

DRAFT FOR ADOPTION



Volume 1
Financial Strategy and
Infrastructure
Strategy
**Supporting
Documents**



For the
Consultation
Document

Contents

Proposed Financial Strategy 2024 to 2034	3
Overview	4
Principles and Parameters	5
Maintaining Levels of Service	7
Delivery of our Water Services	8
Everyday Funding	9
Rates	10
Debt, Interest and internal funding	14
Expenditure	17
Capital expenditure	18
Minimising risk and adapting to change . .	21
Known Unknowns	23
Council organisations	24
Monitoring and reviewing the strategy . .	24
Supporting Documentation	25
Disclosure Statement	25
Proposed Infrastructure Strategy 2024 to 2054	26
Infrastructure strategy at a glance	27
Introduction	29
Part 1 - Our context	31
Part 2 Significant decisions	57
Part 3 - The way we plan, fund and deliver	84
Part 4 activity overviews	100
Proposed Statements of service Provision	159
What we are working towards	160
Introduction to the Council Activities . .	162
What does this section include?	163
1. Transportation	170
2. Parks and Recreation	180
3. Water	190
4. Wastewater	200
5. Stormwater	208
6. Coastal Systems and Flood Management	216
7. Flood Protection	226
8. Solid Waste	234
9. Community facilities and services . .	242
10. Planning and Regulatory Services . . .	268
11. Governance and strategy	286
12. Support Services	304
Significant Forecasting Assumptions	312
Proposed Forecast Financial Statements	328
Accounting Policies	342
Price level adjustors	360
Reserves	363
Long Term Plan disclosure statement . .	365
Depreciation and amortisation by group of activities	370
Proposed Whangārei District Growth Model and Population Projections	372
Executive summary	374
Introduction	378
Our approach	378
Economy	379
Population	381
Households	387
Sub-district projections	391
Appendix 1 – our approach in detail . . .	396
Proposed Funding Impact Statement	402
Funding impact statement	403
Proposed Capital Expenditure	423

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Proposed Financial Strategy 2024 to 2034



Overview

The Financial Strategy 2024-34 for the Long Term Plan 2024-34 sets the financial parameters within which Council will operate and fund its operations and capital programme (spending on capital projects) for the next 10 years. It is based on fulfilling the core purpose of local government, which is to “enable democratic local decision-making and action by, and on behalf of, communities; and to promote the social, economic, environmental and cultural well-being of communities in the present and for the future.”

We continue to examine the state of our assets, the Levels of Service our community expects, and the funding required to achieve this. This, combined with our financial principles and parameters, provides the foundation for decisions about the funding required to deliver our services. This Strategy, together with the Infrastructure Strategy 2024-54, addresses these issues and describes our funding model, or the way in which we intend to fund future projects, taking into consider our growing population.

While it would be ideal to satisfy the needs and wants of everyone in our community, Council can only fund so much. It needs to work within its financial constraints to deliver the facilities, services and infrastructure that bring the most benefit to the most people for the greatest length of time.

Continuing to deliver our current service levels has become increasingly difficult. In the same way households are experiencing an increased cost of living, so too is Council. Widespread inflation and cost escalations means our dollar no longer holds the same value. Central government legislation has seen local government’s costs and responsibilities continue to grow without receiving any extra funding, meaning we are being asked to do more with less.

Over the years we have stretched our rates dollar further and further keeping Whangarei with some of the lowest rates in New Zealand. However, due to the economic conditions over the last few years this level of funding has led to an unsustainable financial position. Council has a responsibility to ensure our Financial Strategy is Prudent and Sustainable, and that our funding is sufficient to cover our costs so that future generations are not burdened with excessive debt or have to cover revenue deficits that have built up over time

To achieve this, higher rates increases are required across the first few years of this plan. These increases will enable Council to maintain our current levels of services, renew our assets and keep up with our district’s Growth.

This is a sustainable financial strategy. By the end of the 10-year planning period, Council will have an income base that allows it to provide the services that our community expects, without leaving a large backlog of asset maintenance and renewal for later generations to deal with. While that does mean rates rises beyond the level of inflation, we believe they are necessary to provide the range and quality of services our community demands.

Whangārei District is growing and it is expected to continue to. Our population is anticipated to reach 117,300 by 2034. The LTP includes anticipated growth of 1.3% per year across the ten years.

A cornerstone of the Financial Strategy 2024-34 must be to provide adequate funding to meet future requirements for the increased demand on infrastructure, services and extra amenity across our District while balancing this against the capacity to deliver on our

commitments. As well as sustained growth, we must ensure that our Financial Strategy provides us with enough flexibility to react to the likely impacts of a changing climate, which will include more frequent and severe storm events, prolonged droughts and increased erosion.

Principles and Parameters

Financial principles

During the development of Council's Long Term Plan, the following key principles were established by Council to ensure a prudent, sustainable budget that considers today's ratepayers as well as future generations.

- Council should focus on achieving the financial prudence balanced budget benchmark every year
- After removing capital revenue from the balanced budget benchmark calculation, everyday funding should exceed everyday funding from Year 4 of the plan onwards
- Major capital projects should be debt-funded to ensure inter-generational equity
- Debt is to be controlled.
- Capex should focus on renewals first unless level of service improvements and growth is legislated.
- Council's credit rating should be actively managed with no further drops during the LTP term.
- Some levels of service may need to drop to manage affordability.
- Council should aim to position itself as mid-pack with regards to rating.
- Year 1 of the LTP should focus on clearing the capex backlog.
- There should be a strong focus on efficiency, effectiveness and reducing waste through careful management of operational costs.

These guiding principles underpin the limits and parameters that have been set for the 2024-34 Financial Strategy and Long Term Plan.

Financial limits and parameters

After considering the above principles, the following limits and parameters have been set for the LTP 2024-34. These limits will be reconsidered as part of every Annual Plan and future LTP to ensure that they remain practical, given Council's financial position and broader economic conditions at that time.

From time to time there may be extraordinary events that mean Council may have to go outside these limits. Examples of these events and how Council would respond can be found under Minimising Risk and Adapting to Change on page xxx.

General

BALANCED BUDGET: Council will set a balanced budget every year, (as defined in the Financial Prudence Regulations). Based on current information Council has approved a strategy with the intention of setting a balanced budget every year of the LTP. However, external factors and unforeseen circumstances may result in Council not achieving this in some years. Refer to section Minimising risk and adapting to change on page xxx for additional information.

EVERYDAY FUNDING: Everyday operational expenses should be covered by everyday funding from year 4. This measure takes the Balanced Budget one step further by removing the revenue Council receives for capital projects to ensure our operating funding is paying for our everyday costs.

While Council needs to ensure a sustainable and prudent budget is set, this needs to be balanced with affordability for our ratepayers, growth in our district, levels of service, and our ratepayers ever-increasing expectations. Council recognises this funding gap cannot be resolved in one year but wants to take steps towards achieving this position as soon as practical. Once we reach this position, we still expect to see our general rating levels well below national averages.

Debt

DEBT LIMIT: The net debt to revenue ratio will remain below 175%. To reflect Council's desire to keep debt well managed, our debt limit is set significantly lower than the Local Government Funding Agency's requirements. Council also utilises internal funding which is not subject to the above limits. For further information refer to Debt, Interest, and Internal Funding on page xxx.

Rates

RATES INCREASES:

Council has set the following limits for rates increases:

	Rates increase limit
Year 1	15% + LGCI + growth
Year 2	15% + LGCI + growth
Year 3	7.5% + LGCI + growth
Years 4 - 10	2.5% + LGCI + growth

These limits have been set at a similar level to the planned general rates increases in this long term plan. These limits may not correspond with the planned increases for targeted rates, nor the actual increase faced by individual ratepayers. Instead, the limits consider the increase in Council's total rates revenue (excluding metered water) as a whole.

This increase is measured by comparing total rates revenue (excluding metered water) from one year to the next.

The Year 2 limit is higher than the planned general rates increase as it includes the introduction of a new rate to fund Council's Stormwater activity.

The inflation factor used is the Local Government Cost Index (LGCI). Where this index fluctuates significantly within a three year term, a three average rate may be used.

It is planned that general rates revenue will increase by 1.3% through natural growth in the rating base, i.e. as our population grows.

Targeted rates for Water are excluded from this benchmark as they are consumption based.

For reporting purposes, the target set for the limit on rates increases will be reviewed and possibly reset in each year's Annual Plan based on the latest LGCI predictions. For further details on rates increases, including specific increases for targeted rates, refer to page xx.

Over the next 10 years this allows for:

- a capital works programme of \$1.2 billion
- operational revenues of \$3.1 billion
- operational spending of \$2.5 billion.

Maintaining Levels of Service

For this LTP we have also completed a 30-year Infrastructure Strategy 2024-2054 that provides a blueprint for delivery of services through our network infrastructure for which the Financial Strategy 2024-34 has been prepared to give effect to.

The Level of Service describes what the community can expect from Council's infrastructure and services and is a combination of the:

- quality of infrastructure provided by Council
- standard to which infrastructure is maintained
- services that assets, staff and contractors provide to the community.

Councils overarching strategy is focussed on delivering services to our community so that the Levels of Service measures identified in the LTP are achieved.

The appropriate Level of Service in each activity area has been carefully considered by Council, along with the additional demand for infrastructure and services in our District due to predicted growth. In each activity area, Council has considered the ongoing effects of every decision and inevitably, there have been tensions, gaps or conflicts between the desired level of service and the level that can be provided within the financial parameters outlined in this Strategy.

The asset and activity management plans upon which this Plan is based have therefore generally been prepared with the aim of maintaining current Levels of Service throughout the 10-year timeline of the plan. With high inflation and increasing costs, this 'hold and maintain' strategy will be managed by looking for ways to be cost-effective across Council's planned operations, infrastructure maintenance, renewal and capital upgrades. Council continuously reviews operational practices to find ways to be more efficient without adversely impacting service level delivery.

Delivery of our Water Services

With the repeal of the Water Services Entities Act, ownership and control of the water services now remains with Councils. This Long Term Plan therefore includes drinking water, wastewater and stormwater services.

While our drinking water infrastructure is in great shape, increased funding is needed to meet the Government's new drinking water standards, manage the rising costs of managing stormwater in a changing climate, and prepare for growth, particularly in areas like Ruakaka and the city, where growth is limited by capacity constraints, particularly in our wastewater system.

Council has accumulated significant reserves from targeted rates already collected for Water and Wastewater. This has provided Council with some breathing space, to consider the best way to fund our Waters activities going forward.

As shown in the rates section within this strategy, our current funding levels for wastewater are sufficient to fund this activity as well as to continue to build a reserve for future capital projects.

While our existing reserve will help to fund the costs of providing drinkable water for the next year or two, our targeted rates for Water (including our metered water rate) will require large increases in years 3 and 4 to fund the ongoing costs of providing this service, increasing our capacity for growth, and to avoid large debt accumulating for future generations to deal with.

Our stormwater activity has historically been funded by general rates. This is an activity where we expect to see a sharp rise in costs in the future as we respond to a changing climate. For the 2024-25 financial year, the activity will be funded via debt.

In 2025-26 we plan to restart the funding of stormwater. While Council is yet to determine the most appropriate way to collect this funding, our Financial Strategy and prospective Financial Statements have assumed this will be via a new targeted rate.

The funding of Councils water activities will be revisited as more clarity is provided through the future direction of Governments Local Waters Done Well Policy. This may result in changes to our existing Financial Strategy, which will be included as part of future consultation with our ratepayers.

Everyday Funding

Council recognises the importance of making sure our everyday operating costs should be paid for from our everyday revenue. If this isn't achieved, it means todays ratepayers are not fully paying for the services they receive, and that debt or income received for capital projects is being relied on to fill the funding gap. In order to ensure our everyday funding is sufficient to cover our everyday costs, Council has an additional measure referred to as our Everyday Funding Benchmark.

In order to determine our true operational funding position, we need to exclude from our revenue any income that is collected to fund capital works. This income should fund the capital assets it is collected for, rather than our everyday operating expenses.

Council also wants to make sure that the targeted rates that we collect for future capital projects aren't relied on to 'top up' our everyday operating costs. Our Everyday Funding benchmark helps to ensure this is achieved by excluding any surplus created from our targeted rates when we consider whether our general rates are set at a sufficient level.

To calculate our everyday funding result we use the balanced budget benchmark as our start point. This benchmark is a legislatively prescribed calculation. While this measure goes some way towards excluding capital revenue and non-cash items, we have taken it one step further to drill right down to our true operating position by ensuring we exclude all revenue that is received to fund capital spend.

The benchmark is achieved if everyday revenue meets or exceeds everyday expenditure.

For the purposes of calculating this result, the following items are excluded

As per the prescribed balanced budget benchmark:

- Development and financial contributions
- Vested asset income
- Gains/(losses) on derivative financial instruments
- Revaluations of PPE

Additional exclusions:

- Capital subsidies and grants (for example central government funding for capital works)
- NZTA capital subsidies excluding the portion relating to renewals (subsidies received from NZTA for Transportation capital works)
- Operating surpluses collected from targeted rates after funding depreciation (such as wastewater and water)

When we calculate the NZTA capital subsidies and the operating surpluses from targeted rates, we need to consider how much of these revenue streams are funding our depreciation. Depreciation is part of our everyday expenses and needs to be funded by our everyday revenue. Therefore, although renewals are classified as capital expenditure, the portion of subsidy related to renewals is added back as it offsets the costs of everyday use of our assets.

Rates

Like most Councils, rates are our main source of funding. Council does not have a particularly diverse income stream, with the main sources being rates, fees and charges, development contributions and government subsidies (e.g. for roading). There is limited scope to add new revenue sources without allocating funds to new investments, so the reliance on rates as a revenue source will remain relatively high.

While we try to maximise the subsidies available from Central Government and have a ‘user pays’ approach policy through user charges for many services, the bulk of our work is funded by rates. There are two types of rates: general rates and targeted rates.

Due to increasing demands from Central government, increasing interest rates, insurance costs, construction costs and the impacts of inflation, rate increases above inflation are required across the ten years of the Plan to offset the current funding deficit.

In setting the level of rates increases outlined in this strategy Council has been mindful of where the rating burden falls in relation to affordability and the beneficiaries of each activity and whether the current rating policy is still suitable. However, given the remaining uncertainty about many aspects of local government structures and responsibilities, it was decided to defer any comprehensive review of our rating policies for now, this could potentially be undertaken in the next financial year, as this is also when the next tri-annual rating revaluations take effect.

General rates

Council currently uses general rates to fund a broad range of activities, where there is a benefit to the whole community (public benefit) or where there is no practical way to charge individual users.

There are two elements to general rates:

Uniform Annual General Charge (UAGC): which is a fixed dollar amount that all rating units are levied. The UAGC is to be assessed by Council annually and set at a level considered to be reasonable. The UAGC is used to fund the same activities as the general rate and ensures every ratepayer contributes a base level of rates irrespective of property value or services used.

‘Value based’ general rates: are calculated using the land value of each rateable unit, primarily differentiated by land use.

Further information about general rates, including how the rates revenue requirement is determined for each rating category, is detailed in the Funding Impact Statement on page xx of Volume one.

Targeted rates

Targeted rates are used where an activity benefits an easily identifiable group of ratepayers and it is appropriate that only this group be targeted to pay for some or all of a service. The funds collected must be used for the purpose for which they are rated.

Targeted rates are only used where Council considers it is an appropriate mechanism to fund that activity or where Council wishes to make clear the purpose for which the rate is collected. The revenue collected in any one year may result in a surplus, which is used to repay debt or to fund capital expenditure in future years. Further information about Council's targeted rates is included within the Funding Impact Statement on page xx of volume one.

Increases to rates

In the 10 years of this plan, Council intends to increase the revenue obtained from most rates beyond the level of inflation, as shown in the table below. Overall, rates revenue will also increase as our District's population grows.

One of Council's financial principles in developing this plan is to work towards our everyday funding being enough to cover our everyday costs. Closing the current funding gap will require much higher increases in the early years of the plan. Council has been relying on capital subsidy revenue to achieve our balanced budget result, which until now has allowed us to keep general rates low in comparison to other Councils. However, this approach is not sustainable or prudent.

Rates Increases

	Yeara	Annual inflation	Additional increase	Allowance for growth
General rates	Y1	LGCI	14.3%	1.3%
	Y2-3	LGCI	7.5%	1.3%
	Y4-10	LGCI	2.5%	1.3%
Water Targeted Rate	Y1-2	LGCI	2.5%	1%
	Y3-4	LGCI	20%	1%
	Y5-10	LGCI	2.5%	1%
Wastewater Targeted Rate	Y1-10	LGCI	-	1%
Stormwater Targeted Rate	Y2		New rate	
	Y3-10	LGCI	2.5%	1.3%
Flood Protection Targeted Rate	Y1	LGCI	2%	-
	Y2-10	LGCI	-	-

	Year	Ratepayer contribution inc GST, per rating unit in area of benefit
Road sealing	Y1-3	\$5,000

Comments

These increases are set at a level to provide sufficient funding for the planned operational expenditure programme for the bulk of Council's activities. This will also allow us to work towards addressing our current funding gap by achieving an Everyday Balanced Budget by year 3.

The level of the Uniform Annual Charge will be set each year after considering, the overall movement in general rates, affordability and the universal public good aspect of Council activities.

The increases to water rates for the first two years is limited as Council has accumulated reserves sufficient to fund the Water activity in the short term. The large increases for years 3 and 4 are necessary to support important water resilience projects and manage the increased regulatory compliance costs from Central Government.

Rates increases are limited to inflation only across the plan. This will provide sufficient revenue to fund operational and capital expenditure throughout the plan, and will allow us to build a reserve for future wastewater infrastructure and growth capacity.

Year one of the LTP will fund this activity with debt. In year 2 we plan to restart funding this activity. Options could include further increasing general rates or introducing a stormwater targeted rate.

An increase of 2% plus LGCI in year 1 is necessary to ensure rates are set at a sufficient level to cover costs and maintain the effectiveness of the scheme over the 10-year period. Significant capital expenditure is included within the 30-year Infrastructure Strategy, which may require a larger increase to this targeted rate in subsequent Long Term Plans.

Comments

Ratepayer contributions are set to partially fund roading seal extensions. Refer Funding Impact Statement on page xx of Volume One for further information

The projected number of rateable properties within the District at the end of each preceding financial year is shown in the table below.

Projected rating base information

	Years					
	23-24	24-25	25-26	26-27	27-28	28-29
Projected number of rateable properties	44,272	44,848	45,431	46,021	46,619	47,225

	Years				
	29-30	30-31	31-32	32-33	33-34
Projected number of rateable properties	47,839	48,461	49,091	49,730	50,376

Annual Growth factors shown above will be used for each year's rates setting regardless of actual growth to allow some certainty in financial planning.

Debt, Interest and internal funding

Debt

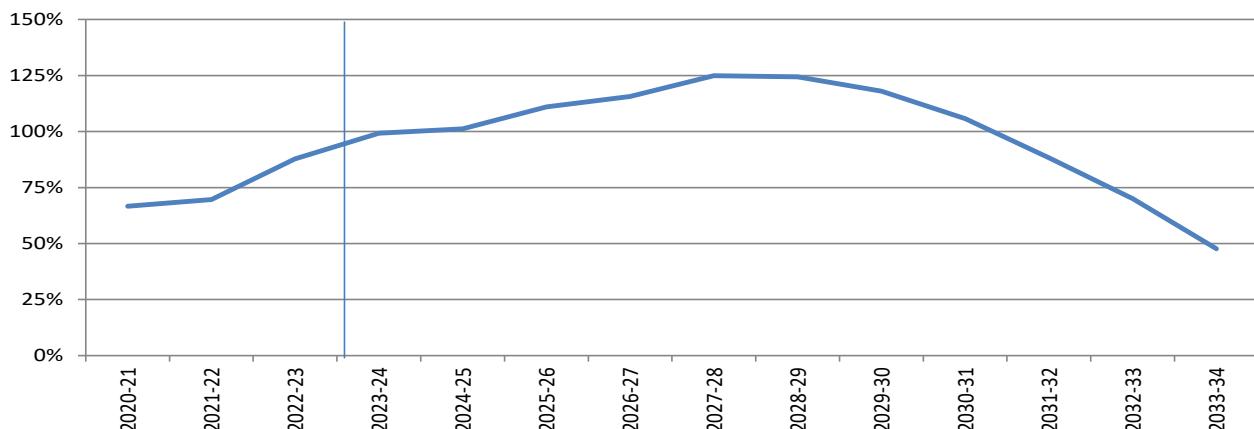
Council borrows money to pay for significant assets that last for many years. If long-term assets were paid for solely from the rates collected in the year they were built, today's ratepayers would be paying the entire cost of assets that our future ratepayers would use in the years ahead.

The way we deal with this is to use debt to fund assets, which allows us to share the assets' costs between current and future users. That way, all the people using an asset end up paying for it over its lifetime. Spreading of costs over multiple years is known as 'inter-generational equity' and is standard practice throughout the local government sector.

The Financial Strategy 2024-34 sees total net debt increase from an estimated \$213.7 million on 1 July 2024, growing to \$391.6 million by year 5 (2028-29), then reduced back down to \$177.4 million by year 10 (2033-34). Details on how Council's debt is managed are set out in the Treasury and Risk Management Policy, which is available on request.

The graph below compares total net debt to revenue. Ensuring our rates funding is set at a sufficient level (see Everyday Funding on page xx for further information) means we will be able to reduce Council's debt over the longer term.

Net debt as a % of revenue



To enforce Council's desire to manage our debt, Council has set its debt limit of 175% of revenue at significantly less than what is required by LGFA (285% of revenue for the year ending June 2025). While there is no intention to increase debt beyond the levels shown elsewhere in this Strategy, it is important to note that we have considerable capacity to access more funding in the unlikely event that it is needed – for example to deal with abnormal events and emergencies.

Refer to Minimising risk and Adapting to Change on page xxx.

Securities for borrowing

Council secures its external borrowing and financial instruments against Council's rates revenue through a registered debenture trust deed. It is intended to continue with this practice, which provides ample security cover for predicted levels of borrowing.

Financial investments and equity securities

Council uses any surplus cash to reduce debt or invest in short term investments which are included as cash. Council can also hold investments in its subsidiaries.

Council does not hold equity securities in public companies except for small holdings in Civic Assurance Limited and New Zealand Local Government Funding Agency Limited, which provide insurance services and lending to participating local authorities respectively.

Finance costs

To minimise financing costs, Council is a member of the Local Government Funding Agency (LGFA). This means Council can borrow at lower rates than are available through direct lending from trading banks. Council will also take advantage of funding opportunities offered through LGFA's Sustainable lending, which provides a further discount on borrowing costs.

Council takes a long-term view when managing our treasury risk and interest rate exposure. This is achieved by using interest rate swaps to protect against interest rate or margin increases. Debt maturities, or the dates when loan agreements must be repaid, are spread over both short and long terms, as well as a mixture of fixed and variable interest rates.

The LTP assumes an interest rate averaging 4.93% across the 10 years, after taking all factors outlined above into account.

Internal funding

As part of its financial or treasury management, Council minimises its overall interest costs by using funds held in reserve as ‘internal borrowing’. i.e. rather than keeping funds on deposit while borrowing all the money needed to fund capital works, reserve funds are used in the short term and they are repaid in the future as needed. Council intends to continue this approach into the future.

Internal interest charges are allocated to each activity for their share of funds borrowed from reserves, with these costs included within the activity funding impact statement. Similarly, the resulting revenue from these charges is included within the activity funding impact statement from which the funds were borrowed. No internal interest is included in the Prospective Funding Impact Statement for Council.

Reserves

Property Reinvestment Reserve

Council’s Property Reinvestment Reserve (PRR) was originally created in 2010 through the sale of Council’s interests in leasehold land to those already leasing the properties. From 1 July 2015 Council decided the proceeds of commercial property sales would be set aside (reserved) for purchases that met Councils’ property objectives, as stated in its property policy. The balance of this reserve at 30 June 2023 was \$21.2 million, with all the funds used to finance projects through internal lending.

No specific funding for commercial property purchases has been included within the plan, other than minor capital fitout for existing properties. Commercial property transactions will be considered from time to time, where there is an identified strategic benefit and/or the predicted return from a potential commercial property investment is greater than the cost of capital. These transactions would be debt-funded with a corresponding reduction in the reserve balance, and dealt with via a Council resolution or future Annual Plan / LTP process, as appropriate.

While there are no specific plans to sell any commercial property in this LTP, this will be considered from time to time if suitable opportunities (such as development partnerships or unsolicited offers) occur. If any sales were to take place, the proceeds would be added to this reserve and be available for reinvestment.

An annual dividend will be added to the amount available for reinvestment each year.

Should Council establish a CCO/CCTO for property development and then transfer the ownership of property assets to it, it is possible that this reserve would be dis-established at that time.

Targeted Rates Reserves

Council holds reserves for those activities funded via targeted rates. This helps to ensure that over the long term, targeted rates are used for the purpose in which they were collected. Both Water and Wastewater have reserves at 1 July 2024. These reserve balances can fluctuate from a reserve position to a debt position depending on the timing of capital spend. The Wastewater activity has a growing reserve balance across this plan, as rates are being collected and accumulated to fund future significant capital expenditure.

The Water reserve is forecast to end in a debt position by 2034, and Council intends to start funding Stormwater with the introduction of targeted rate in Year 2 of the plan.

The future funding requirements for providing Water, Wastewater and Stormwater services will be reconsidered in the near future when Government provides more clarity and direction through its Local Waters Done Well Policy.

Other reserves

Council holds other significant reserves including Community Development Funds, Asset Reserves, and Solid Waste, as well as various minor reserve balances held for specified purposes.

Expenditure

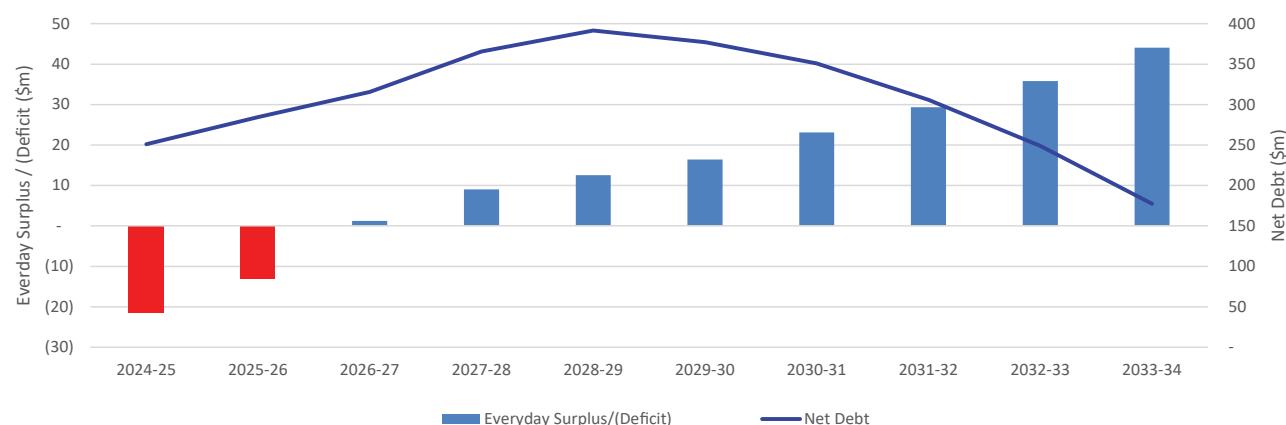
Operational activities

Forecasting Council's operational expenditure is a balancing act. Local government costs continue to increase meaning Council must rise to the challenge of meeting Levels of Service while at the same time looking to find efficiencies and save costs wherever it can in order to keep rates affordable and achieve a balanced budget.

Council also needs to allow for the effects of population growth, community expectations, operating costs associated with new assets, and finance costs on additional debt in preparing its budgets.

The graph below shows Council's annual surplus over the 10 years applying our Everyday Funding benchmark calculation. This means our everyday operating revenue is higher than our everyday operating expenses. It ignores capital revenue streams that are received to fund our capital programme. This helps ensure we have a sustainable and prudent budget for the future.

Everyday surplus by year



The realignment of our everyday revenue and everyday expenses will occur over the first 2 years of the plan, with revenue exceeding costs from year 3 enabling debt reduction in the later years.

Capital expenditure

Allowing for inflation over the life of the plan, Council's total annual capital expenditure ranges from \$100 million to \$169 million.

Capital expenditure is funded by a combination of operating surplus, rates, debt, development contributions and government subsidies. Council is expected to receive NZTA subsidies of 53% for subsidised roading projects over the lifetime of the plan.

The graph below illustrates planned capital expenditure over the 10 years of the plan of \$1.2 billion.

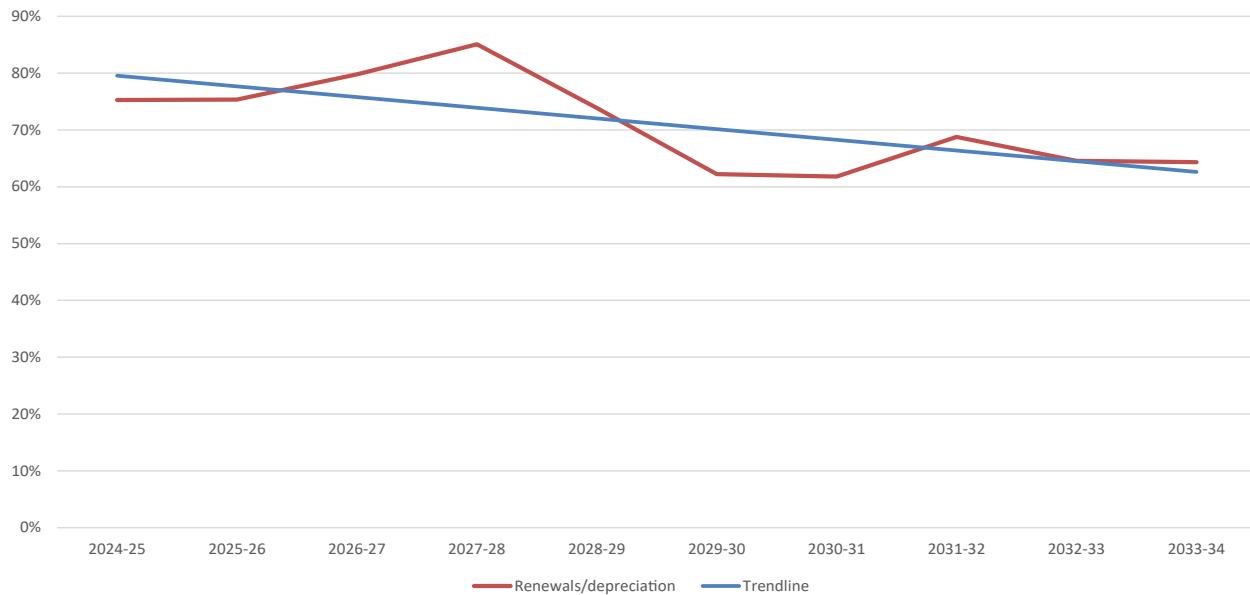
Planned capital expenditure



In total, 47% of the capital expenditure, is for the renewal of existing assets and upgrades to extend their useful life. Each year a depreciation amount is estimated. This represents the portion of an asset's useful life that has been used up through 'wear and tear' in that year by current ratepayers. Depreciation is calculated for all assets and while each year's renewal programme only affects a portion of assets, all of them will be replaced over time.

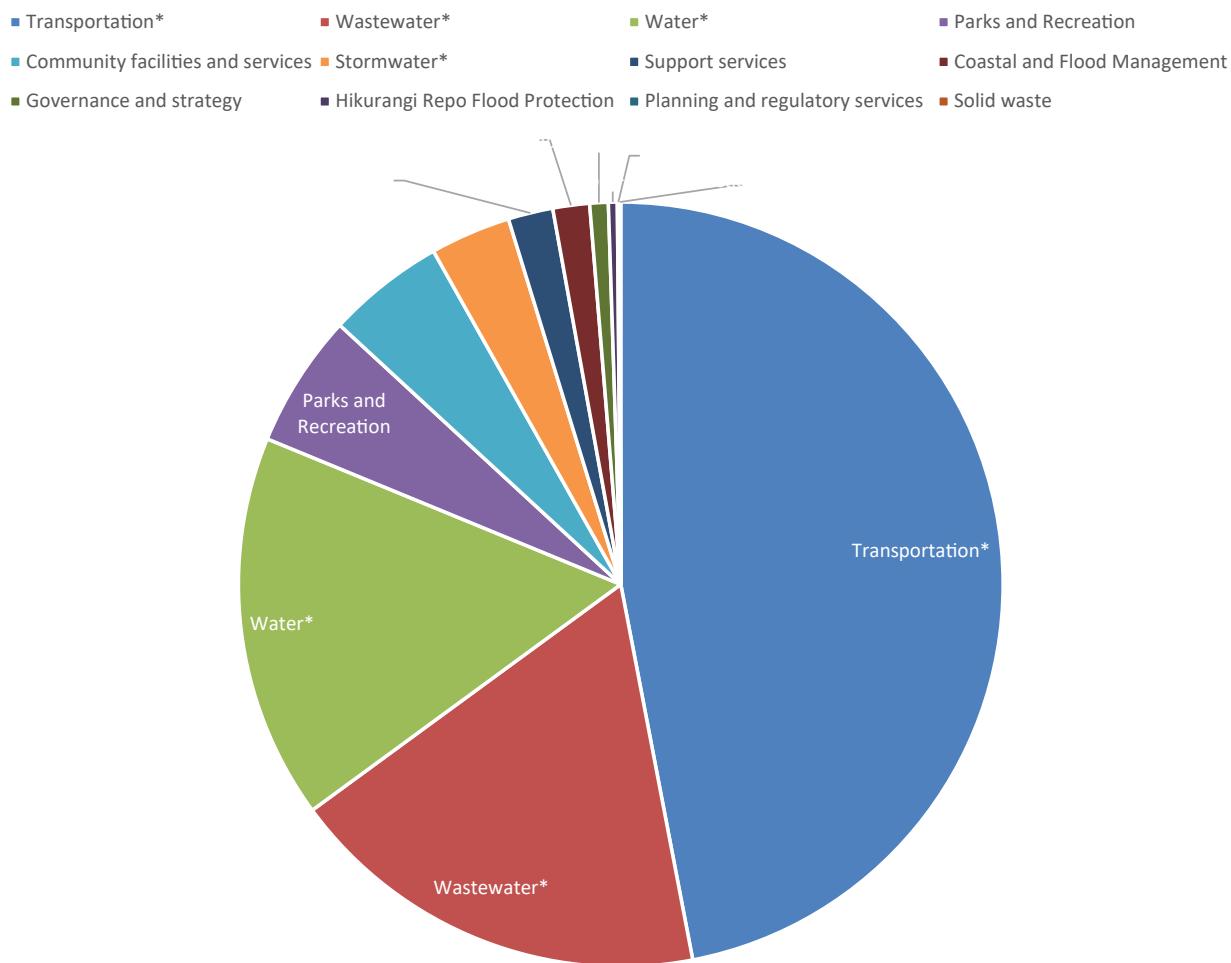
An increase in our capital programme comes with a corresponding increase in our depreciation expense. The graph below shows the relationship between depreciation and renewals over the life of the plan.

Annual renewals vs depreciation



This graph shows the average ratio of renewals to depreciation to be 70%. This ratio is impacted by several factors including assets remaining useful lives, depreciation rates, the timing of asset replacement, and the addition of new capital assets, and the revaluation increases of our asset values. Council will continue to monitor asset performance to ensure renewals are completed in order to maintain service levels in the foreseeable future, and avoid leaving a significant backlog of asset replacement for future generations. As part of Council's three yearly infrastructure valuation, assets useful lives (and therefore depreciation) will be reviewed to ensure these accurately reflect the condition and wear and tear on our network assets. This issue is explored in more depth in the Infrastructure Strategy 2024-54.

Capital expenditure by activity (\$m)



*Network Infrastructure

The graph above shows, over the life of the plan, 85% of capital expenditure is focused on network infrastructure, reflecting Council's recognition that it still must invest considerable amounts in our core assets to meet the service levels the community expects.

Note: Solid waste expenditure relates solely to transfer stations, which are the only solid waste assets directly owned by Council. The bulk of our refuse management operations (including the landfill and Re-Sort facility) are delivered with our joint venture partner through the Northland Regional Landfill.

Minimising risk and adapting to change

It is more important than ever for our strategy to be flexible enough to allow Council to adapt to the ever-changing environment we are faced with.

In preparing this Plan, Council had to make some assumptions about what will happen in the future (refer page xx for Significant forecasting assumptions). However, this always brings with it a level of risk. Significant changes to the local government environment as a consequence of central government decision has further increased uncertainty of current and future economic conditions. We have identified the following major areas of risk that could impact on our ability to deliver on the Financial Strategy 2024-34.

Climate change and natural hazards

Our District is susceptible to extreme weather events which can cause significant unplanned repair works and capital costs. While we design and build our infrastructure assets to have resilience to these storm events, we are still often faced with unplanned repairs.

Council's approach to funding storm damage is also addressed within Council's Revenue and Financing Policy. Council would fund maintenance and capital works by borrowing up to its debt limit. If this was not possible then Council would reprioritise and/or defer operating costs and capital spending to accommodate the work required to make good the damage.

No provision has been made for catastrophic events such as tsunami, as this would be so disruptive that a business continuity plan based on the current operating model would be impractical and other interventions (such as central government support) would be required.

Growth and development

We know that population growth and development will continue, but we cannot accurately quantify exactly when, where or to what extent it will occur. Our asset management plans, infrastructure and financial strategies are all based on historical trends and future growth forecasts to give us the best prediction of our District's needs into the future. While several projects that support growth are included in our LTP, we will review actual growth patterns and infrastructure needs each year and adjust the programme accordingly.

Economic conditions

Global economic conditions can negatively impact Council's financial resources, as well as those of our ratepayers and residents. The table below summarises some of the potential impacts caused by economic conditions, and lists measures available to Council to lessen our susceptibility to these.

Potential impacts	Measures
<ul style="list-style-type: none">• reduced revenue streams (for example NZTA Waka Kotahi and other central government funding)• impact on service delivery and capital programme delivery• supply chain disruption which may cause project delays and cost escalation• reduced affordability for our ratepayers• interest rate exposure	<ul style="list-style-type: none">• scaling back or deferral of capital projects to match population growth or financial resources• provision to adjust activities or reprioritise budgets if there is a downturn (eg reduce service delivery)• revisit rates increases through the Annual Plan process• access to debt markets and liquidity parameters (borrowing to fund our operations for the short-term)• use of financial instruments such as interest rate swaps to minimise risk and provide a high degree of certainty and protection from global and national events

NZTA Subsidies and external funding

Subsidies from central government via Waka Kotahi (NZTA) provide a significant source of funding for our transportation activities, such as road construction and repair, and are a significant revenue source for achieving a balanced budget. In 2024-25, Council expects to receive NZTA subsidies of \$31 million, representing 53% of the gross cost of both operating and capital expenditure, on a wide range of approved roading projects. At the time of completing this plan, the extent of funding available to Council had not been confirmed by Waka Kotahi. Once funding has been confirmed Council will assess the impact on debt, project prioritisation, and/or the impact on balanced budget.

In order to maximise Council's eligibility to other central government funding, it may be necessary to change the timing and prioritisation of the planned capital programme.

In the event that the availability of external funding is reduced, Council would consider various options which may include:

- resolving to set an unbalanced budget where it is considered prudent to do so
- consider alternative funding sources (eg debt or rates increases) to fund the current programme,

- defer the maintenance and/or capital programme
- re-prioritise funding (eg reduce service delivery in one area to fund another)

Central Government and Regulatory changes

The change to a National-led Government, has increased uncertainty for local government. There are several major pieces of legislative reform that will impact on Council's responsibilities and the regulatory environment that councils work in. These will be worked through as legislation is enacted.

Known Unknowns

In addition to the major risks areas identified above, our environment is constantly changing with new information and changes in circumstances being presented to Council on an ongoing basis. While this Plan has incorporated everything we know about today, we are also aware of several factors that remain as 'known unknowns'. While we are unable to determine what the future impacts of some of these items will be, we know they will need to be worked through as more information comes to hand.

These items will likely be included within future Annual Plans, and consulted on where we need to get ratepayers thoughts. A non-exhaustive list of some of these unknowns include:

Financial support for our CCOs and other organisations

In the same way that cost of living has increased, so too have operational costs for Council and our Council Controlled Organisations.

Should any additional grants funding be provided to any of our CCOs outside of the budgeting process, this would be included as unbudgeted operational spend. Wherever possible unbudgeted spend will be funded by reprioritising existing budgets, or finding savings and efficiencies elsewhere. Where this is not achievable, unbudgeted spend will be funded by debt.

In some instances, capital expenditure is required for the wider Council Group. For example, Whangarei District Airport is a joint venture with the Ministry of Transport. Asset renewals and replacements are generally funded as a 50% contribution from each partner. Where the capital programme differs from the Plan and has the approval from both partners, any additional contribution required will be funded with debt.

Other entities that may not be CCOs, may also look to Council for support as our community recognises their close association. Council is aware that the Whangarei Aquatics Centre requires significant investment to the existing infrastructure. At the time of finalising this plan the level of Council's involvement is yet to be determined.

We are currently working through the Whangarei Arts Trust Statement of Intent and will need to consider its implications once confirmed.

Local Waters Done Well Policy

While we know the ownership and responsibility of our water services remains with Council, the future of how this will be delivered and funded remains uncertain. More certainty will be provided as Government provides direction through the Local Waters Done Well Policy.

Project costs

Cost escalations continue to create difficulties when we budget for our capital programme. While we include an inflationary increase across the plan, for the past few years cost escalations have far exceeded any inflationary adjustment. Council's strong financial management means we have significant debt headroom to provide a funding mechanism where existing budgets prove to be insufficient and savings are unable to be found elsewhere.

Council organisations

Council currently delivers a variety of services through Council Organisations, Council Controlled Organisations and Council Controlled Trading Organisations where it considers this is a more effective, efficient and financially viable option compared to other means of delivery. Refer to Group entities on page xxx of Volume One for further information.

Monitoring and reviewing the strategy

As part of business-as-usual, we constantly scan the financial and economic environment, as well as our own performance to monitor:

- sustainability of our financial performance and position
- emerging risks
- whether the Financial Strategy 2024-34 is being implemented
- trends in the community's ability to pay.

The Financial Strategy 2024-34 will be reviewed every three years as part of the LTP process. Consideration will also be given to the impacts of any significant changes in local, national, or global economic conditions during each year's Annual Plan process.

Supporting Documentation

The policies listed below have been developed in conjunction with this LTP and are available upon request:

- Revenue and Financing Policy and Funding Needs Analysis
- Treasury and Risk Management Policy
- Development Contributions Policy.

Disclosure Statement

We have included the Disclosure Statement in this LTP in accordance with the Local Government (Financial Reporting and Prudence) Regulations 2014. Refer to page xxx in Volume One.

The purpose of this statement is to disclose our planned financial performance in relation to various nationally consistent benchmarks, as well as our self-imposed debt and rates limits. These benchmarks enable the assessment of whether we are prudently managing our revenues, expenses, assets, liabilities, and general financial dealings.

ICON

Proposed Infrastructure Strategy 2024 to 2054



Infrastructure strategy at a glance

The Infrastructure Strategy 2024 provides a detailed and strategic outlook on the district's infrastructure planning and investment over the 30-year period up to 2054. It addresses the directional shifts anticipated within the infrastructure environment including an increased focus on resilience and climate change, district growth, changes in government direction and our communities expectations.

Outlined below is a high-level overview of the key matters set out in more detail in the following pages.

Key matter

Our district's climate is changing with more intense rainfall events and storms and longer periods of low rainfall. How our geography and environment responds is challenging.

Response over the next 30 years

- Increasing the resilience of our road network by increasing investment in road drainage. - recognising that some of our roads will continue to be affected by slips and floods so not over investing
- A Whangarei City Flood mitigation response which reduces the risk to people and business in the City
- Improved water resilience through the construction of Poroti Water Treatment Plan
- Developing of Climate Adaptation Plans in accordance with the Te tai Tokerau Climate Adaptation Strategy

Key matter

We need to continue to deliver on the expectations of our community including environmental wellbeing and value for money – this includes meeting changing environmental standards and mana whenua expectations.

Response over the next 30 years

- Increased and continuous investment in renewals across the network
- Giving effect to our new wastewater and stormwater consents across the District
- Monitoring the uptake of new connections to our wastewater system
- Providing more layers of protection around our drinking water system

Key matter

Our District is experiencing high growth, and regional development outside the District also impacts on our local infrastructure. We need to invest to support regional economic growth.

Response over the next 30 years

- Identify critical infrastructure constraints for development and phase renewals and upgrades
- Targeted wastewater capacity improvements in the City and at Ruakaka to accommodate growth
- Providing a Regional Sports Hub as well as a system of sports grounds and facilities that meet the needs of the community
- Implement the Parking Strategy including investigation of a new Car Park Building
- New Airport location
- Connecting Northland – working with our partners to ensure resilient road access to Northland

Key matter

High rates of deaths on Northland roads

Response over the next 30 years

- Increase investment in road renewals
- Focus on network safety improvements

Financial sustainability:

- The timing of forecast peaks in asset renewal is different for different assets enabling Council to manage annual expenditure levels.
- Growth infrastructure is phased in accordance with growth projections (and development is staged) to limit the risk of Council investment;
- Council will need to give careful consideration to the impact of new build and discretionary projects to ensure ongoing financial sustainability

Introduction

The 2024-2054 Infrastructure Strategy is Whangarei's fourth strategy. Our strategy meets the requirements of s101B of the Local Government Act by identifying the big infrastructure issues and setting out how we plan to respond to those issues.

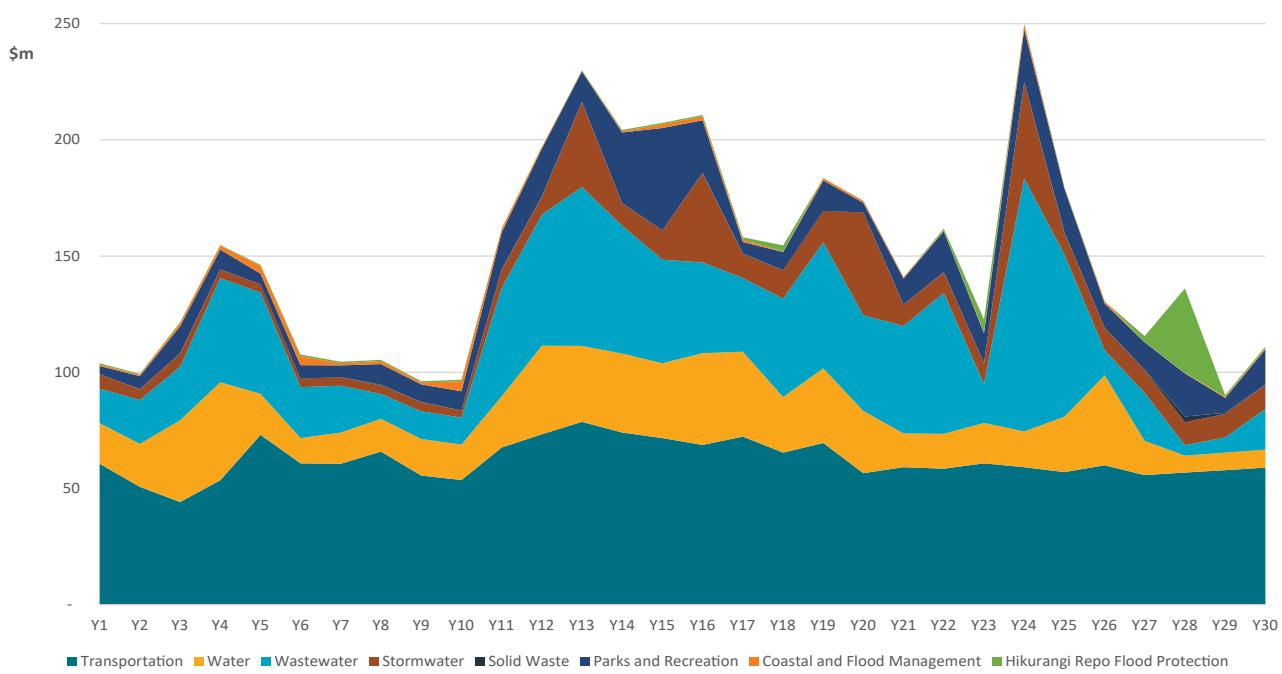
This Strategy has been developed against the backdrop of constrained funding and with our land transport networks suffering the effects of one of the wettest years on record. It is also confirms the three waters assets being part of the strategy.

We are increasing our focus on integration and whanaungatanga (fostering relationships and connections). This acknowledges the role of other public and private organizations in delivering infrastructure for our district and region. We are collaborating with government agencies and other partners to unlock the economic potential of the Te tai Tokerau including projects such as the Northern Growth and Ruakaka Growth initiatives, Bynderwyn detour routes and SH1 upgrades, Whangārei airport relocation, flood protection , drinking water security upgrades, and the Whangārei Base Hospital upgrade. This collaborative approach aims to ensure that projects are funded appropriately and integrated efficiently with other providers, moving us towards a regional infrastructure strategy.

We have identified the significant infrastructure challenges and opportunities facing the district over the next 30 years. There have been significant changes in the infrastructure environment since the last strategy, including legislative shifts such as the enactment then repeal of the three waters reform legislation, inflationary pressures, funding disruptions due to ad-hoc central government initiatives, and significant weather events.

We are planning to deliver an average of \$113 Million through years 1-10 increasing to an average \$188 million in years 11-20 and reducing to \$143 million in years 21-30.

Capital expenditure by activity



The need for climate change adaptation has been confirmed as a national priority. This is reflected as a focus in the short term on developing coastal community adaptation plans and the city centre flood study. The physical works that may fall out of these plans will still need to be developed as options for future infrastructure strategies.

Whangarei's population growth is projected to reach 143,100 by 2054. This highlights the pressure on the provision of core infrastructure and community facilities, necessitating timely and well-planned projects to accommodate this growth both within the current networks to service higher density housing and in upgrades to treatment plants and wastewater disposal options.

This strategy is supported by a range of documents including detailed activity management plans for each activity, growth scenarios, and other strategies. Our first Future Development Strategy under the National Policy Statement for Urban Development is currently being developed. This looks at where growth is recommended to occur and informs our planning, including future infrastructure provision.

An improved Investment Management Framework will help us make good decisions about council's long-term investments. It covers the council's approach to managing its infrastructure investment from concept through to delivery.

The council is refining its procurement approach to better manage a growing program of work, collaborating with the supply chain, packaging work for efficiency, focusing on early completion of business cases and consents, and increasing the capacity for delivery.

While our infrastructure expenditure is signalling increased debt levels over the period of the Long Term Plan, we are still well within the debt parameters set in our Financial Strategy, and those set by the Local Government Funding Authority. There is no intention to increase debt beyond the levels shown in the Financial Strategy, however, Council also has the capacity to raise debt to deal with abnormal events and emergencies.

Overall this Strategy provides for a balanced and appropriate approach to the funding and management of infrastructure to ensure that it continues to meet the needs of our community at the end of this 30-year period.

Part 1 - Our context

1. Our Infrastructure Environment

1.1. Developments since 2021

Since our 2021-50 Infrastructure Strategy, much has changed in the infrastructure environment. Te Waihanga (the New Zealand Infrastructure Commission) has developed a National Infrastructure Strategy which has highlighted some of the deficiencies in the infrastructure sector.

Te Waihanga states:

“...Central government entities with national objectives are performing functions with localised impacts. Local government entities without scale or resources are providing services with regional and national impacts. Neither are optimised to respond to the communities they are affecting, and no one is delivering regional outcomes. Councils are disincentivised from investing in long-term projects with diffuse benefits and pursuing collaboration with other governance bodies in the region where benefits don’t accrue immediately, or only, to local constituents. However, without changes to the way roles and responsibilities are allocated, we will struggle to deliver the infrastructure New Zealand needs now and into the future¹”

Specific changes in the infrastructure environment that are consistent with these observations over the past three years, have included:

Three Waters

The now repealed three waters reform process signalled a change in direction for us. The responsibility for operating and planning for three waters (wastewater, drinking water and stormwater) was legislatively removed from our activity portfolio. The legislation detailed that Infrastructure Strategy should be prepared without the inclusion of any content on three water services. Work was undertaken to develop a regional Asset Management Plan under the Wai Tamaki kit e Hiku and Department of Internal Affairs (DIA). However with recent changes this is now back in Councils portfolio and the Infrastructure Strategy has been updated to incorporate this information.

The three waters funding indicated by Wai Tāmaki ki Te Hiku was higher over the 30 years than we are proposing in this plan, and the programme would have been achieved quicker than we can achieve. Over the last three years we have continued to ensure that our three waters assets are well managed and planned for.

Inflationary pressures and Interest rates

Inflationary pressures over the past three years means that our dollar buys less, and increased interest rates means that it costs more to fund what we can buy. The high inflationary environment has affected our infrastructure projects with significantly higher costs of construction materials.

¹ Infrastructure New Zealand. Building Regions: A vision for local government, planning law and funding reform, (Auckland, August 2019), pg.3

Funding

Out of cycle specific project focused funding from central government (in response to economy-boosting initiatives and Covid-19 response) has distorted our asset planning cycle and prioritised projects based on readiness rather than need. The funding was welcome but has disrupted “business as usual’ delivery.

Climate Events

Whangarei has experienced increasing numbers of significant weather events, from droughts to floods, which have required diversion of resourcing and deferring of planned projects, especially in the Transportation activity. Climate adaptation planning is now a national priority.

In the past three years, Council has initiated a community led coastal adaptation programme to address the community and infrastructure impacts from rising sea levels and increased frequency of storm events.

Growth

The Whangārei District has grown by 1.7% in 2021 and 1.2% in 2022².which is slightly lower than projected. This growth coupled with the changes in zoning in the District Plan implemented in 2022 has put pressure on our core infrastructure and community facilities especially in our urban areas. Government policy to develop affordable housing through brownfield developments and increased density has highlighted capacity constraints in our networks.

1.2. Planning for the future

This is our forth Infrastructure Strategy developed for Whangārei District Council. In providing infrastructure that responds to our current context and the needs of Whangārei, we need to recognise that how we plan for, deliver and fund infrastructure is as important as the outcomes that we deliver.

To do this we will prioritise:

- renewals with an emphasis on resilience,
- keeping ahead of growth and enabling capacity,
- focusing on getting the planning right, and
- working within our financial parameters.

Alongside Northland Regional Council, we are preparing a Future Development Strategy (FDS) as required under the National Policy Statement for Urban Development (NPS-UD). The FDS sets out broad locations for future growth in Whangārei over the next 30 years. The Strategy will play a critical role in:

- Setting out the strategic direction for how and where we intend to grow and invest in infrastructure over the next 30 years.
- Articulating hapū development aspirations for Whangārei.
- Building an aligned and connected approach to delivering key infrastructure projects.

² ecoprofile.infometrics.co.nz/Whangarei%2bDistrict/Population

- Shaping priorities and timing of investment into key infrastructure and integrated planning and delivery across key projects.

We need to be proactive in our infrastructure planning.

- Through ‘joined-up planning’ we get a better understanding of all the infrastructure providers drivers and timeframes. This should lead to more effective delivery of projects.
- We don’t have to deliver it all, we recognise that there are multiple entities capable of delivering infrastructure.
- The costs of planning could be capitalised rather than adding to an already stretched operational budget

Inadequate planning means we may not be ready to take advantage of funding options and we are often delivering projects in a reactive, rather than proactive way

The following section provides an overview of the key challenges that we are currently and expecting to experience over the next 30 years. Each challenge is further discussed throughout the Strategy, along with opportunities and actions to rise to each challenge.

Although Covid 19 is not a specific challenge in this Strategy, there are still some residual effects on infrastructure delivery from the Covid-19 pandemic. The pandemic primarily interrupted the timing of our project delivery, some projects were delayed and in some cases it advanced projects that were unplanned or planned for later. We are still catching up.

1.2.1. Challenge 1 - Growth

Our District is experiencing high growth, and regional development outside the District also impacts on our local infrastructure

- Growth means we need more housing and more services. Where we grow is a key issue as we have some localised capacity constraints that effect the speed in which development can be achieved.
- The impact extends beyond what we as Council provides, affecting all infrastructure providers in the District . Fragmented decision making among these providers has resulted in misaligned outcomes.
- We have a tight labour market, this creates delivery challenges for our service providers.

Our future and how we’re going to get there

Growth

Our infrastructure programme will be developed using our Activity Management Plans and Investment Management Framework (IMF) process. The IMF provides a gateway approach to ensuring our future programmes are properly scoped in advance of delivery.

When planning for growth we have an increasing responsibility and focus on providing ‘joined-up planning’ both internally and with external agencies.

In delivering for growth, Whangārei continues to be identified as a tier two ‘High Growth’ area and there is now a statutory requirement for a Future Development Strategy (FDS) in accordance with the National Policy Statement for Urban Development (NPS-UD). Working with Northland Regional Council, we are drafting our first FDS, which is a future-focused spatial plan, that is required to inform our long-term planning and provision of infrastructure

and services. The draft FDS will identify the locations and potential timing of growth and development, while the Infrastructure Strategy will ensure that we are planning to meet the demands of this growth and development. The Infrastructure Strategy is essentially Council's implementation plan for the FDS. Due to the timing of consultation and adoption of the FDS, we have captured the key initiatives in this strategy however the next iteration of the Infrastructure Strategy will have a stronger integration between these two plans.

Urban Intensification

The NPS-UD has set a direction towards urban intensification and the creation of well-functioning urban environments. This is reflected in our District Plan which allows a higher level of housing density in existing urban areas. Council strategies including the 'Housing Strategy' and "Draft Future Development Strategy" also signal this intention. The impact of this directive on infrastructure is to focus investment on the renewal and upgrading of existing assets rather than creating new assets for greenfield developments. It is relatively early on in our intensification journey and we are investigating tools/levers to encourage greater uptake of housing opportunities. Infrastructure capacity modelling is underway and will be a key tool in identifying our constraints and risk. The priorities and scale of the projects identified will be worked through as part of the FDS implementation plan.

Integrated Infrastructure

Our role working alongside other infrastructure providers, including power, communications, health providers and transport providers is becoming increasingly important.

As the largest city in Te Tai Tokerau, we have regionally significant infrastructure within our district including Whangārei Base Hospital, tertiary education and port facilities (Bream Bay). We need to ensure that we have resources available to participate in projects being developed by others so that we get the right outcomes for our community and that quality assets are provided as well ensuring other agencies are involved in ours.

1.2.2. Challenge 2 – Climate Change

Our district's climate is changing with more intense rainfall events and storms and longer periods of low rainfall. How our geography and environment responds is challenging.

- The combination of Northland topography, geology and intensity of rainfall create challenges for our city centre and existing transportation links.
- Our city centre is vulnerable to climatic events and we need to protect it because it is essential to providing for the region's wellbeing.
- We have communities outside of our urban centre who need to access core services.
- Our networks are not as resilient as they need to be.
- We rely on Tāmaki Makaurau Auckland for economic support however the geography between us and Tāmaki Makaurau Auckland is not conducive to this relationship. Additionally, we need to ensure access to our neighbours further north.

Our future and how we're going to get there

Access to the North

The extreme weather events of 2023 highlighted our reliance on State Highway 1. We need to ensure we have resilient and fit-for-purpose alternate routes for travel to and from Auckland as well as to the North.

Central government has signalled the re-establishment of the four-laning of State Highway 1 project between Auckland and Whangārei. This will be transformational in terms of economic development and population growth for the wider region. However, as the timing, scope and final location of this project is unknown, it is currently difficult to effectively plan for and deliver infrastructure to support this initiative. As part of our desire to create integrated infrastructure we will be involved in this project as it progresses.

We are actively working with Kiwirail on enabling the Marsden link rail project. This essentially opens up the potential for greater port and industrial activity at Marsden/Ruakaka and well as subsequent residential growth. We have also signalled with Kiwirail our desire to open up an urban commuter rail link and inter regional passenger services.

Coastal and Flood Hazard Mitigation

Central Whangārei City is exposed to high levels of river and coastal flooding which is projected to increase over the next 30 years. Planning is signalled in the Long-Term Plan 2024-2034 to model flood risk in urban Whangārei. The potential infrastructure solutions, which are likely to include long-term adaptation options, will not be fully understood until this modelling has been completed.

Community led adaptation planning has commenced developing a staged adaptation programme across five coastal catchments. This links to the regional adaptation work that is being facilitated through Climate Adaptation Te Taitokorau (CATT) a cross council and hapū group. These plans will identify local constraints and highlight infrastructure issues that will need to be addressed. The potential infrastructure solutions, which are likely to include long-term adaptation options, will not be fully understood until this planning is completed.

Resilience

Following Cyclone Gabrielle in 2023 it became apparent that there were significant localised resilience issues affecting the transportation network. Work was undertaken to develop a plan to undertake initial remediation works and to identify risk areas where mitigation works could prevent future failure. This is now being implemented as part of the Long Term Plan.

1.2.3. Challenge 3 – Community Expectations

We need to continue to deliver on the expectations of our community including environmental wellbeing and value for money

Whangārei is the main provincial centre for Te Tai Tokerau as well as being a popular tourist destination. As we grow as a city and become increasingly urbanised, community expectations about what Council should provide and to what levels of service are changing. We are expected to provide the benefits associated with the “big city” feel without the same economies of scale enjoyed by larger urban areas while still serving the needs of the wider regional economy.

The challenge is that we need to fund a regional centre with a local funding base.

Our future and how we're going to get there

Community Expectations

We are working with our communities and other infrastructure providers to plan and deliver assets and services while managing expectations, including alternative delivery models.

Our levels of service reflect our community's expectations balanced against the costs of rates and services.

Compliance

Local Government in general has been affected by an ambitious programme of regulatory changes and we expect this to continue. With the change in government direction, further changes have been signalled and the impact of this on our planning and delivery of infrastructure is unknown.

1.2.4. Challenge 4 - Programme Deliverability

It's important that we ensure that the capital programme outlined in this plan is deliverable, both to ensure essential infrastructure is put in place to serve our community, but also because it needs to be paid for through both rates and debt. Overly aspirational capital programme forecasts (beyond market capacity) take up valuable capacity in our financial strategy and also means that ratepayers are being asked to pay for things earlier than they might need to.

Recognising the importance of the deliverability principle we undertook a process to rationalise the capital programme down from its earlier forecasts, particularly where projects in the early years were not suitably advanced through the pre-planning and design phases.

2. Our infrastructure activities

2.1. Overview

This Infrastructure Strategy applies to the following legislated activities:

- Wastewater
- Water
- Stormwater
- Transport
- The Hikurangi Flood Management Scheme

In addition, the following unlegislated activities are also included in this plan:

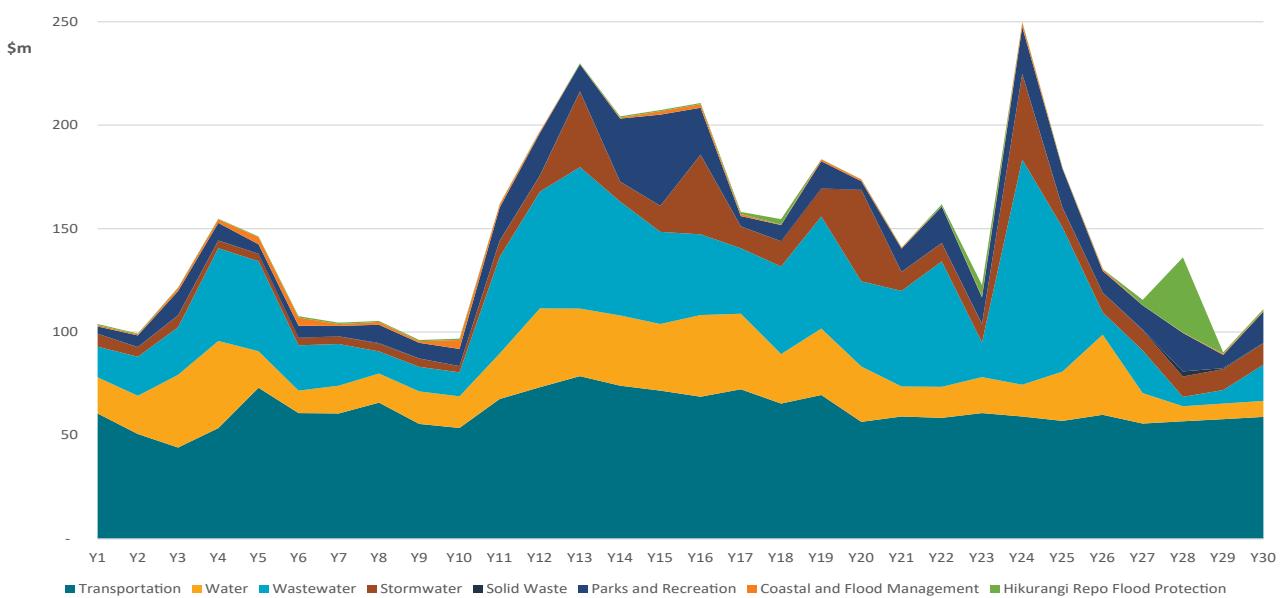
- Parks and Recreation (including Coastal and Flood Management)
- Solid Waste

Table 1 below provides an overview of the Council's infrastructure portfolio.

Transport	Wastewater
Value \$1,277 million	Value \$553 million
1774 km Roads	9 Waste Water Treatment Plants
1070 Sealed Roads	860 kms of pipes
683 Unsealed Roads	148 Pumpstations
518 Bridges and Large Culverts	9000 manholes
2 Opening Bridges	
22,120 m Drainage Systems	
456 km Footpaths	
6338 Streetlights	
258 Traffic Signals	
17840 Signs	
Stormwater	Parks and reserves
Value \$385 million	Value \$145 million
19 Flood gates	2,090 hectares of land (administered as open space)
34 retention ponds	82 playing fields
691km of network including channels and open drains	47 playgrounds and seven skateparks
Water	62 kilometres of walking tracks
Value \$513 million	22,344,000 street trees
799 Km's of Pipes	8 Cemeteries
4 Dams	76 public toilets
47 Reservoirs	
26 Pump Stations	
10 Water Sources	
7 Treatment Plants	Solid Waste
	Value \$14 million
	5 closed landfills
	6 rural rubbish and recycling transfer stations
Flood Protection	
	Value \$51 million worth of assets
	68km stopbanks.
	7 pump stations

The current value of the seven portfolios covered by this strategy is over \$3 billion of Core Infrastructure assets.

Capital expenditure by activity



Council's asset base increases over time through two main mechanisms:

- New assets are created by Council through the capital works programme.
- New assets are created by another party and vested in Council – generally this is as a result of development activity and assets are infrastructure to service new areas and increases in demand for services.

The value of Council's asset base is also impacted by periodic revaluation of Council's assets. Revaluations occur between every 1 - 3 years depending on the asset class. Council's assets were last revalued in 2022 and are scheduled to be revalued in 2025.

Total asset value and sub-set covered by this infrastructure strategy



2.2. Data Confidence

The following table outlines the confidence we have with our asset information to inform the Infrastructure Strategy.

Details on the breakdown and specific confidence levels are outlined within each activity section and in our Activity Management Plan. The confidence level is assessed against the International Infrastructure Management Manual Data Confidence grading system (Table 4.2.7.2).

In summary we have medium to high confidence in our critical assets such as water treatment facilities, reservoirs, wastewater treatment plants and pump stations. For our stormwater assets where our confidence is relatively low to medium, we have not identified any critical assets.

Asset Group	Data confidence	Comment
Water	High	High confidence in information across the portfolio particularly buildings, reservoirs and treatment plants. Underground assets have extensive maintenance records giving confidence that renewal strategies are appropriate.
Wastewater	Medium	Reasonable confidence in data across the activity. An area of focus is improving quality of condition data for gravity mains through an ongoing condition assessment programme. Ongoing modelling of the network is planned to identify and manage asset criticality.
Stormwater	Low / Medium	Reasonable component information, but location and condition data is inconsistent. There is an ongoing asset data capture programme to improve knowledge levels including new asset capture and network modelling.
Hikurangi Flood Management Scheme	Medium	Medium confidence in data across the activity, but limited componentisation of data. This is not critical as most assets are above ground and condition and age are known at a functional level.
Solid Waste	Medium	Medium confidence in data across the activity as these are above ground assets.
Parks and Recreation (including Coastal Structures)	High	High confidence in data across the activity. Lower levels of componentisation for cemetery assets but information is continually improving.
Transportation	Very High	Very high confidence in data across the activity. Ongoing, well defined condition assessment programme and database.

2.3. Additional commentary relating to specific activities

2.3.1. Three Waters

We know that in the short term the responsibility for three waters assets will remain with us, however it is not unreasonable to expect, in the medium and long term (based on the nationwide infrastructure deficit) management of three waters activities will change.

With uncertainty around the long term management scenario, we will continue to ring-fence the way we manage three waters assets (i.e., keep the management and funding separate from our other activities) so that should an alternative model be implemented for the management of three waters activities, this will be less disruptive to our organisation.

2.3.2. Coastal and Flood Management

We have introduced a new activity into the Long-Term Plan 2024-34 called Coastal and Flood Management. This change has come about due to the (now repealed) establishment of Wai Tamaki ki Te Hiku, which was to manage stormwater (but not flood management planning) and the increasing focus and investment required as a response to climate change.

This activity is currently managed as part of the stormwater and parks and recreation activities. We expect to have a separate activity management plan prepared before the 2027 Infrastructure Strategy if this continues as a separate activity.

2.3.3. Transportation

Central Government is currently working on a new Government Policy Statement on Transport. This will establish priorities for the future. It is anticipated this policy direction will reprioritise projects to be included in the national land transport programme (NLTP) and this will have a flow on effect for funding. The NLTP is not due to be finalised until September 2024.

As the timing of NZTA Waka Kotahi's funding rounds does not align with Council's LTP cycle. There is always an element of uncertainty of what the subsidy will be, and when it will be provided, as well as the project priorities and overall funding levels. Our current subsidy level is 53% of the cost of our proposed roading projects.

2.3.4. Community focused infrastructure

We have identified that we need to develop asset management practices for our community focused infrastructure. We can do this using our well-established asset management practices. As best financial practice we have initiated formal asset management practices for all activity groups (Commercial Properties, Venues and Events, Community Halls, Pensioner Housing and Venues and Events) due to the resources they consume and their contribution to Community Outcomes. The strategic planning for these assets is not at a sufficient maturity to be included in this infrastructure strategy. We expect to have activity management plans in place for these activites to be included in the 2027 Infrastructure Strategy.

3. The Strategic Framework

3.1. How will we use this Infrastructure Strategy?

The Infrastructure Strategy 2024-2054 is part of a suite of strategies, plans and policies that contribute to the sustainable management of our infrastructure.

The purpose of an infrastructure strategy is to identify the significant infrastructure issues for the district over a 30-year management period, along with the principal options for managing those issues. Section 101B of the Local Government Act 2002 describes the expectation that local authorities consider options, costs, uncertainty and timing of significant decisions to ensure transparency of long-term sustainable, resilient and equitable outcomes to enable prudent long-term decision making.

Over this period the issues and solutions for the management and provision of infrastructure will change considerably, this will be driven by advances in technology and the changes in the way we live and work.

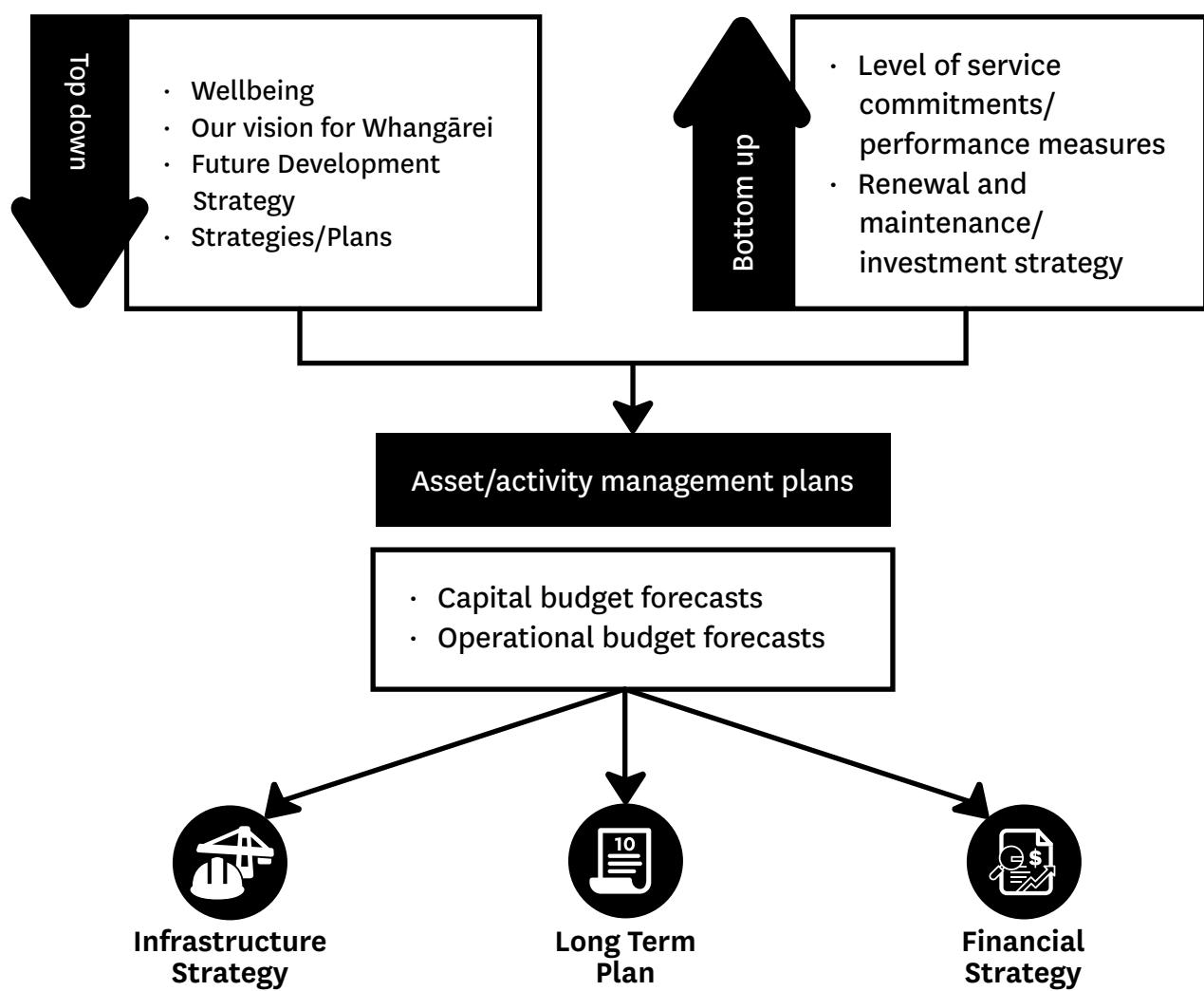
How we deliver infrastructure is as important as what we deliver:

An Infrastructure Strategy guides us through decision making	
	How might we respond to changes?
	What are our significant challenges over the next 30 years? How will we manage these?
	How can we make prudent decisions?
	How might we manage our assets? How might we respond to growth or decline? How might we improve resilience?
	How can we align our areas of responsibility with external projects and programmes?

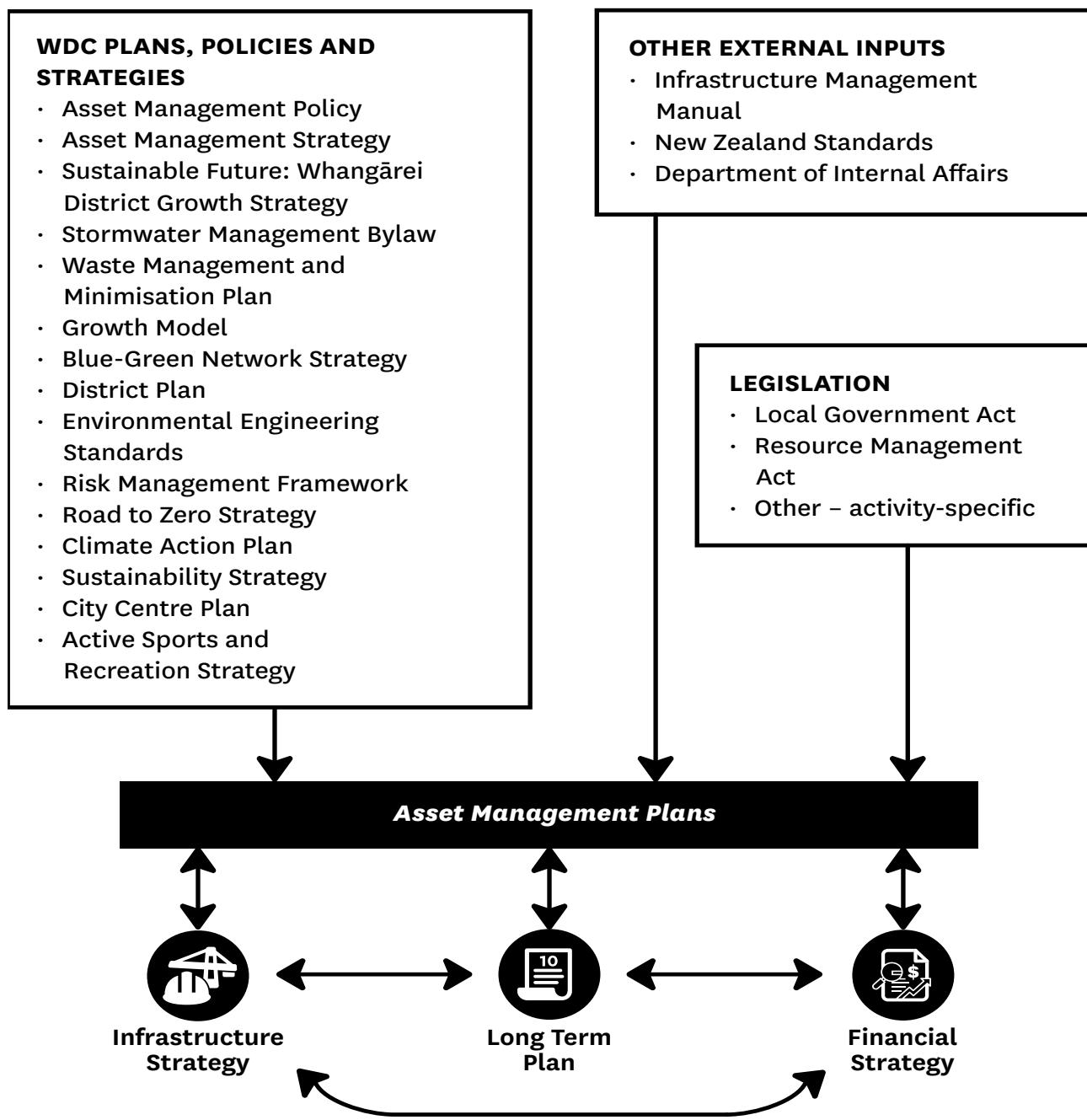
3.2. How does the Infrastructure Strategy align with our other documents?

The Infrastructure Strategy and the Long-Term Plan go hand-in-hand as illustrated below. In this LTP cycle we must also consider the Draft Future Development Strategy (FDS). The Draft FDS can be used as a tool to identify infrastructure requirements for future growth scenarios. The Infrastructure Strategy considers when and how to deliver these requirements and the LTP determines what will be delivered. Over the span of the next three years we will continue to make progress completing and implementing new targeted strategies namely the Knowledge Precinct Plan, Parking Strategy, Marine Strategy and the Hikurangi Flood Management Scheme . In addition we will review and update our three water strategies.

Cycle of infrastructure management



The Infrastructure Strategy is linked to a wide range of internal and external documents these are outlined in the diagram below.



A key linkage is to the Financial Strategy. This strategy sets out how Council will fund its activities and the impact this will have on services, debt and rates levels over time. The strategy provides a guide for Council to consider proposals for funding and expenditure against.

4. Drivers for Investment

We need the right plan to deliver and fund infrastructure so that we can strategically influence and respond to external pressures. External pressures change over time, and our current understanding of what we can expect for Whangarei over the short, medium and long term are discussed below.

Community Outcomes

At the highest level, our drivers for investment are informed by our Community Outcomes. The table below shows the level of contribution of the activities included this Strategy to each Community Outcome.



High contribution



Medium contribution



Low contribution

Community Outcome	Water	Waste Water	Storm Water	Transport	Hikurangi Flood Management Scheme	Solid Waste	Parks and Recreation (including Coastal)
A thriving local identity							
A sustainable and resilient future							
A diverse and inclusive culture							
A great place to call home							

We have identified seven key drivers for investment. This section outlines the associated most likely issues for our District and our identified infrastructure responses.

4.1. Climate Change

We know that our climate is changing and the impacts on infrastructure are likely to be significant and wide-ranging.

Whangārei District Councils Climate Change Journey

We are still in the early stages of our long term response to Climate Change, establishing a strategic approach to adaptation to climate change and mitigation of our environmental impact.

Our journey to date has included:

2018 - Council adopting the Corporate Sustainability Strategy, a mitigation strategy focussed on organisational level actions to better understand our environmental impacts and to reduce our greenhouse gas emissions.

2019 – Council joining the Climate Adaptation Te Taitokerau (CATT) group which seeks to better understand adaptation at a regional and district level. This work will produce a Regional Adaptation Strategy and a methodology for our Council to use in identifying risks.

2019 - The declaration of a Climate Emergency by Council in July 2019 recognised the extreme risk that climate change poses to our District and acknowledged the scale and pace of change needed to respond.

2020 - Through the Declaration of a Climate Emergency in July 2019, we committed to developing a Climate Action Plan for Whangārei. The Climate Action Plan for Whangārei is District-wide and includes mitigation and adaptation actions for both Council as an organisation and the community at large.

2021 – Adoption of the Te tai Tokerau Regional Climate Change Strategy

2022 – Draft Coastal Policy and Climate Action Plan developed

2023 – Updated Coastal Protection Works policy to guide decision making on Council owned and managed land.

2023 – Development of the Coastal and Flood Management Activity to focus funding and delivery of coastal and flood works in response to climate change.

Effects of climate change

Event	Implication
	<p>Sea level rise</p> <ul style="list-style-type: none"> coastal inundation increased erosion saline intrusion into groundwater rising water tables
	<p>High Rainfall intensity</p> <ul style="list-style-type: none"> urban stormwater/flooding sediment transport and erosion
	<p>Drought</p> <ul style="list-style-type: none"> water supply aquifer depletion wastewater influent toxicity
	<p>Extreme storms/cyclones</p> <ul style="list-style-type: none"> increased severity and frequency of event

4.1.1. Most likely issues

For our District specifically, the key issues are:

- Our communities are already experiencing the impacts of climate change. Those directly affected want to see Council action. We are at risk of maladaptation if we allow or undertake protection works without fully understanding the impacts.
- Coastal settlements are at risk of increased erosion, sea level rise in the long term and potential inundation by sea water as a result of storm surge.
- Our rural and urban communities are at risk of flooding through more intense rainfall events.
- Our city centre is our highest risk from climate change at the intersection of the Hatea River and the Whangarei Harbour. To enable development and economic growth of the city centre we need to know what the impacts are using the latest projects and develop a plan for the Council and businesses to adapt.
- Climate modelling indicates that we can expect continued changes in coming decades that will impact our communities throughout the District.
- Climate change is not expected to create new hazards that are not already being experienced however the frequency, location and intensity of some hazards such as storm events (wind damage), flooding, coastal erosion, wild fire and inundation by sea water will increase.
- Parts of the District that are habitable currently, may become uninhabitable or inappropriate for further development and the provision of infrastructure to these areas will need to be managed. Our roading network is especially impacted through land instability slips resulting from the increased frequency and intensity of rainfall events.

There are also unknowns in the climate change space:

Unknowns	Our response
We do not know the rate of change.	Use IPCC and government recommended projection scenarios that inform worst case impacts (RCP 8.5).
We do not know projected localised impacts. Climate change impacts are assessed at a regional level, and some nuances of local and built environments can be over or underestimated.	Undertake local research where appropriate. Robust community engagement/feedback and increased monitoring of at-risk infrastructure.

4.1.2. Our response

This LTP continues the funding for Council to work with our local communities to share the information we have, understand how the communities perceive risks and opportunities, and to agree on pathways moving forward to reduce emissions and adapt to the changes we expect to see in the future. The effects of new projects resulting from our climate change adaptation programme are mainly seen in the later years of the Strategy, signalling that work is will be required.

Our Community Led Climate Adaption Plan development process has been adopted by Council covering 5 catchment based areas. The Northern area of the District will be the pilot project covering Whanaruru, Helena Bay and Teal Bay. This will be completed in the first 2 years of the LTP with further catchments rolling out in 2 year intervals.

For our communities to continue to thrive we must build resilience into our infrastructure planning.

- We will consider a range of responses to climate change. This will enable us to make informed decisions on risk management, accommodating future change and avoiding locking in investments that inhibit flexibility and incur unnecessary costs.
- Climate change risks and opportunities will be included in the evaluation and assessment of business cases to ensure resilience in the face of changing climatic conditions. The best available climate risk information will be used in our decision-making processes, risk assessments, and planning activities

We have publicly notified our Hazards District Plan change which is directing development away from areas identified as susceptible to hazards associated with climate risk.

We will continue to refine our Draft Climate Policy and Draft Climate Action Plan to embed and guide climate-related decisions to effectively manage climate change risks and impacts.

In the absence of Community Adaptation Plans we will follow our Coastal Protection Works Policy to guide decision making on Council owned and managed land including responding to community requests for coastal protection.

We have a project identified in the LTP to start our investigations to understand the risks and impacts of climate change and flooding on the city centre. Any infrastructure upgrades or

developments that are identified from this are not yet known and therefore not captured in this strategy..

We have focussed our Better Off funding (Tranch 1) on climate initiatives including developing a business case for flooding and community access in Punuruku. Funding for any solutions was proposed to be delivered out of Tranch 2 funding which has been withdrawn. The preferred option is still to be adopted and the implementation of this is not planned as a separate project within this strategy.

The implications for infrastructure from community led of climate adaptation is unknown and therefore it is hard to plan past a general level of service increase.

4.2. Changing communities

4.2.1. Most likely issues

Our growth projections have identified that we will continue to have more older people (over 60) as well as a growing younger cohort (0-11 yrs). The over 60's age group will continue to be the fastest growing age group for the foreseeable future.

As our population dynamics change, our residents may need specific services from our infrastructure, especially our recreational assets.

for example an older population may require more low impact leisure and recreation activities, including accessible facilities, while a younger population will need more active and informal sport facilities and outdoor activity spaces.

The Districts population is anticipated to become more diverse over time. Currently Māori make up 30% of Whangarei's population. The way we plan and implement our infrastructure projects will need to be informed by our partnership with hapu and acknowledge the importance of te ao Māori.

The District attracts many seasonal visitors which have a significant impact on the facilities currently available, including water and waste water provision, parking, coastal facilities, public toilets and solid waste. A growing number of high value permanent and holiday properties are occurring outside of urban centres, particularly in coastal areas.

This change puts pressure on the need for facilities and infrastructure in areas where historic resident population levels have not triggered the need for investment. It also creates challenges in the management of 'holiday peaks'.

There is an increasing acknowledgement that as the District grows the expectations of our residents also grow. Whether that is increased maintenance on our roads or for more facilities and services it is a reflection that many of our new residents come from larger cities and have certain expectations.

The Levels of Service targets identified in the Long Term Plan look to maintain our service provision.

4.2.2. Our response

Our Active Recreation and Sports Strategy identifies where and what facilities and services are required to address current and future needs. This may require bespoke responses including better aligned facility provision, more low impact leisure and recreation activities, accessible facilities and increasing central living options to support access to healthcare and community facilities.

We have undertaken an Indoor and Outdoor courts review to identify what is currently provided in the district and what is requirement to meet national benchmarks. The inclusion of the Indoor courts project in yrs 11-13 of the strategy.

We will continue to identify land suitable for additional sportspark capacity. The purchase of land is identified within the Long term Plan with planning and development signalled in yrs 10-15.

We will continue to coordinate with developers to ensure development is targeted in areas that is supported by our infrastructure capacity and are meeting the needs of the community.

Use the Te Tiriti relationships to provide a blueprint for future development, emphasising the principles of partnership, protection of Māori rights, and sustainable growth

Urban intensification through changes to the planning environment through district plan changes or central government direction will require asset upgrades to maintain capacity and service levels.

Review our Levels of Service against community expectations as part of the Long term Plan process.

4.3. New legislation and compliance

4.3.1. Most likely issues

Local government is facing a range of challenges that new legislation is attempting to address. Over the past three years legislation and regulations have been proposed, enacted and in some cases repealed which means the regulatory environment we are working under is very complex and challenging. We expect the next 3 -6 years will continue to be challenging as we adapt to new central government directions.

Significant changes relating to our three waters infrastructure has meant we have had to pivot quickly to reintegrate our three waters activities into this strategy.

The future for local government review He piki tūranga, he piki kotuku completed in 2023 has signalled that local government's role in the community will change. These is no direction from the current government if the recommendation of this report will be acted on or if a different future will be proposed. There will be an unknown impact of this change on our priorities but we anticipate that we will deliver infrastructure that is more driven by outcomes that enhance and ensure community wellbeing.

Area of change	Impact on infrastructure provision
Resource Management Act Reform Programme	The repeal of the NBA and Spatial Planning Act Has potential to impact on all activities but significant uncertainty remains.
Local Waters Done Well	The three waters reform programme has had and continues to create significant uncertainties for these activities. Government has signalled further guidance will be provided mid 2024. There will be impact on how three waters activities they will be delivered and also around access to funding.
The Climate Change Response (Zero Carbon) Amendment Act 2019 and Declaration of a Climate Emergency	This Act provides the guidance and direction on New Zealand's climate change programme including mitigation and adaptation. The impact of this on infrastructure within the life of this plan has the possibility to be significant with carbon neutral targets effecting cost of construction and operations.
Water Services Act 2021	This Act seeks to ensure that drinking water suppliers provide safe drinking water to consumers by providing a drinking water regulatory framework that and providing a source water risk management framework. The impact of this legislation is primarily on operations but changing regulatory frameworks may require asset improvements to comply with the regulatory requirements.
Taumata Arowai the water services regulator Act (2020)	Taumata Arowai are responsible for the regulation of the three waters industry including setting environmental performance, management, and regulation of drinking water, wastewater, and stormwater networks. Only drinking water has had these standards passed. Standards on wastewater and stormwater environmental performance are under development. The impact of this legislation is primarily on operations, but changing regulatory frameworks may require asset improvements to comply with the regulatory requirements

Area of change	Impact on infrastructure provision
National Policy Statement for Fresh Water 2020 (NPS-FM)	<p>The National Policy Statement for Freshwater Management 2020 and water reforms are requiring freshwater be managed in a way that:</p> <ul style="list-style-type: none"> • that ‘gives effect’ to Te Mana o te Wai through involving tangata whenua • works with tangata whenua and communities to set out long-term visions in the regional policy statement • prioritising the health and wellbeing of water bodies, then the essential needs of people, followed by other uses. The high level outcomes of the NPS-FM is to improve degraded water bodies and maintain or improve all others using bottom lines defined in the document. <p>This policy has been signalled for review by Central Government in the period of this Long Term Plan.</p> <p>The Northland Regional Council is currently gathering feedback on the draft Water Plan change to give effect to the NPS. The proposed changes will impact on the future provision and potentially operations and maintenance of infrastructure. Here are also impacts on the status of activities for consenting and increased monitoring. The impact of the Government review on the NRCs process is unknown.</p>
Northland Regional Plan	<p>The Regional Plan for Northland (RPN) is now fully operative. Impacts on infrastructure provision is related to the requirements of gaining resource consent and meeting consent conditions which especially in the three waters space may require upgrades to infrastructure.</p>
National Policy Statement on Highly Productive Land (NPS-HPL)	<p>The NPS aims to improve the way highly productive land is managed while recognising the full range of values and benefits of primary production land. The policy limits or changes the direction in which the development can be undertaken, and therefore where infrastructure will be needed.</p>

Area of change	Impact on infrastructure provision
Urban Development Act 2020 and National Policy Statement on Urban Development (NPS-UD)	<p>This may impact on infrastructure as this may change where and when infrastructure is required to be provided.</p> <p>The NPS -UD has required the development of the Future Development Strategy (FDS) for Whangarei.</p> <p>The FDS must demonstrate there is infrastructure available to meet development demand in the short term (what you have now), medium term (LTP funded), long term (in the 30-year infrastructure strategy).</p>
Te Tiriti o Waitangi Settlements – Kaipara Moana and MACA title	<p>This may impact on our infrastructure within the Kaipara Harbour catchment, which includes the Hikurangi Flood Protection Scheme. Any future treaty settlements may impact on our functions or governance arrangements (i.e. through the establishment of co-governance entities in any deed of settlement between iwi/hapū and the Crown), including how we manage our infrastructure assets in those areas.</p>
Whangārei District Plan	<p>The District Plan is current processing the proposed Hazards chapter plan change (PC1) . This may impact on the rules around consenting for infrastructure provision.</p> <p>All infrastructure activities have assets that are subject to resource consents.</p>

4.3.2. Our response

The ongoing changes in the regulatory environment will impact the short and long term delivery and management of our infrastructure. We will respond to regulatory changes by:

- Implementing new legislative and policy requirements as required.
- Factoring in legislative reform in key policy and planning decision making, such as the Draft Climate Action Plan and draft Future Development Strategy.
- Acknowledging the potential implications of the suite of central government reforms (i.e. three waters, RMA and regulatory) on the local government sector and continue to maintain an agile approach.
- Actively engage with central government over legislative change by submitting on proposed changes and to actively lobby for the best outcomes for our community and region.

4.4. New technologies

4.4.1. Most likely issues

Over the period of this infrastructure Strategy the issues and solutions for the management and provision of infrastructure will change considerably. This will be driven by advances in technology and changes in the way we live and work. Over such a long horizon, it is difficult to predict future trends with certainty. However, Council is now beginning to see changes that will inform and influence its 30-year vision.

4.4.2. Our response

While it is difficult to predict future trends accurately and respond to them with certainty, there are steps that we can take to ensure that we keep up to speed with developing technologies and trends:

- consider the design and location of shared paths, walkways and cycleways to support transport choice
- maintain a ‘watching brief’ on emerging technologies to understand trends and potential requirements. This includes
 - a) the development of green hydrogen options
 - b) electric vehicles (including mobility scooters, scooters and e-bikes),
 - c) self drive vehicles(impacting road marking and signage requirements)
 - d) Water treatment technology
 - e) Satellite photography to monitor impacts of climate change
 - f) Enhanced modelling technology
 - g) Waste to energy initiatives to align with our sustainability targets.
- look for innovative and sustainable new technology and practices where applicable, for example water reuse technology for irrigation.
- plan for key emerging issues and trends through initiatives such as precinct planning and placemaking
- ensure that our AMPs contain detailed responses to new technologies, for example replacing turf with artificial turf which increases our capacity without requiring new fields and/or land purchases.

4.5. Growth

4.5.1. Most likely issues

Whangārei is growing. The District’s latest growth projections indicate that the population is projected to grow by 1.3% per year between 2024 and 2034, and 1.0% per year between 2034 and 2054. This growth is slightly less than what was identified in 2021(1.6%) but the updated projections are not anticipated to impact on the programmes identified.

The district population is anticipated to reach 117,300 in 2034 and 143,100 by 2054.

Growth will continue to put pressure on our core infrastructure and community facilities in the medium and long term. Our transportation network, water and wastewater services, stormwater, as well as parks and recreational facilities need to have enough capacity to provide for predicted growth. Anticipating the needs of growth in a timely way is an ongoing challenge.

The Draft Future Development Strategy identifies where we want our growth to be. Some areas in our District are anticipated to experience growth at a larger and faster rate than others as we focus development in these areas.

Ruakaka / Marsden Point, Tikipunga, Kamo and the central city are all areas where we anticipate more development and population growth. Urban intensification is a key element of our Future Development Strategy. The expected growth requires considerable investment in infrastructure, services and community facilities. These costs are shared between Council, other key infrastructure providers, developers, and the community.

4.5.2. Our response

With Northland Regional Council, we are developing a Future Development Strategy (FDS). The FDS sets out broad locations for future growth in the District over the next 30 years. The FDS will play a critical role in:

- Setting out the strategic direction for how we intend to grow and invest in infrastructure over the next 30 years.
- Articulating hapū development aspirations for the District.
- Building an aligned and connected approach delivering key infrastructure projects.
- Shaping priorities and timing of investment into key infrastructure and integrate planning and delivery across key projects.

The final areas targeted for development are not yet finalised. A preferred scenario will be presented as part of the consultation on the FDS in 2024.

In the meantime, we are still following the Growth Strategy 2021 to inform the LTP process. The Sustainable Future: Whangārei District Growth Strategy sets out:

- where new development is expected to occur, and
- what investments are needed to ensure existing and future communities thrive.

This allows us to manage the impact of growth and assess and plan for infrastructure requirements for our District over a 30 to 50-year time frame. It focuses most of the development within:

- the existing urban area – Whangārei City, Tikipunga, Kamo, Maunu, Onerahi and Otaika
- the growth nodes of Marsden Point/Ruakākā, Waipū, Parua Bay and Hikurangi where growth is targeted

A more efficient use of our existing urban environments will support:

- Reduction in Vehicle Kilometres Travelled (VKT) from improved public transport services in urban areas, and higher quality active modes infrastructure across existing urban areas.
- Efficient provision of infrastructure.
- High quality urban living opportunities, making urban living more attractive.

- Growth in business and employment opportunities along the spine, and Ruakākā/Marsden (enhanced by rail link).
- Reducing impact on the natural environment and exposure to hazards.

Because land use patterns affect both the timing and costing of core infrastructure, the Infrastructure Strategy 2021-2051 builds on the direction set in the Growth Strategy to provide more detailed planning of our infrastructure needs. Our Activity Management plans have also been developed to encourage growth where it is desirable and where infrastructure is capable of meeting increased demand.

Joined up planning is a key response to ensuring that development and growth occurs when and where it is planned for.

A key element is the prioritisation of asset upgrades to maintain or increase capacity and maintain service levels. It will also require ongoing coordination with developers to ensure development is targeted in areas that are supported by our infrastructure capacity.

As part of accommodating the forecasted population growth, we need to ensure key economic and local centres are well connected and that our land use and transport planning are aligned so people can do the things they enjoy.

4.6. Maintaining Levels of Service

4.6.1. Most likely issues

A Level of Service is the quality of service for an activity that we are targeting or expected to meet.

The Level of Service describes what the community can expect from infrastructure and activities and is a combination of the:

- quality of infrastructure
- standard to which infrastructure is maintained
- services that the assets provide to the community.

The financial position is that we will invest with a view to maintaining current levels of service. There is a risk that the gap between what we can provide, given our financial position, and what the community expects us to deliver, will grow. Inflation and the increasing likelihood of extreme weather events is expected to exacerbate this situation.

4.6.2. Our response

The anticipated responses to key issues, along with the renewals profile that makes up each activity funding strategy, are targeted at maintaining current Levels of Service. Specific levels of service are detailed in the activity profiles within the LTP and the Asset Management Plans.

While levels of service can be maintained in the short to medium term, an increase in growth and level of service projects may be required to meet changing community expectations over the longer term, particularly in Parks and Recreation and Transportation. This may lead to a temporary impact on meeting community expectations which will be monitored closely.

In the next iteration of the Infrastructure Strategy, Council will review community expectations for increased levels of service, its capacity to deliver and the community's

ability to pay. If necessary, following that analysis, projects currently projected in year 11+ may be brought forward.

4.7. Community Well-being and Public Health

4.7.1. Most likely issues

We have a responsibility to ensure that our infrastructure provides for the cultural, economic, environmental and social wellbeing of the district.

Within the well-beings, there is also increased expectation on public health, particularly in relation to water standards. This could include changes to water security and supply, fluoridation, summer algae levels, and swimability of rivers and beaches.

The changing expectations and legislation around public health is a growing driver for infrastructure provision in general.

For transportation, the state of our roads continues to be of concern relating to road safety issues.

4.7.2. Our response

The health and wellbeing of our community is integrated into our planning frameworks including planning for housing, growth, recreation, and through our focus on ‘joined-up planning’ with external agencies. We will:

- continue to fund and deliver safe drinking water through our potable water networks.
- improve our wastewater management by renewing our wastewater consents which will include measurable environmental outcomes.
- improve the stormwater quality management implemented in new developments.
- reduce dust risk in the unsealed road network and ensure adequate setbacks are included in the District Plan to reduce risk to people living in these areas
- focussing on improving safety to reduce road accidents
- continuing to improve alternative transportation options such as walking and cycling.

Part 2 Significant decisions

5. Overview

This Infrastructure Strategy identifies significant infrastructure issues, assets and decisions that are required over the 30 year time frame of this strategy.

Significance is determined by Council's Significance and Engagement Policy 2020.

The policy deems a matter to be significant if, in Council's judgement, two or more of the following criteria / measures are met.

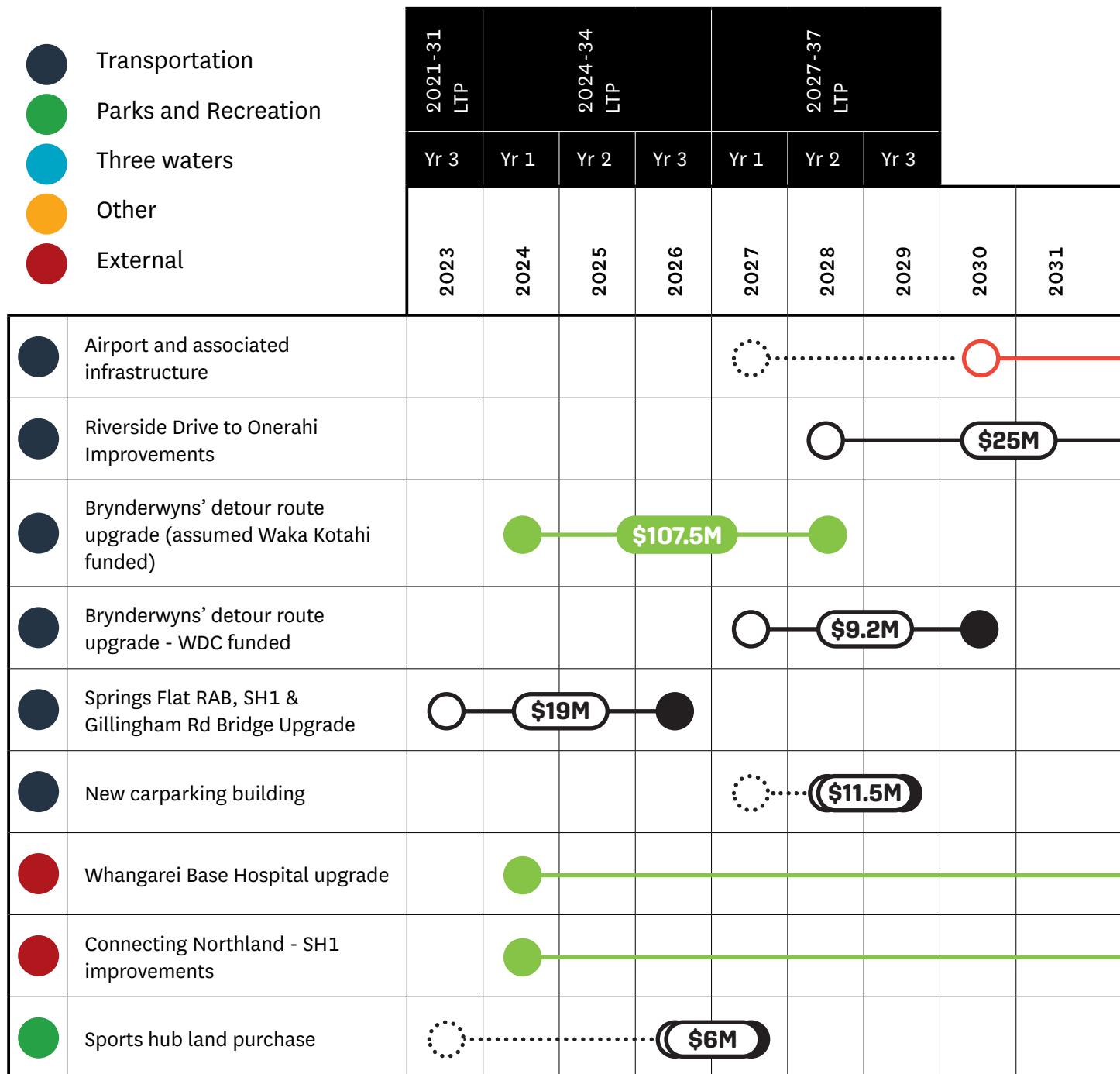
Criteria	Measure
Impact on Council's direction	Major and long-term
Change in Council's current Level of Service	Major and long-term
Level of public impact and/or interest	Major and District-wide, or Major for an identified community of interest
Impact on Council's capability (non-cost)	Major and long-term
Net financial cost/revenue of implementation, excluding any financial impact already included in a long-term plan / annual plan	Net capital expenditure >10% of total rates in year commenced. and/or net operating expenditure >2.5% of total rates in year commenced

Significance Criteria

This graphic below provides a high-level indicative summary of significant projects and decisions planned by Council and other parties between 2024 and 2054.

For completeness it includes projects that have been identified as significantly important to the development of the District, but which are planned or proposed by other parties. This supports our approach of facilitating and working with external parties, leading to coordinated planning and funding approaches.

The information contained in the diagram relating to Council projects is based on funded and unfunded projects included in the LTP, the relevant AMPs and decisions of Council.

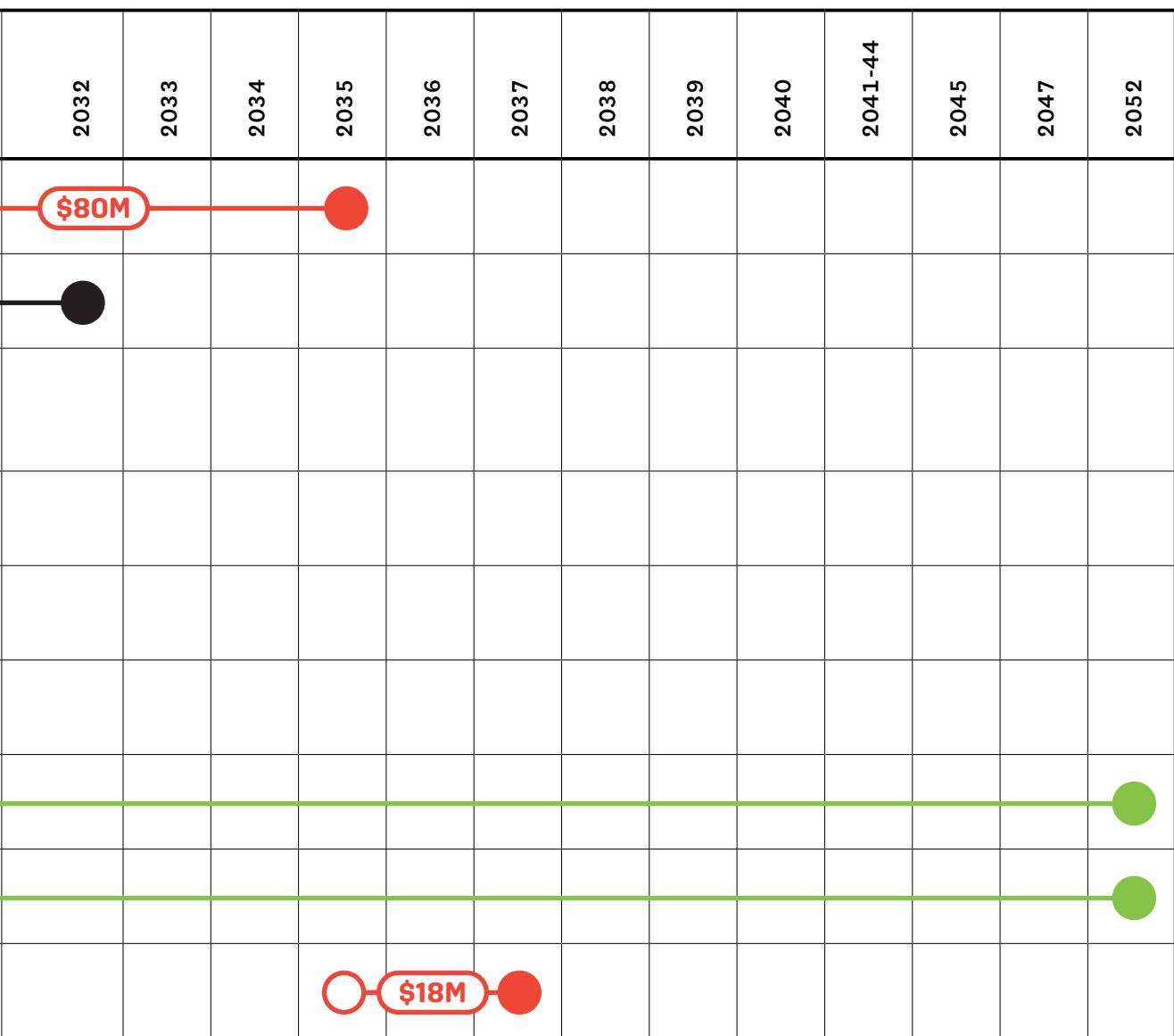


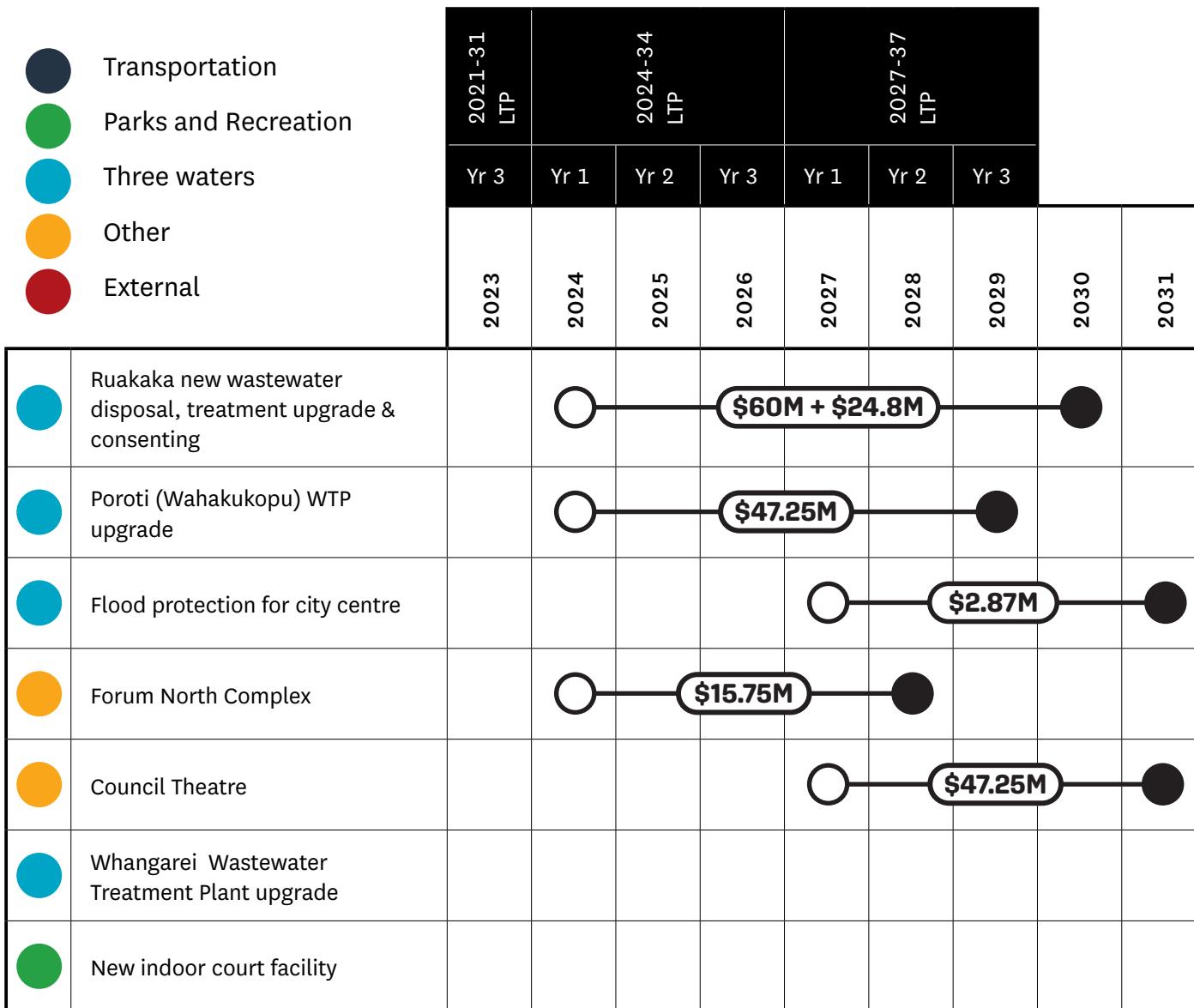


Planning for the investment is happening during this period
Included in LTP budget



Not included in LTP budget
Known unknowns - assumed central government delivery



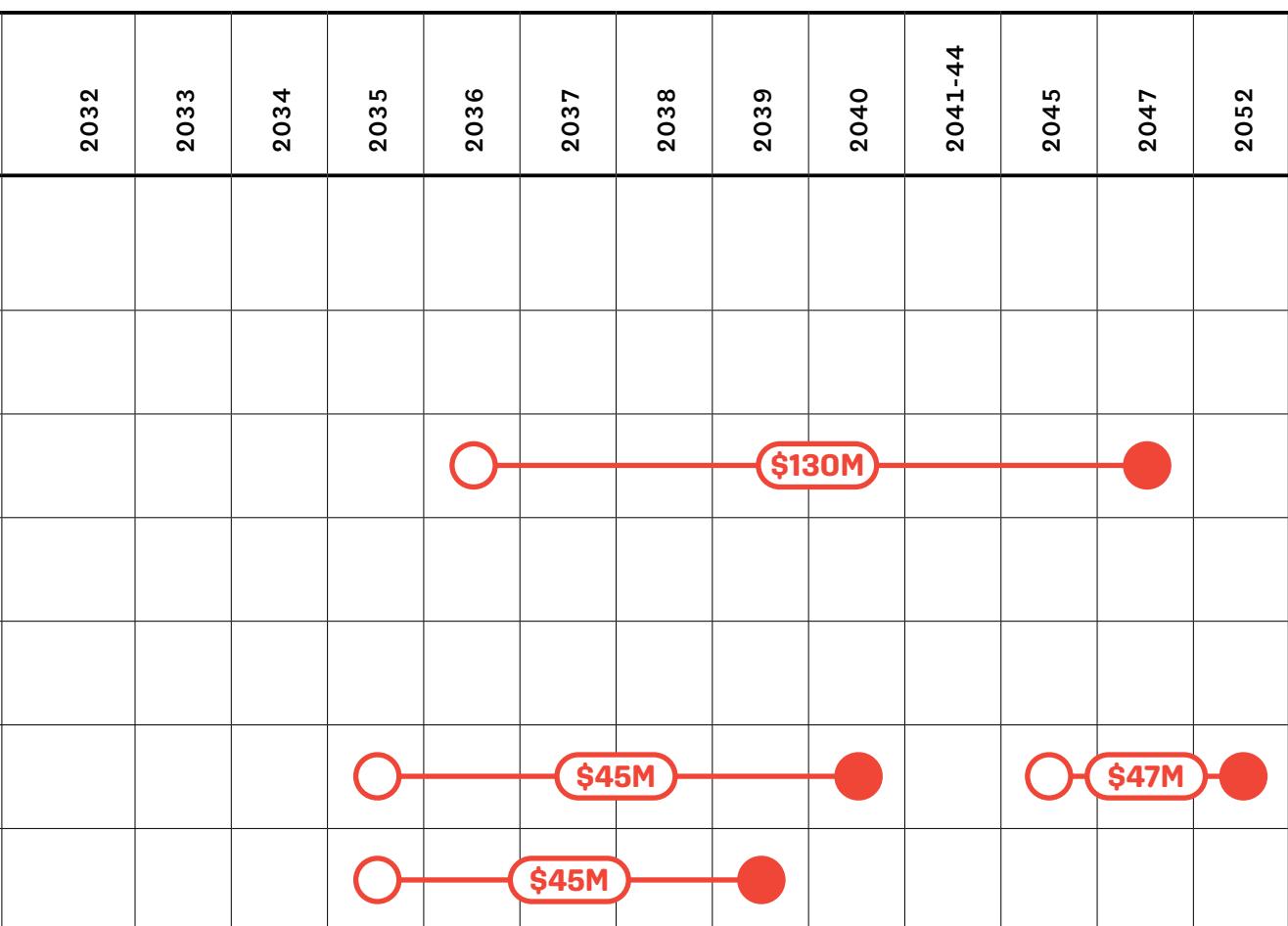




Planning for the investment is happening during this period
Included in LTP budget



Not included in LTP budget
Known unknowns - assumed central government delivery



5.1. Projects delivered by other parties

5.1.1. Whangarei Base Hospital

The Ministry of Health is committed to funding the upgrade and expansion of the Whangarei base hospital. There is no committed funding for the associated external infrastructure upgrades that the development will require. A joint working group, including Te Whatu Ora, Waka Kotahi, Northpower and Council has been established to facilitate this project.

One of the key issues is the impact on State Highway 14 and the local road network from increased traffic. Coordinated Government investment is required for this project and a business case is being developed by Waka Kotahi to identify the issues and probable solutions.

We've allowed budget in the LTP solely to allow us to resource up and be part of the business base that is being developed. At this stage we don't know what the solution is or the impact on Council infrastructure.

5.1.2. Connecting Northland - SH1 improvements

Improving route security on the corridor between Northland and Auckland is the highest priority for Northlands economic well-being. This includes options for improving or bypassing the Brynderwys and funding improvements to the existing alternate detour routes (Paparoa and Cove Road).

Council is working with government and its agencies to help accelerate the construction of an expressway which meets the connecting Northland vision. At this stage we don't know what the solution is or the impact on Council infrastructure.

Infrastructure investment in this corridor, including four lane expressway, is needed to provide safe reliable journeys for our communities.

Each project delivered by Council is further described in the following sections.

6. Transport's Significant Decisions

6.1. Airport and associated infrastructure

Issue

The Onerahi airport site has been identified as not being suitable for the long-term provision of air services to Whangarei. There are risks associated with obtaining future certification/operations due to non-compliance with three key points of the existing design standards. Council commenced a process in 2014 to identify a site for a new airport which meets the long-term air transport needs of the District.

Preferred option

The preferred option is to purchase and protect land for future investment if or when it is needed. There is a level of uncertainty as to when Onerahi will cease to be usable as it depends on, if and when the airlines servicing Whangarei change specifications.

Development costs for consenting and initial earthworks are signalled in this plan. Significant government investment from our joint venture partner the Ministry of Transport would also be required to fund the development.

Benefits	Implications
<ul style="list-style-type: none"> • Protection of continued airport services to and from Whangarei. • Air NZ and CAA compliance. • Retains Whangarei as a regional centre. 	<ul style="list-style-type: none"> • Significant project for Council to support. • Moving the airport from its current location will have a range of impacts on the community and Council.
Funding decision	Estimated project delivery
2024	Designation - 2024 -25 Construction - 2030-2035
Estimated Cost	Driver
\$3.5M Yrs 24 – 29 Unbudgeted 80M (Majority to be funded by others)	Level of Service

Alternative option(s)

Option	Benefits	Implications
1. Do nothing	<ul style="list-style-type: none"> • No expenditure required by Council 	<ul style="list-style-type: none"> • Significant risk to the community through potentially not having a local airport.
2. Upgrading existing airport to meet requirements	<ul style="list-style-type: none"> • Reduced costs 	<ul style="list-style-type: none"> • Will not meet CAA requirements. • No confidence in Air NZ continuing to provide flights to Whangarei. • Would require significant reclamation and construction into the coastal area to meet full requirements for runway length.

6.2. Riverside Drive to Onerahi Improvements

Issue

There is only one arterial link to Onerahi (Riverside Drive east of Dave Culham Drive) which provides access to Onerahi and the Whangarei Heads area (esp. Parua Bay, which is currently identified future growth area) including Whangarei airport. There is often a 2-3km rolling queue that adversely impacts traffic throughout the Hatea and Port Road networks. We need to undertake improvements and upgrades to ensure reliable journey times, to cater for future growth and protect this significant arterial route. The current shared path from Onerahi has not significantly reduced the traffic into town.

Preferred option

The Whangarei Transportation Network Strategy – Strategic Business Case identified the need for lane widening and upgrading the route on Riverside Drive. This includes widening Riverside Drive and Onerahi Road to four lanes, with associated improvements to the Dave Cullen Drive roundabout.

Benefits	Implications
<ul style="list-style-type: none">Will provide accessibility to the planned Parua Bay growth node, which will affect the uptake of growth in the area.Reduced congestion sufficient to provide buses with a travel time gain.The accessibility of the existing bus services on the Riverside Drive route will be positively affected, increasing uptake in public transport and reducing the mode neutrality of the transport system.This project aims to reduce the number of DSIs (Death or Serious Injury) on the corridor.	Widening of the causeway will have a range of impacts on the adjacent marine environment.
Funding decision	Estimated project delivery
Funded in LTP	2028-2032
Estimated Cost	Driver
\$19M	Level of Service

Alternative option(s)

Option	Benefits	Implications
1. Do nothing	<ul style="list-style-type: none">No Capex required	<ul style="list-style-type: none">Increase in congestion.LoS decrease.Increase in accidents.Impact on the ability to run a viable Public Transport Service.
2. Onerahi Bypass Option	<ul style="list-style-type: none">Greenfield development.Off road construction resulting in less impact on existing traffic flow.Less impact from traffic growth on Onerahi Community and central city.	<ul style="list-style-type: none">Requires significant land purchase.Very unstable geology.

6.3. Brynderwys' Detour Route Upgrade

Issue

The section of State Highway 1 connecting Te Tai Tokerau to Tamaki Makaurau is the single most important transport link in Whangarei District, connecting freight, communities, and visitors and is currently susceptible to adverse weather events cutting off the region.

During 2023 SH1B was closed for more than 70 days. The use of the local road detours routes caused congestion and costs for damage accommodating the detoured traffic during these closures

To support immediate resilience, safety and capacity improvements, upgrades for the two primary local road detour routes are required.

Preferred option

Upgrade existing detour routes to be suitable as primary light and heavy vehicle detour (including HPMV's) and improve resilience and safety for when the SH1 Brynderwys road section (SH1B) is closed. This is in addition to works committed to address weather event damage and impacts of increased traffic volumes and loadings.

Benefits	Implications
<ul style="list-style-type: none"> The upgrade for these local road detour routes for SH1B will provide security for the transport connection to all Te Tai Tokerau from future adverse weather events. Will provide security for the connection to Te Tai Tokerau until the Government decides on and implements a signalled long term options for the upgrade or bypass of SH1B. The improvements will reduce the negative effects already being experienced by local residents on the detour routes. 	<ul style="list-style-type: none"> There will be disruption and delays to local traffic and resident during construction. Increased use of these detour routes will impact local residents because of the increased vehicle traffic, congestion and noise.
Funding decision	Estimated project delivery
Subject to NZTA Subsidies	2024-2028
Estimated Cost	Driver
\$53M (WDC portion). WDC will only be able to undertake its portion of the work if it is 100% subsidised by NZTA	Level of Service

Alternative option(s)

Option	Benefits	Implications
1. Do nothing	<ul style="list-style-type: none"> No Capex required 	<ul style="list-style-type: none"> Increased costs for maintenance as a result of future road closures on SH1.

6.4. Springs Flat Roundabout, SH1 & Gillingham Rd Bridge Upgrade

Issue

Recent sustained growth in Tikipunga is reducing the available capacity on the routes into the city centre (i.e. Kiripaka Road/Mill Road and Kamo Road). An alternative route from Tikipunga directly onto SH1 is desirable to cater for the area between SH1 and Vinegar Hill Road, to the north of the Waitaua Stream, zoned for residential development and identified as the Northern Growth Area.

This is an ongoing project commenced in the previous LTP period. Additional funding was provided from Kainga Ora through the Infrastructure Acceleration Fund to fast track this project to provide the required infrastructure to open up land for development in the Northern Growth Area and allow up to 3,000 new houses to be built over the longer term.

Preferred option

A new bridge on Gillingham Road and extending Alcoba Street to SH1 on to the Kamo Bypass. The extension of Springs Flat Rd and a new Roundabout on SH1 will provide a connection between land zoned for residential development in the Northern Growth Area and the commercial part of Kamo.

Benefits	Implications
<ul style="list-style-type: none">The project will provide a direct connection from the Kamo East/Tikipunga area to SH1 which will release pressure on local roads.Addresses the classification of Whangārei as a High Growth Urban Area in the National Policy Statement on Urban Development.Will also enable the development of an additional local commercial centre (s), which will provide services and job opportunities.Will provide significant housing and employment opportunities and assist in the housing affordability crisis.Provides a direct walking and cycling link to the Springs Flat area as well as improved public transport services to Kamo.	<ul style="list-style-type: none">Will impact on a number of existing properties.Stormwater and potential flooding in the area will need to be managed.Opens up greenfield development areas which will need new infrastructure

Funding decision	Estimated project delivery	
Funded in LTP		2023-2026
Estimated Cost		Driver
Kainga Ora Infrastructure Acceleration Fund	\$10.3M	Growth
Financial Contribution from private developer	\$1.5M	
WDC local share	\$11.2M	
Total Project Cost	\$23.0M	

Alternative option(s)

Option	Benefits	Implications
1. Do nothing	<ul style="list-style-type: none"> No Capex required 	<ul style="list-style-type: none"> Restricts future development. Increased future infrastructure costs for Council. Increases in congestion. LoS decrease. Increase in potential accidents on existing routes.
2. Upgrade the existing Transportation network including intersection/s with SH1	<ul style="list-style-type: none"> If there was no proposed development then the one-lane bridge would be renewed as is when required. 	<ul style="list-style-type: none"> Upgrades to other major intersections would be required to accommodate the future (growth) traffic. Current IAF funding is linked to current project and RAB location. Other locations may not be funded

Option	Benefits	Implications
3. Alternative locations for the roundabout on SH1	<ul style="list-style-type: none"> • Direct connection to SH1 for future development area • Review indicates 2nd RAB is still future option for Stage 2 development. 	<ul style="list-style-type: none"> • Location further away from the potential desire line. • Would require traffic to drive North to head South. • Will not provide walking and cycling and public transport connection to Kamo. • Current IAF funding is linked to current project and RAB location. Other locations may not be funded • Project not would not be subsidised by NZTA.

6.5. New Parking Building

Issue

Carparking in the city centre are seen to be a key issue affecting the economic viability of the city centre, which we have committed to enhancing as an economic and cultural hub for the District. The Draft Whangarei District Parking Strategy and Draft City Parking Plan identify a range of actions to address parking issues.

Preferred option

Investigate of options for additional car parking facilities in the city centre, including the potential provision of new carpark building facilities.

Benefits	Implications
<ul style="list-style-type: none">Additional carparking facilities in the city centre.Supporting economic activity in the city centreSupporting the revitalisation of the city centre areaProvision of more parking for visitors and tourists to support the tourism facilities in Town	<ul style="list-style-type: none">Increasing traffic congestion in the city centre.Conflicts with the City Centre Plan project to pedestrianise streets.Conflicts with Council's Walking and Cycling Strategy and plans for improved Public Transport Services.
Funding decision	Estimated project delivery
2028	2029-2030
Estimated Cost	Driver
\$10M - Investigation and possible land purchase. (This project will not be eligible for NZTA subsidy).	Level of Service

Alternative option(s)

Option	Benefits	Implications
1.Do nothing	<ul style="list-style-type: none">• No Capex required.• Encourages shift to alternative transport options.	<ul style="list-style-type: none">• unfulfilled demand for parking in city centre.• Negative impact on commercial activity in city centre.
2.Better manage existing carparking facilities in the city centre.	<ul style="list-style-type: none">• No Capex required.• Better utilisation of existing parking facilities.• Utilises solutions within the draft City Centre Parking Plan.	<ul style="list-style-type: none">• Adverse public perception.• Dissuades use of alternative transport options.

7. Parks and Recreation's Significant Decisions

7.1. Sports hub land purchase

Issue

Council's Active Recreation and Sport Strategy identified the need for an additional sports fields to address the growing need for active recreation within the Whangārei District. Capacity increases through improvements to current facilities and sports parks have been implemented but are exhausted. The purchase of a significant area of land will be required to provide this. A sports hub catering for multiple sports is the preferred solution such as in place at Kensington Park. Kensington Park is reaching capacity in terms of sporting hours and parking and is the only location for sports such as netball and hockey. additional funding is identified in 2025 -37 to develop the facility if purchased. This project covers land purchase only. Costs associated with planning design and development will need to be modelled and added to future plans.

Preferred option

Purchase land for a public sports hub.

Benefits	Implications
<ul style="list-style-type: none">• Clean site with readily available infrastructure.• Many access options.• Could cater for various codes.• Walking/cycling links and distance enables reduced carbon footprint.• Potential to include other recreational and leisure activities.• Maintains large greenspace in a residential area.• Large reasonably central regional site to enable a regional hub for codes.• Economies of scale to develop.	<ul style="list-style-type: none">• Additional traffic movements in the urban area.• Less land available for residential housing in the urban area of the District.• Level of funding may not allow for optimal site purchase.
Funding decision	Estimated project delivery
Land purchase Funded in LTP Development planning and decision required after purchase and unfunded.	2026-2027
Estimated Cost	Driver
\$6M \$18M unfunded for further purchases in years 2035-2037	Level of Service

Alternative option(s)

Option	Benefits	Implications
1. Do nothing	<ul style="list-style-type: none"> • No cost to Council 	<ul style="list-style-type: none"> • Reduced LoS • Damaged facilities affect more clubs due to overuse. • Increased carparking congestion at existing sportsfields. • Impact on community connectedness and wellbeing
2. No hub site and maintain LOS through many small sites.	<ul style="list-style-type: none"> • Lower initial capital cost • Can be phased over time 	<ul style="list-style-type: none"> • Maintains some LOS but capacity issues won't enable development to regional level requirements. Each site requires core facilities e.g toilets/ carparking/ clubrooms/fencing/ lighting. • Long term operational and maintenance costs are higher without the economies of scale. • Requires new technologies eg. Artificial turf
3. Rural location site	<ul style="list-style-type: none"> • Cheaper land purchase. • Large rural site capable of becoming full regional hub within scenic environment may showcase the District. • Potential to include other recreational and leisure activities. 	<ul style="list-style-type: none"> • Services may be problematic e.g. 3 waters, power. • Extended travel time to site. • May be limited access roads leading to congestion.

7.2. Indoor Courts Facility

Issue

The Active Recreation and Sport Strategy and Whangarei Indoor and Outdoor Courts Strategy identified the need for a new indoor courts facility as there is a significant under-supply of indoor courts, inhibiting participation in a number of sports and recreational activities. Kensington (MacKay) Stadium is the only indoor court facility funded by council. The national benchmark for courts is one community court per 9,000 people. Whangārei District has 5 full-time equivalent courts and we are short 6 courts for a District of our size. In addition MacKay stadium is no longer fit for purpose:

- It does not accommodate teams of wheelchair users and their supporters; the changing facilities and showers are unable to cater to users with accessibility challenges and there is no space for the storage of wheelchairs and mobility aids.
- No regulation indoor court for national or international matches.
- Not capable of hosting events of significant scale.

A business case will be developed to identify a preferred location and type and size of facility to meet current and future needs. The indicative budget for any development is in 2035 but may be brought forward as a result of the outcomes and direction of the business case.

Preferred option

Develop an indoor court facility with supporting satellite venues.

Benefits	Implications
<ul style="list-style-type: none">• Ability to have multiple courts at one site• Enable regular competitions and increase level of participation• Meets regional provision hub and spoke requirements.• Multisport use• Potential to link to Regional Sports hub project if suitable land found• Create fit for purpose facility• Ability to host events	<ul style="list-style-type: none">• Need to identify a suitable site• Potential land purchase required or impact on sportfield provision if use an existing site• Location will determine impacts on traffic and access
Funding decision	Estimated project delivery
Business Case funded in 2025 Development signalled in 2035	2024-2025
Estimated Cost	Driver
\$150k planning 2024/25 \$40 Million unfunded in 2035	Level of Service

Alternative option(s)

Option	Benefits	Implications
1. Do nothing	<ul style="list-style-type: none"> • No cost to Council 	<ul style="list-style-type: none"> • Reduced LoS • No indoor court for national or international matches • Limit participation in indoor sports • Continued reliance on third-party courts • Restricts athletes performance aspirations • Impacts community wellbeing
2. Formalise agreements with school and third party owners	<ul style="list-style-type: none"> • No land purchase • Can be phased over time • Manages different area requirements • Manage a collective leasing process to have certainty for planning 	<ul style="list-style-type: none"> • Not all sports would be catered for. • May not reach all population demographics • Schools and third party providers may not want to partner with Council • Access hours during out of school time only • Will not generate the capacity to address court shortfall. • Schools do not have space for their own student teams.
3. Improve and retrofit current facilities	<ul style="list-style-type: none"> • No land purchase. • Free up some court time if cover four outdoor netball courts at Kensington Park. 	<ul style="list-style-type: none"> • Will not generate the capacity to address court shortfall. • Due to the Reserve Management Plan there is no available space to improve by extension

8. Three Waters' Significant Decisions

8.1. Ruakaka new wastewater disposal, treatment upgrade & consenting

Issue

The Ruakaka and One Tree Point area is expected to experience high growth in the foreseeable future. Growth is expected to result in a need for an increase in discharge of treated wastewater.

A review of the consent requirements for the Wastewater Treatment plant and ongoing growth identified that this project needs to be brought forward into the 10 years of the LTP. It has been signalled through successive Infrastructure Strategies that investment is required but pressures from ongoing development and disposal constraints of the plant has elevated this project up the priority list. A decision to proceed with this project is likely to be significant due to the level of public interest and the net financial cost of implementation. This project incorporates both upgrading the treatment system and increasing disposal capacity.

Preferred option

To undertake an upgrade and expansion of the Ruakākā Wastewater Treatment Plant to keep pace with growth in the interim, and major investment in a new disposal facility.

Benefits	Implications
<ul style="list-style-type: none">• Caters for long-term growth.• Ensures compliance with new legislation and associated consent conditions.	<ul style="list-style-type: none">• Potential environmental impacts.
Funding decision	Estimated project delivery
Funded in LTP	2024-2030
Estimated Cost	Driver
\$84.8M	Level of Service and Growth

Alternative option(s)

Option	Benefits	Implications
1. Do nothing	<ul style="list-style-type: none"> No costs. 	<ul style="list-style-type: none"> Zoned growth not catered for. Non-compliance with consent conditions. Loss of current investment in consent negotiations.
2. Reconsent for land disposal. Upgrade plant for capacity only.	<ul style="list-style-type: none"> Costs are staged. 	<ul style="list-style-type: none"> High cost of land. Appropriate land may not be available. New consenting requirements. Cost and risk are likely to make this option unfeasible.
3. Upgrade WWTP to include a Sequencing Batch Reactor to provide a higher level of treatment and additional disposal options	<ul style="list-style-type: none"> Compliance with existing consent conditions. Allows for staged upgrade within the current treatment and discharge framework. Provides for zoned and future growth. 	<ul style="list-style-type: none"> Higher cost. Doesn't address disposal capacity issues

8.2. Whangarei wastewater treatment plant upgrades

Issue

The Whangārei WWTP is facing significant challenges that require both short term as well as long term action, such as:

- Compliance: The plant's discharge consent expired in 2022 (currently being renewed) and the current performance does not consistently meet the expected discharge standards.
- Capacity: The plant is operating close to its design capacity and is vulnerable to overloading during wet weather events, resulting in bypasses of untreated or partially treated wastewater into the river. The plant also has limited capacity to accommodate future population growth and development in the district.

- Regulation: Changes in environmental regulations may lead to higher treatment standards, requiring a major change/improvement of the existing plant assets. The majority of the assets have been in service for many years.
- Resilience: The plant can be exposed to natural hazards such as flooding and severe wet weather events, as well as operational risks such as power outages, equipment failures and odour complaints. The plant lacks redundancy and backup systems to ensure continuity of service and minimise environmental and social impacts in case of disruptions.
- Sustainability: The plant has potential to recover more resources from wastewater, such as biogas, nutrients and water, and to enhance the ecological and cultural values of the river and the harbour.

Improvements will be required to provide a reliable and resilient wastewater treatment system that meets the current and future needs and expectations of the Whangārei community and stakeholders, and that protects and enhances the mauri of the water and the environment

Work undertaken for the reconsenting process has identified a development masterplan to be implemented over time.

Preferred option

Keep the existing discharge via the wetland systems into Limeburners Creek upgrading the treatment technology through MBR or MABR

The improvements are split into two implementation phases. The initial works phase is to augment the existing plant to meet the short-term demand increase and obtain better consent compliance.

The second phase will be implemented as part of the ongoing Dynamic Adaptive Pathways Planning (DAPP) approach. A DAPP approach provides greater flexibility and long-term view to optioneering infrastructure solutions in a rapidly changing environment.

Benefits	Implications
<ul style="list-style-type: none"> • Caters for long-term growth. • Ensures compliance with new legislation and associated consent conditions. 	<ul style="list-style-type: none"> • Potential environmental impacts.
Funding decision	Estimated project delivery
Phase 1 is funded in LTP	2024-2030
Phase 2 stage 1	2035-2040
Phase 2 stage 2	2045-2052

Estimated Cost	Driver
\$10M (Phase 1)	Level of Service
\$45M (Phase 2 stage 1)	Level of Service and Growth
\$47M (Phase 2 stage 2)	Level of Service and Growth

Alternative option(s)

Option	Benefits	Implications
1. Do nothing	No costs.	non-compliance with consent conditions. loss of current investment in consent negotiations not meeting our cultural and environmental expectations
2. One treatment plant, same receiving environment – existing discharge, plant expansion	Some upgrade costs can be staged	Limited space for expansion on current site. Tangata Whenua keen to see higher discharge standards met.
3. Existing discharge supplemented with reuse. Higher discharge quality enable current and future reuse opportunities (e.g. parks/gardens, or industrial or plantation)	Land-based discharge or reuse options will result in reduction in nutrient loads to the Limeburners creek and harbour. Desired by stakeholders. Provides more flexibility of staging.	Higher cost. Reuse opportunities including land irrigation are yet to be defined. More complex – depending on how far disposal pipeline goes. Higher risk
4. Existing plant location and develop a satellite plant (North of Whangarei)	Satellite plant reduces 30% of ADF and loads to Limeburners creek than preferred option. Irrigation component	Significantly higher cost More complexity related to two facilities and consent permits Uncertainty around land application options around the satellite plant

8.3. Poroti (Wahakukopu) WTP upgrade

Issue

The Whangārei City area including Hikurangi and Whangārei Heads is supplied by the Whau Valley Dam, the Hatea River, Poroti Springs and Maunu Springs. These supplies are not able to provide for a 1 in 50 year drought without the need to impose restrictions. A new water supply to supplement the existing sources is required to provide water security. Water Services has been investigating a new water source for many years and prior to the 2012 LTP gained a resource consent to take up to 21,000m³/d from the Wairua River in times of drought.

Preferred option

Construct a new WTP at Wahakukopu Road to treat both the Poroti water source the consented water take from the Wairua River. This will require a full replacement of the WTP as well as an intake and raw water pipeline from the river.

Benefits	Implications
<ul style="list-style-type: none">• Capacity to meet 1:50-year drought events.• Affords security of supply should Whau Valley water supply be compromised.• Improved source resilience.• Reduces risk of service interruptions due to power outages.• Council already owns the land and the majority of the catchment.	<ul style="list-style-type: none">• Costs
Funding decision	Estimated project delivery
Funded in LTP	2024-2029
Estimated Cost	Driver
\$47.25M	Level of Service and Growth

Alternative option(s)

Option	Benefits	Implications
1. Do nothing	<ul style="list-style-type: none"> • No cost. 	<ul style="list-style-type: none"> • Growth not catered and therefore unable to meet service levels in future. • Unable to provide for the one:50-year drought. • Impact of climate change e.g. changes to rainfall leading to lack of capacity in catchments and potential water shortage.
2. Use dam source at Ngunguru or Mangahahuru	<ul style="list-style-type: none"> • Ability to service Ngunguru community in the future. 	<ul style="list-style-type: none"> • Water quality from the Ngunguru River may struggle to be treated by the upgraded Whau Valley water treatment plant • Dairy factory may not support Mangahahuru option.

8.4. Flood protection for city centre

Issue

Whangarei city centre has a history of flooding and inundation. This is affecting business viability and investment in the city centre which impacts our economic growth.

Preferred option

Undertake a flood risk assessment to start the process to develop an adaptation plan for Whangarei City centre. The risk report will be used to initiate discussions on options for the future of the city centre. It is acknowledged that this report and plan is the first stage on a planning process and costs for actions have not been identified or phased in this Strategy.

Benefits	Implications
Flood protection Business investment and economic growth through better understanding of risks.	Significant cost.
Funding decision	Estimated project delivery
Funded in LTP	2027-2031
Estimated Cost	Driver
\$3M	Level of Service

Alternative option(s)

To be explored as part of the scoping process.

9. Other significant decisions

These projects are not included in the 30 Year financial projections as the Community Services activities are not part of this Infrastructure Strategy. They are included here to acknowledge that there are other significant projects that are intended to become part of this Strategy in a future iteration.

9.1. Forum North Complex

Funding of an initial \$15.75M is provided in the LTP for Forum North for demolition/make good and the renewal of the theatre, expo and conference centre. The precise future use of the site is to be informed by the Knowledge Precinct Plan which being currently under development.

As Council works through its decision-making processes for the redevelopment, it is acknowledged that significant further investment will be required. The level of the investment is so uncertain that we have not included any projected figures beyond the initial amount provided for above.

9.2. Council Theatre 800-1000 person capacity

\$6.3M funding is provided in the LTP as initial funding for an 800–1000 person theatre. The location of this is still to be determined but likely to be identified in the Knowledge Precinct Plan. This project will potentially have strong community involvement.

Part 3 - The way we plan, fund and deliver

10. Overview

In this part we discuss the lenses and processes that we use to successfully plan, fund and deliver infrastructure for Whangarei District.

11. Our Investment Management Framework

A significant addition to our toolbox within this strategy is the development and implementation of an Investment Management Framework. This will ensure that planning for projects is underway well in advance of delivery. This will enable us to meet best practice approaches for delivering and, where appropriate facilitating the delivery of, infrastructure to the District either by ourselves or in conjunction with other providers.

This diagram shows the steps of the Investment Management Framework:

Purpose	
Phases are periods in which activities are undertaken to produce outputs relevant to that phase or gate.	
▼	
Sense check	
▼	
Validate	This phase involves confirming that the proposed investment is strategically relevant and has a case for change.
▼	
Analyse	This phase involves undertaking feasibility studies and business options analysis depending on the risk profile.
▼	
Plan	This phase involves developing the plans needed to successfully execute the approved investment.
▼	
Deliver	This phase involves executing the plans to deliver the approved service, product or result.
▼	
Close	This phase involves ending the project in a controlled way, including processes, documents and the PCG.
▼	
Realise	This phase involves post-investment monitoring and maintenance to ensure benefits are maximised and sustained.

12. Our five key priorities

Council's vision for the 2024 LTP continues from the 2021 LTP. The vision is:

"An inclusive, resilient and sustainable District"

This vision links to the Community Outcomes for the 2024-2034 LTP. We have identified five key priorities from the Community Outcomes which align to the activities provided for in this Strategy. These priorities guide our investment planning:

1. Economic development and job creation.
2. Roading that is durable and safe.
3. Built-in resilience and climate adaptation readiness.
4. Protection of our natural environment balancing access with conservation.
5. Housing and infrastructure to sustain and improve existing communities.

These priorities have informed the Infrastructure Strategy through years 1-10, alongside longer-term considerations for years 11-30.

13. Our Tikanga

Our Organisational Strategy is owned by our people and has four guiding principles, which inform the way we work.

Atawhaitanga

Atawhaitanga means protection, stewardship, trust, and a responsibility for long-term outcomes. We deliver our responsibilities in the management and sustainability of our District in a trustworthy way. We collaborate and establish partnerships that enhance our role in the social, environmental, economic and cultural wellbeing of our communities.

Manaakitanga

Manaakitanga means showing respect and care for others, hospitality, kindness and support. By showing manaaki we lift the mana (prestige) of all involved. We are part of the community and care about outcomes for all.

Kotahitanga

Kotahitanga means unity, solidarity, togetherness and collective action. We have one shared direction and we all work together towards achieving it. We will stop doing anything that strays us from the agreed path to success.

Whanaungatanga

Whanaungatanga means fostering relationships and a sense of connection. We build on relationships established through shared experiences and working together. We create opportunities to build relationships and share knowledge.

14. Our strategy for integration and Whanaungatanga

14.1. Overview

Delivering infrastructure for our District and Te Tai Tokerau requires co-ordination and facilitation with a number of public and private organisations and our hapū, iwi and our communities. We, as a Council, have a closer relationship with our communities than other infrastructure providers and so are in a position to tautoko the position of the community to other providers.

We are partnering with government and others to unlock the economic potential of the North. There are key programmes that will support business growth, connectivity, regional prosperity, affordable housing, and future proofed infrastructure. Part of these projects include “known-unknowns” that are significant triggers to the future of our infrastructure investment.

This includes projects that are both solely delivered by Council, as well as ones undertaken in conjunction with our partners to ensure an integrated approach to infrastructure development:

- Ruakaka growth - investment in Wastewater to enable growth.
- Whangārei (Ruatangata) airport protection.
- Drinking water security –major upgrade to the Poroti Water Treatment Plant.
- Whangārei Base Hospital upgrade.
- SH1 Whangārei to port implementation.
- SH1 Waipū straights safety improvements.
- SH1 Brynderwys expressway bypass.
- SH1 Te Hana to Warkworth expressway implementation.
- Local network alternative route.

Making sure that appropriate projects are funded and their delivery integrated with other providers is essential to efficiently developing our District and Te Tai Tokerau.

To support this mahi, our goal is to develop a Regional Infrastructure Strategy with our key partners to align with the Regional Economic Development Strategy and which supports our existing aligned delivery functions.

14.2. Central Government

Certainty of funding and timing for major projects is a significant issue for providing and integrating infrastructure. By developing thorough and timely business cases we will make it easier for central government to co-ordinate with us on major projects and provide funding where appropriate.

14.3. Northland Transport Alliance

The Northland Transportation Alliance (NTA) is a collaboration between the Whangarei, Kaipara and Far North District Councils, Northland Regional Council and the New Zealand Transport Agency. The NTA delivers for roading and transportation services across Te Tai Tokerau, including transport planning, policy and strategy, asset and network management, capital projects delivery, the regional land transport programme, and public transport and road safety initiative. Roads and transportation are critical to developing the economic potential in Te Tai Tokerau. By combining our resources and being collaborative in our approach, our goal is to achieve better outcomes for the regional economy, residents and road users.

14.4. Three Waters

Given the uncertainty about the future of Three Waters, we will need to be prepared to deliver three waters differently by:

- Developing three-waters services outcomes together with other entities that encourage sustainable reticulation network outcomes.
- Aligning work programmes with Council's growth priorities and Infrastructure Strategies.
- Developing guidelines and standards for sustainable development in conjunction with other infrastructure providers
- Work towards developing the Water Delivery Plans signalled to be required by Central Government
- Working through options for alternative delivery models with our local authority neighbours.

14.5. Other partnerships

The private sector has a significant influence on economic activity and residential growth in our District. Developers construct local streets and reticulation which are then vested with us to own and maintain. Energy and communications infrastructure is typically supplied by private utility companies.

Examples of partners and associated projects and programmes that will potentially be undertaken during the period of this Strategy include:

- Waka Kotahi (SH 1 upgrades, SH15 upgrade, resilient roads)
- Te Whatu Ora (Whangarei Base Hospital)
- Kiwi Rail (local and inter-regional rail connections)
- Northport and Marsden Maritime Holdings (Port expansion and industrial development)
- Whangarei Airport (employment, tourism, resilience, scalability)
- Ferry companies (tourism and transport)
- New Zealand Lifelines Council (connecting lifeline utility organisations across agency and sector boundaries to improve infrastructure resilience)
- Kainga Ora (housing developments)
- Significant residential and commercial developers.

15. Our assumptions and uncertainties

While activity specific assumptions and uncertainties are provided for in the relevant sections of Part 4 of this Strategy, there are some wider assumptions and uncertainties that impact on Council as a whole and which also need to be considered in terms of how best to deliver for our communities. Additionally key issues such as Three Waters, Levels of Service and Growth are discussed in more detail in other sections of this Strategy due to their significance, as well as the table below.

Issue	Assumption
Three Waters	The Three Waters legislation has been repealed and Council has received direction that it is to continue to deliver these activities and to accommodate the associated budgets and asset management planning elements into the 2024-2034 LTP. Central Government has signalled a new programme called 'Local Water Done Well'. It is therefore assumed that the management of these activities will be subject to change during the LTP period.
Levels of Service	Council will be able to maintain current Levels of Service within the budget provided in the LTP as well as the duration of this Infrastructure Strategy.
Growth	Growth will continue at a rate, and in locations, that are consistent with our Growth Model. The Future Development Strategy, that also uses the Growth Model is being developed in tandem with this Strategy and will inform future infrastructure investment decisions.
Economic drivers	That economic drivers and the spatial pattern are consistent with those considered in the Future Development Strategy.
Seasonal demand	Peak demand for infrastructure will continue to follow historical patterns.
Capacity to deliver	That Council will be able to secure appropriate resourcing to deliver the increased capex programme.
Inflation	Unless stated otherwise, modelling, graphs and costs have been inflated by LGCI based on Business and Economic Research Limited (BERL) projections in accordance with the financial assumptions and model supporting the LTP.
Depreciation	Depreciation rates and data on the useful lives of infrastructural assets are based on revaluation of the rate average for each activity, in accordance with the financial assumptions and model supporting the LTP.
Vested assets	Vested assets are fit-for-purpose and will meet their forecast lifecycle.

Level of uncertainty	Risk
High	Clear direction is not available to Council in time to plan for the next LTP and Infrastructure Strategy.
Low	Any reduction in funding may result in a lower level of service for one or more activities.
Medium - low	Growth may not occur consistent with the Growth Model. This may place additional pressure on infrastructure funding and/or Levels of Service.
Medium	The economic drivers vary significantly from those predicted.
Low	Seasonal population increases in some areas may place additional pressure on infrastructure and could temporarily impact Levels of Service.
Medium	Council cannot adequately deliver its programme because it is unable to resource internally. External contractors may face the same capacity issues and therefore are also unable to provide the required resources to deliver.
Medium - High	Inflation maybe under- or over-stated. Impacts of this are considered under the financial assumptions supporting the LTP.
Low - Medium	Depreciation may be under- or over-stated.
Low - medium	Faster than expected deterioration of vested assets could increase the need for renewals.

Issue	Assumption
Asset modelling	Current asset condition modelling is subject to limitations but reflects the best information available to Council for decision making at this time.
Data accuracy	Data held in the Asset Management System follows the assumptions made in the individual Activity Management Plans.
Regulatory compliance	All regulatory requirements are complied with.
Storm damage	Council does not budget for storm events.
Regional airport	That an upgrade to parts of the road network to support and service any new regional airport will be funded as part of the overall Airport proposal.

Level of uncertainty	Risk
Medium	Uncertainty of asset condition may lead to poor prioritisation of funding and renewals.
Medium	Uncertainty around data structures and recording may lead to inconsistent information which effects the ability to model the asset values and condition.
Medium	Increasing or changing regulatory requirements can lead to the need for high cost, unplanned upgrades or new assets.
Low	Lack of funding provision for emergency works may result in reduced renewals as renewal funding gets diverted to fund flood damage repairs.
Low	The proposed regional airport is currently in planning stage and roading requirements are not clear.

16. Our Funding Strategy

Council has retained the financial parameter of setting a balanced budget every year (as defined in the Financial Prudence Regulations). This means our operating revenue is higher than our operating expenses (calculated as prescribed in legislation).

In addition, Council has introduced an additional new measure for the 2023-34 Long Term Plan referred to as our Everyday Funding Benchmark. This means that our everyday operational expenses should be covered by everyday funding. This measure takes the Balanced Budget one step further by removing the revenue Council receives for capital projects to ensure our bread and butter is paying for our everyday costs. While Council needs to ensure a sustainable and prudent budget is set, this needs to be balanced with affordability for our ratepayers, growth in our district, levels of service, and our ratepayers expectations. Council recognises this funding gap cannot be resolved in one year but wants to take steps towards achieving this position by Year 4.

Capital expenditure is split between renewals, growth and levels of service; renewals being replacement of existing assets, growth catering for population changes or demand and levels of services providing for agreed level of service changes.

While renewal expenditure should roughly match depreciation expense in the long term, it is only a broad measure of the effectiveness of the renewal programme. In most activities, renewals are showing an increasing gap between renewal expenditure and depreciation. This is due to growth and level of service project impacts as well as in some cases some asset categories having a longer than expected life or high value assets not being renewed within the period of the plan.

When managing the District's infrastructure, we are ensuring that we are looking across the asset portfolios to align projects and their timing and ensure the best decisions are made for the community.

It is expected that not all potential works identified in the Activity Management Plans can be afforded or scheduled within available funding and resources. The budgeting process prioritises expenditure on renewals over creating new assets. There are several factors that potentially impact on the prioritisation of projects and programmes.

We plan for 'best for asset' and this is moderated by financial constraints so that delivery is affordable.

Overall, we are planning for the delivery of on average \$113M per year over the first 10 years, increasing to \$188M between years 10-20 and \$143M after year 20, these figures are adjusted for inflation. This increase after year 10 addresses the increased expectation for growth and changing levels of service. Renewals are increasing in line with our growing asset base and maintaining our assets.

Budgets have been reviewed against our ability to deliver projects, especially within the first 10 years of the Strategy. It is noted that our ability to deliver on the past LTP has been impacted by an increase in Government funded projects, resulting in a backlog for the delivery of previously prioritised projects.

The Investment Management Framework (IMF) will be applied to all currently proposed projects in the early years of this strategy and projects within years 11-30 may be brought forward in future plans.

Transportation historically delivers the greatest proportion of the capital programme, but the expectations of the community are continuing to increase.

While our infrastructure expenditure is signalling increased debt levels over the period of the Long Term Plan we are still well within the debt parameters set in our Financial Strategy, and those set by the Local Government Funding Authority. There is no intention to increase debt beyond the levels shown in the LTP, but we also have the capacity to raise debt to deal with abnormal events and emergencies.

This Strategy provides for a balanced and appropriate approach to the funding and management of infrastructure to ensure that it continues to meet the needs of our community at the end of this 30-year period.

Within this plan we have prioritised spending for renewals, keeping ahead of growth and deliverability. Work will continue on long-term planning for asset delivery for years 10 to 30, recognising that major projects have long lead times and as described in section 11 (our Investment Management Framework).

Our infrastructure is funded through a combination of community rates (general and targeted rates), Council borrowing (debt), returns on investments, depreciation, and development contributions.

In developing this Strategy, we considered three primary options for addressing funding issues:

- deliver at current Levels of Service
- deliver current Levels of Service without sufficient funding
- focus on meeting select community expectations.

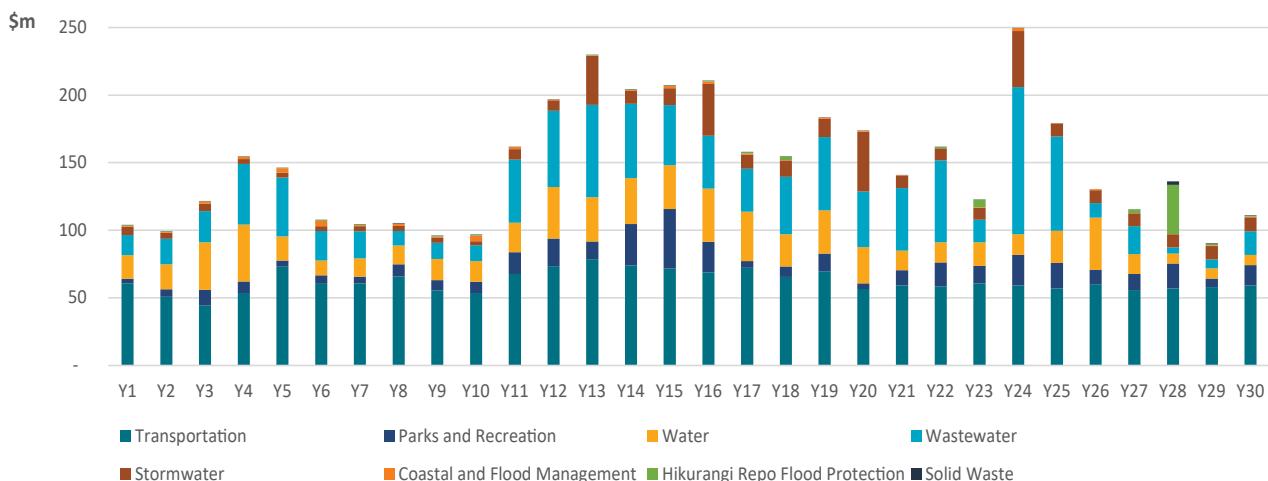
There is competition for funding, with competing focuses on resilience, building back our transport network, growth-response projects and the social wellbeing provided by parks and recreation activities.

In modelling these options, Council has used the LTP budget for years 1-10, with years 11-30 coming from programmes and projects identified within AMPs. This ensures that any projects not included within the 10 years of the LTP are considered over the 30-year life of the strategy.

Council's delivery on the strategy is driven, in part, by its ability to build on recent improvements in capex delivery. However, it is acknowledged that there are still capacity constraints to deliver the programme of work. Council's Investment Management Framework is beginning to ensure that planning for projects is underway well in advance of delivery.

Over the 30 years, this results in the following capex (capital expenditure) profile for the infrastructure activities.

Capital expenditure by activity



Transportation has the largest programme of works, which reflects the Vision, Community Outcomes and Key Priorities as described in this Strategy. There are also significant increases in both the water and wastewater activities.

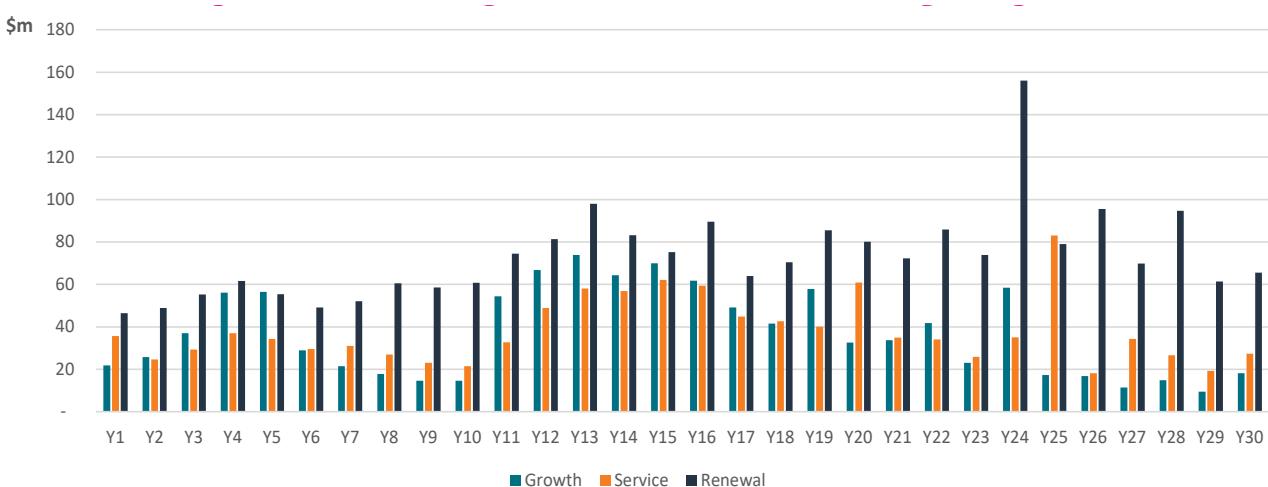
Out beyond the 10-year period there is a step change for wastewater renewals reflecting the required works required on this portfolio.

These projects are jointly driven by growth and renewals and our response to a changing regulatory environment, including an increasing focusing on responding to climate change.

As seen in the graph below, when split by driver, there is a steady increase in renewal expenditure. This is primarily in the wastewater and water activities as we try to increase our renewals activity. This is to be expected as the Councils asset base grows and work is programmed. As discussed above, growth and level of service projects increase after year 10. The increase in level of service projects is in-part driven by the increase in spend in Transportation to address network resilience. Of note, are several ‘spikes’ across the life of the strategy, where growth or Level of Service projects are required to meet anticipated/increased demand.

The significant spike in yr 24 is a data anomaly due to asset lives that will be corrected for the final Strategy.

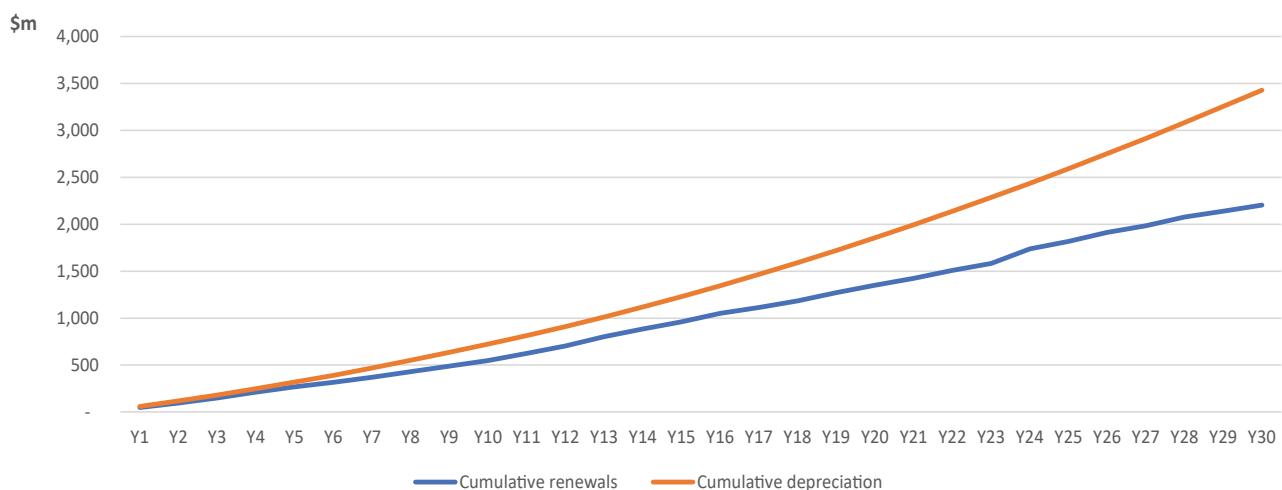
Figure 1: infrastructure capital expenditure by splits



The gap between renewals to depreciation (devaluation of an asset due to age, wear and tear) is closer over the first 6-7 years but move further apart over the life of the Strategy, especially in the later years. This is in part driven by the large infrastructure growth projects - Poroti water treatment plant and Ruakaka Wastewater treatment plant) that will be added to the asset base to be depreciated but have a 50 year life. There are also discrepancies due to the operational techniques used to rehabilitate pipe works. The costs of replacement (depreciation) can be inflated if an alternative shorter term solution can be found.

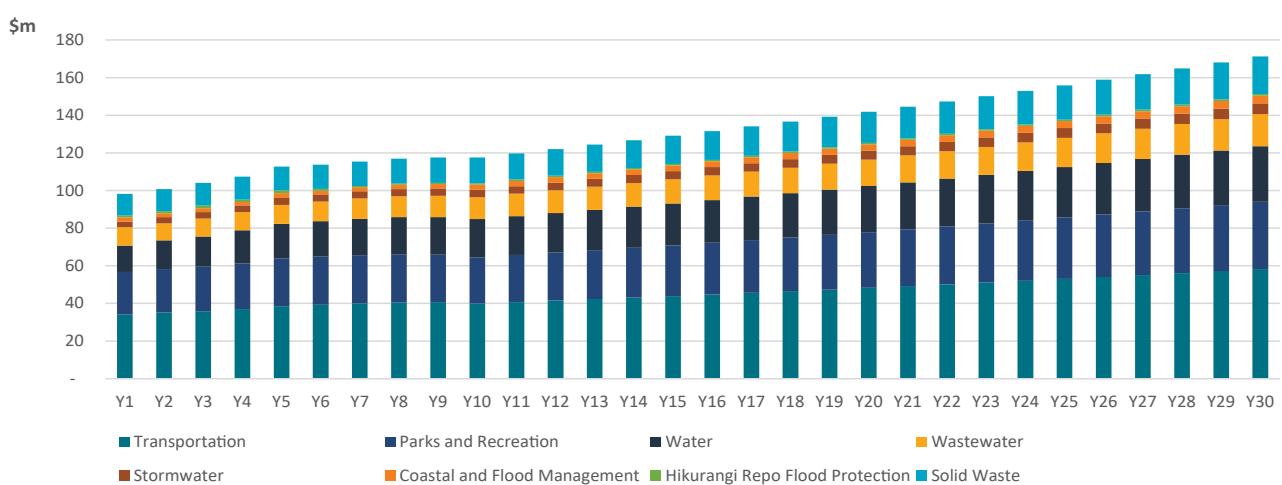
It has become apparent that some of our assets are lasting beyond their expected lives while some are failing early. Ongoing condition assessments are continuing to improve our asset knowledge. Asset revaluations will be undertaken in 2024 and at this time depreciation rates will be reviewed. Changes resulting from this will be reflected in the next LTP.

Figure 2: renewal expenditure to depreciation profile



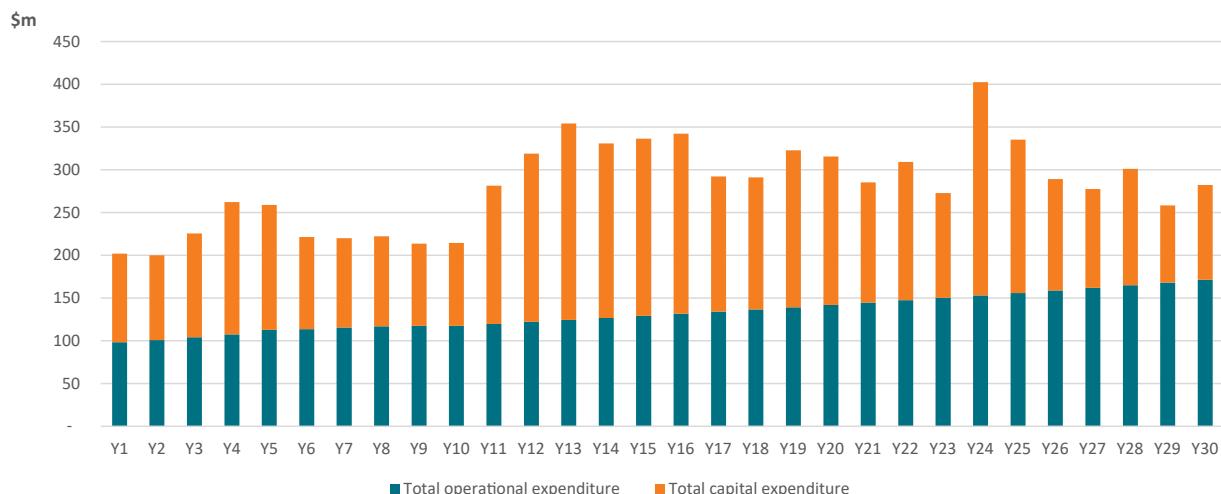
The opex (operational expenditure) trend over the 30-year period shows a corresponding increase in the funding available to maintain the assets that Council has. This includes consequential opex (opex that Council requires to fund and maintain assets from projects). This is primarily in the Transportation Activity where contractual costs have increased significantly over the past three years.

Figure 3: opex expenditure



The following graph shows the relative levels of capital to operational funding over the next 30 years.

Figure 4: operational to capital expenditure

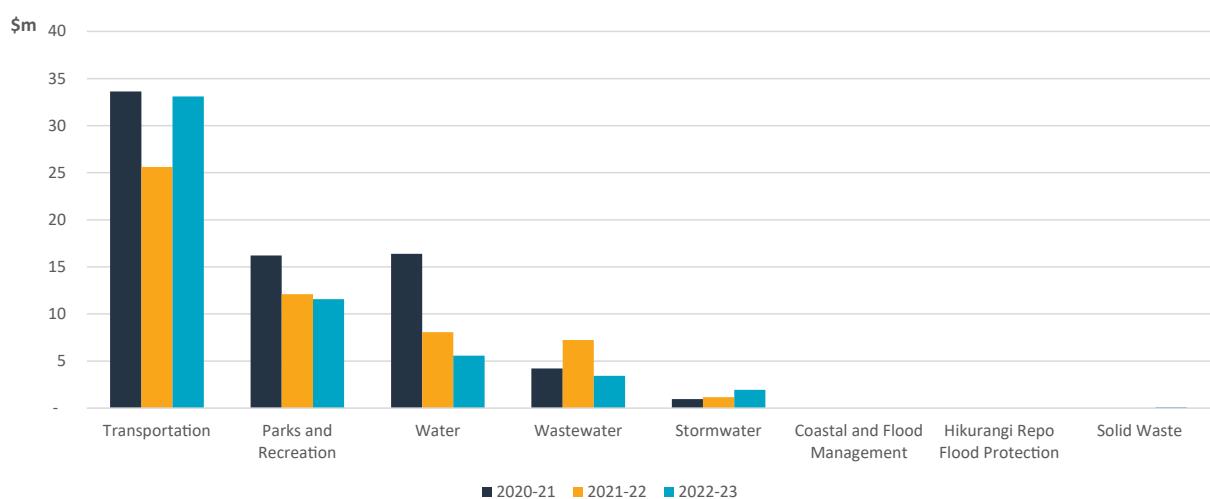


Council has increased the total level of capital expenditure delivery. There is a range of funding mechanisms in place to equitably fund infrastructure this is discussed in more detail within the Financial Strategy.

Resourcing and capacity constraints have been discussed throughout this document. This has impacted on our ability to deliver in some portfolios. In considering this risk, Council has compared the capex programme to expenditure in previous years and is showing year on year improvements in delivery capacity. There was a noticeable drop in CAPEX delivered in 2021-22 due to disruptions due to the COVID pandemic. The 2020/21 peak for water is related to the Whau Valley Water Treatment Plant which was a high value project.

Note: there was no Coastal and Flood Management activity previously. Any capital expenditure would have been captured in the Parks activity previously.

Figure 5: Project Capability



17. Our Funding Issues and Opportunities

17.1. Affordability

We are aware that there is a significant affordability issue for our community, especially during the current cost-of-living crisis. When we look at our funding sources, we also need to maintain intergenerational equity, in that future generations should not be funding what we need to provide for current generations too. Some households will have rates affordability issues and these households predominantly have low or fixed incomes.

We will face increased pressure to keep rates affordable. Interest rates have increased this means future rates rises and borrowing limits have caps to work within. Assumptions on interest rates are discussed future in our Financial Strategy 2024.

Ongoing infrastructure maintenance and renewal programmes will be able to continue as they currently do. Cost-efficiencies will be sought wherever possible, including improved procurement approaches such as larger packages or longer-term delivery contracts.

Significant projects can have an equally significant effect on rates, through the effect of debt-funding and ongoing operational costs. We will ensure that rates do not fund everything, and where appropriate growth pays for growth.

Where practical, the timing of major projects will be coordinated across Council's activities to manage their impact on rates affordability. However, we expect that there will be projects that are driven by an immediate need, or a regulatory deadline, and therefore this may not be possible.

The strain on resources will require thoughtful decision-making when programming forward work. In the transportation activity, forecast works are initially based on need rather than available budget, so any funding constraints will be managed by undertaking a final programme that is affordable. Flexibility in programming is always required as works may change in priority.

17.2. Joined-Up delivery – Atawhaitanga

As we are more constrained to fund all projects through traditional means, we will need to be flexible in how we plan, fund and deliver projects. We will need to seek alternative opportunities to either collaborate or partner with other parties for infrastructure projects. This is an efficient way to increase our capacity to deliver our programmes of works.

As part of the IMF we have embedded the way in which we will interface with potential partners including early engagement.

17.3. Targeted Rates

Targeted rates will be explored as potential tool especially for localised level of service projects such as coastal protection. Our Financial Strategy 2024 contains details of existing targeted rates.

17.4. Central Government funding

Over the past three years, we have continued to obtain additional project funding from various central government sources, (in response to economy-boosting initiatives and storm events) which we have invested in the Port Road bridge, the Kioreroa Road roundabout, Putahi Park, and the town basin carpark improvements. We have also secured funding for the Springs Flat roundabout and Gillingham Road bridge. While this has been welcomed, the ad-hoc, out of cycle funding from central government has distorted our asset planning cycle and this has disrupted the focus on BAU delivery. Our focus on improving and funding early stages of project planning, through the implementation of the IMF means we have increased our ability to be ready to take advantage of external opportunities by having the right projects planned and better integrate them into our BAU.

We get funding for responding to weather events effects on infrastructure from our renewals budget to support small monies from Central Government and waka Kotahi – this is never larger than fixing the immediate problem (i.e., nothing is spent in order to stop the problem happening again)

We are becoming more reliant on central government funding for regionally significant projects, this can be challenging if government priorities change.

17.5. Development Contributions

Development contributions partly fund the growth portion of our capital budgets. The speed of growth has an impact on when expenditure is required, rapid growth could result in a need to change the timing of critical projects. Projects are often a combination of growth and renewals. Where growth projects are rescheduled to service new development, this can result in renewals being brought forward before the end of their calculated useful life. This may affect the renewals and depreciation profiles.

17.6. Impact of Insurance costs

Insurance costs for Council assets have risen significantly over the last few years. Council is beginning to look at self-insuring assets, including infrastructure assets. Self-insurance involves assuming the financial risk of the loss of the asset rather than purchasing traditional insurance policies. Council anticipates that self-insurance, including larger excess amounts, will help to ensure cost effective insurance premiums for Council. This goes alongside ensuring that Council has capacity to borrow (a good credit rating) and available funds to cover potential shortfalls in claims for assets that are self-insured or carry a large excess. In conjunction with actively identifying what can be self-insured, Council also has to accept the potential for underinsurance across our insurance portfolios. This is due to asset values being out of line with current replacement values. Most of our infrastructure assets are on a three yearly revaluation programme with the next revaluation scheduled for 2024. Transportation assets are revalued yearly.

17.7. Waka Kotahi Subsidies

On a three-yearly basis we apply to NZTA to subsidise the cost of our proposed roading projects. Our current subsidy rate is 53%. The timing of Waka Kotahi's funding rounds does not align with Council's LTP cycle. There is always an element of uncertainty of what the subsidy will be, and when it will be provided, as well as the project priorities. Council from time-to-time will prioritise unsubsidised projects, such as the CBD carparking building and extending the sealed road network.

18. Our Capacity to Deliver

Whangarei District Council has refined its procurement approach so that we are better placed to deliver a growing programme of work.

Collaboration with the supply chain so that there is greater visibility of the pipeline of work and ability to plan resourcing

Packaging of work so that suppliers are better placed to roll out programmes of similar work

More focus on getting Business Cases and consents completed earlier with greater emphasis on cost estimates and whole of life implications

Increased the capacity of the Infrastructure Programme Delivery team

One of the constraints on previous LTPs has been the process of developing and implementing the renewals programme. The delivery approach has now been altered to have the Maintenance & Operations Contractor leading the execution of routine renewals work with a panel/prequalified group of local suppliers.

Building hapu capacity to engage and participate in the delivery of infrastructure programmes has been an area of focus. Building a functional relationship and aligning resources to match the programme will be required to address this delivery risk.

Part 4 activity overviews

19. Introduction

For each of our activities, these sections will describe the following elements:

1. Overview

An introduction to the asset and the types and quantities of assets managed.

2. Asset performance

An overview of how well the asset is currently performing and any potential or specific issues relating to asset performance.

3. Critical assets

A description of the critical assets of the activity.

4. Key issues and actions

5. Assumptions and uncertainties

6. Levels of service

7. Activity funding strategy

The graphs in these sections can show major spikes and the relevant projects are either identified with the graph or details provided in the significant or major projects sections

8. Major capital expenditure

This section provides details of any major projects that are planned over the period of the strategy, in addition to the significant decisions and projects outlined in part 2.

20. Transportation

20.1. Overview

The transportation activity covers 1,774km of total road network (1,070km of sealed roads and 683km of unsealed roads) 456km of footpaths, 22km of cycleways, 518 bridges and large culverts, 6,338 street lights, 258 traffic signals, 17,840 signs, 87 Intelligent Traffic Systems Active Signs and 2 opening bridges. Overall the activity supports assets worth \$1,277m.

Value \$1,277 million	
1774 km Roads	
1070 Sealed Roads	
683 Unsealed Roads	
518 Bridges and Large Culverts	
2 Opening Bridges	
22,120 m Drainage Systems	
456 km Footpaths	
6338 Streetlights	
258 Traffic Signals	
17840 Signs	

The Activity is also responsible for the following key transportation functions:

- network and asset management
- safety management
- management of corridor access requests
- and traffic management
- traffic signal operations (on both Council and NZTA roads in the District).
- public carpark management (including 1975 carparks)

The Activity also invests in walking and cycling projects, public transport options and education to encourage greater use of more sustainable transport modes.

20.2. Asset performance

Our assets generally provide a good network level of service to our community and at a regional and national level they are above average. Our assets reasonably well performing, although some have been affected by recent storm events. We are still in the process of reinstating much of our network to get it back to a reasonable standard. This has impacted on the public perception of our road network.

Due to the generally poor geology of Northland, pavement subgrades are often weak and very susceptible to moisture. This results in rutting and shove failures which means that maintenance and renewals are often required earlier than expected against other areas of New Zealand. The geology and soil conditions of Te Tai Tokerau are prone to movement and this causes instability. This, in addition to our high intensity rainfall and heavy freight usage for forestry and dairy as well as other industries incurs high maintenance needs.

Recent storms and additional traffic loading from closed State Highways has added to these needs.

The resilience of the transport network is supported by identifying the impacts of land use, growth and development on the network and parking resource, and identification of where future upgrades or control is required.

We have confidence in data across the activity. We have a very defined condition assessment programme and database.

20.3. Critical assets

For the Transportation Activity, our critical assets are typically identified within critical routes.

State Highway Networks and Diversion Routes

The State Highway network in Te Tai Tokerau is the primary network within the region. This was recognised in the Northland Lifelines Group Infrastructure Resilience Plan. This Plan identified that the State Highway networks were critical lifelines that provide access for people and emergency vehicles as well as for food and fuel to communities. Recent failures on State Highway 1 at the Brynderwys have reinforced the criticality of alternate routes.

Bridges

Bridges are identified as critical because their failure impacts safety, access, and can be difficult to recover.

20.4. Key Issues and actions

20.4.1. Overview

Key issues for our District's transportation systems are:

- Poor condition of the urban sealed road network.
- Congestion in the city which is being exacerbated by population growth and low uptake up public transport.
- High fatal and serious crash rate on the District's arterial roads.
- An unsealed road network that has a lack of aggregate, some of which is subject to high forestry traffic volumes resulting in poor condition and dust impacts to local residents which may affect public health.
- Many isolated coastal communities which are heavily reliant on a vulnerable road network for access.
- A poorly used bus system in Whangārei City and lack of access to public transport in rural areas.
- An incomplete shared path network and pedestrian severance caused by State Highway 1 and arterial road network results in poor use of alternative transport modes.

20.4.2. Sealed Roads

Issue

The cost of urban rehabilitations in Whangārei are expensive, resulting in our sealed roads having some of the highest costs per kilometre in our peer group. This means we can do less for our money.

Options	Implications
1. Do nothing	<ul style="list-style-type: none">Worsening of pavement condition over time (e.g. more potholes and failures) and an increase in long-term maintenance costs, slower travel times and potential safety issues.
2. Continue with current programme to maintain levels of services including reducing backlog of works.	<ul style="list-style-type: none">Continuation of an adequate programme of pavement renewals will enable the sealed pavement to be maintained in a fit for purpose condition while optimizing the long-term maintenance costs.Address the poor condition thin asphaltic (TAC) surfacing as these surfaces allow water ingress and premature (and expensive) pavement failure.Programme incorporates expensive structural asphaltic concrete (SAC) pavements in Whangarei City will keep sealed road costs high.
3. Investigate alternative solutions for urban rehabilitations in Whangarei City to reduce the reliance on high cost structural asphaltic concrete (SAC) pavements.	<ul style="list-style-type: none">Improved and more cost effective programme for sealed roadsMaintaining freight routes to a higher standard will make these roads better able to cope with the increasing freight loads over time, reduce continual disruptive maintenance patching and more resilient to adverse weather events.

Most likely management scenario

The consequences of not addressing this issue, is that our sealed roads will deteriorate under increasing traffic and freight demand leading to a reduced level of service, reduced resilience during wet weather events, increased road hazards (pot holes etc.) and increased maintenance costs. To address this issue Council will:

- Carryout an adequate programme of pavement renewals that will enable the sealed pavement to be maintained in a fit for purpose condition while optimizing the long-term maintenance costs.
- Investigate and plan for new technologies to look to replace the expensive structural asphaltic concrete (SAC) pavements over time.

- Ensure our sealed roads are suitable for the traffic demands, particularly freight, while optimizing the long-term maintenance costs.

20.4.3. Unsealed Roads

Whangarei has a high percentage of unsealed roads. Use of out of specification GAP aggregates on our unsealed roads results in adverse health impacts to residents due to dust, high levels of community dissatisfaction due to poor road condition and high maintenance costs.

Issue

Unsealed roads are a community priority. There has been limited funding in the past to fund upgrades.

Options	Implications
Do nothing	<ul style="list-style-type: none"> • Continual worsening of pavement condition with increased potholing, corrugations, gravel loss and dust which is leading to high levels of customer dissatisfaction, and health concerns.
Continue with current programme of re-metalling roads on an ad-hoc basis.	<ul style="list-style-type: none"> • Continual high maintenance costs. • Continuing to maintain the unsealed network without knowing the pavement depth or condition will retain the current reactive approach to customer complaints which is likely to be suboptimal and result in more customer dissatisfaction. • Dust has become a significant concern for resident's health, particularly on freight routes, which is driving significant demand for dust suppression and sealing of roads.
Adopt the Centre of Excellence (CoE) recommendation to use Paige-Green compliant materials as a wearing course on high and medium demand roads where additional pavement strengthening to provide the required strength and shape is undertaken.	<ul style="list-style-type: none"> • Maintenance costs are reduced. • With low demand routes dust is reduced, but with high demand routes the use of a dust coat seal may still be required to mitigate excessive dust. • Development of a proactive programme of works.

Most likely management scenario

The consequences of not addressing this issue, is that maintenance costs will remain high and roads will deteriorate and create high levels of dust particularly on high freight routes, which leads to high Customer dissatisfaction. To address this issue Council will:

- implement the Centre of Excellence (CoE) recommendation to strengthen structural pavement layer and place a Paige- Green compliant material over the pavement.
- develop a proactive programme of works.

20.4.4. Drainage

Ad hoc historic maintenance of drainage systems has increased the susceptibility of our pavements to water ingress and premature failure. It also increases the likelihood of flooding and slips during heavy rain events.

Issue

Pavements are susceptible to water ingress and premature failure. It also increases the likelihood of flooding and slips during heavy rain events.

Options	Implications
Do nothing, continue with ad-hoc reactive maintenance.	<ul style="list-style-type: none"> Inadequate control of water flows to keep pavements free of water ingress resulting in pavement failure, flooding and scour of roads, particularly on the unsealed network
Adopt the NTA's Drainage Plan and Maintenance Intervention Strategy.	<p>Able to identify inadequate water-tables in areas that are high risk for water ingress, flooding and scour.</p> <p>Proactive treatment of these high-risk areas which should prolong the life of the pavement and surfacing and will reduce the amount of water flooding across roads</p>

Most likely management scenario

The consequences of not addressing this issue is that our Pavements will continue to fail prematurely due to water ingress. Slips and flooding will continue to cause resilience issues on our roads during heavy rain events resulting in road closures that often affect freight, tourist and detour routes, key lifelines and isolated communities. To address this issue the Council will:

- Adopt the NTA's Drainage Plan and Maintenance Intervention Strategy to identify water-tables in areas that are high risk for water ingress, flooding and scour
- Inspect Culverts annually to address blocked culverts.
- Carry out an increased programme of drainage repairs that enable proactive treatment of these high-risk areas which should prolong the life of the pavement and surfacing and will reduce the amount of water flooding across roads.

20.4.5. Resilience and Climate Change

Poor geology, a subtropical climate and poor drainage systems make our roads susceptible to slips and flooding during heavy rain events, resulting in road closures that often affect critical routes. This is only expected to get worse over time due to the effects of climate change.

Issue

Whangarei roads susceptible to slips and flooding during heavy rain events, resulting in road closures that often affect critical routes. This is only expected to get worse over time due to the effects of climate change.

Options	Implications
Do nothing	<ul style="list-style-type: none">Worsening of pavement condition over time (e.g. more potholes and slip failures) and an increase in long-term maintenance costs, slower travel times and potential safety issues including cutting access to communities.
Implement the NTA's Resilience Plan and maintenance intervention strategy (MIS) to develop a prioritized programme of retaining wall & slip repairs and flood mitigation required on key arterial routes, tourist routes and on roads that form the only vehicle access to isolated communities.	<ul style="list-style-type: none">Addressing slips and flood mitigation in a proactive manner will reduce the likelihood of catastrophic failure and will reduce ongoing maintenance costs.It will minimise delay and disruption on key arterials, tourist routes and will provide security of access for isolated coastal communities.Considering the impacts of climate change in low-lying coastal areas will help planning of new roads and coastal protection in these areas. This will help future proof the road network from potential sea level rise.
Investigate alternative to expand the resilience strategy to a Corridor Network Resilience Analysis and FWP.	<ul style="list-style-type: none">Improved and more focused programme for resilience worksProviding fit for purpose detour routes for the state highway network and key local arterials would enable traffic and freight flows to negotiate the detour efficiently and safely

Most likely management scenario

- The consequences of not addressing this issue is that our Pavements will continue to fail prematurely during emergency events with the likelihood of delay and travel disruption due to road closures on freight tourist and detour routes and key lifelines. To address this issue the Council will:
- Adopt the NTA's Resilience Plan and Maintenance Intervention Strategy to identify retaining walls & slip repairs and flood mitigation measures.
- Inspect existing retaining walls and flood protection structures.

Carry out an adequate programme of retaining wall repairs and slip repairs that enable proactive treatment of high-risk areas which should minimise delay and disruption on key arterials, tourist routes and will provide security of access for isolated coastal communities.

20.4.6. Structures

Lack of historic maintenance and renewals of structures is resulting in a large number of structures prematurely reaching the end of their life which is adversely affecting freight access and increasing demands for expensive bridge and retaining wall replacement

Issue

Asset information on condition of structures including retaining walls and bridges, is limited. Some bridges are unable to carry 50MAX traffic impacting on freight movements.

Options	Implications
Do nothing	<ul style="list-style-type: none">Bridges will continue to deteriorate and as their structural integrity is impacted more will be added to the 50MAX register.Impacts on freight movement and economic growth.It also has health and safety implications if bridges and retaining walls are not maintained.Retaining walls will also deteriorate and potentially fail during storm events if inspections are not undertaken.
Annual inspection programme of critical bridge and coastal structures. will enable maintenance work to be identified in a timely manner and potentially reduce more expensive repairs in the future. A retaining wall forward works plan is being developed for the first time and this is identifying demand for retaining wall renewals and replacement	<ul style="list-style-type: none">Programmes will enable maintenance work to be identified in a timely manner and potentially reduce more expensive repairs in the future and prevent further bridges being added to the 50MAX registerReduce ongoing maintenance costs on bridges and retaining walls
Continue the annual inspection programme and implement a forward works programme for the replacement and upgrade for bridges and retaining walls.	<ul style="list-style-type: none">The removal of bridges from the 50MAX restriction register will enable more use of these higher productivity vehicles and will reduce freight costs and improve opportunities for investment.Increased upgrades adds resilience to the network enabling better freight routes and a safer network.

Most likely management scenario

The benefit of a fit for purpose bridge and retaining wall asset that provide access for freight and high productivity vehicles (50Max and HPMV) on arterial, freight and detour routes.

The Consequences of not address the problem statement is that our structures will deteriorate over time leading to further restrictions to freight and increasing risk of bridge or retaining wall failure resulting in safety issues and complete loss of access

To address this issue Council will:

- Implement an annual inspection programme
- Implement a strategy that creates a forward works programme
- Fund a forward works programme

20.4.7. Growth and Alternative Transport Modes

Rapid growth and lack of suitable alternative transport modes are causing congestion in Whangārei during commuter peaks. Lack of alternative transport modes in many communities restricts access to places of employment, education and social opportunities which is leading to severance, safety issues and higher levels of social deprivation.

Issue

Congestion during commuter peaks and lack of alternative modes.

Options	Implications
Do nothing Congestion during commuter peaks and lack of alternative modes.	<ul style="list-style-type: none">Without addressing capacity issues at known problem areas in Whangarei, there will continue to be delays to freight and frustration to road users. These delays will continue to grow as the city increases in population.No increases to public transport provision continue to support private vehicle use and congestion in Whangarei.No change to the cycle network will result in lower uptake of users and less health and congestion relief benefits being achieved.Without improving walking and cycling links and bus services to rural towns, these communities will continue to suffer from community severance, safety issues and lack of access to employment, education and social opportunities which will result in continuing high levels of social deprivation.
Continue with current programme	<ul style="list-style-type: none">Implementation of the major capital works such as four laning and junction improvements at the known problem areas.Continue the implementation of the Walking and Cycling Strategy to connect disparate sections of the network.Supporting the Regional Councils initiatives to extend bus services.
Investigate ongoing upgrade programmes based on changing road use over time. Including alternative solutions for increasing modal changes to the transportation network.	<ul style="list-style-type: none">Continue to scope and develop options for network upgrades to manage congestion and peak flows.Expand the focus of the Walking and Cycling Strategy to extend to outlying communities.Create a step change uptake of other transportation modes.

Most likely management scenario

The constrained road network in Whangarei City and high dependence on private vehicle use results in higher traffic volumes on its arterial road network and is resulting in congestion in the commuter peaks. The high traffic growth rate in Whangarei is expected to continue for the near future due to high population, freight and tourism growth.

To address this issue Council will:

- Addressing capacity issues at known problem areas.
- Support the Regional Council bus initiatives to encourage higher passenger numbers and would reduce private vehicle use and congestion. Rural bus services would reduce rural commuter traffic on key arterials servicing the city.
- Provide cycleway connections in Whangarei.
- Improve walking and cycling connections in rural towns.

20.4.8. Network Safety – Safety, Education & Promotion, and Demand Management

Northland has a narrow, winding and unforgiving rural road network which combined with poor driver behaviour has resulted in the region being a high Community at Risk for death and serious injury (DSI) crashes and the rate of DSI crashes is trending upward.

Issue

Whangarei has a high Community at Risk for death and serious injury (DSI) crashes.

Exacerbated by the narrow and winding road network.

Options	Implications
Do nothing	<ul style="list-style-type: none">• Without adequate investment into road safety measures, the increasing trend in fatal and serious injury crashes on the Northland local road network is likely to continue.• Not achieving the Road to Zero Strategy
Continue with current programme: <ul style="list-style-type: none">• Targeting investment on areas with highest safety risk.• Road safety promotion programme• Speed management reviews• Traffic mode segregation as part of the Walking and Cycling Strategy• Safer crossing points	<ul style="list-style-type: none">• Targeted investment on the areas with the highest safety risk• Reduce crash rates• Target road safety promotion activities in high risk areas identified in the Communities at Risk register• Continue to implement speed management reviews across the district.• Safer walking and cycling routes through traffic mode segregation.• Improving crossing points and routes for pedestrians and cyclists

Options	Implications
<p>Investigate alternative solutions for implementing a road widening programme through the pavement rehabilitation programme.</p> <p>Further development of the Road Safety Programme.</p>	<ul style="list-style-type: none"> Road widening will provide more road space before a vehicle encroaches on the unsealed shoulder and will provide more space for cyclists and pedestrians. Increased road safety to a higher level

Most likely management scenario

The consequences of not addressing this issue is that we will increase the trend in fatal and serious injury crashes on the Whangarei local road network is likely to continue and we will not meet our Road to Zero targets.

To address this issue Council will:

- target investment on areas with highest safety risk.
- implement the road safety promotion programme
- undertake speed management reviews
- traffic mode segregation as part of the Walking and Cycling Strategy
- safer crossing points

20.5. Assumptions and uncertainties

20.5.1. Assumption

Key assumptions for the transport planning function include:

- Level of Waka Kotahi NZTA subsidy remains the same
- Cost escalations (post covid) impact on the level of work able to be achieved for the same budget.
- New maintenance contract from 2025 are required with significant price increases anticipated
- Storms and current weather patterns will continue have caused accelerated deterioration across the networks, roads expected to fail more frequently and faster.
- Pavement costs in Northland are likely to be higher than other areas due to poor geology which results in softer subgrades requiring thicker pavements and fewer good quality local quarry sources.

20.5.2. Uncertainties

- Uncertainties regarding the content and approach of the Government Policy Statement on Transport, in particular the Road to Zero approach.
- Changes to the statutory and regulatory environment.
- Changes to NZTA's funding approach.

- The detailed condition of our transport network.
- Unknown projects that will have impacts on the transportation function:
 - potential for Ports of Auckland to partially move to Northport.
 - potential for the Navy to move to The District.
 - Airport relocation and roading impacts.

20.6. Levels of service

The transportation activity has the following Levels of Service, which are supported by performance measures included in the activity profile section of the LTP:

- The District's roading network will be maintained in a satisfactory condition and in accordance with national safety and engineering standards”
- we will support alternative transport methods.

Funding for the transportation activity is sufficient to maintain current Levels of Service over the medium to long term. However, the maintenance of existing Levels of Service may not meet increasing customer expectations, the Department of Internal affairs (DIA) mandatory non-financial performance measures for the safety of local roads or the requirements of ONRC, once implemented. There is also a need to play catch up to bring the network back to a consistent standard after the impacts of Covid 19 and extended periods of rain.

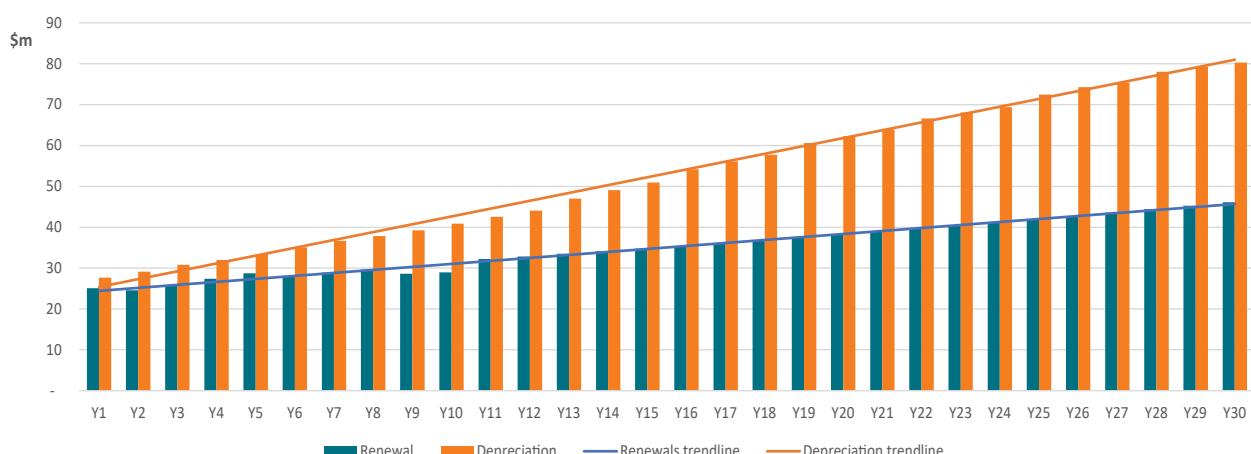
These issues will be monitored over time with any changes to Levels of Service being considered in future planning rounds.

20.7. Activity funding strategy

20.7.1. Renewals/Depreciation

The transportation renewals profile below shows the budgeted renewals for years 1-10 of the Strategy relative to depreciation. Depreciation is then forecast for years 11 – 30 with renewal requirements identified through the AMP also being forecast over that period. The graph shows the required renewal budget relative to depreciation over the life of the Strategy.

Transportation renewal expenditure



Renewals are driven by national standards adopted by NZTA, along with other mandatory non-financial performance standards required by the Department of Internal Affairs (DIA).

The principal condition rating model that determines an asset's condition and the overall renewal profile is the NZTA deterioration model, DTIMS. As a result, there is a relatively high level of confidence in modelling.

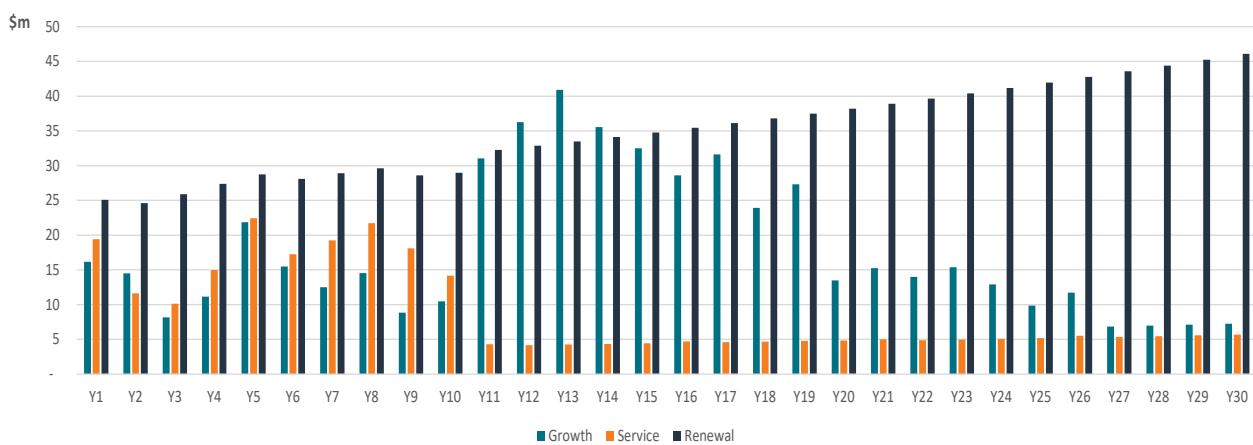
The renewals expenditure profile is relatively consistent over the 30 years. Renewal funding for the transportation activity is enough to maintain current Levels of Service over the medium to long term, however, the maintenance of existing Levels of Service may not meet increasing customer expectations. No bow wave or increase in renewals in the later years are identified. Renewals priorities are identified in the major projects table below.

The gap between depreciation and renewals is slowly widening over the 30 year period of the Strategy. As this profile contains all transportation assets, including bridges and structures which can have a high value and a long life, this partially accounts for this gap.

20.7.2. Capital Expenditure by driver

The following graph outlines the total Transportation capital expenditure by primary drivers (Growth, Level of Service and Renewals).

Transportation capital expenditure by splits



The profile shows a focus on renewal expenditure prioritised over growth and Levels of Service. This is primarily driven by the resealing of roads, which has been projected over the 30 years. This reflects our community's expectations around roading provisions.

Growth projects have been pushed out to the mid-term of the Strategy (through yrs. 11-19). This may result in a temporary decline in customer satisfaction in some areas. However, the city pinch points are being addressed by the Strategy as outlined in the major projects table.

In addition to Council funded projects, we are also delivering significant central government funded projects. This has impacted on our planned delivery, with some projects brought forward.

20.8. Major capital expenditure

Project	Type	Amount	Year
Waterfront to City Centre (John St)	LOS	\$26M	2029-2034
Seal extensions	LOS	\$60M	2024-2054
Kamo Bus priority/4-laning	LOS	\$24M	2024-2039
Reyburn/Okara/Port Rd bus priority/4-laning	LOS	\$25M	2039-2044
Tikipunga bus priority/4-laning	LOS	\$25M	2044-2049
SH1-SH14 Link (Pompellier)	Growth	\$15M	2039-2044
SH1-SH14 link (Hospital)	Growth	\$10M	2024-2039
Tarewa intersection upgrade & Tarewa/Walton 4-laning	Growth	\$25M	2034-2039
Hatea Drive 4-laning	Growth	\$12M	2039-2049
Park and Ride	Growth	\$16M	2024-2044
Marden Point upgrades	Growth	\$41.7M	2024-2049
Commuter rail service	LOS	\$16M	2049-2054
Urban intersection upgrades	Growth	\$45M	2024-2054
Port Road corridor improvements	Growth	\$6M	2024-2029
Cycleways/shared paths	LOS	\$84.2M	2024-2054

21. Three Waters

21.1. Overview

We have consolidated our three water assets into one section to provide a comprehensive overview of the three activities. We expect structural changes in the management and delivery of three waters services, and bundling these activities together offers medium to long-term benefits to users of this strategy.

21.1.1. Wastewater

The wastewater activity incorporates facilities that collect, treat and discharge wastewater. The networks services 61,000 residents throughout the district, representing 62% of the total district population.

21.1.2. Water

The water activity covers the collection of raw water and the treatment and distribution of drinking water to reticulated areas within the community. Water can be made available to properties outside of the reticulated area via private tanker deliveries. Water is also available for fire-fighting throughout the reticulated network.

21.1.3. Stormwater

The Stormwater network comprises a combination of pipe systems, access holes and sumps open channels, treatments devices and urban rivers and streams to conveys rainwater from parks, roads, houses and yards, to streams and the ocean, thereby preventing flooding of properties and roads in defined service areas. There are 11 major stormwater catchments in the Whangārei Area and four defined urban catchments of Whangārei, Ruakaka, One Tree Point and Waipu

Water 2024	Wastewater 2024	Stormwater 2024
\$513M worth of assets	\$552M worth of assets	\$385M – worth of assets
26,500m ³ Average production per day*	Process average 20,000m ³ cubes a day	19 floodgates
28,500 Customers	9 Waste Water Treatment Plants	34 retention ponds
799 Km's of Pipes	860 kms of pipes etc	691km of network including channels and open drains
4 Dams	61K population served	
47 Reservoirs		
26 Pump Stations	*Average production is linked to usage and as such varies with wet/dry years	
10 Water Sources		
7 Treatment Plants		

21.2. Asset performance

While we have large infrastructure investments identified as specific projects within the 30 years of the Strategy, overall, our renewal programme and project provision ensure that the costs are fairly distributed over the duration of the Strategy. There is an increase in projected costs after year 10 to build up our renewals.

We are generally not experiencing the failures that older networks may face. Infrastructure assets need to be maintained and renewed and developed in a cost-effective manner, ensuring that cost is spread equitably across the community and upcoming generations do not face excessive renewal costs or critical failures.

21.2.1. Water

Generally water assets are performing reasonably well. We do have a significant quantity of asbestos cement pipe that will need replacing over the next 30 yrs. In addition, we have cast iron pipes up to 100 years old that will also require replacing. We have a planned programme of works to address these issues over time. We will be targeting areas that are signalled for growth to ensure that we have the capacity and pressures to meet the future demands.

We are planning to update our Water Strategy that will identify future requirements specific asset performance issues and solutions to address these

21.2.2. Wastewater

Many of the pump stations in the Whangarei Heads catchment are suffering chemical attack due to a high proportion of daisy-chain pumps in this network and high retention times. This is affecting concrete structures and also reducing the life of pumps.

Initial investigations indicate that some of the older concrete pipes in the Ruakaka area appear to be corroding from outside in. This may be acid sulphate soil attack. Further investigations and analysis are currently being undertaken. This creates issues with flowable sand entering the network, causing blockages, and making rehabilitation or replacement challenging.

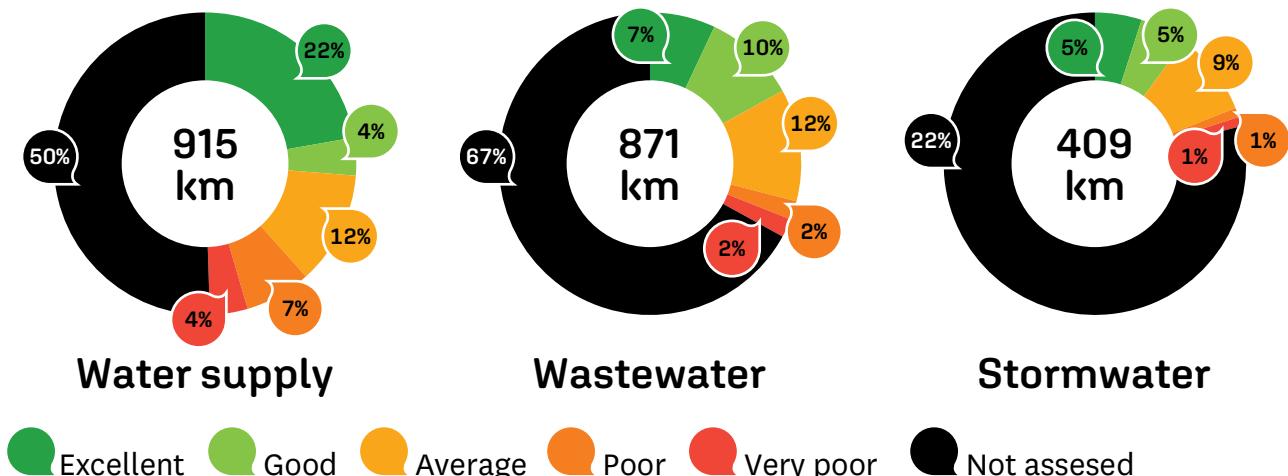
Inflow and infiltration remains an ongoing problem across most of the network which alludes to the fact that the network is ageing and not as watertight as when new.

21.2.3. Stormwater

Asset condition is measured using CCTV, maintenance and renewal information and visual inspection. While base lives on average sit at slightly less than 100 years, survival mode assigns an average life of stormwater mains of 63 years. and Stormwater assets are mainly acquired as a vested asset from development but pipes installed in the last 10-20 years have a higher failure rate than those from previous decades which is of concern.

With the increasing impacts of climate change, specifically intense rainfall events, many of our stormwater pipes are undersized. We also have backflow issues in some outlets to the streams and harbour in times of storms and king tides. Flood planning is with the City Centre is specially for the city, is lagging.

21.3. Asset Condition



Source: Wai Tamiki ki te Hiku Waters Draft Asset Management Plan

We currently base our data on physical condition assessments only. It does not indicate the theoretical remaining useful life of assets, hence showing high percentages of unassessed pipes. Renewals and network upgrades based on assessed assets are required across three waters assets for water pipelines (with approximately 119km in poor to very poor condition), wastewater pipelines (with approximately 35km in poor to very poor condition) and stormwater pipelines (with approximately 10km in poor to very poor condition). If a similar condition ratio is applied to the pipe networks that have not been assessed yet, the number of pipelines in poor to very poor condition could potentially be more than double the current estimates. Funding has been identified to increase assessments of both the physical and theoretical asset conditions.

21.4. Critical assets

Asset groups are identified as critical when their loss impacts a large area and or other lifeline services, can cause non-compliance, interfere with critical control points in the network and are essential to the health of our communities.

Council is a member of the Northland Lifelines Group whose role is to help lifeline utilities to co-ordinate recovery and restore their services as quickly as possible following a disaster. These services generally include:

- critical community sites which are important to public health and safety (hospitals, ambulance depots) and emergency response (police, fire, emergency management)
- critical lifelines sites – including water services, power, gas, telecommunications and transportation networks.

Integration with other lifelines utilities is vital to ensure we are able to service other critical infrastructure and other infrastructure supports us. An example of this is the linkages between the transportation network, telecommunications and electricity that then support a wastewater facility .

The current resilience strategy for critical assets is dependant on the asset category – for example source waters are monitored through bore security monitoring, water quality testing

and visual assessments while treatment plants and pump stations are monitored through SCADA.

Further work is planned in conjunction with the Northland Lifelines Group at part of the critical assets and critical routes workstream.

Water

- Reservoirs
- Dams & Sources
- Trunk mains and raw water mains
- Water Treatment Plants (WTP) and Structures
- Pumps (PS)
- Control valves
- Distribution Mains

Wastewater

- Wastewater pump stations
- Large rising mains (>800 mm diameter)
- Wastewater treatment plants (WWTP)
- 136 pipe assets were deemed to be critical based on risk analysis scenario of:
 - 100m from all waterways and Coastal Marine areas
 - 7m from arterial and state highways or crossing rail or airport runway
 - Within instability areas

Stormwater

There are no critical stormwater assets, in terms of requiring immediate restoration following a major flooding event.

21.5. Key issues and actions

21.5.1. Water

Some of the key issues facing Water Services include:

- Climate change and drought management.
- Increasing renewals. We can expect a reticulation renewal (predominantly asbestos cement pipes) bow-wave over the next 30 years. Some of the treatment plants and reservoirs are also expected to be at the end life during the 10-30-year period .
- Potentially increasing water quality and delivery standards
- Fluoridation at main treatment plants. Funding for the Capex works has been secured however no operational opex is available. Uncertainties about the legal position of previous Ministry of Health directive may impact operational start.

- Cost increases will continue to climb as water sector struggles to meet regulatory requirements.
- capacity/growth improvements

Issue

Climate Change will impact raw water availability and have other potential impacts on water quality which could reduce resilience.

Options	Implications
Do nothing	<ul style="list-style-type: none"> • More restrictions during long dry spells • Possibility of running out of water • Economic impact on businesses and wider community.
Water use reduction strategies and source optimisation	<ul style="list-style-type: none"> • Short term benefits • Additional long term costs for community i.e. rainwater tanks • Helpful for consent renewals • Increased operational costs
Develop new water sources and treatment	<ul style="list-style-type: none"> • Drought resilience improved • Able to support wider community, even outside district • Ability to address growth issues • Significant capital costs

Most likely management scenario

We will need to manage its existing water sources as well as possible to ensure the impacts of drought conditions are minimized. Optimising water use from different sources from a resilience perspective rather than a cost perspective will allow dam water to be saved for extreme droughts. New water sources will also need to be developed. To address this issue We will:

- Undertake a conjunctive use model to better understand water availability and operational needs
- Upgrade the Poroti WTP to treat water from the Wairua river
- Investigate new water sources and develop as required

Issue

Information available on some assets is insufficient for proactive management of assets

Options	Implications
Do nothing	<ul style="list-style-type: none"> Failure to maximise expenditure decisions Increased costs as renewal programme may not be based on accurate information Increased potential for unexpected failure of network
Rely on modelling only	<ul style="list-style-type: none"> Modelling alone may over- or under-state asset condition and capacity Asset modelling relies on the best information available at the time, which may be incomplete Increased long term cost
Fund asset data and systems improvement	<ul style="list-style-type: none"> The accuracy of models improves as data is collected Reduced cost as maintenance and renewal expenditure is prioritised based on best available information Provides baseline information for long term planning

Most likely management scenario

There are limitations on historic information. We prefer to extend and verify the information currently available in the asset database so that it can be better used for proactive management of assets. To address this issue we will:

- Continue its data improvement/validation programme which was undertaken as part of the AMS upgrade from Hansen to TechOne/SIGMA however data cleansing and improvement is an ongoing process
- Increase funding for condition assessments and modelling on network assets

Issue

Some ageing water reticulation pipes are in poor condition, with many older pipelines constructed from out of date materials such as asbestos cement

Options	Implications
Do nothing	<ul style="list-style-type: none">• Ongoing deterioration and failure of the water supply network• Increasing water lost as leakage• Inability to deliver an appropriate Level of Service
Maintain existing pipes	<ul style="list-style-type: none">• Increased difficulty and cost of repair• Some materials may not be repairable due to unavailability of older materials• Leakage and increased cost• Reduction in Levels of Service
Upgrade pipes using new materials	<ul style="list-style-type: none">• Extends uniformity of network pipelines• Ability to use “fit for purpose” materials• Lower long term maintenance costs• More reliable water supply network• Maintains Levels of Service• Significant Capital costs

Most likely management scenario

The remaining alkathene and galvanised steel rider mains are operating past their predicted life and are in poor condition. Leakage and breakage rates in these pipes directly contribute to higher than desirable unaccounted for water figures and maintenance costs. Many of the distribution mains are made of asbestos cement and may be nearing the end of their predicted life. Older cast iron pipes in residential areas have become severely encrusted inside and several cannot meet fire-flow requirements (level of flow required by the fire service in the event of a fire). prefers to upgrade distribution pipes as they start to fail using new, “fit for purpose”, materials. To address this issue We will:

- continue to implement a pipe replacement programme
- continue a programme of operating a lower water pressure in some areas to reduce strain on ageing pipes and reduced leakage, until replacement can be implemented
- upgrade pipes using new materials, where required
- increase its renewal programme as more pipes reach the end of their useful lives.

Issue

Water treatment plants, require continuous upgrading and ongoing expenditure to ensure production and to maintain water quality standards

Options	Implications
Run to failure	<ul style="list-style-type: none">Increased maintenance costsHigh risk of failure despite redundanciesPotential inability to meet future demand and water quality standardsPotential decrease in Levels of Service for some plants
Improve maintenance and renewal programme and upgrade, where appropriate	<ul style="list-style-type: none">Extends useful lifeIncreased costs over timeUpgrades alone may not allow a plant to meet increased demandDoes not address site constraints
Upgrade to use technology / best practice as it becomes available and replace, where appropriate	<ul style="list-style-type: none">Maintenance and upgrade extends useful lifeMore cost-effective option where plant is reaching the end of useful life, or upgrade costs are becoming untenableFull replacement enables site constraints to be addressed

Most likely management scenario

There are seven water treatment plants in the District. To ensure a safe, reliable water supply for the community, Our preferred option is to upgrade and/or replace them, as required. To address this issue we will:

- upgrade Poroti WTP to support the current and new Wairoa River source
- continue with a programme of maintenance and renewal for other water treatment plants
- consider further upgrades/replacements over the life of the Strategy to optimise performance and asset life.

Issue

Some critical pumps and drives have exceeded their design life and are now due for either replacement or refurbishment

Options	Implications
Run to failure	<ul style="list-style-type: none">• Additional long term cost• Failure of critical pumps and drives• Increased risk to the delivery of flow and pressure• Reduction in Level of Service
Effective maintenance regime	<ul style="list-style-type: none">• Increased backlog of renewals and replacements• Additional long term costs
Maintain, renew and upgrade before failure	<ul style="list-style-type: none">• Increased reliability of critical assets• Maintains Level of Service• Ability to address growth issues

Most likely management scenario

We prefer to manage critical equipment and reticulation assets through a combination of preventative maintenance, condition assessment and planned renewal programmes.

To address this issue we will:

- undertake condition assessments as part of business as usual
- undertake renewals as part of a plant upgrade or planned minor projects
- replace electrical and control assets as they fail.

Issue

Requirements for improved Drinking Water Standards, monitoring and/or fluoridation, may increase costs

Options	Implications
Do nothing	<ul style="list-style-type: none">• Changing requirements may result in unplanned expenditure• Non-compliance may result in prosecution
Monitor changes and respond as required	<ul style="list-style-type: none">• Measured and timely response to changes• Active participation in any review of Standards• Level of Service maintained over time
Anticipate changes	<ul style="list-style-type: none">• Potential for expenditure where not required• Anticipated response may not address changes• Potential to achieve higher Levels of Service

Most likely management scenario

Water standards and monitoring requirements are expected to become more stringent over time. There is also an ongoing national debate regarding fluoridation. We prefers to monitor changes and respond to these issues as necessary. To address this issue we will:

- include some strategic funding to comply with potential changes to drinking water standards
- implement fluoridation as required by regulation
- seek subsidies to off-set the costs of compliance, where available.

Issue

Sanitary assessment are required by the LGA. Council has little knowledge of private water supplies which are currently controlled by NRC and Northland DHB. This may become an issue for Council under the proposed legislation.

Options	Implications
Do nothing	<ul style="list-style-type: none">• Does not meet Council's obligations under the LGA for Sanitary Assessments• Risk of prosecution
Meet minimum requirements of the LGA	<ul style="list-style-type: none">• Meets requirements of LGA• Focusses on key growth areas and areas with high seasonal visitors• Informs future LTP processes and allows for investment in infrastructure, based on need.
Proactively work with private suppliers to improve their supplies	<ul style="list-style-type: none">• Pre-empt legislative requirements• Time and resource intensive• Funding required to be effective

Most likely management scenario

Sanitary assessments help to understand the existing water supply provisions and their effectiveness. Detailed sanitary assessments have not been undertaken in communities such as Ngunguru, Tutukaka, Matapouri and other coastal areas that have high fluctuations in seasonal populations. We have basic information and work with Ministry of Health to understand if there are water related health issues. This work was put on hold due to the three waters reform and the understanding the entity would manage this process across all supplies.

To address this issue we will:

- Undertake basic sanitary assessments for smaller communities and coastal communities to meet its obligations under the LGA)
- Undertake basic risk assessments to identify any potentially at risk water supplies
- Consider the outputs of sanitary assessments in the 2027-2037 Long Term Plan

21.5.2. Wastewater

Some of the key issues facing Wastewater include:

- Significant Inflow and Infiltration during periods of wet weather
- Backlog of assets requiring renewal
- Data Confidence - Unreliable and missing data for underground assets
- Discharges from some WWTPs are approaching or exceeding consent conditions.
- Reticulation network capacity issues in Whangarei Catchment and Ruakaka/One Tree Point
- Uncertainty around future discharge quality requirements and what upgrades may be required at each of the nine treatment plants to meet these requirements.
- Ageing telemetry network resulting in avoidable spills where operations team aren't alerted to high level alarms at pump stations.

Data confidence

Issue

Information available is insufficient for proactive management of some assets

Options	Implications
Do nothing	<ul style="list-style-type: none">• Failure to maximise expenditure decisions• Increased costs as renewal programme may not be based on accurate information• Increased unexpected failure of network
Rely on modelling only	<ul style="list-style-type: none">• Modelling alone may over- or under- state asset condition and capacity• Asset modelling relies on the best information available at the time, which may be incomplete• Increased long-term cost
Fund asset data and systems improvement	<ul style="list-style-type: none">• The accuracy of the model improves as data is collected• Reduced cost as maintenance and renewal expenditure is prioritised based on best available information• Provides baseline information for long term planning.

Most likely management scenario

There are limitations on historic data relating to asset location, condition and usage. We prefer to extend and verify the information currently available in the asset database so that it can be better used for proactive asset management purposes. To address this issue Council will:

- undertake a data improvement/validation programme which was undertaken as part of the AMS upgrade from Hansen to TechOne/SIGMA however data cleansing and improvement is an ongoing process
- maintain funding for condition assessments and modelling on network assets
- while not a factor in the adequacy of data, we will work towards implementing the Strategic Asset management Module within the Tech 1 Asset Management system. This was put on hold while we were working under the Water Services Entities Act and has been reprioritised since the repeal of the legislation

Renewals

Wastewater assets subject to early failure require replacement

Options	Implications
Do nothing	<ul style="list-style-type: none">• Ongoing deterioration and failure of the wastewater network• More expensive reactive maintenance<ul style="list-style-type: none">– Inability to deliver Level of Service
Continue with renewals and update materials	<ul style="list-style-type: none">• Ability to use better fit-for-purpose materials• Lower long term maintenance costs• More reliable network<ul style="list-style-type: none">– Maintains Levels of Service

Most likely management scenario

We prefer to continue a renewals programme that replaces older materials with fit-for-purpose modern materials, based on physical condition assessments. To address this issue we will:

- continue to undertake a renewals programme based on physical condition assessment and modelling
- increase physical condition assessments
- identify the causes of faster than expected asset deterioration

Sanitary Assessments

Issue

Sanitary assessments, as required under the LGA have not been undertaken for some time

Options	Implications
Do nothing	<ul style="list-style-type: none">• Does not meet Council's obligations under the LGA• Risk of prosecution
Meet minimum requirements of LGA	<ul style="list-style-type: none">• Meets requirements of LGA• Focuses on key growth areas and areas with high seasonal visitors• Informs future LTP processes and allows for investment in infrastructure based on need• At high level confirm with NRC that any private wastewater schemes discharges are compliant (no known issues currently)• Focus sanitary assessments on larger rural and coastal communities.

Most likely management scenario

Council has decided to work collaboratively across the region and has work underway to undertake the required sanitary assessments. The risks associated with a changing regulatory environment are noted, especially the proposed Water Services Bill.

The need for sewerage schemes in communities such as Maungatapere, Maungakaramea, Matapouri and other coastal areas that have high fluctuations in seasonal populations is not well understood. Sanitary assessments help understand the existing wastewater provisions and effectiveness to the community. Council prefers to undertake sanitary assessments in areas that indicate growth, as well as those areas that have high seasonal populations. To address this issue Council will:

- include indicative costings in the Strategy where information is available
- meet its obligations under the LGA with respect to sanitary assessments for smaller communities and coastal communities, with an emphasis on those communities that are experiencing growth or seasonal pressures
- consider the outputs of sanitary assessments and confirm funding requirements in future planning rounds

21.5.3. Stormwater

Some of the key issues facing Water Services include:

- Stormwater assets are deteriorating faster than previously expected
- There is a significant backlog of assets requiring renewal
- Data gaps and reliability of data
- Climate change causing coastal inundation and impacting on the ability of pipes to clear floodwaters
- SW Catchment Management Plans need to be updated to support the service assessments.
- Urban stormwater networks require consent under the Regional Plan for Northland.

Issue

Information available is insufficient for proactive management of assets

Options	Implications
Do nothing	<ul style="list-style-type: none">• Failure to maximise expenditure decisions• Increased costs as renewal programme may not be based on accurate information• Increased unexpected failure of network
Rely on modelling only	<ul style="list-style-type: none">• Modelling alone may over- or under- state asset condition and capacity• Asset modelling relies on the best information available at the time, which may be incomplete• Increased long term cost
Fund asset data and systems improvement	<ul style="list-style-type: none">• The accuracy of models improves as data is collected• Reduced cost as maintenance and renewal expenditure is prioritised based on best available information• Provides baseline information for long term planning.

Most likely management scenario

There are limitations on historic data available. We prefer to extend and verify the information currently available in the asset database so that it can be better used for proactive asset management purposes. To address this issue we will:

- undertake a data improvement/validation programme
- increase funding for condition assessments and modelling on network assets
- while not a factor in the adequacy of data, we will work towards implementing the Strategic Asset management Module within the Tech 1 Asset Management system. This was put on hold while we were working under the Water Services Entities Act and has been reprioritised since the repeal of the legislation.

Issue

Some assets are deteriorating more quickly than expected, potentially resulting in a large backlog of stormwater assets requiring replacement

Options	Implications
Do nothing	<ul style="list-style-type: none">• Ongoing deterioration and failure of the stormwater network• Increased operational spend due to reactive repairs• Increases in the extent and frequency of flooding due to failures• Reduction in Levels of Service
Maintain existing pipelines	<ul style="list-style-type: none">• Using the same materials will reduce the renewal period• Ongoing failure points in network resulting in flooding• Increased backlog of renewals, with funds diverted from other infrastructure classes• Reduction in Levels of Service
Renewals and update materials	<ul style="list-style-type: none">• Ability to use better fit-for-purpose materials• Lower long term maintenance costs• More reliable stormwater network• Maintains Levels of Service

Most likely management scenario

Limited condition testing of the stormwater network has been undertaken. However, this is indicating that pipelines are deteriorating more rapidly than expected. Pipelines that have been installed in the past 20 years appear to be deteriorating at a faster than anticipated rate, resulting in a shorter life expectancy. There is a tension between what we need to do to renew our assets and our capacity to deliver the programme. This is being addressed as part of the wider asset delivery improvement programme.

We prefer to prioritise a renewals programme that replaces older materials with fit-for-purpose modern materials in accordance with evidence-based assessments of physical condition. To address this issue we will:

- continue to undertake a renewals programme based on physical condition assessment and modelling
- increase physical condition assessments
- review design standards, construction methods and materials for stormwater systems
- enhance construction supervision for stormwater assets that are to be vested in Council.

Issue

Effects of extreme storm events on the community are not well understood

Options	Implications
Do Nothing	<ul style="list-style-type: none">Not well prepared for flooding eventsProjects required to protect the community may not be identified in the 30-year planPotential adverse impact on Council's overall funding strategy
Undertake flooding assessments	<ul style="list-style-type: none">Better asset information to model the effects of floodingIncreased funding to undertake modellingInterfaces with the Northland Regional Council in relation to river and coastal floodingCapital projects can be considered in future planning roundsCapacity of existing infrastructure to be reviewed against increased infill development

Most likely management scenario

Historically, the stormwater system has been designed for a 1:5-year rain event. However, regulatory requirements are increasing and with the projected climate change, the stormwater system is likely to be subject to more frequent and intense events going forward. We have had limited modelling and data to determine the impacts of these trends on the network. To address this issue Council will:

- increase funding for catchment plans and network modelling
- work with Northland Regional Council to enhance understanding of the impacts of more frequent and severe events.

Issue

Increased regional environmental and flood protection requirements

Options	Implications
Do nothing	<ul style="list-style-type: none">Potential bow-wave of upgrades to install treatment devices once consent conditions are knownIncreased cost over time
Retro-fit treatment devices	<ul style="list-style-type: none">Improved water qualityOngoing costs, but a reduction in potential bow-wave of renewals

Most likely management scenario

National legislation and regional guidance has signalled there is there a need for an increasing focus on water quality. Improved environmental standards may affect the conditions on stormwater network discharge consents, resulting in a potential need to install new treatment devices within the network. In addition, increasing regulatory requirements are also likely to require new stormwater networks to be designed to a higher standard. Council prefers to continue a programme of retro-fitting treatment devices on existing stormwater outlets.

To address this issue Council will:

- provide funding for a programme of retro-fitting treatment devices on stormwater outlets
- actively participate in District and Regional Plan reviews, particularly relating to hazards and flood risk

Issue

New requirements under Regional Plan for Northland for consents for Storm water urban networks

Options	Implications
Do nothing	<ul style="list-style-type: none">• Operating the urban stormwater network without consent
Obtain new resource consents for networks including existing consented catchments.	<ul style="list-style-type: none">• Ongoing costs, but a reduction in potential bow-wave of renewals• Regulatory compliance.

Most likely management scenario

The Regional Plan for Northland (RPN) makes stormwater networks in the urban areas of Whangārei, Waipu, One Tree Point and Ruakaka discretionary activities that require a resource consent. Work is underway to obtain the required Resource Consents.

The Regional Policy Statement for Northland and RPN also signals new developments be directed away from 10-year and 100-year flood areas and high risk coastal hazard areas.

Catchment Management Plans are no longer required to support the Regional Plan consent but may need to be updated to manage and understand service requirements. Improved environmental standards may affect the conditions required on these consents. Council prefers to actively negotiate consent conditions based on sound environmental information.

To address this issue Council will:

- apply for consents for the urban networks
- Actively plan for improved monitoring of key storm water discharge points.

21.6. Assumptions and uncertainties

These are specific assumptions and uncertainties relating to the three water services they should be read in conjunction with section 15.

21.6.1. Assumptions

- Standards and environmental regulations may result in new consent conditions for all discharges, that are more stringent than current conditions.
- Water and wastewater use per capita will remain constant.
- That we are resourced to deliver our capital programme.
- no single large user of our services will commence or cease operation in the short to medium term.
- There will be continued change in rainfall frequency and intensity that will affect our services.
- There will be legislative reform in the delivery, management and funding of Three Waters.
- There will be no unexpected changes to legislation regarding how we provide for these activities.
- Affordability will moderate our ability to deliver a best for asset programme.

21.6.2. Uncertainties

Water

- Condition assessment of above ground assets is based on physical inspection. As a result, Council has sound data on dams, reservoirs, buildings and other above-ground assets. Underground assets, such as water pipelines, are more difficult to assess as detailed CCTV imaging is not possible. Pipeline condition assessment is therefore primarily age-based, coupled with sampling of failed or replaced pipes.
- There is always uncertainty surrounding the District Growth projections and resulting collection of development contributions for growth projects.
- Bream Bay's water service area demand forecasting is subject to uncertainty around the Northport and Channel infrastructure operations and possible future connection to Mangawhai.

Wastewater

- Assumptions around wastewater are generally based on physical inspection. Because of this, we have sound data on treatment facilities, pump stations, buildings and other above-ground assets. Underground assets, such as pressure mains, are more difficult to assess and are subject to greater uncertainty. Wastewater pipeline condition assessments by CCTV are undertaken on a scheduled programme as well as when issues arise in certain catchments.
- Better asset data will be used to update the deterioration model to better reflect the actual condition of the network, which in turn will inform depreciation going forward.

- Uncertainty surrounding the district growth projections result in the potential to provide assets sooner than required or risk providing later than required, a flow on from this is the uncertainty of the funding recovery from development contributions.
- There are known capacity pinch points in the network but there is uncertainty over the growth priorities to inform where upgrades are required.

Stormwater

- Stormwater assets are deteriorating faster than previously expected. We need to do further modelling on the assets to determine why.
- Climate change is causing causing coastal inundation and impacting on the ability of pipes to clear floodwaters.
- Data gaps and reliability of data mean our models are not based on a full data set and may not be correct.
- Overland flow paths are modelled and need to be validated.
- Increasing need for greater stormwater management and review of levels of service and community expectations.
- Desire to move to more green solutions for stormwater management rather than traditional systems such as constructed wetlands.
- Changes to the freshwater regulatory framework may also lead to changes in environmental regulation and our ability to meet consent requirements for our network consents. It may also require increased monitoring and operational costs.

21.7. Levels of service

21.7.1. Water levels of service

The water activity has the following Levels of Service which are supported by performance measures included in the activity profile section of the long term plan.

- we provide safe, high-quality drinking water to all our customers
- in times of emergency there is adequate water supply available
- we manage the water supply system in a sustainable way that also caters for growth.

While the allocated funding will enable Levels of Service to be maintained over the life of this strategy, key challenges faced relate to:

- continuity of supply, particularly in regard to climate change
- compliance with drinking water standards
- maintaining or upgrading security to avoid wilful damage or contamination
- Unknowns relating to the future of three waters reform

To address these issues Council will prioritise supply assets and security to reduce risk and will monitor and respond to changes in Drinking Water Standards.

21.7.2. Wastewater levels of service

Except for the residents' satisfaction survey, all performance measures are Department of Internal Affairs (DIA) Mandatory Performance Measures that need to be reported in the LTP.

The wastewater activity has the following Level of Service which are supported by performance measures:

- in defined service areas, Council will collect, treat and dispose of wastewater through a reliable wastewater network which is managed to ensure blockages, breaks or spillages are kept to a minimum.
- Where the territorial authority attends to sewerage overflows resulting from a blockage or other fault in the territorial authority's sewerage system, the following median response times measured.

While the allocated funding will enable Levels of Service to be maintained over the life of this Strategy, key challenges faced relate to:

- the 2018 Asset Survival Model indicated that there were some PVC pressure pipes that are showing signs of early failure and requiring renewal. This is expected to increase overall operational cost as reactive repairs are undertaken.
- risks associated with meeting consent compliance requirements at the wastewater treatment plants, pump stations and in the network.
- To address these issues Council will prioritise funding on renewals and take a proactive approach to monitoring treatment plants and negotiating consent conditions. Upgrade funding is identified in the later years of the Infrastructure Strategy. .

21.7.3. Stormwater levels of service

The stormwater activity has the following Level of Service, which is supported by performance measures included in the activity profile section of the LTP:

- Council will manage the stormwater network to minimise flood risks within defined service areas.

The 2021-23 LTP saw an increased in funding for stormwater renewals and limited funding for the installation of new treatment devices across the network, this continues within this Strategy.

Our existing assets are being affected by the increasing number and severity of storm events. This results in the degradation of the network over and above expected levels.

We have identified key risk areas in the city and are implementing solutions to reduce the impact of extreme rain events on these areas (e.g Morningside).

21.8. Activity funding strategies

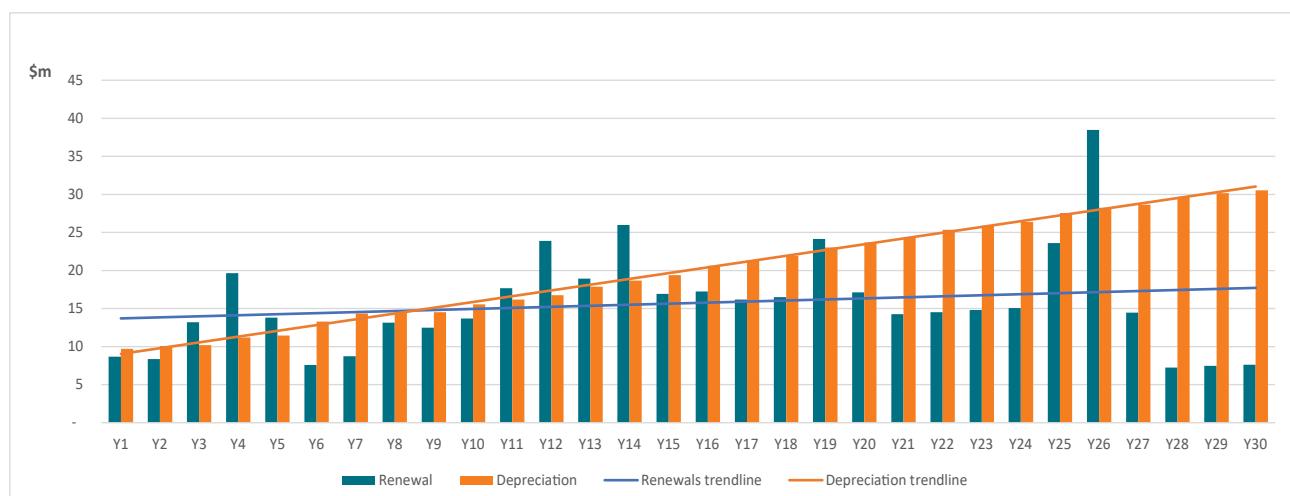
The renewals profile below shows the budgeted renewals for years 1-10 of the Strategy relative to depreciation. Depreciation is then forecast for years 11 – 30 with renewal requirements identified through the AMP also being forecast over that period.

21.8.1. Water activity funding strategy

This activity is predominately funded through targeted rates and reserve funding . Development contributions are levied to the growth community to fund growth projects.

The water renewals profile below shows the budgeted renewals for years 1-10 of the Strategy relative to depreciation. Depreciation is then forecast for years 11 – 30 at a standard rate of 2.7% . Renewal requirements identified through the AMP also being forecast over that period based on remaining asset lives. The graph shows the required renewal budget relative to depreciation over the life of the Strategy.

Water renewal expenditure

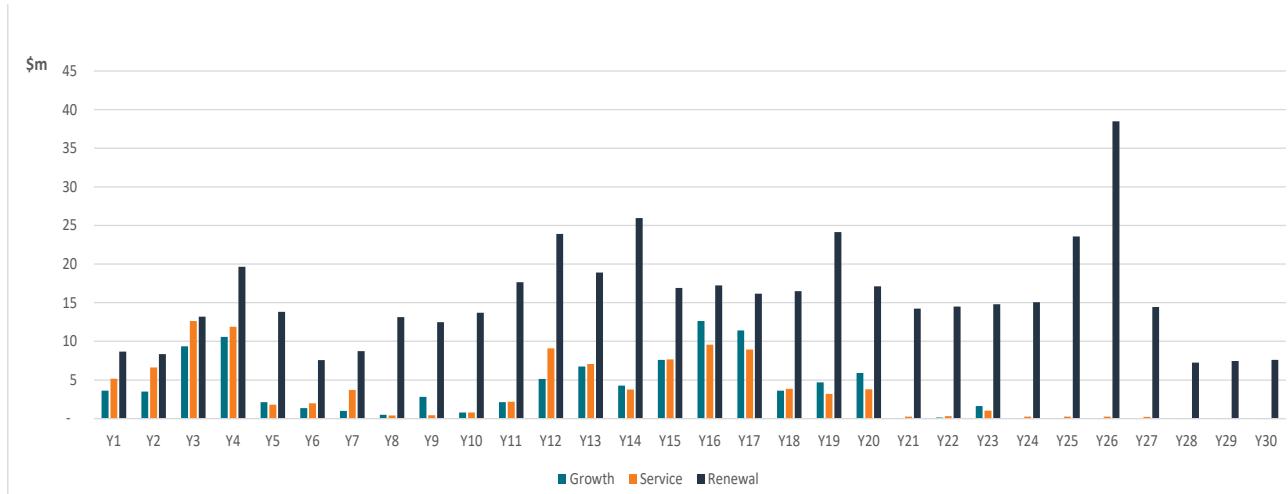


Expenditure on renewals across all the water asset categories is relatively constant over the 30 years. Notable renewals over the first 10 years of the Strategy include upgrades to trunk mains and capacity improvements throughout the network. The Poroti (Wahakukopu) WTP is funded in years xx- x.

Details are contained in the major capital works and significant projects section below. Over the life of the Strategy, the gap between the projected renewals and depreciation widens. This is partly explained by the upgrade of the Whau Valley water treatment plant which has increased the total capital value which is now included in the depreciation profile. Only one planned renewal of a reservoir is planned over the next 30 years.

In general pipeline replacements are in line with asset depreciation rates, especially after year 11.

Water capital expenditure by splits

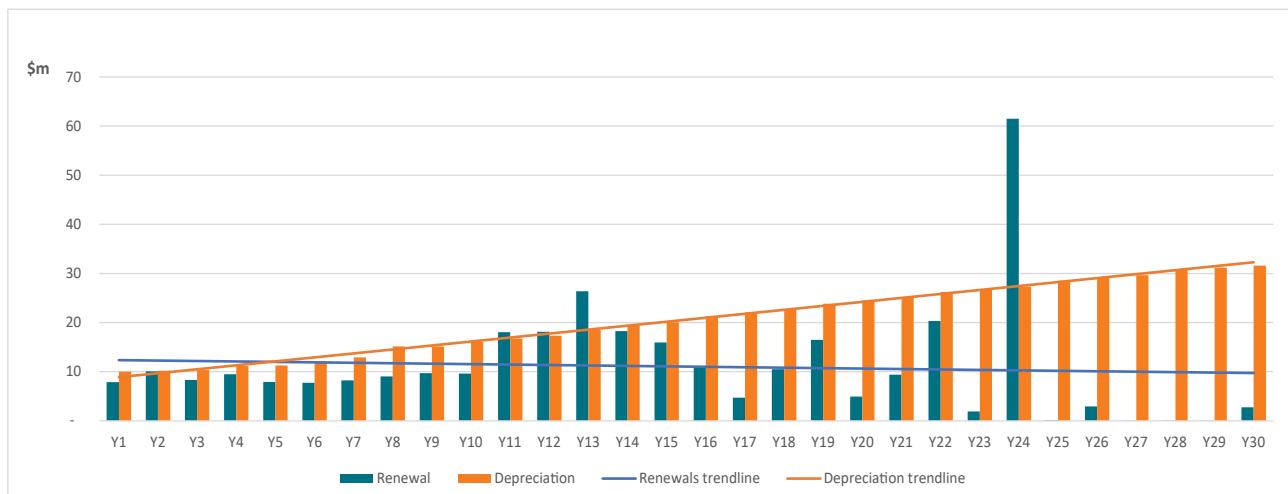


21.8.2. Wastewater activity funding strategy

This activity is predominately funded through targeted rates and pan charges and development contributions are levied to the growth community to fund growth projects.

The wastewater renewals profile below shows the budgeted renewals for years 1-10 of the Strategy relative to depreciation. Depreciation is then forecast for years 11 – 30 with renewal requirements identified through the AMP also being forecast over that period. The graph shows the required renewal budget relative to depreciation over the life of the Strategy.

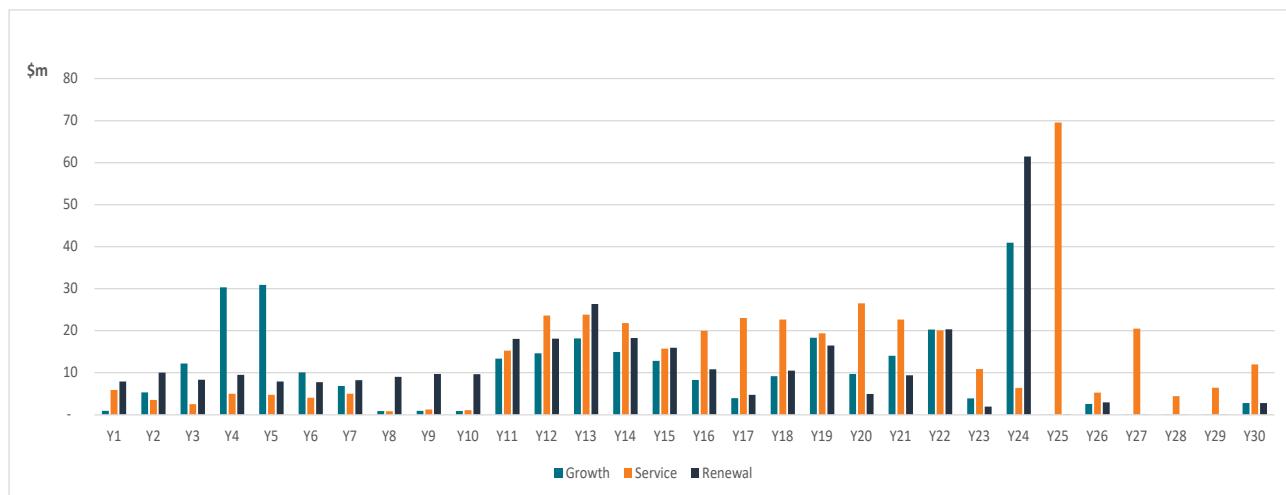
Wastewater renewal expenditure



The spike in year 25 of this graph is for the renewal of service lines. This is an anomaly caused by a lack of more precise data which has resulted in all the renewals falling in one year. This is not the actual case, this work is undertaken annually in conjunction with mains renewals and as required.. The peak in year 13 is aligned with upgrades to the Taurikura/Urquarts wastewater network.

The following shows the split into Levels of Service, Growth and Renewals over the 30 year time frame of this Strategy.

Wastewater capital expenditure by splits



Growth is the primary driver in the first five years of the Strategy with renewals driving the second five years. Growth projects create expenditure peaks, such as the Ruakaka treatment plant upgrade in years 4 and 5 and the Matapouri Wastewater Scheme in year 24. See the explanatory comments under the renewals graph in relation to the renewal spike in year 25.

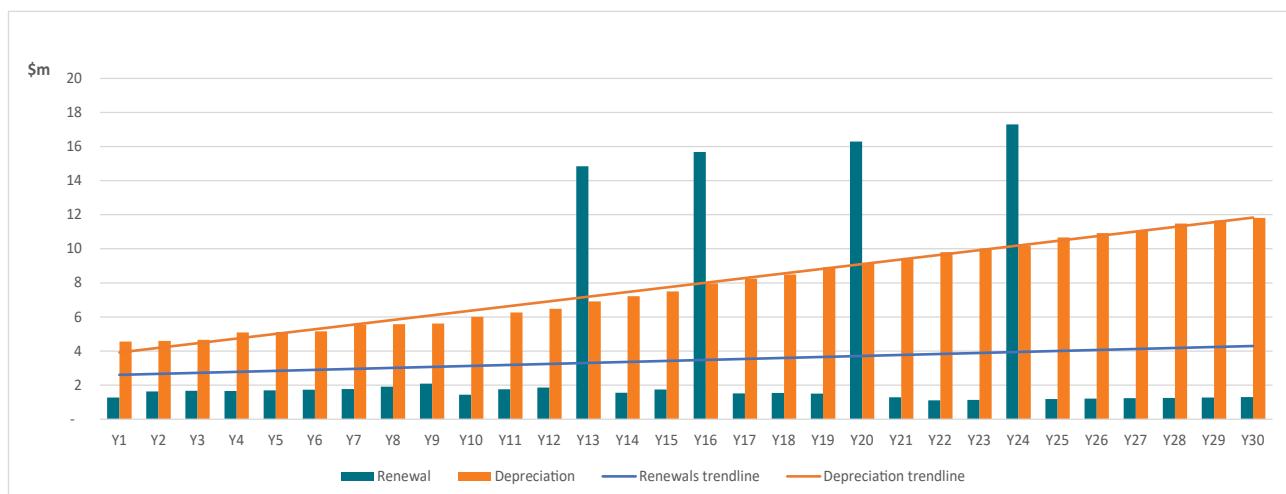
Midway through the Strategy we have a grouping of major projects such as the which will be prioritised closer to delivery. This is dependent on need at that time.

21.8.3. Stormwater activity funding strategy

The stormwater renewals profile below shows the budgeted renewals for years 1-10 of the Strategy relative to depreciation. Depreciation is then forecast for years 11 – 30 with renewal requirements identified through the AMP also being forecast over that period. For the first 10 years, renewal decisions are based on the known condition of the assets. Beyond the 10-year timeframe, they are based on the age of the asset, in accordance with the parameters and assumptions in the AMP.

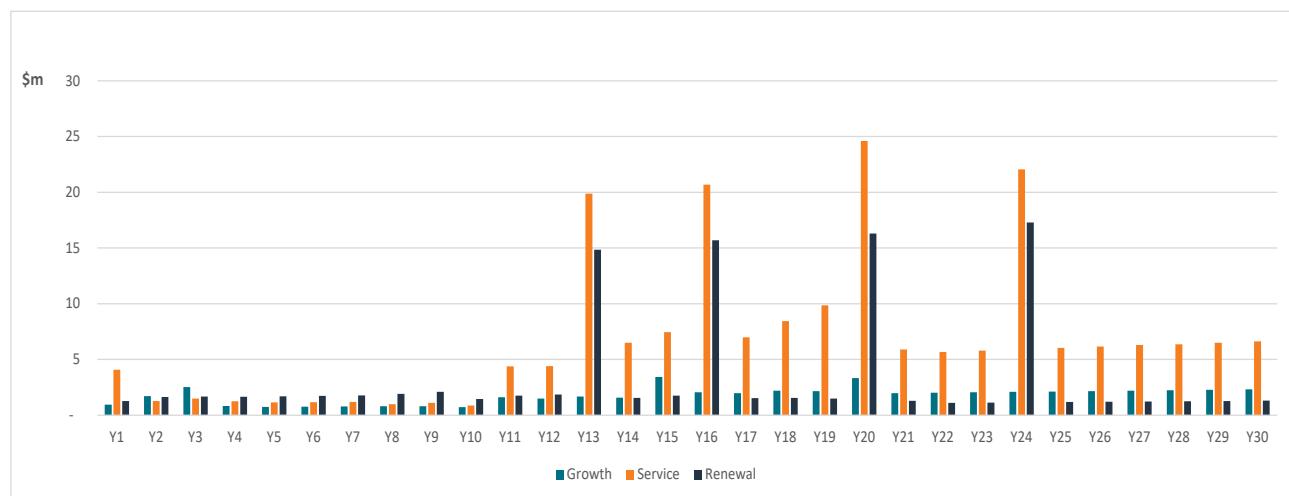
The graph below shows the required renewal budget relative to depreciation over the life of the Strategy. The peaks in years 13, 16 20 and 24 are related to Climate Adaption and catchment investigations mitigation. This is only an indication. Any projects will relate to the outcome of the City Centre Flood investigations and catchment plans which are planned in yrs 1-3 of the LTP as operational projects.

Stormwater Renewal expenditure



See the explanatory comments under the renewals graph in relation to the renewal spike in years 13, 16, 20 and 24.

Stormwater capital expenditure by splits



21.9. Major capital expenditure

The table below provides an overview of the major capital expenditure for water over the length of the Strategy.

Project	Service	Type	Amount	Year
Waipu/Waipu Cove Treatment Plant Renewal	Water	Renewal	5.5 million	2034-2036
Ruddells Treatment Plant Renewal	Water	Renewal	\$10 million	2035
Reservoir replacement	Water	Renewal	\$5 million	2037
Reservoir replacement	Water	Renewal	\$5 million	2042
Dam Asset and Equipment Renewals	Water	Renewal	\$14 million	2049
Poroti (Wahakukopu) WTP upgrade*	Water	Growth	\$30 Million	2038-41
New Airport water supply**	Water	LOS	\$10 million	2038/39
Process upgrades to meeting drinking water standards	Water	LOS	\$10 million	2035-38

Project	Service	Type	Amount	Year
Ngunguru New dam, trunk and reticulation network	Water	Growth	\$12 million	2041-2044
Matapouri Wastewater Scheme	Wastewater	LOS	\$108m	2049
Oakura Wastewater upgrades	Wastewater	LOS	\$18m	2032-35
Maungatapere Wastewater Scheme	Wastewater	LOS	\$16m	2045
Waipu Treatment Plant and Area upgrades	Wastewater	LOS/ Growth	\$35m	2035
Hikurangi Plant renewal	Wastewater	Renewal	\$8m	2037
Parua Bay Pump renewal	Wastewater	Renewal/ growth	\$8m	2036
Kamo capacity upgrade	Wastewater	Growth	\$10m	2037
Catchment flood mitigation	Stormwater	LOS	\$16m	2034-2043
Climate change adaption projects -urban	Stormwater	LOS	\$25m	2040-2053
Northern future growth and stormwater attenuation	Stormwater	Growth	\$21 m	2035-2053

*This is not in the list of significant projects because the upgrade may provide sufficient additional capacity in the medium term, and depending on growth patterns at the time the project feasibility and/or timeframe may be reviewed.

**This project is linked to the wider airport development project. A water supply for the wider area may also be required as part of this initiative.

22. Parks and Recreation

22.1. Overview

The Parks and Recreation portfolio includes:

\$145 million worth of assets
2,090 hectares of land (administered as open space)
82 playing fields
47 playgrounds and seven skateparks
62 kilometres of walking tracks
22,344,000 street trees
8 Cemeteries
76 public toilets

Our Active Recreation and Sport Strategy provides the high-level direction on how to meet the current and future active recreation and sporting needs, ensuring all ages and abilities in our community have access to and can participate in a range of sports and recreation across our District.

We have introduced a new activity called Flooding and Coastal Management into the Long-Term Plan 2024. This change was in response to the establishment of Wai Tamaki ki Te Hiku, which was to manage stormwater (but not flood management planning) and the increasing focus and investment required as a response to climate change. This activity is currently managed as part of the stormwater and parks and recreation activities. With the repeal of the three waters initiative it will reviewed if this remains as a separate activity or it is rolled back into Parks and Stormwater.. We expect to have a separate activity management plan prepared before the next Long Term Plan and Infrastructure Strategy in 2027 if it remains as a separate activity.

22.2. Asset performance

Parks and Recreation asset condition information is generally of good quality and consequentially assets perform as expected and are well maintained.

22.3. Critical assets

No critical risks have been identified within the Parks Activity in terms of their contribution to the network as a whole.

22.4. Key issues and actions

For each of the key issues identified, these tables provide an overview of the issue, the options to address the issue and the associated implications.

22.4.1. Servicing growth

With high growth comes an increased demand for parks and facilities.

Increased numbers of residents, particularly in areas that may experience higher than expected growth, place additional pressure on existing recreational facilities. As growth occurs, the availability of suitable land also becomes an issue, making it more difficult and expensive to provide appropriate facilities.

Council cannot rely on planning techniques to ensure that open space is provided within new developments as this is not a requirement within the District Plan. Without projects identified in the LTP such as neighbourhood reserve purchases, Council cannot collect development contributions to purchase land or enter into Development Agreements to offset development contributions against land to vest as part of new subdivisions.

The Active Recreation and Sport Strategy has identified a need for a significant land purchase to respond to growth with a facility similar to by Kensington Park and this would be a significant way to meet the anticipated future growth demand.

Issue

Growth requires increased land provision across parks and recreation categories.

Council has a focus on sports and neighbourhood parks in the Long Term Plan.

Beyond the long Term Plan significant expenditure will be required for facilities.

Options	Implications
Do nothing	<ul style="list-style-type: none">• LOS based on hectares per 1000 residents will decrease over time and user experience will be reduced
Rely on developers to provide land within their developments	<ul style="list-style-type: none">• Small green spaces may be provided locally• Sportsfields unlikely to be provided existing will become congested LOS will diminish over time
Rely on development contributions and seek a major strategic purchase	<ul style="list-style-type: none">• Suitable local green spaces can be purchased or negotiated with developers.• Recreational and sporting participation of the community is provided for• Changing market may mean that the feasibility of purchasing is impacted

Most likely management scenario

Council will address this issue by:

- reviewing current parks and recreation sites to determine their area of benefit and capacity
- considering more strategic land purchases and alternatives to provide for a strategic land purchase
- Ensuring that Neighbourhood Park land purchases funding is maintained in the LTP.

22.4.2. Competing priorities

There is an increasing expectation for higher levels of amenity and ‘more things to see and do’ in both traditional infrastructure projects and as a result of key amenity projects completed or enhanced within recent years (i.e. the Hatea Loop and Pocket Park which have been broadly supported). As a growing District, there is a greater expectation to see these types of projects across our urban and rural areas, which can compete with renewals funding.

Issue

Balancing competing priorities for the renewal of core assets against funding for growth and increased Levels of Service.

Sports rules and regulation keep improving, we need to respond to these LOS requirements, for example hockey is now generally played on a water-turf.

Options	Implications
Focus only on funding renewals	<ul style="list-style-type: none"> • Will not meet increasing community expectations • Unlikely to attract visitors and new residents
Consolidate and where appropriate solutions should maximise usage of existing assets including responding to changing community needs	<ul style="list-style-type: none"> • Ability to focus on cornerstone projects • Funding for projects to be completed on time and within budget • Meets increasing expectations

Most likely management scenario

- Look at innovative solutions to meet capacity issues.
- Continue renewal programmes with a focus on ‘right asset in right place’

22.5. Assumptions and uncertainties

No specific uncertainties relating to Parks have been identified.

We have confidence in data across our park's assets. However, we are mindful of the need to undertake an audit to verify our confidence.

There are lower levels of componentisation for cemetery assets, but information is continually improving.

A key assumption that informs this strategy is that climate change, and associated more frequent and intense rainfall events will adversely impact our sports fields, our approach is to plan and budget for an increase in artificial turf to deal with sodden fields and therefore maintain our current level of service.

22.6. Levels of service

The parks and recreation Levels of Service, which are supported by performance measures are included in the activity profile section of the LTP.

- Council will provide and maintain recreational facilities to support and promote active recreation of the community through participation in both organised and informal recreational activities aligned with Active Recreation and Sports Strategy
- Council will provide and maintain a range of parks, reserves and playgrounds to meet the needs of the community as well as protecting and enhancing the natural environment
- Council will provide and maintain cemeteries and a crematorium in a satisfactory manner
- Council will provide well maintained and accessible public toilets in high use areas

Our levels of service has not changed – we are managing capacity issues as explained in section 4.

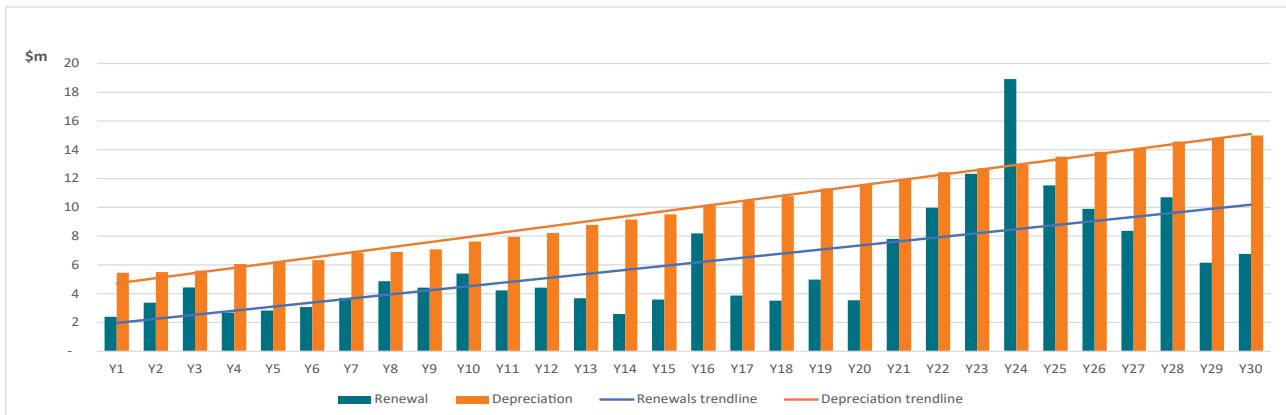
22.7. Activity funding strategy

The following graphs show the activity funding split between Parks and Recreation and Coastal and Flood Management.

The parks renewal profile shows a gap between renewal and depreciation. Most of the parks assets are either low value and are often renewed outside of the age profile due to vandalism or community expectations, or large such as sportfields and playgrounds. These projects often have a level of service component which also impacts depreciation into the future. The gap between depreciation and renewals remains relatively even over the 130 year period. The peak in year 24 is related to renewals on projects undertaken over the past years. The spike is not a true reflection as projects are established on a as needs basis for activities such as tracks.

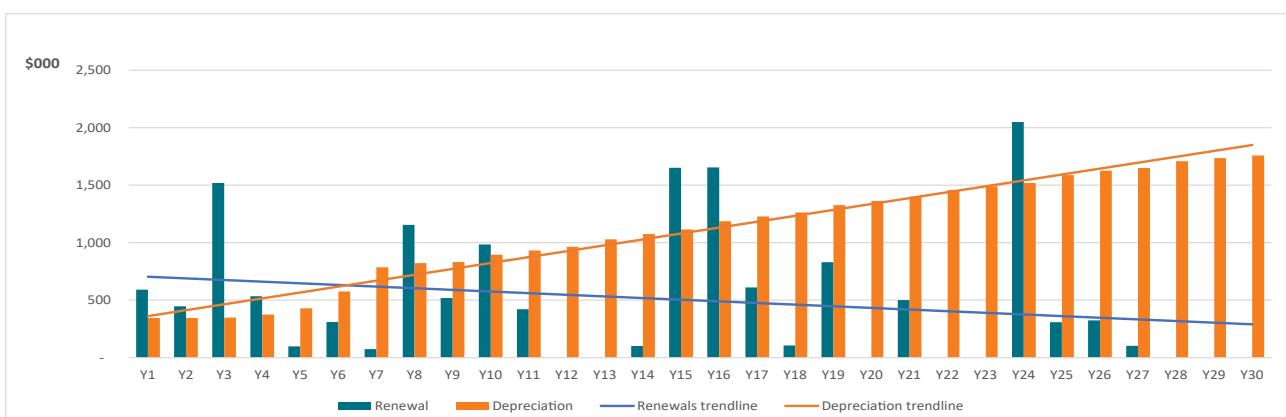
Depreciation for the renewal of certain asset groups such as tracks is under estimated, as historically these assets were not capitalised. Council has, however, assessed and funded renewal requirements for these assets within the supporting AMP and LTP.

Parks and Recreation renewal expenditure



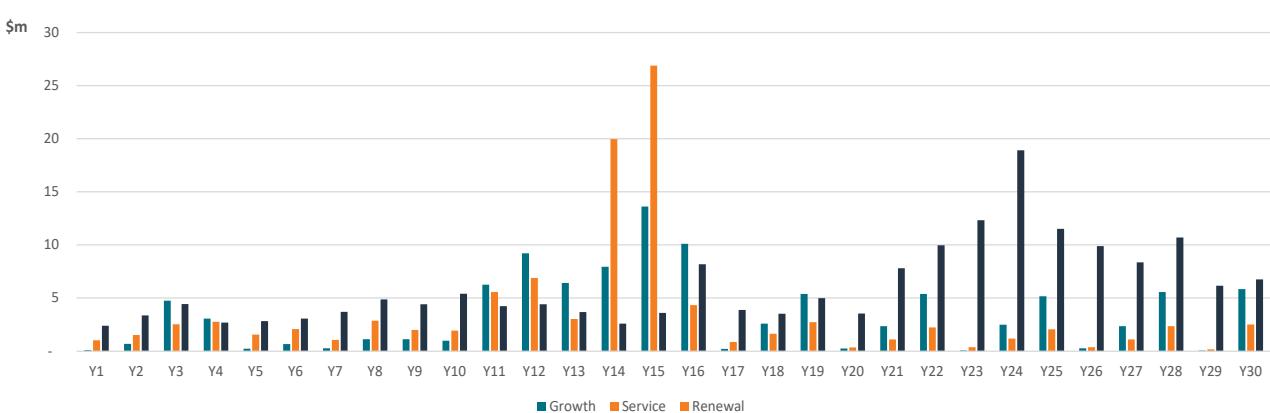
For the Coastal and Flood activity the assets are primarily related to seawalls. Renewals now incorporate an improved asset knowledge especially around coastal structures which distorted previous renewal profiles. The first four years of the strategy, renewals track higher than depreciation funding, with the trend then balancing out over the life of the Strategy. This primarily relates to seawall replacements. The renewal profile for seawalls is very long, therefore the increasing number of structures constructed due the effects of climate change creates a distorted depreciation.

Coastal and flood Management renewal expenditure



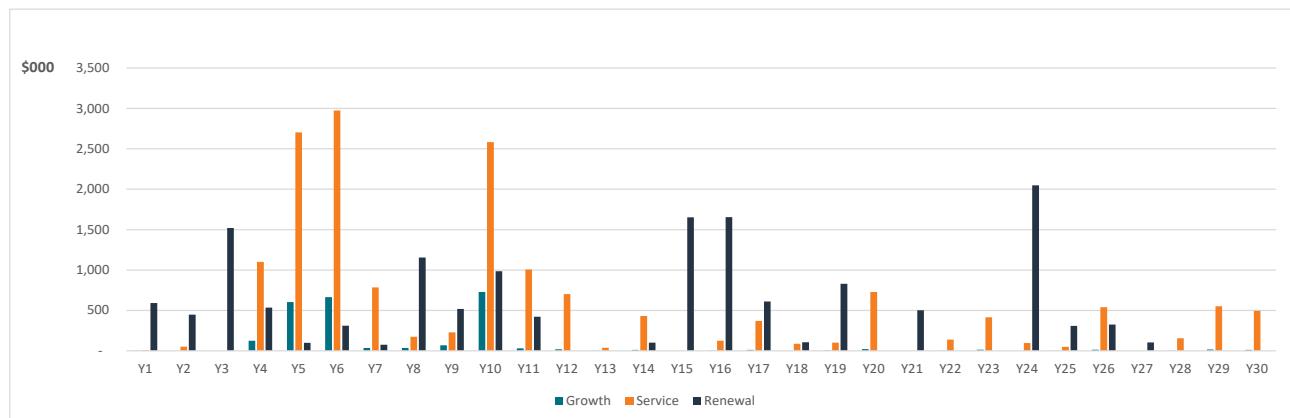
The following graph outlines the total parks capital expenditure by primary drivers (Growth, Level of Service and Renewals). The growth and LOS peaks in yrs 14 and 15 are related to the Indoor courts and land purchase significant projects.

Parks and recreation capital expenditure by splits



The following graph outlines the total Coastal and Flood Management capital expenditure by primary drivers (Growth, Level of Service and Renewals). The LOS peaks are related to on

Costal and Flood Management capital expenditure by splits



There is a spike of level of service projects in year one such as implementing the Blue Green network and new sea walls. These are detailed in the major projects table below.

Projects to service growth and community expectations are represented throughout the 30 years of the strategy. Renewals are relatively consistent up to year 20, when they increase significantly. Parks assets have the shortest lives of the activity groups often requiring renewals every 20-30 years.

22.8. Major capital expenditure

Over the life of the strategy, the follow major projects have been identified.

Figure 6: Parks major projects

Project	Activity	Type	Amount	Year
Otaika Sports Park upgrade	Parks	Renewal/ LOS	\$1.7M	2028-2033
Entranceways upgrade project	Parks	Renewal/ LOS	\$5.3M	2031-2036
Neighbourhood Parks land purchase	Parks	LOS/ Growth	\$20M	2028-2054
Sportspark Land Purchase District-wide	Parks	LOS Growth	\$28.6M	2040-2054
Ruakaka Cemetery Development	Parks	LOS/ Growth	\$970K	2024-2031
Pataua South Beach Restoration	Coastal and Flood	LOS	\$800K	2027-2029
Waiarohia corridor and stream works	Coastal and Flood	LOS/ Growth	\$8.7M	2027-2034

23. Solid Waste

23.1. Overview

The solid waste activity provides waste collection and disposal services throughout the District, including recycling collection, litter control and transfer stations.

The Puwera Landfill and Whangarei Resort is owned and operated by Whangarei Waste Limited and are not covered as part of this Infrastructure Strategy financial information. Work within the solid waste and waste minimisation activity may identify investments into the outcomes which will be covered as part of our assessment of key projects covered by other parties.

\$14 million worth of assets
5 closed landfills
6 rural rubbish and recycling transfer stations

23.2. Asset performance

Council's Solid Waste assets are in good condition with capacity over the next 30 years. With appropriate asset maintenance and renewal programmes these assets will continue to meet the required levels of service.

23.3. Critical assets

The solid waste activity does not contain any assets that are considered critical in terms of requiring immediate restoration following a disaster or other major event. There are linkages to the criticality of the Puwera Landfill which is managed by Whangarei Waste Limited.

23.4. Key issues and actions

Many of Council's solid waste assets are in good condition with capacity over the next 30 years. However, a reduced asset maintenance and renewal programme will result in these assets deteriorating over time. A long-term renewal and maintenance programme is required to ensure assets do not deteriorate.

Preferred Option

To address this issue Council will review the condition and capacity of solid waste assets each three-year LTP cycle and ensure the provision of funding for asset maintenance and renewals. Where investment for major maintenance or renewal is identified, Council will consider funding through a combination of user charges and Level of Service funding.

Alternative options considered:

Options	Implications
Deferred maintenance and renewal	<ul style="list-style-type: none">Increased rate of asset failure and reduced asset lifeIncreased reactive maintenanceLower Levels of Service and customer satisfactionEventual bow-wave of renewals
Maintenance and renewal	<ul style="list-style-type: none">Maintains assets at current levelsSpreads costs over a longer periodMaintains Level of Service
Upgrade now	<ul style="list-style-type: none">Greater costInvestment may exceed capacity requirementsImproved Level of Service.

23.5. Assumptions and uncertainties

No specific assumptions relating to Solid Waste have been identified. We have medium confidence in data across the activity as these are above-ground assets.

23.6. Levels of service

The performance measures for Solid Waste and are set out in the Activity Profile of the LTP.

- Council will provide kerbside waste and recycling collection services and transfer stations will be operated throughout our District
- Council will foster waste minimisation by supporting recycling and waste reduction practices
- Council will provide and empty public litter bins and undertake litter control throughout

Results show that we generally do not meet these performance measures. We have a waste minimisation programme that provides for community education on solid waste management, which we expect to have an impact on these performance measures. We are working with our contractors provide services in line with available budgets.

23.7. Activity funding strategy

The Solid Waste renewals profile below shows the budgeted renewals for years 1-10 of the Strategy relative to depreciation. Depreciation is then forecast for years 11 – 30 with renewal requirements identified through the AMP also being forecast over that period. For the first 10 years, renewal decisions are based on the known condition of the assets. Beyond the 10-

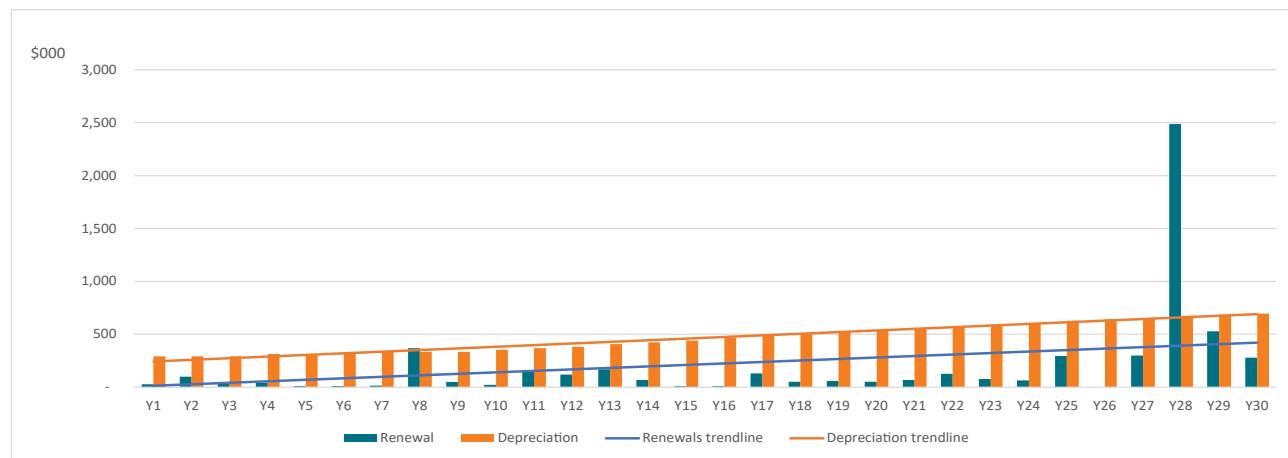
year timeframe, they are based on the age of the asset, in accordance with the parameters and assumptions in the AMP.

The spike in year 28 of the table below is because public toilets and CCTV are in for renewal as per their expected life. These assets will be moved to the Parks portfolio before the next LTP. The reality is that these will be replaced as and when required as part of the activities standard operating processes.

Generally, priorities for the Solid Waste replacement programme will be assessed in terms of frequency of asset failure, ability to meet service level standards and the risk of environmental damage.

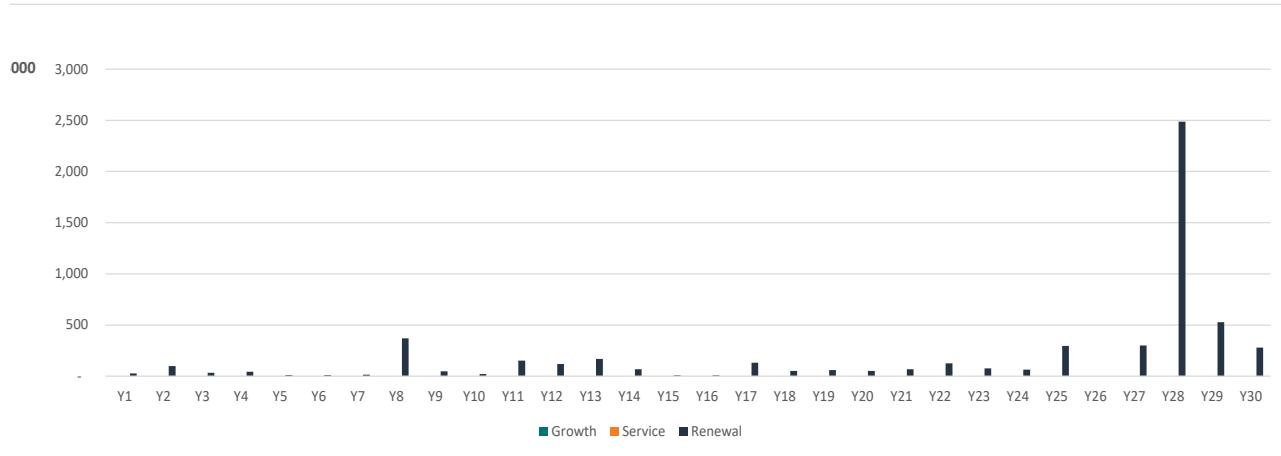
The graph below shows the required renewal budget relative to depreciation over the life of the Strategy.

Solid Waste renewal expenditure



The following graph outlines the total solid waste capital expenditure by primary drivers (Growth, Level of Service and Renewals). There are no level of service or growth projects projected over the 30 year period of the Infrastructure Strategy. The spike in year 28 is explained in the commentary above.

Solid Waste capital expenditure by splits



23.8. Other significant or major capital expenditure

Over the life of the Strategy, there are no potentially significant projects and no major projects.

24. Flood protection – Hikurangi Flood Management Scheme

24.1. Overview

The Hikurangi Flood Management Scheme (the Scheme) is located northwest of Whangārei and is drained by the Wairua River to the Kaipara Harbour. The Scheme comprises a system of control banks, which in the first instance confine floodwater up to a designed flood level.

\$51M worth of assets
68km stopbanks
7 pump stations
Mainly targeted rates funded

Flood protection – Hikurangi flood management area catchment and streams

24.2. Asset performance

The assets associated with the Scheme perform as expected and are well maintained, however because of a changing environment they have a reducing level of performance. This combined with changing regulatory and environmental conditions mean that alternate long term solutions may be required. This is discussed in 25.4 Key issues and actions.

24.3. Critical assets

Stop banks in some places are critical assets. A recent survey by geotechnical engineers identified a small number of locations with potential for failure and the associated risks to dwellings and life. As a result, a programme of stop bank repairs was initiated and repairs undertaken in 2023/24.

24.4. Key issues and actions

All seven pumpstations need to be replaced within the next thirty years.

Pumps within the Scheme trap and kill tuna (short and long finned eels) when pumps are running during flood events. The Scheme resource consent incorporates a condition requiring the enhancement of fish passage and deterrents for the entrapment of fish in the scheme pumps.

Over time, community and regulatory expectations are increasing. We aim to work alongside other agencies and contribute to wider environmental improvement programmes, with the objective of achieving larger environmental gains.

Currently there is an investment case being developed for Central Government and stakeholders. This may result in a radically different solution being decided on. Some of the options being explored are:

- retiring pockets of land
- fewer pumpstations
- replacement of pumpstations with gravity gates
- wetland restoration and riparian planting.

The multiple drivers and options will consider all adverse effects and potential benefits. Until the business case is completed in July 2024 the outcome of this case is unfunded within this strategy.

We are currently providing for improving fish passage. This will not become redundant regardless of an implemented outcome of the business case. We are anticipating a likely move to gravity gates in the next LTP cycle.

Preferred option

Direction

Within the LTP we have committed \$700k for fish pass upgrades and currently there is a business case being developed to identify alternative solutions. As part of the business case there is already an indication that only three pump stations out of seven will be required. If the business case is accepted an investment decision will be required by 2027 in conjunction with the retirement of farmland.

Preferred Investment

Dependant on the outcomes of the business case. Options may include combinations of the following: conversion of some or all pump stations to gravity gates, marginal land purchases to retire/sacrifice pockets to return to wetlands for storage of flood waters, revegetate marginal areas and oxbows, reconfigure stopbanks and fish friendly pumps.

Benefits	Implications
<ul style="list-style-type: none"> • Cost effective • No/lower tuna/fish kills • Large reduction in scheme operational and maintenance costs through removal of pumpstations • Significantly reduced future capital required for asset replacement • Increasing level of service and protection for the majority of the stakeholders/ farms due to storage in sacrificial pockets • Sustainable farm viability due to less frequent pasture loss and re-grassing costs • In pocket buffering of floodwater through enhanced wetlands • Halt and reverse loss of Biodiversity • Improve tuna habitat and migration • Cultural benefit to Hapū • Reduced ecological effects in particular downstream sedimentation to the Kaipara Harbour and less water quality deterioration in the river. • Compliance with Northland Regional Plan and Conservation (Indigenous Freshwater Fish) Amendment Act 2019. 	<ul style="list-style-type: none"> • Impact on several farms' viability due to wetland expansion • Significant investment required by other agencies • Amendments to the current resource consent required.
Funding decision	Estimated project delivery
Fish passage funded in LTP.	2028-2050
Estimated Cost	Driver
Council Cost: \$19.6M, with expectation for approx. \$40-50M predominately Central Government/Investor funded.	Renewal and Level of Service

Alternative options

Direction

Do nothing different: no planned asset replacements / replace assets like for like.

Investment

- Only repair assets as they fail.
- Replace assets with the same when there is adequate funds built up in the reserve.
- No upgrades to fish friendly pumps.
- Continue current operational procedures of a notification and stand down period for running pump stations during Tuna migration seasons to allow for manual relocation of tuna by Hapū representatives.

Benefits	Implications
Lower capital costs	<ul style="list-style-type: none">• Tuna/fish kills will occur when pumps running.• Maintenance cost will rise as assets age.• Non-compliance with Northland Regional Plan and Conservation (Indigenous Freshwater Fish) Amendment Act 2019.• Relationships with Hapū will be eroded.• Higher running costs with each flood event.• Risk of failure and level of service breaches including farmland inundation.• Slowly reduces Level of Service from the Scheme. Long term implications on farming sustainability.

24.5. Assumptions and uncertainties

We are affected by more frequent high intensity rainfall events brought about by climate change. The Scheme is only designed to protect pasture in relatively small stormwater events (1:3.5-year return to 1:20). If large cyclonic events are more regular, the investment in the Scheme becomes less economically viable.

Greater intensity of storm events and land settlement may lead to increased requirements for operational and/or capital expenditure. Currently, no contingencies for extreme weather have been included in the LTP budget.

We assume that flood protection rates will increase by Local Government Cost Index (LGCI) each year. An inflation-only increase is sufficient to maintain the effectiveness of the scheme over the ten-year period, with surpluses building a reserve balance over time. Beyond the

ten-year horizon, significant capital expenditure is required which will likely need an increase to the targeted rate.

The financial strategy for the swamp is becoming unviable in the long-term and customer expectations for the return on their targeted rate are also changing. The anticipated changes in customer expectations include:

- greater resistance to increases in the targeted rates for flood protection services
- higher aspirations for environmental outcomes
- landowners want to do more maintenance work themselves to reduce costs (e.g. vegetation control along control banks and floodways)
- higher levels of flood mitigation

We can either continue the current rating scheme or reduce rating. .

Options	Implications
Continue current rating	Funding available for ongoing maintenance Reserve fund built for future maintenance, renewals and upgrades
Reduce rating	Allows for maintenance only Upgrades to the scheme not funded Potential loss of benefits from scheme.

Hikurangi Flood Protection Scheme is funded by targeted rates and is debt free. To raise capital for large projects would push us into debt. Scheme works are predominantly funded from targeted rates. The Hikurangi Swamp Major Scheme Rating District contributes approximately 90% percent of the total targeted rates and the Hikurangi Swamp Drainage Rating District contributes the remaining 10% percent.

Council prefers to utilise targeted rates to build a reserve fund for future upgrades.

To address this issue Council will build a reserve fund for the scheme to enable future maintenance, renewals and upgrades and through a consultative process, make decisions in relation to long term funding of OPEX, renewals and the level of upgrade to the flood protection design level.

We have medium confidence in the data across this activity, but limited componentisation of data. This is not critical as most assets are above ground and condition and age are known at a functional level.

24.6. Levels of Service

The flood protection activity has the following Level of Service, which is supported by performance measures included in the activity profile section of this document:

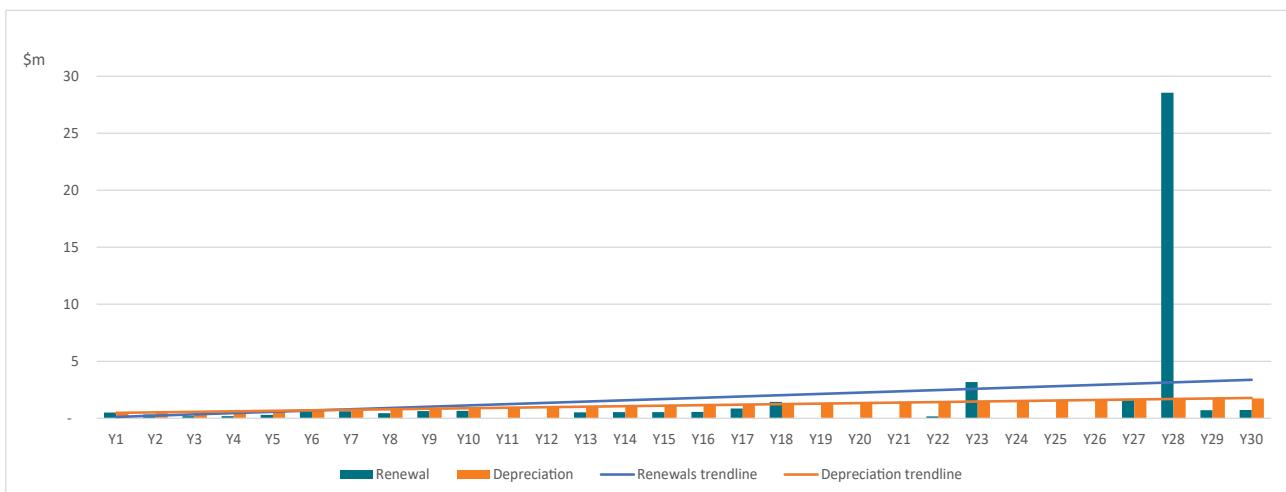
- Council will provide a reliable and sustainable Scheme, which is managed to mitigate flooding within the Scheme area to an acceptable level.

24.7. Activity funding strategy

The flood protection renewals profile below shows the budgeted renewals for years 1-10 of the Strategy relative to depreciation. Depreciation is then forecast for years 11 – 30 with renewal requirements identified through the AMP also being forecast over that period. In preparing the renewals profile for flood protection, a range of technical information and asset life data has been considered. These detailed assumptions and parameters are contained within the AMP.

Depreciation is calculated as per good accounting practice, but is not funded, nor collected through the targeted rate.

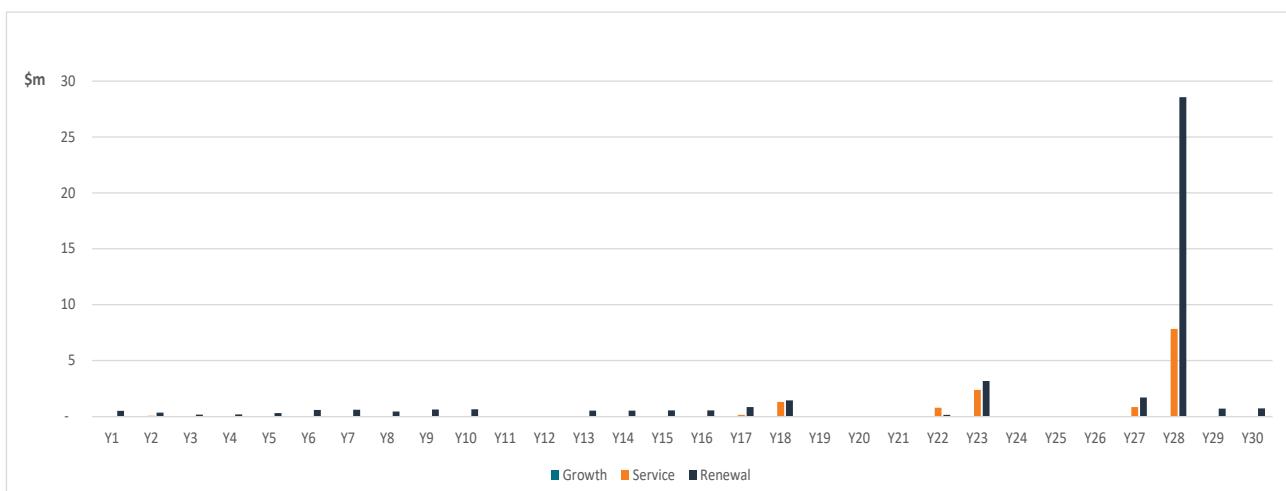
Flood Protection renewal expenditure



While there is limited renewals funding within the early years of the Strategy, there is a spike for flood gates and pump replacements in the year 28.. All revenue collected from the scheme is ring-fenced. Cumulative renewal expenditure over the life of the strategy ends up at 76% of theoretical escalated depreciation.

The following shows the split into Levels of Service, Growth and Renewals over the 30 year time frame of this Strategy.

Flood Protection capital expenditure by splits



The first 10 years of the Strategy shows small amounts of renewal expenditure. New flood gates and pumps to better protect tuna, are scheduled from 2024 to 2031 and funded from levels of service and renewals. This aligns with the expected life of the pumps. In addition, level of service funding has been identified to address the requirements from the climate change adaptions plans. The spike in year 28 is explained in section 25.8 below.

24.8. Major capital expenditure

Project	Type	Amount	Year
Pump station assets renewals and climate adaptation work	Renewal	\$20m	2054

This project is an and/or provision as outlined in previous sections. There are other solutions that may alleviate the need for this project. If the major replacement of pump stations remains a requirement, it would be a phased project.

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