30 YEAR INFRASTRUCTURE STRATEGY (2021 - 2051)

INTRODUCTION

This Infrastructure Strategy sets the strategic direction for the provision of infrastructure in the Waikato district.

It is intended to have a strategic focus, which can be read as a standalone document that sits alongside the growth and development, and financial strategies, and will direct the activity management planning process.

It forms part of the Long Term Plan (LTP) to fulfil the requirements of the Local Government Act 2002 Section 101B.

Activity management plans include a detailed 10 year plan.

The 2021 LTP collects the 10 year plans and levels of service from each of the activity management plans:

- Most likely scenario collated from AMPs
- Financial forecast each of the first 10 years
  - Years 1-3 in detail
  - Years 4-10 in outline

The LTP will also include a long term forecast for year 10 to year 50. The long term forecast summarises years 10 – 50 in five yearly funding blocks as indicative cost estimates.

This Infrastructure Strategy sits within the framework of Council policies, strategies, and plans as shown in Figure 1.

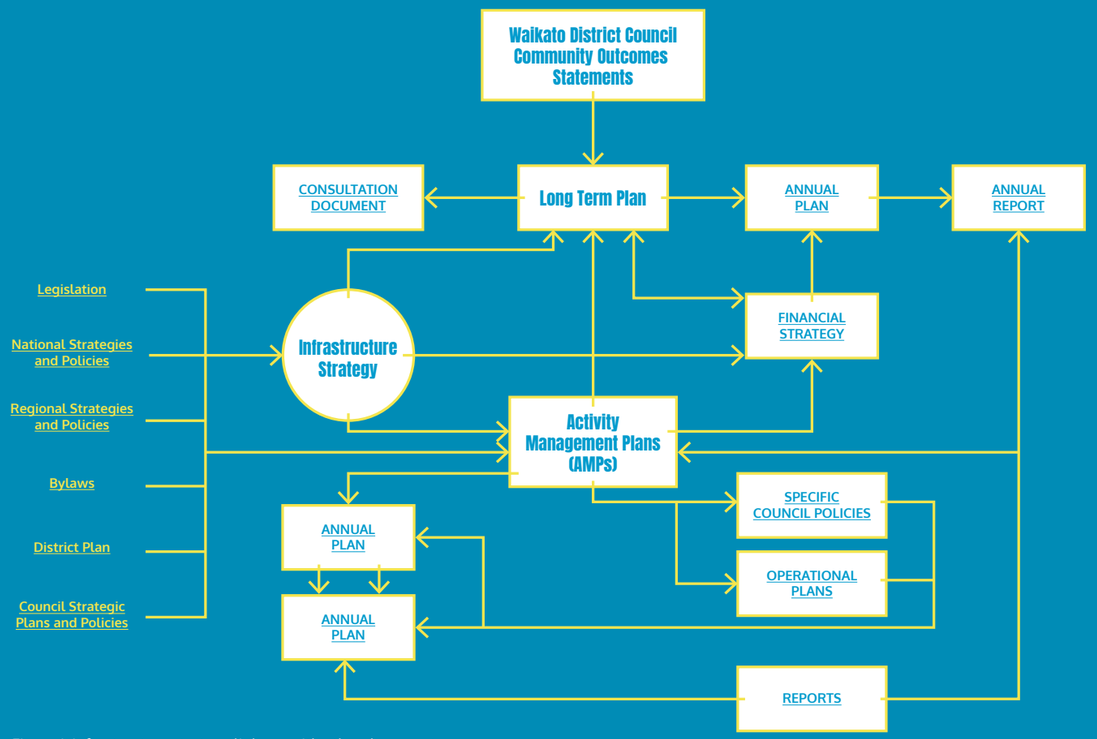

Figure 1: Infrastructure strategy linkage with other documents.

Purpose

This Infrastructure Strategy formally documents the management philosophy that is applied to Waikato District Council's infrastructure assets as required under section 101B of the Local Government Act 2002. It identifies the significant infrastructure issues over the next 30 consecutive financial years, the principal options for managing those assets and the implication of those options. The Infrastructure Strategy also describes how infrastructure contributes to the delivery of the Waikato Council Vision and our Community Outcomes and:

- Describes the key infrastructure provided by the Council within each activity;
- Identifies significant infrastructure issues and the principal options for managing those issues;
- Describes the activity management practices, including the approach for managing growth increasing service levels, ensuring infrastructure resilience, renewing existing infrastructure;
- Outlines the key assumptions in putting together this infrastructure strategy; and
- Informs the Activity Management Planning process for infrastructure-based activities, and forms part of the Long Term Plan development process.

This Strategy aligns with our Financial Strategy, in which we determine what we can afford to do, when we can afford to do it and how we will fund it.

Structure

This Infrastructure Strategy responds to the requirements in the Local Government Act 2002, specifically section 101B. The alignment to these requirements is described in the table below.

Section	Description	Alignment to LGA 2002 Section 101B
Introduction	Identifies the purpose of the Infrastructure Strategy.	
Strategic Alignment	Positions the Infrastructure Strategy in the strategic planning framework and describes alignment to community outcomes and the environment we are working in.	
Infrastructure overview	Summary of the core and community infrastructure in the district.	
Significant infrastructure issues	Describes significant issues and identifies the response options for the significant issues and documents the benefits, cost, when and funding source	2
How we manage infrastructure	Describes how we plan for asset renewals, respond to growth, alter the level of service, ensure public health and infrastructure resilience.	3
Most likely scenario	Discuss Council's response to the issues and significant decisions about capital expenditure to be made during the term of this strategy.	4 (a, b)
Financial summary	Identifies the costs associated with the most likely scenario.	
Assumptions	Key assumptions and impact potential effects of uncertainty	4 (c, d)

STRATEGIC CONTEXT

Waikato District Council is experiencing high levels of growth in parts of the district which border the larger urban centres of Hamilton and Auckland. There is also noticeable planned growth in Raglan and Te Kauwhata.

Over the next 30 years, Council plans to build new infrastructure to meet development needs as well as renew existing assets to maintain its level of service and provide resilience to natural hazards.

Significant increased growth funded expenditure is required for water supply, wastewater and transportation infrastructure. Expenditure for other activities such as solid waste, open spaces, facilities and libraries will focus on renewals and maintaining levels of service.

Community Outcomes

Infrastructure provides an essential contribution toward achievement of the Waikato District Council community outcomes.

The level of service framework (detailed in section five of this document) describes the contribution each activity makes toward these outcomes.

- We have aligned the outcomes of our infrastructure-based activities to the community outcomes.
- The levels of service describe how the activity outcomes are delivered by the activities.

The community outcomes are depicted in Figure 2.

The community desires for Infrastructure improvements are captured, prioritised and communicated through the Community Blueprint process.

Figure 2: Community Outcomes

Geographic Context

The Waikato district lies within the northern growth corridor between the large cities of Hamilton and Auckland along State Highway 1.

The district has been growing rapidly, with our proximity to Auckland and Hamilton making us an attractive proposition for both business and residential development.

This diverse district covers more than 400,000 hectares.

The major towns are Huntly, Ngaruawahia, Raglan, Te Kauwhata and Tuakau.

Smaller settlements include Gordonton, Matangi, Tamahere, Meremere, Port Waikato and Pokeno.

The Waikato and Waipa Rivers and their catchments are important to the cultural and economic activities in the region.

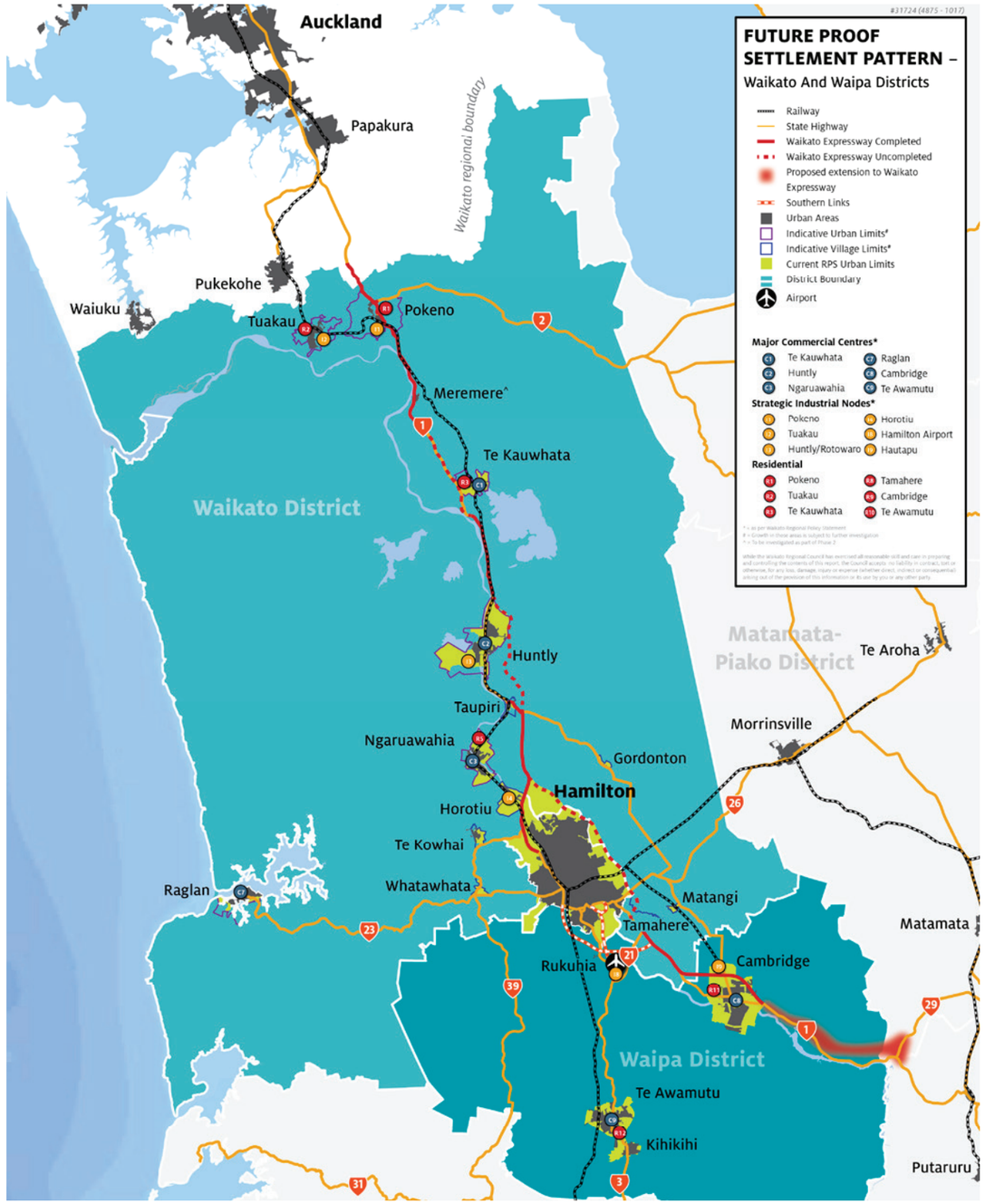

Figure 3: Waikato district (proposed urban limits to 2061)

Population Growth

The population in the Waikato district in 2020 was 81,473.

The Waikato District Council Growth & Economic Development Strategy (Waikato 2070) was developed to provide guidance on appropriate growth and economic development that will support the well-being of the district. The document was prepared using the Special Consultative Procedure, Section 83, of the Local Government Act (2002) and adopted by Council in May 2020.

Waikato 2070 is a guiding document that the Council uses to inform how, where and when growth occurs in the district over the next 50 years. The growth indicated in Waikato 2070 has been informed by in-depth analysis and combines economic, community and environmental objectives to create liveable, thriving, and connected communities. The growth direction within Waikato 2070 will ultimately inform long-term planning and therefore affect social, cultural, economic, and environmental well-being.

The figures below show the population and household projections for the Waikato district for 2020 to 2060. Based on household projections prepared by the University of Waikato (Cameron, 2020) the Waikato district's population is projected to increase by approximately 15,500 - 19,000 additional people over the next 10 years.

To understand the distribution of the growth across the district Waikato District Council has a Spatial Distribution Model (2020) that has been used to inform the household projection numbers for each town or village.

By 2060 the district's total population is estimated to reach between 128,500 and 149,500.

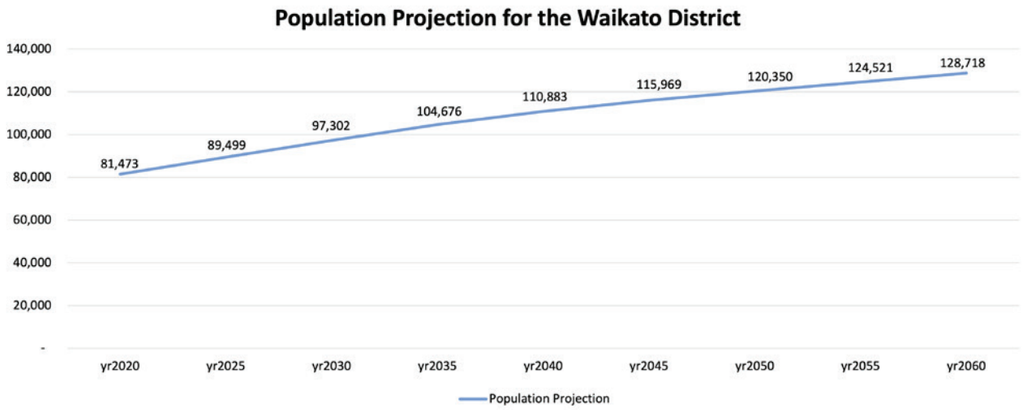

Figure 4 – Population projection 2020-2060

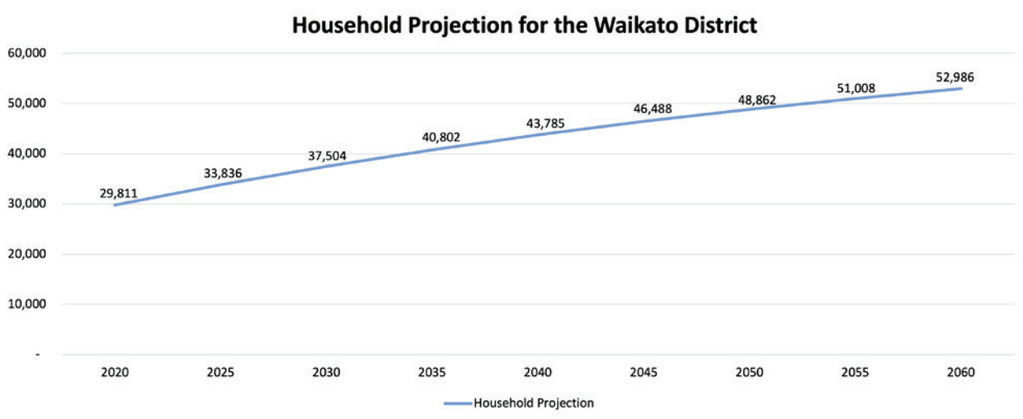

Figure 5 – Household projections 2020-2060

Economic Trends

There is so much uncertainty with the potential economic impacts on the Region as the global pandemic unfolds. The potential economic impacts on the Waikato Region as based on Waka Kotahi NZTA's study October 2020 on the potential implications of COVID-19.

- The south of the Waikato district around Hamilton is expected to perform reasonably well due to relatively low reliance on international tourism (25% of total tourism spend), links to surrounding agriculture, and the city's role as a hub for education, healthcare and other government services.
- The north of the Waikato district is expected to experience slower growth rates due to lower business and population movements out of Auckland, with flow on impacts on the construction sector.

Significant infrastructure investment, and strategic location within the 'Golden Triangle' also provide the region with a solid base for growth.

Significant levels of uncertainty remain regarding the scale and duration of COVID-19 impacts, particularly in the medium-long term. We will continue to monitor and update as things change.

Under the Slower Recovery Scenario the Waikato region's forecast fall in employment to 2021 (relative to BAU) is -5.6%, significantly lower than the national average of -6.7%.

- With the exception of the Waipa, Otorohanga and Waitomo districts, employment levels are forecast to return to pre-COVID-19 levels by 2025.
- Hamilton City is forecast to perform comparatively well, It is one of only two main urban centres (Wellington is the other) forecast to return to BAU employment levels by 2031.
- Population growth expected to slow, at least in the short to medium term, given the region's reliance on net migration.
- Māori and Pasifika, and youth, are likely to experience the greatest impacts, particularly in smaller regional centres. An increase in youth not in employment, education or training (NEETs) is expected.

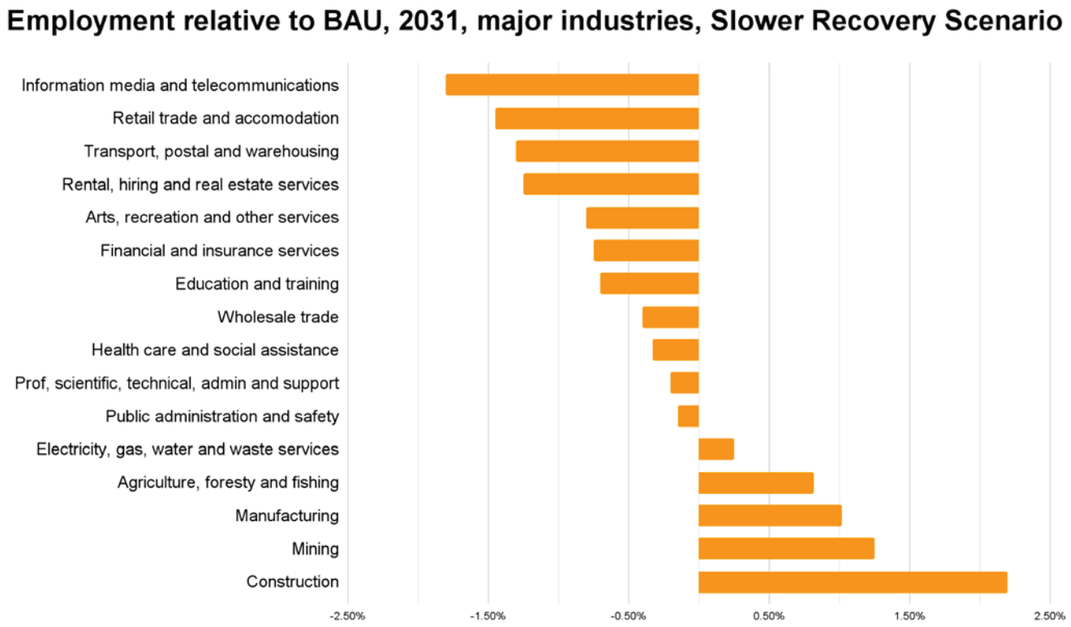

Figure 6 – Employment relative to BAU, 2031, major industries, Slower Recovery Scenario

INTERACTION WITH OTHER STRATEGIES

The Infrastructure Strategy is a key component in the high-level Council decision-making processes around the future of the district.

The Infrastructure Strategy interacts significantly with the following other strategies:

- Economic Development
- Growth
- Financial

Waikato 2070

Waikato 2070 is The Waikato District Council Growth & Economic Development Strategy, developed to provide guidance on appropriate growth and economic development that will support the well-being of the district.

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The financial strategy is developed alongside the infrastructure strategy and both form part of the LTP.

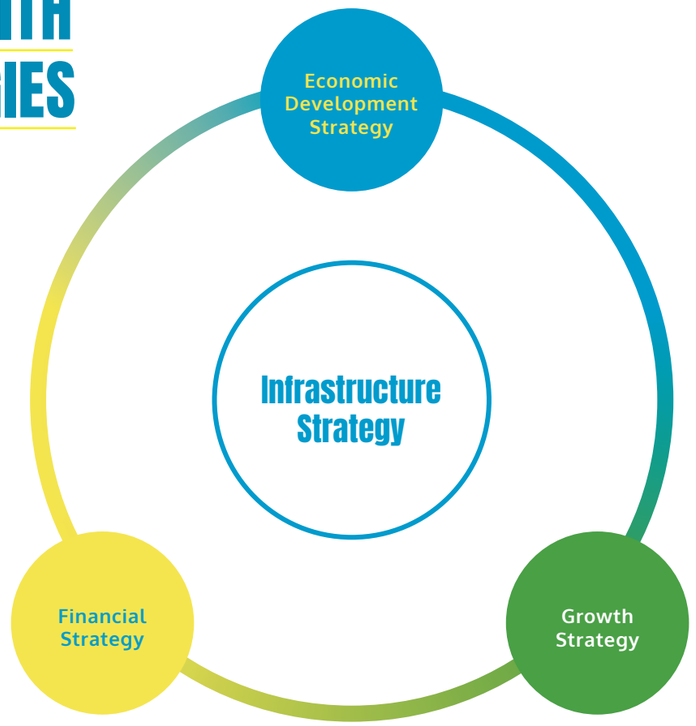


Figure 7

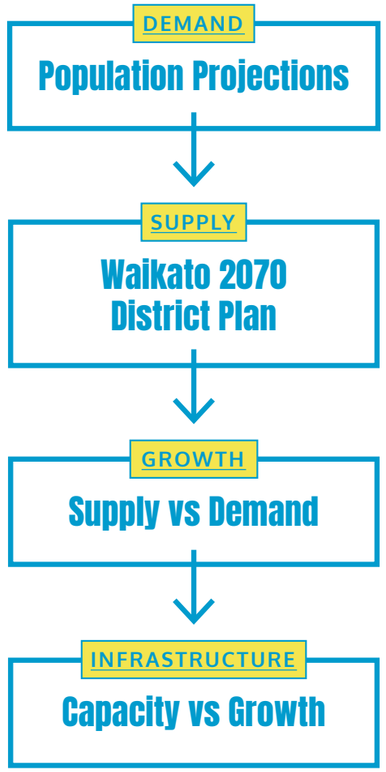


Figure 8

Aligning Growth and Infrastructure

Growth forecasting and strategic infrastructure planning processes need to be connected and tightly aligned to facilitate growth and stimulate economic development in an efficient manner. Waikato 2070 is an integrated growth and economic development district level strategy to support effective development and infrastructure planning.

The interaction between the growth and the provision of infrastructure is complex and nuanced.

Creating a long-term programme of the infrastructure required to facilitate growth requires a thorough assessment process. We have defined this process by the following phases to move from a population forecast to an infrastructure programme

1. Demand
2. Supply
3. Growth
4. Infrastructure

Assessment Phase	Data sets	Tasks
Demand	Population projections	1. District Wide Projections (med, high)
		2. Disaggregate population to towns (med, high)
Supply	Land projections	3. Available land size and timing
		4. Assessment of realistic proportion able to build on
		5. 20% over capacity target
Growth	Growth forecast	6. Compare demand and supply
		7. Identify supply side constraints or excess supply
		8. Inform District Plan to Identify additional blocks or reallocation
Infrastructure	Infrastructure capacity	9. Assess infrastructure capacity
		10. Demand Assessment based on Growth Forecast (not pop demand)
		11. Capital Programme development to meet demand, $ and year

Core vs Community Infrastructure

Not all infrastructure is created equal when it comes to servicing growth areas:

- Core infrastructure in the form of connector roads and main water networks need to be in place to open growth cells for development.
- Other core infrastructure like water treatment plant capacity, or road network capacity can be planned to be delivered as the population grows.
- Community infrastructure such as playgrounds and libraries can be delivered as populations grow or as levels of service gaps appear.

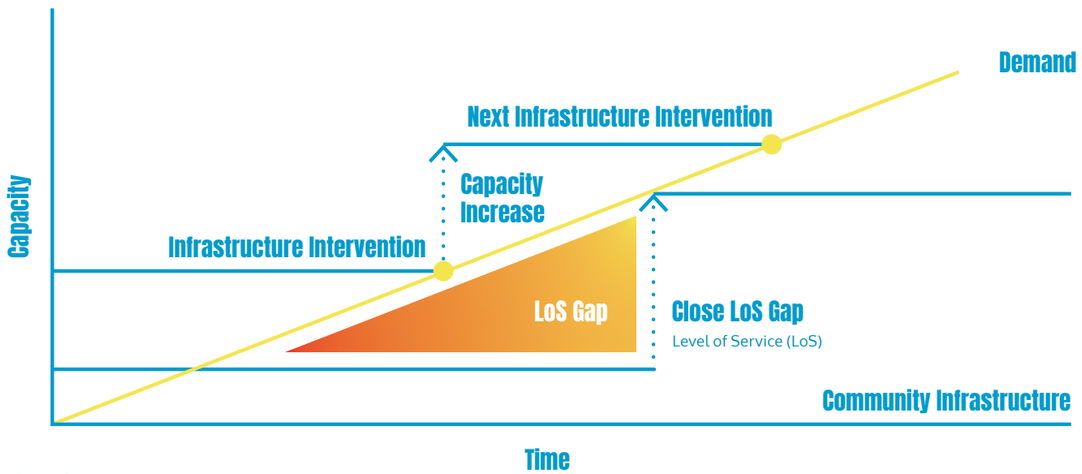


Figure 9

Predicting Demand for Infrastructure

Predicting the demand for infrastructure is a complex and nuanced multiple phase process with a significant set of assumptions for each phase of the assessment. Providing the right amount of infrastructure at the right time is a balancing act:

- Providing too much infrastructure, or providing it too soon, places a large financial burden on Council, ratepayers, and developers.
- Not provisioning enough infrastructure may restrict growth, and mean Council is forced to provide infrastructure at short notice, shortcutting the appropriate planning and funding processes.

Having a high level of certainty of infrastructure need allows for more accurate financial forecasting, more robust delivery planning and better coordination with other works. The more accurate the growth predictions, the more accurate the infrastructure plan.

Development contributions cannot be forecast accurately or collected without capital works projects for growth being included in the 10 year plan.

Lead vs Lag Infrastructure

The timing of infrastructure interventions to satisfy demand needs to be planned carefully as some pieces of infrastructure have long lead times to procure, design, and build.

Infrastructure can be categorised as either:

- Leading Supply – built in advance of growth
- Leading Demand – built as growth advances
- Lagging Demand – built after growth has occurred

The following table describes some examples of our infrastructure and how the planning for their implementation relates to growth.

Activity	Infrastructure	Lead/Lag	Growth Parameter
Transport	New roads	Lead	Supply
	Network Capacity	Lead	Demand
3 Waters	Pipe Networks	Lead	Supply
	Treatment plants	Lead	Demand
Solid Waste	Collection capacity	Lead	Supply
	Processing capacity	Lead	Demand
Open Spaces	Parks and playgrounds	Lag	Demand
Community Facilities	Community Hubs	Lag	Demand

Uncertainty in Predicting Growth

Growth forecasts rely on projections of population growth, development, and land use change. These are based on a range of assumptions and need to be monitored over time to see whether actual growth is tracking along the same lines as the projections.

Times have potentially never been more uncertain than now. Undertaking long term planning during a pandemic is no small feat. Our underlying assumptions for the growth predictions cannot always be relied on in a fast-changing world.

To combat this uncertainty about the future we are proposing a much more frequent and robust process for reviewing actual growth, reforecasting growth projections and reassessing infrastructure demand.

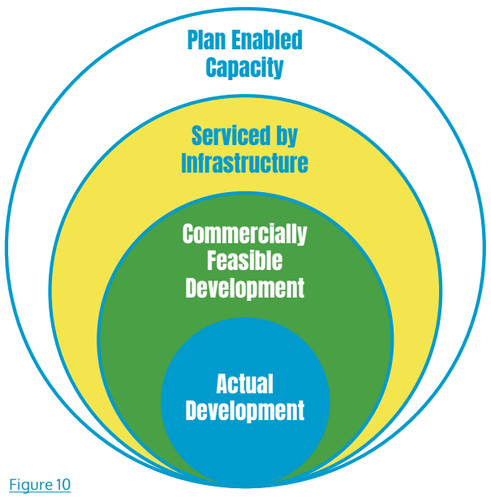


Figure 10

Monitoring Growth

The three-yearly LTP cycle is not frequent enough for our needs now, so we are proposing an annual review of actual versus planned growth to give early warning of changes in growth projections from our predictions and to allow for changes in the planning, and delivery cycles. The process will follow the steps outlined below:

- Assess actual growth against the projections.
- Growth models will be revised to meet any changes in the underlying models.
- Asset Management Plans will be updated annually based on a revised growth forecast.
- The annual plan will facilitate any changes needed, and any further consultation requirements.

If actual growth deviates from the forecast, then infrastructure projections need to be revised and infrastructure plans need to change to adapt to the revised projections.

Aligning Finance and Infrastructure

The Financial Strategy sets out the objectives and challenges the district faces from a financial perspective to balance affordability and service delivery. Keeping rates within affordable limits and managing external debt levels while trying to support sustainable growth, providing better services, and maintaining our existing assets is an ongoing challenge.

From an infrastructure perspective, we need to balance investment in infrastructure with the financial impact that investment will have on debt levels, rates, and reserves.

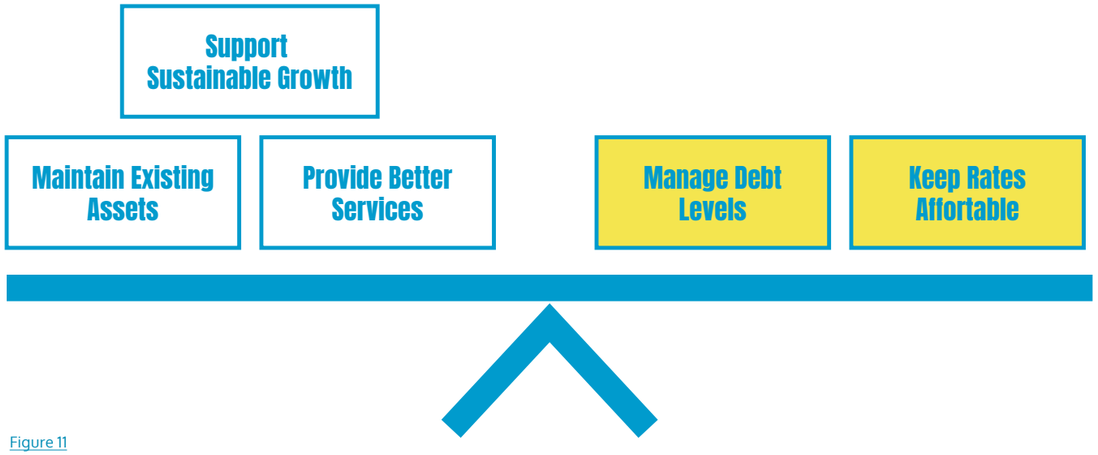


Figure 11

The following table aligns infrastructure investment categories to the:

- Financial objectives;
- Financial constraints (metrics which limit investment in infrastructure)

Financial Objectives	Financial Constraints *	Infrastructure Investment
Modernising infrastructure	Debt limit	Level of Service Capital
Supporting growth	Development Contributions	Growth Capital
Maintaining existing assets	Depreciation Reserves	Renewals
Moving costs of services to those who use them.	Rates limit	Operations and Maintenance
Doing more with existing budgets	Rates Increase limit	

* Most significant impact on financial constraint. The financial impact assessment is a complex analysis with nuanced relationships between these financial metrics. More detailed information about funding can be found in the Revenue and Financing Policy.

Funding mechanisms are discussed in detail in the Financial Strategy, but we have indicated in the following table the approximate breakdown by activity of funding for operational and capital investment.

Activity	Operational Funding Mechanism	Capital Funding Mechanism
Council Facilities 	The Council facilities and open spaces (Sustainable Communities) activities are funded predominantly through general and UAGC rates. • General, UAGC rates = 85% • Targeted rates = 1% • Fees and charges = 7% • Infringement fees etc = 7%	Capital investment in the Council facilities and open spaces (Sustainable Communities) activities is funded through a combination of sources: • Subsidies and grants = 0% • Development contributions = 65% • External debt = 25% • Proceeds from sale of assets = 10%
Open Spaces 		
Solid Waste 	The soild waste activity (Sustainable Environment) operations is funded roughly equally through rates and fees, broken down as below: • General, UAGC rates = 35% • Targeted rates = 15% • Fees and charges = 35% • Infringement fees etc = 15%	Capital investment in the solid waste activity (Sustainable Environment) is funded through external debt. • Subsidies and grants = 0% • Development contributions = 65% • External debt = 25% • Proceeds from sale of assets = 10%
Stormwater 	The stormwater activity is funded predominantly through target rates. • General, UAGC rates = 15% • Targeted rates = 85%	Capital investment in the stormwater activity is funded through: • Subsidies and grants = 0% • Development contributions = 25% • External debt = 75%
Transport 	The transport activity is jointly funded by Council and Waka Kotahi NZTA. • General, UAGC rates = 65% • Subsidy from Waka Kotahi NZTA = 25% • Infringement fees etc = 10%	Capital investment in the transport activity is funded through: • Subsidies and grants = 80% • Development contributions = 15% • External debt = 3% • Depreciation reserves = 2%
Wastewater 	The wastewater activity is funded predominantly through target rates. • General, UAGC rates = 2% • Targeted rates = 85% • Fees and charges = 13%	Capital investment in the wastewater activity is funded through: • Subsidies and grants = 0% • Development contributions = 25% • External debt = 75%
Water Supply 	The water supply activity is funded predominantly through target rates. • General, UAGC rates = 2% • Targeted rates = 95% • Fees and charges = 3%	Capital investment in the wastewater activity is funded through: • Subsidies and grants = 0% • Development contributions = 25% • External debt = 75%

INFRASTRUCTURE OVERVIEW

Infrastructure Summary

Activity	Infrastructure Summary	Replacement Value	
Council Facilities 	42 community centres/town halls 29 general properties 5 corporate properties 4 Housing for the Elderly Complexes 3 pool complexes Raglan Harbour assets	$47m	2%
Open Spaces 	229 ha of sports and recreation 50 ha neighbourhood parks 7 ha Public garden 1,289 ha Natural reserves 63 ha of cultural heritage sites 172 ha of outdoor adventure reserves 13 ha of civic space 355 ha of recreation and ecological linkages 21 cemeteries 58 playgrounds 2 campgrounds 57 public toilets 34 boat ramps 2015 street trees	$79m	4%
Solid Waste 	Kerbside rubbish and recycling collection contract for 20,500 properties Education programmes for schools and early childhood centres	$50m	3%
Stormwater 	129km pipes 13km maintained open drains 10 ponds	$80m	4%
Transport 	1,812km sealed roads 608km unsealed roads 198km footpaths, cycleways and walkways 203km of culverts 232 bridges 3,787 street lights 109 bus shelters	$1,426m	70%
Wastewater 	10 schemes 9 treatment plants 297 km pipes 83 pump stations	$186m	9%
Water Supply 	759km pipes 12 pump stations 28 reservoirs 7 treatment plants	$171m	8%

Infrastructure Value

Infrastructure at the Council has a replacement value of just over $2bn comprised of the infrastructure in each of the activities described in Figure 12.

The depreciated replacment value is compared in Figure 13 to replacement value which provides an indication of the asset life that has been consumed for each of the groups of infrastructure.

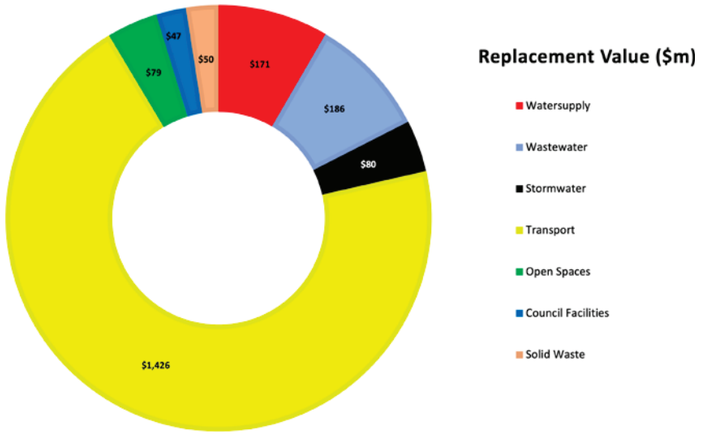
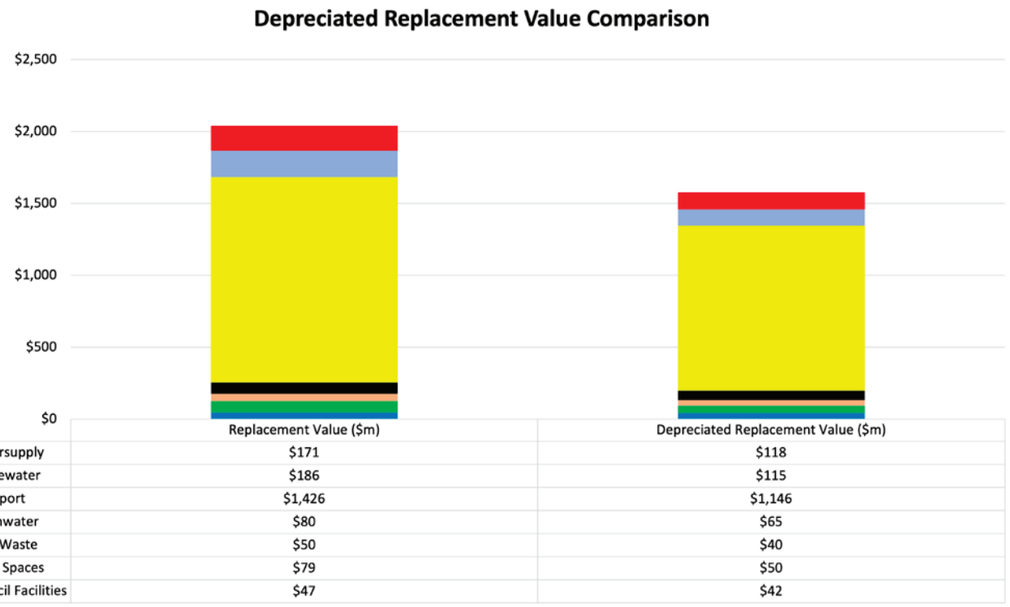


Figure 12



	Replacement Value ($m)	Depreciated Replacement Value ($m)
Watersupply	$171	$118
Wastewater	$186	$115
Transport	$1,426	$1,146
Stormwater	$80	$65
Solid Waste	$50	$40
Open Spaces	$79	$50
Council Facilities	$47	$42

Figure 13

Activity	Replacement Value ($m)	Depreciated Replacement Value ($m)	% Value Remaining	% Value Consumed
Watersupply	$171	$118	69%	31%
Wastewater	$186	$115	62%	38%
Stormwater	$80	$65	81%	19%
Transport	$1,426	$1,146	80%	20%
Open Spaces	$79	$50	63%	37%
Council Facilities	$47	$42	91%	9%
Solid Waste	$50	$40	80%	20%
Total	$2,039	$1,576	77%	23%

Infrastructure Condition

We have worked hard to develop a consistent approach to describing asset condition across our infrastructure activities. We consider the condition of our infrastructure portfolio by the value of the infrastructure in each condition category.
Overall, the condition of our infrastructure assets is relatively good but:

- 4% of our infrastructure is in Poor or Very Poor condition which generally means needs a renewal intervention.
- A significant portion (34%) of our infrastructure assets are in average or worse condition. This equates to approximately $270million.
- For our Core Infrastructure the value of infrastructure assets in average or worse condition is close to $240million.

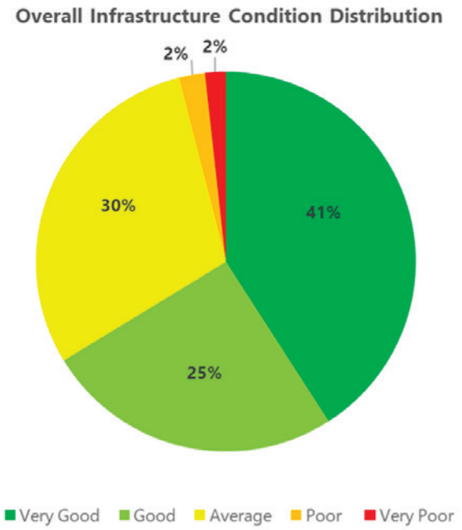


Figure 14

Data Reliability

We have a high level of information regarding our infrastructure asset condition, and we reduce risk of inaccuracy by constantly improving asset data and condition monitoring of our infrastructure assets.

This provides valuable information and the ability to respond to current and future capital work programmes and preventative maintenance to ensure our most critical assets continue to provide service and to better manage the risk of failure.

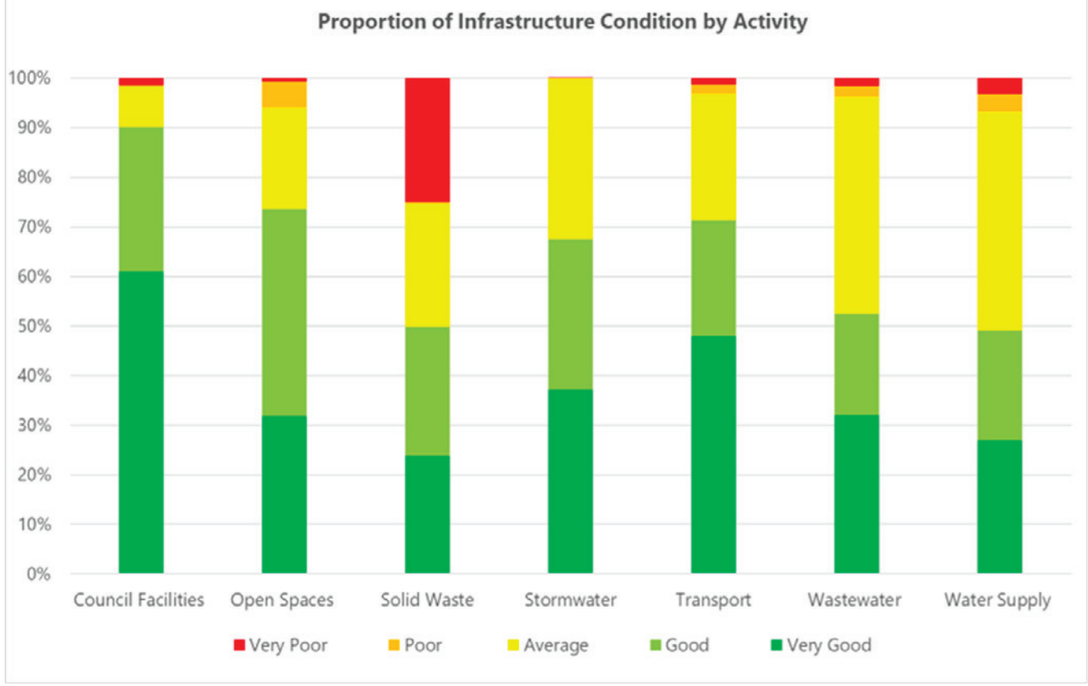


Figure 15

Infrastructure Age

Considering the age profile of our infrastructure can tell us a lot about the state of the asset portfolios.

Council Facilities is currently showing that the average age of their assets are above the expected useful life. This is because there is currently a combination of data gaps in the construction years of the componentry along with insufficient renewal funding sweating assets beyond their useful lives. There is currently a project underway to rectify the data gaps in the construction years to help reduce the average age. Investing sufficient funding to undertake the renewal programme would also help to improve this.

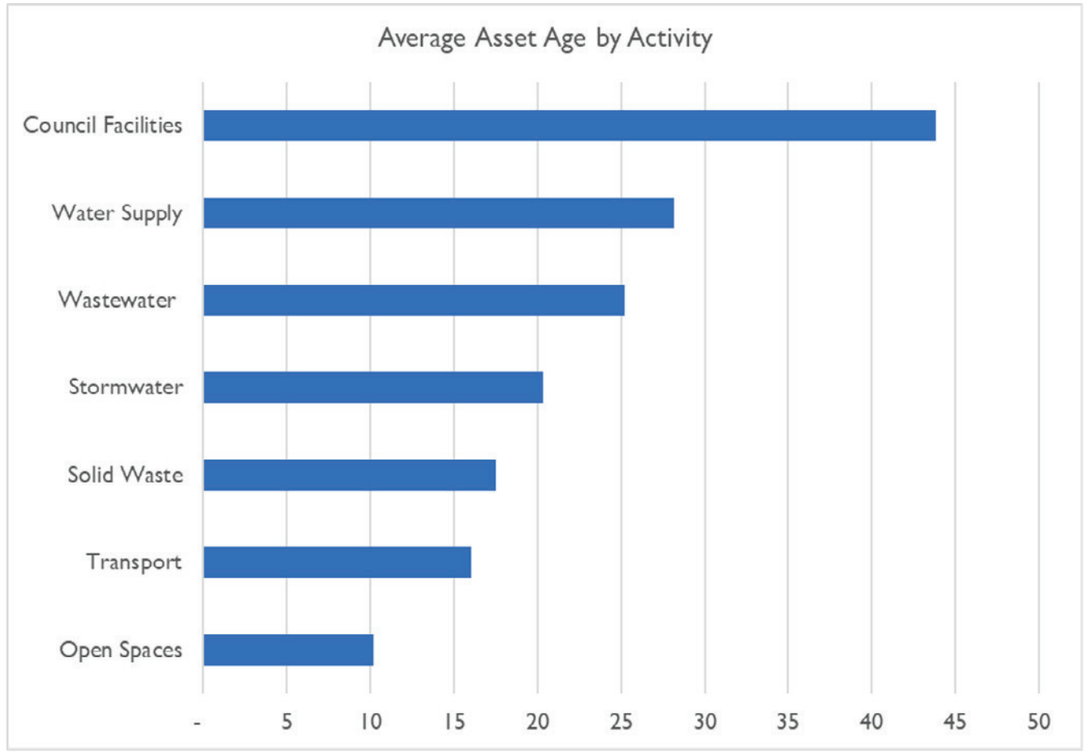


Figure 16

Critical Infrastructure

We have defined critical assets for our CORE infrastructure activities, Transport and the Three Waters.

Asset criticality is assigned based on a range of criteria and uses the scale to the right.

In practice, criticality is assigned at the asset component level. Figure 17 below shows the split of asset components by value that have been categorised into the five criticality bands for the core infrastructure activities.

Criticality Score	Asset Criticality
5	Very High
4	High
3	Moderate
2	Low
1	Very Low

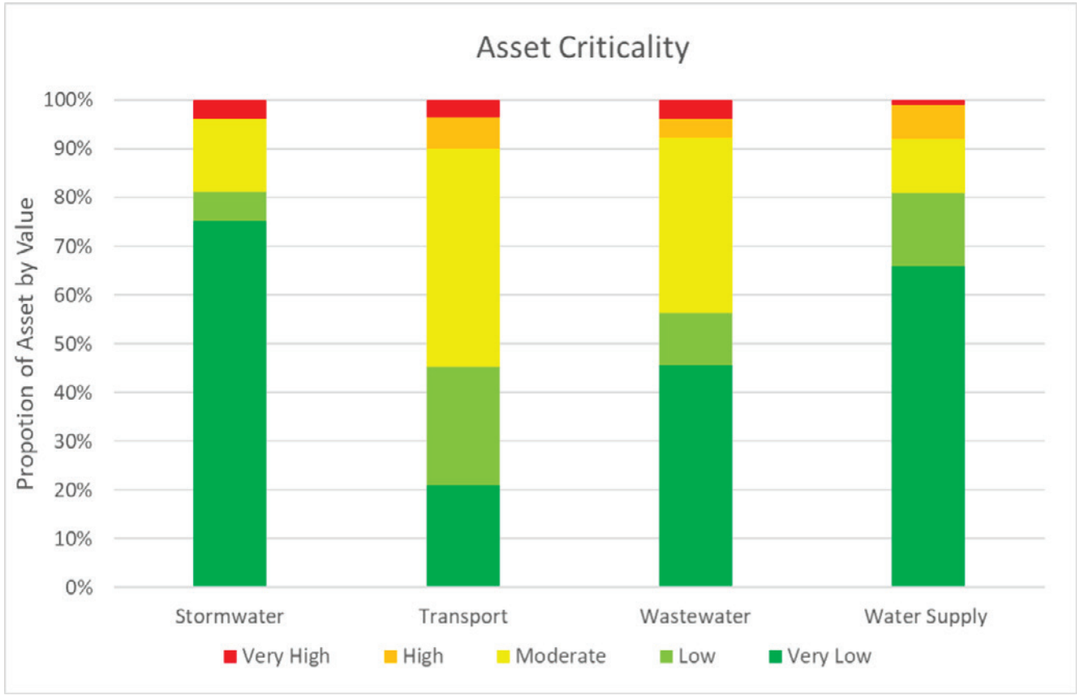


Figure 17

The table below has a high-level summary of the most critical asset types for each of the core activities.

Activity	Water Supply	Wastewater	Transport	Stormwater
Critical Assets	Treatment plants Pump stations Trunk Mains	Treatment plants Pump stations Rising mains	Bridges Regulatory signs Guardrail terminal ends Drainage assets Unsealed roads	Catchpits Source treatment appliances

HOW WE MANAGE OUR INFRASTRUCTURE

Infrastructure is essential to providing community services in the Waikato district.

Investment Management

Waikato District Council has an investment management framework of processes and documents in place that govern the investment in infrastructure activities and supports the achievement of community outcomes through the provision of infrastructure.

The framework shown in Figure 18 describes the relationship between the:

- Council objectives and community outcomes;
- Council strategies including this infrastructure strategy;
- Activity Management Plans; and
- The Long Term Plan and long term financial forecast.

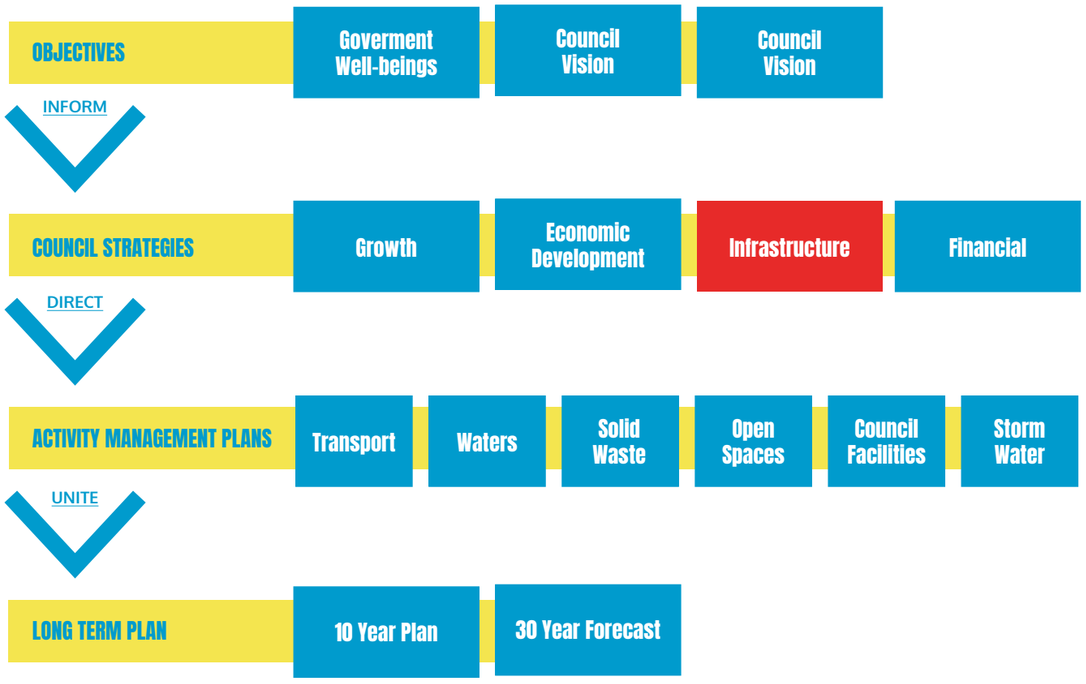


Figure 18 – Investment Management Framework

Level of Service Framework

Levels of Service (LoS) define the quality of delivery for a particular activity or service against which service performance can be measured and allow the relationship between the level of service and the cost of the service to be determined. This relationship is then evaluated in consultation with the community to determine the levels of service they are prepared to pay for.

We have developed a level of service framework which provides a structure to align the Council Vision and Community Outcomes to delivery of the services and contractual performance measures.

The level of service framework describes the contribution each activity makes toward these outcomes and are included in the Long Term Plan with the associated performance measures and the targets required for each activity.

The Levels of Service can then be used to:

- Identify the costs and benefits of the services offered;
- Inform customers and the community of the proposed LoS;
- Develop activity management strategies to deliver the LoS;
- Measure performance against the defined LoS;

We have mapped each of our LoS to the Community Outcomes so we can identify the contribution each activity makes.

Asset Management Approach

Waikato District Council has adopted an asset management approach to:

- Develop financially sustainable Activity Management Plans (AMPs) to an appropriate standard for the activity, assets and associated risks being managed;
- Ensure AMPs reflect the strategy and priorities of Council and are integrated with other relevant planning documents;
- Involve and consult with the community, Iwi and key stakeholders on determining the desired levels of service via the LTP or other means;
- Recognise the risks associated with the delivery of agreed levels of service and manage them appropriately; and
- Recognise the implications of changes in demand for services and actively manage this demand wherever practical.

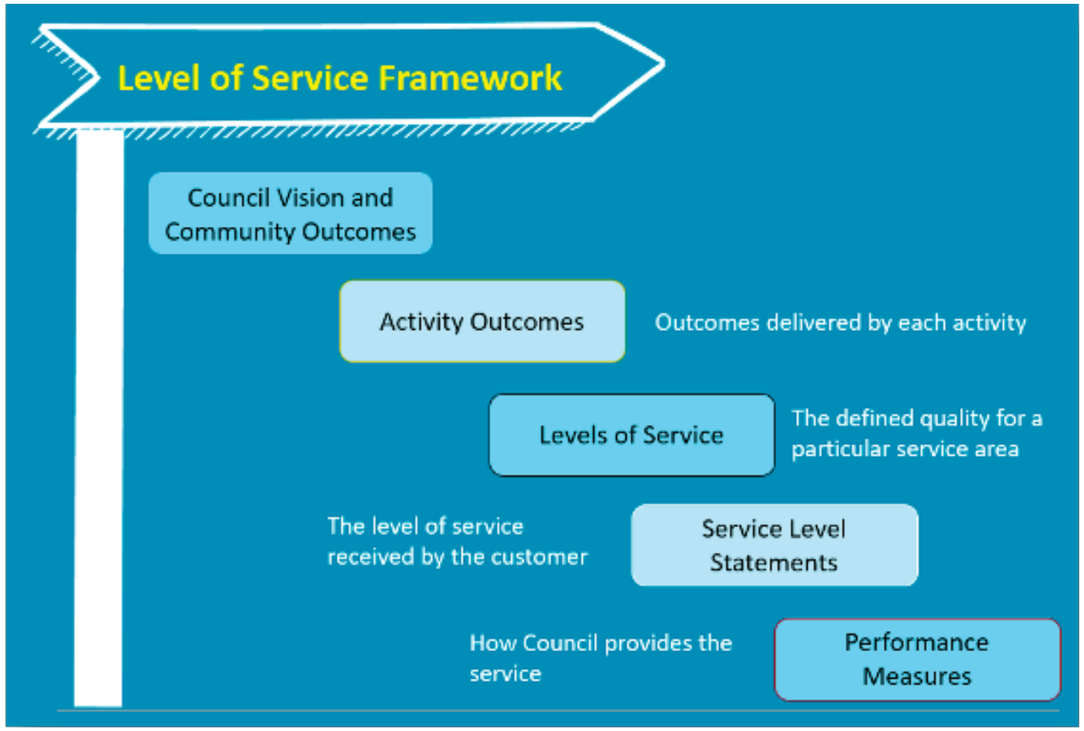


Figure 19

Asset Information Systems

We use asset information systems to store, retrieve and analyse.

Waikato District Council uses SPM Assets Ltd as the main asset information system for its open spaces, facilities and solid waste assets. The product is web-based and provides comprehensive life cycle analysis that is based on unit rates/ base and remaining lives. This provides robust reporting for the assets that have recently been condition graded. Processing of new or upgraded assets are being developed for each asset class as they are being entered into the SPM Assets database. The application provides seamless extraction of data and reporting but has no linkages to Council's present IT systems.

Currently, AssetFinda is the primary asset information system used for all three waters assets, this system includes an asset register of all utility assets which are represented spatially. In the future, all asset data is to be migrated to an enterprise asset management software developed by Infor. The new software will provide an integrated system of asset data storage, works request, asset planning, workflow management and asset performance monitoring.

Asset Lifecycle Management

Waikato District Council uses a lifecycle management approach to manage infrastructure assets for all activities, which includes four main categories.

- Operations and Maintenance - Work required for the day to day operation of the network whilst maintaining the LoS
- Renewal Works - Work that restores an existing asset to its original level of service
- Capital Works - The creation of new assets or work, which upgrade or improve an existing asset beyond its current capacity of performance
- Disposal - The cost of asset disposal which is incorporated within the capital cost of new works or asset renewals.

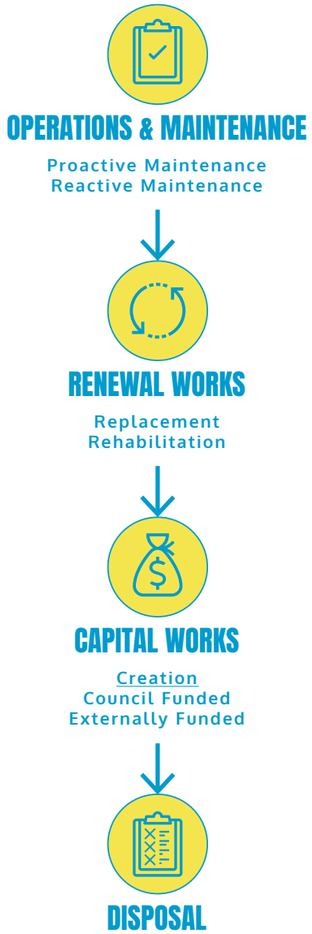


Figure 20

Condition Assessment

The condition of an asset is a measure of the physical integrity. Knowing the condition enables more accurate prediction of:

- Asset development
- Maintenance
- Renewal and replacement requirements

A condition assessment gives a clear understanding of the condition of assets and how they are performing. The condition and performance of solid waste, open spaces and facilities assets are assessed and monitored through SPM Assets Ltd. This is used to produce a long-term maintenance and renewal plan.

In 2020, Jacobs was approached to conduct asset condition assessments for all above ground water and wastewater assets owned by Council. As part of this condition assessment program, Jacobs along with Watercare staff conducted a site-based condition assessment in two phases; prioritised and discrete number of WDC assets (Phase one) and remaining unassessed WDC assets (Phase 2).

Risk Based Approach

Waikato District Council takes a comprehensive approach to risk management, including:

- Connecting risk to our level of service framework and identifying business risks that are managed by our improvement programme.
- Building risk into the forward works planning and decision making processes.
- Aligning the business case approach with our risk management approach.
- Defining asset criticality for all the transport asset groups.
- Connecting to the Council risk appetite statement to prioritise risk treatment.

Service Delivery

Waikato District Council uses a range of contract models are employed to deliver the appropriate level of service to the community.

Typically, in the infrastructure-based activities, the operations, maintenance and renewal planning and delivery are outsourced to a supply chain partner, whilst the strategic planning and the decision making around significant capital investments is retained by Council.

A range of partners deliver the core and community infrastructure-based services and contribute to the community outcomes.

The table describes the delivery model and contract type that is currently in place for each of the infrastructure activities.

Figure 21

Council Facilities	Outsourced Operations and Maintenance	Full Operational Contract
Open Spaces	Outsourced Operations and Maintenance	Full Operational Contract
Solid Waste	Outsourced Operations and Maintenance	Full Operational Contract
Stormwater	Outsourced Operations and Maintenance, Renewals and Capital Delivery	Operation and management Contract
Transport	Outsourced Operations, Maintenance, and Renewals	Alliance
Wastewater	Outsourced Operations and Maintenance, Renewals and Capital Delivery	Operation and management Contract
Water Supply	Outsourced Operations and Maintenance, Renewals and Capital Delivery	Operation and management Contract

Capital Works Delivery

We realise it is crucial that we deliver our planned programme of capital works, and that we need to increase our capability to ensure we are successful in delivering a higher level of investment in the future.

We have recently established a Council wide Project Management Office (PMO) and appointed a PMO Manager to implement project management improvements and put in place additional project management, reporting and governance controls.

Council needs to make a step change in investment in core infrastructure, particularly for roading and wastewater. The LTP proposes a total spend of $1,026 million on capital projects over the next 10 years. We have budgeted $50.2 million (98.7%) more capital expenditure for 2021/22 compared to 2020/21, and it will be maintained at that level. We have confidence in our ability to deliver our capital works programme because of the following:

- The programme has been developed from an understanding of the condition of our assets, changing standards, district Blueprint desires and the speed of anticipated growth.
- From a physical delivery perspective, we are fortunate that we have agreements in place with Watercare and our Waikato District Alliance that we can use without adding significant delay to the delivery of our programme.
- We have improved our processes to ensure all site requirements are included in all contracts and our projects delivery and asset teams capabilities have increased to help us complete projects on time.

The following capital works delivery actions have been undertaken:

- A new procurement policy, templates and guideline documents are being developed to align current practice with national standards and Councils objectives, simplify the process, and ensure consistency in decisions made.
- Implementation of a Capital Project Delivery and Procurement Strategy.
- A Procurement Governance Panel has been established to consider requests from project managers to approve procurement plans or proposals that are inconsistent with usual practice.
- The Project Management Framework and project management structure have been reviewed.
- Project Steering Groups have been set up to oversee the various programmes of work, assess risks and facilitate the resolution of issues encountered by Project Managers.
- Business owners have taken full ownership, responsibility and control of their portfolio's and have clarified what can be delivered this financial year, by whom and how Project plans and procurement plans are being developed for all projects and impediments to delivery are being identified and escalated where necessary.
- Our project management software has been updated and training rolled out across the organisation.

Climate Change

The New Zealand Climate Change Office indicates the Waikato district is likely to become warmer and wetter as a result of climate change with average temperatures increasing as much as 3°C over the next 70-100 years. This could result in longer, drier summers which will put extra demand on the water activity. Additionally, rising sea levels will limit growth along the coastal regions due to potential flooding and erosion, placing development pressure on inland areas and existing infrastructure.

Council has developed a Climate Response & Resilience Policy that is based on Local Government Position Statement on Climate Change, considers climate risks and actions that are relevant to our district, aligns with legislation (Zero Carbon Act), sets out our organisation's commitments, and describes the intended implementation methods. Our policy is aligned to the Local Government Position Statement on Climate Change within the context of our district.

In relation to our infrastructure, it means we will:

- Collaborate with other agencies, organisations, and the community.
- Ensure that low emission, climate-resilient development is adopted as a key tenet into development and land-use decisions, including our district plans, annual plans, and long term plans.
- Plan for and provide infrastructure which recognises and reduces the risk of hazards like floods, storms, and sea level rise
- Plan for the impacts of climate change on Council's three waters infrastructure and services
- Promote and encourage the conservation and enhancement of natural environments to aid in emissions reduction (mitigation) and climate change effects (adaptation).

The Activity Management Plans identify specific likely impacts on each activity when replacing or planning new assets.

SIGNIFICANT ISSUES

Significant Infrastructure Issues

Providing the infrastructure for the Waikato district community is a constant challenge of:

- Balancing affordability and sustainability;
- Maintaining rates at an affordable level;
- Keeping debt levels within the allowed levels; and
- Endeavouring to provide intergenerational equity.

The significant issues that exist while we do this are:

1. **Facilitating growth**
2. **Affordability**
3. **Changing priorities and legislation**
4. **Sustaining our environment**
5. **Building resilience**

Significant Issue	Link	Description
Facilitating growth		Residential growth particularly in the northern part of the district and surrounding Hamilton will result in increased demand for infrastructure. Additional capacity at water and wastewater treatment plants, and new assets such as roads and pipes will be needed to service growth. Providing infrastructure also allows new industries and businesses to locate to Waikato district and supports tourism. Libraries, halls, parks, service centres, and transfer stations are all needed to provide a liveable and sustainable community. Some of our growth areas do not have suitable facilities in place.
Affordability		Providing the infrastructure to sustain the community without increasing rates to an unaffordable level and manging debt levels is a significant challenge in the current environment.
Changing priorities and legislation		Changing government priorities and government led reform during the next LTP period will create system wide changes, particularly in the water sector.
Sustaining our environment		Delivering our services in a way that does not harm the natural environment and meets legislative changes such as the Healthy Rivers.
Building resilience		Being able to afford to build resilience into the infrastructure assets to meet climate change adaptation requirements.

Significant Issues by Activity

The significant issues for the district apply to our Infrastructure Activities in different ways. The following table connects each activity to each of our significant issues where applicable.

Significant Issue/ Acticity	Facilitating growth	Affordability	Changing priorities and legislation	Sustaining our environment	Building resilience
Council Facilities	A high level of growth and changing demographics may lead to changes in community needs	Rationalisation of community halls	Divestment of Housing for the Elderly	Incorporating energy efficiencies into the renewal programme.	Performance of swimming pools and future district wide needs for aquatic facilities
Open Spaces	With rapid growth in the district a shortage of land availability is impacting the level of service that can be provided.	Poor condition of assets has increased the renewal budget significantly to meet levels of service	Ensuring a more consistent service provision across the district in line with strategies	Using energy sustainably	Planning for and adapting to climate change
Solid Waste	Growth in the northern part of the district is creating additional demand for transfer station/resource recovery and recycling facilities	Service delivery contracts expiring in 2021 may increase the cost of service but also provide opportunities to improve resource recovery			
Stormwater	Inadequate capacity of existing stormwater networks to add runoff from new developments	Inadequate capacity of stormwater networks as storm events increase in intensity and frequency	Implementing stormwater source treatment infrastructure to meet legislative requirements e.g. Healthy Rivers is increasing cost		Managing the effects of climate change including overland flow paths to reduce the impacts of extreme weather events, more intense and frequent stormwater events
Transport	Increasing traffic flows and infrastructure changes are leading to an increase in the network size resulting in an inability to meet future needs	Historic lack of investment is resulting in increased asset consumption, deteriorating asset condition, decreasing levels of service and customer satisfaction	Road to Zero strategy is increasing focus on reducing harm while deteriorating asset condition and an unforgiving road environment is resulting in increased risk of harm to our community	Poor communication and transparency leads to inefficient delivery and an erosion of community confidence and inefficient delivery	Challenging geology, topography and increasing intensity of weather events is adversely impacting network resilience
Wastewater	Meeting future growth demands		Compliance with statutory obligations and meeting levels of service	Minimising the number of discharges to the environment, reduce environmental effects and optimise operational efficiency	Planning for and adapting to climate change
Water Supply	Meeting future growth demands which is driven mainly from residential customers	Ensuring quality, efficient, and sustainable infrastructure	Ensuring the protection and improvement of public health and safety		

MOST LIKELY SCENARIO

The most likely scenario for infrastructure investment is the combination of our preferred options as described in the following section.

Principal Options

The principal options for solving the significant issues in each of the activities are described in the table below.
The impacts of these options, including the estimated cost are discussed and the preferred option indicated.
The cost estimate is for the capital investment required to deliver the option over the first 10 years of this strategy.

Our principal options take the form of comparing the status quo to meeting our statutory obligations or desired levels of service where they are not being met.

Activity	Significant Issue	Issue	Options		Implications	Cost (m)	Preferred Option
Council Facilities	A high level of growth and changing demographics may lead to changes in community needs		1.	Maintain the existing facilities portfolio	Not meet community needs and levels and service	$0	2
			2.	Upgrade and add to the existing facilities portfolio	Move toward meeting community needs and levels and service	$19	
	Divestment of Housing for the Elderly		1.	Keep existing portfolio	Increasing property management obligations	$3	2
			2.	Divest full portfolio	Remove management and maintenance burden	$0	
	Incorporating energy efficiencies into the renewal programme.		1.	Fully incorporate efficiencies into renewal programmes	Ongoing cost savings and reduce carbon emissions	$2	2
			2.	Partially incorporate efficiencies into renewal programmes	Partial cost savings and reduced emissions	$1	
	Performance of swimming pools and future district wide needs for aquatic facilities		1.	Maintain existing facilities	Do not meet community requirements	$0	1
			2.	Create new facilities in line with growth projections	Meet demand and community requirements	$8	
Open Spaces	Rapid growth in the district and a shortage of suitable land is impacting the level of service that can be provided.		1.	Land purchase programme to fully meet demand	Land available to meet LoS	$20	2
			2.	Partial land purchase programme	Land available to partially meet LoS	$12	
	Poor condition of assets has increased the renewal budget significantly to meet levels of service		1.	Fully fund renewal needs	Clear backlog of renewals, improved condition	$58	1
			2.	Partially fund renewal needs	Renewal backlog remains, condition stays the same	$30	
	Ensuring a consistent level of service provision across the district in line with strategies		1.	Full LoS achievement	Consistent open spaces provision	$13	2
			2.	Partial LoS achievement	Partially consistent open spaces provision	$10	
	Using energy sustainably		1.	Maintain existing energy consumption	No reduction in energy consumption	$0	2
			2.	Incorporate energy efficient options into renewal programme	Some reduction in energy consumption	$1	

Activity	Significant Issue	Issue	Options		Implications	Cost ($m)	Preferred Option
Solid Waste	Growth in the northern part of the district is creating additional demand for transfer station/resource recovery and recycling facilities		1.	Upgrade resource recovery centres	Meet demand	$5	1
			2.	Maintain existing facilities	Do not meet demand	$0	
	Service delivery contracts expiring in 2021 may increase the cost of service but also provide opportunities to improve resource recovery		1.	New contracts	Enhanced service	$64	1
			2.	Extend existing contracts	Maintain current service	$60.8	
Stormwater	Inadequate capacity of existing stormwater networks to add runoff from new developments		1.	Programme of capacity improvements	Meet demand from new developments	$2.50	1
			2.	Maintain existing portfolio	Under capacity network	$0	
	Inadequate capacity of stormwater networks as storm events increase in intensity and frequency		1.	Programme of network capacity improvements	Increase capacity	$50	2
			2.	Maintain existing infrastructure	No capacity increases	$0	
	Implementing stormwater source treatment infrastructure to meet legislative requirements e.g. Healthy Rivers is increasing cost		1.	Implement water quality improvement programme	Protect the environment from the effect of contaminated stormwater	$22	1
			2.	No quality improvements	Current levels maintained	$0	
	Managing the effects of climate change including overland flow paths to reduce the impacts of extreme weather events, more intense and frequent stormwater events		1.	Implement a programme of Resilience projects	Increased resilience	$20	2
			2.	Maintain existing infrastructure	No change	$0	
Transport	Increasing traffic flows and growth in the district means Public Transport could become a more significant transport option if levels of service were increased		1.	Programme of Public Transport improvements	Increase the capacity and quality of Public Transport to increase uptake	$35	2
			2.	Maintain existing infrastructure and Huntly upgrade	Do not increase capacity and quality	$1	
	Historic lack of investment in our bridges means capacity for HPMV traffic is restricted in parts of the district.		1.	A significant bridge upgrade and replacement programme	Increase network capacity for HPMV traffic	$35	2
			2.	Maintain existing infrastructure	Do not increase network capacity	$5	
	Road to Zero strategy is focusing on reducing harm while deteriorating asset condition and an unforgiving road environment is resulting in increased risk of harm to our community		1.	Fund an enhanced programme of safety improvements including the Safety Network Programme from Waka Kotahi NZTA	Reduce harm toward Road to Zero targets	$78	2
			2.	Fund a reduced programme of safety improvements identified by Council	Reduce harm	$35	
	Poor connectivity of walking and cycling transport options is not encouraging Active Travel options		1.	Programme of walking and cycling connectivity improvements	Encourage active travel options	$22	2
			2.	Footpath improvement programme only	No encouragement of active travel options	$10	

Activity	Significant Issue	Issue	Options		Implications	Cost ($m)	Preferred Option
Transport	Challenging geology, topography and increasing intensity of weather events is adversely impacting network resilience.		1.	Resilience programme of stormwater capacity improvements	Resilience to climate change enhanced	$5	2
			2.	No resilience improvements	No improvement in climate change resilience	$0	
Wastewater	Meeting future growth demands		1.	Upgrade of under capacity Wastewater Infrastructure	Meet increasing demand	$100	1
			2.	Maintain existing portfolio	Do not meet increasing demand	$0	
	Compliance with statutory obligations and meeting levels of service		1.	Programme of infrastructure upgrades	Meet statutory obligations and levels of service	$65	1
			2.	Maintain existing infrastructure	Do not meet obligations and levels of service	$0	
	Minimising the number of discharges to the environment, reduce environmental effects and optimise operational efficiency		1.	Programme of efficiency improvements	Reduced environmental impact and increased efficiency	$300	2
			2.	Maintain existing infrastructure	No change	$0	
	Planning for and adapting to climate change		1.	Climate change adaptation programme	Increase resilience	$250	2
			2.	Maintain existing infrastructure	No change	$0	
Water Supply	Meeting future growth demands which is driven mainly from residential customers		1.	Capacity improvement programme	Meet demand	$82	1
			2.	Maintain existing portfolio	Do not meet demand	$0	
	Ensuring quality, efficient, and sustainable infrastructure		1.	Programme of efficiency improvements	Reduced environmental impact and increased efficiency	$200	2
			2.	Maintain existing infrastructure	No change	$0	
	Ensuring the protection and improvement of public health and safety		1.	Programme of level of service improvements	Compliance with drinking water standards	$37	1
			2.	Maintain existing infrastructure	Continued non-compliance	$0	

Significant Capex Decisions

The Significance and Engagement policy provides guidance around which of the significant capital expenditure decisions will form part of the consultation process.

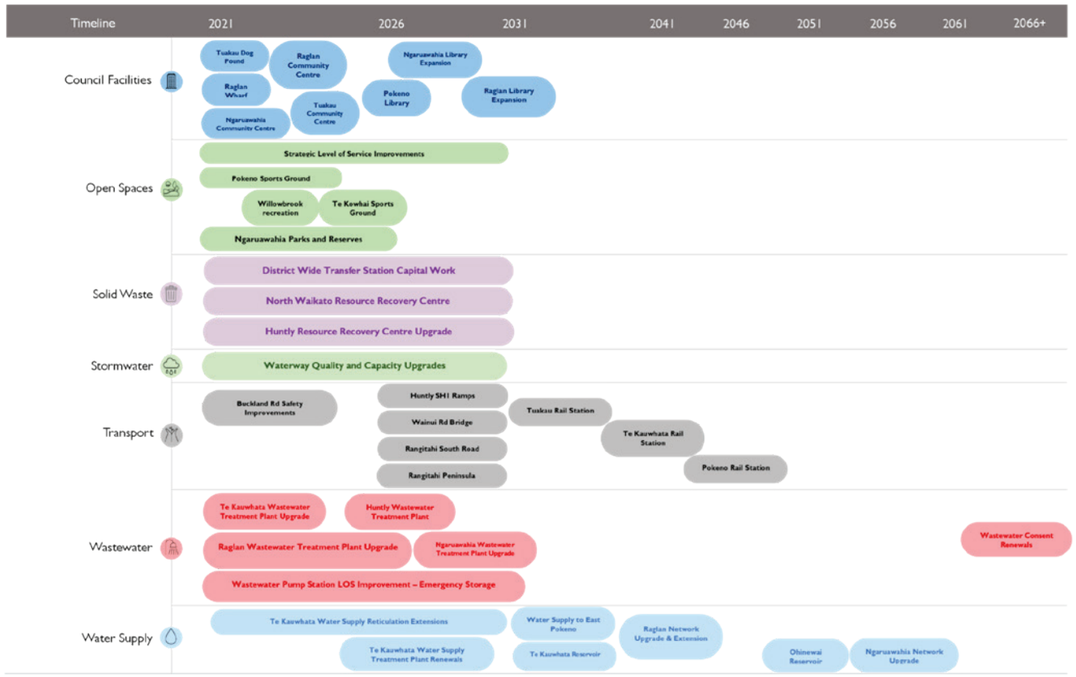
Not every significant infrastructure capex decision will require consultation. We have chosen to include capex projects with an estimated cost greater than $5 million for the core infrastructure activities and greater than $1m for community infrastructure activities. We have connected these projects to the significant issues as shown in the table below. Renewal projects are not included unless they are likely to also include a significant change to the level of service.

Significant Decisions

Activity	Significant Issue	Preferred Option	Implications	Significant Decisions	Timing	Cost Estimate (m)
Council Facilities	A high level of growth and changing demographics may lead to changes in community needs	Upgrade and add to the existing facilities portfolio	Move toward meeting community needs and levels and service	Ngaruawahia Library expansion	2026-28	$7.50
				Raglan Library and Council Offices expansion	2028-30	$3
				Tuakau Dog Pound upgrade	2021	$1.50
				Raglan Wharf upgrade	2021	$1.60
	Rationalisation of community halls	Upgrade and add to the existing facilities portfolio	Move toward meeting community needs and levels and service	Ngaruawahia Community Centre	2021	$1.50
				Raglan Community Centre	2022	$0.50
				Tuakau Community Centre	2023	$1.20
				Pokeno Library upgrade	2024-25	$7
Open Spaces	Ensuring a consistent level of service provision across the district in line with strategies	Partial LoS achievement	Partially consistent open spaces provision	Strategic Level of Service Improvements	2021-30	$12
				Whangarata Cemetery	2022	$1
				Pokeno Sports Ground	2021-24	$6
				Te Kowhai Sports Ground	2024	$1.50
				Ngaruawahia parks and reserves	2021-26	$1.80
Solid Waste	Growth in the northern part of the district is creating additional demand for transfer station/ resource recovery and recycling facilities	Upgrade resource recovery centres	Meet demand	North Waikato Resource Recovery Centre upgrade	2031	$3
				Huntly resource recovery centre upgrade	2031	$2
Stormwater	Implementing stormwater source treatment infrastructure to meet legislative requirements e.g. Healthy Rivers is increasing cost	Implement water quality improvement programme	Protect the environment from the effect of contaminated stormwater	Waterway quality and capacity upgrades	2021-31	$22
Transport	Increasing traffic flows and growth in the district means Public Transport could become a more significant transport option if levels of service were increased	Maintain existing infrastructure and Huntly upgrade	Do not increase capacity and quality	Huntly SH1 South facing ramps McVie Rd	2028-30	$11
				Tuakau Rail Station	2031-35	$8
				Te Kauwhata Rail Station	2036-40	$8
				Pokeno Rail Station	2041-45	$8

Activity	Significant Issue	Preferred Option	Implications	Significant Decisions	Timing	Cost Estimate (m)
Transport	Historic lack of investment in our bridges means capacity for HPMV traffic is restricted in parts of the district.	Maintain existing infrastructure	Do not increase network capacity	Wainui Rd Bridge	2031-35	$10
				Rangitahi South New Roads	2031	$13
				Market St - SH1 Overbridge/Underpass	2031-35	$5
	Road to Zero strategy is focussing on reducing harm	Fund a reduced programme of safety improvements identified by Council	Reduce harm	Buckland Rd Safety Improvements	2021-25	$11
				Highway 22 Safety Improvements	2021-25	$8
				Tahuna Rd Safety Improvements	2026-30	$6
Wastewater	Meeting future growth demands	Upgrade of under capacity Wastewater Infrastructure	Meet increasing demand	Huntly Wastewater Treatment Plant Upgrade	2026-30	$47
				Ngaruawahia Wastewater Treatment Plant Upgrade	2026-30	$53
				Te Kauwhata Wastewater Treatment Plant Upgrade	2021-23	$36
				Raglan Wastewater Treatment Plant Upgrade	2021-27	$28
	Compliance with statutory obligations and meeting levels of service	Programme of infrastructure upgrades	Meet statutory obligations and levels of service	Pokeno Wastewater Pump Station Upgrades	2021-25	$26
				Horotiu Wastewater Pump Station Upgrades	2021-25	$14
				Wastewater Pump Station LOS Improvement	2021-30	$8
				Tuakau Wastewater Pump Station Upgrades	2021-25	$7
	Minimising the number of discharges to the environment, reduce environmental effects and optimise operational efficiency	Maintain existing infrastructure	No change	Wastewater Consent Renewal	2066-71	$10
Water Supply	Meeting future growth demands which is driven mainly from residential customers	Capacity improvement programme	Meet demand	Te Kauwhata Water Treatment Plant Upgrade	2026-30	$36
				Hitchens Pump Station Upgrade	2021-25	$10
				Raglan Network Upgrade and Extension	2021-30	$6
				Water supply to East Pokeno	2031-35	$8
	Ensuring the protection and improvement of public health and safety	Programme of level of service improvements	Compliance with drinking water standards	Te Kauwhata Reservoir Extension	2026-30	$11
				Gordonton Reservoir and Pump Station	2026-30	$5
				Tuakau Reticulation Extension	2023-25	$6
				Ngaruawahia Network Upgrades Stage 1B Onwards	2056-60	$8
				Te Kauwhata Reticulation Upgrade and Extension	2021-30	$17
				Raglan Reticulation Upgrade and Extension	2031-41	$8

Significant Capex Decision Timeline



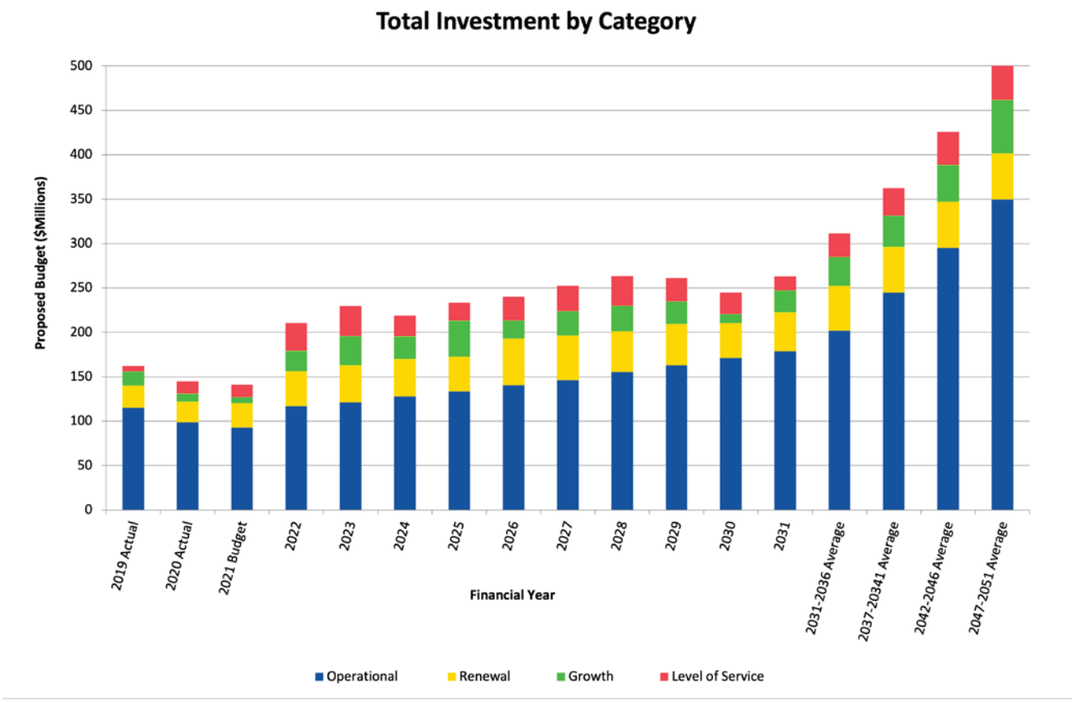
FINANCIAL SUMMARY

This section summarises the long-term financial investment profile for the infrastructure related activities.

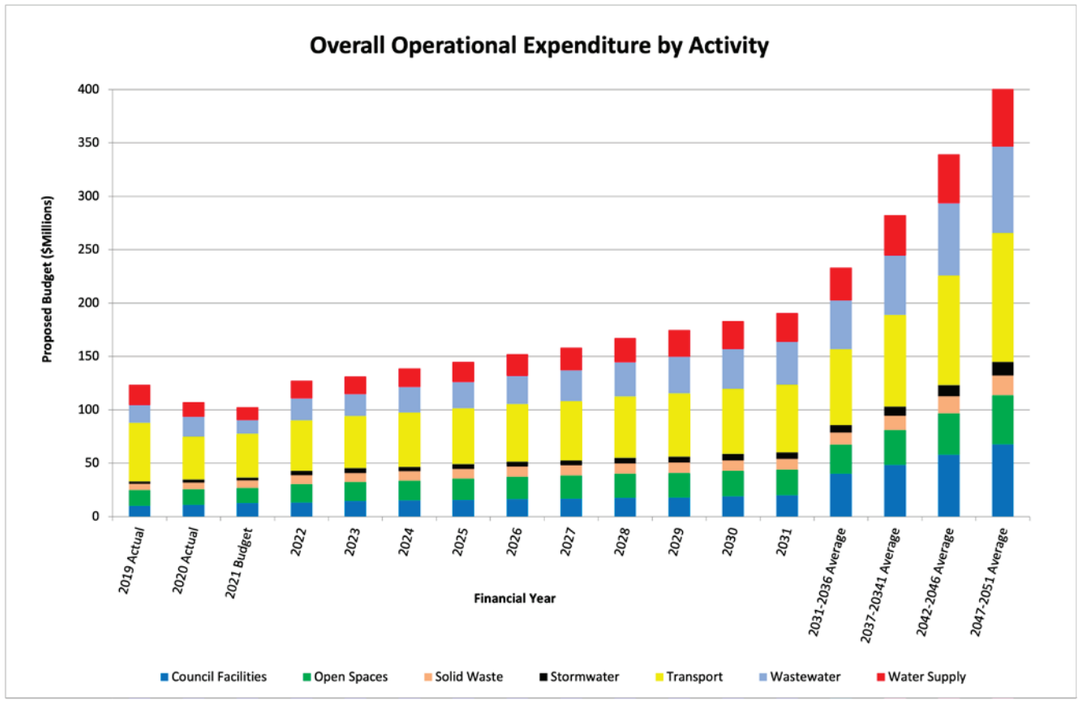
Financial summaries are provided for the following:

- Total Investment by Category
- Overall Operational expenditure by activity
- Overall Capital expenditure by activity
- Overall Renewal investment
- Overall Growth Capital investment
- Overall Level of Service Capital Investment

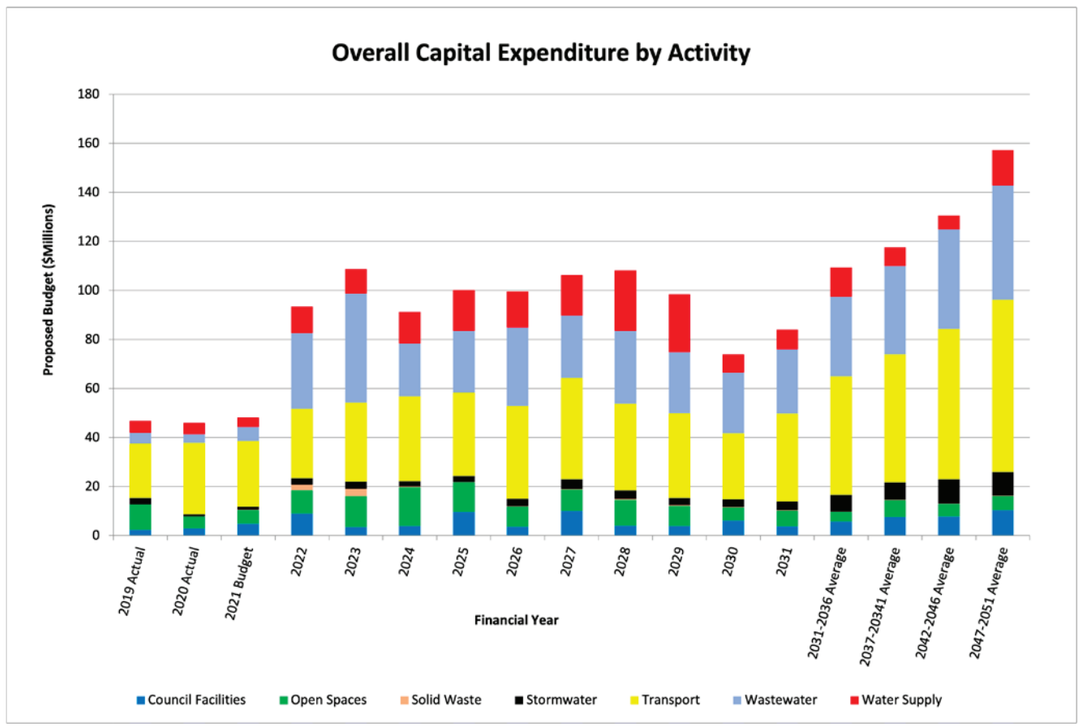
The Financial Strategy discusses the impact on Debt Levels, Reserve Funds, and Rates as an outcome of the Infrastructure investment programmes.



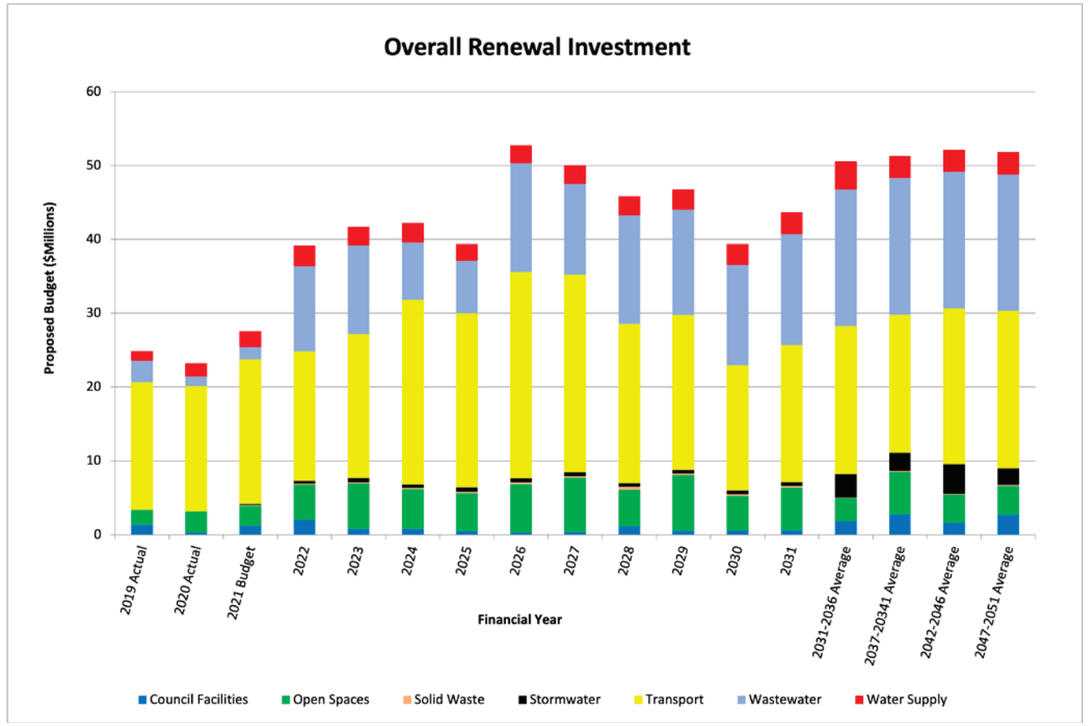
Operational Investment



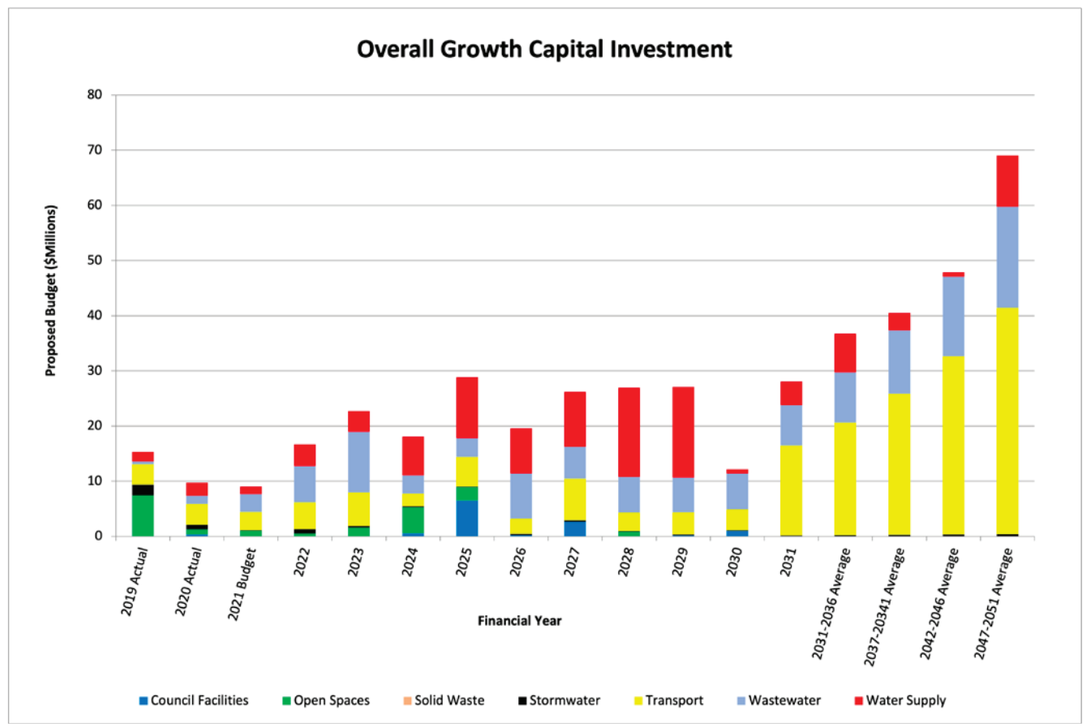
Capital Investment



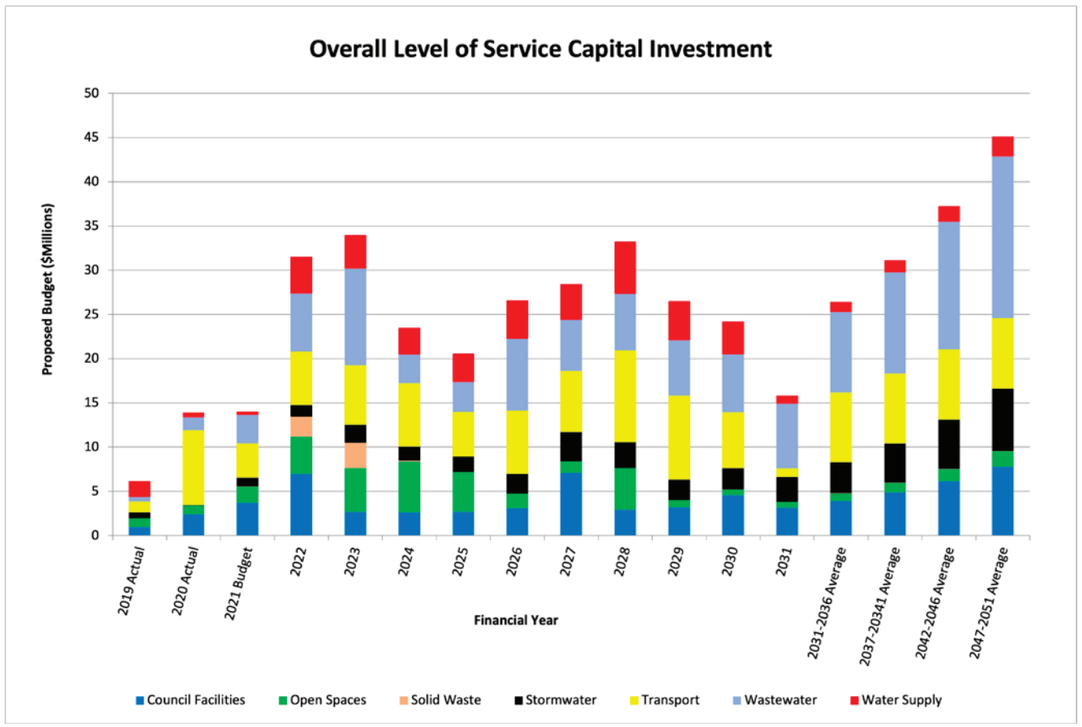
Renewal Investment



Capital Investment for Growth



Capital Investment for Better Levels of Service



ASSUMPTIONS

The key assumptions that relate to the activities covered in this infrastructure strategy are outlined below.

Forecasting Assumption	Level of Uncertainty	Implications
No future legislation changes	Medium	Legislation changes relating to drinking water (e.g. Health Act) may occur due to the recommendations of the Havelock North enquiry. This may increase operational costs. Changes to the Resource Management Act could increase the cost of infrastructure construction projects.
Local Government Structure does not change	Low	Shared service and other joint arrangements may be affected resulting in increased operational costs.
Changing Weather patterns will not cause flooding or water shortages	Medium	Difficulty meeting levels of service for water supply and stormwater.
Development occurs in areas zoned in District Plan	Low	Development outside planned areas would be more expensive to service and could use up capacity provided for other developments.
Growth rates are medium as per NIDEA forecast	Low	Slower growth could result in excess infrastructure capacity and delays recovering infrastructure costs via development contributions. Faster growth could result in difficulty meeting levels of service.
Waikato and Waipa River CoManagement Arrangements do not change	High	The five yearly review could result in additional staff time to implement recommendations.
Useful Lives will not change	Medium	Insufficient budgets are available for renewals or renewals are undertaken prior to the end of asset life.
Waste Levy and Waka Kotahi NZTA subsidies will remain the same	Medium	Should Council not receive the level of income predicted, expenditure in these areas may need to be reduced
No changes in customer expectations for levels of service	Medium	If levels of service are significantly altered this could impact on operating and capital budgets
Natural Disaster/Emergency events can be funded out of normal budgetary provisions	Low	The scale and nature of the event will determine the effect on Council's financial position