period.

Figure 4.20 shows higher amount of capital expenditure is expected in the 2024/25, 2026/27 and 2030/31 financial years. This is due to the purchase of land in 2024/25 and subsequent construction of new community facilities at Pegasus Town in 2024/26 and Ravenswood in 2029/30. The spike in 2039 to 2044 relates to the provisional allowance for upgrades to the indoor court facility in Rangiora.

Other capital expenditure over this period is attributed to the ongoing renewal of existing Green space assets, and an improved renewal programme for community facilities now that the asset capture for these activity areas has been completed.

Figure 4.19 Type of capital expenditure – Green space

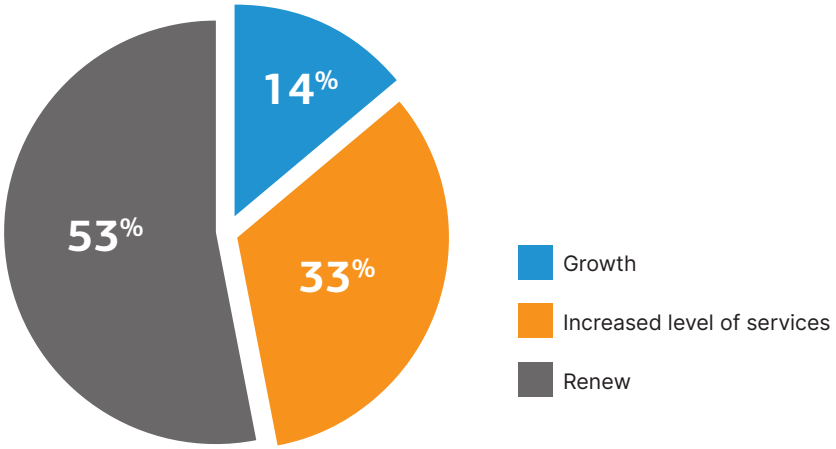
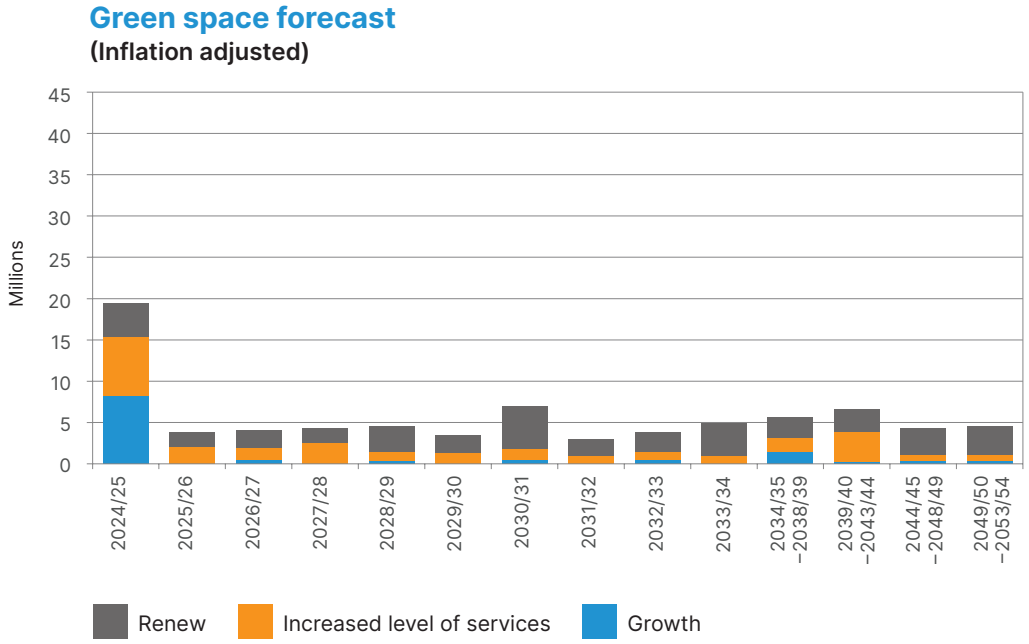


Figure 4.20 Projected capital expenditure – Green space




New Pegasus community facility
New Woodend community facility
Mainpower Stadium Extension
72
72
73
72
73
71
1

4.6.2 Significant green space projects

Table 4.6 Significant green space projects

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Sports field availability/ quality	New community facility at north Woodend.	Manages impacts of growth and levels of service shortfall in north Woodend for community facility provision.	4.3m (Land purchase) 6.4m (Facility)	2023-2024 (Land purchase) 2034-2035 (Facility)	✓	✓	
	Wellbeing linkages						
	Assumptions	• Once improved, the existing sportsgrounds will have sufficient capacity to cater for growth. • Population and demographic trends continue as expected. • The move away from organised sports to informal sports and recreation identified in the updated Sports Facilities Strategy continues.					
	Alternative option/s	• Improvements to sports grounds are assessed as part of the Sports Facilities Strategy which is updated every three years to inform the LTP. This review takes into account trends and population growth to ensure the recommended improvements remain appropriate. • Focus on providing new facilities to meet growth and demand instead of investing in existing sports grounds to maximise their availability/usage. This would be a much more expensive option and there would continue to be inefficient use of existing facilities.					

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Community facility capacity	New community facility at Pegasus.	Manages impacts of growth and levels of service shortfall in Pegasus for community facility provision.	1.8m (Land purchase) 0.5m (Feasibility study) 2.9m (Facility)	2023-2024 (Land purchase) 2024-2025 (Feasibility study) 2024-2025 (Facility)	✓	✓	
	Wellbeing linkages						
	Assumptions	• Existing community facilities will not be sufficient in the future to meet the demand arising from continued population growth in Pegasus, as identified in the updated Community Facilities Strategy. • Suitable land will be available to be purchased at an affordable price.					
	Alternative option/s	• The completion of the feasibility study prior to development will determine whether the preferred option remains appropriate. • Options exist to lease space in Ravenswood/ Pegasus but a new Council-owned facility is a more cost-effective approach long term. • The purchase could be delayed but the cost of land is likely to increase over time. There would also be increased pressure on existing facilities and a bigger gap between the services the community desires and those able to be delivered.					
Indoor sports stadium capacity	Extension to the Mainpower Stadium.		15.3m	2041-2042	✓		
	Wellbeing linkages						
	Assumptions	• The population in the District continues to grow as forecast and demand for indoor court facilities remains high. • Improvements are able to be made at Mainpower Stadium to expand the indoor court space.					
	Alternative option/s	• Not provide additional space for indoor sports and look to manage increased demand through existing assets or partnerships with other providers. • Look at alternative locations or options rather than Mainpower Stadium.					

4.6.3 Green space replacement programme

Renewals of Green space assets occur when they are no longer able to meet agreed level of services. The rate of asset renewal is intended to maintain the overall condition of the Green space infrastructure at a standard which reflects its age profile and ensures the community's investment is maintained.

The level of expenditure on asset renewals varies from year to year, reflecting the age and condition profiles of the assets, the on-going maintenance demand, customer service issues and the differing economic lives of individual assets.

The continued growth in the District following the earthquakes has resulted in a significant number of additional Green space assets being installed within reserves over recent years which generally have an average life expectancy of between 20 and 50 years. This is represented by the overall rise in expected renewals costs from 2045 when a number of the new assets will begin to require replacement.

The peak from about 2038 to 2052 reflects the date the majority of garden beds were captured in the system and given a useful life of 50 years (Figure 4.21). The reality is that these horticultural assets are subject to on-going renewal and maintenance programmes as outlined in the Green Space Activity Management Plan.

Figure 4.21 150-year replacement cost forecast for Green space (in 2023 $)

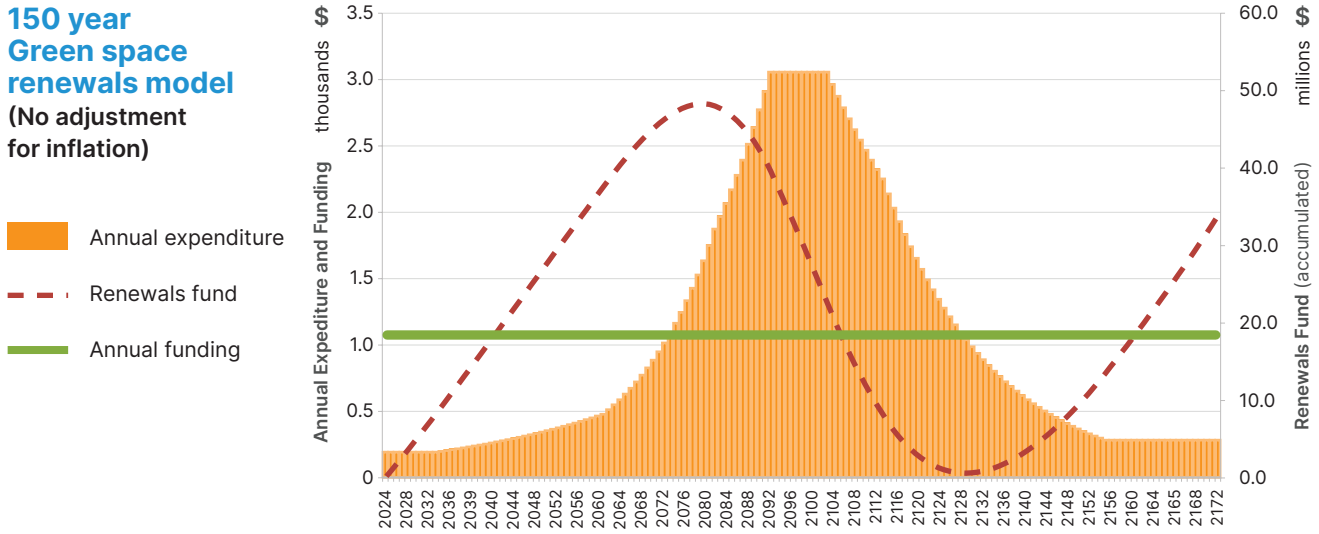
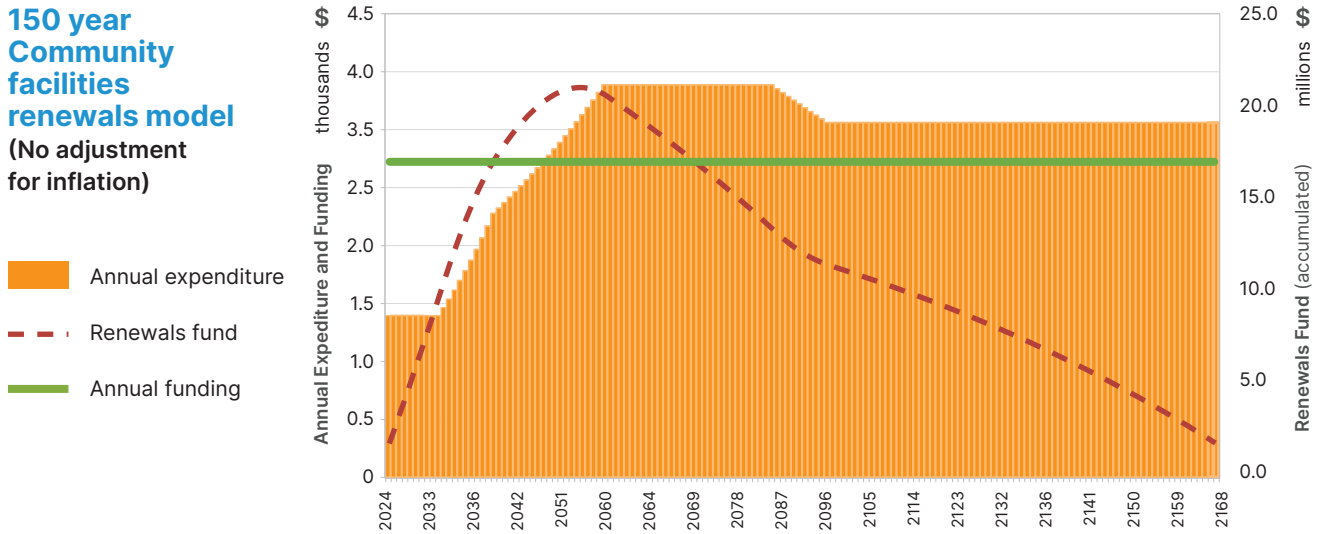


Figure 4.22 150-year replacement cost forecast for community facilities (in 2023 $)



Aquatic Facilities

4.7 Aquatic facilities

Principal goal

To provide aquatic facilities to enable recreational and educational opportunities for communities.

Extent	Asset
3	25 metre pools (one outdoor and two indoor)
3	Learn-to-swim pools (one outdoor and two indoor)
1	Leisure pool and spa at Dudley Park Aquatic Centre
1	Seasonal paddling pool at Waikuku

The Council owns and operates four aquatic facilities. The majority of the District's population is within 15 minutes' drive of a WDC pool during summer, when the Oxford Pool is open. Dudley Park and Kaiapoi Aquatic Centres are indoor pools open all year round and Oxford Pool and the Waikuku Beach Paddling Pool are outdoor seasonal pools open during the summer months.

Total value of assets:
$23.9m (Depreciated replacement cost – 30 June 2023)

4.7.1 Aquatic facilities capital works programme

Figure 4.23 shows that the majority of the capital expenditure over the next 30 years for the aquatics infrastructure assets is related to increased levels of service.

Figure 4.24 shows the projected capital expenditure for the first 10 years, followed by five year blocks to cover the 20 years. The figures shown for each of the five year blocks between 2034/35 and 2053/54 are the average annual expenditure over that period.

The following chart indicates the highest amount of capital expenditure is expected in the 2034-2039 period due to the upgrade of the facilities at the Kaiapoi Aquatic Centre and construction of a new aquatic centre in the east of the District.

The rest of the capital expenditure over this period is attributed to an improved renewal programme for aquatic facilities now that the asset capture for this activity area has been completed.

Figure 4.23 Type of capital expenditure – Aquatic centres

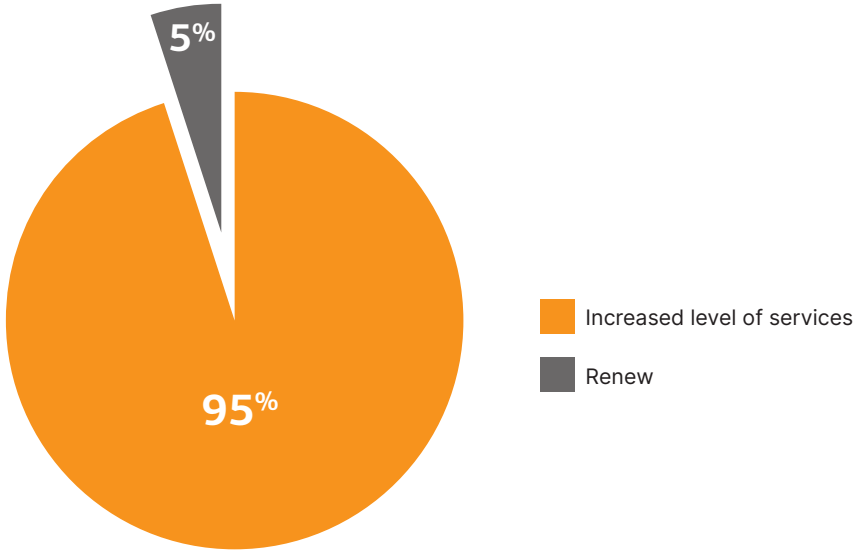
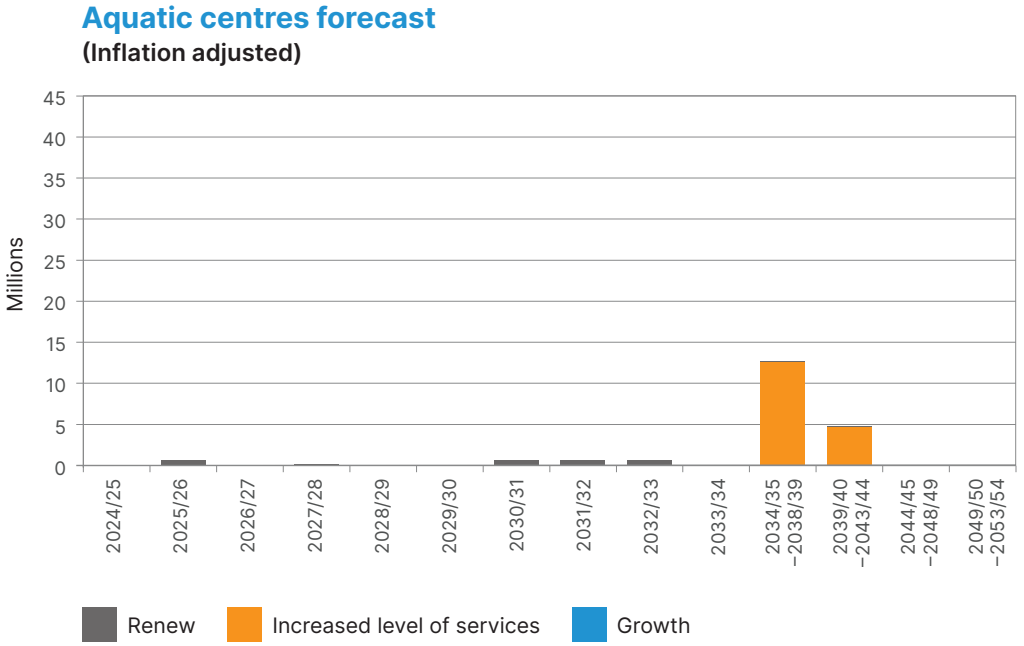


Figure 4.24 Projected capital expenditure – Aquatic centres



4.7.2 Significant aquatic facilities projects

Table 4.6 Significant aquatic facilities capital projects

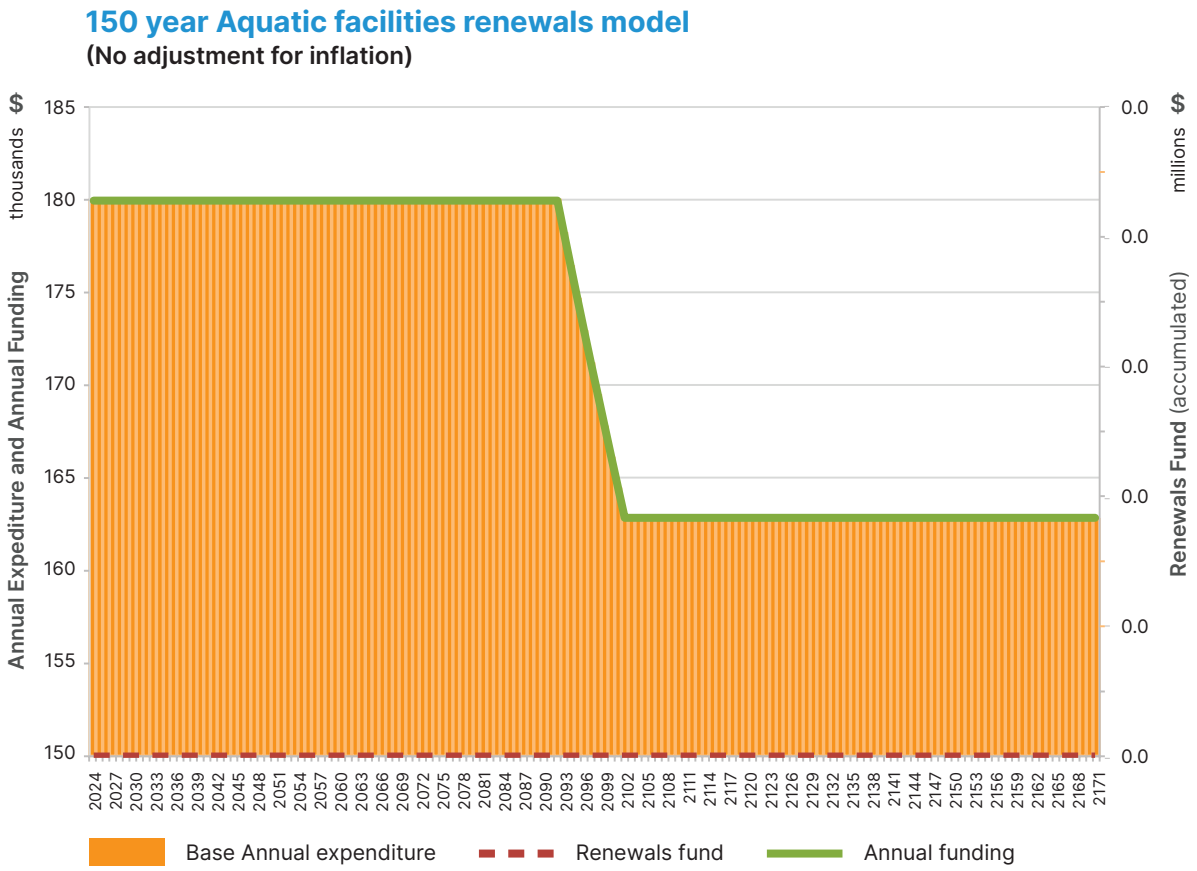
Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Capacity **Levels of service**	Upgrade Kaiapoi Aquatic Centre.	Enables community outcomes to continue to be achieved for high quality public facilities and meeting community needs.	18.6m	2034-2035	✓	✓	✓
	Wellbeing linkages 						
	Assumptions	• The District's population will continue to grow as projected, both in terms of numbers and demographic profiles. • There will be no change in expected recreation preferences for aquatic facilities.					
	Alternative option/s	• The District Aquatic Facilities Strategy 2021-2031 recommends that the existing Kaiapoi pool site be redeveloped within the next ten years to better align the future delivery of services with changing demographics and community needs. However, this option has been considered within the context of all Council's projected expenditure and the community's ability to pay. To this end a decision has been made to manage current services and expectations while pushing the upgrade out as detailed above. Further delay to this work would see increased pressure on existing facilities and a bigger gap between the services the community desires and those able to be delivered.					
Capacity **Levels of service**	Future development of new Aquatic Centre in the east of the District.	Enables community outcomes to be achieved for high quality public facilities and meeting community needs.	27.6m	2038-2039	✓	✓	
	Wellbeing linkages 						
	Assumptions	• The District's population will continue to grow as projected, both in terms of numbers and demographic profiles. Settlement will continue as expected in the Woodend Ravenswood area. • There will be no change in expected recreation preferences for aquatic facilities.					
	Alternative option/s	• The purchase could be delayed but the cost of land is likely to increase over time. • Other Council land could be repurposed, however, there is nothing currently available that would not displace other groups or create larger rehoming issues. Not proceeding with the project would eventuate in demand far-outweighing the service able to be provided.					

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Capacity **Levels of Service**	Upgrade Dudley Park Aquatic Centre.	Enables community outcomes to continue to be achieved for high quality public facilities and meeting community needs.	23.7m	2043-2044	✓	✓	
	Wellbeing linkages						
	Assumptions	• The District's population will continue to grow as projected, both in terms of numbers and demographic profiles. • There will be no change in expected recreation preferences for aquatic facilities.					
	Alternative option/s	• The District Aquatic Facilities Strategy 2021-2031 recommends that the existing Dudley Park Aquatic Centre is refreshed, with new pools added and existing facilities upgraded, within the next ten years to better align the future delivery of services with changing demographics and community needs. However, this option has been considered within the context of all Council's projected expenditure and the community's ability to pay. To this end a decision has been made to manage current services and expectations while pushing the upgrade out as detailed above. Further delays would see increased pressure on existing facilities and a bigger gap between the services the community desires and those able to be delivered.					

4.7.3 Aquatic facilities replacement programme

Aquatics has a number of short life assets making it easy to smooth the renewal of these into a flat line over the long term (150 year) period (figure 4.23). The exceptions to this are the aquatics buildings which have been included in the graph for community facilities (figure 4.22) and some larger expenditure items of plant and equipment. These include the replacement of HVAC and pool heating equipment which requires renewal approximately every 20 to 30 years to ensure the level of service provided by the pools remains constant.

Figure 4.23 150-year replacement cost forecast for Aquatic facilities (in 2023 $)



Property

4.8 Property

Principal goal

To support efficient and effective administrative and governance functions by providing office and service centre spaces that appropriately meet the physical accommodation needs of Council staff, customers, governance and other stakeholders, as well as spaces for public meetings and official occasions.

To provide fit-for-purpose and affordable housing for targeted elderly citizens.

Extent	Asset
347m²	Oxford Library and Service Centre
3,620m²	Rangiora Service Centre: service centre, office and spaces for public meetings / official occasions
650m²	Ashley Building
112 Units	Housing for the Elderly

Three Council-owned service centres and four leased buildings provide office and service centre spaces to meet the accommodation needs of staff and customers, elected members and spaces for public meetings and official occasions.

Council also provides housing for people on low incomes who are over 64 years old at below market rents. The 112 bedsit, studio or one bedroom units are contained within 45 buildings, located at seven separate sites.

In addition, the Property Unit provides a shared service function to all Council business units, advising on a wide range of property related matters, administering leases and licences, acquiring and disposing of property and dealing with internal and public inquiries relating to property. This activity itself does not employ infrastructure assets but closely supports all asset owning parts of Council.

Total value of assets:
$26.3m
(Depreciated replacement cost – 30 June 2023)

4.8.1 Property capital works programme

Service centres

Figure 4.24 shows that the majority of the capital expenditure (71%) over the next 30 years associated with the property infrastructure assets is related to growth.

Figure 4.25 shows modest projected capital expenditure for the first 10 years, followed by five-year blocks to cover the remaining 20 years. The figures shown for each of the five-year blocks between 2034/35 and 2053/54 are the average annual expenditure over that period.

The graphs show the indicative forecast over 30 years. The significant expenditure indicated in 2034-2039 years is associated with the Rangiora Civic Precinct. A key component of this is an extension to the current Service Centre to bring staff from four other leased buildings. However this does not accommodate growth over the following 15 years.

The existing building was refurbished in 2020 but the extent of the works was scaled back considerably due to the potential impact of Covid-19 on ratepayers.

This elevates the risk around the existing facility and increases the pressure on capacity in the interim. Provision for most renewals is allowed for in the LTP and the capacity issue has been addressed over the short term through leasing additional office space. However, leasing is considered to be less optimal over the long term, especially due to the limited availability of office space in Rangiora, relative to the size of Council as an organisation.

Further consideration of that is underway with the development of the business case around various redevelopment scenarios for the Rangiora Civic Precinct.

Figure 4.24 Type of capital expenditure – Service centres

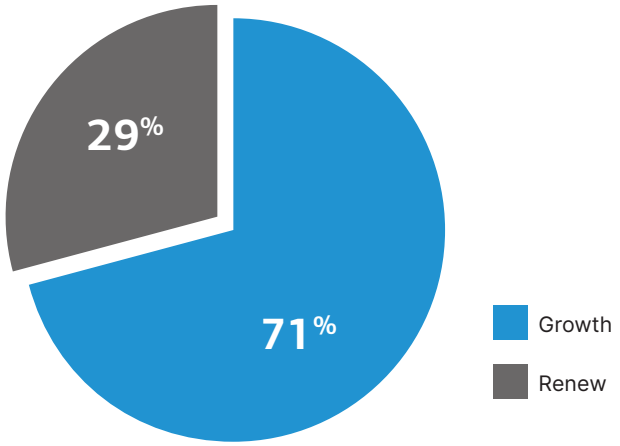
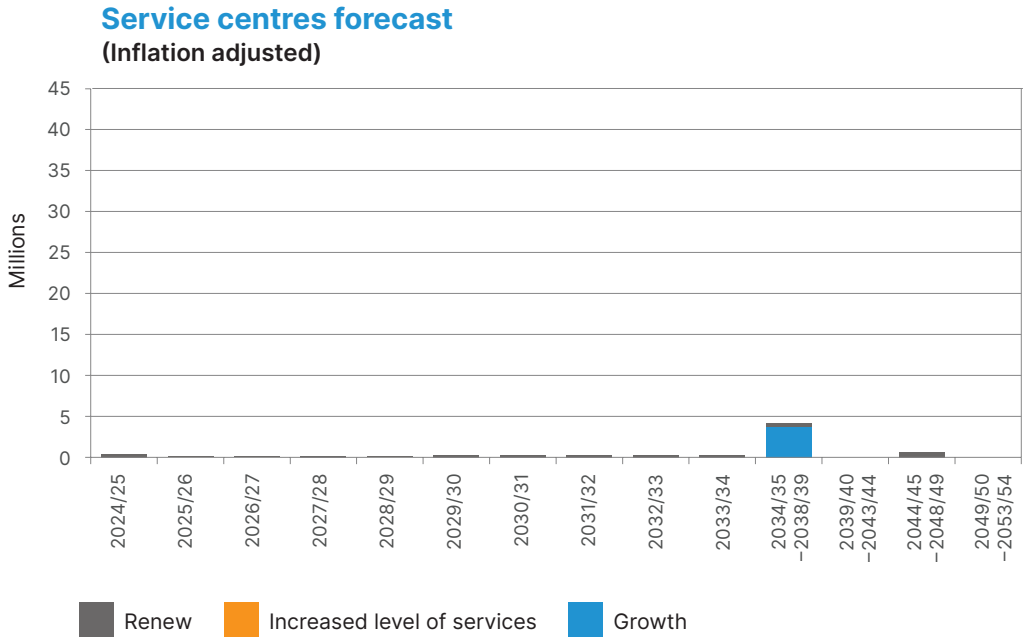


Figure 4.25 Projected capital expenditure – Service centres



Housing

Historically, no allowance has been made for growth above the 112 units currently supplied. Existing rental income has been increased over recent years to cover the long-term costs of ownership, including a mid-life upgrade of the Units the replacement of the units when they reach approximately 90 years old.

Council has approved an expansion of its current portfolio as part of this LTP. Figure 4.27 shows expenditure of $11.8m on a change to the level of service in the first two years of the LTP. This will provide for the construction of 32 new units.

The new units will be funded with a combination of Government funding approved by Housing and Urban Design (HUD) and Better Off Funding, the sale of housing originally funded in part by the Rata Foundation and debt. Rental revenue will cover debt funding costs meaning there is no call on ratepayers funding.

Figure 4.27 shows capital expenditure for each of the first 10 years and then expenditure over five year blocks to cover the remaining 20 years of the infrastructure Strategy. The figures shown for each of the five year blocks between 2034/35 and 2053/54 are the average annual expenditure over that period.

The capital expenditure forecast comprises renewal and replacement work and includes a change in the level of service, increasing the number of units from 112 to 144 units. A 10-year programme of mid-life refurbishments is underway. This includes some elements of enhancements, but these are generally associated with changed regulatory requirements, the use of better materials and products, or design improvements which have the same level of expenditure as work done on a 'like for like' basis. The refurbishment programme is averaged over the 10 years to accommodate a practicable delivery capacity

Figure 4.26 Type of capital expenditure – Housing

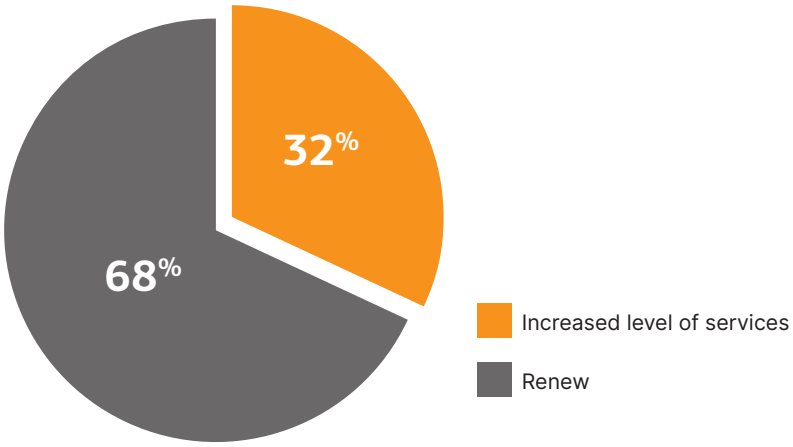
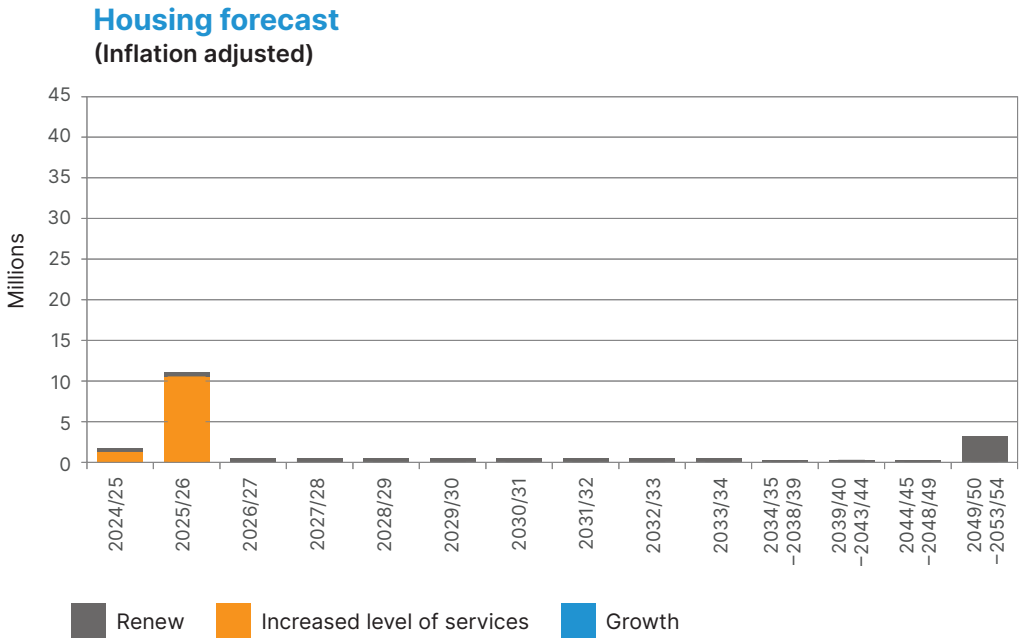


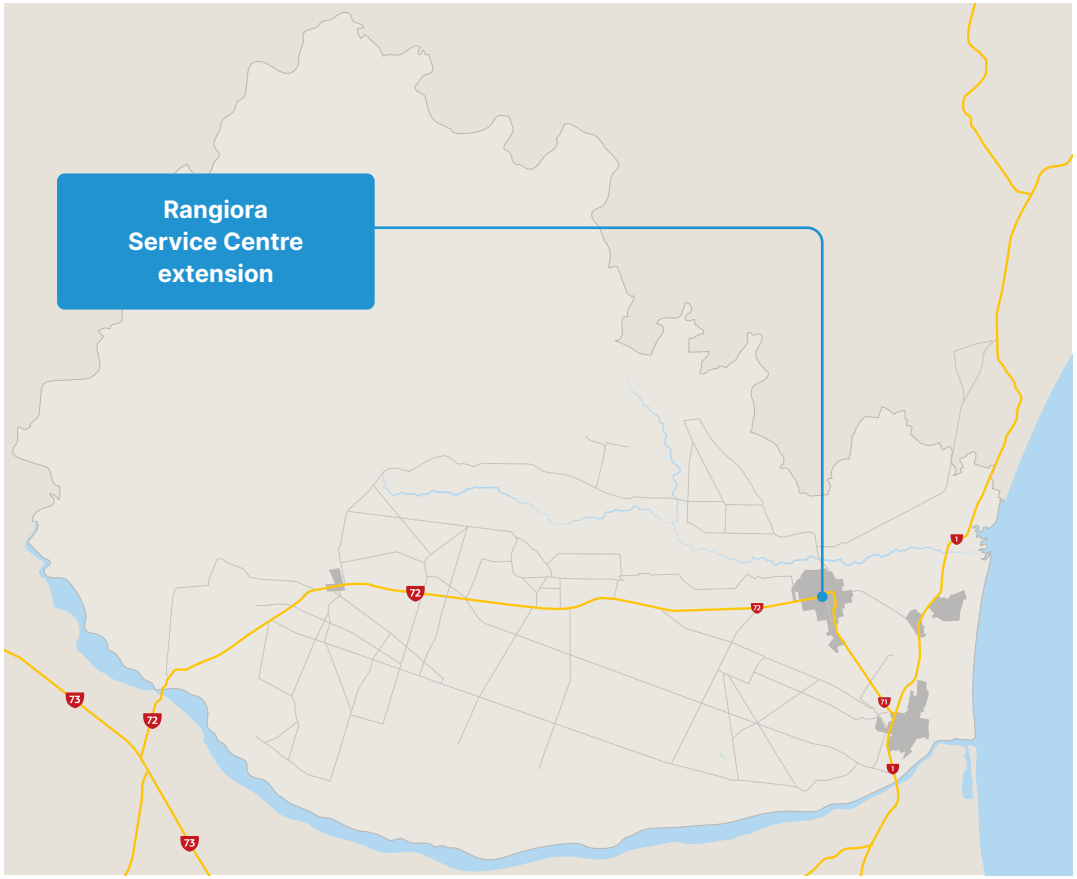
Figure 4.27 Projected capital expenditure – Housing



and to reflect that it is somewhat dependant on access to units as tenants vacate.

4.8.2 Significant property and housing projects

There are no significant projects in progress in the Property and Housing infrastructure activity areas at the time this strategy was developed.



4.8.3 Significant decisions to be made over next 30 years

The following two project decisions have significant financial implications that require consideration of both options and / or priorities for Council relative to other Activities across Council. Each of the two tables outline the project options and associated implications.

Decision 1	**Rangiora Civic Precinct Project – Service centre extension**
Background	As part of the 2018 LTP Council identified the need for additional service centre/ office capacity in Rangiora to meet the administrative needs of a fast growing community. Existing staff numbers have resulted in additional office space being leased, with four separate leases currently required to accommodate over 130 staff. While this is a legitimate strategy in the short term, over the long-term ownership is a lower cost option as Council can borrow at lower rates that the private sector and does not require a higher margin or return on investment to cover profit and risk. The expenditure on rent is ultimately a sunk cost whereas payments on a mortgage is an investment that in due course increases the balance sheet of Council, once the debt is paid. Property over time appreciates and the future ownership mitigates a number of risks for future residents of the District. Being a lessee over the long term exposes Council to uncertain market conditions and issues around supply, given the size of Council relative to other organisations and businesses and the modest scale of the commercial office sector in Rangiora. A leasing strategy is also likely to continue to involve multiple tenancies as opposed to a single site. This misses opportunities for greater cost saving synergies, improved connectivity within the organisation and ultimately better decision making, as it reinforces siloed behaviour across different divisions and departments of Council. This project has significant dependencies with the Rangiora Library project covered under 4.9.3. Further design and option considerations are being worked through with a full business case currently being progressed in early 2024.
Indicative timeframe	2035/36
Cost	Average estimated cost – $18.1m

Available options	Implications	Cost (in 2024 $)	Type of capital work
Status quo i.e. no service centre extension.	• Reduced debt burden on ratepayers. • Impact on debt ceiling negated. • On-going and increased reliance on leased space. Over time costs exceed ownership / expenditure funds a private individuals equity (not Council's balance sheet). • Benefits of co-location and customer service not enabled – with staff from across the organisation in different buildings (re-inforcing silo'd behaviour). • Over time lease hold strategies expose Council to risk around higher rents or insufficient space being available when required. • Significant increase in renewals expenditure for existing buildings would need to be allowed for – this is currently being assessed in advance of the LTP being adopted.	0	nil
No service centre extension in current LTP (but 'At Grade Library Extension in 2027 /29 - Phase 1 at a cost of $21.3m). Phase 2 (2035/36 i.e. Year 11 of Infrastructure Strategy) includes service centre extension and ancillary site / carpark works. This allows some staff in leased buildings to move to the main Rangiora Service Centre but does not account for future growth beyond this date. The total cost of the service centre and library equates to $36.6m but does not deliver the same benefits that Option 3 or 4 (below) deliver. **This is the prefered option.**	• Impact on self imposed debt ceiling moderated over current LTP but would have an impact on future LTP ratios. • Ancillary site / landscape works not allowed for until 2039. • Reduced synergies with the potential Civic Offices project and higher higher lease costs in corporate accommodation budget. • Higher eventual cost for overall combined library, service centre and landscaping works, and long term loss of more carparks from the site. • With this option an increase in renewals expenditure for existing building would need to be allowed for over current LTP – this is currently being assessed in advance of the LTP being adopted).	Phase 1 - 0 i.e. No Service Centre spend. Phase 2 - 21.3m At Grade service centre extension.	New Works - Growth
Phase 1 – Interim library built to occupy most of new two storey building, allowing for integration with existing library and public amenity spaces. This option does allow for some additional service centre space. Balance of service centre expansion (this project) delivered as part of Phase 2 but deferred until 2037/39. Phase 2 provides for the demolition of the original library building and replacement with a two storey library. That frees up space in the building built in Phase 1 to be converted to service centre space, allowing staff to return from leased premises and accommodating future growth.	• Partial benefits of co-location and customer service enabled – with staff from some leased spaces able to move into the main service centre building (although some leases would be required until 2039). • Impact on debt ceiling moderated. • Slightly higher overall costs for Civic project due to partial delay and further cost escalation. • Some operational increases will be needed in outer years of LTP to cater for the building extension operating costs but in mostly offset by reduced lease costs. • Somewhat higher lease costs associated with main service centre extension deferral. • Over time capital expenditure and debt repayment off-set by increased property value / appreciation (improved balance sheet).	Phase 1 (2027 / 29) Service Centre 20.5m (with Library spend of 18.9m) Total Cost Phase 1 - 37.4m Phase 2 includes a new two storey library at a cost of 26.6m. The library space built in 2029 will convert to service centre space. Total cost Phase 1 and 2 - 64m	New Works - Growth

Decision 1 – Rangiora Civic Precinct Project Stage 2 – Service Centre Extension continued

Available options	Implications	Cost (in 2024 $)	Type of capital work
Build two-storey service centre extension and two-storey library extension in 2027 / 29 with reconfiguration of landscaping and carparking. i.e. continue with existing budget and timing with an additional allowance for building a two-storey library.	• Significant pressure applied to self-imposed debt ceiling. • Reduced overall capital costs associated with the Civic project, as well as reduced lease costs associated with the Service Centre. • Benefits of co-location and customer service enabled - with staff from across the organisation in one building (delivered earlier). • Operational increases will be needed in outer years of LTP to cater for the building extension operating costs. • Offset savings from lease costs not being required (earlier). • Over time capital expenditure and debt repayment off-set by increased property value / appreciation (improved balance sheet).	Total cost 60m	New Works - Growth

Notes: Decision 2 – New housing for elderly complex (page 109)

1 *In 2020 a Housing Working Party comprising elected members was formed to grapple with the role Council has in responding to housing stress experienced in the Waimakariri. This group were reformed as part of the Property Portfolio Working Group in early 2023, comprising the Deputy Mayor as Chair along with three other Councillors and the Mayor Ex-Officio. In mid-2023 Council consulted on and approved a new Housing Policy that re-enforced Council's role as a provider, and signalled an intent to expand its provision where this was possible without any significant call on ratepayers.*

Council set aside $2.5 million from the proceeds of selling 7 houses. The Rata Foundation provided seed funding for those houses and, while comfortable with their sale, was keen to see the funds repurposed to another housing initiative, if possible. In addition to this equity, Council has been granted $1 million from the Government towards a housing initiative for elderly person housing. Those funds need to be expended by 2027 to comply with the terms set out in the grant.

Central Government had begun to open up channels for support to providers that could not access the Income Related Rents Scheme (IRRS). This was via a Grant contribution of 50% of the providing new targeted housing. Council submitted a bid for this funding in 2023 and is still waiting to hear back from the Ministry of Housing and Urban Development. That bid is very comparable to this project i.e., it is also based on 50% equity and 50% debt funding. The recently elected Government is yet to confirm its approach to support for agencies other than Community Housing Providers (CHP's) and Kainga Ora, both of whom are eligible for the IRRS. If the HUD funding is approved a separate staff submission will be needed to Council in April / May 2024 to Council's agreement to accept that support and progress that separate project.

The Government does already provide indirect support to non-CHP housing providers via the Accommodation Supplement, where a payment is made to eligible individuals or couples at the rate of 70 cents in every dollar for rent charged over a (regionalised) threshold.

Decision 2	**New housing for the elderly complex**
Background[1]	Demand has grown significantly over recent years for Council's elderly person housing that caters to those over 64 years of age experiencing housing stress. The anticipated growth in the forecast older people over the next 20 to 30 years is significant with a growing portion of these people anticipated to be on modest incomes. The supply of affordable one and two bedroom housing that suit this demographic continues to be constrained. A new housing complex of 32 units will be built using $2.5m equity, loan funding of $3.5m and Government funding of $5.6m. After allowing for debt servicing and repayment, operating costs and long term asset renewals and replacement the complex is rates neutral, in keeping with Council Policy. The proposed units target couples with rents in 2023 terms set at $300 per week. This is in the order of 80% of market rent for an equivalent one bedroom unit as assessed by independent advisors. After allowing for the accommodation supplement available to couples over 64 years of age, who rely solely on Superannuation, this equates to approximately 25% of income. Any result between 25% and 30% is generally considered affordable. A separate report is being presented to Council in April / May 2024 to provide more detail including preferred sites and to confirm the support of full Council for the project.
Indicative timeframe	2024/25 and 2025/26
Cost	Average estimated cost – $11.6m

Available options	Implications	Cost (in 2024 $)	Type of capital work
Status quo – do nothing	• Clearly evidenced demand goes unmet leading to hardship for approx. 32 couples that could be housed if the project is approved. • This may put pressure on agencies such as Kainga Ora and other CHPs to address the increased demand. However, the focus for these has historically been in other parts of NZ and some Policy statements of the new Government suggest the focus of support may move to enabling greater supply of housing in general. • The economics of building one and two-bedroom housing by comparison to three and four bedroom housing may mean the modest supply of affordable housing for one and two-person households remains constrained, with rents continuing to exert housing stress on a significant portion of the elderly demographic.	0	nil
Proceed with development (as signalled) **Prefered option**	• Identified community need (current waiting lists) are in part met, in line with Council's targeted community outcomes. • Land is repurposed for housing outcomes, in line with Council Policy. • No impact on rates, in line with Council Policy. • Capital expenditure may contribute to Council's self-imposed debt ceiling being put under pressure. Balancing this increased revenue (not rate-payers) offsets some of this impact and the as-sets have a commercial market value that also provides some offset.	11.6m	New Build Increased level of service
Increased provision beyond the scope of this project	• Council Policy currently states the provision of Housing for the Elderly will be Rates Neutral i.e. no increase in Rates. Borrowing more than 50% of the capital required to expand the portfolio is over the long term likely to result Ratepayers be-ing called on to fund this Activity. • It is possible that over time other other scheme of comparable merit may be proposed.	0	nil

4.8.4 Property replacement programme

Rangiora Civic Precinct

Figure 4.28 shows the indicative renewal and replacement forecast over 150 years. This picks up several cycles of replacements and includes allowances for various refurbishments that extend the life of existing buildings. Ongoing renewals and refurbishments are proposed using a cycle of between 15 and 20 years. A larger mid-life spike indicates where more significant renewals are catered for at intervals of around 35 years.

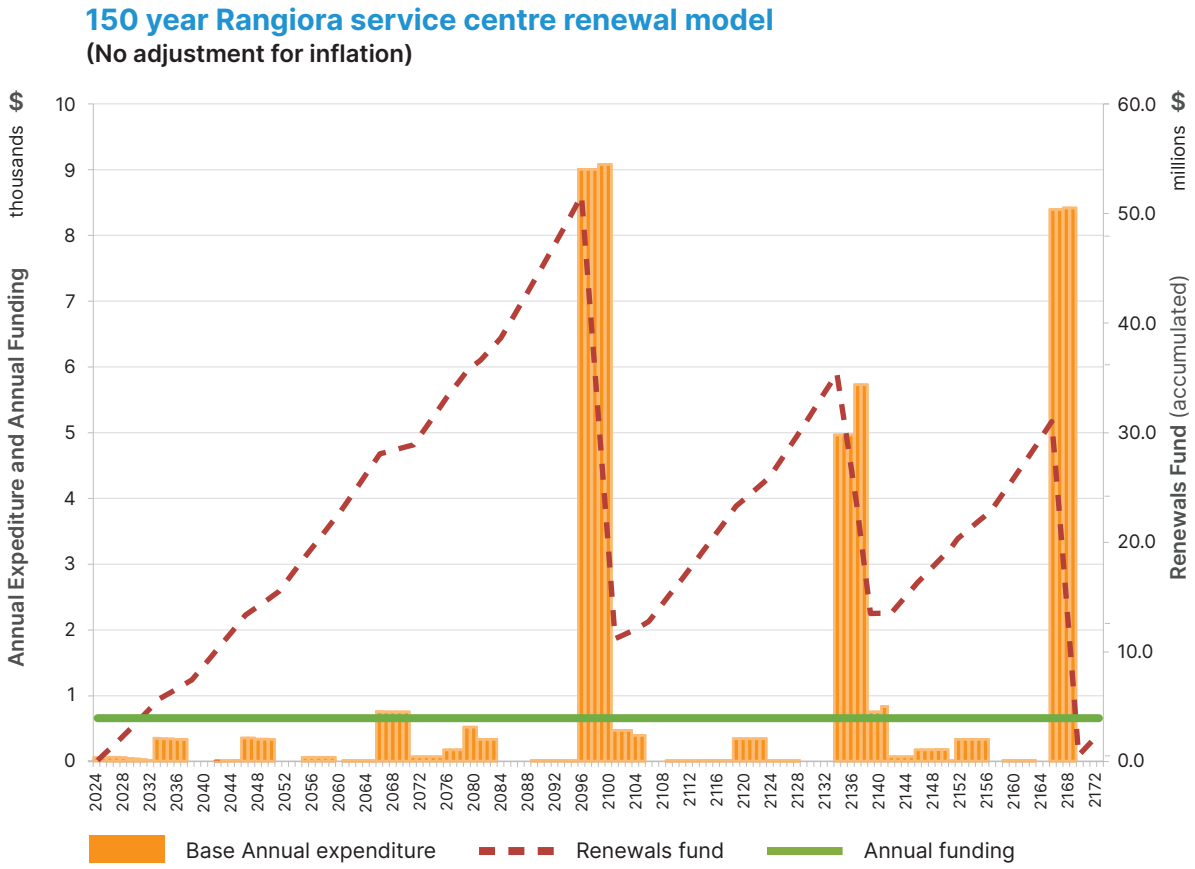
This renewal model assumes office accommodation/service centres are replaced after they come to the end of their economic life at 70 years. With its mixed age the existing Rangiora Service Centre and the proposed office extension would normally be replaced at two separate times, with each replacement broadly conforming to a 70-year cycle.

The recent refurbishment of the Rangiora Service Centre addressed significant functional and renewal requirements. This covered both parts of the existing building even though they were built at different times. However, due to post Covid19 austerity considerations, the full refurbishment was scaled back, leaving a number of components still to be replaced, such as the roof, some lighting and electrical installations. These are able to be maintained over the next 10 years although this does come with risks associated with some of the older building components now nearing the end of their economic life.

The proposed Service Centre Extension is not shown in Figure 4.28 as it is primarily associated with catering to growth over the coming three decades. The project is however likely to include expenditure on the existing Service Centre building to address component assets not replaced during the 2020 refurbishment works and to connect the two buildings.

As a result of the strong connectivity between the old and the (proposed) new Service Centre spaces the future building replacement profile has been merged, with the first replacement programmed for around the year 2100.

Figure 4.28 150 year replacement cost forecast for the Rangiora service centre (in 2023 $)



Housing for the elderly

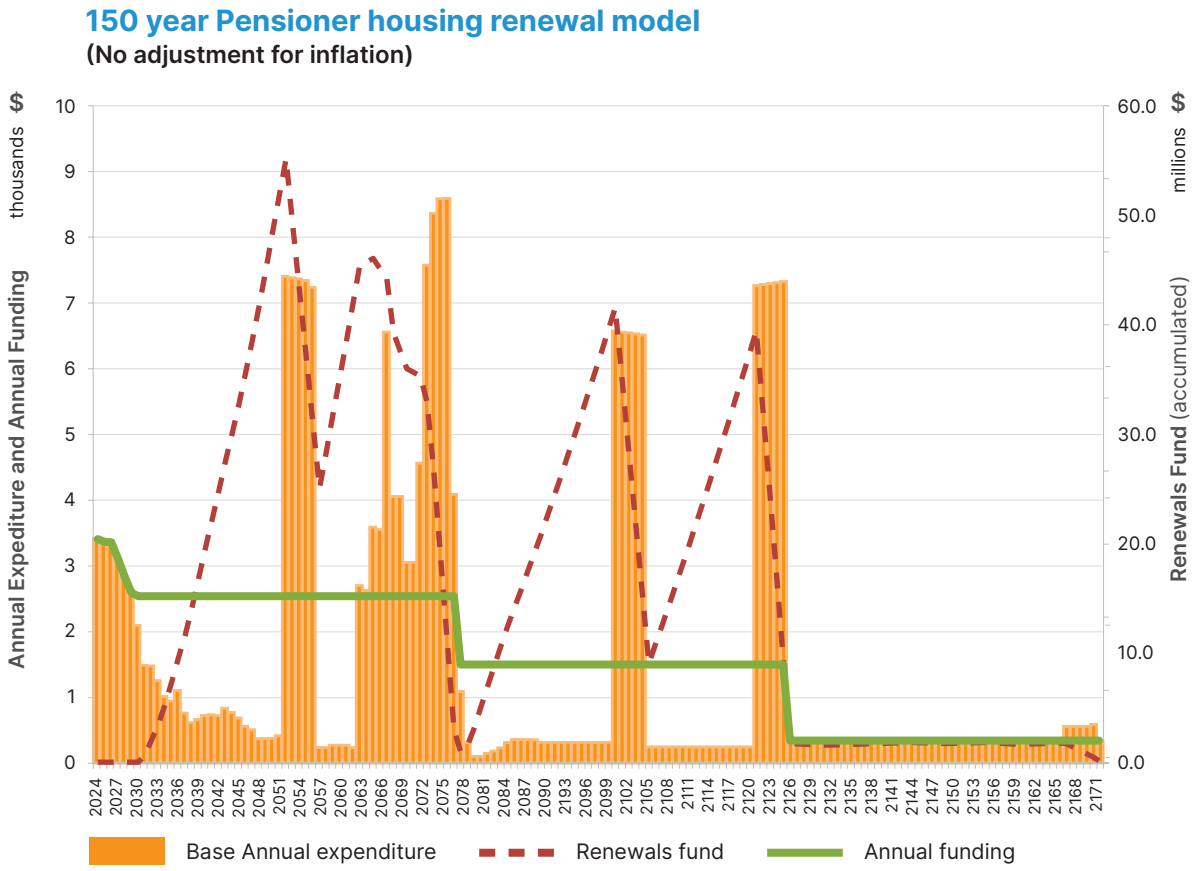
The graph below (Figure 4.29) shows the indicative renewal and replacement forecast over 150 years. This picks up several cycles of Unit / building replacements and includes allowances for various refurbishments that extend the life of existing Units / buildings. Ongoing renewals and refurbishments are proposed using a cycle of between 15 and 20 years. A larger mid-life spike indicates where more significant renewals are catered for at intervals of around 45 years.

With the current age profile of the portfolio mean most Units / buildings are at or beyond the mid-life refurbishment phase. The LTP budget over the next 10 years has capital renewal expenditure of between $400,000 and $500,000 per year to address building and site infrastructure, and the mid-life refurbishment of units at approximately 45 years of age. This program of work reflects a delivery strategy associated with tenant vacancies, which are variable, and also allow to allow for adequate staff resources to execute the refurbishments. The rolling 5 year average indicates a tailing off of the program as renewals beyond the LTP tail off for a period.

Over the balance of the 30-year Infrastructure Strategy period expenditure is modest. However, just beyond the 30-year timeframe substantial reinvestment is required as the various sites reach approximately 90 years of age and require replacement. The replacement of the relatively new Ranui Mews is scheduled in the first few years of the 22nd century.

The renewal model does not show the planned new complex proposed in the Long Term Plan but does pick up on the replacement of these Units / Buildings in approximately 90 years' time, around the year 2123.

Figure 4.29 150-year replacement cost forecast for pensioner housing (2023 $)



Libraries

4.9 Libraries

Principal goal

To inform, educate, empower, entertain and inspire the community, by providing them with quality, easily accessible electronic and print collections and spaces that encourage social interaction and wellbeing.

Extent	Asset
33,000	Electronic resources
144,000	Library collections/items
1,892 m²	Ruataniwha Kaiapoi Civic Centre: Kaiapoi Library, Service Centre, Museum and Art Space
1,415 m²	Trevor Inch Memorial Library Rangiora: Library and Chamber Gallery

Council provide Libraries in Oxford, Kaiapoi and Rangiora which serve the whole population of the District.

Total value of assets:
$23.3m (Depreciated replacement cost – 30 June 2023)

4.9.1 Libraries capital works programme

Figure 4.30 shows that replacements make up the majority of the capital expenditure (73%) over the next 30 years associated with the library infrastructure assets.

Figure 4.31 shows the projected capital expenditure for the first 10 years, followed by five-year blocks to cover the 20 years. The figures shown for each of the five-year blocks between 2034/35 and 2053/54 are the average annual expenditure over that period.

The capital expenditure shown in years 2027 to 2029 relate to the proposed Rangiora library extension, as part of the wider Rangiora Civic Precinct redevelopment. This is also likely to include minor renewal expenditure on remaining parts of the Library building.

With the proposed Rangiora Library Extension imminant and both Kaiapoi and Oxford Libraries being relatively new buildings expenditure is focused on non-building assets over the initial 10 years. Over the remaining 20 years of the Infrastructure Strategy modest renewal expenditure is anticipated at all three Libraries. The replacement of the existing Rangiora Library building is not allowed for until 2070, in line with a standardised economic life. The timing of this replacement is also influenced by functional and architectural considerations associated with the Rangiora Library Extension project. Further consideration of that is underway with the development of the business case around various redevelopment scenarios for the Rangiora Civic Precinct.

Figure 4.30 Type of capital expenditure – Libraries

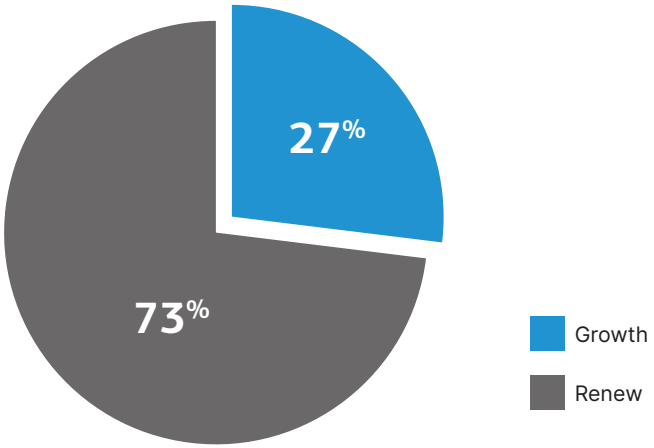
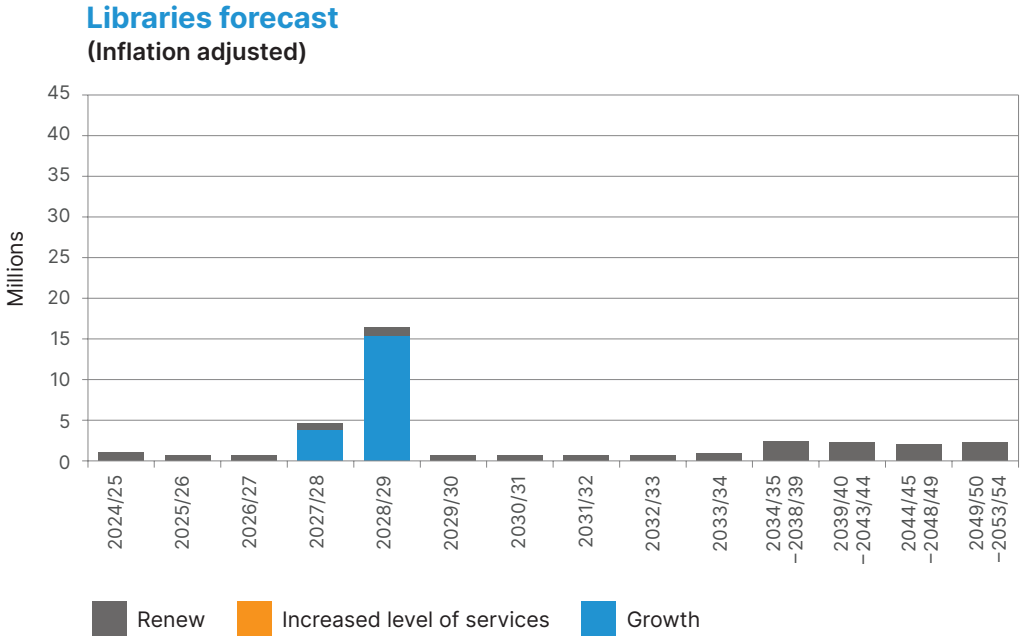
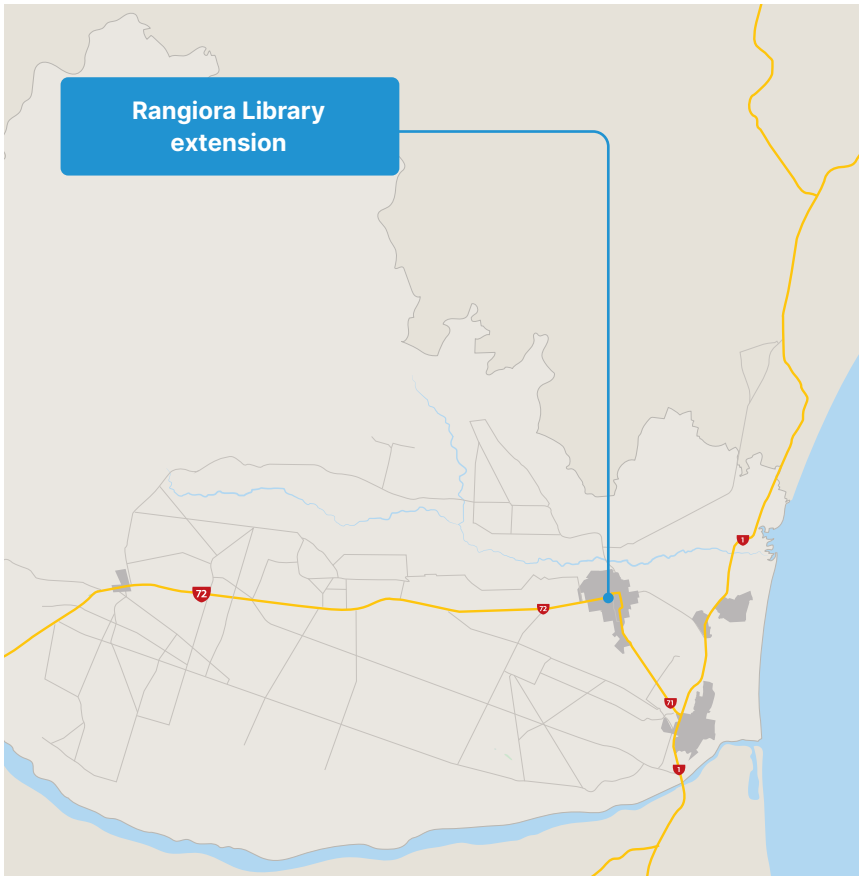


Figure 4.31 Projected capital expenditure – Libraries



4.9.2 Significant projects

There are no significant projects in progress in the Library infrastructure activity area at the time this strategy was developed.



4.9.3 Libraries - significant issues, options for managing them and implications of the options

Decision	**Rangiora Civic Precinct Project Stage 1 - Library extension**
Background	Rangiora Library was due for an extension in 2014 based on national standards for library provision i.e., m^2 per population. An extension of the current Library was allowed for within the 2018 LTP as a stand-alone project for 2026/27 and 2027/28. This project has significant dependencies with the Rangiora Service Centre Extension project covered under 4.8.3. Further design and option considerations are being worked through with a full business case currently being progressed in early 2024.
Indicative timeframe	2027/28 and 2028/29
Average Estimated Cost	$21.3m [1]

1 *This excludes consideration of Development Contributions, property sales and revenue from other sources i.e just reflects design, consenting and construction costs.*

2 *Significant increase in Renewals expenditure for existing building may now need to be allowed for – this is currently being assessed in advance of the LTP being adopted.*

Available options	Implications	Cost (uninflated /2023 $)	Type of capital work
Status Quo i.e., no Library extension	• Significant loss of amenity to a growing population of residents with the loss of intangible benefits for individuals and the community. • Reduced debt burden on ratepayers.	0[2]	Nil
At Grade library extension in 2027/29 (i.e. year 4 of LTP) **Prefered option**	• Impact on self imposed debt ceiling moderated over current LTP. Would have an impact on future LTP ratios. • This option does not address SOME OF functional design and renewal issues with the existing building. Further consideration of these is currently being assessed in advance of the LTP being adopted. Overall this option represents a lower level of amenity than options 3 and 4 (below). • Ancillary site / landscape works not allowed for. • Reduced synergies with the potential Civic Offices project and higher lease costs in Corporate Accommodation budget. • Higher eventual cost for overall combined Library, Service Centre and Landscaping works, and long term loss of more carparks from the site.	21.3m	New Works - Growth
Multi story building option adjacent to existing library. The project would be split into 2 distinct phases. Most of Stage 1 (the project costed here) would be focused on expanding Library provision, integration with existing library and public amenity spaces and some additional service centre space allowed for. Stage 2 would occur in year 14 of the Infrastructure Strategy with the existing Library demolished to be replaced by the permanent two level Library. The Stage 1 building would then transition to be the long-term Service Centre facility.	• Impact on debt ceiling somewhat moderated. Would have an impact on future LTP ratios. • Higher overall costs for Civic project due to further cost escalation. • Operational increases will be needed in outer years of LTP to cater for the building extension operating costs and increases in the operational staff budget to ensure key service levels can be maintained. • Higher lease and overall project costs associated with Service Centre extension delay.	Stage 1 - 37.4m (Stage 2 of Civic project - 26.6m) Total cost Phase 1 and 2 - 64m	New Works - Growth
Redevelopment of existing library and service centre extension (in one single phase).	• Significant impact on debt ceiling in current LTP. Would have an impact on future LTP ratios. • Full synergies and cost efficiencies achieved across the Civic Presinct project as a whole, including a significant reduction in office lease costs.	60m	New Works - Growth

4.9.4 Libraries replacement programme

The renewals and building replacement model displayed in Figure 4.32 shows library buildings having an assumed economic life for libraries of approximately 70 years, with the Kaiapoi and Oxford Library/Service Centres replaced on that basis. Ongoing component renewals and refurbishments are proposed on a cycle of between 15 and 20 years with larger mid-life spikes at intervals of around 35 years, where more significant renewals are catered for. The model shows expenditure on a five-year rolling average.

The Kaiapoi Library replacement occurs around 2084 and for the Oxford Library around 2088.

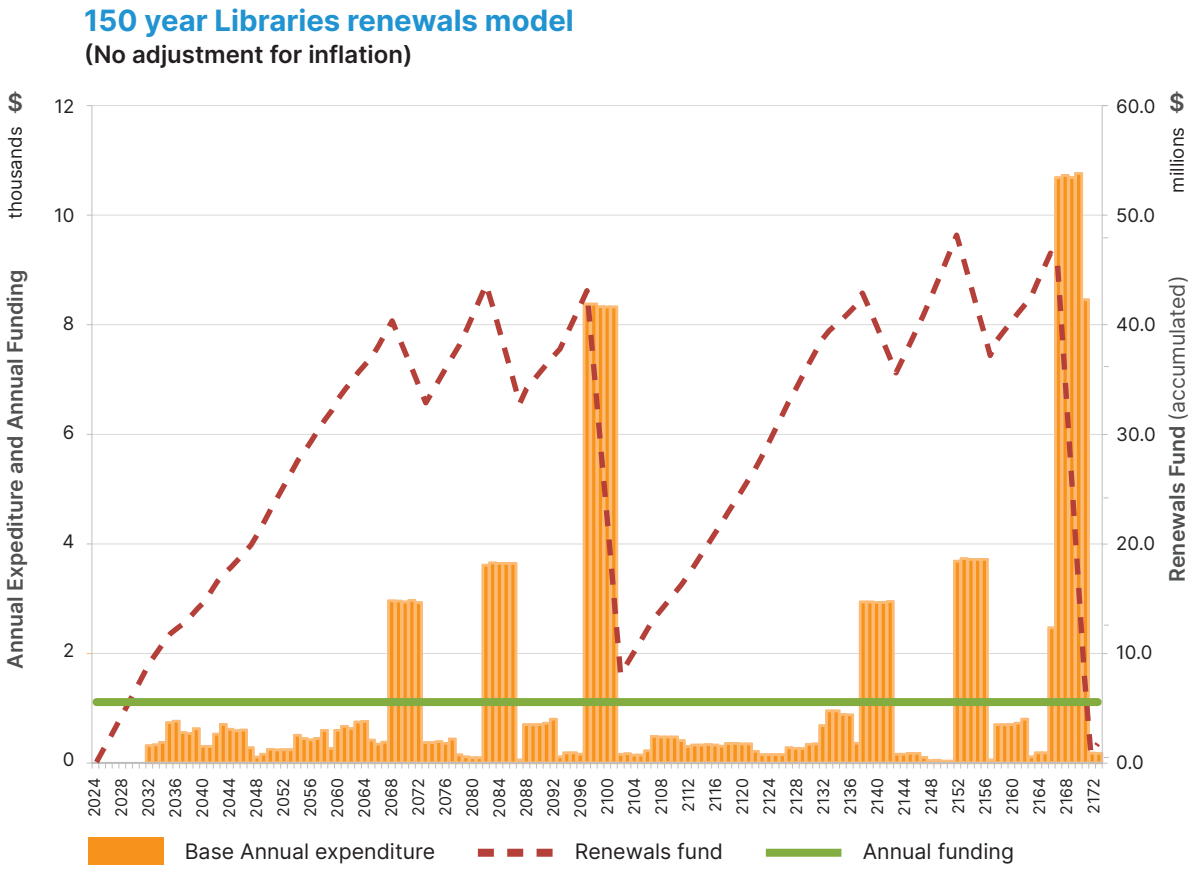
The preferred development plan currently shows the existing Rangiora Library building as being rebuilt in 2037, incorporated with the expanded two-storey library to account for growth. This then results in a further replacement around 2107. Allowances for growth are not shown in the renewal model but once constructed the subsequent building replacement program is included in the model.

Component renewals planned for the existing Rangiora Library, as part of the Library Extension project, will in part extend the life of the existing building. However, the timing of ongoing renewals is heavily influenced by the nature and extent of Library Extension project.

Significant uncertainty exists around the scale and nature of the proposed extension in 2027 / 28 as it is ultimately part of a larger Rangiora Civic Centre re-development, including the Rangiora Service Centre, public amenity space and town centre parking. A business case considering a number of alternate options is to be presented to Council in 2024 April.

Until the project scope for the Civic Precinct Centre project is confirmed the renewals model for the Rangiora Library should be considered indicative, as it may be subject to change.

Figure 4.32 150-year replacement cost forecast for Libraries (in 2024 $)



Other Significant Projects

4.10 Other significant projects

Other multi-disciplinary infrastructure projects have been identified as significant capital projects because of the impact they have on the overall financial picture, or their significance to the community. These are included in the following table.

Table 4.10 Other significant capital projects

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Town Centres **Growth and Revitalisation**	Rangiora Town Centre Parking Projects	Manage impacts of growth. Encourage retail activity.	17.6m	2024-2040	✓	✓	✓
	Wellbeing linkages						
	Assumptions	• Town centres continue to have a role for local and District populations. • Rangiora will continue to be the main service town for the District.					
	Alternative option/s	• Restrain investment in town centre enhancement. • Continue to encourage private on-site parking to meet demand, expand and enforce time-limited street parking to encourage parking turnover, or provide car parking further away from the Rangiora Town Centre. These alternative solutions may make the town centre less attractive to visit, thereby discouraging users and negatively impacting on the centre's growth and economic viability.					
Town Centres **Growth and Revitalisation**	Rangiora Town Centre Improvements	Town centre vibrancy, confidence for and support to the business community, pedestrian safety and connectivity, community cohesion.	8.2m	2024-2040	✓	✓	
	Wellbeing linkages						
	Assumptions	• Rising development costs.					
	Alternative option/s	• Restrain investment in town centre enhancement. This alternative solution may make the town centres less attractive to visit, thereby discouraging users and negatively impacting on the centres' growth and economic viability.					

Issue or Driver	What are we doing?	What is the benefit?	How much will it cost?	When are we doing it	Growth	Level of Service	Renew
Town centres **Growth and revitalisation**	Kaiapoi town centre improvements	Town centre vibrancy and attractiveness, economic benefits for existing businesses, pedestrian safety and connectivity, community cohesion.	2.0m	2024-2036			✓
	Wellbeing linkages						
	Assumptions	• Town centres continue to have a role for local and District populations. • Kaiapoi Town Centre will continue to grow and be economically viable.					
	Alternative option/s	• Restrain investment in town centre enhancement. • Red zoned land remains undeveloped or is used for another purpose.					
Town centres **Growth and revitalisation**	Kaiapoi mixed-use business area developments	Town centre vibrancy, increased visitor appeal, economic benefits for existing businesses, public amenity improvements, and better connections for pedestrians.	2.2m	2024-2027	✓	✓	✓
	Wellbeing linkages						
	Assumptions	• Land remediation issues. • Property market fluctuations. • Rising development costs.					
	Alternative option/s	• Restrain investment in business area development. This alternative solution may negatively impact on the centres' growth and economic viability.					


Driving School
Blackwell's
DEPARTMENT STORE

5. APPENDICES

5.1 Asset condition and performance

Asset systems

The Council is currently in the process of procuring a new Enterprise System that will include a new Asset Management System for recording and analysing Council assets. The new system will also provide further opportunities to improve data capture of asset data and maintenance activities. It is expected the new system will be operational by 2025.

Water Supply

Asset condition for the pipework assets has been determined based on detailed analysis of pipe burst data, coupled with a review of industry documentation on typical asset lives.

In 2020 work was completed by the Council's Network Planning Team to assess burst data collected on Council water mains to determine expected useful life by asset category. This useful life was then converted to a condition rating, based on criteria provided in the IPWEA International Infrastructure Management Manual (IIMM) to assign a condition score to all pipeline assets. The analysis has enabled a more informed remaining useful life, and proxy condition score, as it is now derived from actual pipe performance data across the District. To verify the assigned asset life and condition score, and to take into account any local variability from expected lives, some individual pipe condition assessments are done on specific samples of AC pipe.

Confidence in the Council's water supply reticulation condition assessment data is a 'B', or 'reliable'. At this level data set accuracy is considered to be +/- 10%. Between 2021 and 2022 a Facilities Asset Inventory Survey was carried out on all 3 Waters facility sites. This survey provided a full audit of all above ground assets and included location capture and recording of attribute data. With this recent survey confidence in the Council's facility assets has been increased from a 'C' to a 'B', or 'reliable'. At this level the data set accuracy is considered to be +/- 10%.

Wastewater

Capacity and performance of water supply schemes is monitored and managed through the use of hydraulic water models.

These models are also used to establish what capital works may be needed to accommodate growth and meet levels of service and are updated approximately quarterly. In updating the Activity Management Plans, water source, treatment, storage, headworks and reticulation requirements were also reviewed to determine any additional upgrades required to meet both existing level of service deficiencies and growth-related demand. Recent implementation of an asset management information system (AMIS) will more easily enable additional performance monitoring of the network via pipe burst monitoring.

The sewerage pipe network is primarily assessed for condition via the 20-year cycle, rolling wastewater CCTV programme started in 2008. Assessment priority is based on criticality and operational issues and is also integrated with the road reconstruction programme. The CCTV condition information is complemented with maintenance activity records from the field recording wastewater mains blockage and overflow records.

Confidence in the data for the pipe network is a grade 'B' or 'reliable'. At this level data set accuracy is considered to be +/- 10%.

Following the recent Facilities Asset Inventory Survey confidence in the data for facility assets has been increased from a grade 'C' to a 'B', or 'reliable'. At this level the data set accuracy is considered to be +/- 10%.

The existing capacity and performance of the wastewater schemes throughout the District are monitored using hydraulic models constructed and maintained by the Council for each scheme. Where a scheme has been identified as performing below the required levels of service, either currently or with the inclusion of future growth, upgrades have been subsequently modelled and budgets to carry out the upgrades included in the Long-Term Plan.

A significant wastewater upgrade featuring a new pumpstation and aeration pond was recently completed in Rangiora. Two further wastewater upgrades are planned in Rangiora and Kaiapoi within the next ten years. Further out in 2029/2031, an extension to the treatment pond in Woodend will provide additional capacity.

Once completed, these works will enable levels of service to be met, particularly with respect to overflow frequency in wet weather events and ensuring there is sufficient capacity for growth.

Preliminary design work is underway on a major upgrade of the Oxford treatment plant to provide capacity to deal with wet weather flows. The upgrade is programmed to be completed in 2027/2028.

Stormwater

A programme of CCTV inspections for the stormwater network has been recently implemented. The early results from this programme will indicate whether the rate of CCTV inspection should be increased, and also start to fill in the information gaps about these assets. Confidence in the pipe network data has been assessed as a grade 'D' or 'very uncertain'. At this level data set accuracy is considered to be +/- 40%.

Following the recent Facilities Asset Inventory Survey confidence in the data for facility assets has been increased from a grade 'C' to a 'B' or 'reliable'. At this level the data set accuracy is considered to be +/- 10%. Recent floods within the District have highlighted a number of capacity problems with the stormwater systems. The Drainage capital works programmes include a number of projects to resolve these issues with most planned for completion by 2032.

A number of major stormwater upgrades have been recently completed in the Kaiapoi area under the government 'shovel ready' programme.

Design standards for stormwater works are based on preventing flooding above floor levels in a 50-year flood event and to prevent nuisance flooding in events up to a 1 in 5 year storm. Stormwater modelling incorporates 1 metre of sea level rise and a 16% increase in rainfall intensity from climate change. Where relevant, all new stormwater systems are sized to manage these increased flows and higher outlet levels.

Council has applied for consents to discharge stormwater from its urban networks, with all consents expected to be issued in 2024. Under these consents Council will be required to improve the quality of the water it discharges into streams and rivers and there will be challenges around the best way to comply with the conditions. Consent applications propose that by 2025 Council will have developed and costed

a strategy for meeting water quality standards that will then be implemented in the 2025 to 2036/37 period. Provisional budgets to meet the expected consent conditions have been included in the relevant scheme AMP's.

Roading and Footpaths

While overall the roading asset is in good condition, there is a need for an increased focus on maintenance activities to ensure that this remains the case. Consecutive severe weather events over three years resulting in high ground water levels and saturated pavements has resulted in an increase in deterioration on the network. An increased focus on unsealed roads, sealed pavement renewal and drainage activities will be required to ensure the full life of the assets can be realised. The levels of service generally meet customer demand, where the major areas of user interest, quality of ride, and footpath condition, both exceed Council targets.

Bridges are one of the major risk areas in a network, due both to the high replacement cost, and a higher risk to life in event of failure. While the majority of the District's bridges are classed as being in average condition or better, the ability to keep up with repair work, identified through formal inspections, has declined due to reactive works taking priority. Additional funding has been sought to meet this demand and agreed to in principle.

Challenges include continuing to provide a safe network along with provision for development as the District continues to grow. There is increasing demand on roading infrastructure in general but in particular, this is being experienced in the eastern part of the District where the larger urban areas are located.

Funding levels need to keep up with the transport networks' needs to ensure it continues to perform well both in terms of safety and efficiency. Increased traffic on the transport network also means a higher likelihood of crashes which necessitates the need for key infrastructure to support a well operating network. Key corridors include Tram Road, the West Rangiora Route (Ohoka Road, Skewbridge Road, Flaxton Road, Fernside Road and Lehmans Road) and including Skew Bridge, as well as the Rangiora Woodend Road corridor.

In addition, Southbrook is a key area for future consideration to ensure safe access can be provided. Southbrook Road is one of the busiest roads within the District, and in Rangiora. It links central and northern Rangiora with the business area in Southbrook with Kaiapoi and Christchurch via SH71 (Lineside Road) and Flaxton Road. The area is a larger generator in terms of traffic demand due to the key services it has to offer, and it is a destination on its own. With growth to the north-east of Rangiora and further development planned to occur, this will increase traffic volumes accessing SH1 through Southbrook in future years. As such the timing of the construction of the New Rangiora Eastern Link Road is critical, to continue to provide for existing traffic, and to ensure development can continue which is well supported by transport infrastructure.

Solid Waste

The solid waste assets are revalued on a three yearly valuation cycle. A high-level condition assessment of the transfer station assets has been undertaken as part of the planned asset improvements, but this has yet to be reconciled with the asset information held in the Solid Waste asset database. The condition of the original the transfer stations and more recently installed individual components at these sites, and the individual components relating to closed landfills and clean fill pits, have been estimated based on the component age in relation to the typical design life. Overall 81% of solid waste assets are in good condition as the major assets (transfer stations) have a remaining life of over 50%, with 19% (assets at closed landfills and clean fills) being adequate or poor. Council proposes to validate the condition of all solid waste assets over the next three years.

The renewal cycle for solid waste facilities is currently based on asset age. Once the planned programme of asset condition validation has been completed a more sophisticated replacement schedule will be developed.

Green Space

A full condition assessment and validation of all Green Space recreation assets was undertaken in 2013. The implementation of an asset validation programme utilising mobile tablet technology has allowed all assets, except for community facilities, to be reassessed every 18 to 24 months. Staff are currently undertaking a programme of asset capture for all community facilities, and these will be included in the asset validation process in the future. The asset information currently available suggests that, on average, the condition of parks related assets is moderate to good.

A full revaluation of Green Space assets was undertaken in 2019 and is completed every three years to ensure that the information on replacement cost and useful lives remains relevant.

Renewal programmes are based on the condition and age of park assets and realistic replacement budgets are set to ensure the overall condition of these assets is maintained or improved over time.

The condition of community facilities is generally very good, due in part to the considerable investment the Council has made to improve these assets since the Canterbury Earthquakes. The Earthquake Strengthening Programme has brought almost all community buildings up to, and in many cases above, 67 percent of National Building Standards. A number of other building improvements have also been made in conjunction with this work.

The asset capture process is identifying some facilities that require work to remain compliant. This is generally in the facilities that did not require strengthening work following the Canterbury earthquakes.

Generally Green Space assets are performing well and meeting the identified levels of service, however, it is anticipated that the expected population growth throughout the District over the coming years will put pressure on existing community facilities and parks and reserves.

Aquatic Facilities

The Aquatic Facilities were impacted by Covid- 19 and its restrictions however user numbers are now recovering with facilities seeing growth across all sites beyond pre covid numbers.

To inform Councils Long Term Plan, a District Aquatics plan was developed in 2019 to help identify current community demand, ensure efficient use of current assets, and inform future investment. This plan was revisited in 2023 and identified that our facilities remain in relatively good condition with an abundance of lane swimming space and a consistent amount of learn to swim space when compared to national guidance and averages. However, there is a need to look at further development of recreation and leisure spaces, with development of a hydrotherapy pool able to meet the current need of a large part of the District's population. Further consideration of leisure spaces and development of facilities to meet continued growth in the northwest of the District are also a priority.

The renewal cycle for aquatic facilities is currently based on asset age. Once the programme of asset capture has been completed a more sophisticated replacement schedule will be developed.

Libraries and Service Centres

Significant new buildings and refurbishments have occurred across the portfolio of Libraries and Service Centres over the last 10 years. Accordingly, a large proportion of the portfolio is considered to be in condition grade 1 and, as a result, a comprehensive condition grading activity has not occurred in recent years. Some targeted assessments have been completed on specific equipment or building elements, such as roofs, and further assessment are planned as part of upcoming project work.

In summary, the Oxford and Kaiapoi Library/Service Centre facilities are in good to excellent condition with both in effect being relatively new buildings with good functionality.

The Rangiora Library is in fair to good condition but, more importantly, does not have sufficient capacity to cope with current and future demand. Responding to this, along with some functional deficiencies, dominates future planning and the timing of renewals.

The Ashley building was built in the 1980's and converted from retail to office space in 2008/09. The building was strengthened following the Canterbury earthquakes with both floors refurbished in 2016 and asbestos encapsulated in the original ground floor shop plaster ceiling. Overall, the building is in good condition, although the functional design is less than ideal as office space. As demand for retail space has been growing in central Rangiora the highest and best use for the ground floor areas is ultimately retail.

The main Rangiora Service Centre building was built in the 1980's and overall is in good to excellent condition, with renewal and upgrade works completed in 2019 / 2020. However, the refurbishment work was substantially scaled back from original plans due to austerity measures – in the face of the Covid-19 pandemic. As a result, the roof and some spaces such as toilets and elements of internal systems such as lighting and electrics were not replaced and many of these are in only fair to good condition, with some functional issues remaining.

The historic issues of insufficient capacity at the Rangiora Service Centre remains, with 4 separate office spaces currently leased to accommodate staff and some staff still in two Portacoms. Responding to capacity constraints, along with some functional deficiencies, dominates future planning and the timing of renewals.

Property

The Housing for the Elderly portfolio was mostly built in the 1960's/1970's and some elements in only fair to poor condition. These include some roofs and site infrastructure as well as the interior of the units themselves.

Condition assessment work for each of the seven sites occurred in 2015 and identified a range of condition scores against different building elements and these helped inform a program of work over the following decade. Staff undertake formal inspections of every unit every 6 months and visit the sites a more regular basis. All units have been independently assessed for compliance requirements around aspects such as insulation, asbestos, Healthy Homes requiremenmts and other regulatory matters. These issues have been addressed, except for where refurbishments are pending. The above assessments, combined with feedback from residents provide a very comprehensive awareness of condition based issues.

Since 2018 a program of refurbishments has been underway and 30 of the 87 older units have been substantially renovated. This incorporates renewals and enhancements such as open planning living and kitchen spaces, refitting kitchens and bathrooms, as well as creating separate bedrooms in bedsit and studio units. Re-lining, insulation and double glazing of doors and windows, along with replacement of electrical and plumbing features results in a vastly improved living environment. These refurbishments also address compliance matters associated with the Healthy Homes legislation and other Residential Tenancy Act obligations.

Generally, it is more cost effective to undertake the compliance works at the same time as a unit refurbishment. Practical considerations such as existing tenancies impede a traditional asset condition response. For example, we generally undertake our refurbishments when vacancies occur - so Council is somewhat dependant on tenant turnover and / or cooperation from existing tenants. In some cases, it is required earlier where new tenancies come into effect, even though this may mean the compliance works are then removed / demolished when the full refurbishment occurs.

Roof replacements are scheduled following advice from roofing specialists however these, like other infrastructure work, are prioritised below Unit refurbishments - the focus being on housing people in fit-for-purpose compliant accommodation. In a similar manner other external / infrastructure elements may be in poor condition, with a near horizon replacement identified, but these can be addressed by reactive maintenance and generally have low criticality.

That may mean some infrastructure assets are deferred after careful consideration of risks. Asset age and condition may in some cases be addressed with elevated maintenance and acceptance of the need for occasional repairs. As previously noted, all Units and sites are inspected on at least a 6 month cycle so reactive and planned preventative maintenance is actioned in a proactive way to minimise spend and address tenant needs.

In November 2021 Council undertook a tenant survey to seek feedback about tenant satisfaction with the service and assets. Over 90% of tenants were satisfied with the service as a whole, including Units, Complexes and Tenancy Management services. There was a range of issues raised that infomed some changes such as an increase in grounds maintance at some sites.

5.2 Identifying and managing risk by activity

Water Supply

A range of different types of risk assessments have been carried out for the District's water supply schemes. The operational risk assessment has previously generated a programme of work focused primarily on improving security of supply and meeting the new Drinking Water Quality Assurance Rules. This work is now largely complete, subject to any further regulatory requirements from Taumata Arowai, with the final UV treatment upgrades for 2 remaining supplies due for completion in June 2025, All water supplies are now chlorinated and will have UV treatment in place by June 2025, to enable treatment for bacteria and protozoa, and provision for a residual disinfectant throughout all pipe networks.

The vulnerability assessment and criticality assessments provide input data to the renewals programme. The effect of the vulnerability assessment, which only applies to underground pipes, is to accelerate the renewal of old brittle pipework, in areas of high risk of liquefaction and it is expected that all pipes at risk from earthquake in liquefiable ground will have been replaced by 2030.

Climate change poses some risks to Council's water supplies. This includes potential effects near the coast from sea level rise, and away from the coast from potential changes to groundwater recharge patterns arising from changing rainfall patterns. Environment Canterbury advises that the District's deep well water sources are less likely to be significantly impacted by climate change in the short to medium term, but this will continue to be monitored.

The risk of rising groundwater on the pipe networks in the eastern parts of the District will need to be understood and managed. Preliminary studies have been conducted to review the likely level of sea level rise near the coast, and further studies are planned to be undertaken within the first three years of the LTP to investigate the implications of this sea level rise on Council's assets.

A Water Safety Plan is required to be written by the water supplier for each supply as part of complying with the Water Services Act.Part of the process of preparing these plans is to undertake a risk assessment for all components of the supply, and where there are risks evaluated as unacceptable, to include improvement projects to address these risks. These identified improvement projects then feed through to the next Annual Plan or Long Term Plan process, where they cannot be delivered from pre-existing budgets. These documents therefore play an important role in informing both the AMPs, and the Council's corporate planning documents.

Wastewater

A range of different types of risk assessments has also been carried out for the District's wastewater network schemes.

The Council's current level of service for the network is no overflows in a 2 year storm for existing areas developed before the year 2000 and none in a 5 year storm for new development areas. Part of the central Rangiora upgrade project provides for additional capacity to achieve this level of service. Modelling and investigations are being undertaken for the Kaiapoi network to determine the upgrades required to achieve levels of service. An $18.2m ten year budget is included in the LTP for this upgrade, starting in 2025.

The Council's resource consent for effluent discharge from its ocean outfall will expire in 2039. This permits a maximum discharge of 57,000m^3 per day. Even though analysis of the Ocean Outfall network completed in 2020 predicts there is sufficient capacity for the next 50 years without requiring significant upgrades, it is expected that the consent renewal will trigger substantial change to the current treatment and disposal approach due to increased sensitivity to wastewater discharge into waterways from a cultural perspective.

The resource consent for effluent discharge from its Oxford scheme will expire in 2031. It is assumed that the consent for the land-based discharge from this scheme will be renewed with similar conditions when it expires.

Climate change poses risks to Council wastewater schemes as it has the potential over the long term to increase pressure on flood protection infrastructure and stormwater systems, and damage coastal infrastructure. Drainage systems near the coast are likely to become problematic. This could lead to an increase in wastewater overflows from more severe wet weather events. Sea level rise, and associated potential groundwater rise, could also significantly increase infiltration into the reticulation network of coastal towns, lowering levels of service.

Stormwater

A range of different types of risk assessments have been carried out for the District's drainage schemes.

The operational risk assessment has previously generated a programme of work to address the flooding issues identified. Funding received from the Covid-19 Response and Recovery Fund means that the significant works required to alleviate the long term flooding issues on both sides of the Kaiapoi River have been brought forward and completed. The Rangiora and Ohoka programme is planned for completion by 2031/32.

The majority of the other high risks identified relate to earthquake risk, for which further assessment remains to be carried out.

The vulnerability assessment and criticality assessments provide input data to the renewals programme. The effect of the vulnerability assessment, which only applies to underground pipes, is to accelerate the renewal of old brittle pipework, in areas of high risk of liquefaction.

The Disaster Resilience Assessment considers the risk to above ground assets from a broad range of potential natural disasters and overlaps with the operational risk assessment in identifying earthquake risk issues at facility sites.

The risk of poor performance of the District's open drain network, arising from blockages, is managed via the Drainage Maintenance Contract. This includes both a regular programme of drain cleaning, and a prompt response to calls from landowners advising that drains on their land need cleaning.

Risk from new developments increasing runoff and adding to pollutant load, is managed through the requirement for developers to include stormwater attenuation and treatment facilities within development proposals, which meet the requirements of the Land and Water Regional Plan. Flood risk for new homes is dealt with by setting minimum floor levels based on 50 year flood levels.

There is some financial risk from the requirement to obtain urban stormwater discharge consents from the Regional Council. Consents have been applied for with the outcome pending. The application proposes that by 2025 Council will have costed and developed a strategy for meeting water quality standards.

There is uncertainty about whether this timeframe will be accepted, and also regarding the most cost-effective way of meeting water quality standards.

Climate change mitigation is the most significant long-term challenge for stormwater drainage. Research to date has indicated that while low-lying coastal areas will remain protected by the dune system, increasing ground water levels will become problematic, and various combinations of storm tide, fluvial events and a rising mean sea level will cause over-topping of stop banks and natural riverbanks. Further assessment work is needed, and consideration given to the types of solutions that may be practical. The issues need to start being discussed with stakeholders, most notably the Regional Council and affected communities. Major decisions will need to be made and an adaptive strategy developed that is acceptable to both the affected communities and the wider District, within the 10-year period of the LTP.

Roading and Footpaths

The most significant potential risks to the roading network are likely to be as a result of a major natural disaster, such as an earthquake or major flooding event. Other risks include political, economic, management and environmental. By maintaining a resilient network, short-term adverse changes can be managed.

Adding robust monitoring processes, and auditing these and their implementation regularly, helps to provide maximum information on the state of the network in real time, and the ability to respond appropriately, and in a timely manner.

Risk to the operation of the roading network is managed through the development and ongoing review of the roading risk register, as well as through emergency response planning, seismic screening of bridges, lifeline disaster resilience assessment, and detailed assessments of critical assets.

In general, the short term effect of emergency events on the road network can be mitigated by:

- Ensuring robust emergency management systems are in place
- Ensuring the network has alternative routes available wherever possible, particularly for arterial roads.

Council will be increasing its focus on on road and drainage maintenance and improvements, to minimise the impacts of major flooding events, while day to day management of bridge maintenance ensures flood events will cause no significant damage to infrastructure.

In the longer-term, sea-level rise resulting from climate change will affect all asset areas, not only Roading. Decisions will need to be made at a political level, both local and national, about issues such as controlling development in coastal areas, potential relocation of affected residents, or aggressive water level rise containment. Sea level rise affects not only coastal surges, but also ground water levels, and can impact pavement lives as well as the capacity of culverts and bridges. Further work will need to be undertaken to investigate and carry out analysis to allow best practice decision making and possible network management changes.

Solid Waste

The primary risks to the solid waste activity are changing acceptance criteria and decreasing commodity values in recyclables markets, loss of or inability to access disposal sites, inability to access collection areas, insufficient containers to transport waste, extended power outages, fire, spillage of hazardous waste, limitations on facilities to manage waste from severe events, and lack of land to expand waste handling and transfer sites. The local and on-site risks are being managed through operational planning and proposed capital works.

More stringent acceptance criteria and further drops in commodity values will result in more changes to kerbside collection services, increased costs to ensure compliance with acceptance standards, and higher processing costs, and may impact on the economic viability of providing commingled recycling kerbside collection services.

An inability to access Kate Valley landfill, for example, if the access road became impassable in the event of an earthquake or large snow event, would result in rubbish and recycling building up in the pit and insufficient empty containers in which to store these materials on-site.

Climate change will not directly impact solid waste assets. Rising groundwater levels could increase the generation and spread of leachate from the Kaiapoi closed landfill. This would have to be mitigated to reduce the impact on groundwater quality.

The Rangiora closed landfill is adjacent to the Ashley-Rakahuri River and has stop banks on two of its three boundaries. An increase in severity and occurrence of flood events due to climate change increases the risk of floods undermining or washing out the stop banks and landfill site. The Council will need to work with Environment Canterbury to ensure the stop banks are maintained and adequate for use in the future.

Sufficient capacity exists in the clean fill sites for 10 to 15 years with normal use. In the event of an emergency, such as an earthquake, the sites could reach capacity sooner than estimated. The Council does not own any additional land that would be suitable for this purpose and will need to develop an alternative strategy to deal with hard fill and clean fill. This could potentially include processing concrete for sale as hard fill to save air space.

The Council will continue to work with neighbouring Councils and organisations to develop a strategy to manage waste arising from severe events such as earthquakes and flooding.

Green Space

The four most significant risks to asset performance in the Recreation, Green Space and Community Facilities portfolios are earthquakes, climate change, population growth and demographic changes. These are identified as follows:

- The functionality of community facilities is more likely to be impaired by another significant earthquake, although the earthquake strengthening programme has mitigated this to a certain degree. The extent of any damage will ultimately depend on the size and nature of the earthquake event.
- Climate change has the potential to affect both the flora and fauna within parks, natural areas and streetscapes. Increased costs could arise from implementing strategies to mitigate the effects of climate change, in particular drought and storm events. Climate change is most likely to impact on open space areas over summer periods when dry conditions will affect the quality of grass cover, and more irrigation is required to maintain it. Sea level rise will eventually impact on coastal reserve areas. Consideration is being given to the use of more drought tolerant tree and shrub species, and grass cultivars.
- Demand for open space and aquatic facilities has increased because of the significant growth in the District. In response to this Green Space has focused on maintaining asset performance to ensure levels of service and resident expectations continue to be met across the existing asset base. Within the next 30 years two additional community facilities and an aquatic facility will be required to cater for the expanding population in the eastern part of the District.
- Population forecasts indicate the number of people aged 65 and over living in the District will increase considerably over the next 30 years. Green Space and Aquatics are aware the needs and expectations of older people must be considered when designing and maintaining assets.

Property

Earthquakes and other natural events in Canterbury provide one the more significant risks for vertical infrastructure such as buildings. However, planning requirements in relation to the design of the building structures have, over time, demonstrated relatively high levels of resilience to earthquakes, high winds and heavy precipitation. Detailed Engineering Evaluations (DEE's) completed after the 2010/11 earthquakes indicate a relatively low level of risk to life, mainly because most of the Council's buildings are single story and timber framing is used as the primary structural element for many buildings. Resilience is further enhanced through the application of new design standards when refurbishments or strengthening work occurs.

A further risk is evident with the increased population over recent decades. This has put pressure on Library services and this is set to continue over the next 20 to 30 years. This is also evident with the administrative functions of Council with increased staff numbers forcing the lease of office accommodation. Failure to address this demand risks dissatisfaction by residents as buildings provide the platform from which a significant proportion of Council's services are delivered. Planning associated with the Rangiora Civic Precinct aims to address this shortfall so Council can keep pace with the increased demand.

Waimakariri has an older demographic than many other parts of New Zealand and the recent increasing demand for Council's Housing for the Elderly Units sets the scene for the more significant increase in demand associated with the retirement of the large Baby Boomer generation over the next 20 to 30 years. Failure to respond to this increased demand has an impact on the well-being of some of the Districts more vulnerable citizens. The proposed development of a new housing complex of 32 units is a small but important initiative to address this increase in demand. However, Council is only one of a number of providers of subsidised housing and the recently adopted Housing Policy sets the scene for how Council may also influence, facilitate or collaborate with other parties to address this risk.

Other risks include the impact of functional obsolescence on existing facilities, resulting in buildings no longer being fit-for-purpose. The recent refurbishment of the Rangiora Service Centre addressed significant features of functional obsolescence resulting in a much better work environment. This also had a significant impact on energy consumption for the building which results in financial and carbon footprint gains. The renewal / refurbishment programme for Housing actively responds to risks associated with functional obsolescence and also includes a focus on making the units more energy efficient and removing health hazards, such as asbestos.

5.3 Relevant legislation

Resource Management Act 1991 Reform

The Government has signalled its intention to undertake further reform of the Resource Management Act (RMA) 1991. In the coming months we anticipate the release of information around the shape and nature of the reforms. In the immediate term, the RMA continues to be operational and provides the legislative framework against which all land use and resource management decisions are made.

Water Services Act 2021

The Water Services Act 2021 (WSA) came into effect in November 2021 and replaced Part 2A of the Health Act 1956. The primary purpose of the WSA and its associated standards and rules is to ensure a safe supply of drinking water. The WSA was introduced as part of water reforms that took place as a direct response to the Havelock North water contamination event which affected a large number of people in 2016. The WSA has created a new regime for managing and monitoring private and public drinking water supplies. The water reforms also established a new water services regulator called Taumata Arowai, who is responsible for regulating all drinking water supplies in New Zealand.

Council as a drinking water supplier is subject to the WSA and must meet its regulatory requirements. In 2022, Taumata Arowai introduced new Drinking Water Standards and DDrinking Water Quality Assurance Rules (DWQAR) that provide the minimum requirements drinking water suppliers must comply with to demonstrate they are supplying safe drinking water.

The Waste Minimisation Act 2008

The Waste Minimisation Act 2008 (the Act) encourages a reduction in the amount of waste we generate and dispose of in New Zealand. The aim is to reduce the environmental harm of waste and provide economic, social and cultural benefits for New Zealand.

The Act requires territorial authorities to prepare waste management and minimisation plans (WMMPs) and to review these plans every six years.

In preparing their WMMP's councils must have regard to the New Zealand Waste Strategy (NZWS), or any government policy on waste management and minimisation that replaces the Strategy. The 2023 NZWS commits New Zealand to becoming a low-emissions, low-waste circular economy by 2050. A circular economy means we keep resources in use for as long as possible and there is a shift away from the wasteful 'take–make–dispose' system that we are all too used to.

The Climate Change Response Act 2002

The Climate Change Response Act 2002 and accompanying regulations and orders, puts in place a legal framework to enable New Zealand to meet its international climate change obligations. It establishes an Emissions Trading Scheme is to reduce the amount of greenhouse gases emitted in New Zealand. As a shareholder in the Kate Valley Landfill, the Council participates in the scheme, reports on, and pays for landfill gas emissions. In 2019, the Act was amended by the Climate Change Response (Zero Carbon) Amendment Act to provide a framework by which New Zealand can develop and implement clear and stable climate change policies that contribute to the global efforts to limit the global average temperature increase to 1.5 degrees Celsius above pre-industrial levels; and allow New Zealand to prepare for, and adapt to, the effects of climate change.

National Policy Statement for Urban Development

This NPS came into effect in August 2020 with a view to ensuring New Zealand's towns and cities are well-functioning urban environments that meet the changing needs of our diverse communities. It is aimed at removing overly restrictive barriers to development to allow growth 'up' and 'out' in locations that have good access to existing services, public transport networks and infrastructure.

Government Policy Statement on Land Transport

The Government Policy Statement (GPS) sets the framework for government transport directions. This policy is revised every three years and in recent years there has been a substantial shift towards reducing transport emissions and improving transport safety; with the Government signalling a desire to reduce both emissions and road fatalities to zero.

Te Mana o te Taiao, the Aotearoa NZ Biodiversity Strategy 2020

This is the guiding document for how we protect, restore and sustain our native wildlife from 2020 to 2050. It is led by the Department of Conservation and supports New Zealand in meeting its international obligations on Biological Diversity. The strategy is supported by an implementation plan that sets out a pathway for achieving the outcomes of the strategy over the next 30 years, with an immediate focus on establishing systems that will stimulate and sustain nationwide action.

National Policy Statement on Indigenous Biodiversity (NPSIB)

The NPSIB is a national policy statement under the RMA. It directs councils to establish consistent approaches in their policies, plans and strategies to maintain indigenous biodiversity. It applies to all land types, and it sets out consistent

ecological criteria used by councils to identify where Significant Natural Areas (SNAs) are located. Its aim is to better protect our native plants and animals and provide certainty to people who want to develop or change the way they use their land.

Councils will be required to update their policies, plans and strategies in the coming years to reflect NPSIB requirements, meaning there will be changes to existing plan rules and other work councils do for indigenous biodiversity.

Mahaanui Iwi Management Plan

The Mahaanui Iwi Management Plan includes a number of objectives and policies for the 3 Waters activities, summarised as:

- Wastewater (seeking improved effluent treatment and aspiring to avoid discharging into the ocean)
- Stormwater (improved treatment of discharges to improve water quality, and aspiring to avoid contaminated stormwater entering natural waterways)
- Water supplies (management of abstraction quantities reflecting a desire to reduce unnecessary urban water consumption).

These aspirations are required to be considered in various planning activities under the Resource Management Act 1991. As such they could impact on Council's costs and the nature of the 3 Water services delivered in Waimakariri.

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Long Term Plan 2024-2034

Infrastructure Strategy

WAIMAKARIRI DISTRICT COUNCIL