Our 10-Year Plan

Wellington City Council, Draft Financial and Infrastructure Strategy

Absolutely Positively
Wellington City Council
Me Heke Ki Pōneke

Wellington City Council

Financial and Infrastructure Strategy

2018-2048

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Section 1. Overview - Our integrated Infrastructure and Financial Strategies

This strategy has been directly guided by the city's vision *Wellington towards 2040: smart capital* and asset management plans. It aligns with the 10-year priorities that are the foundation for the proposed 2018-28 long-term plan, and underpins progress towards our city's vision and long-term city outcomes.

The integrated infrastructure and financial strategy describes how Council intends to manage its infrastructure assets over 30 years and how our financial settings will allow for the required investment on our infrastructure. We have significant investment proposed over the next 30 years, integration with our financial strategy is crucial to maintaining a healthy financial position while delivering on our long-term city outcomes.

The purpose of the integrated strategy is to:

- identify significant infrastructure challenges for City and any options for managing those challenges
- enable prudent and sustainable financial management by forecasting future costs (30 years), showing how it is intended to fund these, and setting limits to the funding
- provide a context for consulting with the community on Council's proposals for expenditure, and how this will be funded.

•

A.

The following table summarises of the five key elements of our integrated infrastructure and financial strategies.**2040 Vision**

Community outcomes

B. Operating environment key Challenges /opportunities

- Population growth
- Stronger economy
- Looking after our strengths
- Rates and borrowing levels
- Managing demand
- Increased investment in resilient infrastructure

C. Five Strategic priority areas / Triennium Work Programme

D. Financial Strategy

Key aims	Key strategies
• Balanced budget • Prudent financial management • Affordable rates • Net debt within borrowing limits • Fund depreciation where borrowings are incurred to build or replace assets • Timely funding of new infrastructure assets to support city to development • Sufficient insurance cover for natural disaster risks • Maintain financial capacity to fund priority programmes and natural disaster recovery	• Maintain a *sustainable* financial position for the Council and future generations
	• Balance today's funding requirements with the ability to fund future opportunities and ensure it is *equitable* for future generations
	• Timing the renewal, upgrade or growth of our infrastructure assets to meet demand and maximise asset utilisation and value for money
	• Mitigate any financial risks to the Council's financial position
	• Development contributions to meet a portion of the costs of new or upgraded investment
	• Maintain a prudent level of insurance to cover the risk of loss (material damage and business interruption)

E. 30 year infrastructure Strategy

***Likely asset management scenario:** Focus investment in Priority areas for years 1-10 & Asset Management Plans programmes years 11-30*

Key aims	Key strategies
• Prioritise infrastructure investments to respond to planned increases in levels of service • Ensure an optimal balance between maintenance and asset renewal programmes • Increase utilisation where assets have surplus capacity • Increase our understanding of seismic risks and the impact of climate change on our infrastructure • Increase network asset resilience and level of service increases for natural disaster recovery • Ensure essential services are delivered to agreed standards	• Manage asset renewals to address the deterioration of assets in line with Asset Management Plans (AMPS) risks
	• Continuously improve our assets data and systems
	• Our AMPS detail the levels of service changes from the $790m capital upgrades
	• Coordinate infrastructure decisions across the Council, subsidiaries, other agencies and local councils within the region
	• Continuously improve our AMPS to reflect increased knowledge of seismic risks
	• Prioritise funding to the areas where there are specific renewal challenges to overcome

Revenue and Funding policies

Asset management Plans

Asset management systems, data, standards

Key assumptions- Population, economic, rate payer base growth; urban development

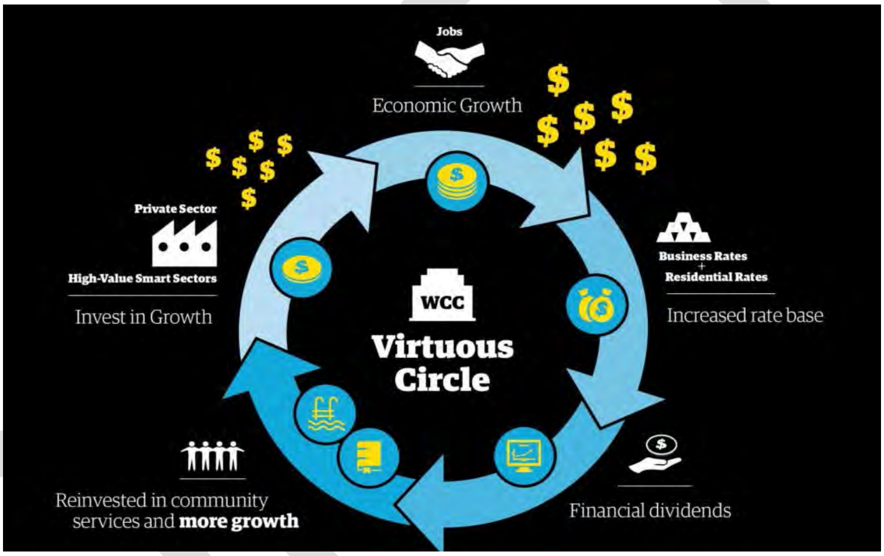
Our 10-Year Plan

Section 2. Component A - Strategic Direction, challenges and priorities

2.1 What's changing?

Our current context

The challenges the Council is facing are evolving. Three years ago, when we last reviewed our infrastructure and financial strategies and produced a long-term plan, our strategies and plan focused around stimulating growth. We focused on projects that would have a 'catalyst' effect on improving the economy while ensuring we continued to maintain our assets and existing service levels. Some of our major projects like the Convention Centre and Movie Museum and airport runway extension are yet to be realised, but both the economy and population are growing, and delivering on what we term the 'virtuous circle'.



Our proposed 2018 Financial and Infrastructure strategy continues to focus on investment in priority areas that will help us grow while also ensuring we have the resources and financial capacity to consider, and where prudent, address the challenges we face.

Our proposed 10-Year Plan, underpinned by this Financial and Infrastructure Strategy, incorporates an ambitious capital expenditure programme. A programme that focuses on resilience of buildings and our water network provides a transport system that allows for easy access in, out and around our city, and manages and maintains its growth. It also ensures we continue to do the basics well; we maintain and renew our assets across the existing transport and water networks as well as our networks of community facilities like libraries, parks and playgrounds.

In response to a range of challenges (which we discuss in section 3 of this document), we are planning to deliver improvements to our levels of services both in operational areas and in provision of supporting infrastructure (see section 8). In areas not specifically referenced in this document, we plan to maintain levels of service at current levels.

Increasing our asset investment puts extra pressure on Council's finances and results in an increase in debt. This is because we fund investment in assets to improve our infrastructure by borrowing - we then spread the cost via rates across the years the asset is utilised – ensuring that those who use the asset pay for the asset. We have the balance sheet capacity to undertake this investment while remaining within prudent debt parameters. From an affordability perspective, we are in a strong position because we already fund depreciation over the life of the assets we have built (and initially funded through debt). This means the increased rates impact of the proposed investment is included in the 4% average rates increase forecast across the 10 years of our long-term plan. It also means that by funding depreciation, we will have the capacity to fund the asset renewals that are forecast in the later years of our 30 year infrastructure strategy.

Our proposed 2018-2028 Long-Term Plan is not without risk, both in our ability and to deliver the prodigious capital programme planned and to meet growing service level expectations, but it is backed by a sound financial and infrastructure strategy – we think we have the balance right.

Section 3. Component B - Operating environment challenges and opportunities

The following outlines the challenges and opportunities that we face as a city and organisation and how we propose to respond.

Managing the demand for increasing levels of service

The Challenge	Wellington has made significant investment in its facilities over many years. There has been a new indoor community centre, investment in our sports fields, the rollout of artificial playing surfaces and investment in pools. Funding has also gone to other areas of Council activity including core infrastructure, the arts, and the environment. And, as with many other Councils in New Zealand, and indeed abroad, community expectations for improving services is constant and the willingness to pay for ever increasing / improving services is low. Overall 70% of Wellington residents consider that Council provides value for money services. However, pressures on maintaining levels of service delivery (and value for money services to residents) are expected to increase. These pressures are expected to come from: • The need to accommodate an increasing population - and more people in the central city • Awareness of risk from natural disasters • Changing lifestyles and transport modes • More people accessing Council services • Maintaining infrastructure upgrade and renewal cycles for significant assets; and • Increasing regulatory demands – particularly for the built environment

Our response	Our approach is to ensure essential services are delivered to agreed standards (do the basics well) and prioritise funding to the areas where there are specific renewal challenges to overcome. We have also reviewed our performance measures and targets to ensure we are able to tell a cohesive story about our performance, being clear about how well we are delivering our services and whether we are meeting community expectations. We have allocated more funding, in our Plan to those areas where we think we are not currently meeting expected levels of service, including playgrounds, housing, arts & culture, waste management, cycling and our transport network. This also includes an extra $0.8bn extra capital funding for new asset based responses to increase levels of service. We assume that: • the current demand for Council services and customer expectations regarding business as usual levels of service will not significantly decrease during the planning period; and • beyond that specifically planned and identified later in this Strategy, there will be no significant additional impact from above pressures on asset requirements or operating expenditure.

Cost pressures

The Challenge	Costs are currently increasing at a faster rate than both CPI (the general consumer inflation index) and LGCI (local government inflation index) due to a combination of resource constraints for specific services and level of service increases. We have identified a number of cost pressures and initiatives, reflecting increased asset ownership (construction and purchase), community demand for increased / improved services, the need to invest in Council infrastructure and facilities to earthquake strengthen them, new health and safety standards, and increasing unplanned costs that arise from more severe and frequent storm events as a consequence of climate change.

Our response	Cost pressures– apart from those that relate to levels of service –are largely unavoidable. We have made provision for inflation and will revisit these assumptions on an annual basis, to test whether the budgets we have indicated remain achievable. We will continue to manage the city's assets prudently, fund their replacement (through depreciation) and meet the other associated operating costs relating to responsible asset stewardship so that future generations inherit city assets in a good condition.

Managing the demands of population and ratepayer base growth

The Challenge

As the city's population increases, the commercial sector will also expand. We expect an additional 28,000 people to work in the city by 2047. With much of the population growth predicted to be in the inner city, and the city centre being the economic hub of the region, good planning that accommodates for both while also taking into account the effects of climate change will be crucial.

Our response

We propose to:

- Asset management planning – City growth assumptions and district plan setting underpin the Council's Asset Management Plans, and direct capital expenditure on network infrastructure and facilities toward growth areas. We propose that infrastructure and facility investment related to growth continues to be provided for through development contributions.
- Council investment in housing – we propose to invest to deliver 750 new social and affordable homes in the city over the next ten years and will take an active role in improving residents' housing choices, by working with central government and other partners on a range of projects to improve housing standards and supply in the city
- Further detailed planning for growth – New housing is limited by topography, knowledge of likely sea level rise impacts, ground quality and space to put pipes and roads in. Consequently, to accommodate a growing population we are focusing growth towards existing urban areas and the inner city. We propose and initial three year focus on a city planning review to respond to forecast levels of population growth and intensification. This will be through the review of the district plan settings, and spatial planning which will model needs and include impact assessments. This will better inform the decisions of requirements in the future.
- Invest in new infrastructure in the 'Northern Growth' greenfields development areas. This includes new water reservoirs for Horokiwi and Stebbings, and $23m of new roads. Also Public space development to provide extra capacity in Newlands is planned.
- Growing the ratepayer base – A growing population also results in a growing ratepayer base, which provides the ability to spread increased costs in future years across a bigger rating base. We have conservatively forecast average growth in the ratepayer base (increase in Capital Value of the city as a result of development) of 0.9% per year.

Making the city more resilient

<table>
<tr><td>The Challenge</td><td>In November 2016, we experienced a significant earthquake that tested our city. It responded well, but there is more work to do to improve the city’s resilience. With the climate also changing, we need to find ways of living with more severe and frequent extreme weather events. And we also need to factor in rising sea levels.</td></tr>
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<table>
<tr><td>Our response</td><td>We propose to:

Regulate and facilitate strengthening work in the city – in addition to the Resilience Strategy, in July 2017 timelines for strengthening priority earthquake-prone buildings were shortened from 15 to 7 ½ years. Earthquake-prone buildings on strategic routes must also be strengthened within 7 ½ years. Other earthquake-prone buildings must be strengthened within 15 years. Council monitors the strengthening programme of earthquake prone buildings in the city and provides funding support.
Congruent with the regionally set Wellington Resilience Strategy we propose to strengthen Council infrastructure through the renewal programme – Wellington has been strengthening buildings for over 20 years and each year a proportion of our underground pipes for water, stormwater and sewage pipes are renewed using ductile (earthquake resilient) materials. We have provided the financial capacity within our 10-Year Plan to continue this work.
Focusing on critical lifeline areas – We are also planning to fund increased water storage in the city and secure water supply to the central city following a natural disaster event. Two key reservoirs are the new Omaroro reservoir and the upgraded replacement of the existing reservoir in Bell Rd at a cost of $58.5m. Both situated in the Prince of Wales Park in Mt Cook, these reservoirs will significantly increase the resilience and capacity of stored water volumes for the CBD, the Wellington Regional Hospital and the areas of Mt Cook, Aro Valley and Kelburn.
Most of our buildings are not earthquake prone, but some are, and require strengthening. We have provided $88.7m in our draft plan to strengthen the Town Hall and $11.5m for St James Theatre in the next few years. We have also sourced alternative office accommodation for the next five years to allow time for a permanent solution to be found for the Council’s Civic Administration Building, which was damaged in the 2016 earthquake and for the adjacent Municipal Office Building which the Council will be exiting in late 2018 to allow for the Town Hall strengthening work to commence.
Additional funding to respond to climate change impacts – we have provided a new $2 million dollar capital fund in our draft plan to respond to the impacts of more severe weather events on our land and assets and included additional funding for coastal resilience work.
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Maximising our cultural advantage and tourism attractions

<table>
<tr><td>The Challenge</td><td>We have invested extensively in the arts over many decades and our city has an enviable reputation as the capital of culture – it is one of the areas that sets us apart from other cities and provides us with a competitive advantage in terms of visitor attraction.
Other cities are also investing in these areas, and we need to make sure investment levels are high enough to support a thriving arts and culture sector in the city. At the same time, much of our cultural sector relies on facilities that we own as a Council – and some of these are earthquake prone.</td></tr>
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Our response	Our response to this challenge involves: • Investment in tourism facilities – we are planning for investing in facilities to increase Wellington's visitor offering including the construction of a Convention Centre, Film Museum and indoor arena. We are also planning to help part-fund investment in other infrastructure like the airport runway extension. This would help facilitate this growth and diversification of the wellington economy. • Investment in the arts – to maintain and strengthen the reputation of Wellington as the cultural capital of New Zealand, we are promoting a 'decade of culture'. Capital funding related to the cultural outcomes is to support the sector with high quality venues. The strengthening and refurbishment to allow for future use of the Town Hall and St James theatre, and $85.7m of funding towards construction of an indoor arena will provide a significant boost in support of this sector. • Funding of economic and tourism initiatives – the long-term plan includes a broad range of investments that will support economic growth. A number of these investments, as mentioned above are strongly focused on the tourist economy. In the coming year, we will explore options around how the Wellington visitor industry might assist or contribute financially from year 3 of the plan to fund activities that support the visitor economy.

Transport - Getting Wellington Moving

The Challenge	The current transport network is already significantly congested at peak times. And as our population grows over time and more people start living in the inner city, the pressure on our network and inner city neighborhoods' will increase. Commuters and inner city residents are already experiencing this, and public satisfaction with peak-hour traffic congestion is declining.

Our response	• *Let's Get Wellington Moving (LGWM)* - we are working with the Greater Wellington Regional Council and the New Zealand Transport Agency on the Let's Get Wellington Moving programme of work. This work is taking a holistic look at how improve traffic along the Ngauranga to airport corridor. Four separate scenarios were consulted on with the community in late 2017 and these included a range of active travel mode solutions coupled with better public transport and roading improvements along the network. Decisions on a preferred scenario will not occur until later in 2018 and consequently we have provided provisional funding of $122 million in the later years of this plan only at this time. Depending on the final scenario that is adopted, funding levels and the timing for when it will be required may have to change. Should this be the case further consultation may be required. • *Cycling Master Plan* – As cycling improvements in the city centre are being considered a part of LGWM, this project relates to cycling improvements outside of the city centre only. We are proposing a budget of $72.6 million of capital funding over the next 10 years, which is expected to continue and see the full city cycling programme completed in 20 years. • *A more resilient network* – we support a more resilient transport network in the region that provides more resilient critical and alternative routes in, out and around the city. We support both Transmission Gully and the proposed Petone to Grenada link road, which are being delivered by the NZ Transport Agency. Additionally, we are proposing to increase funding for our transport network in the coming year to strengthen retaining walls below and above roads throughout the network, as well as tunnel and bridge strengthening work.

Managing the rates and borrowing impact of improving the city’s infrastructure

The Challenge

Our Plan outlines some significant investments that we believe are necessary to make. They include, at a high level:

- Strengthening civic and city venues such as the Town Hall and St James Theatre
- Improving the resilience of the three waters network
- Investment in cycling and transport infrastructure to ‘Get Wellington Moving’.
- Economic development & visitor attraction projects such as the Convention Centre/Movie Museum and an indoor arena
- A new library & community centre in Johnsonville

The Council is also committed to ensuring we continue to maintain and renew the assets we already have.
As a result, the most significant driver of rates increases across the 10 years of the proposed Long-term Plan is the funding of the Council’s capital investment programme of $2.3b.

Our response

The Council has one of the strongest balance sheets of any Council in New Zealand, reflected in its AA credit rating. This means we have the ability to borrow to fund this capital expenditure programme and remain within the key limits the Council set in its last long-term plan. Our debt to income ratio is expected to peak at 160%, within our existing Financial Strategy threshold of 175% and significantly below that of other metropolitan councils, some of whose ratios exceed 200%.

By borrowing for the upfront cost, we can then spread the impact across those who use the asset over its life. We do this by including funding depreciation and interest costs through rates. This funding is included in the average 4% rates increase forecast across the 10 years of the plan. This funding repays the borrowings incurred to build new assets. This means we are funding the true cost of the investment and not delaying costs for future ratepayers.

We are also putting greater focus on ensuring we can deliver the capital investment programme we set in our plan and have reforecast the deliverability of our existing capex programme. This has seen some projects being phased over later years of the plan, reflecting realistic deliverability and as a result, we have lowered our starting borrowing position and therefore our interest budgets for the 2018-28 LTP. We will only start to fund capital projects through rates once construction is completed and the facility is in use.

We are also reviewing the make-up of our budget for bulk water supply from Greater Wellington Regional Council and exploring options around how the Wellington visitor industry might be able to contribute to the costs of some of our investments in projects that will benefit the tourism economy, as a means of reducing the impact on rates increases across the term of the LTP.

Our strategic priorities have proposed investment in projects that target these challenges. Some of these investments – particularly in the resilience priority, have renewals or upgrades to infrastructure asset. most of the investment in priority area

Table 1: Summary - our response to challenges

Challenges	Levels of service – increased demands	Cost pressures	Managing for a growing population	Making the City more resilience	Maximising our economic & cultural advantage	Getting to from and around the city	Funding improved infrastructure
Strategic priorities							
Housing	• Strategic Housing investment Plan (SHIP) • Rental warrant of fitness • Te Whare Oki Oki – supported living options for the most vulnerable • Housing upgrades		• Development Partnerships • New Housing Accord • Inner-city building Conversions • Urban Development Agency (UDA)				
Transport	• Bus planning - bus shelters, priority planning	• Storm clean-up		• Road Corridor improvements - strengthening road walls, tunnel, bridges	•	• Let's Get Welly Moving • Cycling improvements – Northern, southern eastern corridors; Island bay	
Resilience & environment	• Waste management & minimisation • Sludge reduction	• Water Reservoir renewals • Wastewater Network renewals		• Water Reservoir upgrades Wastewater Network upgrades • Earthquake and road risk Mitigation • Predator control support & community lead trapping			• Strengthen the Town Hall & St James Theatre, Wellington • Gallery & Museum upgrade
Sustainable Growth	• Kiwi Point Quarry Upgrades • Zoo habitat sustainability upgrades	• City centre weekend parking fees			• Film Museum • Convention Centre • Indoor Arena		• Airport runway
Arts & Culture	• Expanding the reach of major festival events • Invest in community arts projects						• Strengthened facilities (theatre, Town Hall, Museum) – see also resilience

Section 4. Component C - How will we get there our priorities

Our Long-term Plan priorities

We have set five priorities to make sure our decisions continue to contribute to a city that is dynamic, sustainable and connected, with people at its heart. For more information on these priorities and the key projects that will deliver on these priorities, see the long-term plan consultation document. The five priority areas are:

Housing – investing in quality and affordable housing to accommodate our growing population.

Transport – investing in good transport options to maintain easy access in and out and around our city, promoting alternatives to private car usage, and reducing congestion.

Resilience and environment – investing in core infrastructure, looking after the environment and making our city more resilient against future shocks and stresses.

Sustainable growth – investing in economic projects that stimulate growth and diversification, and plan for population growth in ways that recognises the special character of the city.

Decade of Culture – investing in arts and culture to maintain our position internationally as a vibrant, edgy capital.

These priorities guide our core activities and drive our new activities.

Section 5. Component D - Financial Strategy Settings

5.1 Overview – our financial strategy

Our Financial Strategy provides a guide against which consideration of proposals for funding and expenditure can occur

5.2 Financial Health

Wellington City is in a strong financial position

Our financial position can be measured in a number of ways but will include an assessment of income and borrowing levels. Our level of borrowings compares favourably with other metropolitan Councils whose equivalent ratios range from over 175% to around 200%. Our debt to income ratio is currently less than 100% and is expected to peak at 162% over the course of the long-term plan, this is within our limit of 175%. The Council also holds investments in Wellington Airport and a substantial ground lease portfolio that are valued at nearly our $425m level of borrowings. So the Council could theoretically sell these assets and have very little debt at all.

Highest possible credit rating

In its 2017 review of the Council's credit rating, the independent credit rating agency Standard & Poors judged Wellington City's long term issuer credit rating at AA, meaning we have a very strong capacity to meet our financial obligations and commitments. Our stand-alone credit profile is the highest of Local Government in New Zealand, and even higher than the government, but has been capped by the government level. The assessment states that the Council has 'very strong financial management and budgetary flexibility, strong budgetary performance and liquidity and low contingent liabilities' supports our view that our credit strength and institutional framework will allow higher debt burdens as we progress our strategy to invest in projects to grow the capital's economy.

5.3 Financial Policies and Assumptions

To ensure the continuation of robust and prudent financial management, the policies that underpin our Financial Strategy are based on being:

Affordable

The Council experiences significant and unrelenting demand from the community (and through legislative requirements) to increase the service offering and to increase the levels of service. It would be imprudent to attempt to do everything to meet this level of demand, as the cost of all the additional initiatives would be unaffordable when rate funding is used to pay for the majority of the additional expense. The strategy attempts to narrow the focus to areas of greatest effect after reviewing the current level of investment, outcomes and value for money. Expenditure levels are moderated and projects are prioritised to areas of most benefit. Limits are set on the key funding tools (rates and debt) to ensure expenditure and funding controls are in place.

Fair – achieving intergenerational equity

Debt is initially used to fund asset construction or purchase. This debt is repaid over the life of the asset through depreciation funding. This ensures that ratepayers only pay the cost of a service when they benefit from a service. This is an equitable approach that effectively pays for the assets as they are being used, by those who are using them.

Sustainable

Economic sustainability is based on investment priorities being included in areas that grow the economy and rating base. This enables growth of Councils rating revenue base. This growth of the capital value of rateable properties (adding new developments and rating units) reduces the cost allocation over each rating unit.

Maintaining a balanced budget

Council will maintain a balanced budget by raising sufficient income each year to fund the costs of providing services consumed by the city that year. No profit is budgeted or rated for. Note that our financial statements will show a surplus because revenue received for capital expenditure is required to be shown as income.

We will continue to fund depreciation to repay borrowings on assets that the Council will be responsible for renewing when they reach the end of their useful life. This is an important pillar of our financial strategy as it helps ensure we have sufficient financial capacity to pay for asset renewal in the future.

Managing our investments and equity securities

The Council currently maintains equity interests valued at $407m.

The primary objective of holding and managing investments and equity securities is to optimise the return on the overall investment portfolio. Investments are also held for achieving Council's strategic objectives and to provide diversity to the Council's revenue sources. For non-strategic investments, the target return for investment is to achieve an average return over time greater than Council's long-term cost of funds, currently forecast at 4.9% per year. The Council's investment policy sets out the mix of investments, strategies and other policy considerations in detail.

The Council operates on a "net debt" basis, and does not separately maintain significant long-term cash investments. The general policy with respect to surplus short-term cash is to invest any short-term surplus cash or to temporarily reduce borrowings.

Equity and financial investments are divided into 5 categories:

Cash and Cash Equivalents

- Cash is held for liquidity purposes like the pre-funding of debt maturing within 12 months, or short-term cash surplus investments.
- Income generating commercial debt instruments
  These are principally loans to other organisations (on commercial terms) to deliver a cash-flow return to the Council.
- Income generating commercial equity investments
  The Council currently maintains a 34% shareholding in Wellington International Airport Limited (WIAL).
- Income generating commercial property investments
  The Council's ground leases and land and buildings are held primarily for investment purposes. The Council periodically reviews its continued ownership of investment properties by assessing the benefits of continued ownership in reference to strategic benefit, financial return, risk and opportunity cost.

The Council does not target a financial return from its strategic investments. These are divided into two categories:

- Non income generating investments

  This includes loans to other organisations, and equity investments in Council Controlled Organisations. The Council's non-income generating investments are held for strategic or ownership reasons.

- New Zealand Local Government Funding Agency Limited

  The Council invests in shares and other financial instruments (including borrower notes) of the New Zealand Local Government Funding Agency Limited (LGFA) and may borrow to fund that investment. The Council's objective is to ensure that the LGFA has sufficient capital to remain viable, enabling it to continue as a source of debt funding for the Council. The Council may also subscribe for uncalled capital in the LGFA and be a Guarantor.

The Council's investment policy sets out the mix of investments, strategies and other policy considerations in greater detail.

Operate a policy on securities

To be able to borrow money we need to offer security to the lenders. Security is a guarantee that can be redeemed in case of default, like a house as mortgage security. Our borrowings are secured by creating a charge over our rates revenue. This security relates to any borrowing and to the performance of any associated obligations to borrowing. As a shareholder and borrower from the New Zealand Local Government Funding Agency we also use rates revenue as security over all borrowing from the agency.

Manage risk

Our insurance policy aims to achieve an adequate level of insurance with a balance of insurers from NZ and international markets. Our insurance is mainly for material damage and business interruption. Material damage covers catastrophe losses only, with an internal $10m insurance reserve fund (being increased over time) to cover excesses and day-to-day working losses. The insurance coverage includes natural disasters to a limit of liability of $563m material damage (buildings, infrastructural assets and contents) and Business Interruption combined over an asset portfolio of $5.8bn. Our earthquake cover and other natural disasters are informed by Geological and Nuclear Sciences (GNS) on potential losses caused by these events.

Maintain transparency

A key outcome of the Long-term plan and Financial and Infrastructure strategies is that they make the Council's plans simple to understand. The plans are costed, and the methods and tools for funding the plans are made clear. This enables an informed process of engagement with the community on these proposals, and their implications.

We have been able to limit the impact of depreciation and interest on proposed rates increases by reviewing the timing and delivery of our capex programme. In some cases, we have brought capex forward, such as the Omāroro reservoir project, which will improve the city's water resilience. In others, like the Indoor Arena and Movie Museum/ Convention Centre we have pushed budgets out to indicate a more realistic delivery timeline.

How we fund capital expenditure

Capital expenditure represents expenditure on property, plant and equipment. Property, plant and equipment are tangible assets that are held by the Council for use in the provision of its goods and services (for example: bridges, libraries, swimming pools), for rental to others or for administrative purposes, and may include items held for the maintenance or repair of such assets.

Capital expenditure is funded from rating for depreciation, development contributions, capital funding, and restricted funds or through new or extended borrowings as outlined below:

- If the capital expenditure relates to the replacement (renewal) of an existing asset, that expenditure will be temporarily funded by borrowings. These borrowings will be repaid by rating for depreciation over the life of the asset. Any surplus rate funded depreciation, after paying for the replacement of Council assets, will be used to repay borrowings.

- If the capital expenditure relates to the construction or purchase of a new asset or to the upgrade or increase in service potential of an existing asset, that expenditure will usually be funded from new or extended borrowings. Borrowing is the most cost-effective and equitable way to do this as it spreads the cost of the asset over all the generations who will benefit from it, making it affordable to ratepayers today.

- On projects where based on financial prudence, the Council considers it appropriate to do so, it may impose a targeted rate to repay borrowings on an asset at a faster rate than over the full life of the asset.

- The Council will use capital funding from third parties to fund investment in new or upgraded assets (e.g. funding received from NZTA).

- The funding of capital expenditure from the sale of surplus assets is decided on a case-by-case basis. Funds received from the sale of surplus assets that are not applied to the funding of capital expenditure shall be used to repay borrowings.

- The funding of capital expenditure from restricted or special funds is decided on a case-by-case basis and is subject to the specified purposes and conditions governing the use of those restricted funds.

- If an approved capital expenditure project is not completed by the end of the financial period, the unspent funds may be carried forward to the next financial period to enable the project to be completed.

- The Council has agreed that Development Contributions are to be used as the primary funding tool for capital expenditure resulting from population and employment growth for water, wastewater, stormwater, roads, and reserves. The Council will continue to collect residual RMA based Financial Contributions on developments consented prior to 2005/06. In some circumstances, funds collected under either the Development Contributions Policy or the Financial Contributions Policy in the District Plan will result in a corresponding decrease in the amount to be funded from new borrowings.

How we fund operating expenditure

Establishing the level of operating revenue required to fund operating expenditure

Operating expenditure pays for the Council's day-to-day operations and services, from collecting rubbish and providing street lighting to maintaining gardens and issuing building consents. The Council will set its projected operating revenue at a level sufficient to meet the current year's projected operating expenditure, except where the Council resolves that it is financially prudent not to do so. When setting projected operating revenue at a level that is different from the level of projected operating expenditure the Council will have regard to:

- The estimated expenses of achieving and maintaining the predicted levels of service provision set out in the LTP, including the estimated expenses associated with maintaining the service capacity and integrity of assets throughout their useful life.
- The projected revenue available to fund the estimated expenses associated with maintaining the service capacity and integrity of assets throughout their useful life.
- The equitable allocation of responsibility for funding the provision and maintenance of assets and facilities throughout their useful life.
- The funding and financial policies adopted under section 102 of the Local Government Act 2002.

In accordance with these principles, the Council has determined that the following items will not be funded:

Accounting for fair value changes. Under New Zealand International Financial Reporting Standards (NZIFRS), changes in the fair value of certain assets must be accounted for within the Statement of Financial Performance. In accordance with Section 100 of the Local Government Act 2002, the Council does not consider it financially prudent to fund changes in the fair value of assets or liabilities as these are essentially unrealised accounting adjustments.

- *Non-funding of depreciation on Council assets.* The Council may elect not to fund all or part of the depreciation expenditure on specific assets in those circumstances where it is not financially prudent to do so. In accordance with section 100 of the Local Government Act 2002, the Council considers that it is not financially prudent to fund depreciation in the following circumstances:
- Where the original asset purchase was not funded by borrowings, or the original borrowings have been repaid, and
- Where, on an ongoing basis, the replacement of the asset at the end of its useful life will be funded by a third party, or
- Where the Council has elected not to replace the asset at the end of its useful life.
- Where a third party has a contractual obligation to either maintain the service potential of the asset throughout all or part of its useful life (or to replace the asset at the end of its useful life) and the Council already effectively funds this through operating grants/tariffs payable to the third party.

Non-funding of depreciation on waterfront assets. The Council has transitioned the waterfront project 'in-house' during 2014/2015. This acquisition has necessitated a transition toward funding the depreciation of all waterfront assets by 2024/25. This transition funding will link the cost of funding to the benefits received over time.

Options available for funding Council services

- The Council uses the following mechanisms to fund operational expenditure requirements: **General rates**. General rates are used to fund public goods where it is not possible and/or practical to clearly identify customers or users. The general rate is also used to fund activities where, for reasons of fairness, equity and consideration of the wider community good it is considered that this is the most appropriate way in which to fund an activity.
- **Targeted rates**. This form of rate is used where an activity benefits an easily identifiable group of ratepayers (such as the commercial or residential sectors) and where it is appropriate that only this group be targeted to pay for some or all of a particular service. For example, sewage disposal, water supply and the downtown targeted rate.

  Fees and charges. User charges are direct charges to people and/or groups who use certain Council services such as swimming pools. In these instances, an identifiable benefit exists to clearly identifiable people and/or groups and they are required to pay for all or part of the cost of using that service. It is noted that since 2006 Councils have been required to inflation adjust all income and expenditure within their LTP. Where appropriate and with consideration to 'ability to pay' principals, user charges will be increased by the rate of inflation to achieve continued alignment with the proposed funding policy targets. Grants and subsidies apply to some activities when income from external agencies is received to support that particular activity.
- **Borrowings**. In general Council does not fund operating expenditure by borrowing. The exception is to fund the impacts on ratepayer's intergenerational equity or to fund expenditure over the period which benefits are received, such as weathertightness payments. Any borrowings associated with these expenses will be repaid over time.
- **Other sources of funding**. The Council also funds operating expenditure from other sources, including income from interest and dividends from investments held by the Council, lease income and proceeds from asset sales. Other sources of funding include:

  Use of surpluses from previous financial periods.

Where the Council has recorded an actual surplus in one financial period, it may pass this benefit on to ratepayers in a subsequent financial period. A surplus arises from the recognition of additional income or through savings in expenditure. Council considers that passing this benefit on to ratepayers in future financial periods improves the principle of intergenerational equity, in that any financial benefit is passed on to those ratepayers who shared the rates-funding burden in the financial period that the surplus was generated.

The amount of any surplus carried forward from previous financial periods will be accounted for as an operating deficit in the year the benefit is passed on to ratepayers. A surplus will be available for use in future financial periods if the actual surplus/ (deficit) is improved when compared to the budgeted surplus/ (deficit). In calculating the level of surplus to be carried forward, consideration will be given to the nature of the factors giving rise to the surplus (for example, whether they are cash or non-cash in nature). Generally, only those factors that are cash in nature will be available for use in determining the level of surplus to be carried forward.

The Council will not carry forward surpluses in relation to:

- The sale of assets. Such surpluses shall be used for repayment of borrowings.
- Trust and bequest revenue. Such surpluses shall be applied in accordance with the terms on which they are provided.
- Revenue received for capital purposes. Such surpluses shall be retained to fund the associated capital expenditure.
- Unrealised gains arising from fair value adjustments to assets and liabilities. These gains are unrealised accounting adjustments in the period in which they are recognised.

5.4 Uncertainty and risk

Every three years we are required to revalue our assets. Because revaluation is based on what it would cost to replace the asset in its current state, a buoyant construction market, with high inflationary pressures pushes up asset values. This in turn increases depreciation, which is funded through rates. There is a risk that higher inflation might push up amount of depreciation required to be funded by rates in the later years of the plan. Our Plan carefully balances the provision of funding to renew existing assets with funding to pay for new or improved assets that increase service levels. Overall, our asset management plans show that our existing city infrastructure is in reasonable shape which means over the next 10 years we have the financial capacity to fund some crucial service level increases that improve the city's resilience. Beyond the 10 years of the 2018-2028 LTP, we will likely have to review our 175% debt to income policy limit as asset renewal requirements increase. The most significant impact is out beyond 30 years, when our ageing underground infrastructure will need to be renewed.

Section 6. Component E - Maintaining and improving infrastructure

This section forms part of the 30 year infrastructure strategy however, the significant expenditure on capital upgrades to respond to growth and level of service demand that are planned occur in the first ten years. Years 11-30 are mainly concerned with capital expenditure on asset replacements (renewals) and their profile, which is reflected in detail in section 8 across the key infrastructure network assets.

6.1 Summary of key strategies & likely asset management scenario

The following table summarises the most likely scenario that the Council expects to adopt in managing it asset portfolio over the next 30 Years. The table also summarises the key aims of our asset management programme and the main supporting strategies. The key inputs to infrastructure decisions come from our Asset Management Plans (AMPS).

30 year infrastructure Strategy ***Likely asset management scenario:*** *Focus investment in Priority areas for years 1-10 & Asset Management Plans programmes years 11-30*	
Key aims	**Key strategies**
• Priority infrastructure investments achieve approved increased levels of service • Maintenance and renewal programmes are optimally set • maximise benefits from any under-utilised assets • increase our understanding of seismic risks climate change on our infrastructure • Improve resilience in network infrastructure • core essential services are delivered to agreed standards	• Manage asset renewals to address the deterioration of assets in line with Asset Management Plans (AMPS) risks
	• Continuously improve our assets data and systems
	• Unless otherwise stated in our AMPS all levels of service remain unchanged
	• coordinate infrastructure decisions are across the Council, subsidiaries, other agencies and local councils within the region
	• Continuously improve our AMPS to reflect increased knowledge of seismic risks
	• Prioritise funding to the areas where there are specific renewal challenges to overcome • Plan for changes in population and demand

6.2 Context

Collectively the Council has over $6.9 billion invested in physical assets ($3.72billion excluding land)– everything from waste, roads and footpaths (network infrastructure) through to libraries, pools and social housing (social infrastructure). Our infrastructure strategy consists of two key strands:

- investment to maintain and renew our existing infrastructure
- investment in new and upgraded infrastructure in response to growth and meet demand for increased service levels

Our infrastructure programme is linked to our strategic priority areas where we have a number infrastructure projects (particularly resilience related projects) where we propose to invest in core infrastructure and make our city more resilient against future shocks. Other infrastructure related projects in strategic priority areas include Housing and Transport. (See Table 1: Summary - our response to challenges page 12 for further details)

In areas we have not specified a specific service level improvement or growth response we plan to maintain current network infrastructure at existing levels of service. This involves replacing assets in the network as the old ones become redundant (unfit for their purpose).

The replacement of assets (components within the network) depends on a number of factors. Things like condition, utilisation, capacity and criticality help determine when to replace individual assets. Therefore, the replacement rate is not a constant amount each year but fluctuates based on the need to replace at the end of their useful lives, which is the most cost effective approach.

We have been improving the quality of our asset data to help us make better decisions on when to replace assets, to become more cost effective.

We are also in the process of implementing a new system to better convert the improved data into information for decision-making. This is referred to as Strategic Asset Management. This enables us to have better confidence in our asset replacement programme (Renewal profile). Greater confidence in the renewal profile, in turn, enables us to better forecast the timing and cost of asset replacements. We currently have in place 30 year asset management plans for our Three Waters and Transport assets. Once established this will provide us with similar clarity across our social infrastructure providing a greater level of accuracy in determining and managing our replacement cycles and ensuring sustainable asset management across generations.

6.3 How we manage our assets

Our approach to managing our infrastructure asset portfolio is guided by the following principles:

Principle	Descriptions
Fit for purpose	*What:* Provide quality infrastructure that can deliver services in a manner that meets the community expectations now and into the future *How:* we will maintain and renew infrastructure and facilities against best practice.
Asset utilisation	Improve our understanding of the capacity and utilisation of our assets. Where assets are under-utilised, we will develop strategies to increase utilisation to maximise benefits derived from our investment. This will be done by utilising technology like hydraulic modelling of the waters networks.
Long-term view	*What:* We will consider the long-term implications of investment in infrastructure and make sure the level of contribution from each generation is set at a fair and reasonable level. *How:* Continually scrutinise our asset performance with an eye on service outcomes and investment value, with a distinct focus on whole-of-life costs and long-term affordability.
Improved knowledge and	*What:* Continually increase the level of understanding of our assets to ensure maintenance and renewal programmes are optimally set.

data	How: Quality information and data will enable us to accurately link the relationships between costs, benefits and risks.
Coordinated approach	*How:* Ensure infrastructure decisions are coordinated across the Council, its subsidiaries, other agencies and local councils within the region.
Resilient	*What:* Ensure our infrastructure can deal with significant disruption of natural hazards. We have a good understanding of seismic risk to Council assets from earthquakes. We will continue to utilise technological advances like accelerometers, to both measure the impact of events on our infrastructure and to increase the resilience of assets, using more ductile materials, as we renew and add. We will increase our understanding of climate change on our infrastructure networks to improve management of our assets and guide future infrastructure investment.
Managed risk	*What:* Maintain an insurable risk management strategy to appropriately manage the physical and financial impacts of potential damage to our infrastructure. Improve resilience across the network infrastructure. *How:* Comply with all national standards that apply to infrastructure and service provision.

We structure our operations into eight strategy areas. In these areas, there is responsibility for managing particular assets. (Each year in our Annual Report, we report our overall performance in these strategy areas).

Strategy area	Asset management plans
1. Governance	Corporate property
2. Environment	Water supply, wastewater, stormwater (incl. flood protection), southern landfill, and parks and open spaces
3. Economic development	Venues
4. Cultural wellbeing	Corporate property
5. Social & recreation	City housing, libraries, community services, pools and recreation, cemeteries and crematorium, public toilets and pavilions, and outdoor sports facilities
6. Urban development	Corporate property and waterfront
7. Transport	Transport (incl. roads, footpaths & cycling)
8. Corporate	Corporate property

We have continued our substantial data collection programme across all core infrastructure assets (Transport, 3 Waters). This information has been used to determine asset value, asset life and the forecast renewal programmes which are captured in the expenditure graphs on the following pages. Our forecasting assumptions are based on deterministic modelling on available information on asset quantity, condition, life, value to inform our depreciation and renewal programme *(based on previous strategy).*

We have maintained a prudent approach in continuing to fund depreciation where it is anticipated that Council will be responsible for renewing the asset in future. We have also mitigated the risk that if there is a need for renewal expenditure above that determined by our models, to respond to urgent or emergency situations. We have achieved this by maintaining 13% capacity within our debt to income ratio threshold, whereby our forecast maximum ratio through the duration of the 2018-2028 LTP is 162% and our limit is 175%. This equates to approximately $140m of borrowing capacity in 2028. This is in addition to the insurance cover we have on our assets and available government assistance. We also maintain bank standby facilities in excess of this amount to ensure the Council as sufficient liquidity if this situation were to arise.

Lifecycle Management

The life cycle management approach, guided by our asset management plans, covers the full life of our assets. It defines the monitoring, operations and maintenance of our assets, as well as renewal and upgrade of assets at the end of their useful lives. The objective is to strike the right balance between maintaining ageing assets and renewing or replacing those assets, to achieve the lowest long-term cost.

Asset data

Good quality asset management relies on good quality asset knowledge. It is important that asset managers can analyse how particular assets perform, understand the lifecycle costs and the risks associated with failure. Uncertainty about data for an asset can impact on financial sustainability. Data confidence gives us the ability to quantify the relationship between any given levels of service (benefit), its associated funding requirements (cost).

Renewals cycle

Renewals address deterioration of assets, toward the end of their useful life. Prioritisation for renewals is established using a risk-based approach. In general terms, assets are maintained and rehabilitated until they reach the end of their useful life. Assumptions about an asset's useful life are made upon construction and consequently updated periodically based on:

- Age and condition profile;
- Performance and customer service issues;
- Growth and changing demands;
- Criticality and risk
- Ongoing maintenance requirements, and
- The differing economic lives of individual assets.

The Council uses updated condition and performance assessment data with relevant asset life expectancy rates to forecast an asset's likely end of life.

Asset criticality

Asset criticality is a fundamental driver of the renewal cycle of an asset. It determines whether an asset can continue being used until signs of failure are present or if the asset must be renewed before failure can occur. Put simply, the criticality of an asset is a measure of the consequence of the assets failure to deliver its expected level of service.

For non-critical assets, where failure has a minimal impact on the level of service, the asset can be allowed to fail before renewal is required. Whereas, for critical assets, renewal of the asset will be carried out prior to the end of its useful life, in order to avoid its failure. As a result critical assets must be assessed regularly and their useful lives updated based on current state, in order to reduce the risk of failure.

Detail on the criticality of each of our assets can be found within individual asset management plans. Criticality is assessed based on the risk and impact of asset failure. It takes into account issues like health safety, the number of customer impacted and the environment. This is important to enable targeting investment and renewal timing of highly critical assets.

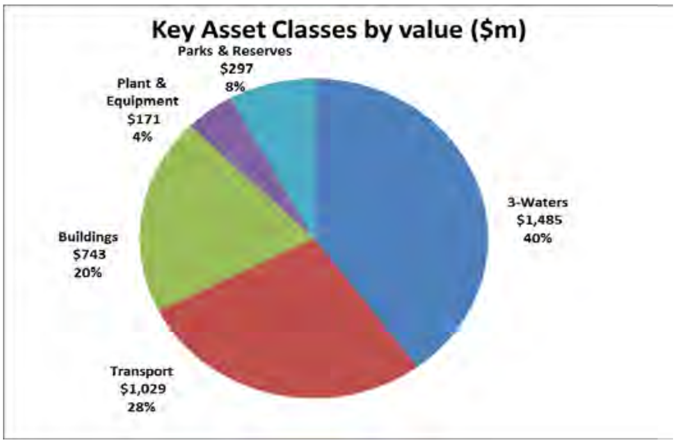
Lifecycle management risks

There are risks associated with our lifecycle management approach. The asset management plans assess the risks, management and mitigation measures associated with specific assets.

The condition of assets must be managed effectively for the assets to continue delivering services. Long-term deferring of asset maintenance and renewals can lead to more breakdowns and service disruption, substandard services, and, in the end, failure of services.

6.4 The State of assets

The following graphs detail our main assets classes by proportion and value



According to the best information we have, our assets are well maintained and in reasonable condition. However, as noted in section 3, we have some challenges around accommodating the forecast growth and ensuring our assets are resilient to earthquakes and storms. Further details of these are discussed in section 8.

	Value $000s ODRC	Condition	Performance	Data confidence	AM Maturity
Transport	$1,029m	3 -Maintenance Required	2 –Good minor shortcomings	B-Reliable	Intermediate
Water	$377m	2- Minor defects only	2- Good	B–Reliable	Intermediate
Stormwater	$419m	3- maintenance required	3 Moderate	B-Reliable	Intermediate
Wastewater	$689m	4- Assets require renewal/ upgrade	3 Moderate	B-Reliable	Intermediate
Parks, Sport and Recreation	$187m	2- Minor defects only	2- Good	B-Reliable/ C -uncertain	Core
Waste Operations	$84m	3 -Maintenance required	2 - Good minor shortcomings	B-Reliable / C -uncertain	Basic
City Housing*	$369m	3 -Maintenance required	3 Moderate	B-Reliable	Basic
Corporate property **	$553m	3 -Maintenance required	2- Good	B-Reliable / C -uncertain	Core
Community centres, halls & childcare facilities	$1m	3 -Maintenance required	3 Moderate	B-Reliable / C -uncertain	Basic
Libraries	$17m	2 - Minor Defects Only	2 -Good minor shortcomings	B–Reliable	Basic

*This reflects average condition score for the social housing portfolio. Some housing units will require upgrading /renewing.
**Corporate property excludes the Civic Administration Building, which was damaged in the November 2016 earthquake and is subject to a claim with insurers.

The scale and measures in the above table have been taken from the international infrastructure asset management manual (2015):

Scale	Condition	Performance	Data confidence	A.M Maturity
High	1 Very Good	1 Very Good	A-Highly reliable	Advanced
	2 Good	2 Good	B -Reliable	Intermediate
	3 Fair	3 Moderate		Core
	4 Poor	4 Poor	C-Uncertain	Basic
Low	5 Very Poor	5 Very poor	D-Very uncertain	Aware

6.5 Levels of Service

Service levels for the Council's assets are agreed through the development of the long-term plan, as informed by asset management plans for each group of assets. Asset management plans set the maintenance, renewal and upgrade programmes for our assets. These plans detail the levels of service from a technical and operational perspective. They link levels of service to performance measures that will inform how well we are delivering against these stated levels of service.

Proposed programmes of improvements have been identified as part of our Plan. The proposed improvements align to the five priority areas of housing, transport, resilience and environment, sustainable growth, and arts and culture. Some of the projects within these priority areas provide an increase to the level of some services. Unless otherwise stated in our asset management plans, all other levels of service remain unchanged.

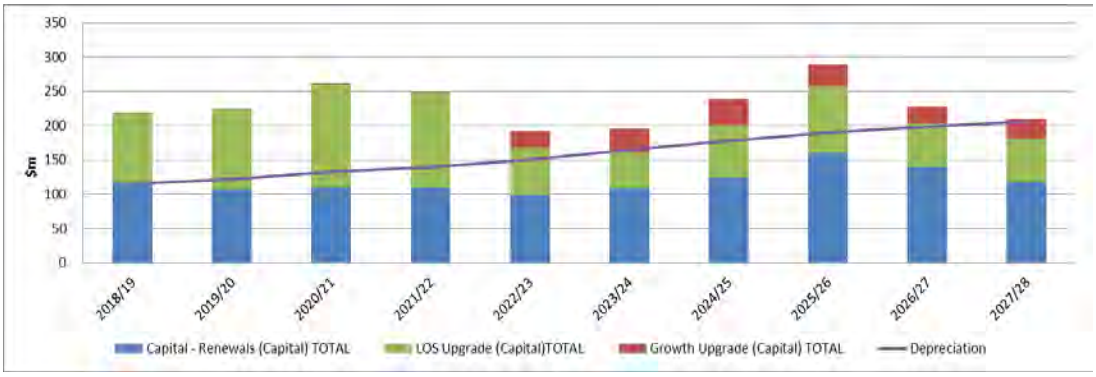
In reviewing levels of service, through development of the asset management plans, the Council has considered changes in demand based on predicted growth, within the context of expected economic and urban growth. Through the first 10 years of the strategy (the 2018-28 LTP period), we expect to meet the required levels of service, meet community expectations, regulation, and provide well maintained, fit for purpose assets.

6.6 Investment snapshot –balancing renewals, service level improvements and response to growth

Projected capital expenditure

Over the period of the 2018-28 Long-term Plan, the Council proposes to invest a total of $2.31 billion of capital expenditure, including $1.2 billion for core transport and three waters infrastructure... Approximately $1.2 billion of the total investment is proposed renewing existing assets, $928 million improving service levels and $186 million responding to the growth needs of the city.

2018-2028 Projected Total Capital Expenditure

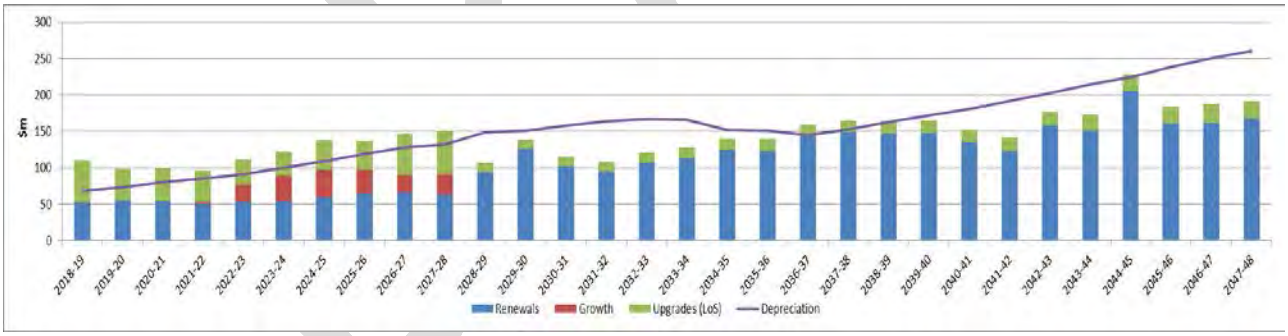


Over the period of the plan, the amount we provision for depreciation is expected to grow significantly. This is mainly because we are planning significant investment in new assets. We have budgeted for ratepayers and users of our assets to continue to fund depreciation on assets that the Council has initially funded through borrowings. We see this as the fairest way to spread the cost of the asset across those who use an asset over its life. Exactly who pays for each asset/ service is set out in our Revenue and Financing Policy.

2018-2048 Projected Core Infrastructure Capital Expenditure

The capital expenditure on core infrastructure (3 waters and Transport) is focused on the renewal programme to maintain the level of service of from the network of assets. The investment programme in new assets is more certain in the first 10 years of the plan in response to current challenges as detailed below. Over the 30 years covered by this strategy we plan to invest a total $4.3 billion on core transport and three waters infrastructure, incorporating $3.3 billion for renewing assets and $981 million upgrading and improving and service levels.

2018 – 2048 Projected Core Infrastructure Capital Expenditure



The graph illustrates the relationship between anticipated renewal and upgrade requirements and depreciation over the 30 years of our infrastructure strategy.

In years 11-30 there is increased expenditure on renewing three waters and transport infrastructure assets. This is because there is a higher proportion of the existing infrastructure is forecast to be getting to the end of its useful life.

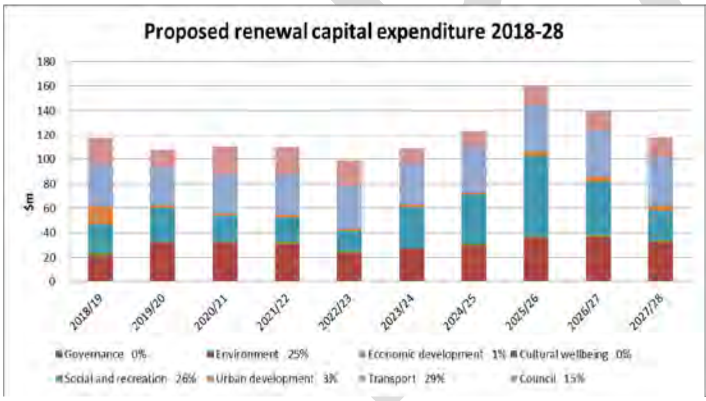
There are some annual spikes in capital expenditure renewals for three waters infrastructure across years 11 to 30 as specific network components are renewed, but overall capital expenditure is relatively in line with the cost of depreciation over years 11 to 30 for three wasters assets, with both increasing gradually as the cost of replacement increases.

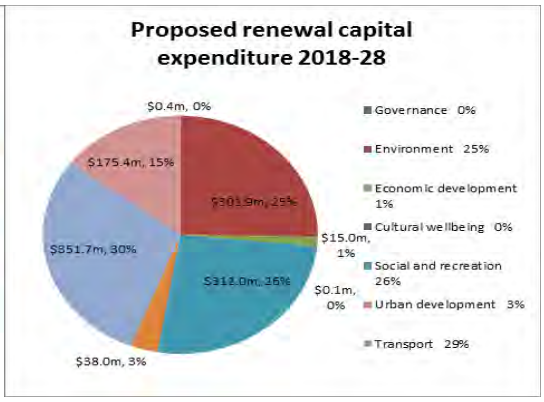
Depreciation costs for transport assets are increasing in years 11-15 because of increased capital investment in Let's Get Wellington Moving (LGWM) and cycleways. At this stage, we do not know what specific type of assets (e.g. road surfaces or earthworks) Council will be investing in as part of the LGWM programme, but we have initially assumed a depreciation funding with an average life of 10 years. As yet we do not know what the subsequent asset renewal requirements will be, so have assumed we will replace 50% of these assets after 10 and a further 25% after 20 year, with 25% not renewed within the 30 years of our current strategy. Accordingly, depreciation expense may be lower than shown in the graph above after 2030. This will be modified in future Infrastructure strategies once the capital expenditure requirements of LGWM programme are confirmed.

In most years, depreciation is above the level of renewals, because our long-life assets are expected to continue to meet service level requirements with modest renewal expenditure over the term covered by this strategy. We are not forecasting any major renewals expenditure on any individually significant asset. This provides some financial flexibility to invest in upgrades to level of service particularly in the first 10 years covered by this strategy. In years 11 to 20 depreciation funding exceeds renewals due to extra depreciation from new assets built in the first ten years, including indicative investment in the Lets Get Wellington Moving project. Assumptions made on both asset life and renewal requirements for this project will be reviewed once we have more certainty over the physical works the Council will be funding.

Our response to asset renewal requirements

The renewal of assets is heavily guided by our asset management plans. Over the period of 2018-2028 Long-term Plan we propose to invest $1.2 billion renewing our assets, of which $574 million is for core three waters and transport infrastructure. These account for 25% and 29% of total renewals. Over the 30 years covered by this infrastructure strategy we propose to spend a total of $3.3 billion renewing this core infrastructure. This renewal expenditure is spread across the various assets in similar proportions to their overall value. The main exception to this is the housing upgrade programme, which is forecast to increases in the 2nd five years of our plan with stage two of our social housing renewal programme and peaks in year 8 with $42m.





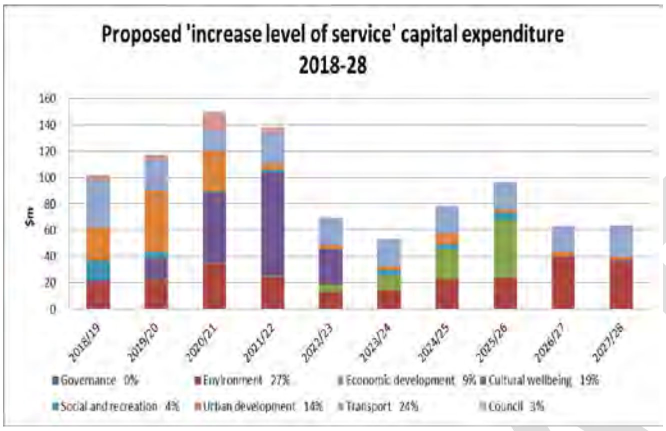
Our response to demands for improved service levels

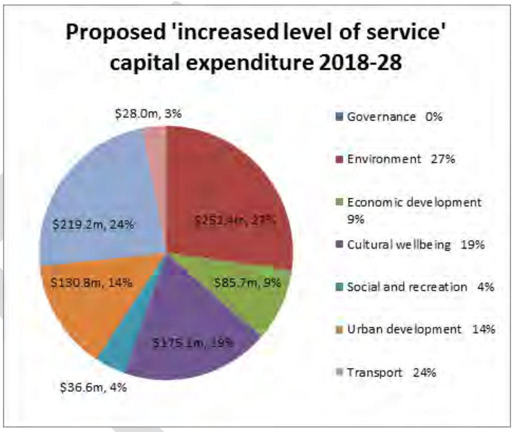
The challenges identified earlier in this document and highlighted in the Councils Long Term Plan consultation document signal demand for investment to improve the level of service in a number of strategy areas. We propose to invest $928 million over the next 10 years on improving levels of service in the city. Of this $453 million is proposed to be invested in improving core transport and three waters infrastructure. We propose to invest a total of $798m of capital expenditure in core infrastructure over the 30 years of this strategy.

Significant investment in 2018-2028 our Long-term Plan is proposed in:

Environment	$118.5m for upgrading water reservoirs over 10 years	Improved level of service – once new and upgraded reservoirs are built, it is expected that the volume of water storage will increase, including providing emergency water supply for 50 days.
	$56.6m for stormwater improvements	Improved level of service – stormwater infrastructure improvements in Miramar (years 5-7) Kilbirnie (year 1) and Tawa (in years 7-9) and a range of upgrades when we renew pipes across the city will reduce the frequency and severity of floods.
	$34m in years 9 & 10 for an initiative to deal with sewage sludge	Maintain level of service – with the predicted increase in population and the limitations of our current consent, our landfill will not be able to deal with the level of sewage sludge in 10 years. Alternative means of dealing with this sludge is required to maintain the level of service.
	$343m for upgrades to three waters infrastructure in years 11-30. This will be carried out in conjunction with asset renewals.	Increase level of service to improve resilience of the water, stormwater and wastewater pipe network, and increased capacity to respond to infill housing in the city.
Economic Development / Culture	$165 million for the Movie Museum and Convention Centre in years 2-5 (of the $165 million, $25 million of funding support has been requested from central government), and $85 million for an indoor arena in years 5-8. In addition, a $10 million Wellington Museum building upgrade in years 3 and 4.	Improved service level to attract visitors to the city, boost economic growth and raise Wellington's profile as an arts and culture capital.
Social & recreation	$17m to complete the new Johnsonville library and community hub (Years 1 & 2)	Improved level of service – the new library and community hub will provide an enhanced community facility in Johnsonville. It will provide greater capacity and enhanced opportunities for education, community events, and knowledge sharing.
Urban Development	Wellington Town Hall ($88.7m in years 1-3), St James Theatre ($11.5m in year 1)	Improved level of service – allowing public access to be reinstated, a music hub to be established in the Town Hall and continued use of St.James theatre.
Transport	Lets Get Wellington Moving programme (years 5 - 10). Note $122 million is incorporated within the "Responding to Growth" section of this plan. It is recognised that this initiative has both growth and improved service level outcomes.	Improved level of service – the new level of service will depend on which package of options is progressed; this will be confirmed later in 2018. The programme is seeking to provide a transport system that: • Enhances liveability of the central city • Provides more efficient and reliable access • Reduced reliance on private vehicle travel • Improves safety for everyone • Is adaptable to disruptions and future uncertainty
	• $73m to improve the cycleway network ($32m in year 1 and 2, and $5m per year across years 3-10)	Improved level of service – Council has developed a plan for active transport infrastructure which, at proposed level of funding, will be completed in 20 years. The level of service for those using the active transport infrastructure will improve, as the programme is progressed. The improved level of service will see: • Safe connections between suburbs and the central city • Safe spaces for people on bikes, that are separated if the traffic speeds and volumes are high – in line with NZTA guidelines • Good signage to facilitate wayfinding for people on bikes • Good lighting to facilitate cycling at night

		• Safe clean and comfortable riding surfaces
	$36m for bus priority improvements (across years 1- 10)	Improved level of service – bus priority routes will facilitate the stated outcomes of the Let's Get Wellington Moving and the routes for bus priority improvements will be confirmed later in 2018.
	$36m for retaining walls and structures to strengthen our roadways (across years 1- 10)	Maintain level of service – with the increase in frequency and severity of severe storms, additional funding is required to ensure we maintain the level of service provided by our retaining structures and roads.
	$12m allocated to improve the resilience of the Ngaio Gorge roadway (years 1 – 3)	Maintain level of service – with the increase in frequency and severity of severe storms, additional funding is required to ensure we maintain the level of service provided by our retaining structures and roads.





Our response to population growth

Wellington's population is currently growing at around 2.0% per annum, which is double the 10 year average. We expect growth to continue over the next 10 years but scale back towards historical rates. It is expected that Wellington will have a population of 250,000 to 280,000 by 2043. Demographically, Wellington has a relatively young population compared to other New Zealand cities, with only 6.2% over the age of 70. We are expecting a slow increase of around 0.3% per year over the 30 years covered by this strategy and do not think we need specific strategies to address this change.

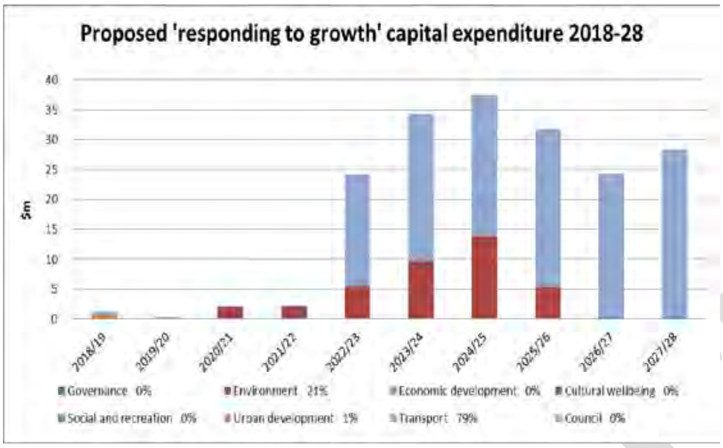
Over 40% of the city's growth is expected to be accommodated in the central city. As the city's population increases, the commercial sector will also expand. We expect an additional 28,000 people to work in the city by 2047.

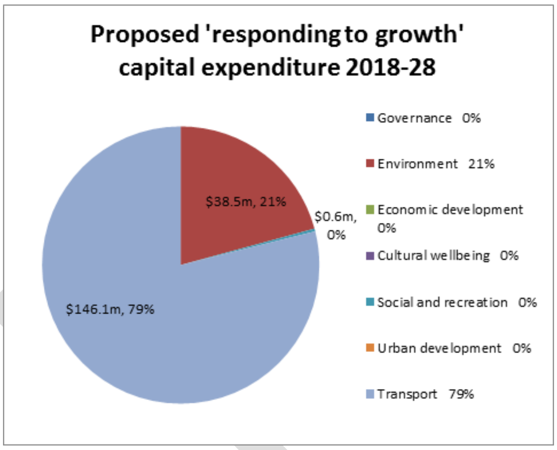
We will cater for much of our inner city growth in conjunction with renewal and level of service upgrades and operationally through the review of our District Plan. As a result the expenditure categorised as 'responding to growth' primarily relates to the Lets Get Wellington Moving programme (which responds to growth and demand for improved level of service and other growth areas – such as the 'greenfields' area, which is bare land to the north of the city being developed and requiring all services to the new subdivided properties. It includes:

- $25m for new water reservoirs in Howokiwi and Stebbings
- $10m for waters infrastructure in Miramar
- $1.5m for Public space development in Newlands.
- $122m for Let's Get Wellington Moving
- $23.3m for new roads in the northern suburbs

As current planning assumes that the majority of growth will occur within existing urban areas, we propose to cater for growth in the later years (11-30) covered by this infrastructure strategy as we renew our assets.

The capital expenditure on asset growth for the proposed plan is $186 million over 10 years, of which $183 million is for core water and transport infrastructure. In the latter years (11-30) covered by this infrastructure strategy current planning assumes growth will occur within existing urban areas. We propose to cater for growth as we renew our assets.

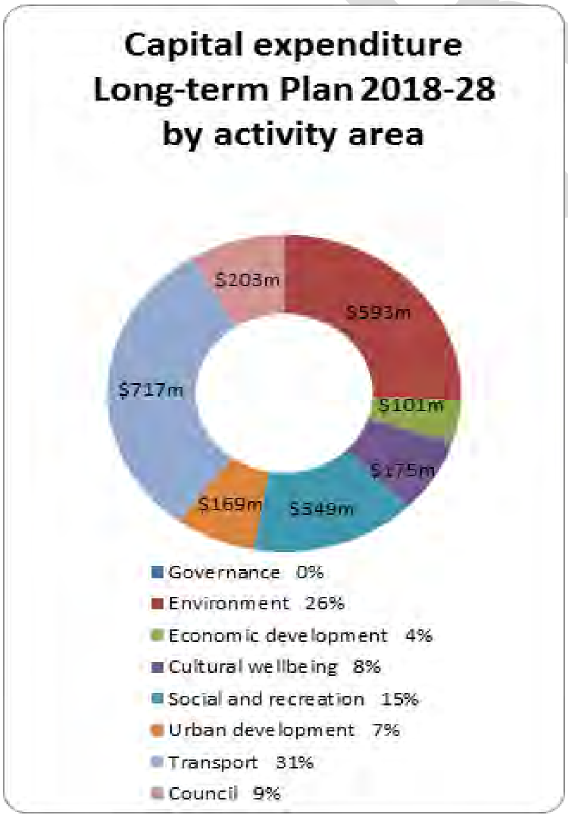




6.7 Investment in our key strategic areas

The previous section illustrated our planned balance of investment between renewal and responding to demand for increased level of service and population. Below we consider that investment by key strategic area.

Over half of our capital expenditure is proposed to be invested into Environment (which incorporates, water, waste water and storm water) and Transport strategic areas.

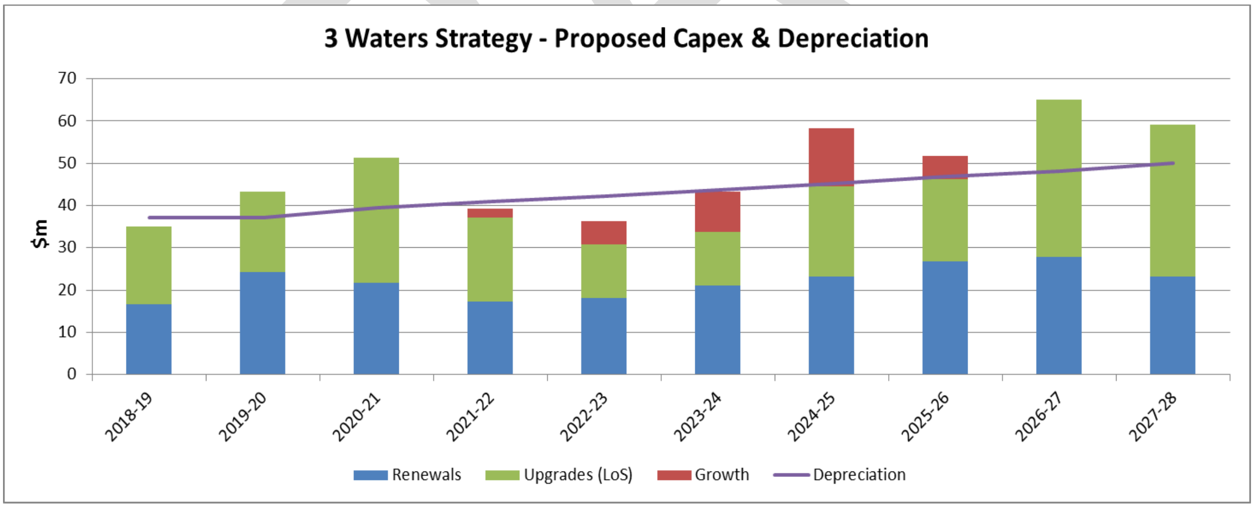


Investment in three waters

Community demand for safe, reliable infrastructure has increased because of the November 2016 earthquakes and remains high with Wellington's current earthquake risk, recent storms, commuter transport congestion, and experience of failures in the railway network.

Resilience to natural disasters is a top priority for the Council due to community demand, which has heightened awareness because of the November 2016 earthquake. Better resilience means the network infrastructure is more reliable and the city can bounce back faster following significant natural events. Investment is planned to strengthen Council owned buildings, like the town hall ($87m) and St James' theatre ($17.5m). Also new infrastructure is planned to be built to:

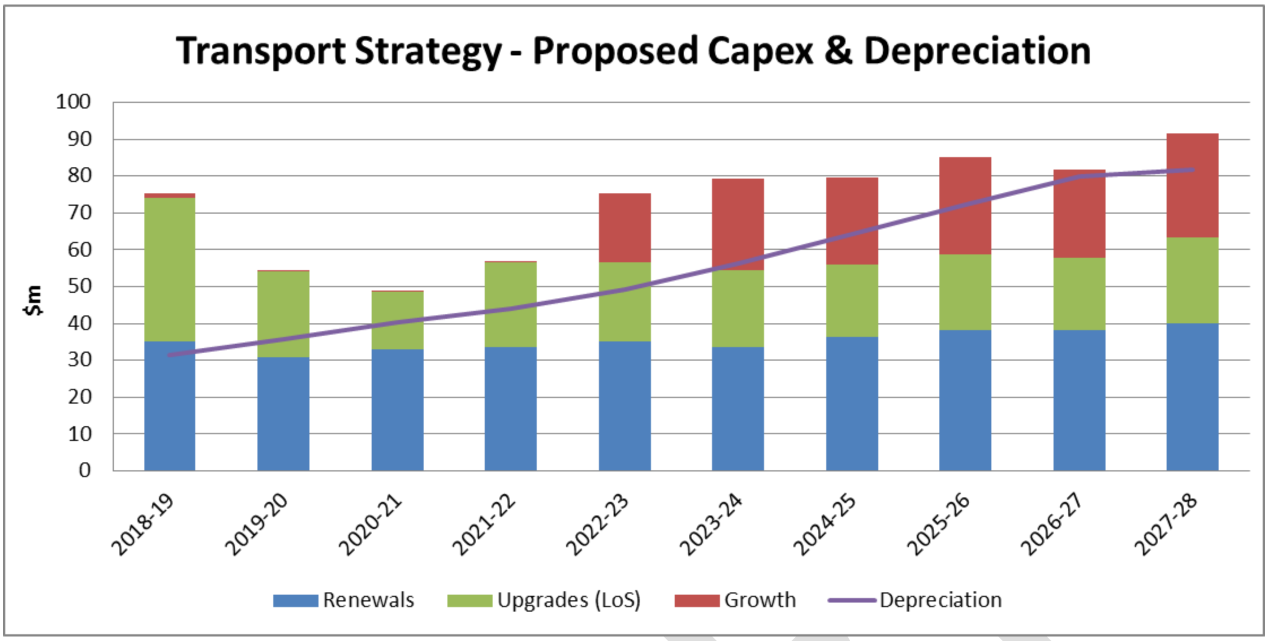
- increase water storage and therefore water supply to the central city following a natural disaster event. Two key reservoirs are the new Omaroro reservoir and the upgraded replacement reservoir in Bell Rd at a cost of $58.5m – both in the Prince of Wales Park in Mt Cook, which will significantly increase stored water volumes for the CBD and the Wellington Regional Hospital.
- Invest $53m in increasing the capacity and management of the stormwater network, particularly in areas that are currently incurring more frequent flooding events due to increased storm frequency and severity. This includes targeted projects on the Miramar peninsula and Tawa as well as general upgrades to improve drainage across the city
- These increases in levels of service have a significant impact on debt levels and therefore flow on impacts on operational costs and rates funding.



A significant amount of new assets will be added to the waters networks for resilience, and to cater for population growth. This will impact on the level of depreciation required to be funded. This operating cost will increase from $37 to $50m over the ten years of the plan.

Investment in transport

There is $227m of investment planned to increase the utilisation and the capacity of transport across and throughout the city. This investment focuses on changing transport modes, with mechanisms to assist greater utilisation of more effective public transport (provided by the regional council), and a $73m investment in the provision of new cycle ways. In the latter half of the 10 year plan there is $122m provided for the project alliance between WCC, the New Zealand Transport Agency & the Greater Wellington Regional Council - 'Let's Get Wellington Moving'.



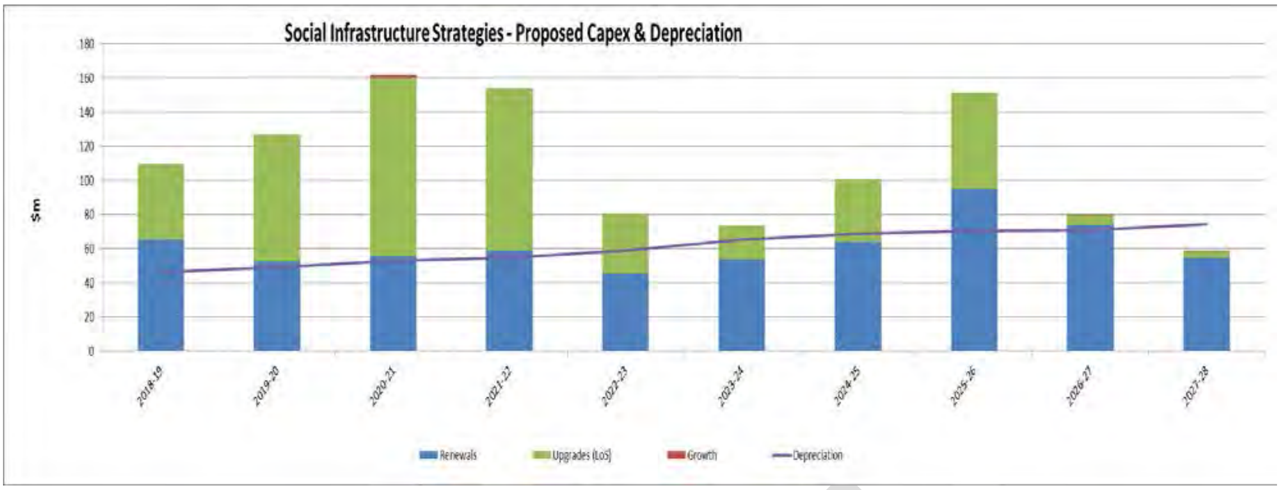
The impact of this significant proposed investment programme is that the level of depreciation significantly increases to over $80m from $31m due to the extra value of the assets added to increase service levels. This will provide for the replacement of the new assets when they come to the end of their useful lives.

Investment in social infrastructure (all other assets not in 3 waters & transport)

Wellington is currently experiencing a reasonable level of population growth of 2% per annum, which is well above the long-term average of 0.7% per annum. As a result, up to 280,000 people are expected to call Wellington home by 2043. This requires new and greater capacity infrastructure to enable new developments to house and support this level of population.

There is a big push in this plan to build community infrastructure assets to support this growth and meet demands for increased levels of service with planned spending of $468 million. There is also a focus on city planning in the next 3 years focusing on how to facilitate this level of population growth and intensification. This will be through mechanisms of a review of the district plan settings, and spatial planning including modelling of needs and impact assessments. This will better inform the decisions of requirements in the future.

We also plan to spend $620 million renewing social infrastructure assets over the next 10 years.



Note: For the purposes of the above graph social & infrastructure strategies, refer to all non-water and transport capital expenditure.

Section 7. Impact on borrowings and rates

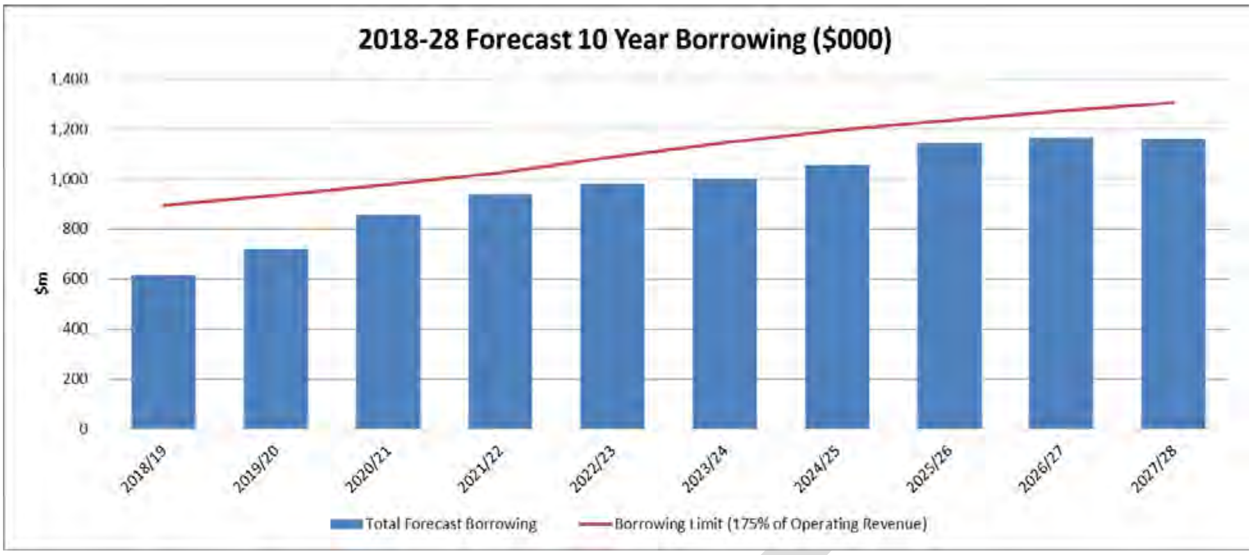
Borrowing

Our debt position is conservative. We have far less debt (measured as debt to income) than most metropolitan local authorities. Our debt levels range from 121 percent to 162 percent of our annual income, which is below our limit of 175 percent. Our starting borrowing position of $507 million equates to $2,394 per person in Wellington. This borrowing position will move to $1.16 billion by year 10 and will equate to $5,477 per person in Wellington.

This draft plan includes increases in rates and a significant increase in borrowing over the first 10 years of our 30 year infrastructure strategy. The key cost drivers for our increased borrowing is the significant upgrade programme for transport, resilience and economic growth programmes

Our strong financial position means we can afford the projects outlined in this plan. Our approach is to keep borrowing levels within the 175 percent debt-to-income limit set out in our Financial Strategy.

We have achieved this by maintaining 13% capacity within our debt to income ratio threshold, whereby our forecast maximum ratio through the duration of the 2018-2028 LTP is 162% and our limit is 175%. This equates to approximately $140m of borrowing capacity in 2028. This provides further capacity to borrow in the event of a natural disaster. This is in addition to the insurance cover we have on our assets and available government assistance. We also maintain bank standby facilities in excess of this amount to ensure the Council has sufficient liquidity if this situation were to arise. Based on current asset upgrade, renewal and depreciation funding assumptions for our core infrastructure, we will reduce borrowing by approximately $340 million over the 30 years of this strategy. This will occur as the forecast revenue received from funding of depreciation is in excess of the capital expenditure (renewals and upgrades).We will therefore maintain sufficient capacity to remain within our 175% debt to income ratio limit. Should demand for additional asset investment occur in subsequent plans, we expect the Council will have capacity to accommodate these within the limit. There is also sufficient balance sheet strength to amend the debt: income ratio limit to at least 200% without affecting the credit rating. This level is still well below the allowance of up to 250% specified in our covenant with the Local Government Funding Agency (LGFA).



This strategy ensures we retain financial capacity throughout the 10-year period. The first three years of the plan is detailed and reflects a work programme that is deliverable within the timeframe. A rolling three-year forecast provides flexibility for the Council to respond to unanticipated changes, new opportunities and to accommodate projects we know will require funding, such as the 'Let's Get Welly Moving' project, but the level is not yet decided.

Investments

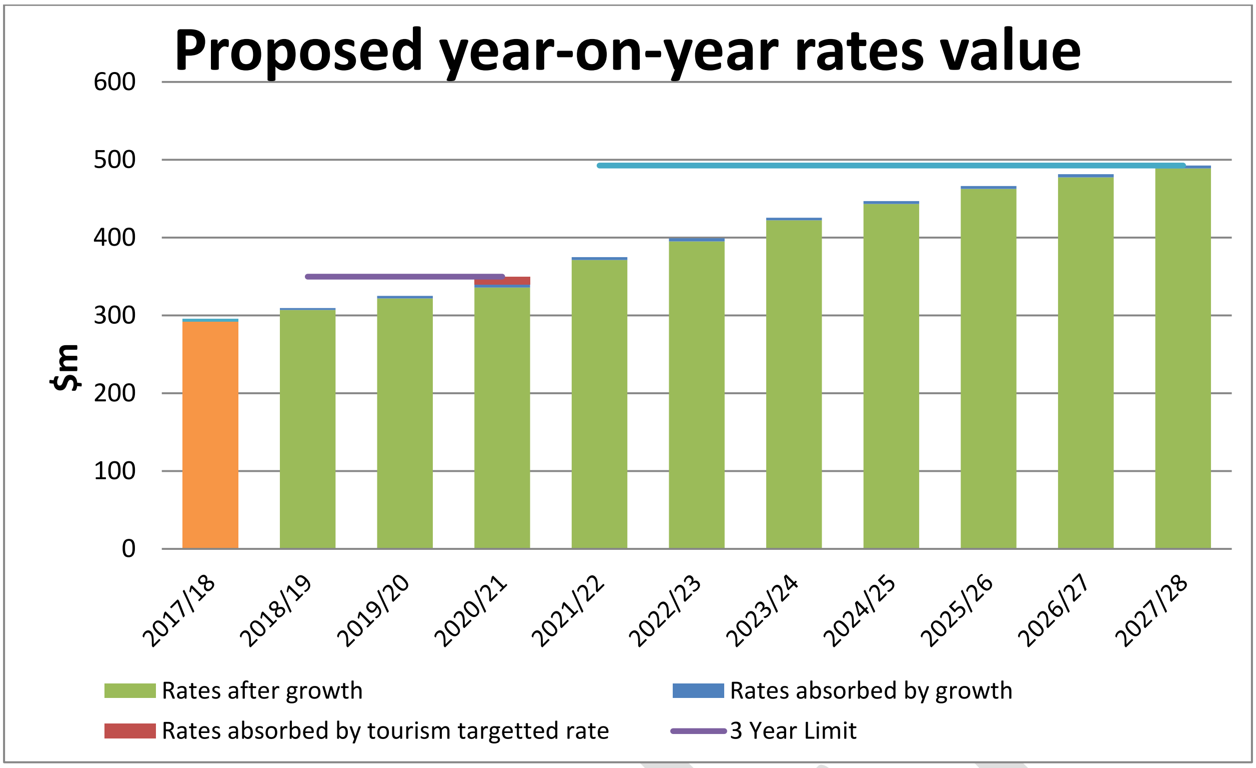
The Council holds equity investments to the value of $407m. The two most significant holdings are a 34% shareholding in the Wellington International Airport Limited and a wholly owned portfolio of ground lease properties. These investments are held to diversify the Councils income and reduce its reliance on rates, with the aim of providing a return on investment greater than the Council's cost of funds. A secondary benefit of this investment portfolio is that its semi-liquid nature provides a notional offset to the Councils borrowing.

Rates limits

Our financial and infrastructure strategy provides limits to rates increases. These limits are:

- An annual limit of $350 million of rates funding for each of the first three years of the 2018-2028 Long Term Plan.
- An annual limit of $495 million of rates funding for years 4 to 10 of the plan.
- The increase limit is to stay within the cap of $350 million for years 1-3 and $495 million f or years 4 -10. This can be calculated by taking the rates limit less rates funding requirement from the previous financial year. Our forecast rates and rates increases are within these limits for each year of the long-term plan.

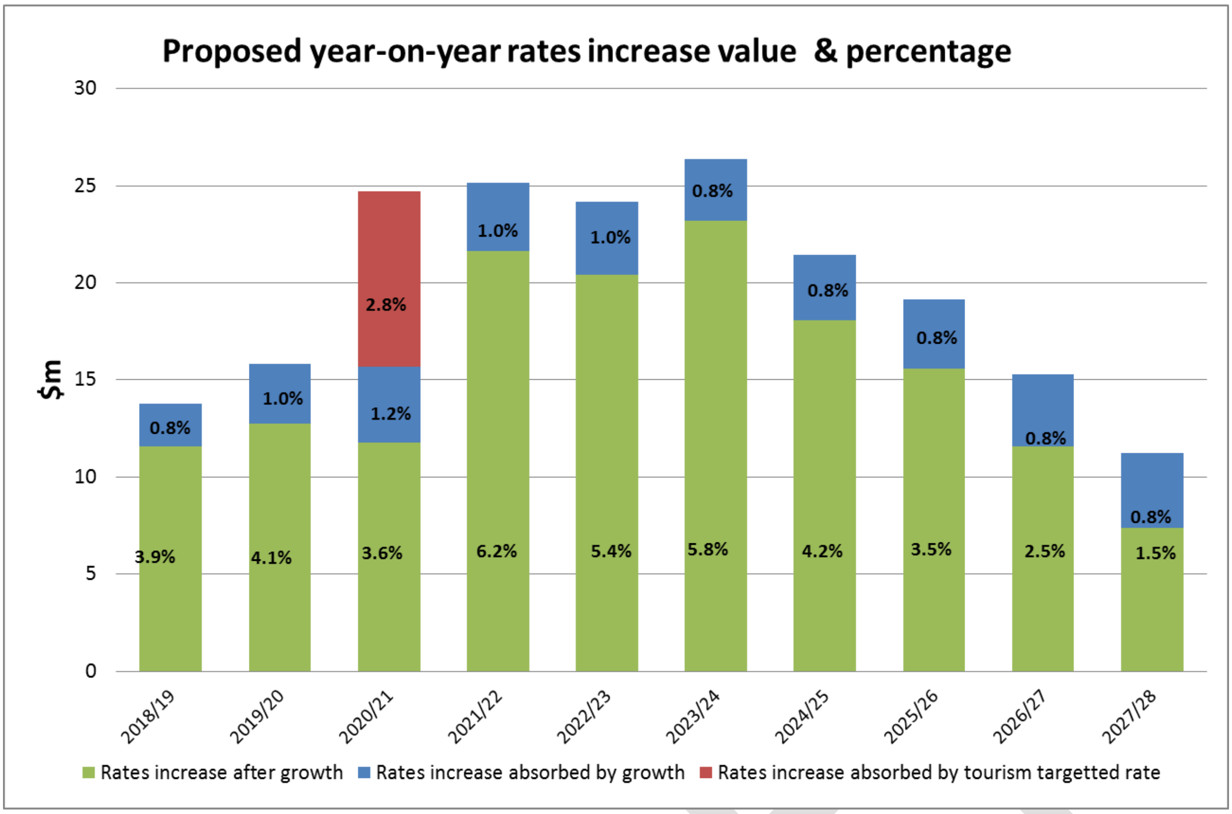
This annual rates limit and rates increase limit are the equivalent of an average rates increase of 3.9% over the first three years and 4.1% over the first ten years. The average rates increase assumes average growth in the ratepayer base of 0.9% per year across the 10 years of the plan. If there was no growth in the ratepayer base the average rates increase would be 4.9% for the first three years and an average of 5% over 10 years.



We have proposed the introduction of a targeted rate for the tourism sector from 2020/21. The details of the targeted rate for the tourism sector are yet to be worked through, however further consultation will occur on any specific proposal in the relevant annual plan year before implementation. If introduced, while the total amount of rates will be unchanged, the share of the rates paid by other (non-tourism sector) ratepayers will be lower by the equivalent of 2.8 percent of total rates.

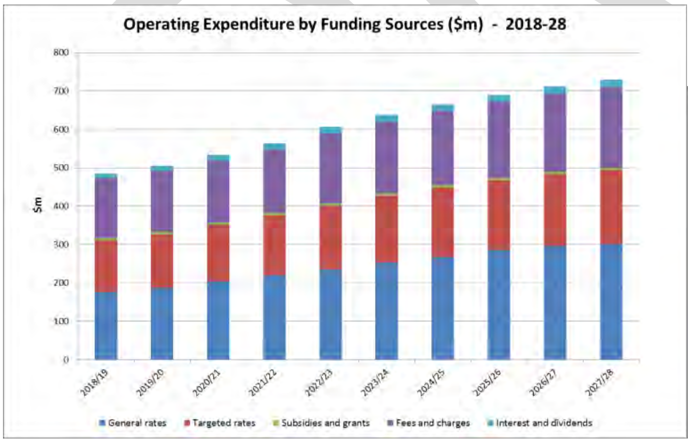
Growth in the rating base reduces the impact of the overall rates increase on existing ratepayers. We have assumed an average growth in the ratepayer base or 0.9 percent per year over the 10 years of the plan. After accounting for growth and excluding the impact of the tourism targeted rate (which, if introduced, will be rated on the tourism sector), the annual rates increase limit is the equivalent of an average rates increase of 3.9 percent over the first 3 years of this plan and an average of 4.1 percent over 10 years.

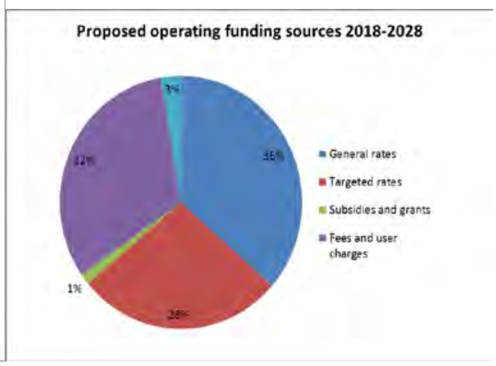
The proposed rates increases presented in $ millions and percentage terms are summarised in the graph below. The specific impact of rates on properties is relative their capital value and their differential rating category.



Note: The graph above shows the increase in the total year-on-year rates requirement in dollar terms. The percentage impact of the average rates increase (after growth) and the proposed tourism sector targeted rate in year 3 are included for information purposes.

Council uses debt to spread the cost of buying assets and services across those who will benefit from the use of the asset over its life. This means we also need to consider the impact of servicing debt on the affordability of rates. In developing the financial strategy, we have ensured that the cost of servicing and repaying borrowing for each asset is catered for within the proposed rating limits.





Section 8. Key strategies for significant assets – 3 Waters

8.1 Introduction

Clean, reliable water is essential for the city's quality of life wellbeing and prosperity. This service is delivered by Wellington Water Ltd (WWL), a Council Controlled Organisation (CCO). WWL supplies about

140 million litres of safe and reliable drinking water per day (on average) for Upper Hutt, Lower Hutt, Porirua and Wellington.

The Council provides services that help manage and control stormwater flows, while minimising the risk of flooding and the impact of runoff on the environment.

The stormwater network helps keep people and property safe from flooding and weather events. Stormwater catchment planning and water sensitive urban design aims to maintain and improve fresh and coastal water quality and ecology.

Collection, treatment and disposal of the city's sewage minimises the public health risks and environmental harm that would arise without collection and treatment. The Council provides efficient wastewater services, while protecting our waterways from these harmful effects.

As with all our core infrastructure services, we have a large inventory of physical assets and therefore a large funding requirement for operation, renewal and development.

8.2 Asset condition and data confidence

The current condition of our three waters assets is reasonable and the quality of our data of these assets is graded as reliable. Our existing assets are being managed and renewed in line with our asset management plans. Accordingly, we have no backlog of renewal works. We have sufficient operating budgets in place to ensure assets are maintained at least to current service levels.

The table reflects the quantities and costs of the assets by sub-group. These contribute to the confidence in the longer range forecasting that informs this strategy.

Asset Group	Asset Sub-group	Asset Class	Cost Rate	Quantity	Total Life	Remaining Life	Current Value (ODRC)
3 WATERS	Water	Pipework	A	A	A	B	A
		Fittings & Fixtures	A-B	A	A	B	A-B
		Pump Stations	A-B	A	A	A-B	A-B
		Reservoirs	A-B	A	A	B	A-B
	Wastewater	Pipework	A	A	A	B	A-B
		Fittings & Fixtures	A	A	A	B	A-B
		Pump Stations	A-B	A	A	A-B	A-B
	Stormwater	Pipework	A	A	A	B	A-B
		Fittings & Fixtures	A-B	A	A	B	A-B
		Pump Stations	A-B	A	A	A-B	A-B
	Treatment Plants, and other assets	WW Treatment Plants, and Drainage Tunnels and Outfall	B	B	A-B	A-B	B

Confidence Ratings

Grade	Label	Description	Accuracy
A	Accurate	Data based on reliable documents	±5%
B	Minor inaccuracies	Data based on some supporting documentation	±15%
C	Significant data estimated	Data based on local knowledge	±30%
D	All data estimated	Data based on best guess of experienced person	±40%

8.3 Issues, options and responses

Where specific challenges and risks to the provision of three waters infrastructure do exist, these are largely being managed through the high prioritisation given to resilience within our 2018-2028 Long Term Plan. These are specifically identified in Council's asset management plans and in section 3 of this document.

Summary of issues and options for three waters assets:

Asset group	Level of service	Issues	Options	Most likely scenario	Impact on levels of service
Water	Security of supply of potable water and firefighting supply for public safety	Our assets are in reasonable condition and are performing to agreed levels of service, but their age will mean an increased investment in renewals from 2030 through to 2050.	We have the option of advancing the renewals programme, but risking not getting full value from our past investment or maintaining our water supply at current service levels and renewing assets once they near the end of their useful life.	We propose to renew our water assets based on age, condition and performance	Maintain
		We rely on water sourced and piped from outside the city's boundary. Areas of the city could be without water for 100+ days following a severe earthquake. Few houses are self-sufficient in terms of rainwater collection.	We can respond by investing in new reservoirs and water supply network infrastructure, accept the risk of major water outages or ask private property owners to invest in their own resilience solutions.	We proposed increased investment in the new Omāroro reservoir and a replacement and upgrade of the Bell Road reservoir. Increased investment in water supply infrastructure by Greater Wellington Regional Council, reflected through Wellington City Council's bulk water supply project.	Improve
		Maintaining public health and environmental outcomes	Our water supply is currently treated using chlorination and ultraviolet treatment to provide a safe and healthy water supply.	We will maintain current service levels	Maintain
	Responding to increased water network requirement as a result of population growth	We are forecasting increasing population growth in the northern and eastern suburbs of city.	We can either respond to these growth requirements by increasing the provision of water infrastructure or risk limiting growth by delaying investment.	We propose to invest in new growth related infrastructure including in Shelly Bay, and through reservoirs in Upper Stebbings and Horokiwi. We will also continue to assess future requirements in Karori & Kilbirnie.	Improve

Asset group	Level of service	Issues	Options	Most likely scenario	Impact on levels of service
Wastewater	Collection, treatment and disposal of the city's wastewater to minimise the public and environmental health risks that would arise without it.	Greater intensification of population in the central city and new developments increasing the demand on the wastewater networks.	We can upgrade our CBD network which is nearing capacity and reduce overflows and we can continue to develop our flow modelling to ensure we prioritise our asset upgrade programme. Alternatively, we could allow service levels to decline.	We plan to: Ensure urban development planning is cognisant of current and future infrastructure limitations and compliance with legislation. Complete hydraulic modelling to prioritise upgrade projects. Maintain our infrastructural renewal programme and target CBD improvements. We will continue to ensure the quantity and quality of the discharge effluent is monitored, along with beach water and stream water quality and overflows volume occurrences.	Maintain/ Improve
		The sludge that remains following our wastewater treatment and dewatering process is currently landfilled. The impending end of the current resource consent means we need to seek an alternative means of disposal.	We can either work towards an alternative to landfill disposal for wastewater bio solids or risk not complying with our consent in from 2026.	We plan to develop and invest in an alternative to landfill disposal of wastewater sludge.	Maintain/ improve
Stormwater	Keep people and property safe from flooding, while maintaining fresh and coastal water quality.	Urban growth will create more run off and place pressure on aquatic receiving environments. Our growth agenda and a healthy environment (natural capital) are not mutually exclusive, but do pose urban planning challenges.	We can minimise impacts to exist stormwater infrastructure through planning controls in moving towards a more water sensitive city and continue with our hydraulic modelling programme to assess risk and prioritise projects. We can also address specific flooding issues in Kilbirnie and Tawa. Alternatively, we could defer upgrade work and accept a lower level of service.	We propose to limit the impact of flooding over time through our planning controls. We will reduce flooding risk by constructing a new stormwater pump station in Kilbirnie and upgrading the stormwater network in Tawa. We will also maintain our asset renewal programme to ensure we maintain current levels of service in other areas	Improve

Further details including costings and timing of these options can be seen on page 27 in the 'Our response to demands for increased service levels' section.

8.4 Contribution to City Priorities

We have comprehensive asset management plans for our water, wastewater and stormwater networks. These drive our maintenance and asset renewal plans for our existing assets. In addition, we plan to respond to a number of issues and challenges that contribute to the Housing and Resilience priorities highlighted in the Council's 2018-28 LTP Consultation Document.

Resilience

Water

Areas of Wellington are at risk of being without water for 100+ days after a major earthquake so we are increasing water storage and availability to increase our level of service should this be called upon. We have several projects proposed to reduce risk.

- *The Omāroro Reservoir* is one significant project to provide a more resilient water supply for the CBD and Newtown; it also caters for increased population in the CBD. Construction of the 35ML capacity reservoir is proposed for 2018/19 – 2012/22.
- *The Bell Road Reservoir* project involves the replacement and slight upsizing of an existing reservoir in poor condition (100 years old). This reservoir will provide a more resilient water supply to lower Karori and the CBD.
- *The Community Infrastructure Resilience (CIR)* project will create 12 community water stations in city by July 2018. This will supply 20 litres per person from day 8 onwards within a maximum 1 km walking distance. The project is funded in partnership with central government.
- *Over the last two years, Greater Wellington Regional Council (GWRC) has been investigating alternative water source options to provide water to the Eastern Suburbs of Wellington after a seismic event. The final decision between drilling of harbour bores as an alternative water source or constructing a pipeline across the harbour will be made mid-2018. Although this is a GWRC project, there are significant benefits to Wellington. WCC pays for this project through the payment of the bulk water levy, which is an operational cost, based on actual water use.*
- *Renewals programme* – improving the overall network resilience by using advanced technology and materials. e.g. by replacing brittle pipes with ductile pipes

Reduction of wastewater overflows

Wastewater overflows generally occur when stormwater or ground water enters the wastewater system as well as wastewater. This results in the pipe reaching capacity and needing to overflow into the environment. There are constructed overflows to reduce the direct impact on people from this diluted wastewater. As our city's population is growing, more wastewater needs to enter the pipes resulting in more overflows. We have work programme included in the long-term plan and infrastructure to reduce these occurrences.

- Completion of the hydraulic model and associated flow monitoring – completion of this model will help prioritise projects by understanding the worst affected areas and enabling targeting of work.
- Wastewater upgrades in the CBD – this area is experienced high growth and the current wastewater system is at capacity. Upgrading areas of this network will reduce overflows as well as cater for growth. The specific projects will be identified once modelling has been completed but provision has been allowed for.

Sludge Reduction

Sludge is a by-product of the wastewater treatment process from Moa Point Wastewater Treatment Plant. Once the sludge is dewatered (some of the water removed) it is landfilled. This is becoming an issue for the landfill as our objective to reduce waste to landfill means that future we have an insufficient proportion of landfill waste to mix with the sludge and the associated resource consent expires in 2026. We have set aside $34.6m in our plan to implement a solution.

Reducing the effect of flooding

The changes in climate include more intense rain events and there are areas in Wellington where the impact from these events has a significant effect on the community.   There are multiple solutions to addressing these problems from infrastructure construction, planning changes or operational solutions. There are projects identified to reduce the impacts of these events.

- Completion of hydraulic modelling to identify areas of risk and to prioritise projects.
- *Kilbirnie Stormwater Upgrade* - Construction in 2018/19 of a stormwater pump station in Kilbirnie, this following on from the pipeline construction in 2017/18. This project addresses flooding near the Kilbirnie Recreation Centre.
- *Tawa Stormwater Upgrade* – This suite of projects are scheduled to reduce the incidents of flooding in Tawa during rain events.

Supporting housing growth

To address growth it is important to have an understanding of the effects on the network. To help guide these decisions hydraulic modelling is being undertaken on all three water networks. This work will improve our ability to assess the effects of population growth on our network as well as helping prioritise projects. There are two areas we have specifically provided for in our current plans.

- *Horokiwi and Upper Stebbings reservoirs:* where we intend to provide additional water storage in response to planned growth. These projects will be primarily funded by development contributions.
- *Miramar Peninsular Upgrades;* when development occurs in this area upgrades to downstream wastewater infrastructure and additional water supply infrastructure is required. The specific timing of this work is dependent on when growth starts to occur. We have provisionally included $7m within the next 10 years of our plan for this.

8.5 Financial impacts

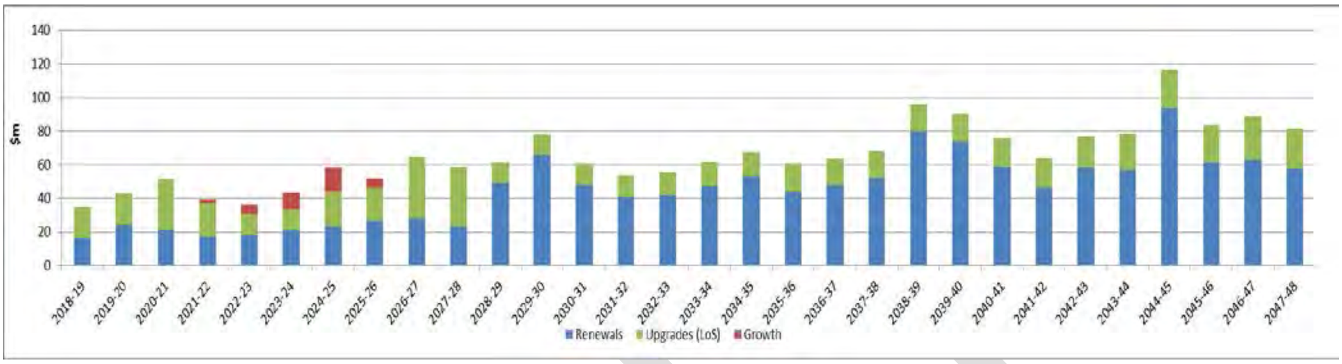
The combined value of the Council's three waters assets is $1.485 billion. Over the period of the 2018-28 Long Term Plan the Council plans to spend $927 million maintaining these assets and ensuring the provision of the related services. We also plan to invest $220m renewing existing assets, $226m improving the level of service we provide and $36m building capacity in the network to respond to population growth.

	2019 $m	2020 $m	2021 $m	2022-28 $m	LTP Total	2029-33 $m	2034-38 $m	2039-43 $m	2044-48 $m	30 Year Financials
Operating Expenditure	71.204	76.282	81.741	697.444	926.672	543.436	602.983	671.015	748.741	3,492.848
Income	(0.877)	(0.895)	(0.913)	(6.957)	(9.642)	(5.802)	(6.519)	(7.338)	(8.273)	(37.573)
Total Operating Projects	**70.327**	**75.388**	**80.828**	**690.487**	**917.031**	**537.634**	**596.464**	**663.677**	**740.467**	**3,455.274**
Capital Activity Renewals	16.512	24.141	21.688	157.574	219.916	245.038	244.647	317.333	332.811	1,359.744
Capital Activity Upgrades (LoS)	18.473	19.019	29.649	158.764	225.906	64.357	77.126	85.761	116.097	569.247
Capital Activity Growth	0.000	0.000	0.000	36.425	36.425	0.000	0.000	0.000	0.000	36.425
Total Capital Activities	**34.986**	**43.160**	**51.337**	**352.763**	**482.246**	**309.395**	**321.774**	**403.094**	**448.908**	**1,965.416**

In the first ten years covered by this infrastructure strategy, the planned capex has been managed to enable a pragmatic mix of renewal work that ensures existing service levels are maintained and risks managed, while also addressing the priority areas that will result in improvement to service levels. The capital expenditure renewal profile for years 11-30 is based on a combination of known condition and information based on asset age, quality and performance data.

As we continuously improve our condition data, so will our understanding of the condition of the assets increase. This will further improve our ability to identify, reforecast the renewals, and balance the risks of not replacing the asset with renewals investment. Improving condition information also underpins confident renewal or upgrade decision making when balancing the remaining asset life with asset performance, material, location and consequence of failure.

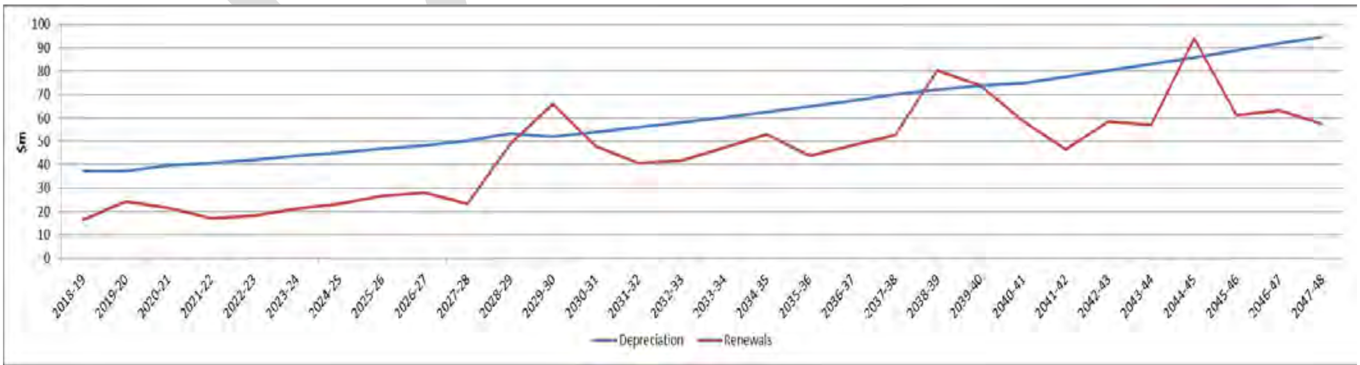
Prospective 30 year capital expenditure – Three waters assets



Note: The 5 year units of cost have been annualised.

The prospective forecasts for asset renewal and depreciation across the three waters network over the 30 years of this strategy are indicative of the age of our network. A comparatively low level of investment is required over the first 10 years, with increases forecast to reflect the periodic installation dates of the existing network. It is expected that this capital expenditure profile will be smoothed over time as we continue to monitor the performance of the network as it ages and improve the quality of our asset information.

Prospective three waters renewal and depreciation 2018-2048



8.6 30 year projections

Stormwater

Over the period of the 2018-28 Long Term Plan the Council plans to spend $147m maintaining these assets and ensuring the provision of the related services. We also plan to invest $42m renewing existing assets,

$53m improving the level of service we provide and $3m building capacity in the network to respond to population growth.

	2019 $m	2020 $m	2021 $m	2022-28 $m	LTP Total	2029-33 $m	2034-38 $m	2039-43 $m	2044-48 $m	30 Year Financials
Operating Expenditure	11.005	12.036	13.224	110.979	147.244	82.127	88.436	95.643	103.878	517.328
Income	(0.163)	(0.163)	(0.165)	(1.165)	(1.656)	(0.842)	(0.852)	(0.863)	(0.876)	(5.088)
Total Operating Projects	**10.842**	**11.873**	**13.059**	**109.814**	**145.588**	**81.285**	**87.584**	**94.780**	**103.002**	**512.240**
Capital Activity Renewals	3.081	8.445	3.694	26.780	42.000	36.492	38.542	102.224	62.196	281.454
Capital Activity Upgrades (LoS)	6.460	0.902	0.554	45.259	53.174	37.795	44.734	53.517	64.227	253.446
Capital Activity Growth	0.000	0.000	0.000	3.365	3.365	0.000	0.000	0.000	0.000	3.365
Total Capital Activities	**9.541**	**9.347**	**4.248**	**75.404**	**98.539**	**74.286**	**83.276**	**155.741**	**126.423**	**538.266**

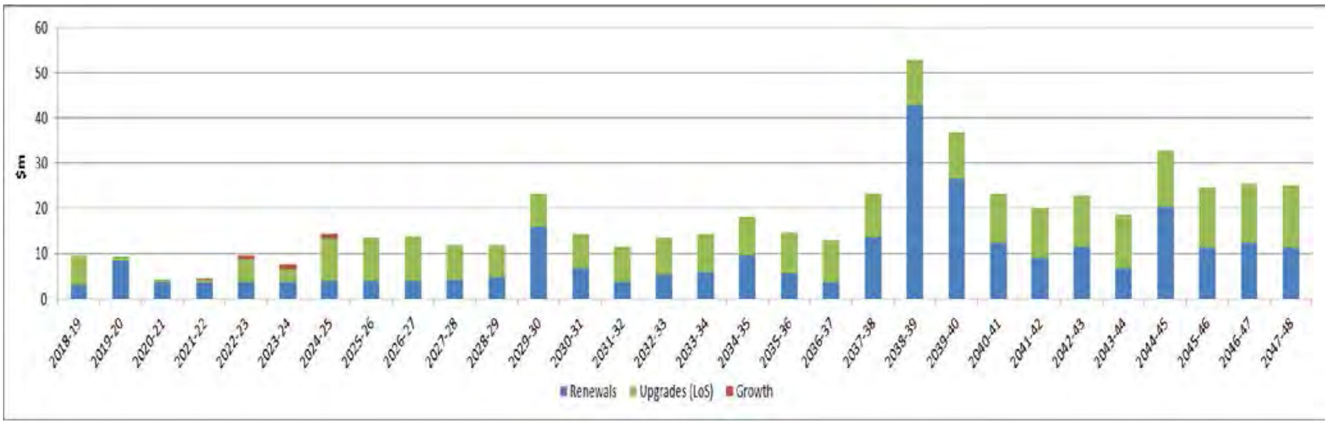
There are key elements of work identified to be completed in years 1-10 predominantly to address known flooding issues and to complete high priority renewals. There is an element of information collection involved especially at the start of the LTP period as this information will help prioritise both upgrade and renewal projects throughout the 30 year timeframe. Specific projects that will be under in years 1-10 include;

- Completion of hydraulic modelling to identify areas of risk and to prioritise projects.
- *Kilbirnie Stormwater Upgrade* - Construction in 2018/19 of a stormwater pump station in Kilbirnie, this following on from the pipeline construction in 2017/18. This project addresses flooding near the Kilbirnie Recreation Centre.
- *Tawa Stormwater Upgrade* – This suite of projects are scheduled to reduce the incidents of flooding in Tawa during rain events.

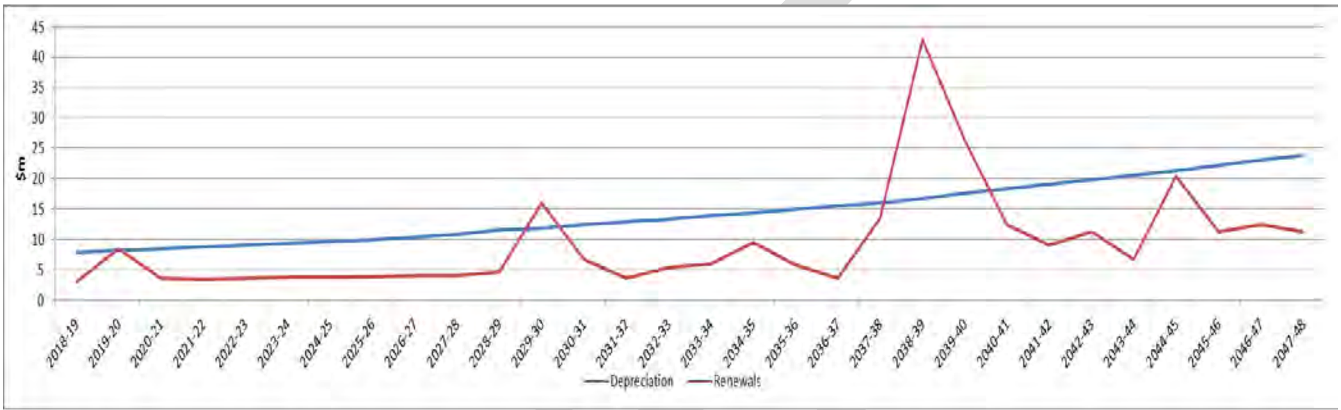
The majority of the work in years 11-30 is at this stage targeted at renewals. This data shows three distinct peaks where the model has predicted end of life of large stormwater assets. More information will be gathered over the next few years to understand more around the condition of the asset to reforecast the renewals requirement and the risks of not replacing the asset.

In years 11-30 a potential funding requirement has been identified to upgrade the stormwater system based on the results of the hydraulic modelling that will be completed in first few years of the LTP. As a result, a consistent investment in improvements is shown in the budget.

Stormwater - Prospective Capital Expenditure 2018-48



Stormwater – Prospective Renewals vs Depreciation 2018-48



Wastewater

Over the period of the 2018-28 Long Term Plan the Council plans to spend $365m maintaining these assets and ensuring the provision of the related services. We also plan to invest $82m renewing existing assets, $57m improving the level of service we provide and $3m building capacity in the network to respond to population growth.

	2019 $m	2020 $m	2021 $m	2022-28 $m	LTP Total	2029-33 $m	2034-38 $m	2039-43 $m	2044-48 $m	30 Year Financials
Operating Expenditure	30.447	32.074	33.755	268.459	364.735	213.076	235.511	261.142	290.426	1,364.889
Income	(0.677)	(0.694)	(0.709)	(5.492)	(7.572)	(4.703)	(5.373)	(6.139)	(7.013)	(30.800)
Total Operating Projects	**29.770**	**31.381**	**33.045**	**262.967**	**357.163**	**208.373**	**230.138**	**255.003**	**283.412**	**1,334.089**
Capital Activity Renewals	5.332	8.965	11.026	56.414	81.737	92.909	100.892	118.006	143.728	537.271
Capital Activity Upgrades (LoS)	2.975	0.901	1.450	51.194	56.520	6.925	7.912	9.040	11.882	92.279
Capital Activity Growth	0.000	0.000	0.000	3.365	3.365	0.000	0.000	0.000	0.000	3.365
Total Capital Activities	**8.307**	**9.866**	**12.476**	**110.972**	**141.622**	**99.835**	**108.804**	**127.046**	**155.609**	**632.915**

There are key elements of work identified to be completed in years 1-10 predominantly to address growth, to reduce wastewater overflows and to complete high priority renewals. One significant renewal is the replacement of the Western (Karori) Wastewater Treatment Plant outfall that is required. There is also an element of information collection involved especially at the start of the LTP period as this information will help prioritise both upgrade and renewal projects throughout the 30 year timeframe. Specific projects that will be under in years 1-10 include;

- Completion of the hydraulic model and associated flow monitoring – completion of this model will help prioritise projects by understanding the worst affected areas and enabling targeting of work.
- Wastewater upgrades in the CBD – this area is experienced high growth and the current wastewater system is at capacity. Upgrading areas of this network will reduce overflows as well as cater for

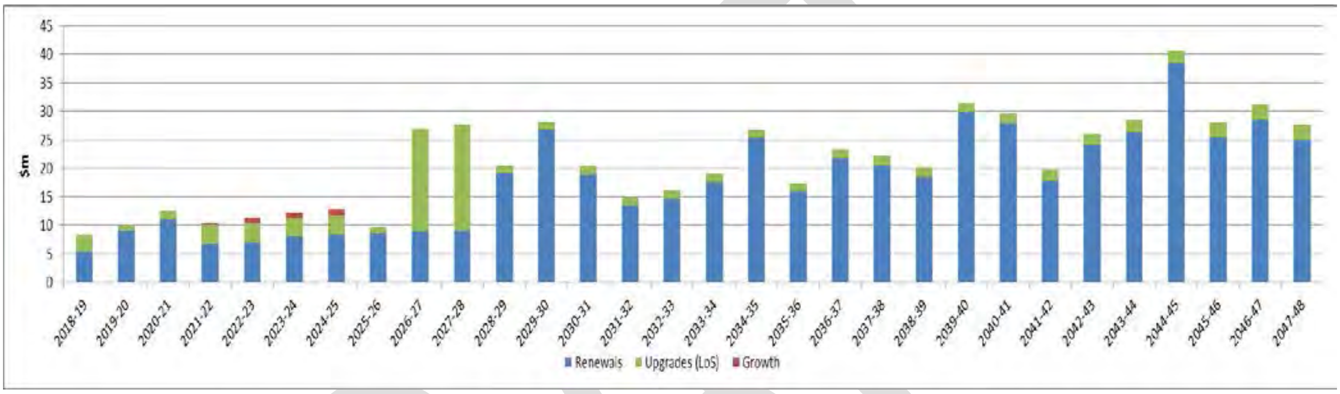
growth. The specific projects will be identified once modelling has been completed but provision has been allowed for.

- *Miramar Peninsular Upgrades;* when development occurs in this area upgrades to downstream wastewater infrastructure and additional water supply infrastructure is required. The timing of this work is dependent on when growth starts to occur.
- *Sludge minimisation project* – to reduce the volume of wastewater sludge that goes to landfill.

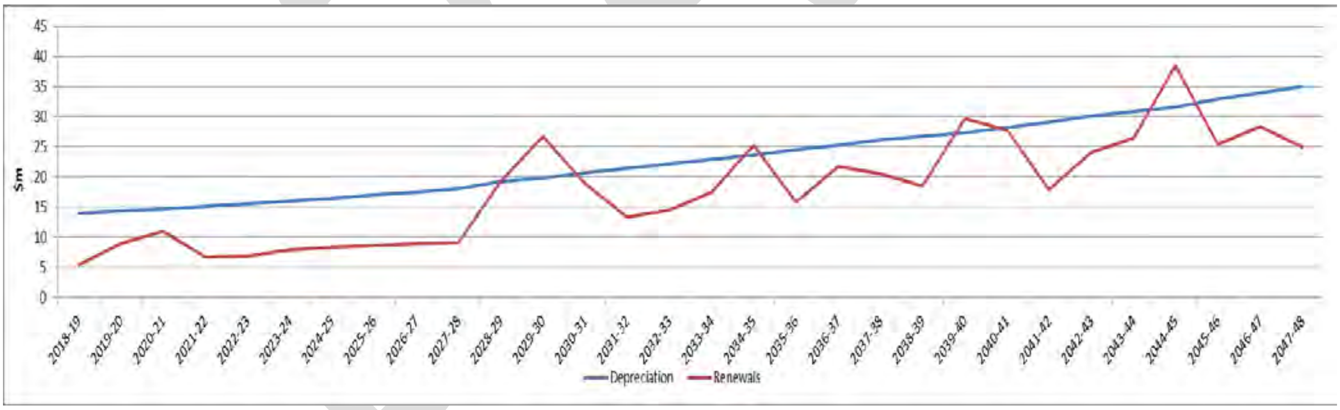
The majority of the work in years 11-30 is at this stage targeted at renewals. This data shows four peaks where the model has predicted end of life of larger volume of wastewater assets. More information will be gathered over the next few years to improve understanding around the condition of the asset to reforecast the renewals requirement and the risks of not replacing the asset.

In years 11-30 a funding requirement has been identified to upgrade the wastewater system based on the results of the hydraulic modelling being completed in first few years of the LTP.

Wastewater - Prospective Capital Expenditure 2018-48



Wastewater - Prospective Renewals vs Depreciation 2018-48



Water

Over the period of the 2018-28 Long Term Plan the Council plans to spend $415m maintaining these assets and ensuring the provision of the related services. We also plan to invest $96m renewing existing assets, $116m improving the level of service we provide and $30m building capacity in the network to respond to population growth.

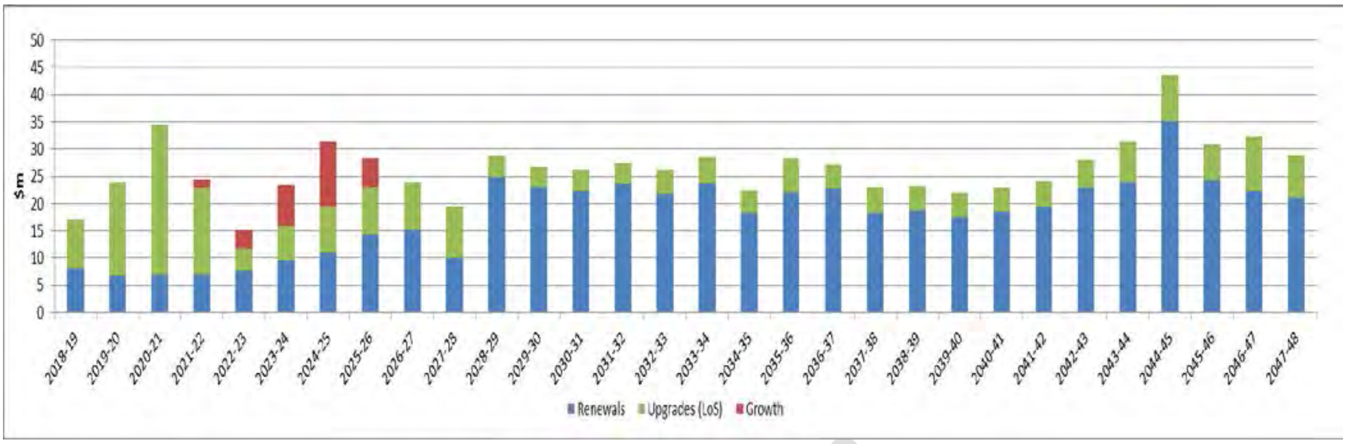
	2019 $m	2020 $m	2021 $m	2022-28 $m	LTP Total	2029-33 $m	2034-38 $m	2039-43 $m	2044-48 $m	30 Year Financials
Operating Expenditure	29.752	32.172	34.763	318.007	414.693	248.233	279.037	314.230	354.437	1,610.630
Income	(0.037)	(0.038)	(0.039)	(0.301)	(0.414)	(0.257)	(0.294)	(0.336)	(0.384)	(1.686)
Total Operating Projects	**29.715**	**32.134**	**34.724**	**317.706**	**414.279**	**247.976**	**278.743**	**313.894**	**354.053**	**1,608.945**
Capital Activity Renewals	8.099	6.731	6.968	74.381	96.179	115.637	105.213	97.103	126.887	541.019
Capital Activity Upgrades (LoS)	9.038	17.216	27.645	62.312	116.212	19.637	24.480	23.204	39.988	223.522
Capital Activity Growth	0.000	0.000	0.000	29.694	29.694	0.000	0.000	0.000	0.000	29.694
Total Capital Activities	**17.138**	**23.947**	**34.613**	**166.387**	**242.085**	**135.274**	**129.693**	**120.307**	**166.875**	**794.234**

There are key elements of work identified to be completed in years 1-10 predominantly to address resilience, growth and to complete high priority renewals. The construction of two reservoirs in central Wellington is planned to improve resilience and to cater for growth in the CBD. There is also an element of information collection involved especially at the start of the LTP period as this information will help prioritise both upgrade and renewal projects throughout the 30 year timeframe. Specific projects that will be under in years 1-10 include;

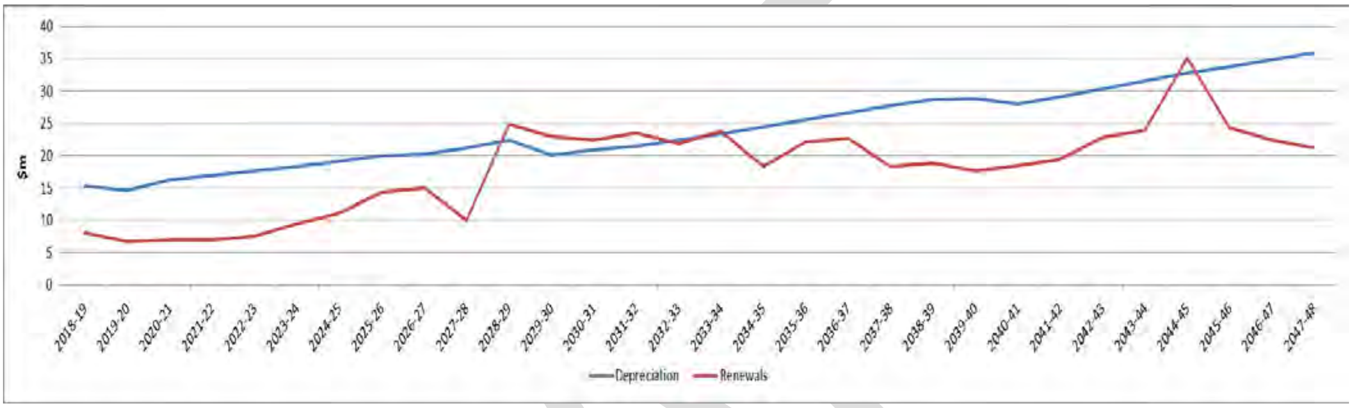
- *The Omāroro Reservoir* is one significant project to provide a more resilient water supply for the CBD and Newtown; it also caters for increased population in the CBD. Construction of the 35ML capacity reservoir is proposed for 2018/19 – 2012/22.
- *The Bell Road Reservoir* project involves the replacement and slight upsizing of an existing reservoir in poor condition (100 years old). This reservoir will provide a more resilient water supply to lower Karori and the CBD.
- *The Community Infrastructure Resilience (CIR)* project will create 12 community water stations in city by July 2018. This will supply 20 litres per person from day 8 onwards within a maximum 1 km walking distance. The project is funded in partnership with central government.
- Over the last two years Greater Wellington Regional Council (GWRC) has been investigating alternative water source options to provide water to the Eastern Suburbs of Wellington after a seismic event. The final decision between drilling of harbour bores as an alternative water source or constructing a pipeline across the harbour will be made mid-2018. Although this is a GWRC project, there are significant benefits to Wellington. WCC pays for this project through the payment of the bulk water levy, which is an operational cost, based on actual water use.
- *Horokiwi and Upper Stebbings reservoirs:* Due to the increasing growth in these areas, additional water storage is required. As growth projects they would be subject to development contributions.
- *Miramar Peninsular Upgrades;* when development occurs in this area upgrades to downstream wastewater infrastructure and additional water supply infrastructure is required. The timing of this work is dependent on when growth starts to occur.

The majority of the work in years 11-30 is at this stage targeted at renewals. This data shows the forecast level of investment is reducing in the outer 20 years with one peak of expenditure in 2044/45. This is due to a forecast reservoir renewal and a large quality of water pipes due for replacement. More information will be gathered over the next few years to understand more about the condition of the assets to reforecast the renewals requirement and the risks of not replacing the asset.

Water - Prospective Capital expenditure 2018-48



Water – Prospective Renewals vs Depreciation 2018-48



Section 9. Key strategies for significant assets – Transport

9.1 Introduction

With our partners, we help provide a safe, efficient and reliable transport system for people who travel in and out of, and around Wellington.

Structures

Retaining walls and sea walls support and protect transport corridors. Tunnels and bridges enable safe and efficient connections. Shelters provide weather protection for pedestrians and people waiting for buses.

Network control and management

Signs, markings, traffic lights and street lighting services are very high value for money provisions, which significantly enhance safety, and efficiency for users of our transport networks.

Parking meters enable valuable space to be shared and generate over $26 million in annual revenue, which significantly offsets the cost of our transport system.

Vehicle and Pedestrian network

The road network accommodates more than 40,000 people driving to work and generally travelling around the city each day.

Kerbs and channels perform a vital function in managing stormwater so that it does not damage the underlying pavement or neighbouring property.

The pedestrian network accommodates nearly 25,000 walking or cycling commuters each day, and allows people to get around our city safely and easily.

9.2 Asset condition and data confidence

Asset condition is assessed on a cyclic basis depending on the asset type and whole of life investment decisions are made with regard to the information provided from these surveys, assessment of risk profiles and economic benefits. Our current operations and renewal programmes are adequate to sustain at least the current level of service over the short and medium-term (a 10-30 year horizon).

The current condition of our transport assets is reasonable and the quality of our data of these assets is graded as reliable. We have sufficient operating budgets in place to ensure assets are maintained at least to current service levels.

The table reflects the quantities and costs of the assets by sub-group. These contribute to the confidence in the longer range forecasting that informs this strategy.

Asset Group	Asset Sub-group	Asset Class	Cost Rate	Quantity	Total Life	Remaining Life	Current Value (ODRC)
ROADS	Structures	Bridges	A	A	A	A	A
		Tunnels	A-B	A	A	A-B	A-B
		Shelters	A	A	A	A-B	A-B
		Retaining Walls	A	A	B	A-B	A-B
		Sea Walls	A	A	B	A-B	A-B
		Accessway Walls	A	A	B	A-B	A-B
		Culverts	A	A-B	B	A-B	A-B
	Vehicle Network	Carriageway (formation)	A	A	n/a	n/a	A
		Top surface	A	A	B	B	B
		Subsurface	A-B	A	B	B	B
		Kerbs and Channels	A	A	B	B	A-B
		Sumps & Leads	A	A-B	B	A-B	A-B
	Pedestrian/ Cycleway Network	Footpaths & Boardwalks	A	A	B	A-B	A
		Cycleways	n/a	n/a	n/a	n/a	n/a
		Access paths	A	A	B	A-B	A
		Handrails and fences	A-B	A	A-B	A	A-B
		Pedestrian ramps	A	B	A-B	A-B	B
		Street furniture	A	A	B	A-B	A
	Parking Network	Parking Facilities	A	A	A	A	A
	Network Control & Management	Traffic signals	A	A	A	A	A
		Road Marking	A	B	A	A	A-B
		Signs & Posts	A	A	A-B	A	A
		Street lights	A	A	A-B	A	A
		Guardrails	A	A	A-B	A	A-B
		Traffic Control	A	A	A-B	A	A-B

9.3 Issues, options and responses

Summary of issues and options for transport assets

Asset group	Level of service	Issues	Options	Most likely scenario	Impact on levels of service
Vehicle & Pedestrian Network	The road network accommodates people driving to work and generally travelling around the city each day on a safe and reliable network. The pedestrian and cycleway network accommodates walking or cycling commuters each day, and allows people to get around our city safely and easily.	Growing traffic congestion and unreliable journey times Poor and declining levels of service Safety issues, especially for cycling and walking	Accept declining levels of service Let's Get Wellington Moving investment programme Multi-modal transport - Cycleways - Walking - Bus priority lane Accept declining level of service Optimise renewals programme Increase investment in renewals Let's Get Wellington Moving investment programme to create a safe space relevant to the mode of transport Education/Partnership with communities Investment in additional traffic calming measures e.g. safer speed zones	We propose to invest in the Let's Get Wellington Moving. We propose to increase the investment if the different modes of transport. We propose to continue with our optimised renewals programme. We propose to continue with a strong focus on Education programmes. We propose to continue to invest in our safety programmes.	Maintain / Improve
Structures	Retaining walls, sea walls and access way walls support and protect transport corridors. Tunnels and bridges enable safe and efficient connections. Shelters provide weather protection for pedestrians and people waiting for buses.	Vulnerability to disruption from unplanned events e.g. storms Route reliability and resilience of; - failed slopes and high risk walls - bridges and tunnels	Accept risk of disruption Invest in coastal protection of roads and walls, and increasing need for road drainage Invest in the management of increased soil erosion and slips Accept increase in poor condition structures and risk of asset failure Optimise renewals programme prioritising investment in poorer condition assets.	We propose to target investment in coastal protection of roads and walls. We propose to continue with our optimised renewals programme.	Maintain/ Improve
Network Control & Management	Signs, traffic lights and street lighting services significantly enhance safety and efficiency for users of our transport networks.	Deteriorating condition of signage, streetlights and traffic light assets.	Accept declining levels of service Optimise renewals programme prioritising investment in poorer condition assets.	We propose to continue with our optimised renewals programme.	Maintain

9.4 Contribution to City Priorities

We have comprehensive asset management plans for our transport assets. These drive our maintenance and asset renewal plans for our existing assets. In addition, we plan to respond to a number of issues and challenges that contribute to the Housing and Resilience priorities highlighted in the Council's 2018-2-28 LTP Consultation Document.

There is $219m of investment planned to increase the utilisation and the capacity of transport across and throughout the city. This investment focuses on changing transport modes, with mechanisms to assist greater utilisation of more effective public transport (provided by the regional council), and a $73m investment in the provision of new cycle ways. In the latter half of the 10 year plan there is $120m provided for the project alliance between WCC, the New Zealand Transport Agency & the Greater Wellington Regional Council - 'Let's get Wellington Moving'.

The impact of this significant proposed investment programme is that the level of depreciation significantly increases to over $80m from $31m due to the extra value of the assets added to increase service levels. This will provide for the replacement of the new assets when they come to the end of their useful lives.

Transport is itself a priority for the Council. Our priorities within this enable us to address the challenges of population growth, stimulating economic growth and increasing the resilience of core infrastructure to shocks.

Our transport infrastructure is in good condition. Growth and demand in the transport service is very closely aligned with population and economic growth, which are expected to moderately increase in the future. Greater demand is putting pressure on our current levels of service.

9.5 Summary financial impacts

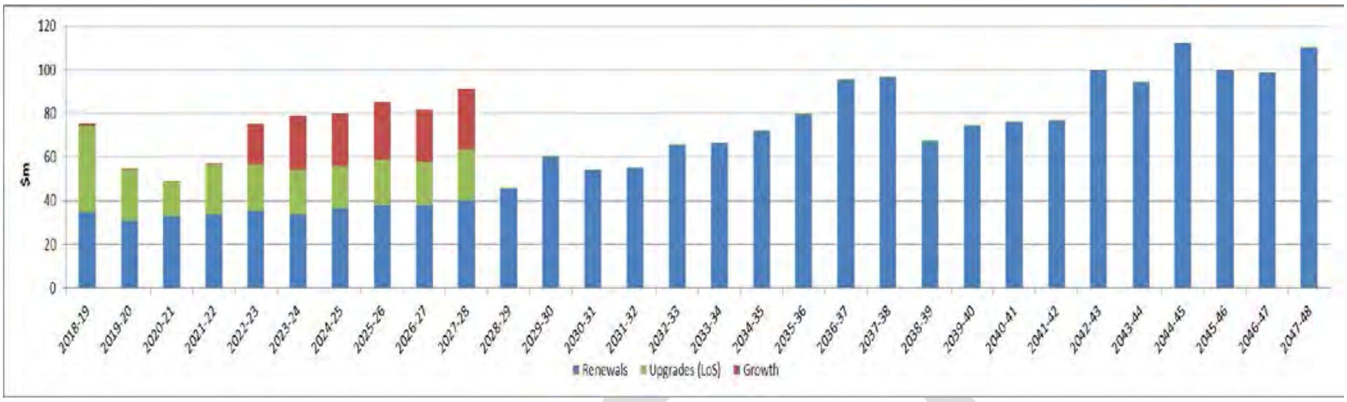
The combined value of the Council's transport assets is $1.029 billion. Over the period of the 2018-28 Long Term Plan the Council plans to spend $678 million maintaining these assets through operating expenditure and ensuring the provision of the related services. $197m of these operating costs are forecast to be funded by the New Zealand Transport agency (NZTA). We also plan to invest $354m renewing existing assets, $227m improving the level of service we provide and $147m building capacity in the network to respond to population growth. $170m of these capital costs are forecast to be funded from the NZTA.

	2019 $m	2020 $m	2021 $m	2022-28 $m	LTP Total	2029-33 $m	2034-38 $m	2039-43 $m	2044-48 $m	30 Year Financials
Operating Expenditure	55.584	61.002	64.893	496.883	678.361	401.715	446.472	497.606	556.026	2,580.180
Income	(63.608)	(60.100)	(59.718)	(434.297)	(617.722)	(347.721)	(375.671)	(407.603)	(444.085)	(2,192.801)
Total Operating Projects	**(8.024)**	**0.902**	**5.175**	**62.586**	**60.639**	**53.994**	**70.801**	**90.003**	**111.941**	**387.379**
Capital Activity Renewals	35.033	30.693	33.002	254.965	353.693	254.033	379.408	359.676	475.973	1,822.783
Capital Activity Upgrades (LoS)	39.177	23.472	15.581	148.729	226.959	0.086	0.098	0.810	0.156	228.109
Capital Activity Growth	1.193	0.261	0.015	145.602	147.071	0.000	0.000	0.000	0.000	147.071
Total Capital Activities	**75.403**	**54.426**	**48.598**	**549.295**	**727.723**	**254.119**	**379.506**	**360.486**	**476.129**	**2,197.963**

In the first ten years covered by this infrastructure strategy, the planned capex has been managed to enable a pragmatic mix of renewal work that ensures existing service levels are maintained and risks managed, while also addressing the priority areas that will result in improvement to service levels.

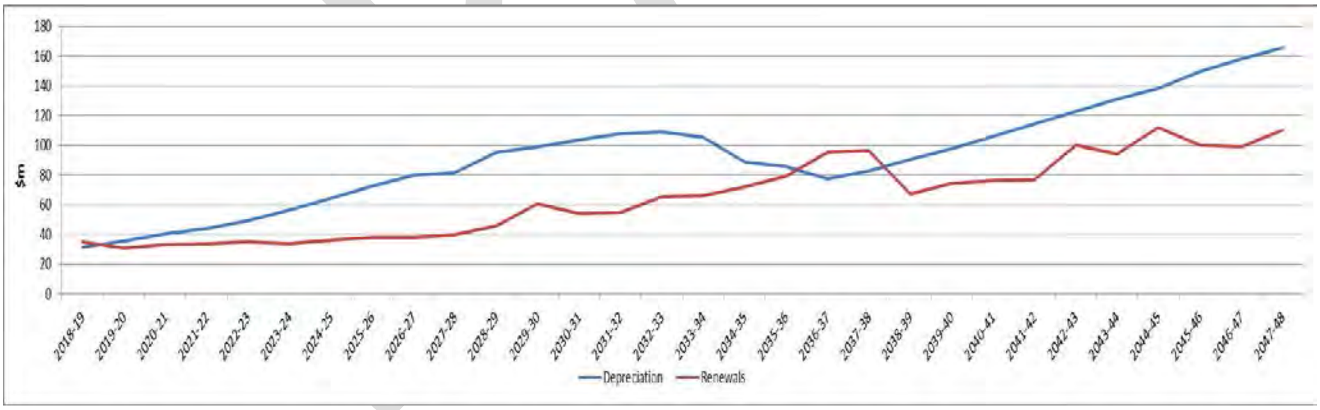
The majority of the expenditure signalled in years 11-30 are renewals. These renewal figures have been generated using a model that forecasts asset renewal based on life. We will continue to improve our understanding of the condition of the asset to reforecast the renewals requirement and the risks of not replacing the asset. This will include condition information to provide more confidence in the remaining asset life, which will be linked to asset performance, material, location and consequence of failure, which builds on existing asset knowledge.

Transport - Prospective 30 year capital expenditure



The prospective forecasts for asset renewal and depreciation across the transport network over the 30 years of this strategy are indicative of the age of our network. Because of significant investment in transport assets in the first 10 years in Let's Get Wellington Moving (LGWM) and cycleways the depreciation increases to reflect this investment. The renewals of this are planned from year 11 onwards. It is expected that this capital expenditure profile will be smoothed over time as we continue to monitor the performance of the network as it ages and improve the quality of our asset information.

Transport - Prospective renewal and depreciation 2018-2048



9.6 30 year projections

Structures

Over the period of the 2018-28 Long Term Plan the Council plans to spend $99m maintaining these assets and ensuring the provision of the related services. We also plan to invest $71m renewing existing assets and $29m improving the level of service.

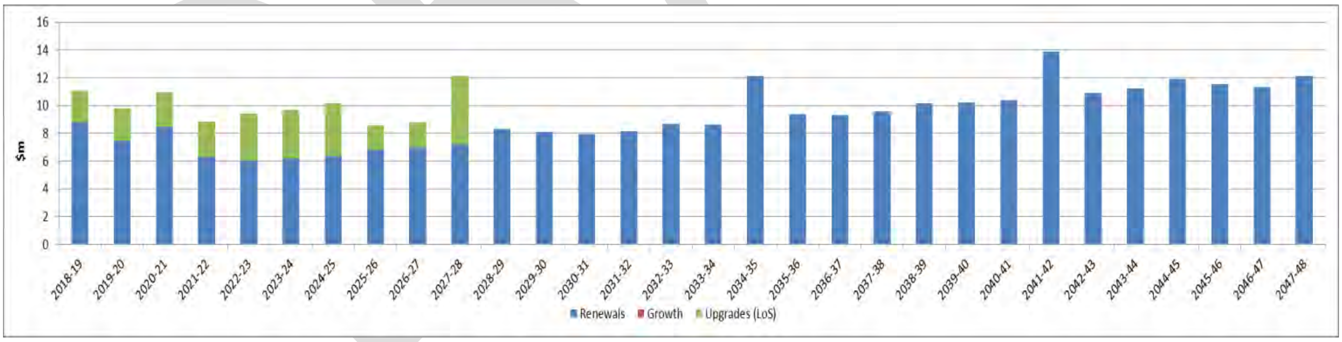
	2019 $m	2020 $m	2021 $m	2022-28 $m	LTP Total	2029-33 $m	2034-38 $m	2039-43 $m	2044-48 $m	30 Year Financials
Operating Expenditure	7.947	8.408	8.993	73.709	99.057	59.052	65.923	73.773	82.741	380.545
Income	(2.353)	(2.347)	(2.359)	(16.784)	(23.843)	(12.108)	(12.241)	(12.394)	(12.568)	(73.154)
Total Operating Projects	**5.594**	**6.061**	**6.634**	**56.925**	**75.214**	**46.944**	**53.682**	**61.379**	**70.173**	**307.391**
Capital Activity Renewals	8.791	7.466	8.472	45.816	70.544	15.048	19.190	21.473	19.257	145.513
Capital Activity Upgrades (LoS)	2.267	2.319	2.474	21.867	28.927	0.000	0.000	0.000	0.000	28.927
Capital Activity Growth	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Capital Activities	**11.057**	**9.784**	**10.946**	**67.684**	**99.471**	**15.048**	**19.190**	**21.473**	**19.257**	**174.440**

There are key elements of work identified to be completed in years 1-10 predominantly to complete high priority renewals within walls, tunnels and bridges. There is an element of information collection involved especially at the start of the LTP period as this information to help prioritise both upgrade and renewal projects throughout the 30 year timeframe. Specific projects that are included in years 1-10 include;

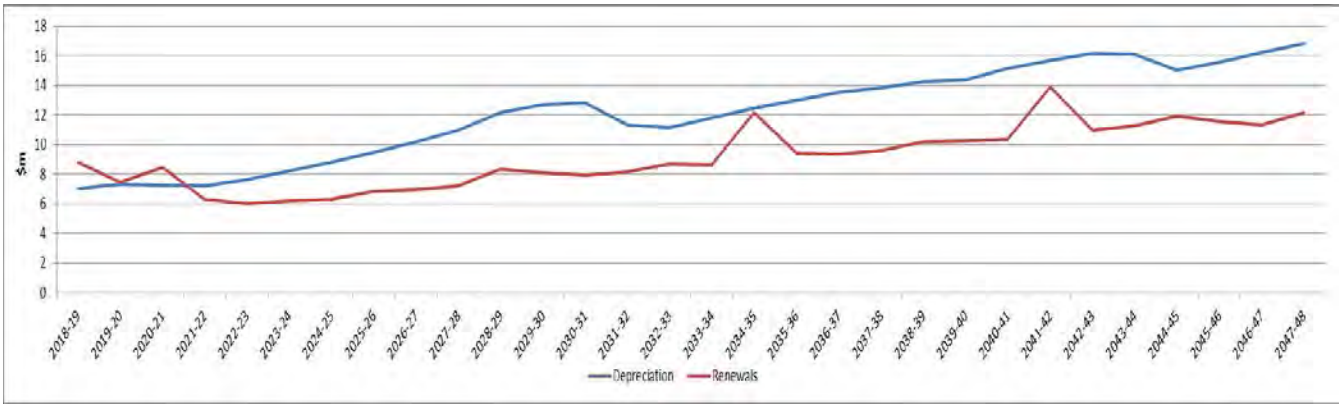
- ongoing priority renewals of significant retaining walls across the city
- a 10 year $5m programme of resilience work to renew high risk failing seawall
- Kelburn viaduct and other ongoing programme of bridges informed by the five yearly survey in accordance with the NZTA bridge inspection and maintenance guide.

The majority of the work in years 11-30 is at this stage targeted at renewals, which includes an upgrade component. More information will be gathered over the next few years to understand more around the condition of the asset to reforecast the renewals requirement and the risks of not replacing the asset.

Structures – Prospective Capital Expenditure 2018-48



Structures –Prospective Renewals vs Depreciation 2018-48



Network Control & Management

Over the period of the 2018-28 Long Term Plan the Council plans to spend $396m maintaining these assets and ensuring the provision of the related services. We also plan to invest $45m renewing existing assets and $1m improving the level of service.

	2019 $m	2020 $m	2021 $m	2022-28 $m	LTP Total	2029-33 $m	2034-38 $m	2039-43 $m	2044-48 $m	30 Year Financials
Operating Expenditure	35.968	39.139	40.311	280.361	395.780	241.939	273.432	309.412	350.519	1,571.083
Income	(59.234)	(55.706)	(55.282)	(402.420)	(572.642)	(323.842)	(350.851)	(381.710)	(416.965)	(2,046.010)
Total Operating Projects	**(23.266)**	**(16.566)**	**(14.971)**	**(122.059)**	**(176.862)**	**(81.902)**	**(77.419)**	**(72.298)**	**(66.446)**	**(474.928)**
Capital Activity Renewals	6.014	3.255	3.370	32.396	45.034	21.336	22.708	28.518	22.614	140.210
Capital Activity Upgrades (LoS)	0.171	0.130	0.121	1.022	1.443	0.000	0.000	0.000	0.000	1.443
Capital Activity Growth	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Capital Activities	**6.185**	**3.384**	**3.491**	**33.417**	**46.477**	**21.336**	**22.708**	**28.518**	**22.614**	**141.653**

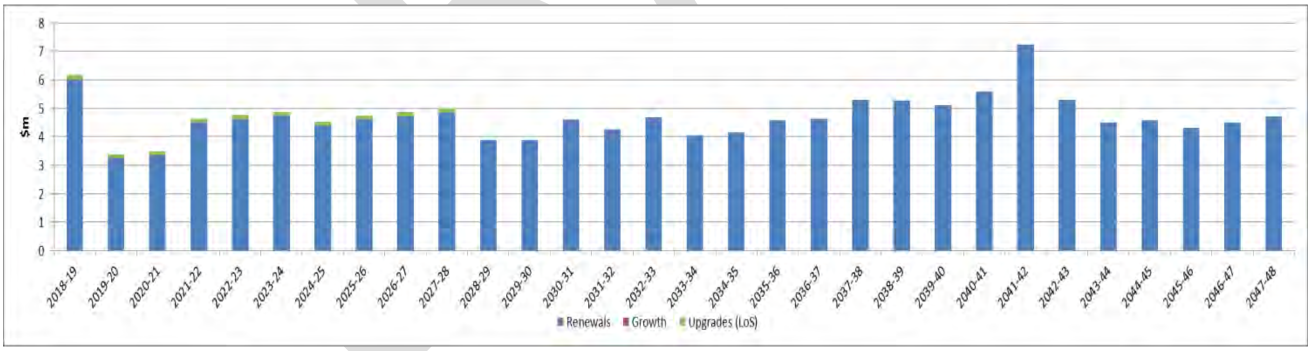
There are key elements of work identified to be completed in years 1-10 predominantly to focus on the poor condition assets and assets reaching end of life. The key assets are traffic signals, signs and street lights. There is an element of information collection involved especially at the start of the LTP period as this information to help prioritise both upgrade and renewal projects throughout the 30 year timeframe. Specific projects that are included in years 1-10 include;

- ongoing renewals of traffic signals across the city informed by condition
- a programme for signage replacement as a result of defective, damaged, missing and end of life signage
- streetlights renewals to fund the replacement of poles, outreach arms, lanterns and luminaires.

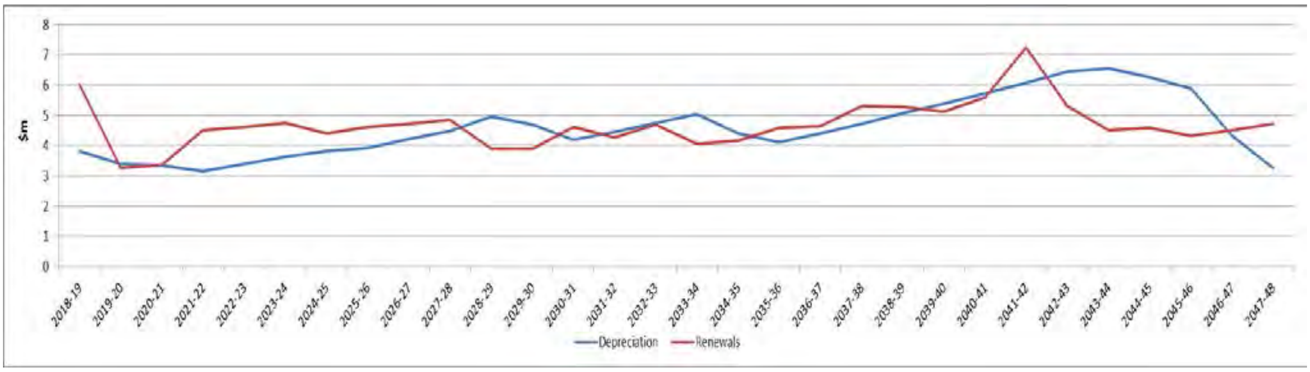
The majority of the renewals programme is relatively flat in profile and the condition assessments inform the programme.

The majority of the work in years 11-30 is at this stage targeted at renewals, which includes an upgrade component.

Network Control & Management– Prospective Capital Expenditure 2018-48



Network Control & Management – Prospective Renewals vs Depreciation 2018-48



Vehicle & Pedestrian Network

Over the period of the 2018-28 Long Term Plan the Council plans to spend $184m maintaining these assets and ensuring the provision of the related services. We also plan to invest $238m renewing existing assets, $197m improving the level of service and $147m building capacity in the network to respond to population growth.

	2019 $m	2020 $m	2021 $m	2022-28 $m	LTP Total	2029-33 $m	2034-38 $m	2039-43 $m	2044-48 $m	30 Year Financials
Operating Expenditure	11.668	13.455	15.589	142.813	183.525	100.723	107.117	114.421	122.766	628.553
Income	(2.021)	(2.047)	(2.077)	(15.093)	(21.238)	(11.771)	(12.578)	(13.499)	(14.552)	(73.637)
Total Operating Projects	**9.647**	**11.408**	**13.512**	**127.720**	**162.287**	**88.952**	**94.539**	**100.922**	**108.215**	**554.916**
Capital Activity Renewals	20.228	19.973	21.161	176.753	238.115	217.649	337.511	309.684	434.102	1,537.060
Capital Activity Upgrades (LoS)	36.740	21.024	12.986	125.839	196.589	0.086	0.098	0.810	0.156	197.738
Capital Activity Growth	1.193	0.261	0.015	145.602	147.071	0.000	0.000	0.000	0.000	147.071
Total Capital Activities	**58.161**	**41.258**	**34.161**	**448.194**	**581.774**	**217.735**	**337.609**	**310.494**	**434.258**	**1,881.870**

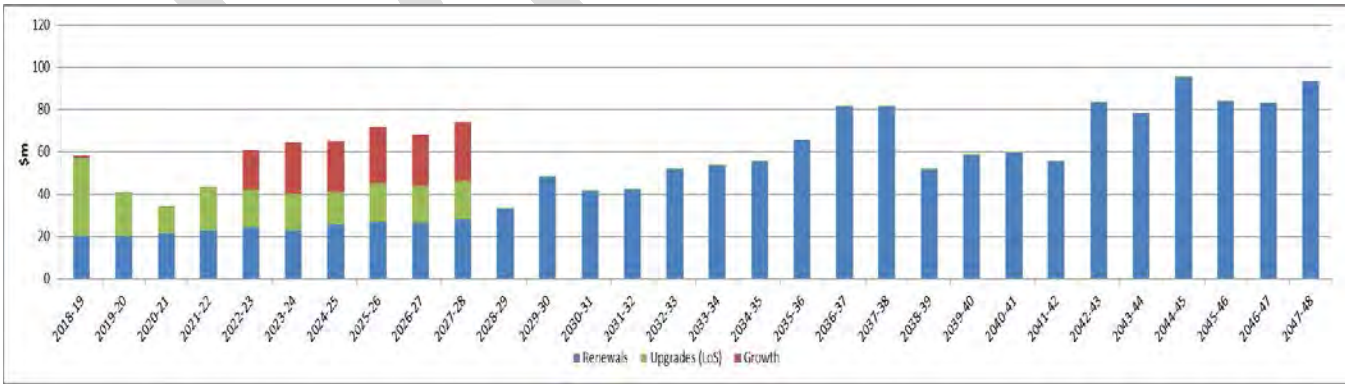
The renewals work identified to be completed in years 1-10 predominantly to focus on assets reaching end of life. The key assets are road corridor and pavement, kerb and channel, street furniture and footpaths. There is an element of information collection involved especially at the start of the LTP period as this information to help prioritise both upgrade and renewal projects throughout the 30 year timeframe. The majority of the renewals programme is relatively flat in profile and the condition assessments inform the programme.

Specific upgrade projects that are included in years 1-10 include;

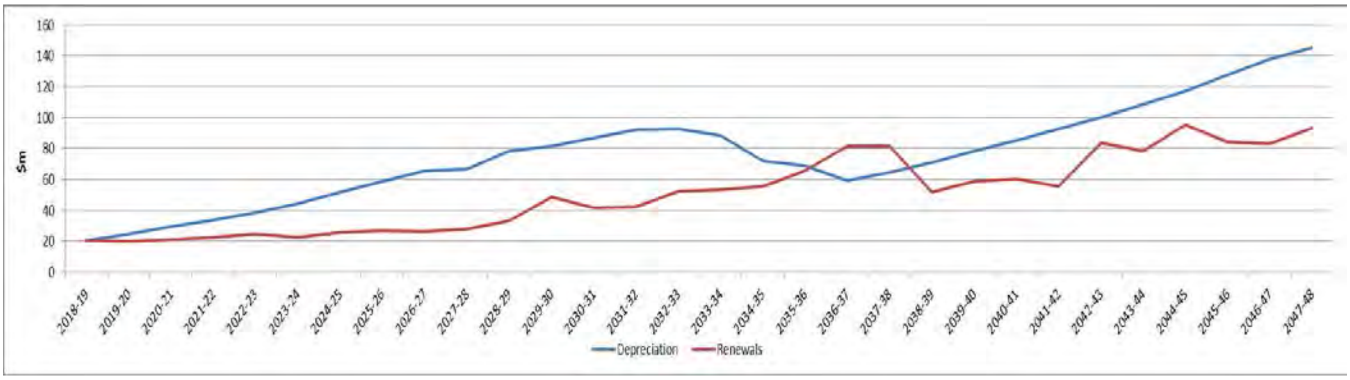
- **Let's Get Wellington Moving** (LGWM) is the most significant decision for transport assets. It will increase levels of service for capacity, efficiency and reliability. The majority of the renewals programme is relatively flat in profile and the condition assessments inform the programme. This is planned from 2022/23.
- Improvement of the level of service by investing in cycleways development though the establishment of a safe, connected network of cycleways and continued development of priority routes.

The majority of the work in years 11-30 is at this stage targeted at renewals, which includes an upgrade component.

Vehicle & Pedestrian Network – Prospective Capital Expenditure 2018-48



Vehicle & Pedestrian Network – Prospective Renewals vs Depreciation 2018-48



At this stage we do not know what specific type of assets (e.g. road surfaces or earthworks) Council will be investing invest in as part of the LGWM programme because a final option has not been prepared and this will be subject to negotiations with LGWM partners – the NZTA and the GWRC.

Because the nature of the assets that Council will invest in for LGWM is not yet known, we have initially assumed depreciation funding based on an average life of 10 years for the Long term Plan. This is conservative, but appropriate considering the information available at this time.

As yet, we do not know what the subsequent asset renewal requirements will be, we have assumed in the longer term forecasts that we will replace 50% of these assets after 10 years and a further 25% after 20 years, with 25% not renewed within the 30 years of our current strategy. This will be reviewed in the 2021/22 Infrastructure Strategy.

The depreciation may be lower than shown in the graph by $1.2 million over the first three years and an average of $1.5 million per year over the ten years of the plan based on the renewal profile outline above. This will be modified in the 2021/22 Long term Plan when the capital expenditure requirements of LGWM programme are confirmed.

Absolutely Positively
Wellington City Council
Me Heke Ki Pōneke