

Infrastructure Strategy



2024 – 2054

DRAFT

Infrastructure Strategy: 2024 – 2054

He ara whakaoho

Introduction

Infrastructure provides a foundation for building strong and resilient communities. This Strategy sets out how Invercargill City Council will manage the city's roading, water supply, sewerage and stormwater infrastructure. Following the change in Central Government policy, Council is planning to retain three waters operations, noting that in the future we plan to explore options such as providing services through a Council Controlled Organisation.

The Infrastructure Strategy should be read alongside Council's Financial Strategy which provides more detail on how Council will fund and manage the expenditure of its infrastructure programme.

At the time of drafting this document, it is unclear what the future of water provision will look like in response to the change in Central Government policy. In response to this uncertainty, Council has taken an approach of business as usual, until further notice, while also preparing for a potential transition to a new entity, for example a Council Controlled Organisation. In practice, this means that Council will continue to deliver three waters services according to our plans, and if new centralised entities are formed in the future, then they will inherit assets and a revenue base that has been maintained. The focus of Council throughout has been on kaitiakitanga and the benefit and wellbeing of the community.

About our infrastructure

Invercargill city is a relatively small and compact city extending from Makarewa in the north to Bluff in the south, Kennington in the east and Ōreti Beach in the west. The Invercargill City District encompasses an area of 49,142 hectares, and generally we cover a land area 33.8 km by 20.1 km.

Landscape features of importance to the community include Bluff Hill (Motupōhue) and four major waterways which thread through the City (Waikiwi, Waihōpai, Ōtepunī, and Kingswell rivers). These, along with the Ōreti River all flow into the New River Estuary (the Waikiwi Stream flows to the Ōreti River).

The urban areas of Invercargill and Bluff contain extensive areas of open space as well as distinct heritage buildings. Invercargill has many extensive parks and recreational areas that are both close and accessible to residents. Queens Park is a centrally located, nationally recognised and award winning park offering wide and varied recreational use. Sandy Point area is a large environment and recreational area and is close to the city residents.

Road networks are generally formed on a grid layout and with relatively flat terrain, which makes mobility and accessibility easy for all modes of transport. The roading network has plenty of capacity and is well connected to the state highways (1 & 6) which are maintained by Waka Kotahi. This ensures travel reliability for all road users. The streets are suitable for active transport and many have marked cycleways.

The pipe networks provide potable water supply, wastewater (sewerage) reticulation and stormwater reticulation. The piped networks are compact and generally contained within road reserves, and usually (though not exclusively) not located in residents' private property where access is more

difficult. They are well structured and historically sized to provide for the city's requirements with reasonably short distances to and from treatment facilities. The majority of the system is serviced by gravity although a number of pumped mains transfer mostly sewerage towards the one wastewater treatment plant (at Clifton) for the Invercargill urban area. Water is sourced and treated at Branholme to the north of the city and piped 16.5km to reservoirs within the urban areas of Invercargill and Bluff. Invercargill has only one source of water supply. Areas of Ōtātara do not have a potable supply and water is piped to supply the Bluff township.

What we deliver

Roading – The Roothing Activity provides a safe, convenient and efficient transport system for all transport modes including pavements, streetlights, traffic signs and signals, footpaths, drainage, kerbing, bridges, culverts, street furniture, parking facilities, vehicle access crossings, and cycle tracks.

***Water Supply** – The Water Supply Activity owns and maintains multiple assets including treatment plants, reservoirs, pump stations plus a pipe network to supply potable water to residential, industrial and commercial properties, protect public health, provide water for firefighting, support city growth and contribute to the general well-being of the community.

***Sewerage** – The Sewerage Activity owns and maintains assets which include pipes, pump stations and treatment plants for the removal of sewage from residential, industrial and commercial properties in urban areas of Invercargill, Bluff, parts of Ōtātara and Ōmaui. Treated effluent is discharged to Foveaux Strait at Bluff, to the New River Estuary at Invercargill, and to land at Ōmaui. Consents for the treatment plants at Bluff and Clifton expire in 2025 and 2029.

***Stormwater** – The Stormwater Activity owns and maintains assets which include pipes and pump stations to provide for the removal of stormwater from residential, industrial and commercial properties to reduce the risk of property damage by flooding. Stormwater is discharged to natural waterways including the Waikiwi Stream, Waihōpai River, Kingswell Creek, Clifton Channel, Ōtepunī Stream, the Ōreti River, the New River Estuary and Bluff Harbour. Council has a consent for discharge which expires in September 2032.

***Tidal Protection Banks** – The city is protected by a series of flood protection schemes on the main waterways through the city which includes walls, banks and detention dams. The majority of these schemes are owned and managed by Environment Southland, with Invercargill City Council managing tide protection banks at the Waihōpai Arm at Stead Street and Cobbe Road. These banks protect against the sea tidal movements and storm surge rather than river flooding.

The majority of the city's three waters network, with the exception of the Water Tower, parts of the stormwater drainage network, and the tidal protection banks may be transferred to the new water entity as part of the Affordable Water reforms.

Core infrastructure

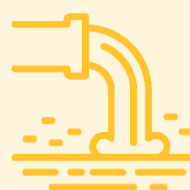
Te reo



Roading \$734m

Urban sealed roads	295 km
Rural sealed roads	179 km
Rural unsealed roads	123 km
Kerb and channel	555 km
Bridges	55
Footpaths	500 km
Street lights	7000
Carparks	6

We own and manage \$2.07b
(replacement value as at June 2023)
of core public infrastructure.



Storm water \$435m

Pipe network	416 km
Pump stations	9
Open drains	47 km
Stopbanks	3 km



Sewerage 465m

Pipe network	368 km
Pump stations	32
Treatment plants	3



Water \$434m

Pipe network	419 km
Pump stations	6
Bransholme water treatment plant Reservoirs	7

This information has been developed from the valuations undertaken for 30 June 2022,
for more detail, please see individual Asset Management Plans.

*Not including culverts and swales.



Council's Vision

Our City with Heart – Hē Ngākau Aroha

This infrastructure strategy supports the delivery of Council's vision by ensuring the city roading and water network appropriately serves the activities the community wants to undertake in the city centre and beyond.

It aligns with our mission – ***Waihōpai – To leave in good order*** – through supporting appropriate management of this infrastructure to ensure it meets the needs of the community now and into the future in a cost effective manner and meeting the future expectations of good guardianship. Council will work closely with Iwi, and recognises its responsibilities as these are strengthened as future maintenance and renewals are developed and delivered.

Looking Ahead – Our Strategic Priorities

- Meeting the changing needs of our rangatahi as part of our wider population, which is growing older and more diverse.
- Delivering City Centre vibrancy through appropriate renewals and improvements.
- Enabling the housing, health, security, and social infrastructure our city needs to grow.
- Navigating increasingly complex environmental challenges including climate change, land contamination, and earthquake risks.
- Ensuring Community affordability in a time of economic volatility - with financial prudence and efficiency.
- Ensuring Council leadership and delivery is credible and effective, building community trust and engagement.

In addition, there are a number of specific infrastructure priorities:

- Allowing infrastructure growth where future land uses change and support other priorities.
- Maintaining our core infrastructure.
- Delivering Strategic Projects.

No significant levels of service changes are planned. Our priority is to invest in infrastructure to maintain levels of service.

Infrastructure Challenges

- Our city's networks have largely met the needs of the size of population over the last 30 years. As incremental growth and spatial changes occur, future expectations need to be deliverable which supports the wider community aspirations. In addition, there are potential increases to industry which, while the location and specific requirements are not known, mean that a small increase in network growth is expected. Spatial land use change is likely to occur and the core infrastructure must be aligned to support those changes in a timely and effective manner.

There will be both Central Government and community requirements for this core infrastructure, and as the legislation changes so must the response (e.g. Sewer discharge consents, Environment Southland Regional Land and Water Plans (Stormwater discharges), Drinking Water Standards etc.).

- Our city's infrastructure is ageing and there will be affordability challenges for the community. We are approaching the potential peak for pipe renewals of infrastructure. Much of the original pipework was installed towards 100 years ago and the peak is reached in the next 10 – 20 years. These will have affordability challenges and must focus on criticality and value decision making.
- Stage 1 of the re-invigoration of the city centre has been completed. The benefits of future stages have been highlighted but the cost of these work stages within constraining budget environments will be challenging. Completion and connection of the work to date is required and timed with other City development and with required underground infrastructure renewals.
- Ongoing improvements in asset management will be required to have stronger business cases for investing the significant financial requirements set out in this strategy. Council will need systems which have reliable data to support informed business cases and approaches to ongoing improvements in asset management and delivery.
- An increasing frequency of high intensity rainfall events is seen as more likely. Localised flood events may occur more frequently. This will test the current and future infrastructure and the community's response to these events.

We need better and deeper understanding about the impacts of sea level rise, and what this will mean for the city's infrastructure. Council is working with Environment Southland and Te Āo Marama on this issue.

New design standards are likely to require larger pipes for new work but network restriction may occur due to near-new pipes which are now too small in capacity.
- Key projects like the Stead Street Stopbank upgrade have been completed reflecting a strong commitment to meeting future challenges. Central Government funding assistance may be key to some projects.
- We must continue to meet our legislative requirements through discharge consent for treatment plants and stormwater discharge conditions which will require ongoing improvements, future thinking and investment.
- There are known areas where industrial and landfill contamination has occurred which is impacting waterways and networks. We are investing to understand more about these issues and develop appropriate responses.
- The need to reduce impacts on our community by making our roads safer will continue to be a focus. Council is supporting this with a range of additional investment in road safety infrastructure projects which will support the speed limit reduction changes already made.
- Contributing to longer-term climate sustainability and resilience will need more support for mode shift in transport use to occur, including vehicle use and types (including heavy industry). Greater Central Government direction will need to be included in future plans (e.g. vehicles, cycle paths, school travel plans, etc.).
- Preparing for increasing community requirements as parts of the community become more urbanised and the community responds to climate issues such that travel mode shift occurs. Communities may seek to have services not previously delivered.
- Working closely with the construction industry and planning delivery in a manner which is sustainable and deliverable. The industry needs to have capability to meet the programmes with sufficient suitably skilled staff.

Key Assumptions

POPULATION ¹	Likelihood	Certainty	Consequence	Council Response
Population growth As at 30 June 2023, the estimated population of Invercargill is approximately 57,900 ² . The population is projected to increase over the next ten years but growth will depend significantly on whether the Tiwai Point Smelter closes or remains open, and whether or not various industries are developed as envisaged in the Beyond 2025 Regional Long Term Plan.	Likely	Medium	Moderate	Although population growth in excess of the assumptions will have a moderate to significant impact on the Council finances this will have significant lead time. Council will be able to monitor the applications for resource consents and use this as guidance for the population growth into the future. A population decline would be a more significant impact but is not expected.
Population growth - Tiwai remains open If Tiwai Point remains open, it is projected that the population of Invercargill will increase by a little over 5,000 people over the course of the Long-term Plan.	Moderate/ Likely	Medium	Minor	Tiwai remaining open may result in further investment in power to support new industries. Council will continue to advocate for this to Central Government.
Population growth - Tiwai closes With the closure of Tiwai Point growth in population of just over 4,000 people is expected.	Unlikely	Medium	Moderate	Council has participated in the Just Transitions programme to support transition in the case of Tiwai closure and will continue to liaise with the Enduring Oversight Committee to support the community.

¹ Infometrics report "Southland Region forecasting scenarios for Beyond 2025 Southland", June 2023

² Stats NZ Tatauranga Aotearoa Infoshare data, retrieved 24 January 2024 (<https://infoshare.stats.govt.nz/Default.aspx>)

Diversity The population will continue to become more diverse. The Māori population will grow from 19% to 25%. The Asian population will grow from 8% to 13%.	Likely	High	Minor	Council will increase engagement opportunities for different parts of the community to help support all voices being heard. Changes to Council services are expected to be able to be accommodated from within existing operational budgets through adjustment of focus.
Ageing population Those aged 65 and older will form 24% of the population in 2034, which is higher than the current aged population in 2023 (estimated as 10,790 of 57,900 (19%)).	Likely/ Almost Certain	High	Moderate	Demographic changes are clear and while future migration patterns may offset ageing to some extent, this is not expected to be of a high enough level to counter the known level of ageing. Council is considering how to respond to changing housing needs for older people through provision of elderly housing, adjustment to the District Plan and potential partnership projects. Impacts on other services including public transport, libraries and pools (e.g. hydrotherapy pool) are being planned for.
Households Households will increase from 23,256 in 2022 to 26,087 in 2034. The number of households stagnated over 2020-2021, but is projected to show positive growth over the course of this LTP, with growth peaking at 1.1% in 2032. The average size of households is expected to reduce from 2.39 to 2.34 by the end of this LTP.	Moderate/ Likely	Medium	Moderate/ Major	The number of households underpins the rating base and Council revenue for activities. A decline or slower growth in households would require Council to review services and/or financial strategy.

SOCIAL	Likelihood	Certainty	Consequence	Council response
Socio-economic Inflation will continue to squeeze household budgets and impact abilities to pay rates. Inflation is expected to stay above 3% until 2025/2026. ^{3 4}	Moderate/ Likely	Medium	Major	Economic volatility remains high with economists urging caution on reliability of forecasting. Significant increases in inflation will impact not only Council's planned expenditure but the community's ability to pay. Higher than expected inflation may require review of services, capital investment and/or financial strategy. Lower inflation will improve Council's position and ability to deliver.
Community resilience Tiwai Point Aluminium Smelter is expected to continue operating for the time of the Long-term Plan. Should Tiwai close this is expected to have an impact on community resilience.	Unlikely	High	Moderate	Council has plans in place, including community support for the Just Transitions Connected Murihiku programme and support for Great South to deliver economic diversification options. Additional investment may be required on any announcement of closure.
Community resilience Although the Zero Fees scheme has been extended through 2024 for Southern Institute of Technology Te Pūkenga, it is unlikely to continue throughout the life of the Long-term Plan. This will have an uncertain level of negative impact on Invercargill's population and economy.	Likely	Low	Minor	The Zero Fees Scheme has been an important tool in lifting the skill base of the local community as well as attracting new people live in the city. Loss of Zero Fees will remove a competitive edge for the city which has potential unknown longer term impacts.

³ Infometrics report "Economic update for Long Term Planning for Invercargill City Council", April 2022, p11

⁴ RBNZ "Household inflation expectations (H1)", August 2023

				Changes in this assumption are not expected to have a significant impact on financial modelling but rather impact the environment which Council operates in.
Housing stock Urban Invercargill's housing supply rate will increase slightly from 0.5% a year to 0.7% a year based on Council's intended District Plan changes, known future developments and proposed partnership projects. ⁵	Possible/Moderate	Medium	Moderate	Housing has been identified as a potential constraint to growth. Failure of responses to increase the supply could limit future population growth. Council would need to consider alternative responses.
ECONOMIC	Likelihood	Certainty	Consequence	Council Response
Economy CPI Inflation will peak in June 2023 and stay above 3% until 2025/2026. ⁶ Employment is expected to weather any recessionary conditions fairly well but unemployment is expected to increase nationally. ⁷ A short term dip is forecast for the early years of the plan with stronger growth in professional and highly skilled occupations. ⁸	Moderate/Likely	Medium	Moderate	Inflation increases would have significant impact on budgets. Council would need to consider changes to services and/or the financial strategy. If LGCI inflation was 0.5% higher than forecast this would increase Council operational costs by \$0.5 – \$1.5 million per annum for the first 3 years of the plan. Council capital costs would increase by \$0.3 - \$1.5 million per annum for the first 3 years of the plan.

⁵ Rationale report "Murihiku Southland Housing Needs Assessment", May 2023, p26

⁶ Infometrics report "Economic update for Long Term Planning for Invercargill City Council", April 2022, p11

⁷ Infometrics report "Southland Region forecasting scenarios for Beyond 2025 Southland", June 2023, p15

⁸ *Id.* p15-18

				Increases in operational costs would impact the expected rates increase in those future years.
Community funding Despite recent economic challenges, Community Trust South and the Invercargill Licensing Trust Group have managed to return their funding levels to pre Covid-19 levels. This is anticipated to take some pressure off Council's funding pool.	Likely	High	Minor	Council will continue to liaise with other funding partners, including to monitor forecast security of investment, to assist control of this risk.
Economic diversification Volatility in the global economy may affect one or more of Invercargill's key export industries. This will drive diversification but will slow growth. Employment growth in new industries such as aquaculture and green hydrogen is not expected to offset any declines in agriculture. ⁹ There may be a delayed effect through the risk of impacted industries abandoning properties. Growth in the forestry industry as a result of carbon farming has the potential to negatively impact Invercargill's economy. ¹⁰	Possible	Low	Moderate	Council will continue to work closely with the Regional Council, Great South, the Chamber of Commerce and other stakeholders to support economic diversification for the region. In the case of significant industry decline a targeted response may need to be developed. The financial impact of this assumption is on the city's rating base, infrastructure network needs and the community's rates affordability. Changes in this assumption are not expected to be sharp shocks and as a result we will be able to flex annual plans and future LTPs to take account of these changes.

⁹ Beyond 2025 Southland Regional Long Term Plan, p20-21

¹⁰ *Id.*, p20

				At this point in time we do not expect this to have a significant effect on financial modelling for Years 1-3 of this Long Term Plan.
Central Business District The City Block development has been successfully completed and has attracted new development, including two new hotels in the city centre. Council will continue to support initiatives to drive the success of a thriving CBD. GDP will increase by \$14 million annually as a result of the investment until 2030. ¹¹	Likely	High	Moderate	Council remains strongly committed to its vision “Our City with Heart – Hē Ngākau Aroha.” Any divergence from this vision could impact the financial viability of ICL but is not expected. Further investment may be required either in the City Block or associated city streets improvements.
Tourism Tourism in the Visit Southland area is expected to increase to between 160% - 165% of pre-Covid levels by 2029. ¹² Invercargill is expected to proportionally benefit from this increase and demand for accommodation to increase and to be met from within existing stock.	Moderate/Likely	Medium	Minor	Tourism, while important, is not currently a major driver of the Invercargill economy, although it has great potential to grow. Council may need to invest in further infrastructure if tourism grows faster than expected and manage any flow on impact on housing availability given housing constraints.

¹¹ NZIER report “Invercargill CBD regeneration”, May 2023, p17

¹² Beyond 2025 Southland Regional Long Term Plan, p56

International education The numbers of international students studying at Southern Institute of Technology (SIT) Te Pūkenga are not expected to return to pre-Covid levels until 2028 at the earliest. ¹³ The decline as a result of Covid would be compounded if there was a change in policy at Te Pūkenga with reduced focus on recruiting international students, and by reduced domestic competitiveness as a result of the likely end of the Zero Fees policy.	Moderate/Likely	Medium	Minor	International students and their families create significant demand for certain categories of housing, including city centre housing. Lower numbers of international students will likely be a factor in the trend of an increasingly aged population. Lower or higher than expected numbers of international students may require an adjustment in Council response to City centre strategy and/or other provisions/partnerships impacting housing availability.
Climate change regulatory change Legislative change is expected to increase requirements, reflected in the Emissions Reduction Plan and the National Adaptation Plan, on businesses and Council with an impact on economic growth as yet unknown. ¹⁴	Likely	Medium	Moderate/ Major	Council is working with the regional Climate Change Working Group to set a strategy for the region and action plan for Council. Further investment will be required in activities to reduce emissions and to better understand climate change risk to Council assets.
ENVIRONMENTAL	Likelihood	Certainty	Consequence	Council response
Mean annual and extreme temperature (days where temp. exceeds 25C) are expected to increase with time: By 2040: mean annual temperature increase of 0.5-1.0C with 0-10 more hot days per annum.	Moderate	Low	Minor	Temperature increase while important has an indirect impact on Council operations, which are expected to be accommodated within Council plans. It is not possible to forecast the impact of climate change in more detail on the

¹³ Infometrics report “Economic update for Long Term Planning for Invercargill City Council”, April 2022, p18

¹⁴ Ministry for the Environment “Implementing Aotearoa New Zealand’s first emissions reduction and national adaptation plans”, 2023

By 2090: mean annual temperature increase of 0.7-3.0C, with 5-55 more hot days per annum.				capital programme until more accurate data and modelling is complete.
Annual rainfall is expected to increase By 2040: +0-10% B 2090: +5-20% Increased frequency of high rainfall days, i.e. increase in intensity of rainfall.	Moderate	Low	Moderate/ Major	Increased intensity of rainfall is expected to result in increased flooding. Council has adjusted its stormwater asset profiles to plan for increased major flooding events but there remain significant areas of the network which have not yet been renewed. There are also impacts on efficiency of the Sewerage treatment system as a result of overflow from the stormwater system during high rainfall events. The Branhholme Water Treatment Plant is designed to cope with rainfall events to the level forecast in the 2018 NIWA study and outlined in our assumptions. There will be no impact on quality but there will be a reduction in flow. Supply will be maintained but with possible water restrictions. Dependent on the Affordable Water Reform and Council's ongoing areas of responsibility, adjustment may need to be made the renewal programme. It is not possible to forecast the impact of climate change in more detail on the capital programme until more accurate data and modelling is complete.

Mean sea level is expected to rise By 2040: 0.2-0.3m By 2090: 0.4-0.9m	Uncertain	Low	Major	There remains significant modelling which must be completed at a regional level to attain an understanding of what sea level rise is likely and its potential impact. There are known risk areas including the Airport and Bluff which need further investigation. Council has invested in major infrastructure upgrades at Stead Street to increase protection for the city. Further work will be required on associated flood banks to maximise this investment. Environment Southland has responsibility for managing and maintaining the remainder of the city's floodbank network. It is not possible to forecast the impact of climate change in more detail on the capital programme until more accurate data and modelling is complete.
Natural disaster Extreme weather events are happening more frequently and this trend is likely to continue due to climate change. There is a 75% probability of the Alpine Fault rupturing within the next 50 years. ¹⁵	Possible	Medium	Major/ Catastrophic	A major disaster which impacted Council's ability to operate at the same time that the community's need for disaster relief was required to be supported would require a major shift in strategy and operations. Council supports Emergency Management Southland to coordinate the response in such a situation.

¹⁵ <https://af8.org.nz>

				Council would fund response to a natural disaster primarily via debt.
Environmental renewal Council will invest to understand more about the levels of environmental damage at Ocean Beach and New River Estuary. It is possible that further investment in renewal will be required within the life of the infrastructure Strategy.	Likely	High	Moderate	There is potential significant investment required for contamination management. The scale of this work is as yet unknown. There is no forecast impact on water quality due to the location of the sites below the drinking water catchments.
CULTURAL	Likelihood	Certainty	Consequence	Council response
Māori culture Māori culture has become more visible in the city since the time of the last Long-term Plan and will continue to become more visible.	Likely/ Almost certain	High	Low	Council is working closely in partnership with Mana whenua and would seek to manage impacts through this relationship.
Project 1225 Te Unua Museum of Southland will be built by December 2025, and open to the public in the second half of 2026. ¹⁶	Almost certain	High	Moderate	The programme is on schedule and remains a primary focus of Council. The impact of delay on service delivery is low, however the reputational risk of late delivery is significant. Council continues to actively manage this project through the PMO.
Civic pride Resident pride in the city following the redevelopment has increased (in 2023 80% of people said they would speak more positively about the city) ¹⁷ and will	Likely/ Almost certain	High	Minor	Council sees both City Block and Project 1225 as major cornerstone projects to achieving of its vision – Our City with Heart – He Ngākau Aroha. The social and economic benefits are already being realised. Continued

¹⁶ www.project1225.co.nz

¹⁷ Southland CBD Rejuvenation Community and Business Survey Report, March 2023, p9

continue to increase as new projects including Project 1225 are completed.				commitment to the strategy will be required for full delivery.
Cultural activation An increase in activities and events reflecting the diverse culture of Southland will take place following Council investment in activation and private uptake of new facilities available.	Likely	High	Minor/Moderate	Activation is essential to leverage Council's capital investment in the city centre. Council will continue to explore a range of mechanisms to support activation in the community.
COUNCIL OPERATIONS	Likelihood	Certainty	Consequence	Council response
Water Reform¹⁸ At present it is assumed that Council will retain three waters for the short term but that in the medium term a new structure such as a CCO is likely. This will result in a structural change for Council in relation to the ownership of assets and associated debt capacity. The services will continue to be delivered, but these will be provided by another party. This will include increased regulatory requirements as required by the new regulatory authority. There are a number of risks which may remain:	Likely	Medium	Major	Depending on the future structure the impact to Council operations is major but moderate for the city, as services will be maintained in any scenario. Water items are included within the Infrastructure Strategy. It is noted that further legislation to enable a possible CCO structure is yet to be passed.

¹⁸ www.waterservicesreform.govt.nz/how-do-these-changes-affect-me/councils/ (retrieved 15/09/23)

• some services which are a priority to the community (e.g. alternative water supply) may not be a priority to the new entity. • Some assets which have multiple purposes and value to the community may be better held by Council – e.g. Water Tower • Loss of key staff through the transition may result in loss of local knowledge and expertise • Impact on Council budgets through loss of water revenue and transfer of debt which may not be appropriately met through the transfer.				
Legislative changes There will be changes to legislation that have an impact on how Council will provide services. These changes may affect Council organisational structure but not change the level of service received by the customer/ratepayer in the first three years of the plan.	Likely	Medium	Minor/ Moderate	Management will continue to engage with Central Government to ensure levels of service are maintained or improved and plan for changes in services in response to policy and regulation changes as they arise.
Consents Council will continue to carry out legislation-directed ordinary functions while factoring in an increase to required quality for consent conditions.	Likely	High	Minor/ Moderate	Consent processes at Bluff and Clifton Water Treatment Plants have commenced, although under an increased level of uncertainty as a result of the reform programme. Any impact on the consent process as a result of this uncertainty would be significant.

The Funding Assistance Rate (as advised from Waka Kotahi) NZTA will continue at 51% funding assistance until 2026/27. It is assumed that it will then remain at 51% for the life of the Plan.	Likely	Low	Moderate	Significant changes would have an impact on Council's ability to maintain levels of service and may require changes to budgets. Council continues to work closely in partnership with Waka Kotahi to manage this risk. If the FAR (Funding Assistance Rate) rate decreased by 1%, there would be reduction of subsidy revenue of \$0.2 - \$0.3 million per annum If the funding was replaced with rates revenue, an additional 0.30% rates increase would be required each year. If the funding was replaced with borrowings, an additional 0.02% rates increase would be required each year to pay for interest and repayments and borrowings would increase by \$0.2 - \$0.3 million per annum. Capital and operational programmes would need to be reviewed if funding was not available.
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Asset life Assets will remain useful until the end of their average useful life, noting this requires underlying assumptions regarding asset condition to be correct. Infrastructure installed in the 1920s is nearing end of life and require renewal within the term of the Infrastructure Strategy.	Moderate/Likely	High	Moderate	Assets may need to be renewed earlier if this underlying assumption is incorrect. This may also change the renewal profile or may allow delayed renewal in other cases. Council will review the remaining asset life at each of the triennial asset revaluations and undertaken regular asset condition assessments.
Infrastructure network development It is anticipated that a 1% extension of the network (roading, three waters) will be required to service forecast growth needs of business and/or residential property. Locations are not yet known so more accurate forecasts are not possible.	Uncertain	Low	Moderate	Invercargill has not operated under a growth assumption in the immediate past as the network was constructed to support a higher level of population. However, new potential industries are expected, if they eventuate, they are likely to create significant new demands on the network. As a result, Council is planning for this uncertainty by allowing for growth. The additional cost would be met via contractual financial contributions, reprioritisation of the capital programme and if necessary an increase in the budget provided for the capital programme. At present our capital programme is on average \$80 million per annum. We expect that this may increase the capital programme by approximately 5% per annum.

Capital programme delivery 100% of roadmap and strategic projects are expected to be delivered. 80% of the core capital programme will be delivered in Year 1 and 2, 85% in Year 3, and 90% thereafter, following implementation of the Affordable Water Reforms. Pipe renewals are expected to be delivered at 70%.	Possible	Low	Moderate	Council continues to invest in enhanced project management capacity and supporting construction sector capacity through new ways of working. The financials will be reforecast to reflect the delivery expectations each year. The financial impact this assumption not being met is the deferral of capital expenditure until later years, higher risk of asset failure meaning assets will be sweated longer and repairs and maintenance will increase and emergency rather than planned replacement may become more frequent.
Investment Property & Biological assets Investment Property & Biological assets are valued on a yearly basis. They are expected to increase in value in line with inflation. This is reflected in our Financial Strategy, and Accounting policies.	Likely	High	Low	Variations in valuations have no cash flow implications for Council. Council will continue to value Investment Property and forestry assets on an annual basis.
FINANCIAL	Likelihood	Certainty	Consequence	Council Response
Rating base growth Rating base growth in line with population growth, household size changes and industry growth of 0.9%	Likely	High	Moderate/Major	The Rating base forecast is fundamental to the forecast revenue Council expects. A lower than expected level of growth would require Council to adjust rates or expenditure through the Annual planning process.

Inflation Operational forecasts and capital work programmes will increase by the accumulated Local Government Cost Index inflation forecast by BERL, being 2.9% for operational and 3.0% for capital in 2024/2025.	Likely	Medium	Moderate	Cost change factors are based on information developed for councils by BERL. Significant variations to inflation would have an impact on Council's financial management. The significant changes in recent years in relation to inflation mean that level of uncertainty has increased as to whether increased fluctuations in the BERL cost estimates can be expected. Council will continue on the planned pathway for the Capital Works programme and review operational revenue and expenditure each year. If inflation was 0.5% higher than forecast this would increase Council operational costs by \$0.5 – \$1.5 million per annum for the first 3 years of the plan. Council capital costs would increase by \$0.3 - \$1.5 million per annum for the first 3 years of the Plan. Increases in operational costs would impact the expected rates increase in those future years.
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Asset revaluation Asset values will increase by the accumulated Local Government Cost Index inflation forecast by BERL on the last valuation value. Revaluation occurs in 2024/25 and every third year thereafter.	Likely	Medium	Moderate/ Major	Changes in valuation (cost price) or life of Council assets have a significant impact on Council's financial management and capital programme. Council will continue on the planned pathway for the Capital Works programme and monitor after each revaluation cycle. If revaluation values was 0.5% higher than forecast this would increase Council Property, plant and equipment revaluation gain / (loss) by \$0.5 million in 2024/2025.
Depreciation rates on planned asset acquisitions Buildings 2.4% Hard surfaces and appurtenance 6% Intangible assets 32.8% Investment property buildings 0% Library collections 16% Monuments and statues 0% Motor vehicles 29.3% Plants and equipment 23.5% Restricted buildings 0% Roads, bridges and footpaths 3.5% Stormwater systems 1.5% Wastewater Other Assets 1.4% Wastewater treatment plants 6.4%	Likely	High	Low	Regular reviews of appropriate rates incorporating asset life and value data are undertaken as part of the asset revaluation process.

Water other assets 2.1% Water treatment plants 2%				
Interest rates - Borrowing Expected interest rates on borrowing will be 4.0%	Moderate/Likely	Medium	Moderate	A significant change in interest rates and the cost of borrowing would have a significant impact on Council budgets. Changes to services or the Financial Strategy would need to be considered. If interest rates was 0.5% higher than forecast this would increase Council finance expenses by \$0.8 – 1.1 million per annum for the first 3 years of the Plan.
Interest rates - Cash and Deposits Return on cash and term deposits are forecasted to be 5.0% in Year 1, 4.5% in Year 2, 4.0% in Year 3.	Likely/ Almost Certain	Medium	Minor	Term deposit rates currently vary between providers but most providers have a discount on rates from their prime lending rates. If interest rates were 0.5% higher than forecast this would increase Council finance revenue by \$0.3 million per annum for each of the first 3 years of the Plan.
Dividends from ICHL Dividends will be minimum \$5.2 million, plus an additional \$4 million special dividend for the ten years of the Long-term Plan, resulting in a combined dividend rate of \$9.2 million.	Likely	Medium	Minor/ Moderate	There would be a negative impact on Council's overall revenue and cash position if the dividend level was not maintained, which would increase the burden on ratepayers. Council will consider strategic reliance on dividend

				noting increased levels of economic uncertainty and impact of Council future direction to ICHL regarding holding of non-financial strategic assets.
External Funding It is assumed Council will achieve the level of external funding as estimated.	Possible/ Moderate	Medium	Minor/Moderate	Council is expecting external funding from Central Government, community and private investment into a number of strategic projects. While not all funding may be achieved, the estimates are based on expert analysis and are expected to be at least partially fulfilled. Council expects to be in a position to meet any shortfall.
Land Sale Revenue Revenue from the sale of land is forecast to amount to \$2.2 million in 2024/2025, \$1.6 million in 2025/2026, \$10.6 million in 2026/2027, and \$0.2 million in 2027/2028.	Possible/Moderate	Medium	Minor/Moderate	Some or all land may not be sold or may be sold for a lower value. Council expects to be in a position to meet any shortfall.

Our strategy to respond to infrastructure challenges

1. Maintain our current asset base

We will be responding to priorities and challenges in a strategic manner.

We will ensure growth is focused on social, financial and operational sustainability and aligns to Council's vision, particularly spatial changes. We will use a business case approach where appropriate to support decisions.

Our focus is on gaining an ongoing better understanding of network capability to ensure optimum network performance, improve levels of service to meet consent and legislative requirements, and utilise current network capacity to meet forecast growth needs.

It is important to better manage expansion in infrastructure so that it does not exceed that which is currently serviced (or outlined in the Asset Management Plans or District Plan). By managing future growth of services, long-term financial responsibility can be better managed. Invercargill has, through the district planning process, clearly set where planned growth is desirable. As spatial reviews occur to support the City growth, so must the infrastructure respond. Where expansion of infrastructure is acceptable, the initial cost of this infrastructure is expected to be met by the development to standards set by Council. Managing infrastructure expansion to align with these processes is appropriate.

2. Renew assets at the rate of asset consumption

We will renew assets at the rate of asset consumption as set out in the Financial Strategy.

This ensures the long-term sustainability of our asset portfolio and planning long term renewal programmes to minimise the impacts of past investment cycles. Council has long term programmes to continue to renew the roading and piped network at a rate equivalent to the consumption (i.e. fund depreciation at the rates set out in the Financial Strategy).

The Financial Strategy notes that it will not be possible to achieve a balanced budget right away, and that in light of the above considerations it is proposed that Council modify the current strategy, as follows:

Partially fund depreciation on all asset classes

- Sewerage, stormwater and property at 80% in Year 1, increasing by 4% per annum
- Roothing 85% every year

Set the initial rates funded depreciation in the infrastructure network asset classes at a level which:

- At least covers the proposed renewal programme for that asset class in all years, and
- Increases incrementally so that by year 6 of this Long-term Plan depreciation is fully funded (with the exception of roading, which remains at 85% in all years due to NZTA subsidy funding).

The assumption on asset value increase will be set with reference to the BERL inflation index for capital expenditure for assets.

Taking this approach to the Financial Strategy continues to reflect:

- Depreciation is still considered to be the best proxy for the use of our assets, and by rating on use we better allocate the cost to those ratepayers that actually use the assets.
- Staging the recovery of the significant asset increase reflects Council's commitment to rates affordability.
- Ensuring we get to a position where we have a balanced budget reflects our core commitment to financial prudence.

The asset teams have developed detailed renewal plans based on the criticality, asset condition, age, demand and other planned renewal requirements. Renewals are undertaken at the end of a long life (i.e. 80 to 100 years) so there is some flexibility as to when the most appropriate time is.

Some renewals are brought forward to align with projects. For instance, if road surfacing is occurring then piped asset renewals may be brought forward to ensure they are completed in advance.

Renewal programmes have periods where peak renewals may be needed however the programme has been reviewed and some smoothing of financial demand applied in order to support deliverability of funding and contracting capability. Contractors need to have a reasonable timeframe to resource up or down so consistency in work load is sensible to avoid peak pricing.

3. Focus on asset criticality

Our focus is on replacing critical assets before failure.

Non-critical assets will be allowed to operate to their expected lives and / or beyond, recognising that some limited failures in these assets may occur before renewal.

Given that Affordable Water reforms are continuing to be discussed, and to reduce large and sudden increases in rates on the community, this strategy looks to balance the risks of failure of some elements of each system (e.g. water pipes). Pipes with a lower criticality rating may have their replacement delayed and be monitored. This strategy will enable a focused financial response in the short-term.

This approach has the potential to increase failure risks, but Council must have supporting financial mechanisms available should additional renewals be required to action these in a timely manner. These risks, both infrastructural and financial, require improvements to our asset management maturity to support their implementation.

Should unplanned failures occur, Council will use its financial "good health", accumulated reserves, and / or insurances (where appropriate) to manage these risks.

Council is undertaking a continuous programme to improve asset condition knowledge. This will be used to monitor and plan critical and non-critical work to ensure prioritisation is responsive. By delaying non-critical work, the programme needs to be managed to ensure

smoothing of a potential bow wave of work which cannot be delayed further in the later years of the Infrastructure Strategy. The combined approach to building back depreciation funding, increased renewal spending in later years, supporting the development of the contractor market and maturing project management processes are intended to build to capacity to respond to increasing future workloads.

Any delays in delivery of the capital programme could result in increased maintenance costs. Replacement of failing assets will be managed through reprioritisation of the capital programme. The level of service will not be significantly impacted. Funding in later years is planned to increase to cover higher levels of renewals.

Any significant delays in capital expenditure will have the impact of improving our expected net debt position as less borrowing will be required, which will also impact our interest costs. There is still room to increase the debt ceiling further in future years to deal with any peaks in the capital works should debt be determined to be the best way to fund.

4. Plan and invest for resilience for critical assets

A high priority for Council is to protect the access for the city to quality drinking water in the event of extreme weather events (flooding and droughts), coastal inundation and natural disaster (e.g. earthquakes).

Council is working with the Regional Council and Te Āo Marama to develop a regional climate change strategy, including identifying the further data and modelling required to better understand and plan for climate adaptation. This work includes analysis of recently completed LIDAR data, river flood modelling, coastal inundation modelling, interaction of river and coastal models and asset condition data assessment. The Regional Council forecasts this work will take approximately 5-7 years based on current NIWA forecasts of national data availability.

The development of an alternative water supply and providing improved connectivity for redundancy for the current Brankholme water supply are two priority projects intended to reduce the risk to the community of an interruption in water supply.

Council must seek to renew its discharge consent and is planning for these renewals of the Wastewater discharge consents at Bluff and Clifton. Conditions of consent may require a change in the approach required, the technology used, and the methods of disposal. Significant additional investment is expected to be needed to meet community requirements.

5. Design pipe network renewals to accommodate understood impacts of climate change

Council's pipe network and tidal protection barriers are designed to meet the forecast impacts of climate change outlined in the 2018 NIWA study of climate change in Southland. Council is working with the Regional Council and Te Ao Mārama to better understand the impacts of climate change on our region to inform enhanced planning, and agreeing an appropriate level of protection for its future design.

New design standards can impact the cost of works and also the defectiveness of the network, as near new pipes laid in the last 10 to 20 years may be a limiting barrier for the network to carry the new stormwater loads.

Climate change has been noticeable in various forms for a number of years. There is no doubt that weather patterns have developed more extremities. The Southland Climate Change Report 2018 by NIWA forecasts more extreme weather events including both droughts and floods. These higher extremes place more pressure on Council infrastructure services. Higher frequency of storms leads to increased costs on roads to recover from storm damage. The frequency of flooding could lead to a need to upgrade the capacity of the stormwater network to mitigate flooding of buildings. Droughts create more frequency and longer duration of peak water use, and that puts stress on the current single source of water. Pipe renewals are being installed on the basis of the forecasts provided by NIWA in line with Council's climate change assumptions.

In addition to the weather pattern changes, rising sea levels are a future concern. Invercargill is a flat and low-lying city; parts of the city are likely to be impacted by rising sea levels. Council is working with the Regional Council to identify the further modelling and analysis required to identify areas of risk following the recent completion of LIDAR flights. There remains significant modelling needed at a regional level to understand likely sea level rise and its potential impact. There are known risk areas including the Airport and Bluff which need further investigation. Council has invested in major infrastructure upgrades at Stead Street to increase protection for the city. Further work will be required on associated flood banks to maximise this investment. Environment Southland has responsibility for managing and maintaining the remainder of the city's floodbank network.

It is expected that rising sea levels will have an impact on some Invercargill properties, especially those that are low lying and close to the sea. However, current assessments of the impact of the mid-range forecast of sea level rise for the Southland region shows that the number of areas impacted by a 1m rise in Invercargill are very minimal. The potential impact of more significant sea level rises will emerge over time and individual property owners will become aware of the impacts well in advance. Again, Council is aware of the need for further modelling and analysis on these issues.

Council will be aware of future developments and will be mindful of rising sea levels when considering Resource Consents for new properties, and the impact on future District Plans. Council will not impact individuals' property rights by taking pre-emptive action on existing properties while the current uncertainty remains. Such action could turn a future possible loss for a property owner into a certain current loss. At this stage that would be unfair to both the property owner and the ratepayers who may then have to fund that loss.

6. Focus on sound evidence-based and cost efficient activity investment decisions

We will use risk analysis, business cases and other advanced modelling techniques to develop robust and tested cases for investment rather than just the management of assets (e.g. age and condition).

Council has identified that making better investment decisions is an important response for managing long-term assets. Using tools such as the better business case approach is another way of supporting good asset decisions. Council uses a strategic assessment approach to determine the extent to which investments align with and deliver community outcomes.

We coordinate across the infrastructure team to support efficient cost effective delivery.

7. Better understand and meet our community's needs, through consultation and delivery of agreed levels of service

Council has recognised that a better understanding and improved communication with the community will enhance the way in which infrastructural assets are managed. It is vital to align the community's expectations and needs with the service delivered by the assets, given that they are long-life assets and a significant financial investment. The assumptions made in any planning process create tangible inputs to future design and decision making. Council is strengthening its engagement strategy to assist in developing a better understanding of community views. There will be a particular focus on targeted engagement approaches for communities where needs have changed over time and a corresponding change in infrastructure is likely to be required.

8. Ensure a viable competitive supplier market exists and is maintained in the region

Council is aware that the extent of work that is planned for asset renewal and new projects could place significant resource pressure on the construction industry, and impact its ability and / or its capacity to deliver projects within the time and cost budgets allocated.

Advance communication and regular dialogue with contractors will set the initial expectations such that long-term planning and a robust and successful delivery market can be sustained.

Council will contract in an appropriate manner such that the industry has confidence in us, and Council is seen as a partner of choice.

9. Strengthen asset management processes, tools, data and expertise

Council has recognised that strengthening its asset management processes will produce more robust long-term outcomes. Council has established a whole of organisation approach to asset management, and aligned desired outcomes with the Asset Management Policy and Strategy.

Council continues to utilise the International Infrastructure Management Manual 2015 (IIMM) to identify what is achievable through adopting best appropriate international practice, and also to strengthen internal knowledge and expertise.

Having a strong platform for delivering asset management will allow robust plans to be developed and then delivered. Ongoing investment in and upskilling of asset managers and their support teams is needed with a goal to continually improve asset management knowledge within the organisation. The long-term understanding (in its widest context) of when the best outcome can be achieved by renewal of assets, is the key to ensuring assets are being managed at the right level in the most appropriate way.

The Asset Management Policy confirms for Council the asset management objectives and responsibilities, with the high level commitment of Councillors ensuring the appropriate stewardship decisions are developed and understood, and that through the business case process appropriate investment decisions are being made.

Council needs to ensure that its Asset Management Strategy and Policy defines how it wants to position its skills. Ongoing investment in the quality of our asset data and better understanding of how the assets need to be managed is required.

10. Deliverability

The programme planned by this strategy is recognised as a large deliverable package for Council and its resources. Detailed forward planning will be required to ensure that suitable and adequate resources are available. This is equally applicable to both internal and external services where the industry must also match ability to do work aligned to the programme. An undersupply in either market will have impacts on timing or on cost.

Council will look to have skills for various scaled projects either through its teams, its Project Management office and or through the use of experienced outside businesses. It will be crucial to establish suitable governance and approval processes to ensure that barriers are not created which would slow projects. The use of advanced procurement techniques can be developed to ensure that larger projects are successful and timely.

It is noted that we would assume that in the early years of the Plan, the deliverability assumption is 80% for the first year, and increasing to 90% by the third year and each year after (three waters pipe renewals remains at 70%). This will provide a stronger signal to the industry that is able to gear up and then potentially recover any under-development. This strategy also recognises that many of the local authorities will have larger programmes and a regional approach to delivery, and some consolidation of deliverability principles may be required to ensure that these do not have negative impacts on the industry and cost of works.

The Financial Strategy looks at the deliverability issue with respect to funding and also highlights similar challenges. It will be important to develop a capital programme that is able to be delivered both by Council staff and by the contracting market, while remaining within the constraints of the Financial Strategy.

Our Significant Decisions over the next thirty years

The key decisions regarding provision of roading, three waters and tidal protection infrastructure over the next thirty years (noting that the Affordable Water Reforms may influence many of these) are summarised as follows.

The projects which will be included in the proposed Long-term Plan are noted whilst others will be for consideration in the following periods of 10 to 30 years. This Strategy is for 30 years and these are included to provide visibility of the more significant activities which have importance to the community but are currently not funded.

City Centre Streetscapes

Council will need to strengthen its City Centre Masterplan and use it to assist with future decision making. There will need to be a future strategic focus on where the City will develop and what, if any, further investment should be made in City streetscapes design in response to changing corporate investment (e.g. new hotels and office blocks) and changing community need.

Council has been consulting on Esk Street West and Wachner Place and the potential uses for this area. Following the investment already made in the city centre, including on Esk and Don Streets, additional investment in city centre cleaning and maintenance will maintain the developed level of service.

Future options for the City Centre could include:

- No further improvements. Renewal of existing core infrastructure only. Ongoing maintenance, cleaning and repairs to streetscape. Additional operational expenditure of \$100,000 per annum + inflation. This amounts to a total of \$1.1 million during years one to ten of this strategy, and \$4.2 million during years one to thirty.
- Implement Stage 2 of the original City Streets plan, involving improvements to Esk Street from the corner of Kelvin Street to outside the new SIT campus and to Kelvin Street from outside the Kelvin Hotel to the corner of Don Street. Additional \$15.5 million capital investment.

It is anticipated that a decision on future options for the City Centre will be made within the first five years of this strategy.

Road Safety Improvements

Council continues to work on ways to improve road safety and reduce serious crashes and fatalities on the roads. In addition to education and enforcement approaches, which include support for Road Safety Southland and recent reductions in speed limits throughout the District, it will be necessary to make further investment in infrastructure.

Option 1

Focus only on initiatives which are included within the Long-term Plan:

- Additional investment in low risk low cost improvements to address areas such as intersection design, traffic lights, raised platforms – total of \$7.6 million between 2024 – 2027 (aligned to Waka Kotahi funding planning cycle).

- Safety improvements to Local Area Traffic Management which include minor infrastructure changes to manage speed – total of \$2.8 million between 2025 – 2030.
- Implementation of speed improvements in Council priority areas such as outside schools – total of \$1.1 million over the first ten years of the Long-term Plan.

Option 2

In addition to the items above, further future improvements to improve road safety could include provision of higher quality pavements in areas such as Bluff (up to \$100,000 capital per annum plus inflation. This amounts to a total of \$1.0 million during years one to ten, and \$4.1 million during years one to thirty), and the addition of pavements, street lights and ditch improvements in Ōtātara (total of \$1.0 million spread over three years).

A decision on these items is expected by 2027/2028.

Stirling Point - Bluff

At the height of the tourism season, traffic congestion often occurs at Stirling Point with impacts on pedestrians, road safety and visitor experience. The topography is extremely challenging with no obvious solutions for changes in road layout or parking options. While there are risks to pedestrians as a result of congestion in the parking area, the risks presented are reduced as a result of the slow speeds in the area. Further investigation of options is required. These options are likely to include a park and ride scheme, purchase of private land, movement of the sign or other as yet unknown options.

Option 1

Scoping is required for a solution before a decision on the appropriate solution can be made - \$213,000 is estimated. A decision on this investment is expected in 2026/2027.

Option 2

If travel patterns do not resume to pre-Covid levels it may be decided that no further action is needed.

Infrastructure to support modal shift active transport

Council has made significant investment in its cycling network, including the completion of the Bluff-Invercargill Cycleway.

Future considerations will need to be made regarding what the community needs are to support and promote active transport. This would likely include an integrated cycle network, more formed and separated paths, and provision of supporting infrastructure (such as stands, shed, repair station etc.) which encourage and support those who choose to change their mode of travel.

Option 1

Greenway cycleway connecting the existing estuary and stopbanks with cycleways around the north and west of the city with a South/East city greenway connection - \$1.3 million capital investment.

Option 2

No additional investment in cycling tracks.

A decision is expected in 2027/2028.

Infrastructure for new subdivisions or industry

The Beyond 2025 Regional Long-term Plan has identified that under various high growth scenarios more housing may be needed for Invercargill. While the likelihood of the high growth scenarios is not high, Council may still need to consider the availability of core services to support any new development. The key issue is to understand the downstream impacts of any development through having a reliable, robust, and up to date data model. As Council looks to develop a future spatial plan, so will district planning need to change and support the direction agreed. This could include extension of some networks. Due to the unknown locations of proposed new industries and lack of specific requirements, a forecast for network growth of 1% has been included.

There is land identified for a planned subdivision of 600 houses in the South East of the city. A number of growth industries are identified within the Beyond 2025 Regional Long-term Plan, including green hydrogen, data centres and aquaculture. While none of these industries are expected to bring the same associated employment as Tiwai did, these new industries may require additional core infrastructure mostly within the Three Waters space.

Council would work with the new water entity or any changes which are required by legislative change to appropriately respond to and manage future growth. It would be expected that costs would be met by the new industries or developers.

The Awarua Industrial Park is a location where future industry growth will be expected. Services to this area will be required and if larger volumes of water are required for those industries then additional services will be required. Council is also planning for providing its Alternative Water Supply, and this supply connected to both storage in the Skye Street area and supply mains will have sufficient capability to provide improved levels of service.

Some industries will, as part of the development, provide their own water supplies, depending on their need, lead times, quality required and costs. Council would see cost recovery either via water billing or other commercial agreements. Providing disposal options for wastewater is a more complex issue and Council has some core services at Awarua. Additional support mains would be required.

Dependent on industry demand Council is considering additional water capacity to Bluff over the term of the Infrastructure Strategy. A number of options exist which include new pipelines and/or boosting supply pressures to the existing line. Council plans to respond to these developments when their requirements become known. Recovery of some of the cost is likely.

Option 1

Increasing water capacity to Bluff would cost an estimated \$32.3 million.

A decision on this is not expected before 2035.

Option 2

No extension of services if anticipated demand does not eventuate. No required investment.

Alternative discharge solutions for Bluff and Clifton Wastewater Treatment Plants.

The Bluff and Clifton Wastewater Treatment Plants consents are due for renewal in 2025 and 2029.

Council has been undertaking preparatory steps for these consent renewals and has started the detailed planning needed to understand the wide range of inputs necessary to support a decision. These consents represent a significant investment over the next 30 years.

In common with the majority of the country, as community expectations about water treatment and discharge change, it is likely that the way Invercargill District discharges are managed will also need to change.

Bluff Options

Options which will need to be worked with partners and stakeholders may include:

- Short outfall to Foveaux Strait
This is the current consented option.
- Long outfall to Foveaux Strait
This options would include a longer pipe outfall into the sea at a similar location to present and this has more significant construction challenges.
- Discharge to land
There is no specific land identified, although the size of land required is approximately twice the size of the Bluff township. Appropriate soil type and grade would need to be identified at some point around Greenhill's/Awarua area. Land can then only be used for baleage. Prime agricultural land would need to be purchased for this activity.
- Pipe back to Clifton for discharge
The effluent could be piped to the maturation ponds before discharge via the Clifton Consent. The additional pipes from Bluff would need to be within the State Highway corridor.

Clifton Options

Options which will need to be worked with partners and stakeholders may include:

- Effluent discharged to estuary
This is the current consented option.
- Long-sea outfall to sea
This option is to install new pipes to pump treated effluent from Clifton via Ōreti Beach into sea where the flow patterns are optimal.
- Alternative uses for effluent
There is an as yet unscoped potential future use for effluent to transfer it to third parties for use during industrial processes prior to discharge. Alternative uses could use up to two thirds of the volume currently produced at Clifton.
- Discharge to land
This is an unscoped option and would require land of appropriate soil type and grade to be identified in a region where a new pipeline could be established. It would be likely to require significant prime agricultural land for discharge. There are likely to be significant cultural issues to identify appropriate land.

Provision of \$103.7 million for Clifton and \$7.7 million for Bluff is allowed for within the Long-term Plan. Refined budgeting will take place following determination of the solution required by the consent.

A decision is expected in 2025 for the Bluff treatment plant and in 2029 for the Clifton plant.

Resilience and redundancy in the three water networks

Water Supply

Council considers having a robust and resilient water supply and distribution as a key utility.

We have invested over a number of years in improving the connection from the Branhholme Water Treatment Plant to the city, in order to ensure greater resilience in the case of an earthquake, flood or drought.

Further investment has been made in identifying an alternative water source to the current source from the Ōreti River.

Options for consideration during the lifetime of the Plan are:

Pipeline between Waikiwi and Gala Street

The only remaining part of the Branhholme water pipeline project which still needs to be designed to provide for additional resilience is providing connection between the two main pumping sites (Waikiwi and Gala). This project is considered a renewal in nature as this pipeline is nearing the end of its operational life. The main is located in Queens Drive, which is a main road, and construction of this larger diameter pipe will have both cost and construction disruption issues. No alternative options have been considered for alignment but the methodology of renewal would include:

- New pipe in same location via excavation or via pipe burst existing - \$11.8 million in 2030- 2032.
- Rehabilitation of existing pipe (relining) – estimated \$10.0 million but technology has potential limitations.
- Resizing and slip replacement of pipe – estimated \$10.0 million but has limitations in size and capacity and is not the preferred option.

\$11.8 million planned in 2030-2032.

Alternative Water Supply

Council has been investigating a source at Awarua and has identified quality water. Further testing of volumes are still to be confirmed before commitment to development.

Additional storage capability (Skye Street), treatment options (dependent on the quality) and connecting back to the urban network (pipes) are all elements of the planned alternative water supply options. Options will be developed for consideration as each of these phases are worked through.

Option 1

\$60.5 million is budgeted for the alternative water supply project. The decision would be made in 2027.

Option 2

No alternative water supply and use restrictive measures to limit flows. An estimated \$45.4 million will be required for reservoirs to improve storage.

The decision is expected in 2027.

Stormwater and Foul Sewer

The City has a number of pumped sewer mains which are considered as critical components of the network, and the asset plans look to have a level of redundancy available for those pipes to ensure the continuity of service and to mitigate risk.

The Sewer Activity Management Plan looks to have developed options for both the Mersey and Lindisfarne mains as these transport approximately 43% of the city volumes. These will provide additional redundancy and would provide greater resilience in case of failures in the primary lines. These projects have been risk assessed against the corporate risk model and have a medium rating.

The options which will be considered are:

- Replace pipeline in current alignment (not practical due to pump cycle and as a result has not been costed).
- New pipeline in new alignment
 1. Mersey Street Wastewater main duplication - \$21.7 million (2025 – 2028)
 2. Lindisfarne Wastewater rising main duplication - \$5.8 million (2029-2031)
- Refurbish existing pipe – additional 25% expected cost.
 3. Mersey Street Wastewater main duplication - \$27.1 million (2025 – 2027)
 4. Lindisfarne Wastewater rising main duplication - \$7.3 million (2029-2031)

The decisions would be made in 2025 and 2027.

Water Meters

Council is looking to reduce loss of water by leakage by metering areas of its network. This may extend to universal metering of all properties to promote further reduction from onsite leakage. Additionally Council is considering the benefit that metering provides as a fairer more effective method of charging for water supplied.

Option 1

Installation of area zone water meters over 2025/26 – 2028/29 - \$0.9 million.

Option 2

Proceed with Installation of universal water meters would take place in 2033/2034 - \$9.9 million.

The decisions would be made in 2025 and 2029.

Suburb Improvements

There are three main suburban shopping areas within the District – Bluff, South City and Windsor. Over the life of the Infrastructure Strategy, Council will need to determine the appropriate timing for renewals of these areas. The primary decision is whether to delay renewals, accepting levels of service may be impacted.

In addition, Invercargill has a large semi-rural suburb which has been growing: Ōtātara. Council may consider over the life of the Plan the development of service level improvements for footpaths, streetlighting and ditch improvements in the Ōtātara area. These have been highlighted as an opportunity to consider in more depth as to the benefits which investment will bring. These have been considered for the Long-term Plan but are not included in the first ten years. These improvements would support a stronger mode shift for more walking and cycling to occur.

Option 1

Suburban refresh for Bluff (estimated \$3.3 million), South City (estimated \$3.0 million), and Windsor (estimated \$2.9 million) shopping areas.

Decisions are expected between 2027-2032.

Option 2

Suburban refresh for Bluff, South City and additional Ōtātara improvements including:

- Construction of footpaths - \$250,000 per annum plus inflation from 2024/2025 ongoing, amounting to a total of \$2.8 million during years one to ten of this strategy, and \$10.6 million in years one to thirty.
- Streetlighting - \$250,000 per annum plus inflation from 2024/2025 to 2029/2030, amounting to \$1.6 million.
- Ditch improvements - \$300,000 per annum plus inflation from 2028/2029, for ten years. amounting to a total of \$3.7 million.

The decisions are expected to be made in 2026/2027.

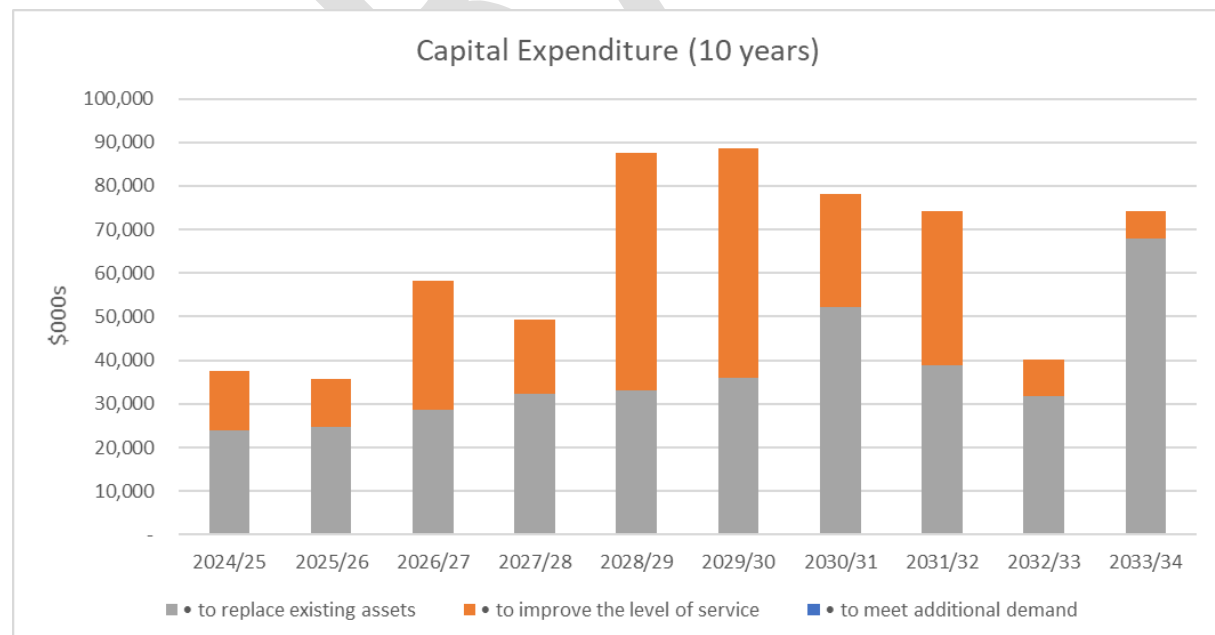
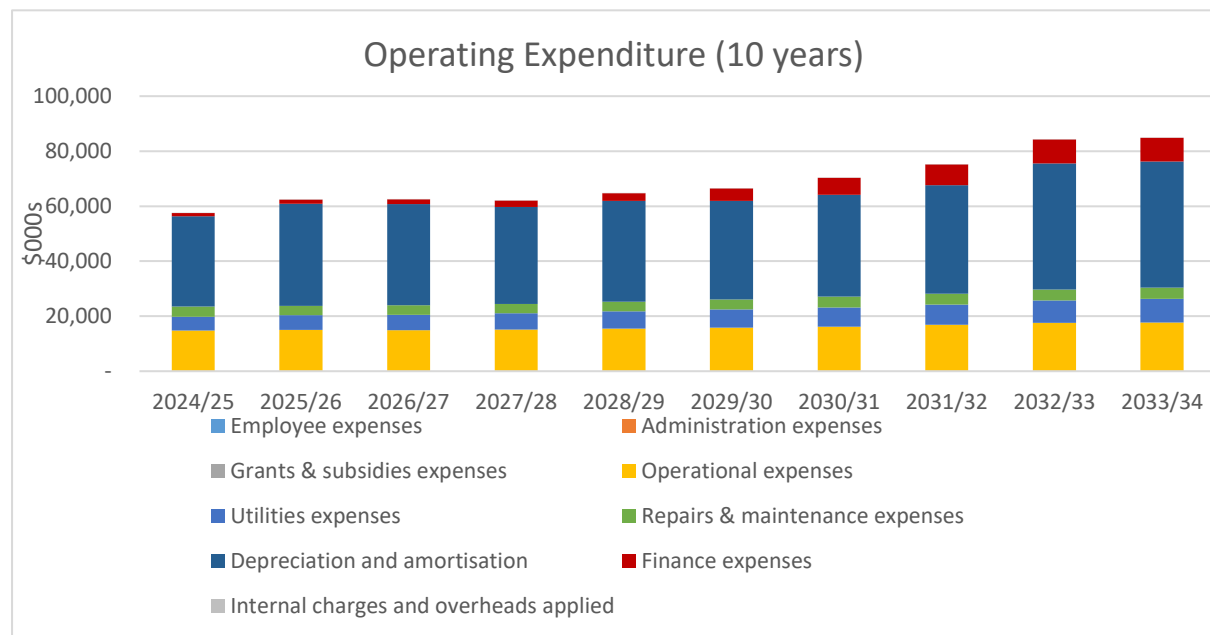
Decommissioning of the Water Tower

Council has identified the Water Tower as an important icon and heritage asset for the city and that, as such, it prefers to retain control of this asset after any transfer as part of the Affordable Water reforms. At present the Water Tower remains a working part of the water network although it is not expected to be technically challenging to decommission it, and this will not affect the wider network. The outcome of this issue will depend on negotiations with the new water entity. The Water Tower will then need to be brought up to either 34% or 67% of the National Building Standard. The cost for this is estimated at \$5.4 million but no decision is expected before 2033.

Long-term Financial Estimates

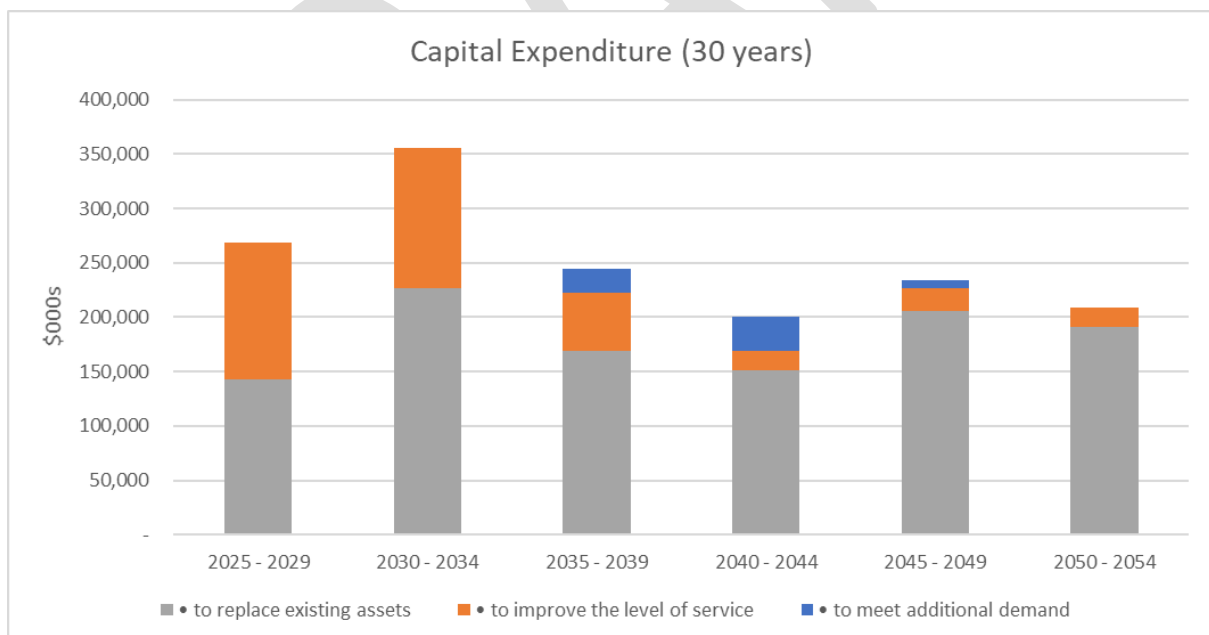
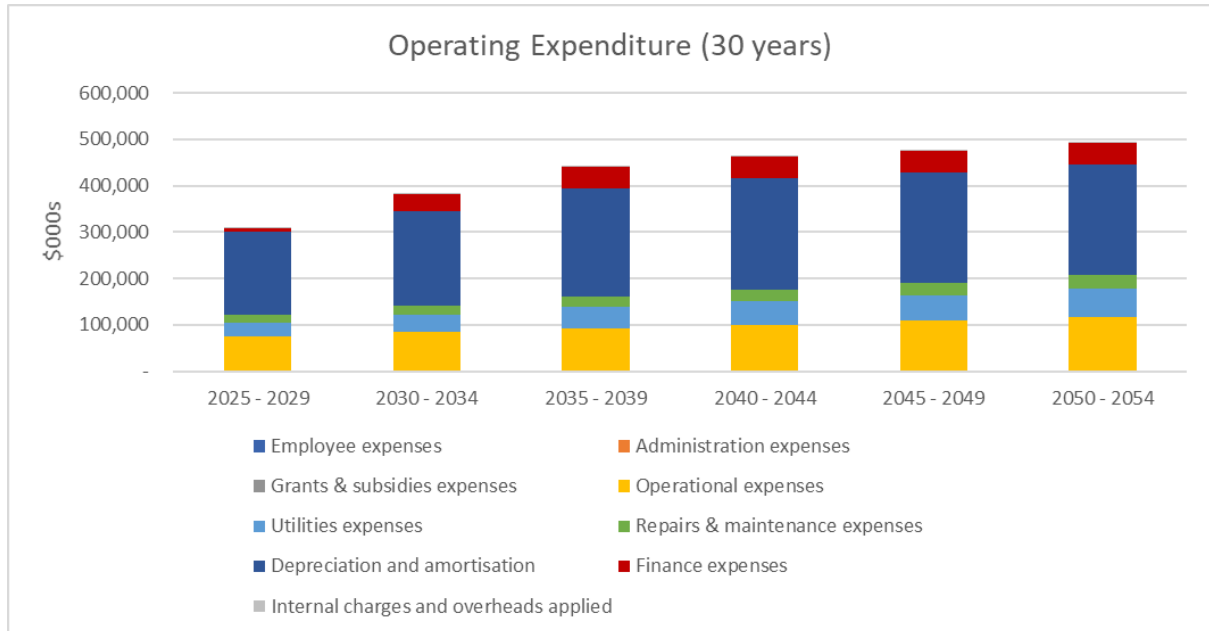
Core Infrastructure Expenditure – 10 years

These graphs show the forecast operating and capital expenditure for the first ten years of this Long-term Plan.



Core Infrastructure Expenditure – 30 years

These graphs show the forecast operating and capital expenditure for the first ten years of this Long-term Plan.



Total Infrastructure Financials

Below are the details of the total infrastructure financials anticipated over the next ten years, year by year.

	2023/24 Annual Plan (\$000)	2023/24 Forecast (\$000)	2024/25 LTP (\$000)	2025/26 LTP (\$000)	2026/27 LTP (\$000)	2027/28 LTP (\$000)	2028/29 LTP (\$000)	2029/30 LTP (\$000)	2030/31 LTP (\$000)	2031/32 LTP (\$000)	2032/33 LTP (\$000)	2033/34 LTP (\$000)
OPERATING												
Rates revenue	32,501	32,519	36,322	39,948	43,935	45,753	49,858	53,828	55,939	58,700	61,302	66,027
Subsidies and grants (Capital)	5,160	5,160	5,095	5,716	5,630	5,705	6,048	6,188	6,318	6,444	6,573	6,698
Subsidies and grants (Operational)	3,763	3,763	3,872	3,957	4,048	4,141	4,233	4,321	4,408	4,496	4,581	4,668
Direct charges revenue	4,867	5,092	7,524	7,900	8,295	8,709	9,145	9,601	10,082	10,586	11,115	11,671
Rental revenue	228	3	3	3	3	3	3	3	4	4	4	4
Finance revenue	188	69	106	134	183	44	49	53	55	59	62	64
Dividends	-	-	-	-	-	-	-	-	-	-	-	-
Fines	-	-	-	-	-	-	-	-	-	-	-	-
Other revenue	6	6	6	6	6	7	7	7	7	7	7	7
Internal charges and overheads recovered	-	-	-	-	-	-	-	-	-	-	-	-
Total revenue	46,713	46,612	52,928	57,664	62,100	64,362	69,343	74,001	76,813	80,296	83,644	89,139
Employee expenses	14	14	14	15	15	15	16	16	16	17	17	17
Administration expenses	2,046	74	77	79	81	82	84	85	88	89	91	92
Grants & subsidies expenses	-	-	-	-	-	-	-	-	-	-	-	-
Operational expenses	12,586	12,719	14,657	14,981	14,819	15,022	15,376	15,726	16,072	16,724	17,444	17,566
Utilities expenses	2,704	4,674	5,051	5,316	5,605	5,915	6,244	6,596	6,973	7,378	8,151	8,627
Repairs & maintenance expenses	2,700	2,700	3,677	3,315	3,415	3,472	3,575	3,626	4,022	3,925	4,027	4,077
Depreciation and amortisation	31,651	32,930	32,900	37,203	36,857	35,253	36,646	35,905	36,942	39,529	45,835	45,905
Finance expenses	457	796	1,088	1,472	1,715	2,301	2,773	4,493	6,205	7,556	8,710	8,552
Internal charges and overheads applied	30	30	31	31	32	33	33	35	35	36	36	37
Total expenses	52,188	53,937	57,495	62,412	62,539	62,093	64,747	66,482	70,353	75,254	84,311	84,873
OPERATING SURPLUS / (DEFICIT)	(5,475)	(7,325)	(4,567)	(4,748)	(439)	2,269	4,596	7,519	6,460	5,042	(667)	4,266
CAPITAL EXPENDITURE - Funded												
• to meet additional demand	-	-	-	-	-	-	-	-	-	-	-	-
• to improve the level of service	12,073	12,981	13,660	11,089	29,517	16,889	54,359	52,682	25,864	35,368	8,452	6,420
• to replace existing assets	16,316	17,009	23,878	24,660	28,736	32,334	33,087	36,052	52,314	38,950	31,730	67,863
TOTAL CAPITAL EXPENDITURE	28,389	29,990	37,538	35,749	58,253	49,223	87,446	88,734	78,178	74,318	40,182	74,283
Gross proceeds from sale of assets	-	-	-	600	-	-	-	-	-	-	-	-

	2023/24	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
	Annual Plan	Forecast	LTP	LTP	LTP	LTP	LTP	LTP	LTP	LTP	LTP	LTP
	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)
OPERATING												
Rates revenue	32,501	32,519	36,322	39,948	43,935	45,753	49,858	53,828	55,939	58,700	61,302	66,027
Subsidies and grants (Capital)	5,160	5,160	5,095	5,716	5,630	5,705	6,048	6,188	6,318	6,444	6,573	6,698
Subsidies and grants (Operational)	3,763	3,763	3,872	3,957	4,048	4,141	4,233	4,321	4,408	4,496	4,581	4,668
Direct charges revenue	4,867	5,092	7,524	7,900	8,295	8,709	9,145	9,601	10,082	10,586	11,115	11,671
Rental revenue	228	3	3	3	3	3	3	3	4	4	4	4
Finance revenue	188	69	106	134	183	44	49	53	55	59	62	64
Dividends	-	-	-	-	-	-	-	-	-	-	-	-
Fines	-	-	-	-	-	-	-	-	-	-	-	-
Other revenue	6	6	6	6	6	7	7	7	7	7	7	7
Internal charges and overheads recovered	-	-	-	-	-	-	-	-	-	-	-	-
Total revenue	46,713	46,612	52,928	57,664	62,100	64,362	69,343	74,001	76,813	80,296	83,644	89,139
Employee expenses	14	14	14	15	15	15	16	16	16	17	17	17
Administration expenses	2,046	74	77	79	81	82	84	85	88	89	91	92
Grants & subsidies expenses	-	-	-	-	-	-	-	-	-	-	-	-
Operational expenses	12,586	12,719	14,657	14,981	14,819	15,022	15,376	15,726	16,072	16,724	17,444	17,566
Utilities expenses	2,704	4,674	5,051	5,316	5,605	5,915	6,244	6,596	6,973	7,378	8,151	8,627
Repairs & maintenance expenses	2,700	2,700	3,677	3,315	3,415	3,472	3,575	3,626	4,022	3,925	4,027	4,077
Depreciation and amortisation	31,651	32,930	32,900	37,203	36,857	35,253	36,646	35,905	36,942	39,529	45,835	45,905
Finance expenses	457	796	1,088	1,472	1,715	2,301	2,773	4,493	6,205	7,556	8,710	8,552
Internal charges and overheads applied	30	30	31	31	32	33	33	35	35	36	36	37
Total expenses	52,188	53,937	57,495	62,412	62,539	62,093	64,747	66,482	70,353	75,254	84,311	84,873
OPERATING SURPLUS / (DEFICIT)	(5,475)	(7,325)	(4,567)	(4,748)	(439)	2,269	4,596	7,519	6,460	5,042	(667)	4,266
CAPITAL EXPENDITURE - Funded												
• to meet additional demand	-	-	-	-	-	-	-	-	-	-	-	-
• to improve the level of service	12,073	12,981	13,660	11,089	29,517	16,889	54,359	52,682	25,864	35,368	8,452	6,420
• to replace existing assets	16,316	17,009	23,878	24,660	28,736	32,334	33,087	36,052	52,314	38,950	31,730	67,863
TOTAL CAPITAL EXPENDITURE	28,389	29,990	37,538	35,749	58,253	49,223	87,446	88,734	78,178	74,318	40,182	74,283
Gross proceeds from sale of assets	-	-	-	600	-	-	-	-	-	-	-	-

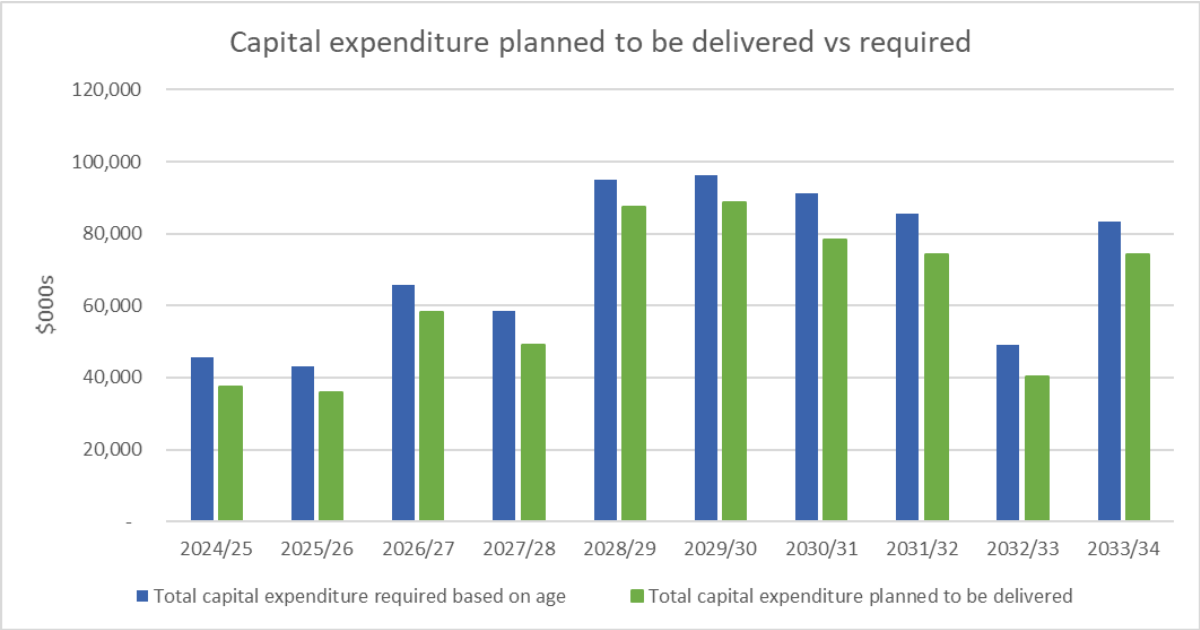
Below are the details of the total infrastructure financials anticipated over the next 30 years, in five year blocks.

	2025 - 2029	2030 - 2034	2035 - 2039	2040 - 2044	2045 - 2049	2050 - 2054
	LTP	LTP	LTP	LTP	LTP	LTP
	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)
OPERATING						
Rates revenue	215,816	295,796	371,928	452,508	550,545	669,822
Subsidies and grants (Capital)	28,194	32,221	35,554	60,852	82,312	90,879
Subsidies and grants (Operational)	20,251	22,474	24,780	27,360	30,208	33,352
Direct charges revenue	41,573	53,055	67,714	86,421	110,294	140,772
Rental revenue	15	19	20	21	25	26
Finance revenue	516	293	345	376	415	459
Dividends	-	-	-	-	-	-
Fines	-	-	-	-	-	-
Other revenue	32	35	40	44	48	53
Internal charges and overheads recovered	-	-	-	-	-	-
Total revenue	306,397	403,893	500,381	627,582	773,847	935,363
Employee expenses	75	83	92	102	112	124
Administration expenses	403	445	491	541	597	659
Grants & subsidies expenses	-	-	-	-	-	-
Operational expenses	74,855	83,532	91,980	99,429	107,650	116,730
Utilities expenses	28,131	37,725	45,794	50,562	55,823	61,631
Repairs & maintenance expenses	17,454	19,677	21,884	24,132	26,681	29,416
Depreciation and amortisation	178,859	204,116	234,424	242,499	238,313	238,313
Finance expenses	9,349	35,516	45,845	45,845	45,845	45,845
Internal charges and overheads applied	160	179	195	218	243	266
Total expenses	309,286	381,273	440,705	463,328	475,264	492,984
OPERATING SURPLUS / (DEFICIT)	(2,889)	22,620	59,676	164,254	298,583	442,379
CAPITAL EXPENDITURE - Funded						
• to meet additional demand	-	-	21,362	30,768	7,928	-
• to improve the level of service	125,514	128,786	54,185	18,358	20,269	17,723
• to replace existing assets	142,695	226,909	168,790	151,009	206,097	191,060
TOTAL CAPITAL EXPENDITURE	268,209	355,695	244,337	200,135	234,294	208,783
Gross proceeds from sale of assets	600	-	-	-	-	-

Below are the details of the capital expenditure planned to be delivered vs. what is required based on age over the next ten years.

	2023/24	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
	Annual Plan	Forecast	LTP	LTP	LTP	LTP	LTP	LTP	LTP	LTP	LTP	LTP
	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)
Capital expenditure required based on age												
• to meet additional demand	-	-	-	-	-	-	-	-	-	-	-	-
• to improve the level of service	12,073	12,981	13,660	11,090	29,517	16,888	54,360	52,682	25,863	35,368	8,452	6,421
• to replace existing assets	18,858	19,155	31,834	32,029	36,314	41,587	40,506	43,638	65,291	50,100	40,523	76,823
Total capital expenditure required based on age	30,931	32,136	45,494	43,119	65,831	58,475	94,866	96,320	91,154	85,468	48,975	83,244
Capital expenditure planned to be delivered												
• to meet additional demand	-	-	-	-	-	-	-	-	-	-	-	-
• to improve the level of service	12,073	12,981	13,660	11,089	29,517	16,889	54,359	52,682	25,864	35,368	8,452	6,420
• to replace existing assets	16,316	17,009	23,878	24,660	28,736	32,334	33,087	36,052	52,314	38,950	31,730	67,863
Total capital expenditure planned to be delivered	28,389	29,990	37,538	35,749	58,253	49,223	87,446	88,734	78,178	74,318	40,182	74,283

Financial Implications



What can residents expect in 2054?

The Central Business District of Invercargill will be redeveloped and supported by the infrastructure needed to support strong business activity and be a vibrant space where people come to gather, rest and enjoy. Invercargill will have a City Centre which people are proud of and invite others to enjoy. It will have activities that support the use of public space and support the business hub of Southland.

Roading infrastructure will be safer and provide good reliable access to all users and continue to meet the needs of the community. Residents will be changing their travel mode of choice, with cycling and passenger transport continuing to grow. Key infrastructure to support the wider use of low carbon travel modes will be in place and be accepted in the community. Industry will have addressed freight movement and adopted technology which is sustainable.

Three waters infrastructure will be more reliable, safe, appropriately supported, and be financially well delivered. This may be by a new entity or by Council(s).

Invercargill will have an alternative water supply interconnected to other supply and treatment options, be receiving and treating wastewater within approved discharge consents, have stormwater discharging to environments which has been through suitable treatment, and wider areas of Invercargill will have additional services available to support their future land uses.