2021-51

Infrastructure Strategy

Hamilton City Council
Te kaunihera o Kirikiriroa


HAMILTON


The BEST
PLACE I'VE LIVED:

Contents

Executive summary

Introduction

Hamilton is one of the fastest growing cities in New Zealand, fuelled by an attractive lifestyle and strong economic prospects. Our community has great expectations for leveraging these opportunities to make Hamilton an ever-better place to live, work, play, and visit.

Hamilton City Council shares that ambition. The Metro Spatial Plan describes how the city and wider region might look in 100 years to accommodate a population of around 500,000 and Our Vision for Hamilton sets out our priorities as we move towards this. They are:

Priority one: A city that's easy to live in.

Priority two: A city where people thrive.

Priority three: A central city where people love to be.

Priority four: A fun city with lots to do.

Priority five: A green city.

The 2021-2051 Infrastructure Strategy sets out the key opportunities and challenges for delivering on this vision and the infrastructure investments planned to meet them over the next thirty years.

Council currently manages a $4.5 billion portfolio of assets and this is expected to grow significantly over the next 30 years. This is a significant investment in our city and Council is focussed on optimising this investment to improve the wellbeing of Hamiltonians.

This means balancing multiple considerations including environmental impacts, the desire for improved amenity, central government legislation, and risk mitigation. It also requires us to make compromises – we can't afford to do everything the community would like us to do.

Challenges

There are a number of specific issues addressed through the Infrastructure Strategy:

Increasing compliance, capacity and resilience of water network

There is a need for significant new infrastructure to be able to deliver on increasing standards for the management of water and to help deliver on the Vision for the Waikato River. This includes additional water and wastewater treatment plants to cater for demand in the subregion and to improve resilience.

There is an increasing need to majorly improve stormwater infrastructure to improve both the capacity of the older parts of the city and to treat stormwater before discharging into the Waikato River.

Enabling growth

Demand for new housing and employment areas in Hamilton continues at a high level. We need to grow at a rate of over 1200 new houses every year, for the next 10 years, to meet forecast demand and new legislation from central government requires council to invest in strategic infrastructure to meet this demand plus a factor of 20%.

Some of this increase in population and employment can be accommodated in the current city – but not all. As any capacity in the existing networks gets used up there will be a need for significant investment in the infrastructure of the existing city to support this intensifying development.

When there is a need to replace and make bigger infrastructure in the existing built up city, this is very expensive. Council will need to do more of these works to enable the city to keep growing in existing suburbs and manage the effects of this development.

Increasing requirements and expectations relating to climate change and natural hazards

Continued climate change impacts the type of infrastructure we need – both to minimise our impact (i.e. to support reduced carbon emissions) and to mitigate the effect of climate change on the city, for example increased erosion of water courses and gullies.

Although Hamilton is less impacted by natural hazard risks than other parts of the country, we are not immune and need to keep improving the resilience of our infrastructure to such risks, especially earthquakes.

Increasing requirements and expectations for transport mode shift

The desire for everyone to be able to get around the city easily and safely requires us to look at walking, cycling, public transport, Micromobility, freight movements, and car-based transport holistically – not as individual or competing components.

The Waikato Expressway will also be completed within 12 months which will change the way we move into, around and through the city. We need to monitor this and identify what future investment is required to maintain an efficient and effective transport network.

Affordability

Sitting across the top of these specific challenges is the broader issue (affecting all councils) of funding the required infrastructure to address them.

The infrastructure funding challenges for Hamilton are expected to increase over the horizon of this strategy as rates increases to existing ratepayers are already forecast to be higher than increases to inflation and household incomes.

We need to do things differently to make it work over the longer term. These changes will need to be marked and significant – incremental and minor changes to how we plan, deliver and fund infrastructure will not be enough.

Our response:

The infrastructure challenges faced by Council are multi-pronged and so too is our approach in meeting these.

Looking after what we have

We have made it a priority to look after what we have – that is to maintain and renew our existing assets to meet current and anticipated needs of our community. Although Hamilton is still relatively 'young', parts of the city are getting to an age where there is need to replace a large number of assets as they reach the end of their life.

Council has planned and forecasted renewals of its current assets, over the next 30 years. The renewal of assets is continually reprioritised based on the greatest need and risk. Councils 2021-31 Long Term Plan increases the budget provision for looking after our assets and includes investment in improving asset information to continue to improve our future forecasting of asset needs and optimising replacements.

Water, wastewater and stormwater

Changes to the water sector have been signalled by central government and Hamilton City Council is actively supporting moves toward the development of regional and national solutions to managing water.

We have also identified $336 million for an additional water treatment plant, $244 million for an additional wastewater treatment plant and over $1.6 billion of investment over 20 years in stormwater improvements to the existing city.

Transport

Council is changing its focus on the type of infrastructure investments it is making to improve moving around the city. More investment in public transport and infrastructure for other modes such as walking and cycling has been included in the plan for the next 10 years. The plan includes part funding of $401 million for a biking and micromobility programme, and $41 million on public transport improvements.

Significant investment is planned to create an integrated transport network that supports all forms of transport. At the same time, many of the investments in expanding and new strategic transport corridors are generally not funded within the 10 years of Councils

Long Term Plan, they have been identified as investment that are likely to be required over the long term.

These longer term investments include $384 million for a cross-city connector, $154 million for four-lane construction of the Ring Road, $322 million for a Northern River crossing and over $300 million for rapid transport improvements.

Community and event facilities

Our visitor destinations and community facilities need investment to make them modern and fit-for-purpose. Key projects identified in the Infrastructure Strategy include $76 million for development of the WEL Network stand at FMG Waikato Stadium, $44 million for a new library hub in the northwest and $72 million for renewing buildings at Waterworld.

Parks and recreation

Council has earmarked nearly $20 million to deliver the first part of its Nature in the City strategy at a full cost of $39 million. This work is focussed initially on the city's gully network to help restore the city's biodiversity.

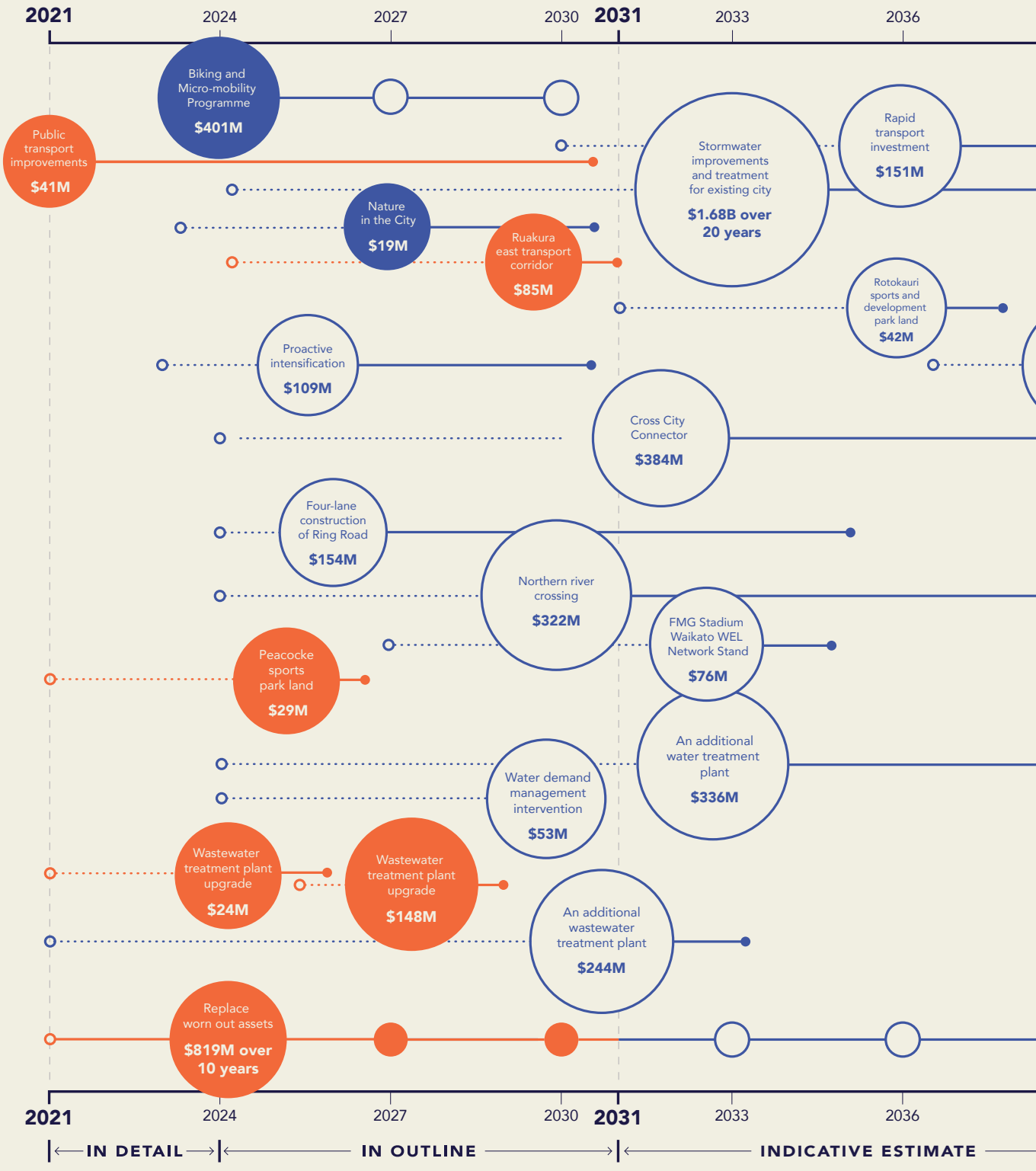
We have also planned significant investment in land purchase and park development in Rotokauri and Peacocke to support growing communities in those areas.

A summary of key infrastructure projects and timing is shown on the next page.

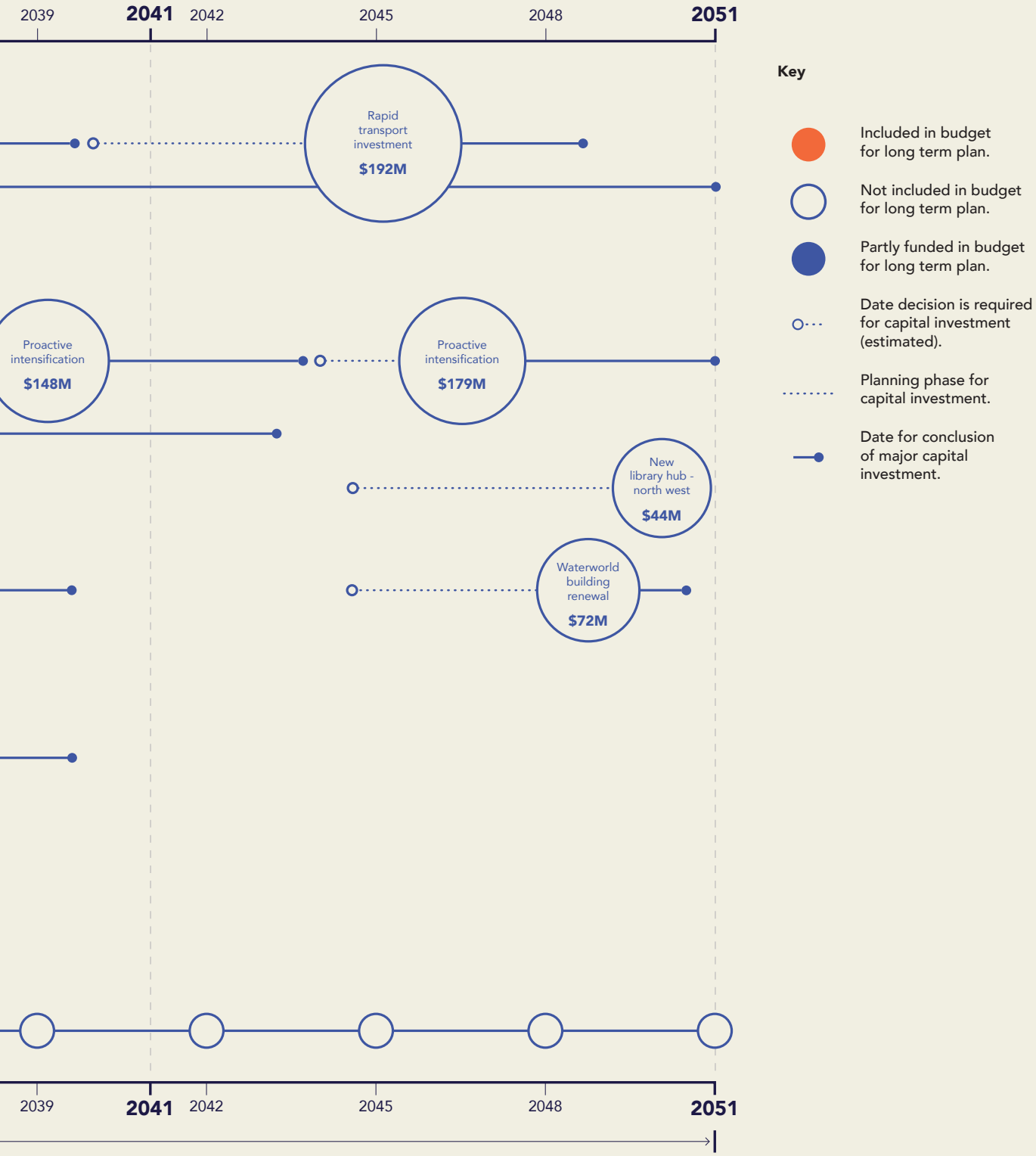
Looking beyond – the next 30 yea

Significant capital expenditure decisions required

Timeline of major projects



rs



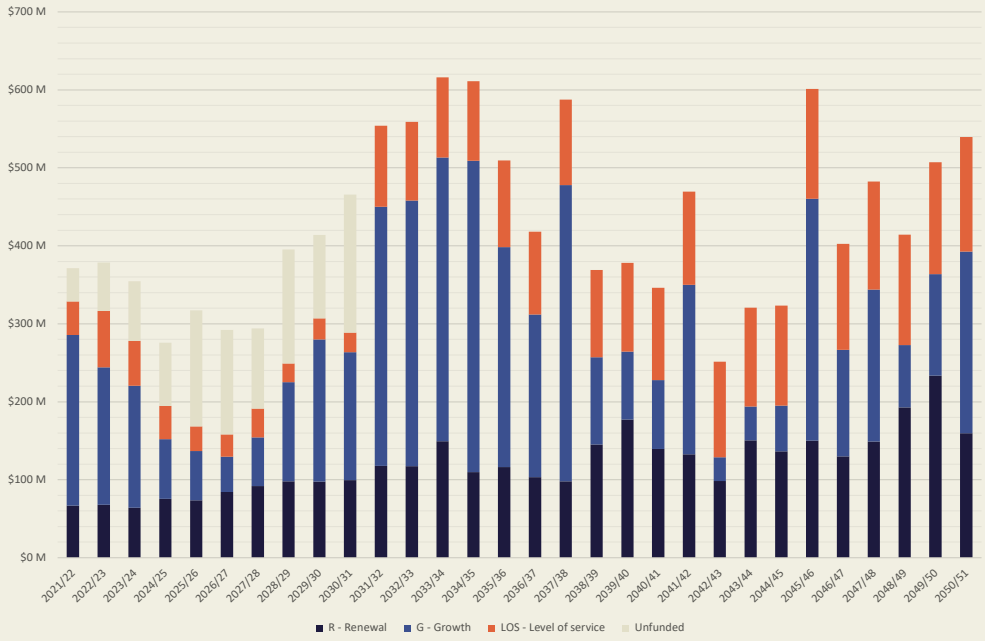
Key

- Included in budget for long term plan.
- Not included in budget for long term plan.
- Partly funded in budget for long term plan.
- Date decision is required for capital investment (estimated).
- Planning phase for capital investment.
- Date for conclusion of major capital investment.

Financial strategy

Capital investment

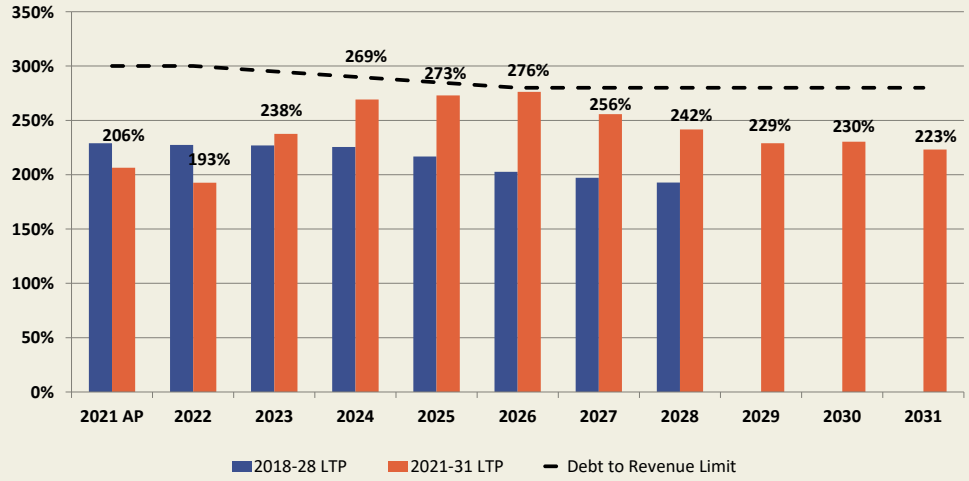
The estimated requirement for capital investment over the next 30 years is estimated at $12.8 billion, as shown in graph below:



This includes $1.07 billion of 'unfunded' infrastructure in the first ten years of the plan – these are projects which the Council would like to do but are unaffordable within the current financial strategy.

Debt

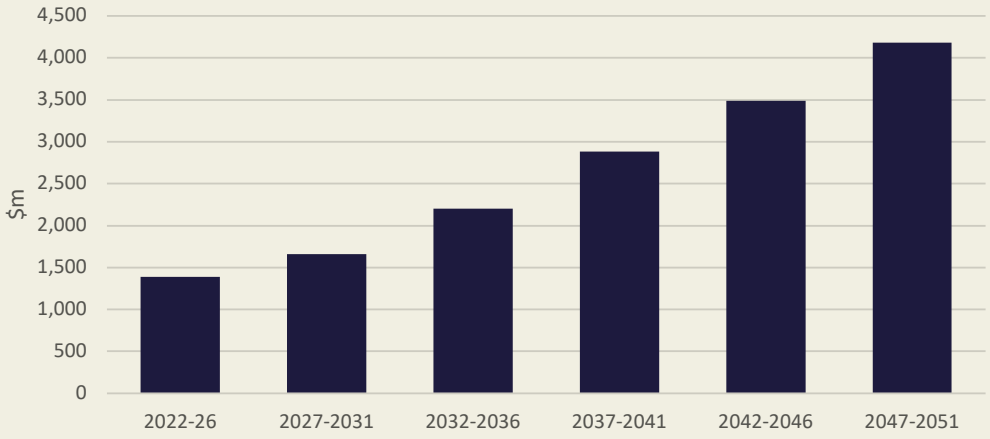
To fund the increased level of investment in new and existing assets over the next ten years, Council expects to increase its debt, but remain below a prudent debt to revenue limit of 280%.



Operational forecasts

Estimated operating expenditure for thirty years is expected to increase in line with the growth in asset value as shown in the graph below.

The forecasted operational costs include estimates of what it will cost to deliver the services that we currently provide. There is significant increase associated within asset related costs of interest, depreciation and maintaining new assets.



New funding models

New funding models are being explored, particularly for infrastructure growth. These models mean that other parties may end up providing and charging for necessary infrastructure. While this might mean that development can occur – the infrastructure will come at a cost.

We are also actively exploring ways to capture the increase in value of land from Council zoning decisions and using this to help pay for the necessary infrastructure to develop the area.

We are also partnering with others to deliver improvements to the city – this may take the form of working with philanthropic groups to fund/co-fund certain community infrastructure.

PART 1: About the strategy

Key terms

Activity management plan (AMP)	A long-term plan which is a written representation of the intended asset management programmes over the whole life the assets to provide a specific level of service in the most cost-effective manner.
Service level	The amount or quality of a service or activity that is provided to the community. Also referred to as 'level of service'.
Renewal	A replacement of an existing asset at the end of its useful economic life.
Core network infrastructure	Infrastructure that is required to deliver water, wastewater, stormwater or transportation services.
Financial strategy	The Council's agreed long-term approach to financial management as contained in the 10-Year Plan.
Strategic infrastructure	Significant infrastructure that is required to allow the development of growth cells or ongoing development of within the city. Is generally provided by the Council.
Local infrastructure	Infrastructure that is required to provide services within a development, generally provided by developers. This can be either public infrastructure vested in the Council or private infrastructure.
Community infrastructure	Infrastructure and buildings that are needed to provide community services such as aquatic facilities, playgrounds and libraries.
Public infrastructure	Infrastructure that is owned and managed by the Council or another public entity. Public infrastructure may have been constructed by developers and vested in the Council.
Private infrastructure	Infrastructure that is not owned or managed by the Council or another public entity.
HIF	Housing Infrastructure Fund (HIF) is a central government backed funding arrangement that provides 10-year interest free funding for specified growth projects.

General assumptions

The Infrastructure Strategy has been prepared using the following overall assumptions which are consistent with the significant forecasting assumptions contained in the 2021-31 Long-Term Plan.

Overall assumptions

Assumption	Level of uncertainty and potential impact
All financial information in this strategy includes inflation unless stated otherwise.	High degree of uncertainty as based on long-term inflation forecasts that are likely to change and errors would have a compounding effect over time. Increased or decreased inflation could have a material impact on the accuracy of financial forecasts. This would result in the need to either decrease or increase funding in order to continue to deliver the same service levels and programme. Inflation rates used for the first 10 years are outlined in the 2021-31 Long-Term Plan assumptions. The following annual inflation rates have been used beyond year 10: Operational expenditure 2.9% Capital expenditure: 2.4%.
Forecast capital expenditure is based on gross (total project) costs.	Medium level of uncertainty. Some projects may attract funding from other sources. These sources may include subsidies, grants or be part funded by developers. This could have a significant impact on the final cost of projects to the Council.
Forecast operational expenditure is based on anticipated gross cost to the Council and include indirect costs of providing the service (including depreciation, interest costs and overheads).	High level of uncertainty as revenue from operational activities is not included and is difficult to forecast a long-term. The potential impact of this uncertainty is relatively low, as adjustments can be made to budgets as trends in revenue are monitored and can be predicted over the shorter term.

Assumption	Level of uncertainty and potential impact
An additional extra 12,500 houses over the next 10 years and 32,000 over the next 30 years are required to meet the housing needs for additional people.	Medium level of uncertainty as based on independent demographic projections. These could be materially impacted by unforeseen changes to migration patterns – both international and domestic. This could significantly alter the nature and timing of infrastructure required to support growth.
Waka Kotahi Transport Agency subsidies continue as currently provided at a rate of 51% subsidy for eligible projects.	Medium level of uncertainty as based on assumed subsidy rates. Changes to rates or project eligibility criteria would have a large impact on the net cost of transport projects for the Council.
There will be no significant changes to legislation that would impact on the need for and nature of infrastructure.	High level of uncertainty as legislative change is probable over the 30 years of the strategy. The potential impact of future changes could be high if legislation results in additional required expenditure to comply with new standards, new funding opportunities/ mechanisms or if it requires the Council to deliver higher service levels than planned at this point.
New resource consents for three waters activities and the Waikato River are renewed and with similar conditions.	High degree of uncertainty as the impact of Healthy Rivers planning regime is new and was not in place when current consents were gained. If there was a requirement for significantly higher discharge standards, this will likely result in the need for additional unplanned expenditure.
There will not be any natural disasters resulting in widespread damage or remedial work to the Council's infrastructure.	Medium level of uncertainty as natural disasters cannot be foreseen and can have a significant impact on infrastructure and financial requirements for remedial works. While the Council is insured for natural hazards, this would not fully cover the costs of a highly-damaging event.

Assumption	Level of uncertainty and potential impact
There is sufficient capacity within the professional services and contractor market to undertake the capital programme.	High level of uncertainty as there are high levels of forecasted capital expenditure from other central and local government agencies in the upper North Island as well as ongoing strong demand for new housing and development. Impact could be high as budgets may not be sufficient to undertake the works as planned. Council has included a higher capital inflation rate in its budget (forecasted by BERL) to help mitigate this risk.
There is no significant change to service delivery models for any of the activities in this strategy.	High level of uncertainty as the Council is working with government to consider a separate entity for the operation and management of water and wastewater services.
Basis for preparation of financial forecasts.	The capital programme budgets have been developed using a base estimate plus a nominal contingency (50 percentile cost accuracy). This approach is consistent with previous Long-term Plans and results in budget provisions which assume a risk management approach to actual costs.

Assumptions relating to each infrastructure activity area are provided in the activity areas of this strategy.

The Strategy's purpose

The purpose of the 30-Year Infrastructure Strategy (the Strategy) is to identify significant infrastructure challenges for Hamilton City Council over the next 30 years, and to identify the principal options for managing those challenges and the implications of those options.

The Strategy outlines how the Council intends to manage its infrastructure assets, including the need to renew or replace existing assets, respond to growth or decline in demand for services, and provide for the resilience of its assets.

It takes a long-term view of the city's future infrastructure needs and is a statement of current assumptions and thinking on that will be required to address the major issues facing the city over the next 30 years.

The strategy is not a comprehensive 30-year programme of works. While it draws on the long-term planning of the Asset Management Plans for Councils activities, the first 10 years funded and unfunded programme is of a higher confidence and completeness than indicative estimates for beyond year 10. These estimates will be refined and change over future infrastructure strategies.

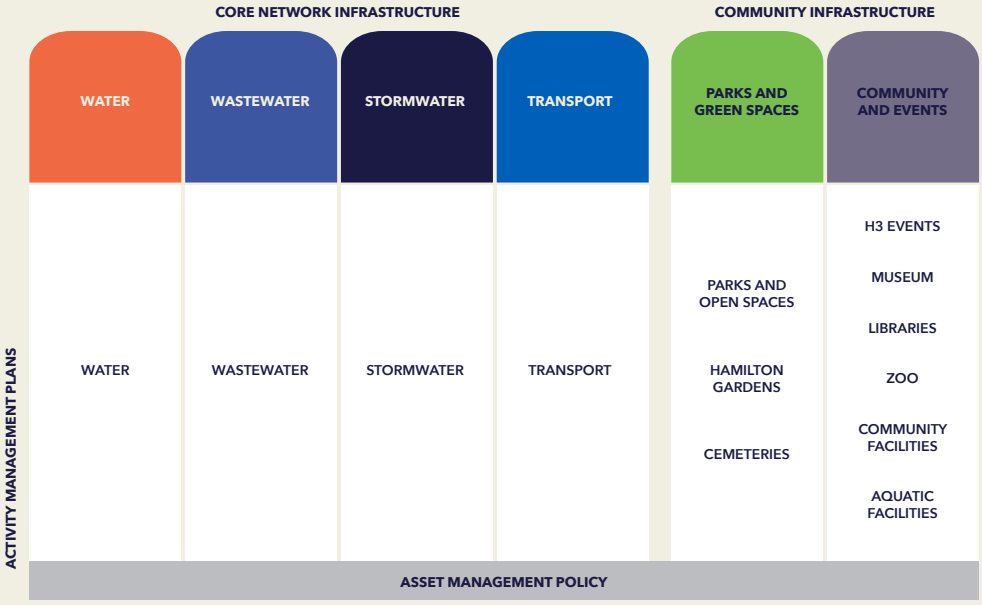
Structure of The Strategy

The Strategy outlines the Council's approach to managing and investing in the City's infrastructure including what will be required, when, and how much it will cost across the following infrastructure categories:

- Water
- Wastewater
- Stormwater
- Transport
- Parks and Recreation
- Community and Events.

The Strategy categories draws together information from 13 infrastructure related Activity Management Plans (AMPs) of the Council.

Figure 1: Infrastructure strategy categories



The Strategy has been presented in three parts:

- **Part one** provides context and background to The Strategy. It outlines Councils Infrastructure portfolio, how The Strategy was developed and the drivers for investment in infrastructure. It includes an overview of the significant capital investment decisions that will be required.
- **Part two** sets out how infrastructure delivers on the five community 'priorities' that Council has identified:
    - Shaping a city that's easy to live in – Ahuahungia teetehi taaone e tau ai te noho ki roto.
    - Shaping a city where our people thrive – Ahuahungia teetehi taaone e puaawai ai ngaa taangata katoa.
    - Shaping a central city where people love to be – Ahuahungia te pokapuu o teetehi taaone e arohaina ai e te taangata.
    - Shaping a fun city with lots to do – Ahuahungia teetehi taaone ngahau e tini ai ngaa kaupapa papai hei whai.
    - Shaping a green city – Ahuahungai teetehi taaone tiaki taiao.

This section in The Strategy restates Council's vision for Hamilton and investment planned for each priority.

- **Part three** forecasts infrastructure requirements for the next 30 years by the four core network infrastructure and two community infrastructure activity groupings shown above. This part also outlines the basis for these estimates and assumptions used in their development.

Figure 2: Infrastructure Strategy Parts

Part One Context and background Drivers Development of the strategy						
Part Two - Council's five priorities Overview and focus areas External influences Infrastructure challenges Funded and unfunded						
		1 A city that's easy to live in	2 A city where our people thrive	3 A central city where people love to be	4 A fun city with lots to do	5 A green city
Part Three - Most likely Scenario infrastructure areas	Water	✓	✓	✓		✓
	Wastewater	✓	✓			✓
	Stormwater	✓				✓
	Transport	✓	✓	✓		✓
	Parks and Open Spaces	✓		✓	✓	✓
	Community and Events	✓	✓	✓	✓	✓

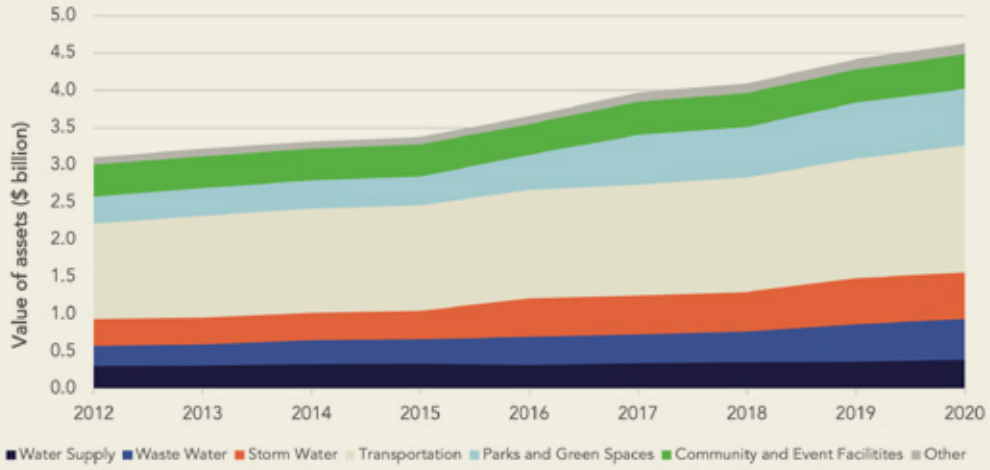
Council's infrastructure portfolio

Council is responsible for a large number and value of assets in order to provide services to the community.

Increased number and value of assets

The portfolio comprises over $3 billion of Core Infrastructure assets and over
$1 billion of community infrastructure. Since 2012 the value of Councils assets has increased by nearly 50% from around $3 billion to $4.5 billion.

Figure 3: Value of Council assets by activities 2012-2020



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.

Over recent years, there has been a significant increase in both the scale of Council's capital works programme and the value of assets that have been vested in Council. This is forecast to continue over the coming years.

The value of Councils asset base is also impacted by periodic revaluation of Council's assets. Revaluations occur between every 1 - 3 years depending on the asset class.

The combined effect of new infrastructure assets being created, and revaluations of Council owned assets has seen an increase of over 46% since 2012 in the value of the portfolio (from $2.29 billion in 2012 to $3.35 billion in 2020).

While all asset classes have had an increase in values, the largest increases in asset values have been seen in Parks and Open Spaces and Wastewater assets.

Asset values are anticipated to increase in the future due the rising costs of infrastructure and improvements to asset data and revaluation methodologies.

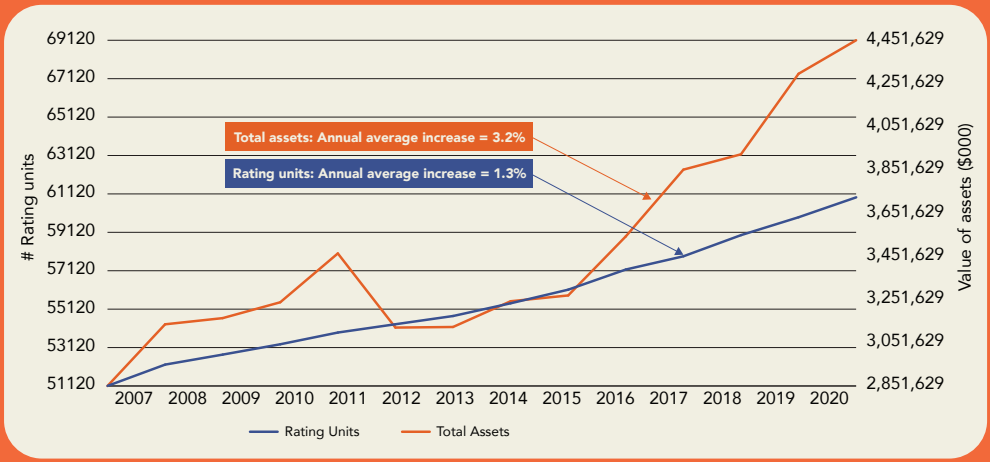
An ongoing challenge for Council and the community will be having the ability to operate, maintain and renew greater number of assets within the financial capacity available and defined in Council's current and future financial strategies.

Ability to fund new assets

This growth in value of Council's assets – and the associated costs to maintain and operate them – is faster than the increase in the ratepayer-base to pay for them. Council is therefore planning in its 2021-31 Long-Term Plan to increase revenue through its setting of rates, fees and charges or other forms of funding to meet the difference.

The figure below compares the annual rate of increase between the value of Council assets and the number of rating units within the city. This shows that the growth in Council's asset base is increasing faster than new ratepayers and means that all other things being equal, additional revenue is required from existing ratepayers and sources.

Figure 4: Average increase in value of Council assets and Rating units 2007 -2020



Between 2012 and 2015 the growth rates were similar. However, during this post Global Financial Crisis period, there was a significantly constrained programme of new infrastructure and this level of investment was not sustainable over a longer term as Council needed to increase investment to meet community and development needs for a growing city.

To enable the city to grow, Council needs to invest in large strategic infrastructure up front and ahead of developers investing in more local infrastructure. As the city grows in multiple directions that demand for this up front strategic infrastructure ahead of development adds to the Council asset base growing faster than revenue to pay for the investment.

Setting the scene

Council's infrastructure story is one that is much wider and more complex than what is required to be included in The Strategy. However, it is important to acknowledge the environment in which councils are operating to fully appreciate the huge challenges being experienced not only by Hamilton City Council, but all councils.

Infrastructure funding models of local government in their current form is challenging over the long term. There are significant challenges with affordability as councils are revenue constrained taking rating affordability into context with aging assets and higher standards consistently being required.

A step change and re-think on local government funding and infrastructure provision is required as the current model is unsustainable and does not address the challenges facing the sector. Councils are finding it difficult to deliver on government and community aspirations for liveable and thriving communities.

The already signalled reforms of the waters sector are a key first step in this required reshaping for infrastructure management, funding and service delivery. Decisions on the future delivery of water services will have a significant impact on the ability of councils to efficiently deliver other services to meet community aspirations.

However, we currently operate within a defined financial and regulatory environment that limits how we can deal with these issues.

This strategy has been developed on the basis that Council will continue to deliver all of its current services and therefore discussion, direction and estimates are provided for all current three waters activities of Council.

Key drivers

In developing The Strategy, a number of contextual drivers have been taken into account that impact on the planning and delivery of infrastructure. As a broad theme, many of these drivers relate to increased requirements from central government legislation and policy direction.

The key drivers can be summarised as:

1: Increasing compliance, capacity and resilience costs to deliver our business particularly three waters.

2: Legislative requirements to enable growth.

3: Increasing requirements and expectations relating to climate change.

4: Increasing requirements and expectations for transport mode shift.

The 2021-31 Long-Term Plan has been developed to balance the impacts of these drivers and the financial capacity of Council and the community as defined by Council's financial strategy.

While the Long-Term Plan contains many capital projects and programmes to respond to the below drivers, not all responses have been able to be accommodated within the available funding. The implications of the key capital projects that are unfunded in the 10 years of the Long-Term Plan are outlined in the activity sections of this Strategy (from page 102).

Driver 1: Increasing compliance, capacity and resilience costs to deliver our Three Waters business

Council budgets are significantly challenged by the increasing costs to comply with various legislation and standards. Although this applies in multiple parts of our business, its budget impacts are most keenly felt in our Three Waters business – water supply, wastewater and stormwater.

Central government has initiated a process of three waters regulatory reform which has seen the development of legislation to establish a new Water Services Regulator, Taumata Arowai, that will oversee and enforce a new drinking water regulatory framework with additional oversight for wastewater and stormwater networks.

A review of the Drinking Water Standards of New Zealand is currently underway, and a new Water Services Bill is proposed. Once the bill is enacted, it will impose new duties, obligations

and functions for drinking water suppliers, particularly around risk management, giving effect to Te Mana o te Wai, training and competency of operational staff and response to customer complaints.

New national environmental standards for freshwater and a new National Policy Statement for Freshwater Management came into effect in September 2020 and aim to prevent further loss and degradation of freshwater habitats and introduce further controls on high risk activities.

Waikato Regional Council are currently proposing an amendment to the Waikato Regional Plan, Healthy Rivers Wai Ora Plan Change 1, which looks to implement new objectives, policies and rules to manage discharges and give effect to the National Policy Statement for Freshwater Management and Te Ture Whaimana o Te Awa o Waikato – the Vision and Strategy for the Waikato River.

To maintain our current level of service to the community and meet the growth challenge, whilst complying with more stringent safety, traffic management and environmental standards, significant additional investment is required in both our Three Waters infrastructure investments and our Three Waters operations over the next 10 years and beyond.

Driver 2: Legislative requirements to enable growth

The continued attraction of Hamilton as a place to live and do business has, as similar for the other growing cities in New Zealand, resulted in changes in central government direction through the National Policy Statement on urban development. This requires Council to provide a defined development capacity and infrastructure to support this growth. This requirement for investment in infrastructure to enable urbanisation, and the commitment to our new communities like Peacocke has added additional investment pressure.

The other facet of recent government reforms driving increased costs for Council in the Long-Term Plan is the requirement to make significant changes to our District Plan.

A review of Council's District Plan has been included in the early years of the Long-Term Plan. The outcome of this review is not known yet but in anticipation a funding provision for infrastructure to support land use changes and there is also a high likelihood that additional provision will be required.

Hamilton city is geographically small and meeting demand for growth is being considered in the context of surrounding areas through the collaborative development of the Hamilton-Waikato Metropolitan Plan (Metro Spatial Plan). This plan recognises Hamilton is at the core of a metropolitan area which extends from Taupiri in the north to Te Awamutu and Cambridge in the south. The Metro Spatial Plan looks at a scenario of 500,000 people living in this area over the next 100 years.

The Metro Spatial Plan considers how we can best plan for our long-term future to maintain and improve our liveability through the way we grow and how we move around. It sets the broader context of land use that is given effect through district plans and infrastructure planning and investment decisions.

Driver 3: Increasing requirements and expectations relating to climate change

In 2019 the Government passed the Climate Change Response (Zero Carbon) Amendment Act providing a framework for New Zealand to contribute to global efforts to limit global warming. The legislation included various targets for New Zealand to reduce its net emissions in line with the Paris Agreement. The Act also included disclosure requirements for councils in relation to our adaptation action, highlighting that councils are responsible for incorporating climate change impacts into their asset management. Furthermore, in December 2020 the Government declared a climate change emergency and committed to a carbon-neutral government by 2025.

In September 2020, Hamilton City Council adopted its 2020/2021 Climate Change Action Plan which set out our targets for our Council emissions and a roadmap to meet our climate change responsibilities these targets.

Driver 4: Increasing requirements and expectations for transport mode shift

The final Government Policy Statement on Land Transport 2021 (GPS) was released in September 2020. It will come into effect 1 July 2021 and has been used as an input into Council planning for the transportation activity along with the Regional Transport Committee in the development of the Regional Land Transport Plan.

The GPS outlines the direction for government investment into the land transport system from the National Land Transport Fund (NLTF) over the next 10 years. It influences decisions on how money from

the NLTF will be invested across activity classes by Waka Kotahi – New Zealand Transport Agency via co-investment with approved organisations such as Council. It also guides local government and Waka Kotahi on the type of activities and projects that should be included in the Regional Land Transport Plan and the National Land Transport Programme for delivery across both the State Highway and local road networks.

The priorities of the GPS 2018 included a significant shift towards different modes of transport. The GPS 2021 develops this further. Waka Kotahi – New Zealand Transport Agency, Hamilton City and partners have recently developed the Hamilton-Waikato Metro Area Mode Shift Plan to describe how a balanced transport system can be developed.

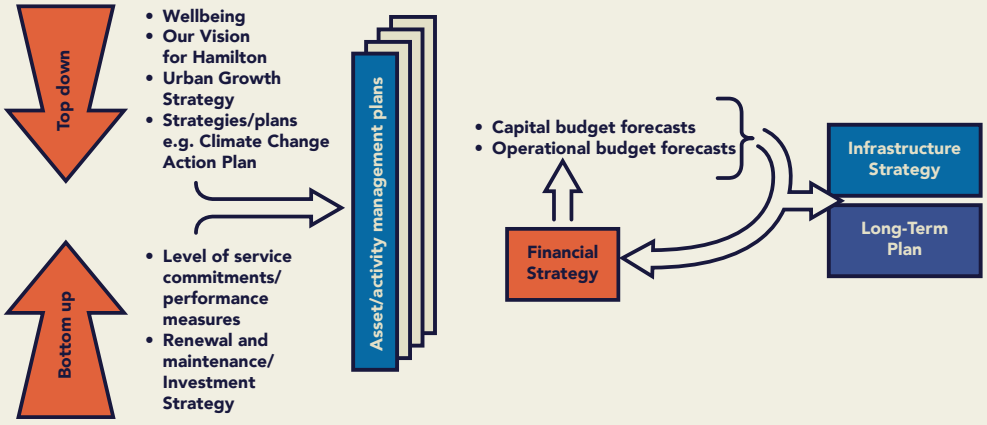
In the 2021-31 Long-Term Plan Council has aligned its Transportation activity and investments to the direction outline in the GPS as much as possible to deliver on these outcomes and maximise available funding to deliver these outcomes.

Changes in transport mode shift to public transport. Walking and cycling will also help to achieve reduction in carbon from transport activities and contribute to climate change mitigation actions.

How The Strategy was developed

Council has developed its Infrastructure Strategy from both a 'bottom up' and 'top down' approach. What this means is that Council considers the strategic context, and external environment in which infrastructure exists, at the same time that it develops operational requirements, responses and forecasts through developing its asset management plans to create a 30-Year Infrastructure Strategy.

Figure 5: Development of the Infrastructure Strategy



Capital and operational forecasts that are developed in initial asset management plans are moderated based on affordability as defined in the Council's Financial Strategy. This may take a few iterations of optimising the programme to ensure that the 10 years of the Long-Term Plan balances the wants, needs and risks facing the community with affordability for current and future ratepayers and users.

The Infrastructure Strategy outlines investments that are both funded and unfunded in the first 10 years as well estimates of longer term investments in infrastructure that are anticipated.

Hamilton Waikato Metro Spatial Plan

The Hamilton Waikato Metropolitan Spatial Plan (MSP) is a vision and framework for how Hamilton City and the neighbouring communities within Waipaa and Waikato districts will grow and develop over the next 100 years. It is a key direction setting document for the future development of Hamilton and its surrounds. It is a new approach to planning for the long-term future across territorial boundaries and jurisdictions.

As it sets out land use strategy for the longer term, this has a major impact on future infrastructure requirements and as such the MSP is a major top down influence on the preparation of this Infrastructure Strategy.

The Metro Spatial Plan has clearly identified future development opportunities and what needs to be put in place to deliver on these. It sets out a future metro area made up of development nodes with increased density around rapid transit corridors, taking into account areas we want to protect and preserve.

The plan will enable infrastructure investors, including councils, to invest in the right places at the right times with the aim of providing affordable housing options, employment opportunities, safe and more liveable communities, and a wide range of economic benefits for development and growth.

Carefully planning how the metropolitan core and its centres grow means we can ensure a population scale and distribution that supports the delivery of transformative infrastructure for our area from metro-scale wastewater management solutions to a high-quality public transport network planned around where and how communities will grow. Carefully managed growth will also limit negative outcomes including further environmental deterioration, increasing housing costs and CO2 emissions from transport, and will contribute to restoring the health and wellbeing of the Waikato River and the environment.

The MSP targets future population growth areas suitable for medium to high density housing and mixed-use areas. These are purposefully located alongside current and future transport infrastructure that can provide a high-quality transport network whether that be walking, cycling or by rapid and frequent public transport connections.

The MSP will also deliver on objectives outlined in the Government's Urban Growth Agenda (UGA) designed to remove barriers to the supply of land and infrastructure and allow cities to grow up and out and the National Policy Statement on Urban Development 2020. It supports the Hamilton-Auckland Corridor (H2A) connecting two of New Zealand's fastest growing cities and ensuring well-functioning urban areas for all people, communities and future generations.

Figure 6: Metro Spatial Plan – Drivers and Implementation

<table>
<tr><td></td><td colspan="4">Future proof partnership
(enduring governance structure)</td></tr>
<tr><td>Drivers and direction

Statutory and strategic drivers</td><td colspan="4">• Urban growth agenda
• Vision and strategy/Te Ture Whaimana o Te Awa Waikato
• NPS freshwater
• GPS on land transport
• Climate change programme
• Regional and local strategies
• Arataki (NZTA 10 year plan)</td></tr>
<tr><td>Set strategic direction

Non-statutory direction</td><td colspan="4">Metro Spatial Plan
(non statutory)</td></tr>
<tr><td rowspan="4">Implement strategic direction

Through statutory documents and business case development</td><td colspan="4">MSP incorporated into Future Proof phase 2 strategy update
(statutory weight)</td></tr>
<tr><td>Urban growth</td><td>Water</td><td>Transport</td><td>Other infrastructure</td></tr>
<tr><td>Regional Policy Statement, District Plans, Long-Term Plans, Regional Plans, Urban Growth Strategies</td><td>Long-Term Plans, 30-year Infrastructure Strategy</td><td>Long-Term Plans, Regional Land Transport Plan, Regional Public Transport Plan, 30-year Infrastructure Strategy</td><td>Infrastructure Strategy, Long-Term Plans</td></tr>
<tr><td>Structure Plans, Masterplans, area plans</td><td>Programme Business Case, Detailed Business Case, Structure Plans</td><td>Programme Business Case, Detailed Business Case, Structure Plans</td><td>Programme Business Case, Detailed Business Case, Structure Plans</td></tr>
<tr><td colspan="4">Central government funding and financing tool kit
Other funding options</td></tr>
</table>

The Metro Spatial Plan's Vision

The vision for the Hamilton-Waikato metro area is to be a highly liveable and sought-after place to live in New Zealand. The metro area will be a place where our people can easily access employment, education and health facilities, serviced by reliable and efficient multi-modal transport network.

The Metro Spatial Plan (MSP) identifies several transformational moves, all of which require, or have an impact on the planning and provision of infrastructure within Hamilton:

- Waikato River – celebrating the Waikato River as the defining ecological feature connecting the metro area to the heart of a blue-green network supporting environmental and recreational use and creating a sense of place.
- A radical transport shift – a multi-modal transport network, connecting the metro area and facilitating a radical shift to using public transport through the establishment of a rapid and frequent public transport network shaped around where and how our communities will grow.
- A vibrant metro core and lively metropolitan centres – growing Hamilton central city as our civic, administrative, cultural and commercial metro core. Alongside lively metropolitan centres, well connected by public transport and safe walking and cycling networks, where people can afford to live, work and play.
- A strong and productive economic corridor – establishing an economic corridor that links the highly productive employment areas between Ruakura, Hamilton central city and north to Horotiu and Ngaruawahia.
- Iwi aspirations – enhancing the environmental health and wellbeing of the Waikato River in accordance with Te Ture Whaimana o Te Awa o Waikato – Vision and Strategy for the Waikato River, while supporting iwi in embracing social and economic opportunities within the metro area with a specific emphasis on Hopuhopu and Ruakura.
- Thriving communities and neighbourhoods – enabling quality denser housing options that allow our natural and built environments to coexist in harmony increasing housing affordability and housing choice to meet the needs of growing and changing communities

Taking the MSP direction as a starting point and overlaying Council's priorities, the Infrastructure Strategy starts to deliver on aspirations of the future metro area.

At a high level, this includes significant investment in the transport network to move towards a rapid transit public transport future, waters investment in sub-regional solutions, and network infrastructure to support increased housing densities in identified locations.

PART 2: Council's five priorities

In December 2019, Council commenced a conversation with the community to understand what is important to them to improve their wellbeing. The conversations with community resulted in the development of the vison for Hamilton as outlined in 'Our Vision for Hamilton Kirikiriroa' which identifies five priorities:

Shaping a city that's easy to live in – Ahuahungia teetehi taaone e tau ai te noho ki roto.

Shaping a city where our people thrive – Ahuahungia teetehi taaone e puaawai ai ngaa taangata katoa.

Shaping a central city where people love to be – Ahuahungia te pokapuu o teetehi taaone e arohaina ai e te taangata.

Shaping a fun city with lots to do – Ahuahungia teetehi taaone ngahau e tini ai ngaa kaupapa papai hei whai.

Shaping a green city – Ahuahungai teetehi taaone tiaki taiao.

Within each priority, five key focus areas have been identified to provide a more comprehensive description of the outcomes Council wants to achieve. The five focus areas for each priority are outlined under each priority in the following section. The budget for both the 2021-31 Long-Term Plan, and the 2021-2051 Infrastructure Strategy have been developed to make the biggest impact on the five priorities and identify a number of projects that will deliver on community wellbeing.

This direction builds on the growth focused direction of the previous Council's decisions and reinforces the objective of looking after our existing infrastructure while increasing investment to improve the wellbeing of our community.

The five priorities have impacted planning and investment decisions in the
2021-31 Long-Term Plan for:

- Looking after what we've got – renewals
- Developing our Services – level of service increases
- Meeting additional demand for growth.

Priority 1. A city that's easy to live in

Ahuahungia teetehi taaone e tau ai ten oho ki roto

WHAT WE WANT

We want a city that's easy to live in, explore and connect.

Hamilton is small enough to enjoy a strong sense of community but big enough to be vibrant and interesting.

As we continue to evolve into a metropolitan centre, we have the game-changing opportunity to become a 20-minute city.

A 20-minute city is about creating liveable neighbourhoods with local access to amenity that is important to residents.

It's also about linking existing destinations, facilities, places of work and education with safe walking, cycling and public transport connections so our residents can safely access most of the things they need within 20 minutes.

We want our children to be able to cycle safely to school and for people of all ages and abilities to easily access different neighbourhoods, from one side of the Waikato River to the other – by whatever transport option we choose.

People in our city want to live in lively, safe communities with shared identities and public facilities such as libraries, playgrounds and community hubs accessible to everyone. It should be easy for us all to look after our mental and physical health by enjoying our city's green and open spaces, including the Waikato River paths and stunning places like the Hamilton Gardens.

By investing in cyclepaths and accessways, and utilising our beautiful gully network, we'll be able to create a city that our people can easily enjoy and explore. But we'll also need improvements in public transport – so we'll work with partners like Waikato Regional Council to get better bus services.

And we'll need to focus on delivering the amenities and services that build strong communities, both in our existing neighbourhoods and for our new ones, as well as supporting a mix of housing types – including affordable housing.

It's about finding the right balance between revitalising our established neighbourhoods with investing in new liveable suburbs required for the number of new people choosing to call Hamilton home.

Focus areas

1. We'll prioritise building connected and safe walkways and cycleways that allow us to move around our city quickly and easily and bring our neighbourhoods together.
2. We'll revitalise our existing neighbourhoods and invest in the creation of our new neighbourhoods to make sure we have a liveable, sustainable city.
3. We'll encourage new developments in Hamilton to include a mix of housing, including affordable housing options.
4. We'll enable and support strong public transport connections which help Hamiltonians get easy access to essential services such as education, health centres and supermarkets.
5. We'll put more focus on our neighbourhoods having a community identity and supporting community spaces across our city.

External influences on delivering this priority

External influence document/website	Focus/purpose of document	How it impacts delivery of this priority
National Policy Statement on Urban Development 2020 (NPS-UD 2020)	The NPS-UD 2020 requires councils to plan well for growth and ensure a well-functioning urban environment for all people, communities and future generations. It removes restrictive barriers to development to allow growth 'up' and 'out' in locations that have good access to existing services, public transport networks and infrastructure.	It has set timelines for delivery over the next two years and requires changes to the District Plan to increase residential intensification, provide for a mix of housing options around key centres (hubs), remove minimum parking requirements and to enable additional public transport. All of these changes impact on the timing and delivery of infrastructure. Council is also required to prepare a Future Development Strategy to spatially identify where long term growth should happen.
Kainga Ora – Homes and Communities and Urban Development Act 2020	The Urban Development Act 2020 provides a streamlined approval process for complex and transformative development projects and gives Kainga Ora (the Crown agency to transform housing and urban development) with a tool-kit of development and land acquisition powers.	It brings together multiple processes into a single, more streamlined process. This will result in the planning, infrastructure and funding for a project being agreed up front, providing greater certainty and coordination for developers and investors.

External influence document/website	Focus/purpose of document	How it impacts delivery of this priority
Climate Change Response (Zero Carbon) Amendment Act 2019	Provides a framework by which New Zealand can develop and implement clear and stable climate change policies that: • Contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels. • Allow New Zealand to prepare for, and adapt to, the effects of climate change.	Highlights the shared responsibility for responding to climate change, and influences investment in alternative transport options.
Review of the Resource Management Act 1991 (RMA)	The report from the Resource Management Review Panel recommends repealing the Resource Management Act 1991 and replacing it with two Acts, a Natural and Built Environment Act and a Strategic Planning Act, as well as proposing a new Managed Retreat and Climate Change Adaptation Act. It also recommends that planning be undertaken co-operatively by councils at a regional level, involving a spatial strategy and a combined plan (which includes the current regional policy statements, regional plans and district plans).	Changes to the Hamilton City Council Planning Framework in 2021/22 as a result of the NPS-UD and other requirements will now also need to be cognisant of the emerging Resource Management Act 1991 changes.

Key infrastructure challenges we're facing

Transportation

- Developing our current transport system to have less reliant on cars, to encourage increased use of alternative modes and saving future costs for transport and meeting climate change targets and objectives.
- Building a complete inclusive transport system that balances different mode choices and population characteristics.
- Delivering on Vision Zero and making the transport system safer to reduce serious injuries and deaths.

Parks and Open Spaces

- Completing the strategic connections between and through existing parks – connecting the city's neighbourhoods and centres.

Libraries

- Having the right facilities to deliver modern library services and delivering these in facilities with other services for the community.
- Ensuring that as the city grows and develops our libraries network is optimal with size and number of facilities.
- Meeting changing community expectations for collections and investment in new technology.

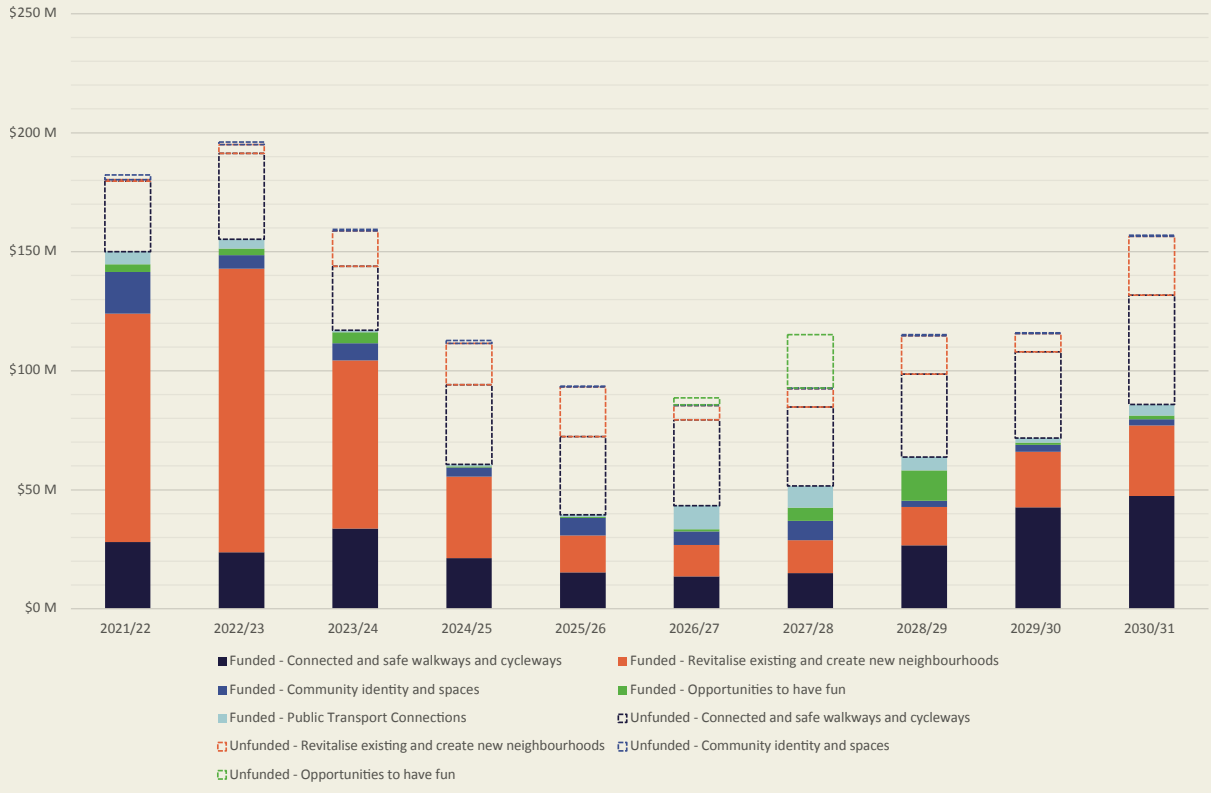
Water and Wastewater

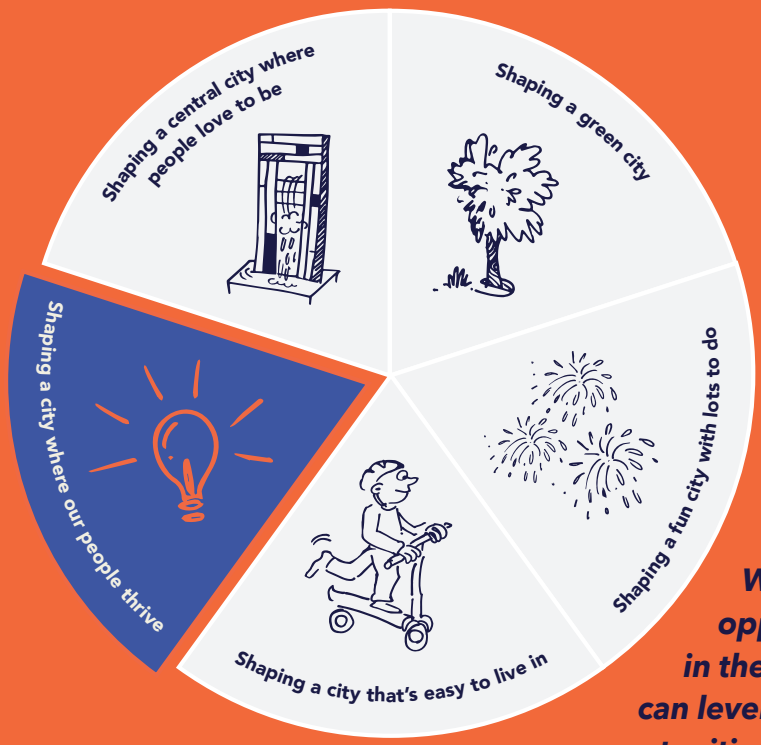
- Ensuring that the necessary infrastructure is available to support the implementation of the land use strategy including the redevelopment of identified existing parts of the city.

Delivering in the next 10 years

The following graph shows the capital investment that is both funded and unfunded to deliver the focus areas of this priority.

Figure 7: A city that's easy to live in - Funded and Unfunded Capital forecasts 2021-2031





Priority 2. A city where our people thrive

Ahuahungia teetehi taaone e puaawai ai ngaa taangata katoa

WHAT WE WANT

We want to actively create opportunities for our people to thrive in their jobs, careers, and lives so they can leverage the wonderful lifestyle and opportunities our city has to offer.

Our city is welcoming and offers jobs and opportunities for everyone.

Hamilton already has many advantages and an economy that looks better placed than most to withstand some of the challenges facing other parts of New Zealand. We are located in the middle of the country's 'Golden Triangle' between Auckland and Tauranga and we have plans well in place to become New Zealand's most important logistics hub.

We are already working closely with central government, iwi and our neighbouring councils like Tauranga, Auckland, Waikato and Waipaa to make sure our region continues to flourish. When Hamilton thrives, our wider region thrives. So we'll continue to advocate for Hamilton – and Hamiltonians – every chance we get.

We are already home to world-class businesses across a range of sectors, bringing opportunities, jobs and investment, including for our young people. We are a tech-savvy city, with the digital know-how to deliver research and development on the world stage.

Increasingly, our city is a place where people and businesses want to come, stay, and grow. Our attractive lifestyle, based upon a vibrant city that's easy to live in, means more and more people want to be here.

Young people are now coming to our city (and in some cases, returning home) to find good jobs, buy homes, raise families and become part of our community. This, along with more than 160 ethnic groups making up our city, adds a valuable diversity to Hamilton which brings opportunities and benefits for all Hamiltonians.

We want Hamilton to continue to build on its growing reputation as a centre of excellence within innovation, training, smart and tech-sector industries. We need the infrastructure and support services in place to nurture and promote sustainable businesses that add value to our city.

Focus areas

- We'll work with partners like central government and other councils to specifically deliver fast and efficient transport connections to connect Hamilton quickly to places like Auckland and Tauranga.
- We'll look beyond our borders and work with our regional partners to maximise the opportunities from Hamilton being the hub of the Waikato region.
- We'll make sure our economic strength is further leveraged and that Hamilton is known as a great place to work and do business.
- We'll empower and enable our diverse communities to share their voice, and shape their city.
- We'll invest in the right infrastructure to make sure Hamilton is a great place for businesses to succeed.

External influences on delivering this priority

External influence document/website	Focus/purpose of document	How it impacts delivery of this priority
Hamilton to Auckland Corridor Plan (H2A)	The H2A Plan aims to ensure planning is undertaken in an integrated way based on communities of interest rather than existing council boundaries. It provides a framework for development to help manage growth in a way that provides access to the services people need, while protecting and enhancing the corridor's natural and cultural assets.	The H2A Plan identifies a number of key projects across the corridor addressing waters, transport, and access to jobs and housing.
Hamilton - Waikato Metro Spatial Plan (MSP)	The MSP spatially sets out how and where Hamilton City and the neighbouring communities within Waipaa and Waikato districts should grow and develop, and how people should move around long-term to ensure social, economic and environmental prosperity.	It is one of the key projects identified in the H2A Corridor Plan and sets out the long-term growth framework for Hamilton and the surrounding areas with a focus on dense nodal development around rapid transit routes.
Future Proof	A 30-year growth management for the Hamilton, Waipaa and Waikato sub-region.	The Future Proof Strategy is being updated this year to incorporate Metro Spatial Plan outcomes, the FDS under the NPS-UD, and RPS updates. There will be joint consultation under the Local Government Act in 2021.
Government Policy Statement on Land Transport 2021 (GPS)	The GPS sets the Government's priorities for land transport investment over the next 10-year period. It also sets out how money from the National Land Transport Fund (NLTF) is spent on activities such as public transport, rail, state highway improvements, local roads, and road safety.	The GPS dictates where Waka Kotahi Transport Agency will invest funding which has an impact on the transportation projects that Council delivers if it wishes to access Waka Kotahi subsidy. This GPS focuses on road safety, better transport choices, moving freight and tackling climate change.

External influence document/website	Focus/purpose of document	How it impacts delivery of this priority
2021-24 National Land Transport Programme Regional Land Transport Plan (RLTP)	The National Land Transport Programme (NLTP) is a three-year programme of planned activities and a 10-year forecast of revenue and expenditure prepared by the Waka Kotahi Transport Agency to give effect to the GPS. The NLTP is a partnership between the Transport Agency, which invests NLTF funding on behalf of the Crown, and local government, which invests local funding on behalf of ratepayers. An RLTP sets out a region's land transport objectives, policies, and measures for at least 10 financial years, and is prepared by the Regional Transport Committee.	All proposed transport projects have been assessed for inclusion within the NLTP and prioritised through the Transport Agency's Investment Assessment Framework (IAF) according to their value for money and alignment with the priorities, objectives and expected results within the GPS. The RLTP describes the region's long-term vision and identifies its short- to medium-term investment priorities. It also includes a regional programme of transport activities proposed for funding over the next three to six years.
Arataki Waka Kotahi NZTA 2021-2031 10-Year View of the Land Transport System	Arataki is a 10-year view of what is needed to deliver on the government's current priorities and long-term objectives for the land transport system.	The place-based summaries provide a shared evidence base and translate government objectives into regional approaches.
Growth Funding Policy	The Growth Funding Policy directs Council decision-making in respect of growth projects and associated infrastructure where those projects are not funded within Council's 10-Year Plan.	Opportunities to cater for growth in the form of out of sequence development sometimes arise, and this policy allows council to equitably collect funding to invest in required infrastructure.

The infrastructure challenges we're facing:

Water supply

- Ensuring that the cities water treatment plant capacity can keep pace with demand for water from the city and sub regional customers.
- Increasing the amount of water treated while the physical footprint of water treatment plant site is reaching capacity of the site.
- Improving resilience of system given there is a single plant to treat water for the city.
- Ensuring appropriate physical resilience of plant and reservoirs in significant seismic event.

- Improving the ability to extract from river in when in low flow.
- Completing implementation of the city's water zones to help efficient operation of the network.
- Building new reservoirs in the right place at the right time for water storage to support new development.

Wastewater

- Improving the capacity and resilience of the treatment and reticulation system in the existing built environment to meet increasing demand and standards.
- Ensuring treatment can keep pace with demand given the physical footprint of the treatment plant site through demand management and onsite treatment.
- Improving seismic performance of key plant and reticulation assets.
- Improving resilience of system given there is a reliance on a single treatment plant and need to service high water users.

Stormwater

- Ensuring that new greenfield areas that require strategic investment can be serviced with appropriate infrastructure balancing the amount of land used for treatment and treatment quality provided.
- Optimising and realising treatment locations and infrastructure to lessen whole of life costs and optimise land for development and other uses.
- Reflecting and acknowledging Iwi values in the management and treatment of stormwater.

Transportation

- Enabling growth and economic development at the right pace while managing congestion and demands for transport investment earlier than planned.
- Ensuring the transport network has the ability into the future to support city's economic development and movement of people and freight.
- Protecting future opportunities and corridors for rapid transit - delivering on the Metro Spatial Plan vision.
- Completing the strategic transport network for people and freight around and through the city.
- Advocating for the completion of and managing the changes to the State Highway network through and around the city.
- Responding to need for urbanisation of infrastructure in areas on the edge and outside the boundary of Hamilton – ensuring the network remains appropriate and safe.

Cemeteries

- Ensuring there is enough land secured to keep delivering burial services for future generations.

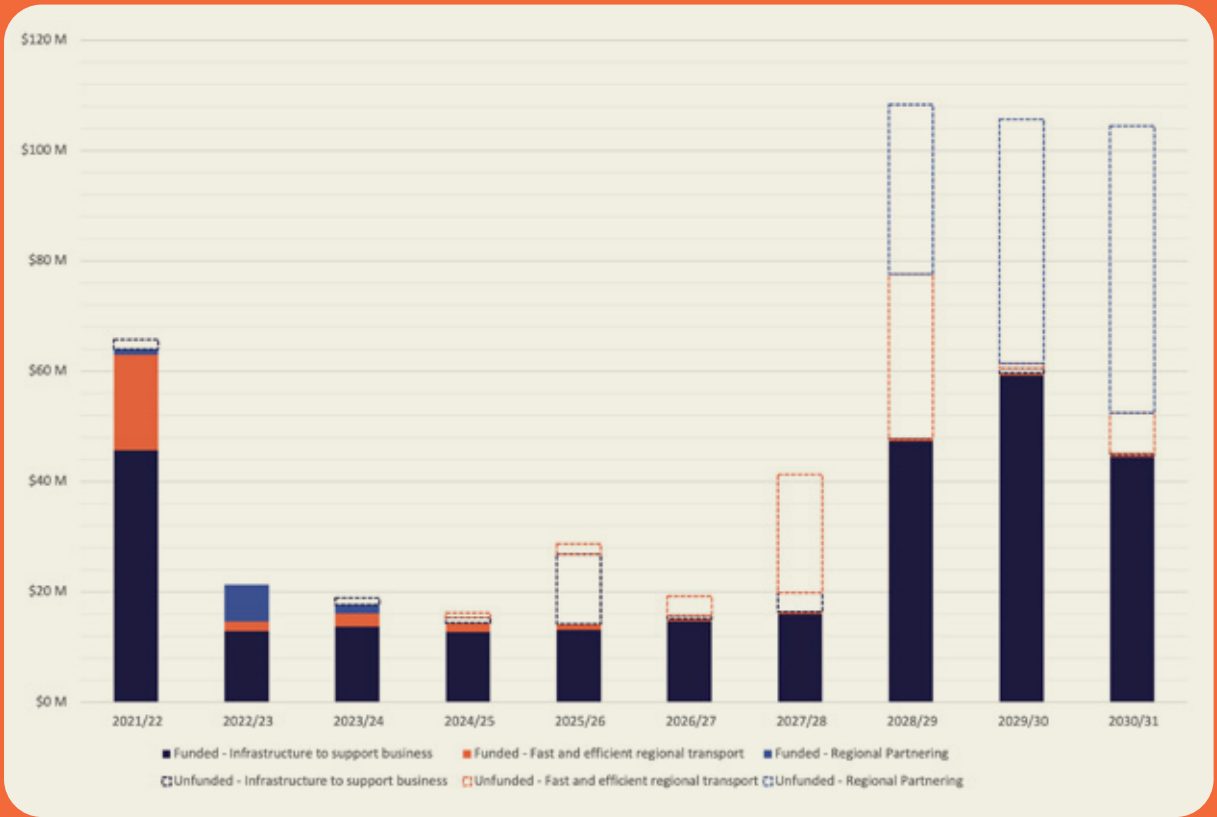
Libraries

- Developing libraries as modern integrated community hubs for a diverse community.

Delivering in the next 10 years

The following graph shows the capital investment that is both funded and unfunded to deliver the focus areas of this priority

Figure 7: A city that's easy to live in – Funded and Unfunded Capital forecasts 2021-2031



Priority 3. A central city where people love to be

Ahuahungia te pokapuu o teetehi taaone e arohaina ai e te taangata

WHAT WE WANT

We want our central city to be the beating heart of Hamilton which always has something going on for our diverse communities to come together and enjoy.

We want our central city to be the vibrant heart of our cosmopolitan and diverse city. A city centre that is thoughtfully designed around people, culture and the natural environment. We want our city to be alive with hustle and bustle, with people happily living and playing in the central city.

Our central city should be accessible via different transport modes and enjoy easy access to the nearby Waikato River which is celebrated and treasured for the city taonga (treasure) it is.

Our restaurants and bars will offer Hamiltonians choice and entertainment, and draw people from outside of Hamilton who know that a visit to central Hamilton is a trip well worth making.

Our central city should support a thriving visual arts and performance scene through our iconic local theatres and bring the area around our Waikato Regional Theatre alive, further linking our city to the stunning Waikato River.

Inner-city dwellers will enjoy a range of apartment options, close to where they work or close to strong transport links that get them to where they need to be. But they will always be close to green open spaces, along the river and with parks like Victoria on the River nearby.

Local, national and international businesses will choose to base themselves in our central city which remains affordable and accessible, serviced by everything needed to live a full Hamilton life.

Focus areas

- We'll strengthen the connection and access between the city centre at the Waikato River.
- We'll promote daytime and evening activity.
- We'll create performance spaces such as the new regional theatre and leverage existing central city spaces to support arts and culture initiatives which offer something unique to our city.
- We'll support mixed inner-city living options which encourage people to live in Hamilton's central city alongside vibrant retail, hospitality and entertainment sectors.
- We'll make it easy to get into and around the city through a range of alternative travel options.

External influences on delivering this priority

External influence document/website	Focus/purpose of document	How it impacts delivery of this priority
National Policy Statement on Urban Development 2020 (NPS-UD)	The NPS-UD 2020 requires councils to plan well for growth and ensure a well-functioning urban environment for all people, communities and future generations. It removes restrictive barriers to development to allow growth 'up' and 'out' in locations that have good access to existing services, public transport networks and infrastructure.	The NPS-UD is explicit in driving up residential densities first and foremost in the central city. With increased densities there are more people and more activity within the city centre.

The infrastructure challenges we're facing

Waikato Museum

- Improving physical access between the Museum building and the Waikato River.
- Strengthening ArtsPost building to meet seismic standards.

Water, wastewater and stormwater

- Improving the current infrastructure for Central city as it is not designed for significant increase in residential activity.

Transport

- Improving transport network in and links into the central city to support greater level of residential and business activity.
- Retrofitting transport and service corridors is to increase capacity and improve standards difficult and expensive.
- Ensuring safety for high numbers of vulnerable road users.

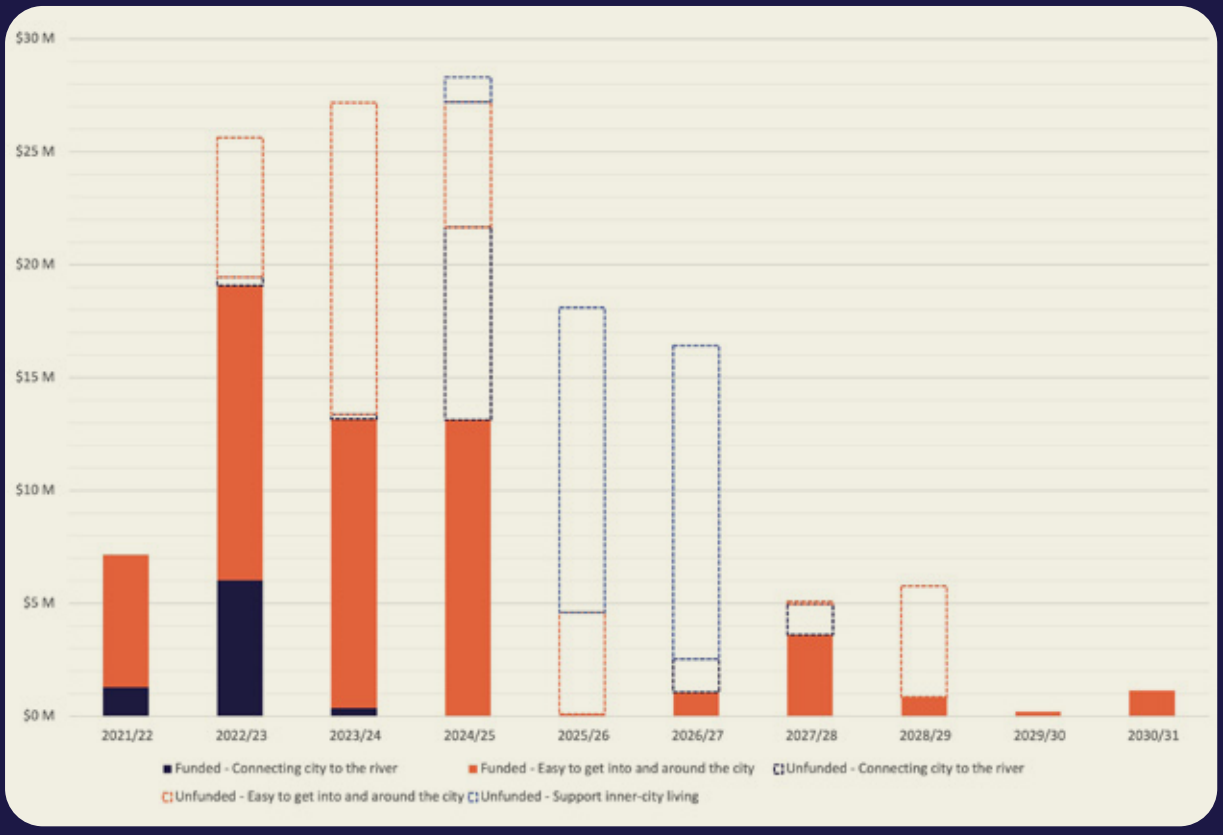
Parks and Open Spaces

- Ensuring there is sufficient and appropriate open spaces to support increased residential activity in the central city.
- Managing stability risks associated with River and gully system.

Delivering in the next 10 years

The following graph shows the capital investment that is both funded and unfunded to deliver the focus areas of this priority.

Figure 9: A Central city where people love to be – Funded and Unfunded Capital forecasts 2021-2031



Priority 4. A fun city with lots to do

Ahuahungia teetehi taaone ngahau e tini ai ngaa kaupapa papai hei whai

WHAT WE WANT

We want Hamilton to be an even better place for everyone to play, with things to do or see around every corner.

We want to make sure our city provides opportunities for all our people to play and have fun - whether it be through organised sport, local playgrounds, events, or our visitor destinations.

A fun city should have something for everyone whether you want to join a local choir or the local quiz team – we want all of us to have something to do and be part of.

We want to build on our growing reputation for hosting outstanding events; events that bring economic benefit, that Hamiltonians love, and that bring people from all over New Zealand to our city.

But small events also have a role in the life of our city. We're keen to support more arts and cultural events and make sure we have the right indoor and outdoor facilities in place to support local community sports events that people of all ages can get involved in. All of these things add to the sense of community we all value about Hamilton.

We have already invested in world-class stadium and event facilities like Seddon Park, Claudelands Event Centre and FMG Stadium Waikato, and are home to key visitor destinations such as Hamilton Zoo, Hamilton Gardens, and Waikato Museum.

And we'll continue to embrace the outdoors, not just the Waikato River but places like Waiwhakareke Natural Heritage Park, our destination playgrounds and Lake Rotoroa (Hamilton Lake). These facilities provide locals and visitors with memories and experiences that keep people entertained and wanting more. They drive interest and appreciation in our city. They make living here fun.

There's lots to do in Hamilton, but there's also quiet spaces for our community. Whether it's lying under a tree in a local park, taking in the views of the Waikato River or discovering our past at Waikato Museum, we invest in spaces where our people can relax, rest and reflect.

Focus areas

- Develop open community spaces like Korikori Park in Rototuna and Minogue Park in Forest Lake that are accessible to everyone to enjoy and be part of.
- Invest in and enhance Waikato Museum, Hamilton Gardens, Hamilton Zoo, and Waiwhakareke Natural Heritage Park to create new and unique experiences for our people and visitors.
- Host and celebrate city events like the Hamilton Gardens Arts Festival and Balloons over Waikato.
- Actively celebrate and promote a city where residents have the opportunity to have fun with their friends and family.
- Support local sports events by investing in play spaces and we'll work hard to attract.

The infrastructure challenges we're facing

Parks and Open Spaces

- Responding to limited use of some sports parks
- Completing sport park development for land already purchased
- Ensuring that there is access to enough indoor sports facilities as they gain in popularity.

Libraries

- Developing the library network and the location of the libraries meet citywide needs
- Delivering the right built infrastructure to reflect the changing nature of libraries and community spaces.

Pools

- Increasing pool space and reflecting a greater need for recreational and non-traditional pool space.

Hamilton Gardens

- Improving infrastructure to deal with increasing visitor numbers
- Continuing investment in themed gardens over time through partnering with other funders
- Developing the Hamilton Gardens to become more financially sustainable and resilient.

Hamilton Zoo

- Upgrading Zoo entrance, function and education centre and continued development of new exhibits.
- Improving connection with Waiwhakareke Natural Heritage Park.
- Balancing funding sources for infrastructure improvement between user pays, rates and other funding.

Waikato Museum

- Improving visibility to the central city and Victoria Street.
- Improving Museum building to ensure that environment can be controlled and able to host major exhibitions.

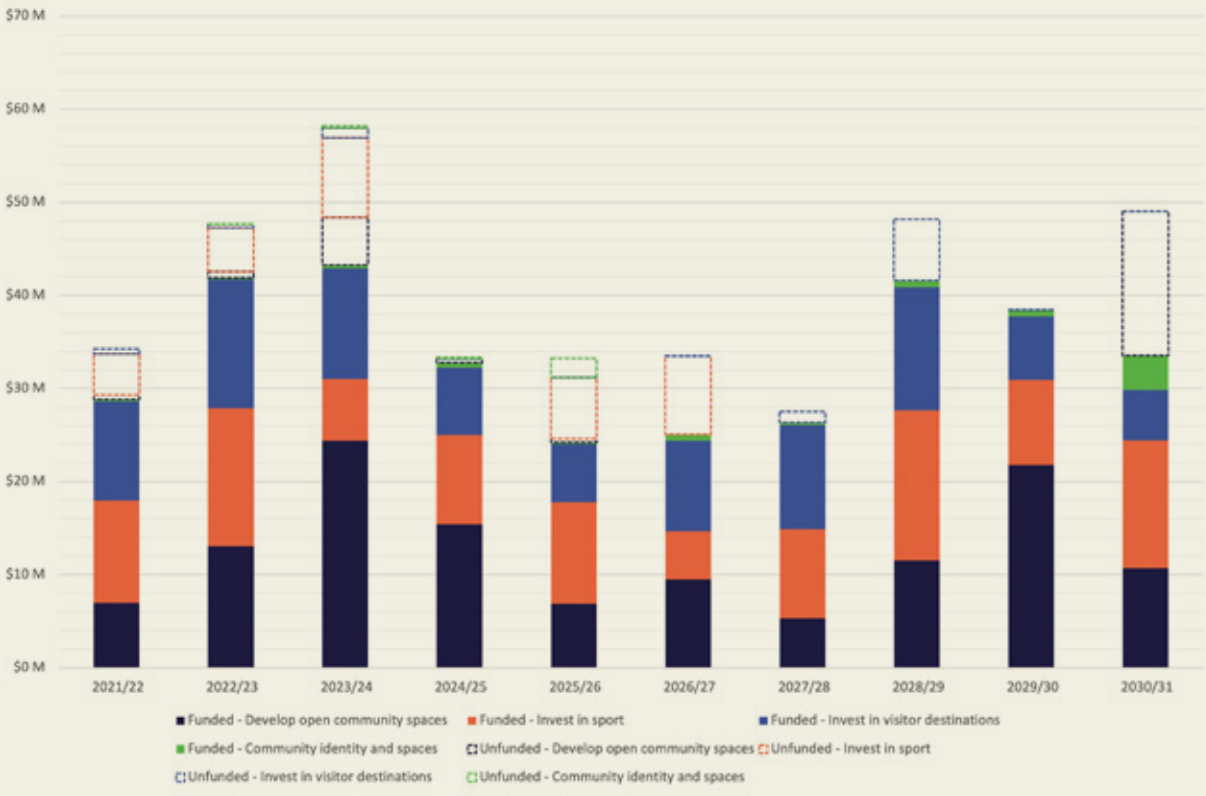
Event facilities

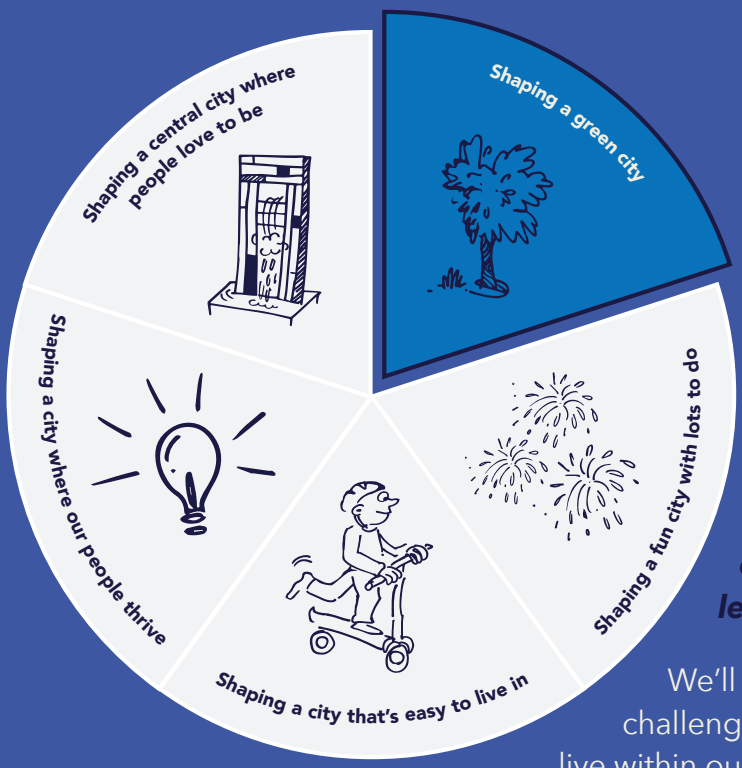
- Ensuring that as event venues age they remain fit for purpose and attract major events.

Delivering in the next 10 years

The following graph shows the capital investment that is both funded and unfunded to deliver the focus areas of this priority.

Figure 10: A Fun city with lots to do - Funded and Unfunded Capital forecasts 2021-2031





Priority 5. A green city

Ahuahungia teetehi taaone tiaki taiao

WHAT WE WANT

We want to do it right together, so our city will get better by the day and we can leave a legacy we can all be proud of.

We'll promote becoming a sustainable city by challenging the way we grow our city and how we live within our city. We love our environment and we're all committed to protecting it for future generations.

We embrace our individual and collective roles as kaitiaki (caretakers) of our land, water and air. Together, we honour, enhance and protect taonga (treasures) like the Waikato River, and our city's extensive and unique gully system.

We are proud of our green, clean city and we're taking a thoughtful and city-wide partnership approach between businesses, organisations and community groups to tackle how our city responds to climate change.

We need to look after what we already have by embracing the sustainable use of natural resources such as our water. We want to enhance our beautiful open green spaces like Waiwhakareke Natural Heritage Park, the West Town Belt and Taitua Arboretum – which are valued so highly by Hamiltonians. And it's important we continue to minimise our impact on the land by leading the country in waste minimisation practices.

We want to continue to plan well for the future, so we can strongly focus on designing new neighbourhoods like Peacocke in a way where our natural environment can exist in harmony with new homes and services. That means we'll need a stronger, safer network of alternative transport which offer people real choice and also offer ways to reduce our carbon footprint.

Focus areas

- We'll protect and restore our natural gully network and the biodiversity of the city to increase how green our city is making it healthier and stronger.
- We'll reduce the carbon footprint of the city and build a city that is resilient to the effects of climate change.
- We'll mitigate the impact of the city on the health and wellbeing of the Waikato River and Lake Rotoroa (Hamilton Lake).
- We'll encourage and enable alternative ways to move safely and quickly around our city.
- We'll plan our future as a sustainable city – balancing the natural and built environments so they can live in harmony.

External influences on delivering this priority

External influence document/website	Focus/purpose of document	How it impacts delivery of this priority
The Aotearoa New Zealand Biodiversity Strategy 2020	It sets out a strategic framework for the protection, restoration and sustainable use of biodiversity, particularly indigenous biodiversity, in Aotearoa New Zealand, from 2020 to 2050.	An implementation plan that sets out actions and responsibilities will be developed collaboratively with central and local government, Treaty partners, and stakeholders.
Draft National Policy Statement for Indigenous Biodiversity (NPS)	Sets out objectives, policies and implementation requirements to manage natural and physical resources to maintain indigenous biological diversity under the Resource Management Act 1991.	The timeframe for finalising the NPS has been extended until July 2021.
Climate Change Response (Zero Carbon) Amendment Act 2019	Provides a framework for New Zealand to develop and implement climate change policies in support of the Paris Agreement.	Highlights the shared responsibility for responding to climate change, including meeting the emissions reduction targets. Council will need to make an ongoing commitment to increasing electric vehicles to its fleet.

External influence document/website	Focus/purpose of document	How it impacts delivery of this priority
Three Waters Review • Taumata Arowai – the Water Services Regulator Act 2020 • Water Services Bill	The purpose of Taumata Arowai - the Water Services Regulator Act 2020 is to establish Taumata Arowai – the new Water Services Regulator. The Water Services Bill will implement the Government's decision to comprehensively reform the drinking water regulatory system, with targeted reforms to improve the regulation and performance of wastewater and stormwater networks.	The Water Services Bill is significant for all councils, irrespective of any new service delivery arrangements and for regional councils with respect to the new functions and duties proposed.
National Policy Statement for Freshwater Management 2020	Sets out the objectives and policies for local authorities for freshwater management under the Resource Management Act 1991.	There are an extensive number of requirements that councils must meet which will have significant infrastructure impacts.
Proposed Plan Change one (PPC1 - Healthy Rivers) to the Waikato Regional Plan	A change to the Waikato Regional Plan that is a first step on an 80-year journey to achieve improved water quality that is safe for food gathering and swimming along the entire length of the Waikato and Waipaa Rivers and their tributaries.	It will require Council to design, construct and manage its three waters infrastructure to make an appropriate contribution to achieving short-term and 80-year water quality attribute states. It will also require Council to ensure that urban growth will improve water quality in receiving waters.
National Environmental Standards for Air Quality	They aim to set a guaranteed minimum level of health protection for all New Zealanders.	Once adopted in 2021, they will require older solid fuel burners to be replaced with more efficient/ compliant heating systems. This will impact across the city's residential, industrial and commercial sectors.
The Building for Climate Change Programme	Ministry of Business, Innovation and Employment (MBIE) will be setting targets around energy use and carbon emissions To meet the goals, MBIE will need to make some changes to current building laws.	The proposals will impact significantly on councils in their role as a Building Consent Authority, and also have an impact on the cost of construction.

The infrastructure challenges we're facing

Water supply

- Ensuring appropriate water storage is available for city into the future.
- Securing access to raw water through adequate river allocations.
- Managing and minimising the environmental footprint from treating raw water for city use.
- Enhancing the ability of existing network to meet the needs of intensification.

Wastewater

- Minimising inflow and infiltration from stormwater and increasing capacity to convey and treat wastewater.
- Ensuring sufficient bulk reticulation capacity in pipes and pumpstations and in new bulk storage facilities across the existing city environment to manage wet weather overflows.
- Securing discharge consent renewals and responding to necessary conditions for quality and quantity of treatment.
- Minimising the environmental footprint of treatment activities.

Stormwater

- Securing and protecting overland flow paths.
- Requiring to retrofit treatment infrastructure for brownfield development (within existing city).
- Ensuring residents are aware of flood hazards and have an understanding of infrastructure design standards in different parts of the city.
- Understanding and adapting to climate change impacts on stormwater infrastructure.

Parks and Open Spaces

- Enhancing the natural areas across the city that are currently under invested and inaccessible.

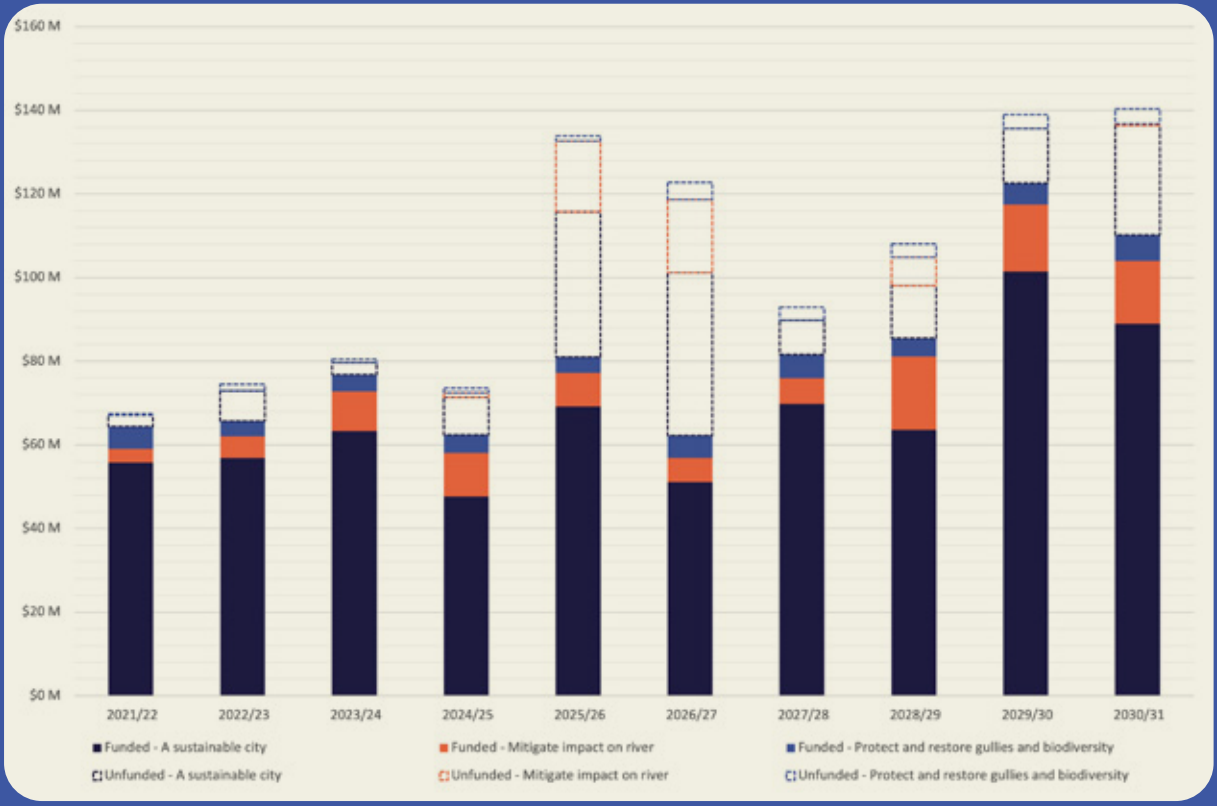
Hamilton Gardens

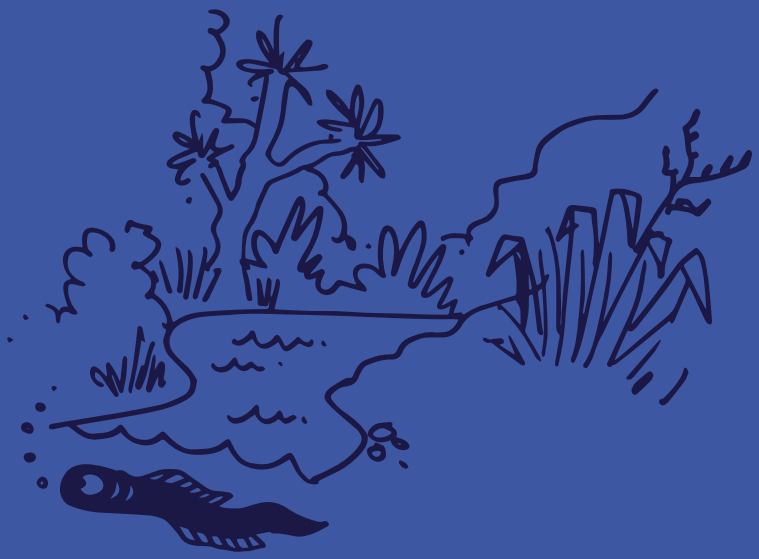
- Understanding and adapting to climate change through the promotion of green standards & practice.

Delivering in the next 10 years

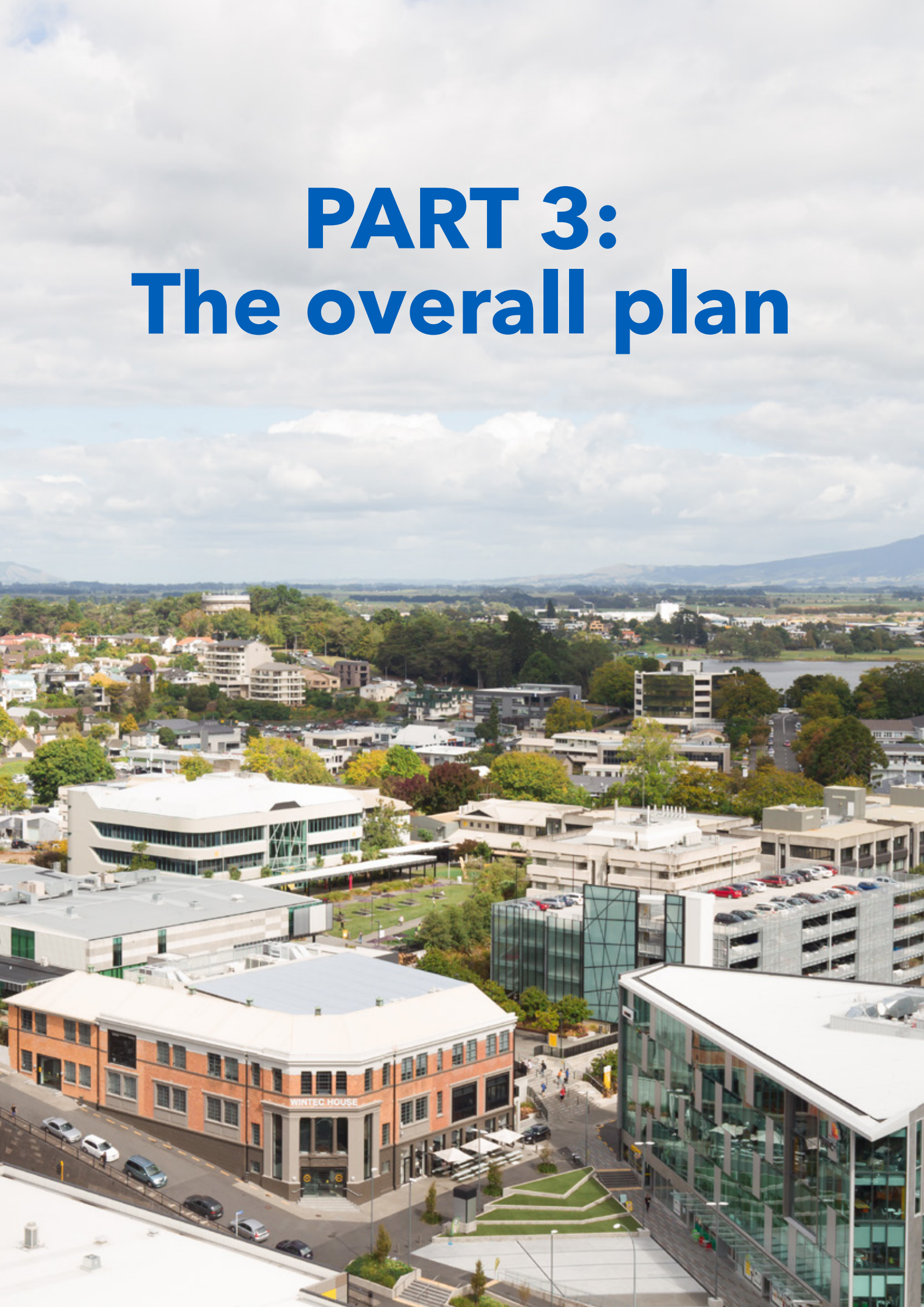
The following graph shows the capital investment that is both funded and unfunded to deliver the focus areas of this priority.

Figure 11: A green city - Funded and Unfunded Capital forecasts 2021-2031





PART 3:
The overall plan



Most likely scenario

This strategy provides the overview of Council's most likely scenario for the management of its infrastructure. This scenario has been determined by:

- Including the funded capital and operating budget forecasts from the 2021-31 Long-Term Plan. The timing of projects and budget provisions have been informed by the 30-Year AMPs.
- Identifying projects through the 10-Year Plan that are unable to fit within the financial provision set by the Financial Strategy. These projects are likely to still be required in the future and this will need to be reflected in future Long-Term Plans and related financial strategies. As these projects are not included in the funded capital and operating budget forecasts, they are also excluded from the Financial Strategy measures i.e. balancing the books and debt forecasts.
- Using the assumptions for levels of service, demand and renewals as outlined in the following activity sections.

The plans and forecasts for the next three years are those with most detail and confidence as the greatest amount of planning has taken place for these matters. The investments required over the remaining first 10 years are an outline and have a reasonable degree of confidence. The forecasts beyond year 10 should be viewed as indicative estimates and will be developed further as time passes strategies change and more information is obtained.

It is expected that there will be changes to the requirements and management of infrastructure outlined in this strategy. Council will consider future changes and the appropriate programming and funding response as part of the future Long-Term Plan processes. This uncertainty and need for ongoing refinement are acknowledged in the tiered framework for forecast expenditure contained in the Local Government Act 2002.

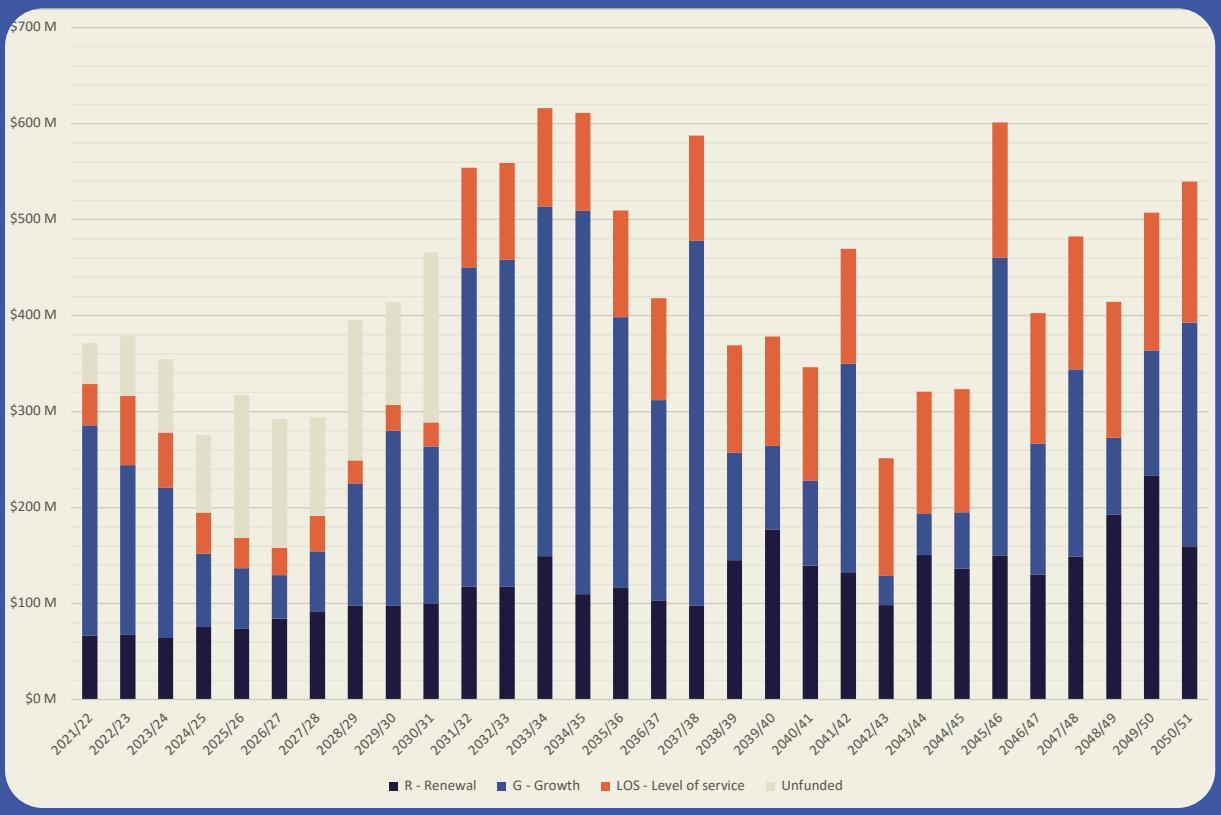
Table 1: Forecast expenditure required in the Local Government Act (LGA) 2002

Period of forecast expenditure	Description of required forecast in LGA
Years 1-3	In *detail*
Years 4-10	In *outline*
Years 11+	An *indicative estimate*

30 year capital forecasts

The estimated requirement for capital investment over the next 30 years has been prepared and is shown below.

Figure 12: Forecasted Capital Expenditure 2021-2051



While there are significant increases in the expenditure forecasted to provide for growth, there is also a large increase in growth related revenue (through development contributions from developers and new ratepayers). This helps pay for growth and creates some additional capacity for borrowing.

There is a high likelihood that over time the indicative estimates beyond 10 years in this strategy will need to change to reflect:

- changes in assumed growth rates
- changes to standards and compliance requirements not anticipated
- new technologies and options for provision of infrastructure
- new models for the funding and delivery of infrastructure (these may include the Council not funding and/or owning infrastructure)
- greater certainty about the nature and timing of the projects that are required
- affordability and ability for the Council to deliver the programme.

Key Infrastructure not funded in the first 10 years

The following projects and programmes are the key initiatives that are shown as unfunded in the graph within the next 10 years.

While there are other initiatives that make up this unfunded category of the plan, these are regarded as the most significant from a potential risk and/or service level impact perspective. It is envisaged that these projects will likely need to be considered for inclusion in future Long-Term Plans within the next 10 years.

Initiatives not funded	**Estimated cost** **(*Additional costs outside the 10yr)**	**Timing**		**Consequence of not funding this infrastructure.**
		Years 1-3	**Years 4-10**	
Strategic infrastructure to support growth areas – Te Rapa North	$29M	X	X	Potential service level impacts for new development Te Rapa North – Structure plan is required in years 1-3 to enable infrastructure planning. Council is not ready to facilitate demands for industrial land.
National Policy Statement proactive intensification – three waters and transport	$109M		X	Existing infrastructure unable to support intensification service level impacts. Benefit – Next Long-Term Plan period can be used to evaluate scope and scale and determine investment required for infrastructure to facilitate NPS provisions.
Water supply demand zone strategy not being completed across the city	$26M	X	X	Operational efficiencies. Potential service level impacts for existing development as demand from new development increase.
Water Storage and pumping capacity in parts of city	$19M	X	X	May not be able to support all types of development. May continue to have service level pressure impacts in parts. Increasing pressure on existing infrastructure.

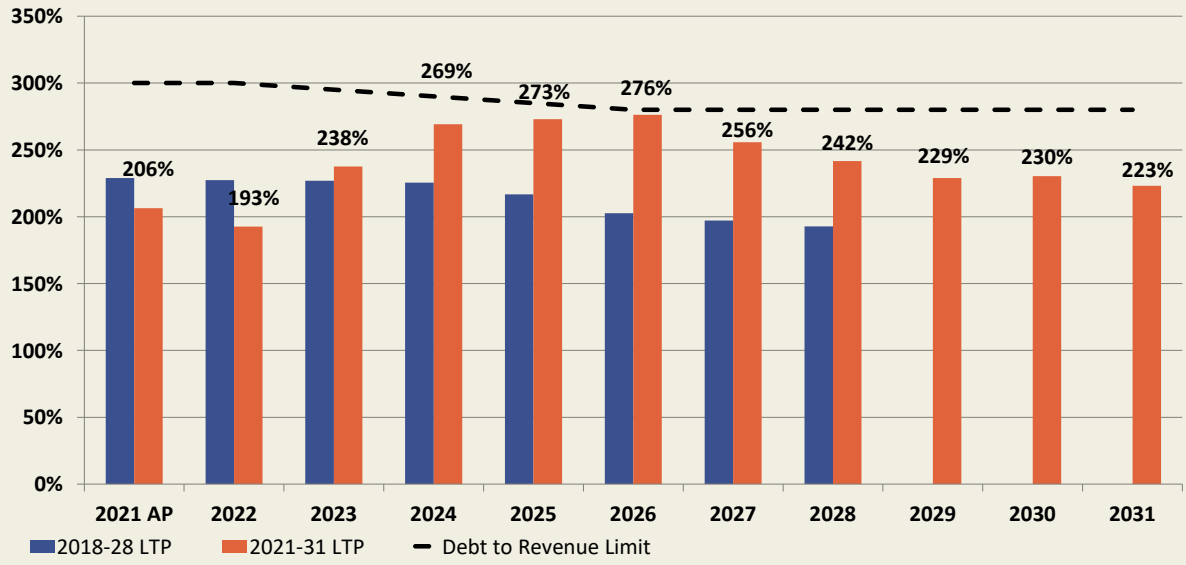
Initiatives not funded	Estimated cost (*Additional costs outside the 10yr)	Timing		Consequence of not funding this infrastructure.
		Years 1-3	Years 4-10	
Transport – strategic network improvements for capacity and safety - Wairere 4-laning - Morrinsville Road - Northern River Crossing	$61M* $2.5M* $31M*	- - -	X X X	Additional costs are included for these projects beyond year 10. This is unfunded provisions within the 10 years. Impacts will be as the city grows and the Waikato Expressway is completed and influence travel within the city. These will include: • Increasing congestion • Freight inefficiencies • Safety • Not easy to get around.
Biking and Micromobility/ Eastern pathways additional opportunities	$304M	X	X	Unfunded portion of these programmes in the 10 years. Will mean that 20min city strategy will not be completed and there will be lower service levels for these alternative transport modes.
Rotokauri Growth - Transport – arterial corridors - Wastewater - Water - Community and neighbourhood parks	$35M* $14M* $12M* $24M*	X X X X	X X X X	Without portions of the Rotokauri arterials it will impact on growth uptake and create poor transport outcomes. Unfunded water and wastewater will Impact on growth uptake and create poor network outcomes. Community and neighbourhood park development being unfunded will lead to poor open space outcomes for this area.
Development of sports parks in Rototuna	$24M	X	X	Will result in existing land that has been purchased for sport park development remaining undeveloped and available for sports use.
Waterworld leisure pool	$25M		X	Additional pool leisure space will not be available at Waterworld likely resulting in crowding at high use periods.

Impact on Council's debt levels

The Council's Financial Strategy has been updated through the development of the 2021-31 Long-Term Plan. The Financial Strategy has a 10-Year horizon and helps the Council and the community to understand the long-term financial impacts and sustainability of the Council's budget and plans.

The Financial Strategy describes the impact on debt and rates of the Council's budget. Over the next 10 years debt will remain below a prudent debt to revenue limit of 280% while funding an increased investment in looking after the Council's existing assets and building new infrastructure. This is achieved through a significant increase in revenue over the same period.

Figure 13: Debt to Revenue Ratio – 2021-31 Long-Term Plan



The debt to revenue ratio peaks in year five due to an unprecedented forecast capital expenditure on projects to improve the existing city and enable the continued growth of Hamilton. The forecast capital expenditure reduces again in the second five years of the Long-Term Plan period. This means that with increased revenues forecast from rates, development contributions and other fees, that the debt to revenue ratio decreases.

Beyond the next 10 years, the financial estimates indicate that there will be increased demands for capital expenditure. This is driven by:

- Significant expenditure to provide for growth, particularly in the Rotokauri greenfield growth cell.
- Increasing compliance expectations and costs.
- Significant increases in stormwater and rapid transit investments.
- The likely need to undertake projects and programmes that have not been included in the 2021-31 Long-Term Plan and are unfunded but are likely to be required in the future.

Council will need to manage the long-term sustainability for these infrastructure investments through:

- Utilising any new organisation of funding and provision of services provided by local government – e.g. Water sector reforms.
- Seeking capital subsidies for eligible projects.
- Exploring other funding mechanisms that will result in off-balance sheet arrangements for the Council.
- Reviewing timing and scope as more information becomes available. This reduces uncertainty.
- Investigating options for new technology as this develops and becomes available.
- Continuing to improve asset management planning to ensure the best possible programme for managing timing of large projects.
- Working with other agencies to ensure efficient delivery and joint funding opportunities.
- Moderation through future Long-term Plan and then Annual Plan processes.
- Quality business cases prior to final approval for projects to proceed.

30 year operational forecasts

Operational expenditure for the 30 years has also been estimated. The forecasts for the first 10 years are from the 2021-31 Long-Term Plan and longer-term estimates have been based on applying inflation and estimated impacts from the 30-Year capital forecasts.

Figure 14: Total infrastructure forecasted operational expenditure each year – 2021-31 Long-Term Plan

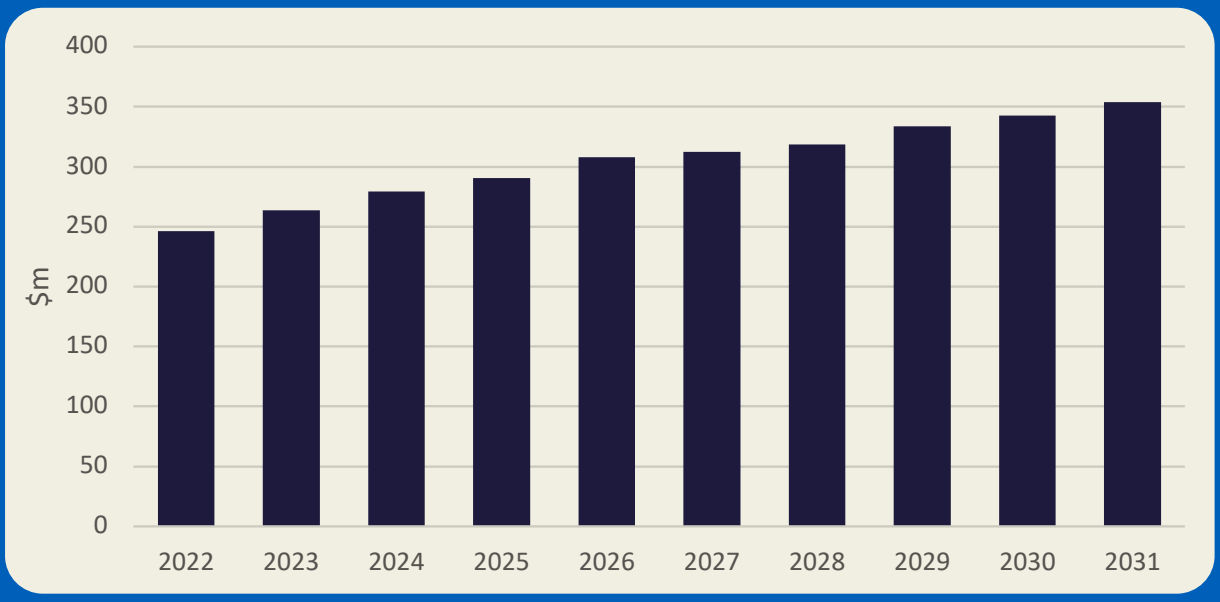
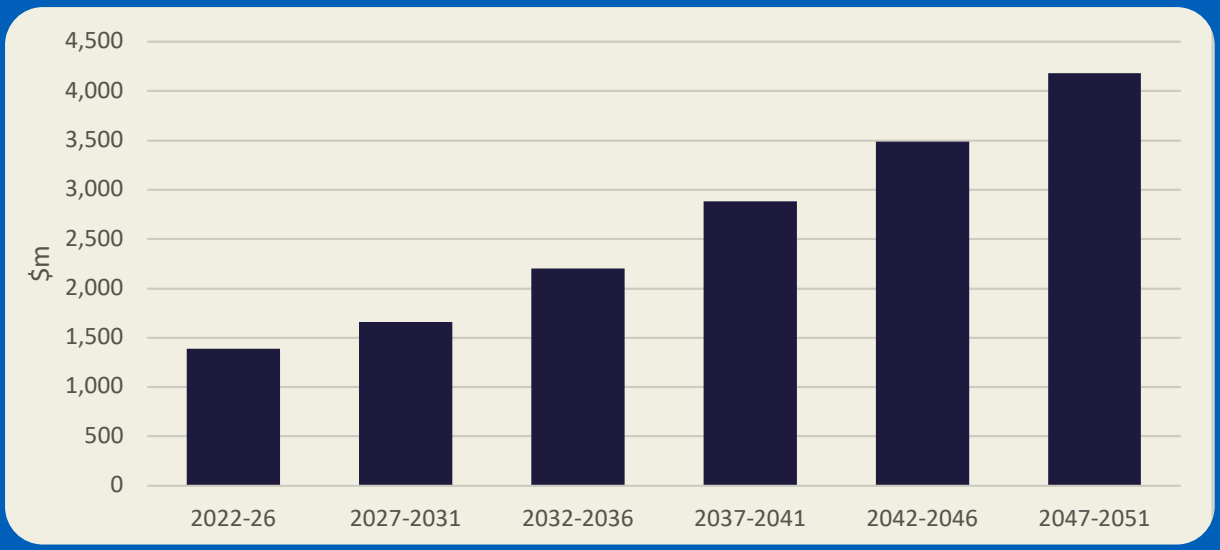


Figure 15: Total infrastructure forecasted operational expenditure - five yearly periods – 2021-51



Significant capital expenditure decisions that are likely to be required

There are significant decisions on capital expenditure anticipated over the next 30 years to address the previously identified challenges and focus areas for priorities. The decisions are represented on the timeline below.

The timeline identifies the estimated timing for when the decision will be required. The size of the icon gives an indication of the size of the decision and estimated costs are noted. The following discussion outlines options that may have to be considered by Council in making the decision and background for the decision.

The decisions that have been identified generally relate to individual projects/ infrastructure investments rather than ongoing programmes of investment. The exception to this being a decision by each Council as part of the preparation of the Long-Term Plan as to the level of funding that will be made for renewal of existing assets. This is regarded as being significant as decisions on this large programme have an ongoing effect on both operations and investment in new assets. Other programmes that have not been included on this timeline relate to programmes of more minor capital investments across the Council's infrastructure activities. While these projects may be regarded individually as 'minor' the value of these programmes can be significant. E.g. the transport safety improvement programme of work. At each Long-Term Plan, the resourcing and funding levels for such programmes are considered.

The projects identified below generally represent individual projects that have an estimated capital cost of greater than $40 million within the first 10 years and/or funding provisions for greater than $100 million for work projects beyond year 10.

In addition, other projects of high public interest have been included even if these thresholds for estimated costs are not met.

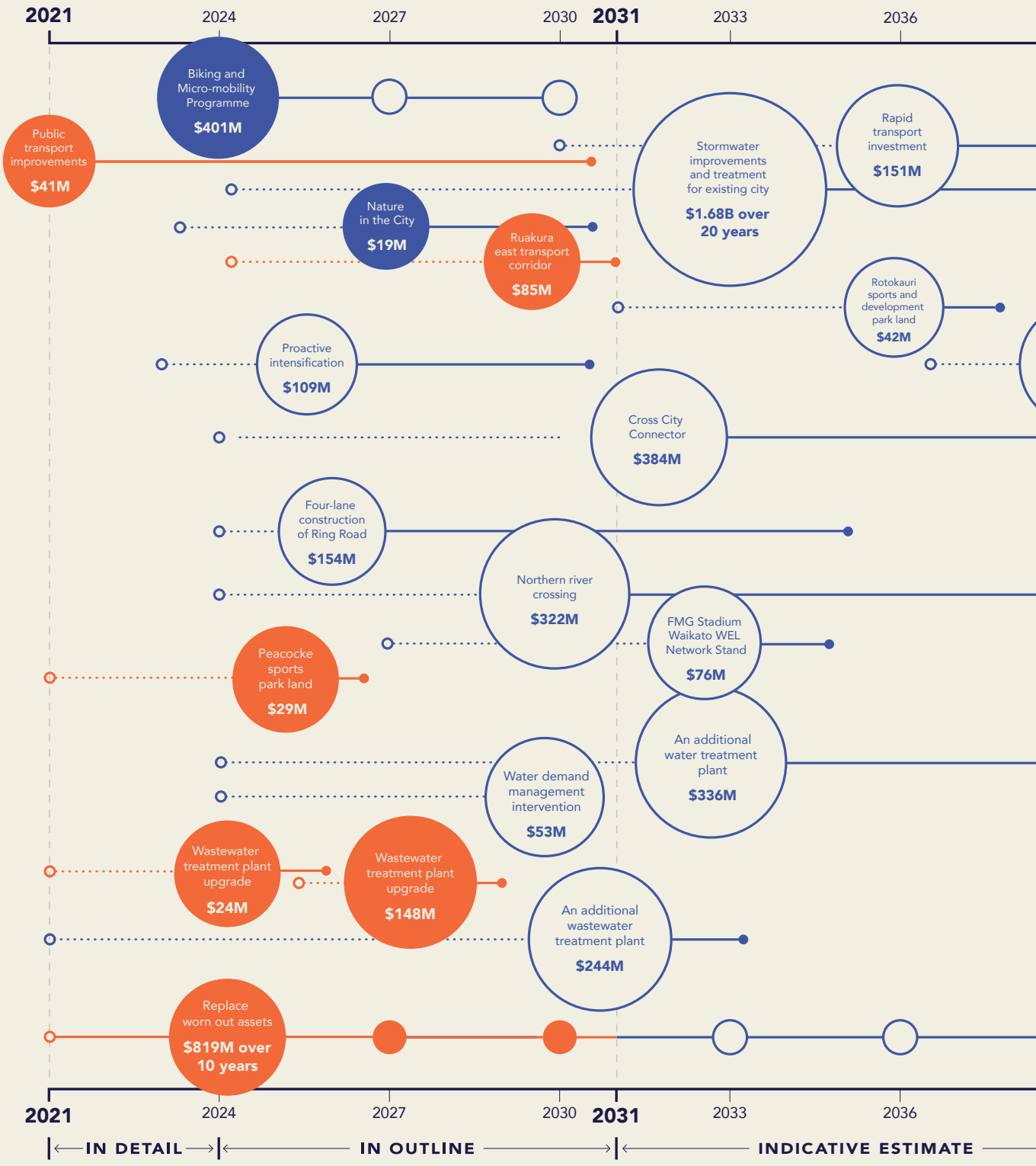
The Long-Term Plan provides a budget for the first 10 years of the 30-year Infrastructure Strategy horizon. The timeline has shown significant infrastructure decisions in their optimal timing. This may mean that projects that are unfunded or only partially funded in the Long-Term Plan are still shown within the first ten years – however they are identified as being unfunded or only partially funded. This is making clear that there are timing impacts and consequences on the timely delivery of infrastructure due to the fiscal parameters of the Council's Financial Strategy. It is likely that decisions will still be required on the scope and timing of unfunded projects within the 10-Year period. Not undertaking these projects at the optimal time may result in increased risk or a reduction in service levels for the community.


HAMILTON

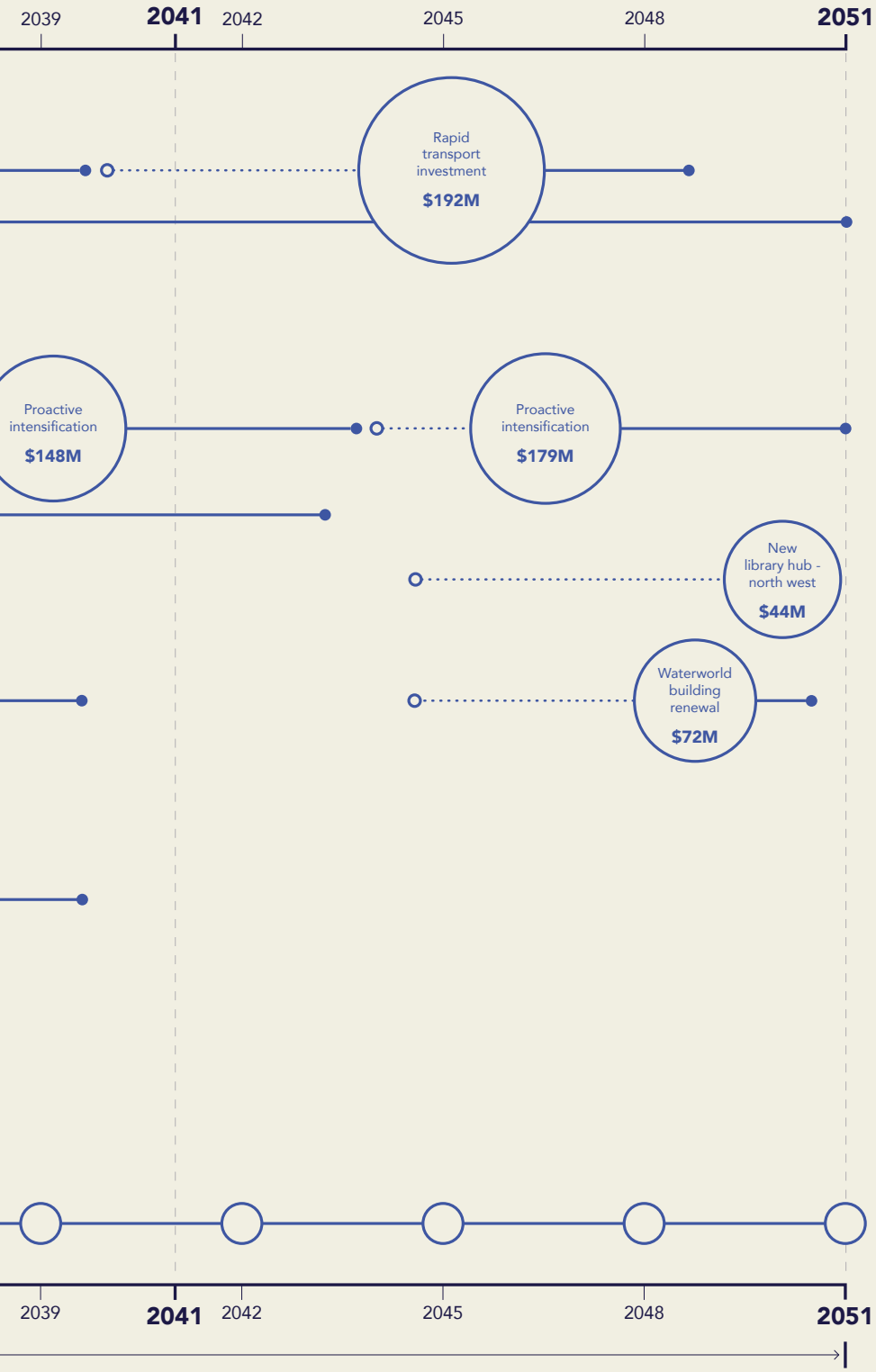
Looking beyond – the next 30 yea

Significant capital expenditure decisions required

Timeline of major projects



rs



Key

- Included in budget for long term plan.
- Not included in budget for long term plan.
- Partly funded in budget for long term plan.
- Date decision is required for capital investment (estimated).
- Planning phase for capital investment.
- Date for conclusion of major capital investment.

Replace worn out assets

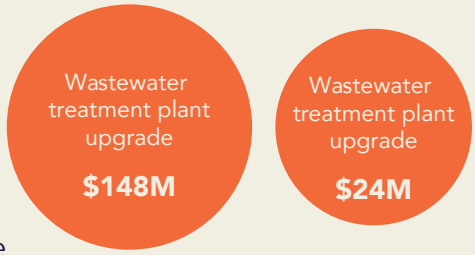
At each Long-Term Plan, the Council needs to confirm the level of funding it will provide for the renewal of its existing assets. Through the 2021-31 Long-Term Plan process, the Council decided to increase the funding for the renewal of assets. Over the next 10 years, $819M has been included in the budget for replacing assets.

Key options for decisions include:

Option	Cost	Potential Implications
Identifying assets that the Council chooses not to renew in the future	Saving from current forecasts depending on asset not being renewed	The asset won't be available for use and benefit to the community but there will be future savings to operating maintenance, interest, depreciation and renewals costs.
Funding less or smoothing forecasted renewal requirements through each Long-Term Plan.	Lower or delayed forecasted renewal expenditure	Could result in reduction to service levels, customer dissatisfaction, non-compliances, additional future costs for management of asset.

Wastewater treatment Plant upgrades

Ongoing upgrades are required to ensure that Council's Wastewater treatment Plant is able to receive and treat wastewater to the required standards. Two major upgrades are planned in the first 10 Years of the Long-Term Plan and these will help to ensure that there is sufficient capacity at the plant and treatment remains to a high standard.



Key options for decisions include:

Option	Cost	Potential Implications
Alter the currently planned scopes for the planned upgrades	Could increase or decrease cost forecasts	More capital investment may be required if growth or changes to consents requires a change to the scope/scale of the project. Programme may need to be accelerated if plant performance doesn't not meet expectations in current modelling. Programme delivery may be a challenge if scale of change is significant as plant needs to continue operation.
Alter the timing for the currently planned projects (by bringing forward or delaying) as more is understood about performance of plant over time.	Later delivery is likely to result in cost increases	

Public transport Improvements

Programme of infrastructure investments to improve public transport services throughout the city. This programme involves improvements to public transport interchanges, intersections, and public transport priority routes.

Key options for decisions include:

Option	Cost	Potential Implications
Alter level of expenditure to progress the programme and its outcomes	Could increase or decrease cost forecasts	Will alter the pace at which improvements to Public transport can be achieved.
Change the makeup of the prioritised programme		Changes will provide different benefits to different user groups.

Additional Wastewater treatment Plant

An additional wastewater treatment plant

$244M

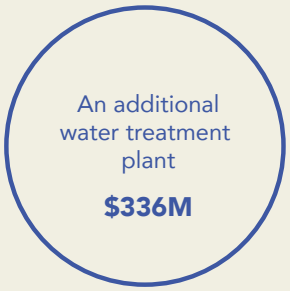
The Subregional 3 Waters Strategy has identified the opportunity to improve the subregion's quantity, quality and treatment of wastewater. Over the next few years Council has the opportunity to partner with other Council's in the subregion to create a multi-plant subregional wastewater system. $9.3M of budget is included in the Long-Term Plan for Council's share of design and to secure the future option. Over $120M remains unfunded from 2028/29 to 2030/31 for substantive construction with additional construction costs outside the 10 years. The opportunity would need to be progressed with partnerships with other sub-regional partners.

Key options for decisions include:

Option	Cost	Potential Implications
Co-investing in an additional wastewater plant for increased capacity and resilience	$244M (total cost estimate across 30 years - HCC share)	Second plant would provide increased resilience at Pukete and in the wider subregional wastewater network. Eventually footprint of Pukete plant won't allow for future expansion or would require large scale investment to reconfigure plant layout. If project never becomes funded there is a risk of environmental impacts due to overflows, and inability to meet public health and consenting regulations leading to prosecution.
Not progressing a subregional plant and continuing to deliver wastewater treatment solely at the Pukete Plant.	Less than proposed second plant	

Additional Water treatment Plant

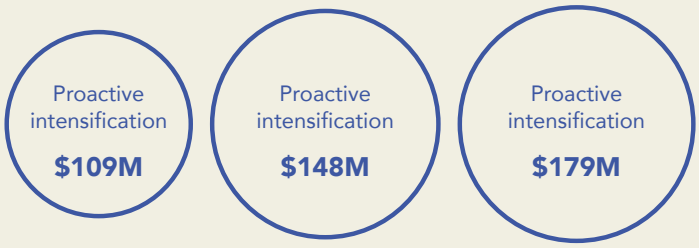
A long-term strategy for improving the resilience of the City's water supply network. The current forecast is for a capital investment of approximately $336M (inflated) from 2031/32 to 2034/35. A second treatment plant could increase treatment capacity for the subregion and, depending on the water source and associated reticulation, significantly improve resilience for water supply. The opportunity would need to be progressed with partnership from other subregional partners.



Key options for decisions include:

Option	Cost	Potential Implications
Utilising a different water source / water body from that currently used by the existing treatment plant.	Likely to be additional to new subregional treatment plant.	Using a different water source reduces reliance on Waikato River, and creates more resilience for the city.
Creation of a treatment plant that could provide for other areas in the sub-region that require water treatment improvements or more capacity.	Current estimate $336M	Sub-regional facility could potentially provide higher drinking water quality for surrounding regions. If project never becomes funded funded, this may result in reduced ability to supply water to the city and meet public health and drinking water standards, severe water restrictions/ management may be required.

Proactive intensification - Infrastructure to support future District Plan changes



A multi-decade programme with three packages of investments in three waters and transport infrastructure to support changes in landuse for intensification precincts within the existing city. The District Plan is being reviewed over the next few years and a focus of this review will be to identify specific precincts in the existing city where greater intensification can occur. These provisions are high-level indicative estimates to respond with strategic infrastructure investments for three intensification precincts – one precinct each decade. Options and indicative costs will be updated and refined as the District Plan review is progressed and specific infrastructure requirements can be assessed more fully and accurately.

Key options for decisions include:

Option	Cost	Potential Implications
Proactively scope, design and implement water and transport infrastructure investments to support intensification of three defined precincts in the existing city.	$114M (2024-2031) $262M (2031-41) $64M (2041-51)	Intensification cannot occur without infrastructure investment. The indicated programme may not be able to meet infill growth demand without effects on service levels and resilience of existing infrastructure. Legislation from central government will require intensification zoned within the existing city. Without the additional appropriate infrastructure, future developments may not be able to occur or may have poor service level outcomes.
Expand the number and scale of precincts that will be proactively serviced to allow for increased intensification.	Significant increase from indicated costs.	

Biking and Micromobility Programme

Decision to be made for level of investment at each LTP – this is a key transformative programme for the city. The programme is designed to improve the facilities for walking, cycling and other micro-mobility modes. It involves investment in completing safer routes throughout the city that connect neighbourhoods and centres. Only $97m of the entire $401m programme has been included as funded in the 2021-31 Long Term Plan.

Key options for decisions include:

Option	Cost	Potential Implications
Alter the level of expenditure to progress the programme and its outcomes.	Total programme estimate is $401M. Current budget is $97M and could be increased or decreased based on programme scope and timing decisions.	If full programme is not completed there could be gaps in the network, connectivity and service levels would be negatively impacted. Potential safety issues for active mode users may not be managed as well and utilisation of network for walking and cycling would likely be reduced.
Alter the makeup of the prioritised programme to give best benefit to most of the community.		

Strategic transport corridor investments

The Waikato Expressway is forecast to be completed by the end of 2021. This is likely to have a significant impact on how different types of transport are used and freight and passenger traffic enter and travel around the city. There are a number of potential strategic transport corridor investments that respond in different ways to transport network issues and provide different benefits. Changes in travel patterns and choices will be able to be monitored and assessed. At the 2024-34 Long-Term Plan, Council will be in a better position to consider whether any of these strategic transport corridor investments are required earlier than planned and the relative priority of any of the following improvements :

- Northern River Crossing
- Ring Road 4 - laning
- Cross City Connector.

Northern River Crossing

The Northern River Bridge crossing programme is to plan for, designate and construct an additional River bridge crossing to the north of the City. The new bridge will be required to help reduce congestion on the existing network – particularly the existing Pukete bridge and connecting roads. The bridge would also be required as part of the necessary strategic infrastructure to develop the City further north beyond the current Rototuna growth cell. A decision on the timing and nature of any new growth cell development is yet to be determined. The timing proposed for the Northern River bridge crossing is primarily driven though the need to improve network efficiency. The forecast cost for the Northern River Bridge crossing programme is in excess of $300M.

Key options for decisions include:

Option	Cost	Potential Implications
Confirm optimal timing for construction of any new river bridge and undertake construction.	$322M	Existing congestion at existing river crossings (Pukete Bridge) will increase to point of saturation during peak periods if bridge is not constructed in time and travel patterns and choices stay unchanged. Stage 1 funding would be desirable to align with growth and development in Te Rapa growth cell.
Limit investment to confirming route for the roading approaches and location of the bridge as part of the designation process.	Less than full cost of construction.	Designation project is out of sequence for Te Rapa North structure plan and is a risk that land procurement costs will increase in the future.
Identify and secure alternative opportunities for the funding of the infrastructure.	Funding from other parties would decrease costs for Council.	May allow construction of bridge to be undertaken earlier if it is able to be substantively funded by Government or not require additional Council debt funding.

Ring Road 4-laning

In the next couple of years, the 'Ring Road' will be completed with the construction of the Cobham Drive interchange. Over later years of this strategy there is likely to be a need to increase capacity through 4-laning sections of other parts of the existing Ring Road to accommodate an increase in all modes of transport. A programme of '4-laning' has been included in the 30-year forecasts over a 10-year period from 2025 to approximately 2035.

Key options for decisions include:

Option	Cost	Potential Implications
Completing the scope, design and construction of the roading, cycle, pedestrian, and public transport improvements.	$154M	Service level reductions and congestion issues will increase while improvements are not made or delayed. Potential cost increases if the current envisaged scope of improvements is increased. The impact on programme timing and delays will be better understood once the Waikato Expressway is connected to the corridor in late 2021. Congestion and service levels may be affected more than anticipated and prompt acceleration of the programme.
Alter the timing and sequence of the individual improvement projects that make up the 'Ring Road 4-laning programme'.	While the package can be delivered in parts, delay is likely to result in increased costs over the long term.	

Cross City Connector

The Cross-city connector programme is a series of strategic investments in the existing transport major arterial cross city connector to improve transport outcomes (safety, travel choice, efficiency). The Cross-city connector requires investment as the City grows to ensure that this critical route remains effective.

Key options for decisions include:

Option	Cost	Potential Implications
Completing the scope and defining the individual projects as they move through concept, planning and construction phases.	$384M	Scale of project is large and will have significant impacts on community and property ownership. Programming designation earlier in conjunction with NPS-Urban Development will provide certainty for the corridor and investments. Implementing the programme will be expensive and delivering final solution will take significant time, and will require a continuous programme to realise benefits.
The timing and sequence of the individual projects and programme elements.	While the package can be delivered in parts, delay is likely to result in increased costs over the long term.	

Ruakura East Transport Corridor

Ruakura east transport corridor
$85M

Construction of a new transport corridor to connect the end of Fifth avenue with the yet to be completed Ruakura expressway connection and intersection of Ruakura Road that is being upgraded. The new transport corridor with take the increased freight and traffic from the expressway off Ruakura Road and onto a fit for purpose 4-lane arterial corridor complete with walking, cycling and public transport facilities. A Business Case in being developed during 2021/22 to further define the scope and refine the indicative cost estimates.

Key options for decisions include:

Option	Cost	Potential Implications
Construct transport corridor following completion of Business Case and confirming details on how the transport corridor supports surrounding landuses (including Knowledge zone, Waikato University, Industrial and residential areas).	$85M	Unlocks the potential for the knowledge zone and industrial/residential areas within the Ruakura growth cell north of the rail corridor for Transport and other strategic 3-waters services. Without the project being completed regional trips will be unable to efficiently travel from the Waikato Expressway to Ruakura Road.
Consider additional matters for corridor scope, design and funding that may be identified through Business Case.		

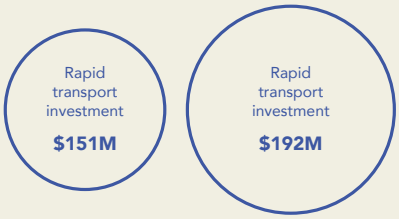
Stormwater improvements for Existing city

Council's Stormwater Master Plan has identified there is a significant investment in stormwater infrastructure required to deliver on the Vision of enhancing the health of the Waikato River. Much of the city's existing stormwater system doesn't involve any treatment before discharging into the Waikato River. Modern stormwater management practice involves retention of stormwater and treatment chains to manage its environmental effects. Significant investments are forecasted beyond year 10. A total investment of $1.68 billion is forecasted between year 11 and 30 in the Infrastructure Strategy for this purpose.

Key options for decisions include:

Option	Cost	Potential Implications
Identify individual projects based on the relative priority and undertake projects improving stormwater quality.	$1.68Bn	Statutory requirement will require Council to invest in improving stormwater management for existing parts of the city New comprehensive stormwater discharge consent will increase requirements for stormwater capacity and treatment management particularly in the brownfield environment. Potential fines and prosecution from failure to implement over time. Sourcing partner funding will allow for more investment in stormwater improvements to be made.
Determine if stormwater capacity standards should be increased for older/existing parts of the city – they were designed and constructed to lower standards than more modern areas of the city.	Not increasing standards in older/existing parts of the city, will result in less cost.	
If new funding options can be identified and used to help fund the significant investment required.	Funding from other parties will decrease costs for Council.	

Rapid Transport Investments



The Metro Spatial Plan anticipates the need for rapid transport investments in the future to support people moving easily around the city. The forecasted significant capital decisions are simply funding provisions for implementation of rapid transport investments, this is currently sitting at $343m. Further planning and scoping of projects will take place over coming years to determine options, scope and priorities for this investment. Future Long Term Plans will update these indicative estimates.

Key options for decisions include:

Option	Cost	Implication
Determine the nature and scope of investments to implement rapid transport – e.g. what are the types of services and what infrastructure is required to support these?	Initial funding provisions of $151M and $192M will need to be refined as the scope is developed.	Until nature and scope is understood scale of investment will change. Investment range could be significantly higher than indicated. Effects on landowners and the environment will not be understood until routes, locations and scale of investment are understood. Current strategic work will provide more certainty on direction or Rapid Transport that will inform any future decisions.
Confirm what and how areas and routes within and around the city are serviced.		
The relative priority and timing of projects.		

WEL Stand replacement – FMG Waikato Stadium

FMG Stadium Waikato WEL Network Stand **$76M**

The WEL Stand at FMG Waikato Stadium is aging and doesn't meet the expectations for a modern stadium. There is some funding in the early part of the Long-Term Plan to undertake seismic strengthening of the stand to allow for continued operation. However, this is not a long-term solution and decisions will need to be made over the next 10 years on the longer term future of the stand. Estimated cost associated with replacing the stand with a modern equivalent is likely to be over $70M – this is included in years 11 and 12 of the capital forecasts.

Key options for decisions include:

Option	Cost	Implication
Replacement of the stand with modern equivalent	$76M	Provide a better service to the community, with a stand to modern standards and associated facilities, toilets etc
Not replacing the stand and continuing to use the existing stand for as long as possible with minor investments – until unviable to do so	Significantly less cost if not replaced	That the current stand will deteriorate over time and be unable to be used. Potential to lose large scale events and associated revenue.

Water Demand Management Intervention

As part of any water take consent the Council needs to demonstrate that it is a responsible manager of the limited water resource. The Council has a range of initiatives and tools to help manage the increase in demand for water as the City grows. However, by 2029 the need for a further significant demand management intervention is forecasted. The nature of this intervention is yet to be determined. The intervention included is forecasted at over $50M – this includes installation of meters throughout the city.

Key options for decisions include:

Option	Cost	Potential Implications
Extension of water meters for volumetric charging to include all residential properties with Hamilton.	$53M	Installing water meters will change demand and provide resilience and potentially improved levels of service to the existing network.
Continuation and potential extension of education initiatives for smart water use	Significantly less than implementing city wide metering for water.	Continued education will support better utilisation of water. This option may not be sufficient to secure a future water take consent.

Nature in the city

Nature in the City **$19M**

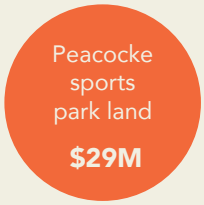
Undertake ecological restoration and development in the city's main gully systems to contribute to achieving the 10% native vegetation cover required in the city to ensure that ecosystems are sustainable over time. This programme will also assist in improving the health and wellbeing of the Waikato River. The development works include the creation of tracks and linkages to enable future maintenance and access for recreation. The funded provision is half of the original programme considered as part of the Long-Term Plan.

Key options for decisions include:

Option	Cost	Potential Implications
Deliver improvements after confirming scope, timing and relative priority of individual projects making up the programme.	$19M	Improved service levels such as ecological values and access to nature available to the community.
Explore and determine how Council can work with other partners to fund and deliver the programme for maximum community benefit.	Funding from other parties may decrease costs for Council.	Increased community buy-in in newly restored areas. Could result in decreased expenditure for Council or may allow for budgeted programme funds from Council to deliver increased outcomes if partner funding is available.

Peacocke sports park land

Funding provision of $29M for the purchase of land for future sports park in Peacocke. Further funding will be required to construct the sports park and associated infrastructure e.g. toilets changing rooms, drainage, field development, lighting and transport connections.



Key options for decisions include:

Option	Cost	Potential Implications
Purchase of land to secure future sports park in Peacocke.	$29M	Secures the right amount of land for future sport park development. Potential community frustration that land is not developed for end purpose and remains underutilised.
Completing scope and design to allow for construction of the sports parks and associated facilities.	Significant additional cost to developers for sports park use.	Surrounding development may occur before construction of sports park leaving Peacocke residents without a sports park to use for an extended period.

New library hub in Northwest

New library hub - north west **$44M**

A new library / community hub facility to service new growth and existing residents in the Northwest of the city. The concept for a library/community hub facility in the Northwest is yet to be developed further and there are many options as to the scope timing, funding and management partnerships and overall function of any facility. The provision is based on an investment similar in value to the new planned library in Rototuna. The inflated indicative estimate is $44M in the period 2047-2051.

Key options for decisions include:

Option	Cost	Implication
Council deliver new facility after confirming location, function, scope, timing and management arrangements for any investment.	$44M	New library hub in Northwest will mean that other community libraries aren't as busy and expensive upgrades may not be required in same timeframe. Missed opportunity to provide a valued community service, close to newly developed area. Will mean that residents in the Northwest won't have to travel as far to access a library.
Explore and determine how Council can work with other services / partner organisations that could be included in the scope and funding for this significant community facility.	Funding from other parties may decrease costs for Council.	Could result in decreased expenditure for Council, or may allow for budgeted funds from Council to deliver increased outcomes if partner funding is available.

Rotokauri park land and development

Funding provision of $42M for the purchase of land and undertake development for future sports park use in Rotokauri. The project will include construction of the sports park and associated infrastructure e.g. toilets changing rooms, drainage, field development, lighting and transport connections.

Key options for decisions include:

Option	Cost	Potential Implications
Completing scope, design and construction for the construction of the sports parks.	$42M	Project will create local usable sport park facilities for Rotokauri residents.
Timing of when construction of the sports field will take place to match surrounding development.	Current budget could be increased or decreased based on project scope and timing decisions.	Depending on timing of project, development activity may occur before construction of sports park leaving Rotokauri residents without a sports park to use.

Waterworld Building Renewals

Significant investment in renewing structural components of the Waterworld complex. By this time, the facility will be over 70 years old and while many of the individual assets will have been replaced over the intervening years - some of the more structural building elements will likely be requiring a significant investment to replace.

Waterworld building renewal **$72M**

Key options for decisions include:

Option	Cost	Implication
Undertaking a major structural renewal project on the Waterworld facility to upgrade and renew it	$72M	The current function that Waterworld has as a major regional swimming facility will be retained.
Demolishing the current facility and replace with a new modern aquatic centre	Significantly more than indicative estimate to renew structure	Could change the function Waterworld plays for the community and make significant improvements to service levels.

How Council manages its infrastructure assets

Asset Management Plans (AMPs) have been prepared for the Council's activities that have a high reliance on assets to deliver services. These plans have been revised for the 2021-31 Long-Term Plan based on standard industry practice and have been used to forecast the expenditure needed to operate, maintain and renew worn out assets as well as identify new assets that will be required in the future. The Council uses its Activity Management Plans as an initial basis for its Long-Term Plan and 30-Year Infrastructure Strategy.

The Long-Term Plan balances the forecasted spending needs with ratepayer affordability. This affordability has been determined by projecting revenue from rates and other sources and maintaining prudent debt levels. It is usual that not all the identified investments forecasted in AMPs can be afforded within funding available. In these cases, the budgeting process often prioritises expenditure on maintaining and renewing existing assets before creating new ones. On occasions, the Council also identifies assets that are no longer required. This is generally in conjunction with a decision to stop or reduce a level of service to the community. The Council considers its service levels for the community as part of each Long-Term Plan process.

The Council is committed to improving its AMPs and places focus on improving asset management processes and systems. Further investment on improving asset management will be made in the future to make sure the Council has the right information to make the best possible decisions on assets.

AMPs take strategic direction from a range of strategies, plans and documents. There are a number of high-level future focussed planning processes that have examined the need for future infrastructure to support one or more activities. Examples include:

- Metro Spatial Plan and supporting studies
- Master plans for three waters activities
- Access Hamilton – Transport Strategy
- Open Space Plan
- Community Infrastructure Plan.

Looking after and renewing Councils existing assets

Council has a clear commitment to 'look after what we have' and the 2021-31 Long-Term Plan provides for an increase in funding for asset renewal from previous plans. Renewing our existing assets that are at the end of their useful life helps to deliver quality service and to improve the amenity of the city. The community has an expectation that our assets are of a modern standard and that they are fit for purpose. As a city with an asset base that has grown rapidly since the 1960s, means that our investment in renewals is proposed to continue to increase over time as assets built since then come to the end of their useful life.

An asset is generally renewed or rehabilitated when it reaches the end of its useful life. A 'useful life' is determined through a combination of the following:

- An assets theoretical useful life as determined by the manufacturer.
- Condition of the asset deteriorates to a point where it is no longer economic to maintain the asset.
- When technology that the asset is based on becomes obsolete.
- When the asset can no longer carry out the function that it was intended to do.

The following asset parameters are assessed in order to develop the renewals programme:

- Material type (either known or assumed)
- Asset Age
- Asset Condition (e.g. sample analysis and visual inspections)
- Asset Performance (e.g. pipe bursts, leaks, valves not working, blockages and flooding)
- Asset Criticality.

In addition, other programmes of work assets are considered to ensure timeframes for renewal are aligned. For example, the footpath replacement programme and water reticulation renewal would be aligned to ensure that a new footpath was not being 'dug up' to renewal a water pipe.

Occasionally an asset will fail prior to its expected end of life, when this occurs, Council either:

- Carries out reactive maintenance to immediately return it to service, or
- The asset replacement is prioritised against the planned programme and renewed accordingly.

Councils assets are recorded in information systems that help in the modelling of future asset requirements and investment. The Council's asset base is vast and comprises over 300,000 individual assets or components. An increase in investment in technology and systems to streamline and improve asset management has been included in the 2021-31 Long-Term Plan. This will increase confidence in asset information and modelling for development of programmes and budget forecasts for future Long-Term Plans.

Council takes a multi-year portfolio approach to the delivery of its renewals programme. The organisational renewal budgets are managed and reported as a single programme that is made up of activity sub-programmes. The Long-Term Plan provides funding for renewals based on age, condition, condition and performance of existing assets at a point in time. However, changes are required to the initial programme as unforeseen events occur - resulting in changing priorities. Taking an organisational wide approach to renewal of assets allows flexibility to respond to these changing priorities without necessarily requiring additional funding. This approach has been undertaken since 2018 and has resulted in ongoing optimisation of the organisational renewals programme to minimise risks of asset failure and respond to inevitable changes in priority.

In the 2021-31 Long-Term Plan the renewals programme has been increased by approximately 10% from the 2018-28 Long-Term Plan. This is less than the initial budget forecasts for the replacement of assets as outlined in the base Asset Management Plans. However, the available budget it will be managed through a continuation of a programme approach to help ensure that risk based prioritisation delivers the increased level of renewals on assets that are highest priority. The level of renewal investment should not have a significant impact on services delivered to the community.

Improving the services provided to the community

Council's vision for Hamilton is described in the five priorities outlined earlier in this Strategy. The five priorities have been developed with input and feedback from the community and Council stakeholders. These help highlight where there are current service gaps and a desire to improve services and amenity across the city.

There are also improvements to services that are directed and driven from legislation and policies and required to comply with new and improved standards and good practice.

Improvements to current services and city amenity are considered in the development of Asset Management Plans for each activity and these form the basis of initial forecasts of infrastructure requirements for each Long-Term Plan.

As with other types of asset investment, not all of these desired improvements to services are able to be accommodated within the financial constraints of an affordable budget for Council and community. Council undertakes a range of responses to make sure it can undertake improvements to services despite the limited available funding, these include:

- Identifying and working with partners with shared goals to fund projects.
- Reviewing scope of projects and service improvements to minimise cost but still provide benefits.
- Delaying implementation to when there may be greater financial capacity.
- Exploring new funding streams or mechanisms to generate revenue to fund improvements (e.g. targeted rates or fees).

Managing the demand for new assets as the city grows

Council has statutory obligations under both the Local Government Act 2002 and Resource Management Act 1991 to plan for, and respond to growth through integrating land use with infrastructure provision.

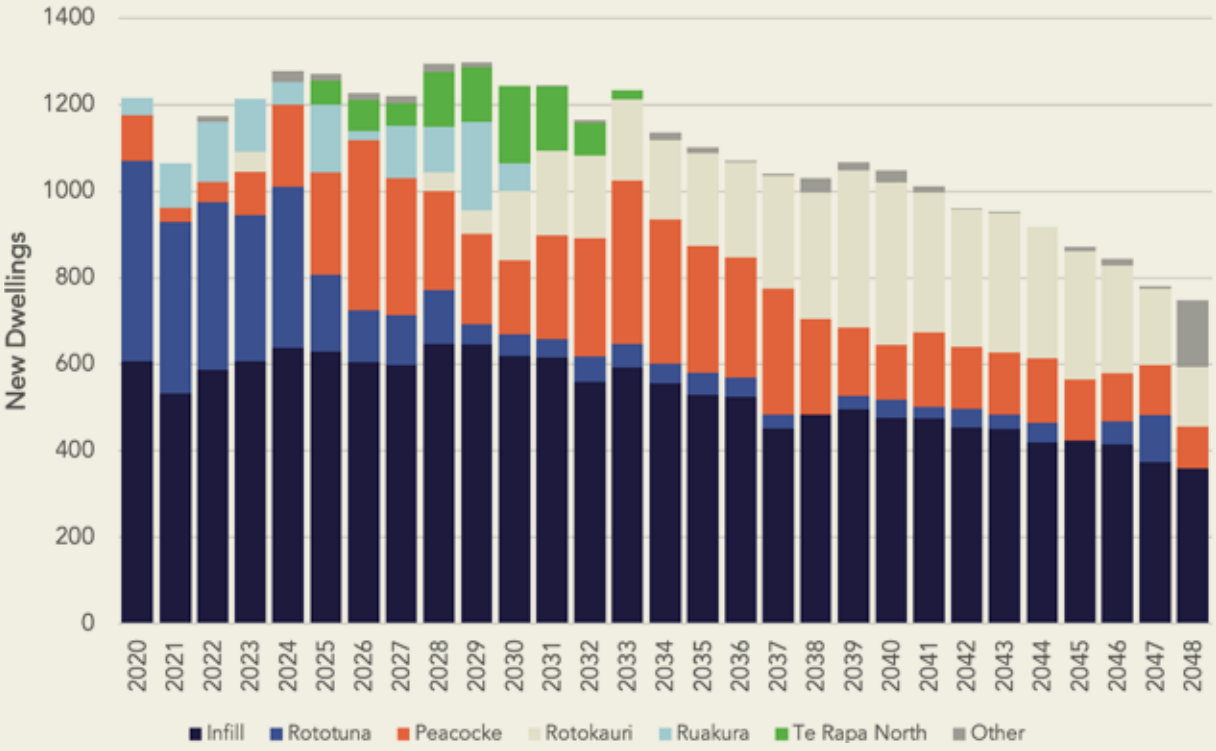
Council needs to plan for and respond to growth:

- To meet demand for housing and to provide jobs for people.
- To provide and accommodate a flexible range of housing options for the community to support wellbeing.
- To mitigate potentially negative impacts of unplanned and uncoordinated growth.
- To take a structured approach to strategic infrastructure provision and to get the best whole of life outcomes for least cost.
- As growth will keep coming regardless if Council plans for it or not.

A managed approach to growth is most economically efficient, however out of sequence development is often required to match land owner aspirations and plans.

Council has to anticipate where and when new growth will occur in order to plan effectively and efficiently. The below figure shows the annual forecasted growth in new dwellings that has been used to inform planning for the 2021-31 Long-Term Plan and this Infrastructure Strategy.

Figure 16: Sequence and planned timing for growth cells



Infrastructure provision for growth requires significant levels of capital investment, and more so for Council as Hamilton is one of the fastest growing centres in New Zealand.

In order to plan and deliver infrastructure to meet the requirements of growth, Council aims to strike a balance between projected growth, what levels of service it wants to provide, and what it can afford to deliver.

Figure 17: Balancing the drivers of growth investment

Ahead of Council developing a new part of the city, a business case is considered for the investment. Projects that are required to develop an area are delivered through a programme approach – helping Council deliver the right infrastructure investments at the right time.

Continuing to invest into getting growth cells strategically planned and ready for development has meant that Council has been in a position to take advantage of funding opportunities when they have arisen.

While being strategically planned for development brings opportunity, as soon as an area of land is zoned, this commits Council to ultimately funding the necessary strategic infrastructure and this may not be at the previously planned or optimal time for Council to do so. Council needs to carefully consider whole of cell costs and impacts on other growth areas at the point of making zoning decisions.

In addition to the above forecasts, Council has a requirement to provide enabling infrastructure to meet growth demand, with current Government policy requiring a supply of serviceable land that is twenty per cent greater than forecast demand.

This requirement creates additional tension between Council desire to deliver increased amenity and wellbeing to the existing city, with its legislative obligations to enable growth.

Council's response in preparing this strategy has been to balance these two tensions to deliver a programme of growth infrastructure in the first few years that invests at limited levels to meet demand and funds planning work for future growth, aligned to the Hamilton Urban Growth Strategy and the Metro Spatial Plan.

However, this approach is not a long-term solution to the growth funding issue and may need to be revisited in the future.

There is also some risk in this approach, especially if growth demand is stronger than expected.

Development with the provision of public infrastructure is a critical requirement. Should growth happen faster than forecast, Council can consider bringing infrastructure investment forward, although its ability to do so may be constrained by the availability of debt funding for required projects.

Alternative funding opportunities – Infrastructure Funding and Financing Act (IFF)

The recently enacted Infrastructure Funding and Financing Act (IFF) creates new opportunities for funding of infrastructure required for growth. It allows for a new funding mechanism to support the delivery of infrastructure projects that doesn't involve debt being recognised on Council's financial balance sheet and therefore limited by Council's debt to revenue ratio in its Financial Strategy.

The arrangement works through the creation of a Special Purpose Vehicle (SPV) which is separate from Council, that provides funding towards agreed infrastructure projects and in return levies a charge on properties in the area that benefits from the infrastructure for a period of up to 50 years. The funding provided by the SPV envisages funding also provided by Council and the developers, in line with benefit and causation assessments similar to that for development contributions. The infrastructure assets created are vested to Council once construction is completed and are the responsibility of Council to own and maintain. Any IFF commercial deal requires a detailed review and approval by the Government.

The intention of the IFF is to enable the faster delivery of infrastructure for growth areas to support a more competitive land market, and enable the provision of more new housing.

In order to access the IFF funding opportunity, Council needs to have progressed the planning infrastructure to a point where there is cost certainty. This includes having certainty of land acquisition, completion of detailed design and to be at construction contract stage for the strategic infrastructure.

However, an IFF needs to be considered carefully, because the effect of an IFF is to place a levy on individual properties (in addition to rates charged by the Council) for a long period of years. Affordability for the ratepayer needs to be considered, assessing total rates and IFF costs for the area that would be subject to an IFF deal.

Council may need to contribute capital funding to fund the non-growth or citywide portion of any infrastructure costs. Council also needs to be able to fund the operational costs associated with any infrastructure projects advanced/delivered under an IFF arrangement.

Providing for public health and environmental outcomes

Council prioritises infrastructure investments that have a public health and environmental compliance outcome.

Hamilton is located on the Waikato River and much of the investments in environmental outcomes relate to giving effect to Te Ture Whaimana o Te Awa o Waikato – the Vision and Strategy for the Waikato River. Particularly Council's three waters and transport activities have a direct relationship with the River and either use water from or discharge into it. The long term and operational planning for these activities include investments required to deliver on the Vision.

Over recent years Council has developed master plans for each of the three water activities and these provide a high-level blue print of requirements for sustainable and responsible management of the three waters activities.

Alongside the Council's own work on future infrastructure requirements, the Metro Spatial Plan includes work on long-term infrastructure requirements for

development at a subregional level. Taking a broader geographical area for analysis and planning allows for consideration of economies of scale and service resiliency that would not otherwise be possible. Where appropriate, a Hamilton-city share for significant water and wastewater treatment infrastructure investments have been included in indicative estimates for this strategy.

Consents for use of Waikato River

Council has consents with Waikato Regional Council for taking water from the river, treating and discharging wastewater and managing stormwater. These consents are periodically renewed and through these consenting processes, conditions are imposed for the use of the river resources.

Where future investments are required to meet conditions of the consent, these are included in Asset Management Plans for each relevant activity. These have formed the basis for the development of Long-Term Plans and given the public health outcomes – particularly of the water and wastewater activities, these are prioritised in Long-Term Plan budget preparation.

Planning for climate change

Climate change impacts are already being experienced in New Zealand. Council has a role in both supporting our community through the transition to a low carbon future and preparing for the changes in climate. Council is planning to reduce greenhouse gas emissions from its operations.

In the Council's 2020/2021 Climate Change Action Plan two targets for Council emissions were set:

- 50% reduction of gross emissions (excluding biogenic methane) by 2030 (from 2018/19 baseline)
- 25% reduction of emissions from biogenic methane by 2030 (from 2018/19 baseline).

The Action Plan also sets out actions that Council is taking to reduce community emissions and to build the community's resilience. Council is currently developing a 2050 Climate Change Strategy that will outline how Council proposes to transition to a low carbon and resilient city.

The 2050 Climate Change Strategy will be a key informing document for future planning and delivery of infrastructure.

Ensuring infrastructure is resilient

Responding to climate change

The Council has commissioned modelling to start to better understand the potential future climate for Hamilton. The modelling applied two future climate scenarios to a number of climate variables at two future points in time, 2050

and 2100. The two scenarios used were internationally accepted climate change scenarios for modelling and are referred to as RCP (Representative Concentration Pathway) 4.5 and RCP8.5.

There is little variance in the outputs from all four RCP models up to about 2040/2050. In the second half of the century the difference increases between the RCPs and there is a greater amount of uncertainty in the modelled outputs.

To start to understand the potential future climate impacts on Council infrastructure, the following key climate variables have been focused on:

- rainfall (average and extreme)
- temperature (average, maximum, minimum, hot days, hot nights)
- wind.

For some climate variables the modelling showed minimal changes to 2050 whereas for others, like temperature, the projections show changes just slightly lower than the projected global changes. The modelling also projects that there will be an increase in hot days and nights by 2050 under both modelled RCP scenarios. Hamilton is also likely to experience minor changes to monthly rainfall patterns in the period to 2050 and these changes will then increase in the second half of the century. Changes in extreme rainfall are also predicted to increase for both RCP scenarios. There will be effects on Council infrastructure from both gradual changes to climate as well as abrupt impacts.

Water is often considered to be one of the key focuses for adaptation. Climate change will exacerbate water issues – too much water, too little water and poor water quality. These three problems particularly pose challenges for the management of Council's three waters infrastructure, as well as the transport network and other community facilities. As conditions change more rapidly, from dry to wet, and extreme events increase in frequency and intensity, Council will incorporate more adaptive planning responses.

The climate change modelling discussed above and forecasting infrastructure impacts will be used to inform a climate change risk assessment for Hamilton. Our adaptation planning will be informed by the risk assessment and will then be integrated into future Infrastructure master plans, asset management plans, business cases and project planning processes.

Although Hamilton is not as exposed as many other cities around the world and the worst impacts are not expected until the second half of the century, infrastructure planning must start to incorporate these climate change risks to build long term resilience. The Council is putting in place the relevant processes and gathering the modelling and data to support appropriate infrastructure decisions into the future.

Natural hazards

Hamilton has a lower exposure to natural hazards than many other communities throughout New Zealand due to its location, topography and being an inland city. However, there are still natural hazard risks that city faces, and the key risks have been identified as being:

- flooding
- land instability
- earthquake shaking
- liquefaction and lateral spreading
- ashfall.

Each of these hazards can affect the integrity and operation of infrastructure in different ways. To make Council infrastructure and continuation of services more resilient to natural hazard risks the following process is being undertaken:

1. Understanding asset criticality – making sure that the most critical assets for the provision of a service are identified and managed. This information currently forms part of Asset Management Plans for each activity.
2. Mapping areas of the city with higher natural hazard risk – for each risk having a spatial representation of the relative risk of the hazard to allow for spatial analysis. A review of the available data already available for this has recently been undertaken.
3. Spatial analysis to identify vulnerable assets – combining the spatial information on critical assets and hazard risks to identify where there may be existing critical infrastructure in areas of higher risk to natural hazards.
4. Develop and implement plans to minimize risk of existing asset damage or service interruption.
5. Use natural hazard risk information for planning for more resilient networks in the future. Natural hazard information is used in the development of strategic planning processes for infrastructure such as the Stormwater Master Plan.

For a number of years Council has been working through a programme of assessing and upgrading its buildings for seismic performance. Significant strengthening works have already been undertaken and there is approximately $15 million included in the 2021-31 Long-Term Plan budget to continue strengthening works on a prioritised risk based approach. Council is yet to consider the long-term future of some of the buildings that require strengthening and this will occur prior to any works being undertaken. All required seismic upgrades to buildings have been forecasted and included in relevant Asset Management Plans. The key sites that have seismic upgrades to buildings included in the 2021-31 Long-Term Plan include:

- WEL Network Stand – FMG Waikato Stadium

- Municipal Building – Caro wing
- Artspost
- Waterworld.

The major infrastructure resiliency issue for Hamilton relates to have a single water source – the Waikato River, and single treatment plants for water and wastewater. While these plants are well maintained and operated, if either plant was unable to operate for an extended period continuity of supply for the water and wastewater services would be impacted. Continued collaboration with other nearby river communities and investment in additional treatment plants and strategic networks will be a critical step in improving resiliency of water and wastewater services for the subregional population as a whole. Financial provision has been included in this strategy's estimates for a Hamilton cost-share for these additional treatment plants and networks.

Delivering our Programme

Council has been significantly increasing its delivery of the capital programme over recent years, from a capital spend of $95m in 2017-18 to a forecast of around $200m in 2020-21.

Over the next few years, further increases in the delivery of the capital programme will be required to meet the level of capital expenditure planned in the LTP.

The programme is large and will require a well-functioning and resourced contractor market to make sure it can be successfully delivered. Despite currently being under pressure with the level of construction taking place, the Waikato construction market is healthy.

Council is helping to ensure successful delivery of the programme through:

- already having a significant component of the forward works programme contractually committed and underway. There are nine major projects already contracted for the 2021-22 financial year to the value of $147m.
- having a fit for purpose organisational structure. This includes an Enterprise Portfolio Management Office (PMO) and a dedicated project/contract delivery team. This team operate a portfolio, programme and project management and governance structure.
- continuing to provide visibility of our forward works programme to the industry.
- reviewing and optimising our contract and procurement models to support and secure industry capacity for the delivery of our capital works programme.

Council works with its supply chain and delivery partners, to help ensure early contractor visibility and that there is appropriate industry capacity to deliver on the programme.

Infrastructure activities

Water

Council provides Hamilton's residents and businesses with a safe, high-quality, reliable and sustainable service, through treatment, distribution and management of Hamilton's water supply.

Raw water is drawn from the Waikato River into the water treatment plant, where it is treated to provide a high standard of drinking water. Council also strives to provide water at the appropriate pressure for its intended use and firefighting.

Context

The City's water supply system is made up of a single treatment plant, nine reservoirs and over 1,250km of associated pipe network.

Water treatment

The treatment plant relies on the Waikato River as a single water source. The plant is capable of drawing up to 105 million litres of water per day from the river. Between 2.5 and 5.0% of all water is returned to the river as part of the treatment process. The sustainable peak treatment capability of the plant is about 78 million litres per day. During summer, peak demand has reached up to 90 million litres per day and in the evenings a large portion of the demand for water is met from reservoir storage.

Water storage

The City has nine reservoirs, providing a total of 112 million litres storage. Water storage equivalent to peak demand per day is required for emergency purposes. However, as the city grows, additional reservoir storage will be required for emergency purposes and water supply during peak periods.

Water distribution

Treated water is pumped from the treatment plant to the reservoirs and users through approximately 1,250km of pipe network. As is expected in any urban centre, the network is made up of various pipe materials of different ages, which results in some water loss through leakages. The leakage in Hamilton is estimated to currently be about 16% of water that is treated.

Asset group	Asset type	Purpose and description	Quantity	Value $000s
Water treatment	Civil, structural, mechanical, electrical and automation	Treatment plant that treats river water for human use.	1	62,509
Storage	Reservoirs	Used to store treated water. To meet drinking water standards, we must be able to store enough water to meet 24 hours of average water demand.	9 operational	33,612
Network	Service connections	Pipe that connects the private water pipe within a property to the water network.	54,259	43,557
	Bulk watermains	Bulk watermains carry treated water from the treatment plant to the reservoirs.	1,251 km	298,725
	Reticulation pipes	Pipes of decreasing sizes that carry treated water from treatment plant or reservoirs to properties.		
	Valves	Devices to control the flow of water from one pipe to the next.	11,412	24,244
	Hydrants	Above-ground connection that provides access to a water supply for the purpose of fighting fires or for flushing.	6,891	18,675
	Meters	Measure water use for our commercials and industrial customers and bulk water flows within the network.	3,875	3,090
	Backflow Preventers	These devices prevent water from private pipes re-entering into the water network.	286	319
	Bulkmain Chambers	These are miscellaneous assets grouped together consisting of manholes and chambers that house various valves.	48	234
Total value				**484,965**

Asset Group	Asset Type	Reliability Grade	Comments
Buildings		B - Reliable	Buildings are recorded in the corporate asset management system (IPS). Overall, buildings data is graded 'B'. Some data is estimated and further improvements are required to improve data reliability.
Network Assets		C to B	We have sound asset knowledge of underground assets. The current asset condition information is primarily based on age for most of the assets. Age derived condition of underground assets will continue to be determined as part of the ongoing renewal planning programme, but it is intended to be expanded in the future to incorporate performance based data.
Treatment and Storage Assets		D - Very Uncertain	Approximately 80% of civil, mechanical and structural assets are captured, there is still attribute information to be updated. No asset information is currently available for electrical or SCADA assets. A Building Information Management (BIM) project is underway to improve asset data capture at the treatment plant, the focus is on above ground assets.

Indicative estimates

Capital expenditure

The estimated capital needs for the water supply activity have been prepared for the next 30 years. The forecasted capital expenditure from year ending 30 June 2021 to 2031 has been included in the 2021-31 Long-Term Plan.

Figure 18: Forecasted yearly capital expenditure for Water – 2021-31 Long-term Plan

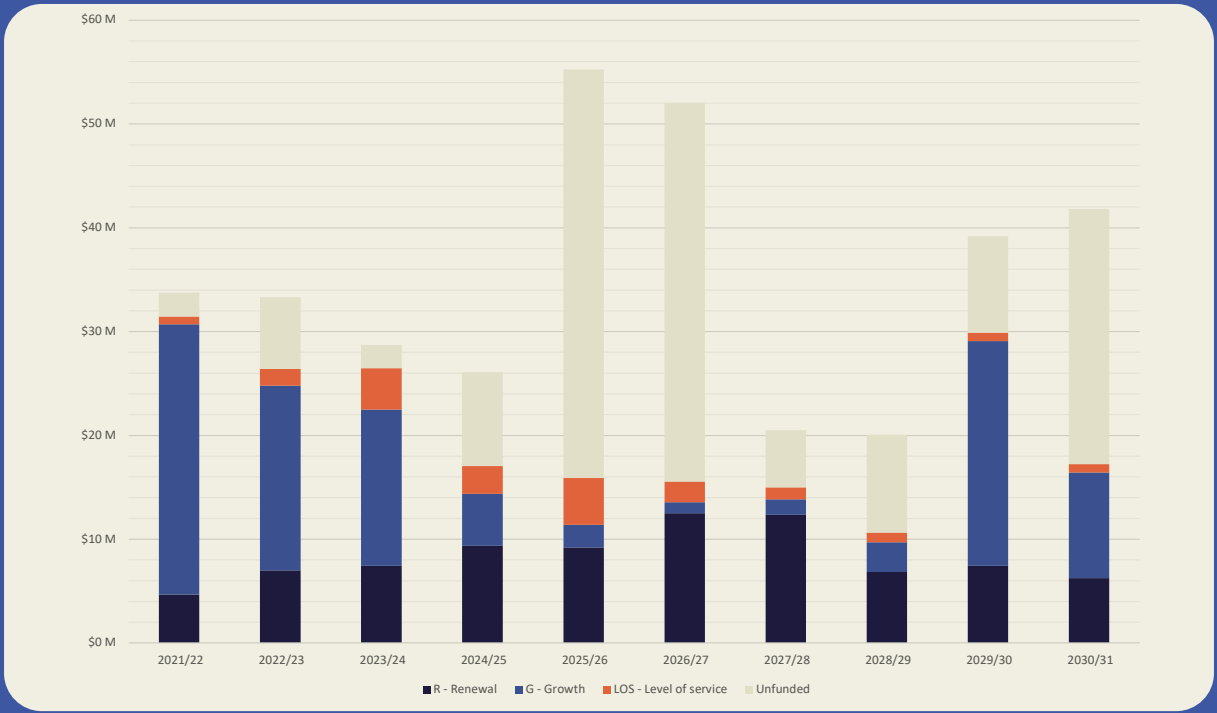
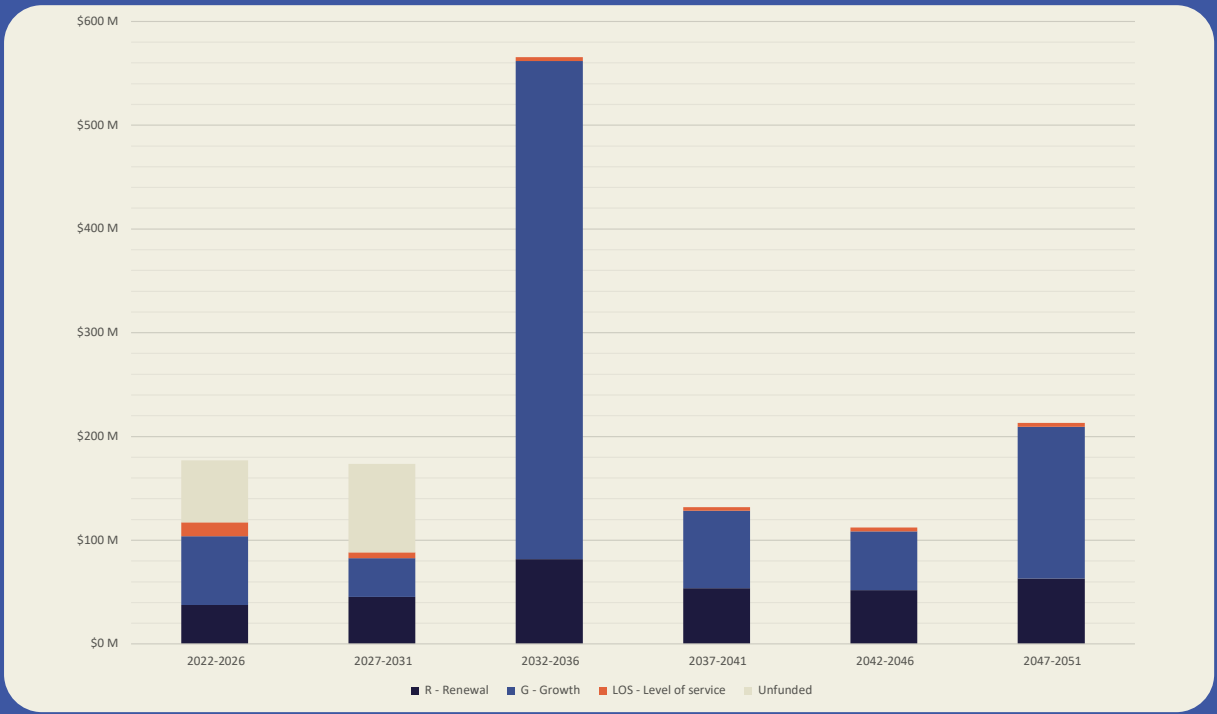


Figure 19: Forecasted capital expenditure for Water - five yearly periods – 2021-51



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2021 to 2031 has been included in the 2021-31 Long-Term Plan. Estimated expenditure beyond 2031 is based on the year 10 forecast and then adjusted for anticipated future growth of the city.

Operational expenditure includes indirect costs to provide the service to the community such as depreciation, interest costs and overheads. Forecasted operational expenditure is shown as gross costs.

Figure 20: Forecasted yearly operational expenditure for Water – 2021-31 Long-Term Plan

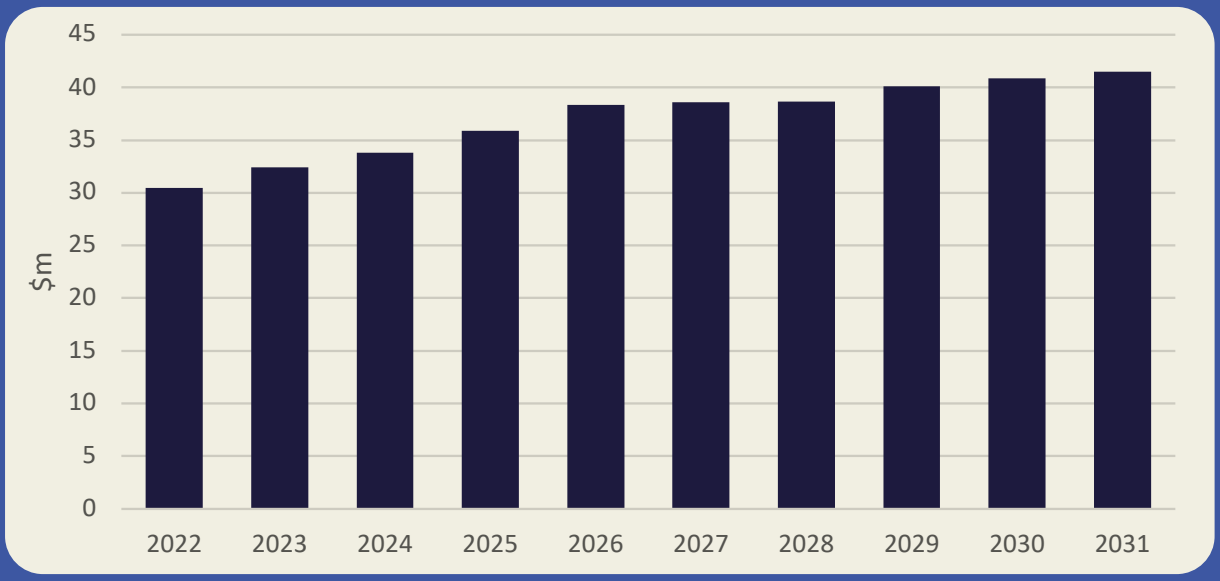
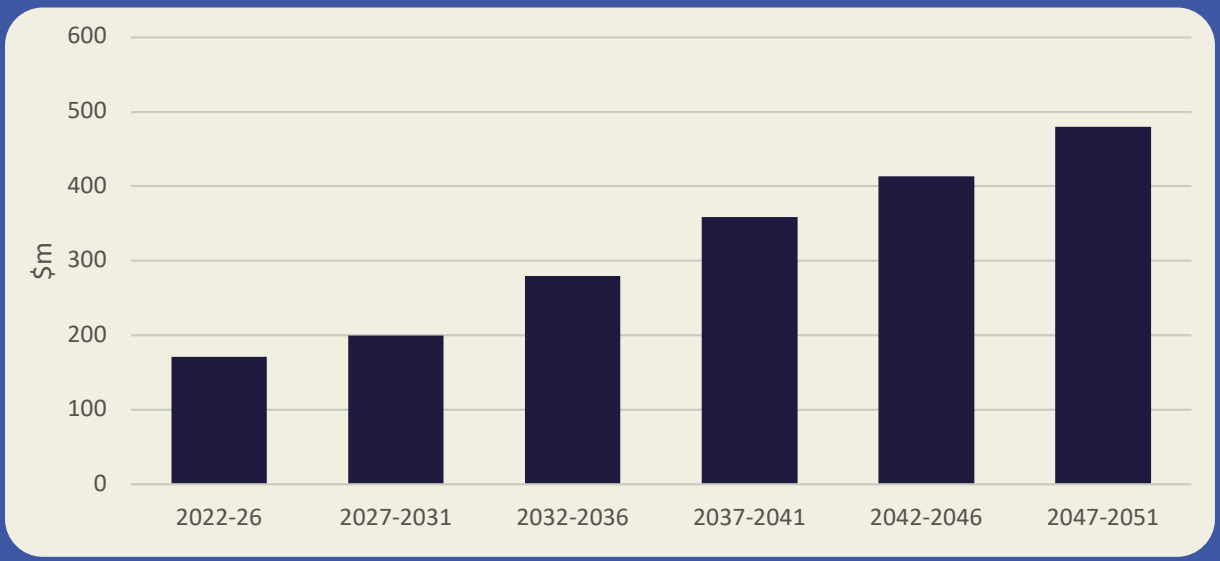


Figure 21: Forecasted operational expenditure for Water – five yearly periods – 2021-51



Current and future assets

Bulkwater Network
HAMILTON CITY

Already developed
Growth area
Main transport corridors
Hamilton Water Treatment Station
Bulkmain
Future bulkmain
Reservior
Future reservior

Assumptions

Lifecycle of significant infrastructure assets

Asset group	Useful life (years)
Bulkmain chambers	100
Backflow devices	40
Meters	15
Hydrants	
Pre-1996	50
1996 or later	75
Aerial mains	
Exposed or Aerial Pipes	50
Ducted Pipes	100
Pipes	
Asbestos Cement	60 – 80
ALK	50
PVC – Rider Mains*	45 – 100
PVC - Other	100
PE, Cast and Ductile Iron Concrete Lined, Stainless Steel, MS	100
Case Iron	60
Copper	40
Ductile Iron	90
Valves	40-75
Reservoirs	
Tanks	80
Building	15 – 100
Pipework	15 – 60
Electrical and Mechanical	15 – 30
Treatment Plant	
Civil – Tanks, Building, Pipework, Metalwork	16-100
Electrical Services	5 – 40
Instrumentation	10 - 30
Mechanical Services	5 – 50
Pumps and Motors	40
Cathodic Protection Device	15-100

**For the 2015 Valuation all PVC mains had a base life of 100 years. In 2016 a study showed that PVC rider mains should have a reduced base life. A range of 45-100 years has been used for the renewal's forecasts in this Strategy.*

Growth or decline in the demand for relevant services

Infrastructure that is required to provide for growth is forecast through analysing a combination of:

- population projections
- hydrological network and process modelling
- capacity reviews at the treatment plant
- strategic network and treatment plant requirements determined through Master Plans
- engagement with government, regional council and neighbouring councils on future infrastructure requirements
- developing integrated catchment management plans (ICMPs) which will identify issues and propose best practicable solutions for growth on a catchment basis.

Key water infrastructure assets that are anticipated to provide for growth include:

- network extensions for greenfield growth cells
- capacity and quality upgrades in the future of our water treatment plant
- new reservoirs to support growth
- specific network capacity improvements within the localised pipe network
- integration of new vested infrastructure into our networks.

Increases or decreases in relevant levels of service

The Council has water infrastructure to provide households and businesses with a safe, high quality and sustainable water supply.

In general, the Council is planning to keep its service levels the same. In order to maintain the current service levels the Council is planning to spend more than has been spent in recent years on water infrastructure. With this additional investment our assets will be more resilient, and residents and businesses can continue to expect:

- water that is safe to drink
- the water network to be well maintained
- a timely response if there is a problem with the water supply
- a quality service
- the water supply to be managed so demand does not outstrip the available capacity.

Renewal of assets

Water pipes

Material type is the main parameter used in developing the renewals programme, as it is the predominant factor influencing the anticipated asset life. The renewals programme methodology only utilises condition data for AC water mains, as this is the only data currently available. Asset performance is assessed using the number of historical failures of an asset e.g. pipe bursts. Pipe criticality has not been used in the pipe renewal programme but will be considered in the future. Generally, when a pipe is replaced, all hydrants, valves and connections are also replaced.

Water connections

These are normally replaced with the reticulation pipe. We also carry out connection renewals prior to footpath replacements where there is a need to do so.

Water valve, meters, hydrants

This programme is only for those assets that are not due to be replaced within ten years of their associated watermain. The programme for renewals has been determined using past performance. The physical works are undertaken once the annual condition assessment programme is completed.

Water backflow devices

The Health Act requires backflow devised to protect the public supply must be tested annually. At present there are no comprehensive renewals or testing programme for testable backflow devices.

Water treatment plant and water reservoirs

A Building Information Modelling (BIM) system is being implemented for treatment plant and reservoirs assets to improve capture of inventory data, maintenance activities and condition assessments. A 50-year renewal programme was developed using the following methodology:

- Development of an initial list of projects based on staff knowledge of works that are required to be done, this will include priority projects as well as requests for improvements.
- Asset data types and quantities will be extracted from Maintenance Connection and the programme developed based on general life expectancy of those assets types.
- High level scopes were prepared to enable prioritisation and costs estimated to be developed. The scopes include but not be limited to: whether investigation and design is required, justification for the works, whether there are any special considerations that may affect costs e.g. construction complexity or major process isolation, initial estimation of costs (potentially into categories, high, medium or low).

- The programme was prioritised with input from stakeholders.
- A cost estimate was developed with assistance from external experts.
- Final programme developed. Once a complete asset register is available for the treatment plant and water reservoirs, it is planned to develop a component level criticality framework. Key items in terms of consideration are process criticality, redundancy, resilience and maintenance criticality. When the criticality of the treatment plants and reservoirs assets is assigned the following policy will be adopted:
- critical assets – planned renewal
- non-critical assets – run to failure.

Resource consents

The resource consent renewal programme methodology is based on existing consents and identified required new resource consents. Expiry dates are documented to determine the financial year in which a new consent is required. It is expected that lodgement of the consent is done a minimum of six months prior to when the consent is required/expired to ensure continued use rights. For significant consents such as water takes, funding for detailed investigations and hearing processes need to be scheduled a minimum of two years in advance. Where significant scientific justification to support an Assessment of Environmental Effects (AEE) is required (e.g. monitoring program), the schedule should be established a minimum of three years in advance.

Water model

Network models are a key tool for assessing network performance, identifying deficiencies and assessing proposed solutions. It is planned to regularly update the network models to include updated population projections, amending for any asset additions or operational changes and recalibration as and when required.

Wastewater

Council provides Hamilton's residents and businesses with a sustainable, reliable and cost-effective service which includes collection, conveyance and treatment of wastewater and trade wastes discharges.

Context

The City's wastewater system is comprised of a single centralised wastewater treatment plant, 128 pump stations and over 849km of connecting pipework. The system services over 53,000 households, and provides trade waste services to over 5,500 commercial and industrial premises.

Wastewater reticulation and pump stations

Wastewater is removed from commercial, industrial and residential properties via various pumping station and pipe networks to the wastewater treatment plant. As is expected in any urban centre, the network is made up of various pipe materials and ages, which results in some water infiltration.

The city has 131 pump stations which are controlled through a centralised computer system. The Council has commenced an upgrade programme to achieve a six-hour storage standard for all wastewater pump stations to provide improved environmental performance in the event of power or pump failure.

Wastewater treatment

The treatment plant is a biological plant that can receive and provide primary treatment for up to 2,000 litres per second of wastewater and up to 600 litres per second for secondary treatment (nitrogen removal etc.).

Our wastewater treatment plant relies on the Waikato River as the receiving environment for final treated effluent. The quality of final discharge has improved over time as capital improvements have occurred on site. There are two principle challenges. Firstly, peak flow into the plant, which is typically experienced during high rainfall events. Secondly, the health of the biology at the plant, which can be impacted by external events.

The existing resource consent for the wastewater treatment plant expires in 2027 and a high focus on discharge quality can be expected.

Overview of assets

Asset group	Purpose and description	Quantity	Value $000s
Service connections	A pipe that connects the private sewer within a property to the wastewater network.	58,820 connections	61,158
Interceptor pipes	Large diameter pipes (typically larger than 525mm diameter) that provides conveyance from each area of the City to the treatment plant.	849 km	442,664
Pipes	Once the wastewater leaves a property it travels in pipes to the interceptors. There are a number of different types of pipes within our network including: • gravity pipes • rising mains • interceptors • bridges.		
Manholes	Service opening which allows access for inspection, cleaning or maintenance of the public wastewater network.	16,597	131,532
Pump stations	Pump stations are installed at low points in the network so that wastewater flowing from these areas can be lifted to a higher point and continue its journey to the treatment plant under gravity.	128	24,414
Treatment plant	The treatment plant converts wastewater and trade waste into a disposable effluent and solids.	1	77,359
Total value			**737,127**

Asset Group	Asset Type	Reliability Grade	Comments
Buildings		B - Reliable	Buildings are recorded in the corporate asset management system (IPS). Overall, buildings data is graded 'B'. Some data is estimated and further improvements are required to improve data reliability.
Network Assets		B - Reliable	The data for the pipes and manholes is generally good, there are still some gaps and this is updated as the information is received.
Pump Stations		B - Reliable	The pump station data is complete in IPS, staff regularly visit these sites, so the data is reliable
Treatment Plant		B-C	Approximately 80% of civil, mechanical and structural assets are captured, there is still attribute information to be updated. No asset information is currently available for electrical or SCADA assets. A Building Information Management (BIM) project is underway to improve asset data capture at the treatment plant, the focus is on above ground assets.

Indicative estimates

Capital expenditure

The estimated capital needs for the water supply activity have been prepared for the next 30 years. The forecasted capital expenditure from year ending 30 June 2021 to 2031 has been included in the 2021-31 Long-Term Plan.

Figure 22: Forecasted yearly capital expenditure for Wastewater – 2021-31 Long-term Plan

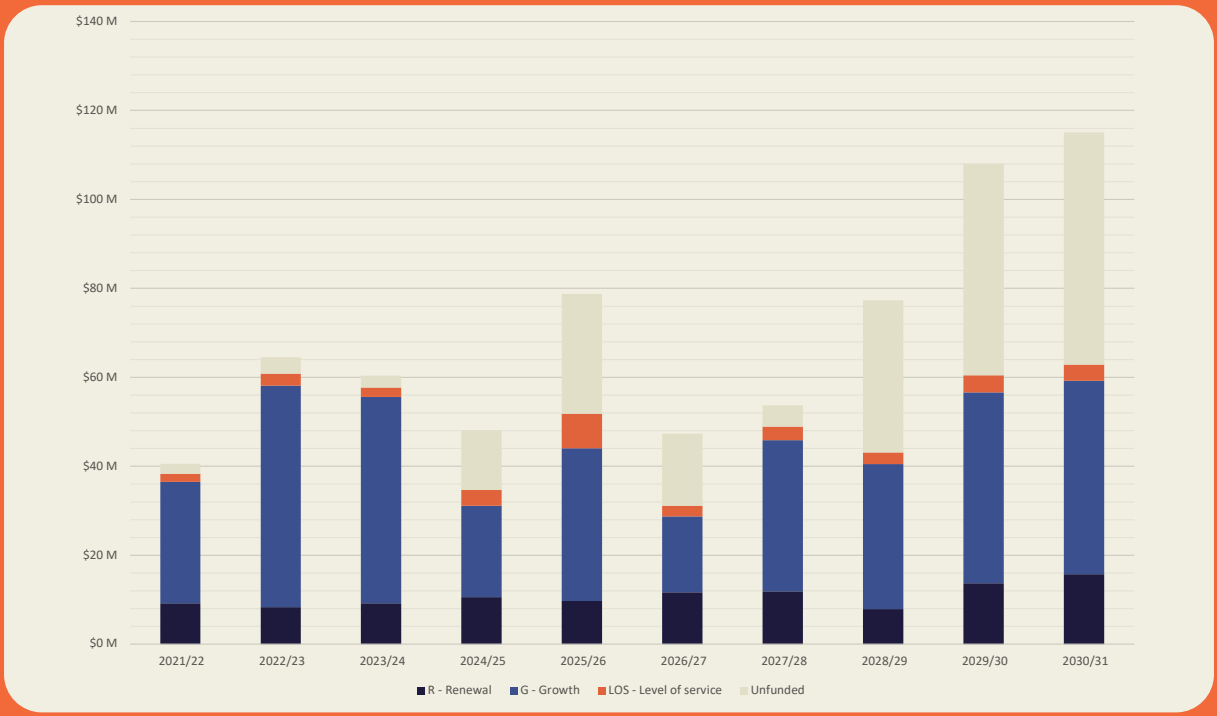
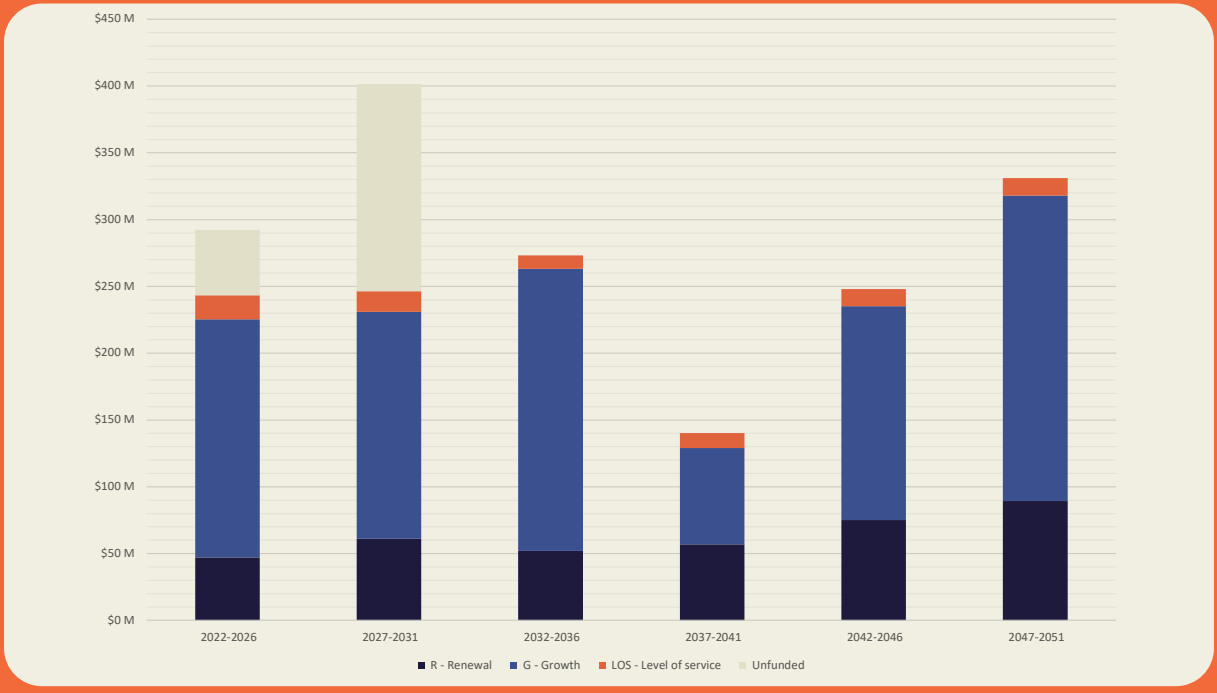


Figure 23: Forecasted capital expenditure for wastewater – five yearly periods – 2021-51



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2021 to 2031 has been included in the 2021-31 Long-Term Plan. Estimated expenditure beyond 2031 is based on the year 10 forecast and then adjusted for anticipated future growth of the City.

Operational expenditure includes indirect costs to provide the service to the community such as depreciation, interest costs and overheads. Forecasted operational expenditure is shown as gross costs.

Figure 24: Forecasted yearly operational expenditure for Wastewater – 2021-31 Long-Term Plan

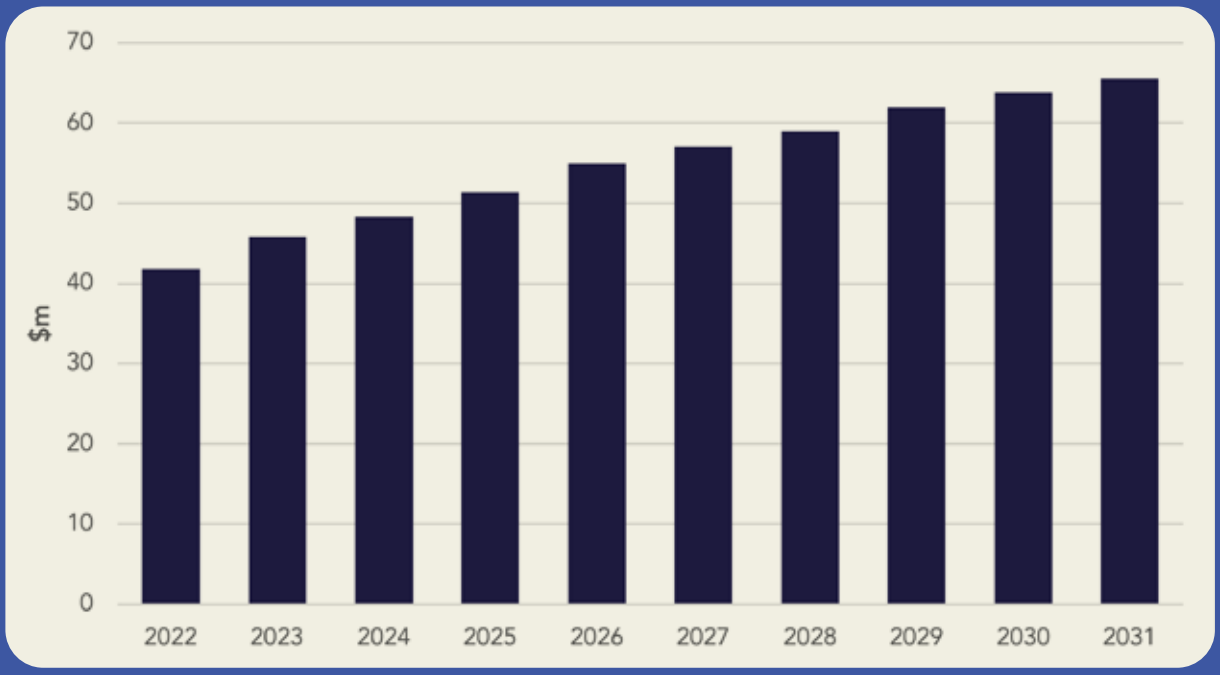
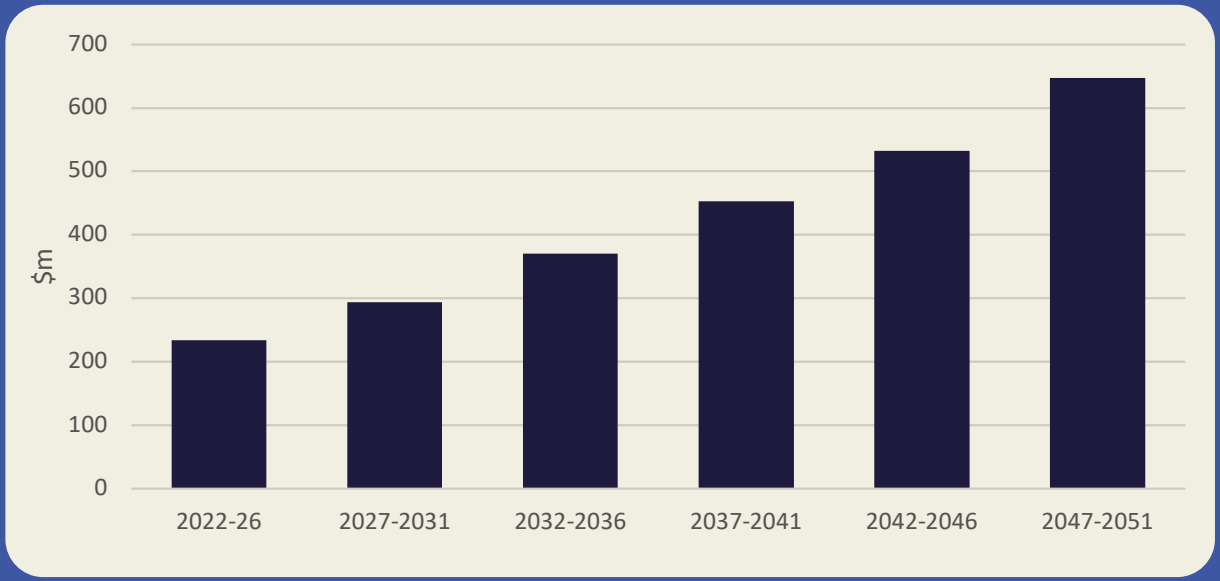


Figure 25: Forecasted operational expenditure for Wastewater – five yearly periods – 2021-51



Current and future assets

Bulk Wastewater Network
HAMILTON CITY

Already developed
Growth area
Main transport corridors
Wastewater Interceptor
Future Wastewater Interceptor
Wastewater Treatment Plant

Interceptor Pipes
1 - Northern Interceptor
2 - Far Western Interceptor
3 - Western Interceptor
4 - Central Interceptor
5 - Eastern Interceptor
6 - Far Eastern Interceptor
7 - Southern Interceptor

Assumptions

Lifecycle of significant infrastructure assets

Asset group	Useful life (years)
Aerial pipes	
Exposed	50
Ducted	100
Pipes (Rising Mains)	
Asbestos Cement (AC)	40
Pipes (Gravity)	
Asbestos Cement (AC)	60 – 80
Earthenware, PVC, PE, MDPE, SSCL	100
Earthenware cured in place	50
HDPE	50 – 100
Reinforced Concrete, Stainless Steel Cement Lined	75
Stainless Steel	30
Lined >=375mm	75
Manholes	100
Valves	40 - 75
Pump station	
Electrical Cabinet and Level Control	15
Wetwell	75
Storage and Valve Chambers	100
Lids, Valves and Pipework	40
Pumps	20
Electrical	75-100
Treatment Plant	
Civil – Tanks, Building, Pipework, Metalwork	16-100
Electrical Services	5-40
Instrumentation	10-30
Mechanical Services	5-45
Pumps and Motors	40

Growth or decline in the demand for relevant services

Planning for wastewater infrastructure assets to provide for new growth in the city has assumed that:

- New greenfield areas of the city will be serviced through the main reticulated network and existing treatment plant rather than standalone wastewater package plants.
- Wastewater assets from new development will be added to the existing reticulated network resulting in necessary interceptor and trunk extensions for greenfield growth cells.
- Capacity upgrades of our water treatment plant will be required to accommodate growth.
- There will be a need to increase the capacity of the existing network resulting in the need for a number of large inline storage tanks.

Projected population and resulting wastewater volumes have been based on the Council's growth model using population projections prepared by National Institute of Demographic and Economic Analysis (The University of Waikato).

No allowance has been made for new wet industry in the city as these have unique requirements that are not known until a specific proposal is put forward for consideration.

Increases or decreases in relevant levels of service

The Council's wastewater activity provides Hamilton with reliable services that protects both people's health and the health of our waterways. Wastewater is provided in a way which meets the requirements under the Local Government Act 2002, Health Act and resource consent conditions.

There are currently some levels of service gaps around trade waste capacity, reliance on biological wastewater treatment, and some pump stations throughout the City overflow during wet weather. The budgets set in the 10-Year Plan and this Infrastructure Strategy will address some of these issues.

With this level of investment, our assets will be more resilient, and residents and businesses can continue to expect:

- The wastewater system is adequately designed and maintained.
- The wastewater system to be managed in a way that does not unduly impact on the environment.
- The wastewater system will be operated and maintained to minimise odour and blockages.
- A timely response if there is a problem with wastewater system.
- A quality service.

Renewal of assets

Wastewater pipes

The wastewater pipe renewals programme development and optimisation are based on a combination of base life, closed circuit television condition rating, and blockage report from IPS. All pipelines with four of more blockages were investigated. Also, all the Council grid areas with more than 20 blockages were investigated along with sites recommended by operations staff. The outputs and recommendations from the Wastewater Master Plan and Wastewater Hydraulic Model are also taken into account. Based on the above, an initial programme has been developed targeting aged pipes within the reticulation. In the 2021-31 Long-Term Plan the manholes have been programmed separately and the costs associated with replacement added to the funding requirements. There has been a programme in place to replace most of the AC rising mains by 2021/22 due to their poor condition. There is a large peak of renewals due in 2025, primarily due to a large amount of 1925 Earthenware (EW) pipes coming to the end of their base life. To reduce the peaks the works programme has been spread over a ten year period. Actual condition of pipes will be taken into consideration to manage the pace of replacement around this period.

The assets excluded from this renewals forecast are:

- Wastewater valves as the total value of these is $71,000. Further work is required in defining these assets in the database.
- Pipe supports for pipe bridges as the data was not available. Currently in IPS, many of these are listed as assets not owned by City Waters. Refining and verifying this information is one of the future asset data improvement actions.

Wastewater pump stations

The pump station renewals programme is based on:

- Asset age, material type and base life from IPS.
- Performance monitoring of pump stations and their faults.
- Condition assessment through annual inspections.
- Outstanding As-built data affecting the results of the data sets from IPS.
- The outputs and recommendations of the Wastewater Master Plan.

The majority of the Council pump stations have two or more pumps. Therefore, the Council is able to allow one pump to fail before it is replaced and have spares available for when unplanned failures occur.

Wastewater treatment plant

A BIM system is being implemented for treatment plant assets to improve capture of inventory data, maintenance activities and condition assessments. A 50-year renewal programme was developed using the following methodology:

- Development of an initial list of projects based on staff knowledge of works that are required to be done, this will include priority projects as well as requests for improvements.
- Asset data types and quantities will be extracted from Maintenance Connection and the programme developed based on general life expectancy of those assets types.
- High level scopes were prepared to enable prioritisation and costs estimated to be developed. The scopes include but not be limited to: whether investigation and design is required, justification for the works, whether there are any special considerations that may affect costs e.g. construction complexity or major process isolation, initial estimation of costs (potentially into categories, high, medium or low).
- The programme was prioritised with input from stakeholders.
- A cost estimate was developed with assistance from external experts.
- Final programme developed. Once a complete asset register is available for the treatment plant and water reservoirs, it is planned to develop a component level criticality framework. Key items in terms of consideration are process criticality, redundancy, resilience and maintenance criticality. When the criticality of the treatment plants and reservoirs assets is assigned the following policy will be adopted:
- critical assets – planned renewal
- non-critical assets – run to failure.

Resource consents

The resource consent renewal programme methodology is based on existing consents and identified required new resource consents. Expiry dates are documented to determine the financial year in which a new consent is required. It is expected that lodgement of the consent is done a minimum of six months prior to when the consent is required/expired to ensure continued use rights. For significant consents such as wastewater discharges, funding for detailed investigations and hearing processes need to be scheduled a minimum of two years in advance. Where significant scientific justification to support an Assessment of Environmental Effects (AEE) is required (e.g. monitoring program), the schedule should be established a minimum of three years in advance. The renewal of our wastewater discharge consent for the disposal of treated effluent to the Waikato River from our wastewater treatment plant is planned to commence from 2023/24. The resource consent lodgement and approval process is expected to take three years at an estimated cost of $1.8 million.

Wastewater model

Network models are a key tool for assessing network performance, identifying deficiencies and assessing proposed solutions. It is planned to regularly update the network models to include updated population projections, amending for any asset additions or operational changes and recalibration as and when required.

Stormwater

Council provides services to Hamilton's residents and businesses that protects the health of people and to prevent habitable building inundation from flooding and minimises the pollution of the city's streams, lakes and the Waikato River.

Context

Stormwater is drained from Hamilton's urban area and is discharged to open drains, streams, lakes and to the Waikato River.

The system drains an urban catchment of approximately 9,000ha however the total catchment area draining to the City reach of the Waikato River is much larger at approximately 30,000ha.

Hamilton's stormwater network services a variety of land uses including:

- Residential land uses (e.G. Private homes and driveways).
- Industrial and commercial land uses (e.G. Wholesale and retail outlets, depots, manufacturing sites, warehouses, workshops).
- Roads and car parks.
- Community facilities (e.g. Hamilton Lake, Claudelands Event Centre, parks and sports areas, Waikato Hospital, schools, and tertiary educational institutions).
- Runoff from undeveloped catchments.

The stormwater network is also used to dispose of potable water during the maintenance of reservoirs, and from flushing and testing of fire hydrants.

Stormwater discharge activities require assessment under the Waikato Regional Plan. The Council has a 'City-wide' comprehensive stormwater discharge consent from Waikato Regional Council (granted in 2011) to divert and discharge stormwater to receiving environments from its existing urban network for a period of 25 years. The consent also provides a mechanism for allowing discharges from 'developing' catchments through catchment management plans.

Overview of assets

Asset group	Asset type	Purpose and description	Quantity	Value $000s
Network	Service connections	A pipe that connects the private stormwater pipe within a premise to the stormwater network.	50,125	63,161
	Reticulation pipes	Once stormwater leaves a property it can travel in pipes to an open watercourse	688km	586,787
	Manholes	Service opening which allows assess for inspection, cleaning or maintenance of the public stormwater piped network	13,946	121,176
Treatment	Treatment/ detention/ flood management	Ponds, wetlands and bunded areas that treat stormwater and or detain stormwater during high rainfall events to protect downstream properties from flooding	35	5,039
Assets within streams and rivers	Lined open watercourses	Drains and streams that transport water to other streams or the Waikato River	105km	6,209
	Outlets and Inlets	Located at the end of the pipe, outlets and inlets prevent erosion and scouring of the open watercourse to which stormwater is discharged	277	1,584
	Other	We have a number of other devices within the network including soakage trenches, soakage pits, fish passage devices, and erosion control devices		6,652
Total value				**790,608**

Asset Group	Asset Type	Reliability Grade	Comments
Network Assets		B - Reliable	The data for the pipes and manholes is generally good, there are still some gaps and this is updated as the information is received.
Treatment/ Detention Devices		C to B	Asset data is not complete in IPS. Some data is contained in spreadsheets which are based on site inspections and staff knowledge. There are no processes in place to ensure these spreadsheets are maintained

Indicative estimates

Capital expenditure

The estimated capital needs for the water supply activity have been prepared for the next 30 years. The forecasted capital expenditure from year ending 30 June 2021 to 2031 has been included in the 2021-31 Long-Term Plan.

Figure 26: Forecasted yearly capital expenditure for Stormwater – 2021-31 Long-term Plan

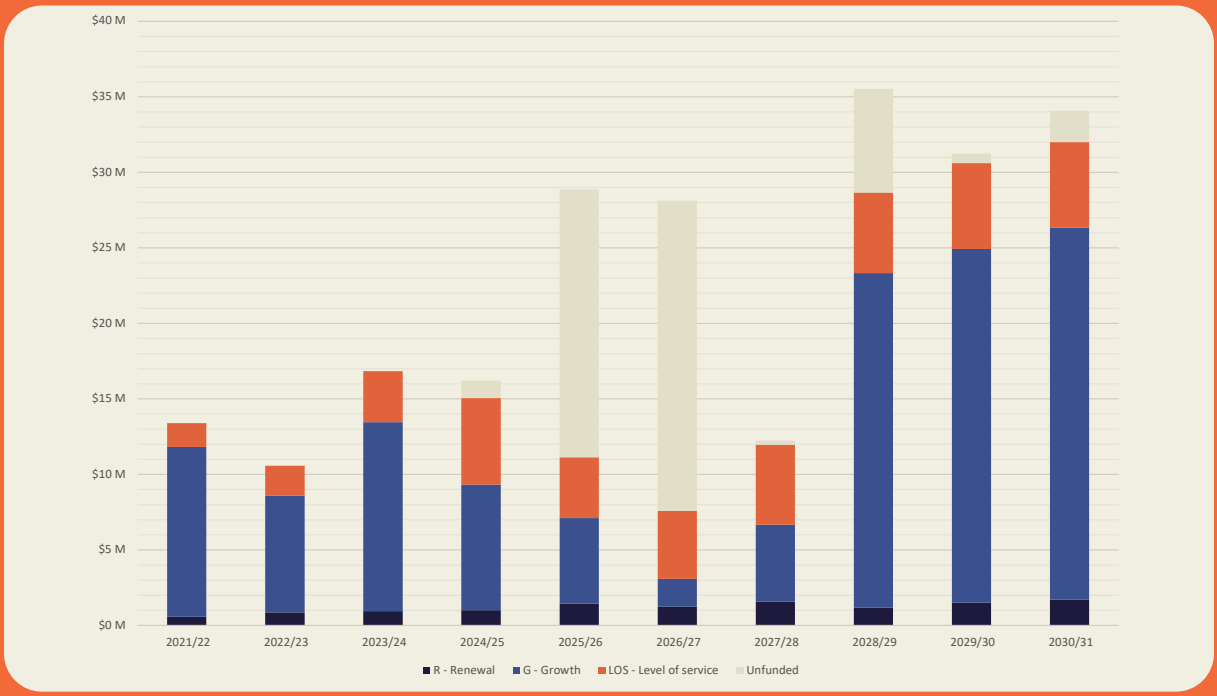
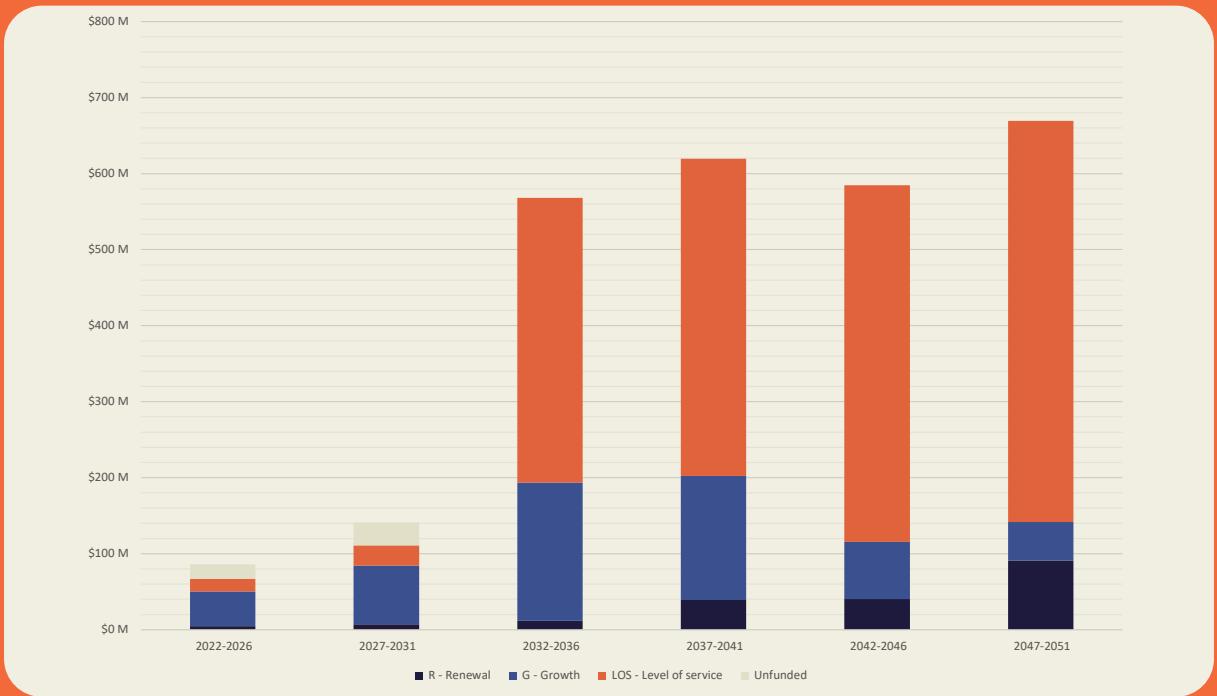


Figure 27: Forecasted capital expenditure for Stormwater - five yearly periods – 2021-51



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2021 to 2031 has been included in the 2021-31 Long-Term Plan. Estimated expenditure beyond 2031 is based on the year 10 forecast and then adjusted for anticipated future growth of the city.

Operational expenditure includes indirect costs to provide the service to the community such as depreciation, interest costs and overheads. Forecasted operational expenditure is shown as gross costs.

Figure 28: Forecasted yearly operational expenditure for Stormwater – 2021-31 Long-Term Plan

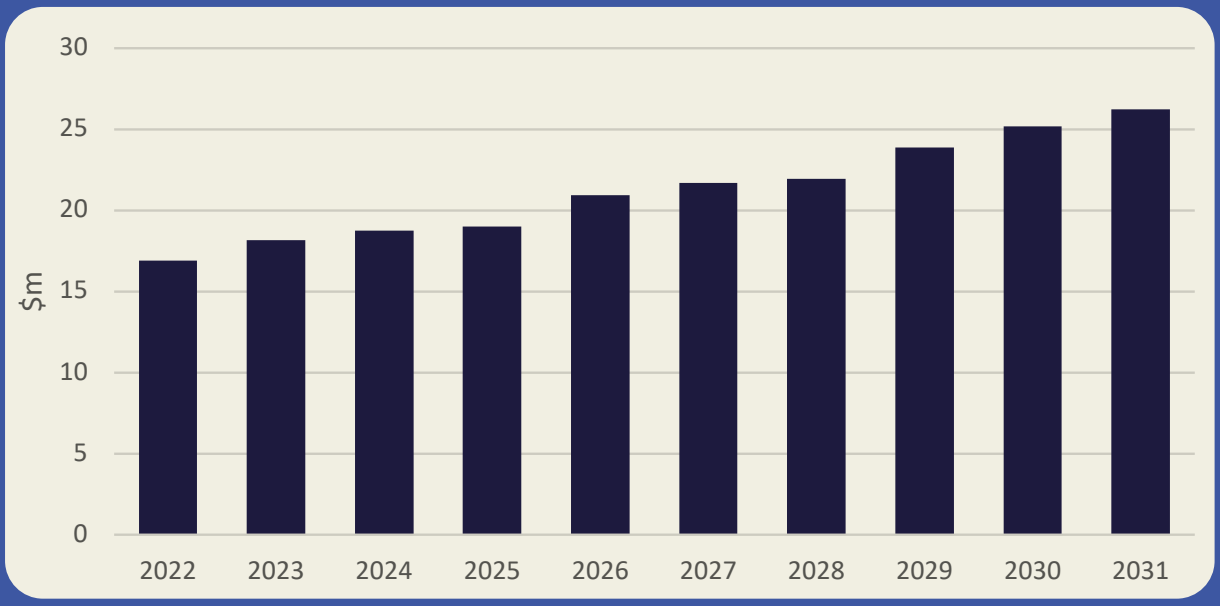
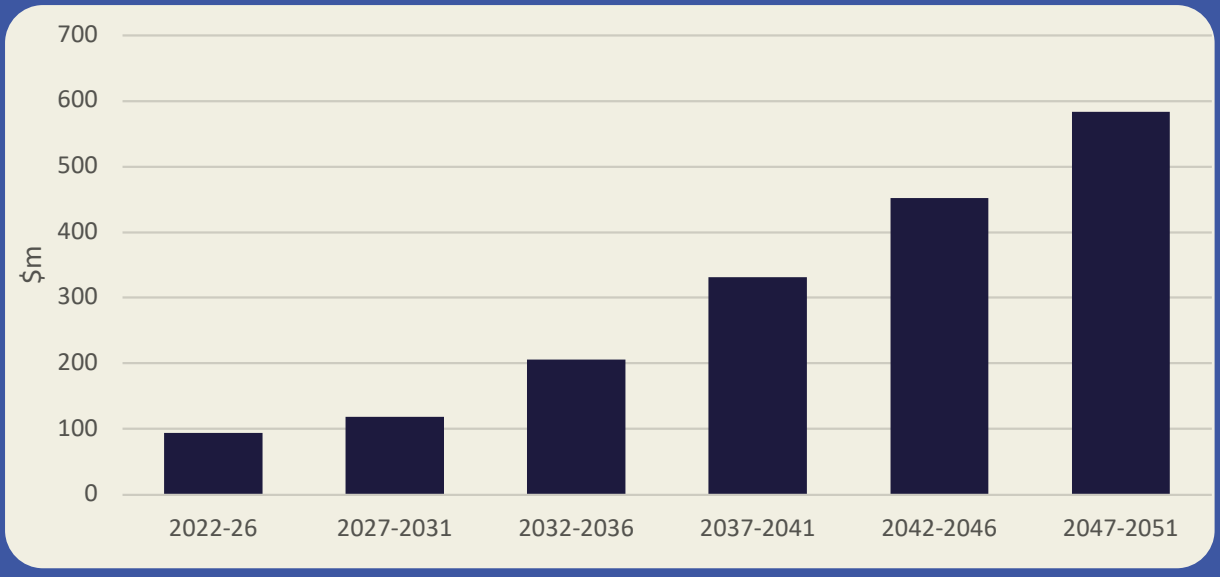
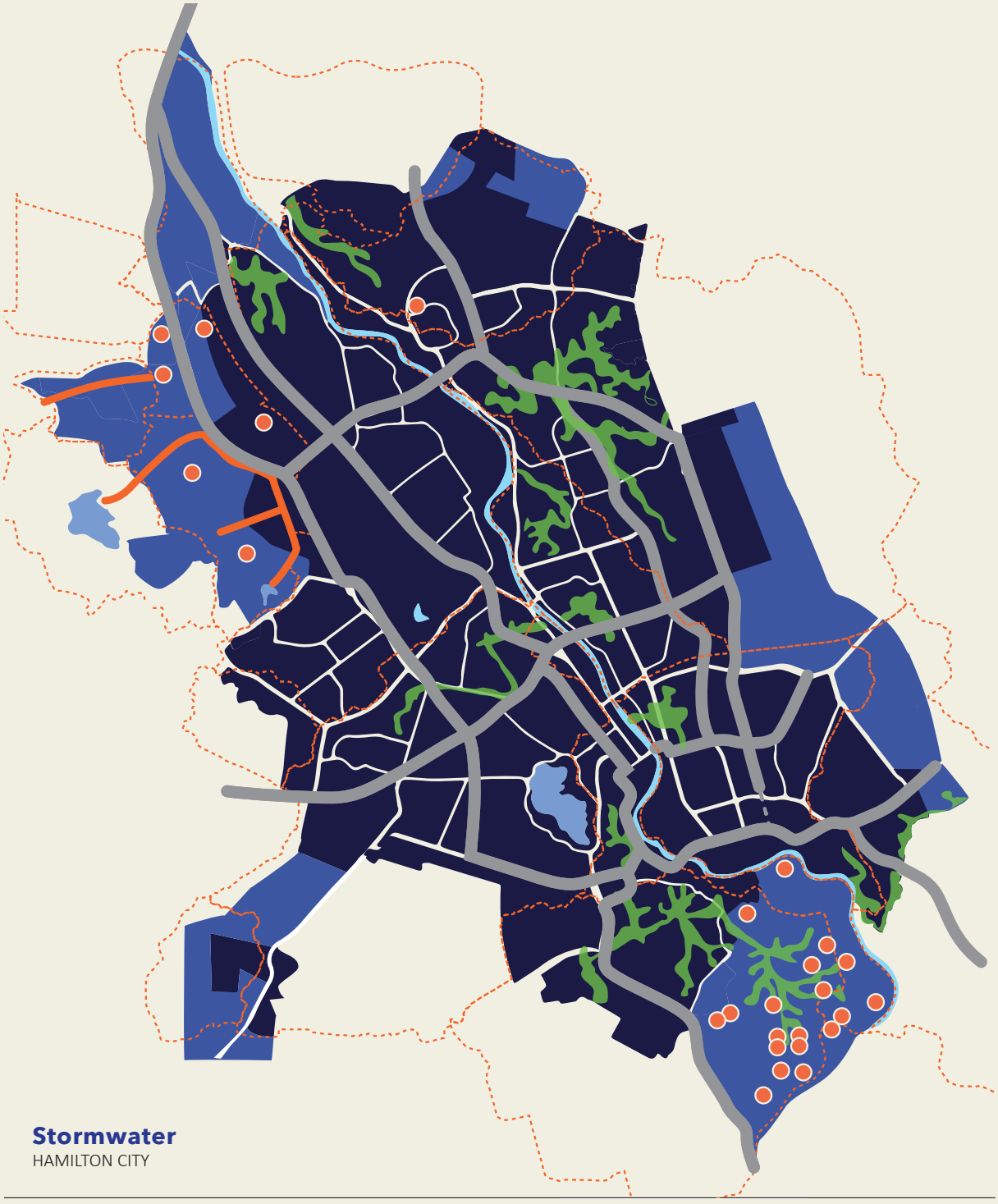


Figure 29: Forecasted operational expenditure for Stormwater – five yearly periods – 2021-51



Current and future assets



Assumptions

Lifecycle of significant infrastructure assets

Asset group	Useful life (years)
Channels	90
Inlets and outlets	100
Pipes (Gravity)	
Asbestos Cement	60 – 80
Earthenware, PVC, PE	100
Earthenware cured in place, ALK	50
HDPE	50 – 100
Reinforced Concrete	80 – 100
Reinforced Concrete lined	75 - 100
Stainless Steel	40
Stainless Steel Cement Lined, ALU	80
Nova	30
GALV	70
Manholes	100
Soakage Trench	50
Erosion Control	100

Growth or decline in the demand for relevant services

Integrated catchment management plans are being developed for each of the city's stormwater catchments to make sure stormwater infrastructure is planned, developed and managed in the most efficient and practicable way for the specific catchment. There are different options for dealing with stormwater and the most efficient approach depends on the specific catchment.

The Council has consent from Waikato Regional Council for its stormwater discharges into the Waikato River. This consent is for the urban catchments within Hamilton and authorises the discharge of stormwater from 'existing' developed areas. Any new discharges will only be approved if they are supported by an approved catchment management plan.

The purpose of these plans in relation to stormwater is to:

- Provide guidance to developers and regulatory bodies on how stormwater from new developments will be managed and integrated with other water services and proposed future land uses.
- Minimise the need for stormwater treatment and detention devices.
- Propose opportunities for the reuse of stormwater to reduce water demand.

- Minimise stormwater and the effects of urbanisation on river and streams.
- Lessen flood hazards on private property
- Involve other stakeholders (such as tangata whenua, recreational and local interest groups) who may wish to contribute to the management of the catchment's waterbodies.

Increases or decreases in relevant levels of service

The stormwater network protects people and properties from flooding and helps to minimise the pollution of waterways.

The Council is planning to maintain the same levels of service for stormwater within the existing city over the period of the Infrastructure Strategy while at the same time growing the stormwater network to cope with city growth. The current level of service in the existing city for design of the stormwater system is:

- residential '1 in 2' year event
- commercial '1 in 5' year event
- industrial '1 in 10' year event.

Our customers through consultation with the District Plan have stated that they would like to be protected from any flood up to a 1 in 100-year event.

To protect against the 1 in 100-year flood, new development must provide overland flow paths with protect properties from the 1 in 100-year floor. These flow paths are normally contained within the road reserve.

Over the coming years catchment management plans will continue to be prepared for the City's stormwater catchments. These will be guiding documents for further development of the stormwater network and help ensure that the community can continue to expect:

- The stormwater system to be adequately designed and managed.
- The stormwater system to be managed in a way that does not unduly impact on the environment.
- A timely response if there is a flooding event.

Renewal of assets

Stormwater pipes

The stormwater pipe renewals programme is based on a combination of base life, CCTV condition rating, flooding report from IPS, and blockage report from IPS. All pipelines with four of more blockages were investigated. Also, smaller areas with more than 20 blockages were investigated along with sites recommended by operations staff. The outputs and recommendations from the Stormwater Master Plan are also taken into account. Replacement of stevenage pipes are prioritised as these have been found to be structurally unsound and at risk of failing earlier than expected.

Due to the uncertainty over asset age there are peaks in the renewals profile, particularly in 2020. The renewal forecast has spread this peak over a 10-year period to even out the expenditure profile. The level of renewals increases significantly after 2040 as this is when pipes installed in the 1960's and 1970's are due for renewal.

The assets excluded from this renewals forecast are:

- Fish Passages – the Operations team is working with other Council departments, NIWA and Waikato Regional Council to develop the renewals/upgrade programme for fish passages that are required under the Comprehensive Stormwater Discharge Consent.
- Erosion Protection Assets – there is currently insufficient asset information available to develop a renewals profile for these assets.
- Open Drains – there is currently insufficient asset information available to develop a renewals profile for these assets. These will probably not be renewed.
- Planting – there is currently insufficient asset information available to develop a renewals profile for these assets. Also, a policy of if the replanting will be capital or maintenance needs to be developed.

Transport

Council provides and manages a safe and efficient transport network for Hamilton which integrates walking, cycling, buses, private vehicles, and freight.

We also manage on-street parking, clearways and Council-owned parking buildings and
car-parks.

Our services include operation and maintenance of the existing network and planning for future development. We work with the community to raise awareness of travel options and influence safe travel behaviour.

Context

Hamilton currently experiences congestion for short periods of the day which is expected to increase as it continues to grow. The road network also struggles with competing demands of different users such as pedestrians, cyclists, cars, buses and trucks. Before resorting to new infrastructure, one of the key approaches is to manage the demand and to 'make best use of existing capacity'.

Over recent years there has been significant investment in Hamilton's strategic transport infrastructure. The focus has been on the completion of the City's Ring Road and the Te Rapa Bypass. Over the next few years, focus will be on:

- connections to the central government funded Waikato Expressway
- transport improvements to assist increased mode choice, safety and congestion
- strategic transport infrastructure to support new greenfield development in Peacocke.

Over the longer term, investment is required for providing a further river crossing to the north of the City and increasing capacity of some critical arterial transport corridors.

The New Zealand Government through Waka Kotahi Transport Agency (Transport Agency) partners with the Council by operating the state highways that run through Hamilton and co-investing with the Council in transport infrastructure and services. The bus service is provided and managed by the Waikato Regional Council through a partnership with the City. The current Government has a stated policy focus on passenger rail and the Council will need to consider its role and investments in relation to this.

Overview of assets

Asset group	Asset type	Purpose and description	Quantity	Value $000s
Pavements	Roads	Roads owned and maintained by the Council, for use by motor vehicles and cycles.	677 km	586,728
	Footpaths	Footpaths (incl. tactile) for use by pedestrians and selected low speed vehicles such as mobility scooters. Some are 'shared use' with cyclists.	1,974km	251,616
	Carparks	Off street carparks owned and managed by the Council to provide parking facility for vehicles.	16 sites 37,000 m²	2,702
Structures	Bridges, culverts and underpasses	Bridges, large culverts and underpasses to allow for roads and walkways to continue across waterways, railways and other roads.	85	92,573
	Other structures	Guard railing, barriers, retaining walls, bus shelters, sign gantries and other minor structures.	651 items and 14km guard railing	20,626
Road drainage	Stormwater channel and drainage features	Kerb and channel and features used to drain water from the roads into the city's stormwater system.		107,940
Traffic control devices	Traffic signals and information technology systems (ITS)	Traffic signals and Intelligent transport systems are used at road intersections and pedestrian crossing locations to provide safe movement opportunity for conflicting traffic.	81 sites	6,961
	Signs	Regulatory and informational signs to warn, inform and guide all road users.	16,835	3,340
	Street lights	The Council owned and maintained street lights to improve road safety and personal security.	19,648	34,140
	Traffic Islands	Islands on the carriageway that control the traffic and pedestrian flow e.g. kerb extension, speed hump, and pedestrian refuge.	1,510	17,995
Streetscapes	Features	Assets that add to the amenity value of the road network, e.g. bollards, bins, and parking meters.		1,301
	Landscaping	Planted areas and grassed areas in traffic islands, carriageway medians and kerb extensions.	550,700m²	N/A
	Verge Landscaping	Grassed areas in traffic islands and medians and areas of verges which are mowed by HCC.	569,620m²	N/A
Buildings	Buildings	Various properties owned by the Council for transportation purposes.	11	21,824
Total value				**1,147,746**

Indicative estimates

Capital expenditure

The estimated capital needs for the water supply activity have been prepared for the next 30 years. The forecasted capital expenditure from year ending 30 June 2021to 2031 has been included in the 2021-31 Long-Term Plan.

Figure 30: Forecasted yearly capital expenditure for Transport – 2021-31 Long-term Plan

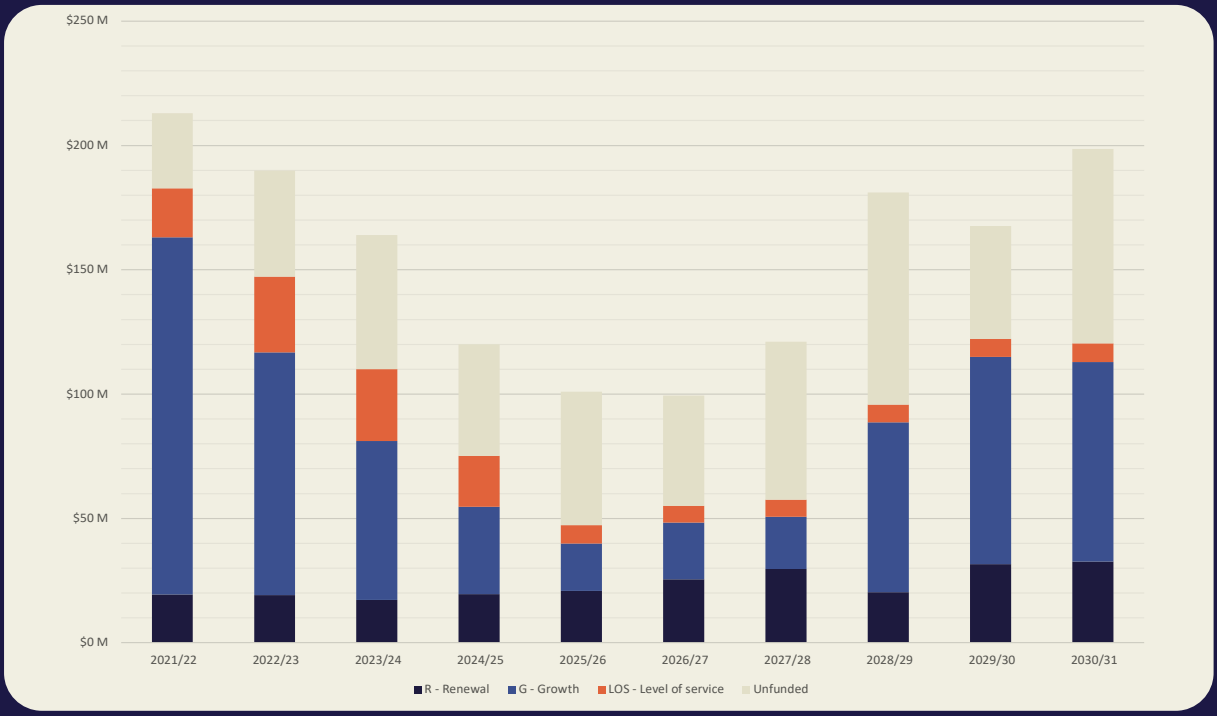
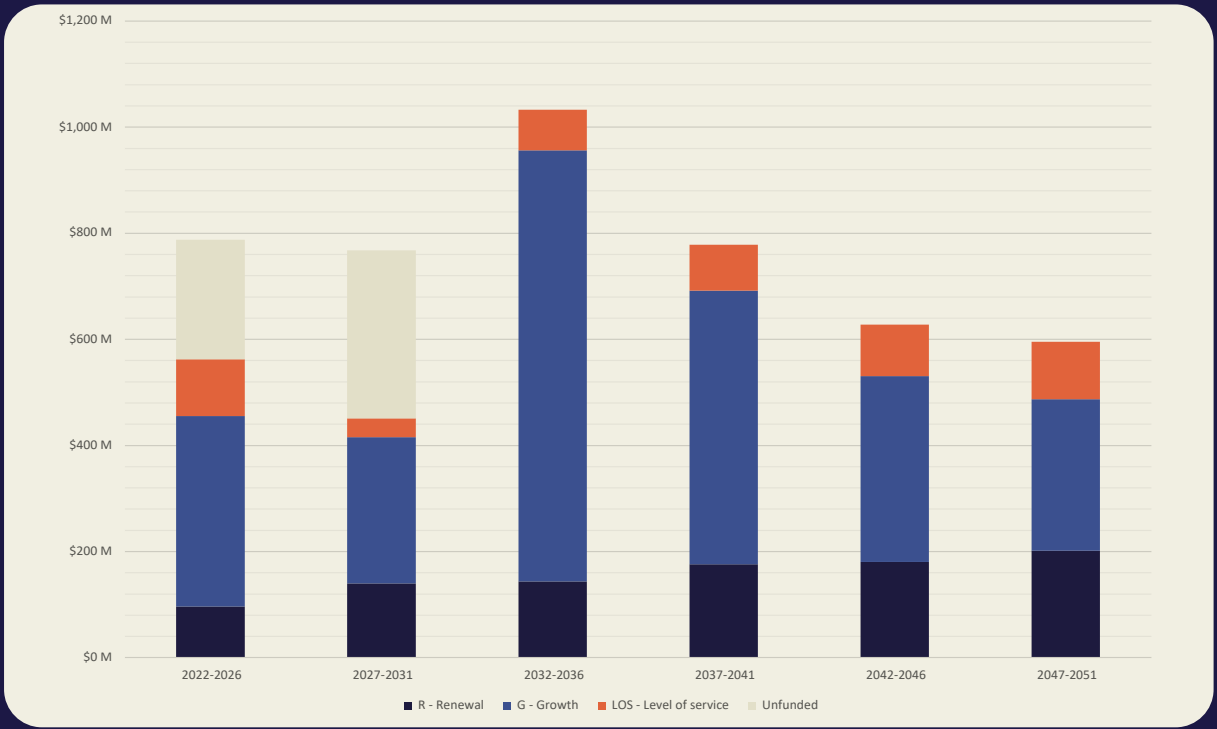


Figure 31: Forecasted capital expenditure for Transport - five yearly periods – 2021-51



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2021 to 2031 has been included in the 2021-31 Long-Term Plan. Estimated expenditure beyond 2031 is based on the year 10 forecast and then adjusted for anticipated future growth of the city.

Operational expenditure includes indirect costs to provide the service to the community such as depreciation, interest costs and overheads. Forecasted operational expenditure is shown as gross costs.

Figure 32: Forecasted yearly operational expenditure for Transport – 2021-31 Long-Term Plan

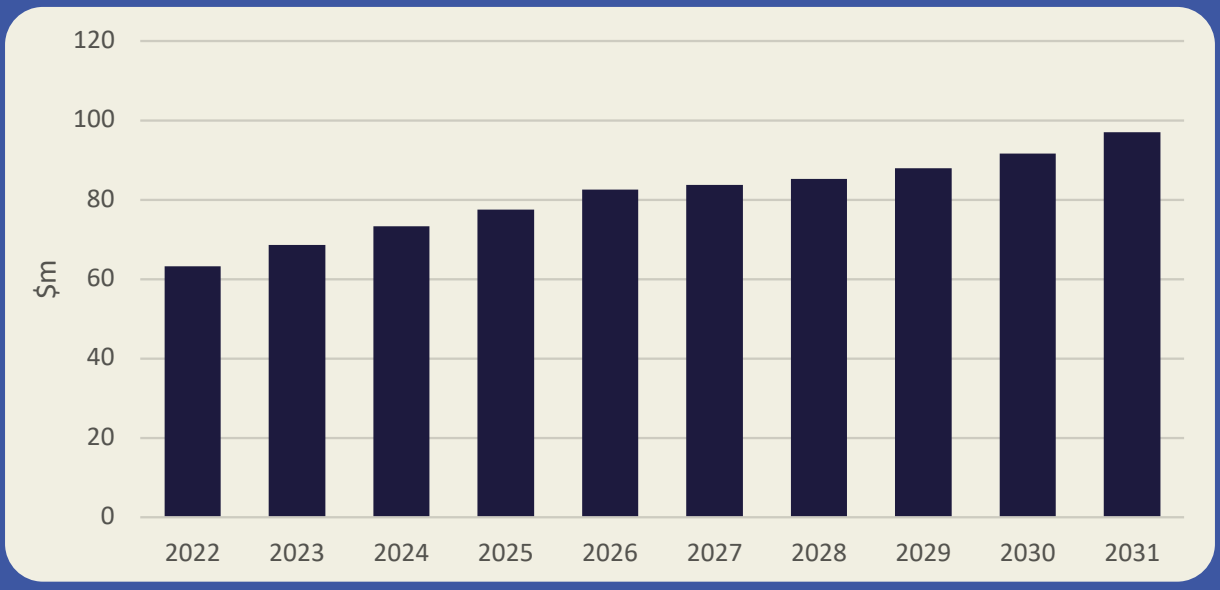
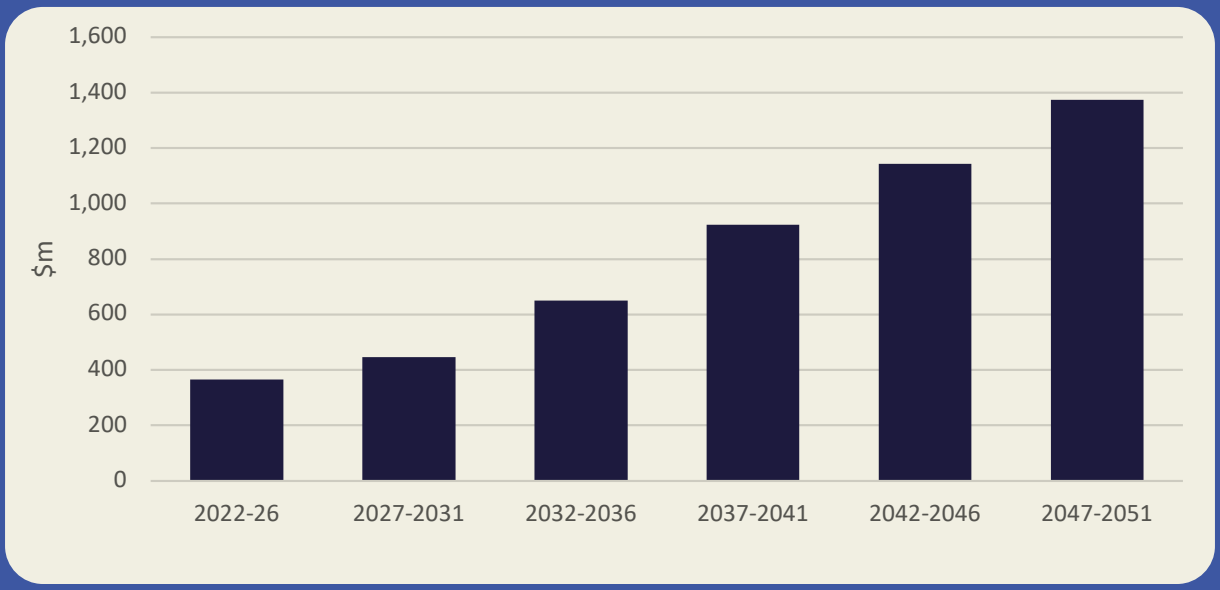
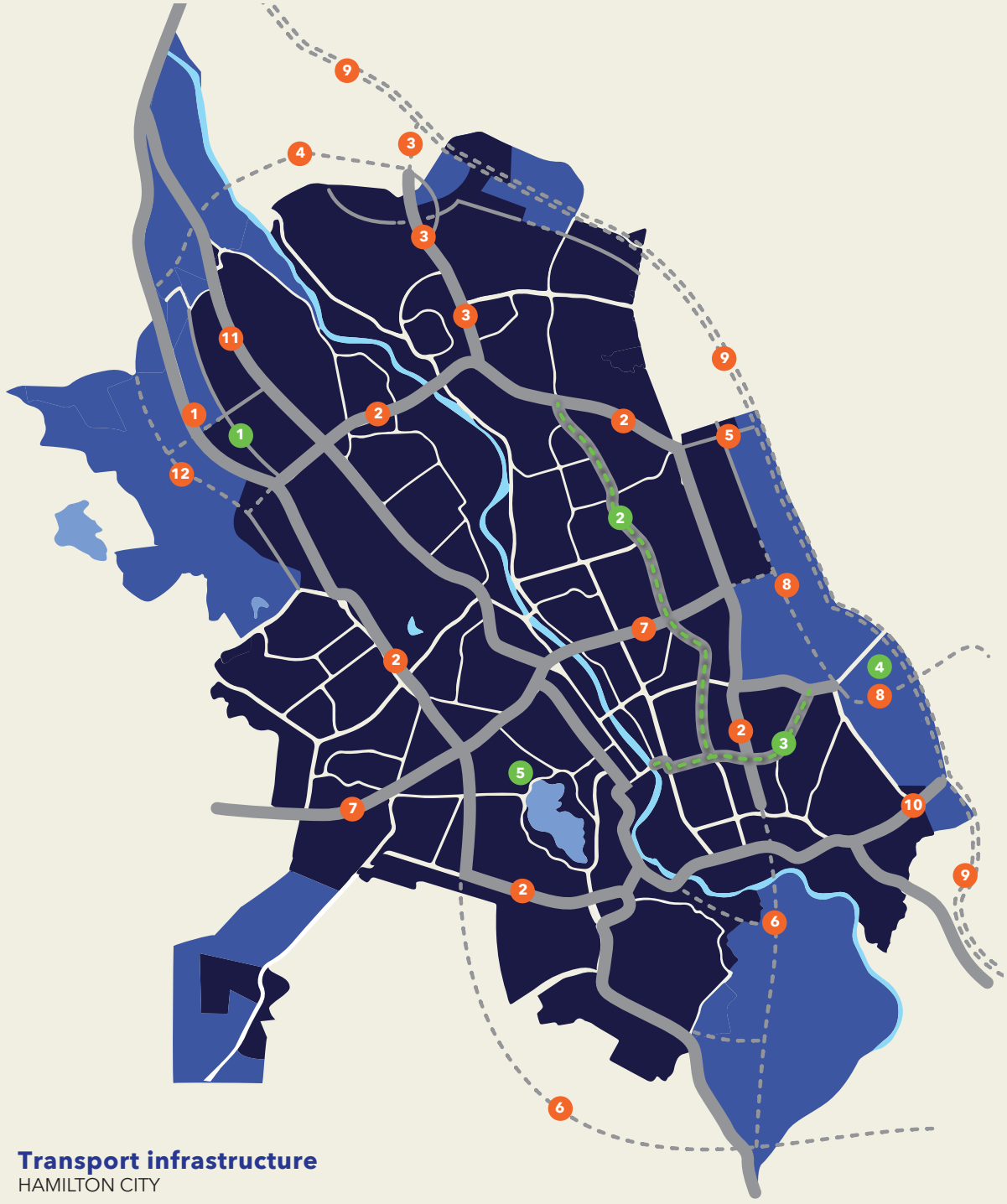


Figure 33: Forecasted operational expenditure for Transport – five yearly periods – 2021-51



Current and future assets



Transport infrastructure
HAMILTON CITY

- Already developed
- Growth area
- Main transport corridors
- Future Main transport corridors

1 - Te Rapa Bypass
2 - Hamilton Ring Road
3 - Resolution Drive
4 - Northern River Crossing
5 - Pardoa Boulevard and interchange
6 - Southern Links
7 - Cross City Connector
8 - Ruakura East Corridor
9 - Waikato Expressway *(opening in 2021)*
10 - Morrinsville Road
11 - Te Rapa Road
12 - Rotokauri Arterials

1 - Rotokauri Transport Hub
2 - School Link corridor
3 - City Centre to University link corridor
4 - Ruakura Inland port
5 - Frankton Train Station

Assumptions

Lifecycle of significant infrastructure assets

Asset group	Useful life (years)
Roads	
Basecourse	50-140
Subbase and Subgrade	Not Depreciated
Chipseal surface	6-16
Asphalt surface	5-20
Concrete roads	60
Interlocking Blocks	30
Footpaths/cycleways	
Tactiles	5
Asphalt and Timber	25
Metal	50
Interlocking Blocks	60
Concrete	75
Bridges	
Steel and concrete bridges	80 - 150
Concrete culvert	80
Armco culvert	40
Other culverts	60
Minor Structures	
Bus shelter and fences	20
Underpasses	80
Guardrail and Railing	20 – 25
Retaining Walls	
Block wall, cantilever, crib wall, rock	100
Post and Rail, Sheet Pile	50
Drainage – kerb and channel, swales and drains	60-70
Signs	15
Street lights	
Pole and Bracket	25
Light – LED	50
Light – non-LED	25
Traffic Signals	15
Features	
Bins	10
Seats and Public Information Sign	20
Bollards	25
Cycle Stand	20 - 30
Concrete Block	100

Asset group	Useful life (years)
Islands Raised platform – printed Raised platform – paved All others	 20 60 35
Carparks Basecourse Subbase and subgrade Surface Concrete Parking equipment	 110 Not depreciated 10 – 18 60 15
Ducting	50
Other Plant and equipment	7 – 20

Growth or decline in the demand for relevant services

Transportation demand results from the need for people and goods to move around and through the city. Key influences include population growth, land use patterns, density and use of alternative transport options. Projected population and resulting traffic volumes have been based on the Council's growth model using population projections prepared by National Institute of Demographic and Economic Analysis (University of Waikato) and the Waikato Regional Traffic Model (WRTM).

The services we will provide include:

- Influencing and managing the transportation aspects of subdivision and land use development.
- Encouraging alternative travel choices, so that people can choose to walk or cycle rather than drive cars.
- Encouraging the development and use of public transport systems and providing more bus and high occupancy vehicle priority where appropriate.
- Planning ahead to ensure that transport corridors are in place for new growth and that the existing roads and facilities have the capacity for our increasing population.

Planning for transport infrastructure assets to provide for new growth in the city has assumed that:

- Development in the existing city will largely be serviced through the current network.
- New development in greenfield growth cells may result in the need for capacity and safety improvements to existing arterial/collector road.
- The growth forecasts and assumed settlement pattern provide uneven demand growth on the network.

- The location of residential growth within the city will influence the way that the residents access jobs, education and other daily needs.
- Freight movement is expected to increase over the next ten years.
- With a higher importance being put on healthy lifestyle there is an increase in demand for walking and cycling facilities.

Increases or decreases in relevant levels of service

The Council is planning to maintain the service levels for transport around travel time and congestion. Although as the city grows and more traffic needs to use the networks, there will be an increase in travel times and peak periods of congestion will increase. It is anticipated that any changes will be gradual and limited in severity.

Primarily, growth in demand will be managed through provision and facilitation of modal choice, i.e. ongoing development of public transport, cycling and walking options.

However, it is assumed that new roads will be required to maintain key service levels and enable opening up of new greenfield development areas. It has been assumed that arterial road connections will be made to the Waikato Expressway, under construction by central government around the east of the city with completion due by 2019/20. In addition, other strategic arterial roads in the long-term future will be designated and protected.

The Council is working to improve the safety of the network through intersection safety upgrades, bridge safety improvements and increased road user education. It is hoped that is will decrease the number of fatalities and serious injury crashes on the network.

In general, residents will continue to be able to expect:

- Hamilton City Council's transport infrastructure and services to grow with the city, maintaining capacity and reliability
- sustainable transport choices that are accessible to all
- the transport network to be safe to use
- that our road users to be well educated in using the network safely
- the operation of our transportation network not to harm the environment or public health
- the network to support the efficient movement of freight
- that customers can access business, shopping and tourism destinations
- the network to be kept in good operating condition
- customer service requests to be responded to promptly.

Renewal of assets

The maintenance and operation of the transport network is undertaken by the Council's Infrastructure Alliance. Where applicable some services are delivered in collaboration with neighbouring roading authorities, under a Waikato Road Asset Technical Accord (RATA).

Significant renewal programmes of work are described in methodology statements for each asset type Typically a methodology will include:

- Data collection and preparation – all Faults data may be sourced and RAMM condition rating, data surveys etc.
- Data analysis and scenario modelling - modelling (e.g. dTIMS) is used to optimise total investment levels, comparing a range of renewal versus maintenance cost scenarios to find the lowest total cost option.
- Field validation and model alignment.
- Outcome verification.
- Final programme formulation.

As the transport asset is used over the years, its condition and performance is monitored to ensure that the asset is replaced at the most cost-effective time. To help in this assessment the Council:

- Uses asset age information to identify assets for more detailed assessment.
- Monitors the performance of assets to help identify where there might be issues.
- Undertakes physical inspection and technical condition testing of assets.
- Use customer complaints to identify asset failures.
- Uses the Waikato Regional Traffic Model to predict future traffic demand, levels of service and asset improvement requirements.
- Uses asset condition and performance information to develop maintenance and renewal programmes to ensure expenditure on assets is done at the most cost-effective time.

The Road Assessment and Maintenance Management (RAMM) database is used to hold and manage our transport network asset information.

As part of a maturity assessment in 2017 the asset data held in RAMM was assessed as reasonably reliable and was given a score of intermediate/advanced. There are good processes in place for maintaining the data held in RAMM.

Parks and recreation

The parks and recreation activity provides the community with an opportunity to access open space, be involved in active or passive recreation, enjoy the visual appeal of the city, utilise public toilets when out and about and use off-road connections provided by walkways and cycleways.

Hamilton Gardens provides an important visitor attraction for the city and amenity value to the community.

Context

Hamilton's parks and recreation network includes parks and reserves as well as river corridors, gully systems, peat lakes, wetlands and remnant indigenous vegetation along with gardens, walkways, sports facilities, streetscapes and civic spaces. Hamilton covers 11,080ha and has 1,196ha of open space owned and managed by the Council. 54ha at Hamilton Gardens provides a key tourist and local visitor attraction.

The Council has an Open Space Plan which sets the long-term direction for open space in Hamilton.

Hamilton Gardens aspires to continue to provide a world class garden that enhances the city's identity, prosperity and quality of life. To achieve this the Council will focus on the development of Hamilton Gardens' themed gardens and enhancement of visitor facilities.

For Parks and Open Spaces, the objective is to provide passive and active recreation areas which meet the needs and expectations of the growing city. This will be achieved through the provision of popular, diverse playgrounds and increasing the quality and capacity of sports fields.

The Council also operates and maintains one operational cemetery and two heritage cemeteries:

- Hamilton Park Cemetery, including the crematorium and chapel facilities. It operates on 18ha, with a further 14ha available for future development. A development plan for Hamilton Park Cemetery was developed in 2014.
- Hamilton West Cemetery opened in 1869 and was closed in 1975.
- Hamilton East Cemetery, opened in 1866, remains open for reserved plot burials and ash interments.

Overview of assets

Asset group	Asset type	Purpose and description	Quantity	Value $000s
Land	Amenity parks, sports parks, natural areas, the streetscape and Hamilton Gardens	Land provided for active or passive recreation, visual appeal and off-road connections. Includes 54 hectares at Hamilton Gardens.	1,196ha	NA
Buildings	Toilets, changing rooms and other buildings on parks	To provide publicly accessible toilets, changing facilities for sporting groups and other buildings on parks including houses and work sheds.	106	31,254
	Cemeteries and Crematorium	Crematorium, chapel, and ancillary buildings.	12	2,803
Park infrastructure	Play space	Provides informal and social recreation spaces for young people to enjoy in a public setting e.g. skate park and playgrounds	83	12,591
	Park furniture	To provide amenities and features to ensure that the use and enjoyment of open spaces e.g. entry points, fences, seats, artwork, landscapes, and signs.		17,395
	Roads, car parks, and paths	Provides walking, cycling and vehicle access to parks.	51 Roads 75 Carparks 83km Paths	39,482
	Sports fields, drainage and courts	Sports field assets that provide useable space for informal and organised sport.	200	7,376
	Other built assets	More specialist assets that provide basic infrastructure and features to ensure utilisation and enjoyment of open spaces e.g. water features, bridges, pergolas and walls.		35,461
	Trees	Park and street trees.		NA
Cemeteries infrastructure	Cemeteries and Crematorium	Burial and crematorium equipment, memorial beams and berms, park furniture, signs, carparks and roads.		5,765
Total value				**1,147,746**

Asset Group	Asset Type	Reliability Grade	Comments
Buildings	Cemeteries & Crematorium Hamilton Gardens Parks & Recreation	B - Reliable	Buildings are recorded in the corporate asset management system (IPS). Overall, buildings data is graded 'B'. Some data is estimated and further improvements are required to improve data reliability.
Crematorium Assets	Cemeteries & Crematorium	B - Reliable	Some of the crematorium assets are not yet recorded in the corporate asset management system (IPS)
Cemeteries Infrastructure & Furniture and Equipment	Cemeteries & Crematorium	B - Reliable	Most of these assets are recorded in the corporate asset management system (IPS) and there are processes around updating this data.
Gardens Infrastructure	Hamilton Gardens	B - Reliable	Most of these assets are recorded in the corporate asset management system (IPS) and there are processes around updating this data.
Furniture & Equipment	Hamilton Gardens	B - Reliable	Most of these assets are recorded in the corporate asset management system (IPS) and there are processes around updating this data.
Parks Infrastructure	Parks & Recreation	B - Reliable	Most of these assets are recorded in the corporate asset management system (IPS) and there are processes around updating this data.

Indicative estimates

Capital expenditure

The estimated capital needs for the water supply activity have been prepared for the next 30 years. The forecasted capital expenditure from year ending 30 June 2021 to 2031 has been included in the 2021-31 Long-Term Plan.

Figure 34: Forecasted yearly capital expenditure for Parks and green spaces – 2021-31 Long-term Plan

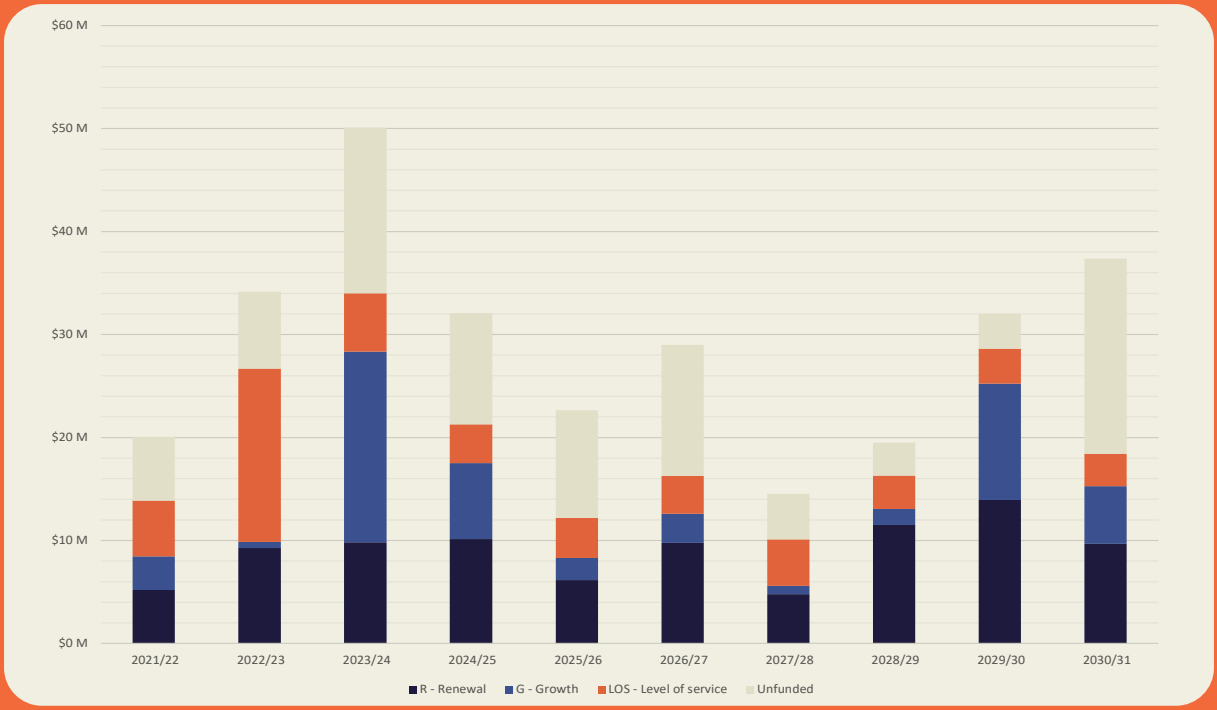
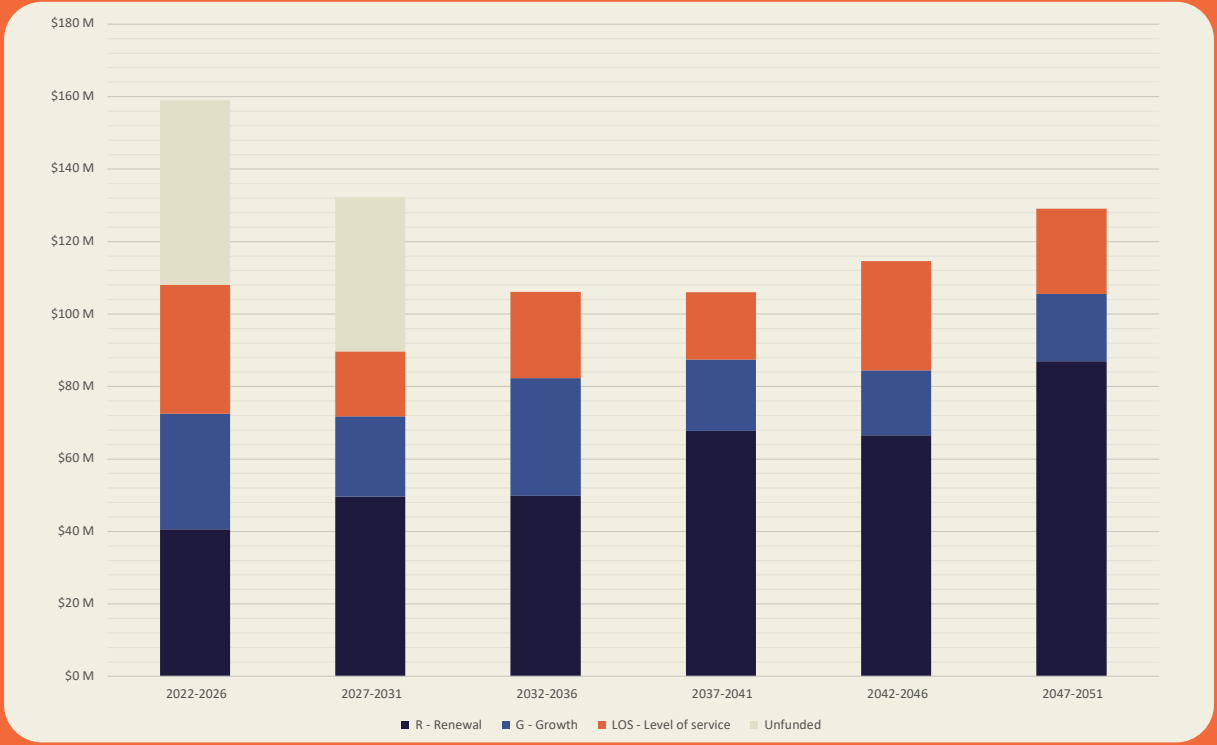


Figure 35: Forecasted capital expenditure for Parks and green spaces - five yearly periods – 2021-51



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2021 to 2031 has been included in the 2021-31 Long-Term Plan. Estimated expenditure beyond 2031 is based on the year 10 forecast and then adjusted for anticipated future growth of the city.

Operational expenditure includes indirect costs to provide the service to the community such as depreciation, interest costs and overheads. Forecasted operational expenditure is shown as gross costs.

Figure 36: Forecasted yearly operational expenditure for Parks and green spaces – 2021-31 Long-Term Plan

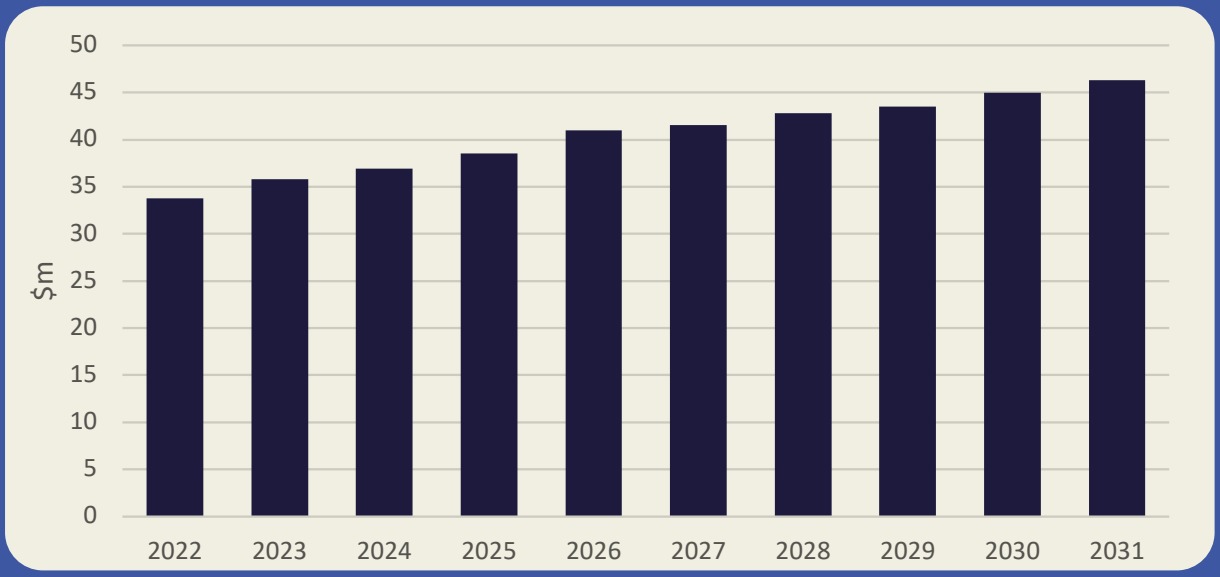
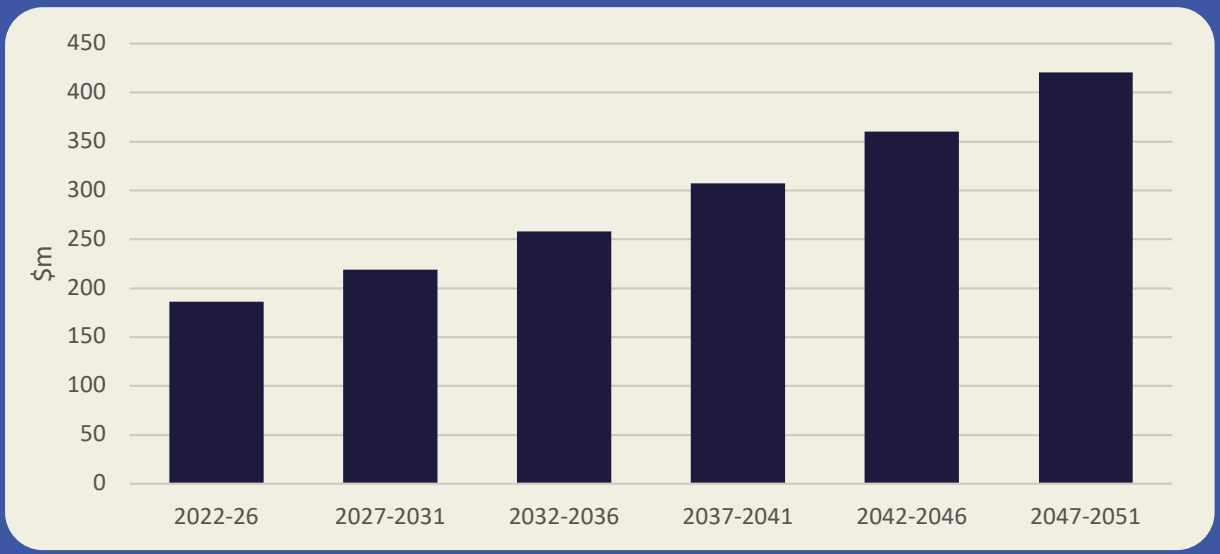
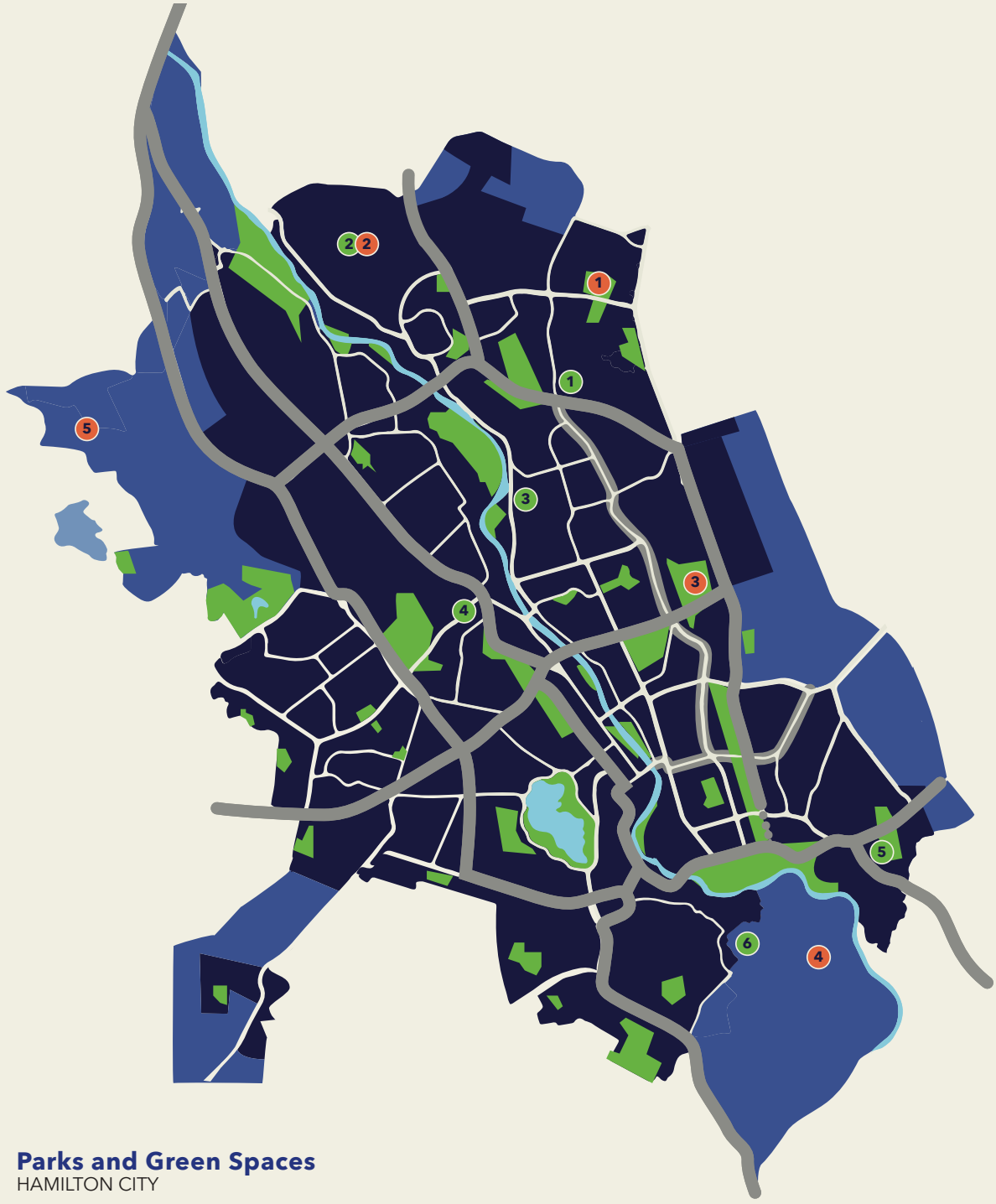


Figure 37: Forecasted operational expenditure for Parks and green spaces – five yearly periods – 2021-51



Current and future assets



Parks and Green Spaces
HAMILTON CITY

- Already developed
- Growth area
- Main transport corridors
- Major parks/green spaces

- Nature in the city – gullies
  1 Mangaiti Reserve
  2 Te Awa O Katapaki Esplanade
  3 Kukutaaruhe
  4 Waitawhiriwhiri
  5 Mangaonua
  6 Mangakotukutuku

- Future sports parks
  1 Te Manatu
  2 Hare Puke
  3 Mangaiti
  4 Peacocke sports park
  5 Rotokauri sports park

Assumptions

Lifecycle of significant infrastructure assets

Asset group	Useful life (years)
Cemetery Burial and Ash Lawn	100
Crematorium Equipment	20-40
Electrical	10-45
Fences and Entry Points	10-50
Furniture & Features	10-80
Irrigations Systems	10-60
Lights	25
Landscapes	Not Depreciated
Playground Equipment	20
Paths & Hardscapes	10-50
Roads & Carparks	10-100
River Structures	15-50
Sports Areas	5-100
Signs	20-25
Structures	15-150
Stormwater	15-80
Water Features	10-50
Water Services	50

Growth or decline in the demand for relevant services

Infrastructure required to provide for growth is anticipated through analysing a combination of:

- Population projections.
- Current and future trends for organised sport.
- Capacity review of sports fields.
- Key open space infrastructure assets that are anticipated to provide for growth include:
  - Purchase of land for future reserves identified in structure plans and committed to in past consents. In developing the Infrastructure Strategy, it has been assumed the Council will purchase and develop future parks.
  - New playgrounds and toilets are developed in greenfield growth cells
  - Development of Rototuna, Mangaiti, Rototuna West and Rotokauri sports parks and Te Manatu park into a passive park.

Increases or decreases in relevant levels of service:

- Some minor changes have been planned for and expenditure estimates include changes to the following service levels:
  - Improving the quality of the City's playgrounds over the next 30 years for an improved play experience. The number of neighbourhood playgrounds will be reduced over this period.
  - Increasing the number of public toilets at sports parks.
  - Improving the quality of sports fields through improvements to drainage and increased irrigation, in turn increasing the amount of time fields can be used for organised sports.
  - Reintroduction of a planned street tree maintenance and street tree planting renewal programme to reduce the number of customer complaints and service requests relating to trees.
  - New themed gardens at Hamilton Gardens will be built in line with the Hamilton Gardens Development Plan.
  - The implementation of the Hamilton Park Cemetery Concept Plan. This includes a new combined Reception, Lounge and Administration facility, public Mausoleum and Committal Shelter and children's burial area.

In general, residents will continue to be able to expect:

- a unique garden experience at Hamilton Gardens
- access to a local community space for leisure and arts participation at Hamilton Gardens
- the Nursery to save the Council money so that more plants can be used to support the preservation and enhancement of Hamilton's natural green environments
- a network of parks for recreation and green space throughout the City
- a well-distributed network of safe and fun playgrounds
- sports fields that are well-maintained and fit for purpose
- public toilets and changing rooms to be safe, maintained and well located
- Hamilton is a green city with parks, trees, beautiful gardens and street planting

Renewal of assets

Better information on the condition and performance of assets in recent years has allowed for more robust renewal forecasts to be prepared. This information has been used in developing the forecasts in the Parks and Recreation asset management plan (AMP), Hamilton Gardens AMP, The Cemeteries and Crematorium AMP and subsequent 2021-31 10-Year Plan budgets.

The operational/non-building asset renewal programme for Parks and Recreation was created using the following methodology:

- Staff assessed an initial proposed renewal year based on:
  - Asset condition.
  - Performance assessment – in terms of functionality, capacity and utilisation.
  - Priority areas – prioritising high use areas over lower profile and lower use parks.
- Combining renewals – can we combine renewals for efficiency and impact.
- Alignment to other projects and key strategies and plans.
- Staff knowledge – taking into account first-hand knowledge of parks and assets.
- Known deferred renewals.
- Round table sessions to evaluate the programme put forward.
- Further moderation – achievability.
  - Further moderation took place, identifying renewals that could be deferred, areas of data uncertainty and opportunities to explore decommissioning assets.
  - Finally smoothing and grouping took place. This was to ensure the renewals programme could be undertaken if funding was secured and impact on the public was at a minimum. For example, grouping all the renewals in a park in the middle year as opposed to carrying out renewals each year for three years.

The renewal programme development and moderation process highlighted the volume of assets that have exceeded their useful lives. This highlighted two points:

- Due to budget constraints some renewals and maintenance of park assets has been deferred in previous years.
- Useful lives require further refinement to ensure they are accurate.

Overall, the proposed budget for parks and green space asset renewals has increased from the previous 10-Year Plan. This is generally due to improved asset management data, analysis and practices.

Renewals have been based on up-to-date condition data and improved asset knowledge.

Community and Event Facilities

Council owns and operates community and events facilities. These facilities support and strengthen the community, encourage an active lifestyle, and promote economic growth through attracting events and visitors to the city.

These facilities help to make Hamilton be a modern liveable city where its residents are able to access library and leisure opportunities and experience local and international sporting events and performances.

Context

Aquatic facilities

Hamilton City Council is the main provider of public aquatic facilities in Hamilton. Council owns and operates Waterworld and operates Gallagher Aquatic Centre, with the land under a long-term lease with Melville High School. We also partner with five educational institutions to provide additional swim spaces in summer.

Waterworld is the major aquatic centre in Hamilton and is considered a regional facility. It comprises a range of pools, four slides and splash pad, along with other activities. Gallagher Aquatic Centre is considered a local facility.

Community facilities

Council provides community facilities throughout the city that offer places and spaces for Community organisations and private providers to deliver a variety of community-based services and activities to meet the needs of local communities. Council's community facilities comprise a collection of centres, halls and heritage buildings providing a mix of bookable spaces and leased facilities. Council also owns and leases buildings to community groups, including sheds/storage and changerooms.

Hamilton Zoo and Waiwhakareke Natural Heritage Park

The Hamilton Zoo and Waiwhakareke Natural Heritage Park is a unique visitor destination where people can experience natural environments showcasing pre-European native flora and native and exotic wildlife.

Set amidst 25ha of lush and tranquil surroundings, the Zoo is home to over 600 animals, of which about 30% are native New Zealand fauna.

Waiwhakareke Natural Heritage Park (opposite the Zoo) is the flagship project for biodiversity in our city. This community partnership project aims reconstruct the natural forest, wetland and lake ecosystems present in pre-European times.

When it is finished, the 65.5ha park will draw native wildlife back to the city and be a rich resource for everyone to enjoy - supporting recreation, education, conservation, and science.

Libraries

Public libraries occupy a central place in the pursuit of information and knowledge, providing services and facilities as a public good collective resource. The Hamilton libraries are an in-house service providing a diverse range of programmes and services to the community. Although the services provided by libraries have significantly changed over the years the collections continue to the core element of the service. The collections are divided into two key areas, lending and heritage (including archives). It delivers its services across six libraries.

Waikato Museum

On the banks of the Waikato River, in the heart of Hamilton's south-end cultural precinct, Waikato Museum's 13 galleries feature more than 20 new exhibitions and 100 public events annually. Te Whare Taonga o Waikato cares for, shares and preserves local stories and stories about objects and taonga of the Waikato and Tainui Waka. Through these collections, touring exhibitions and our interactive programmes we aim to engage and inspire our local and international visitors.

H3

H3 delivers a diverse range of quality events within the Council owned event facilities across the following event categories:

- Meet – meetings, conferences, functions and exhibitions.
- Compete – sporting events.
- Perform – performance events such as music, dance and comedy.

Events arecurrently delivered from the following facilities:

- Stadiums (Waikato Stadium and Seddon Park).
- Claudelands (Arena, Conference and Exhibition Centre, The Grandstand, Holman Stand).

Overview of assets

Asset group	Asset type	Description
Property and buildings	Aquatic Facilities	Waterworld and Gallagher Aquatic Centre with ancillary buildings. The Municipal Pool is currently inoperative.
	Community Facilities	Enderley Park Community Centre, Celebrating Age Centre, Fairfield Hall, Old St Peters Hall, Frankton Railway Institute Hall and Te Rapa Sports drome.
	H3 - Claudelands	Conference Centre, Exhibition Centre and Arena under one roof, the Grandstand and ancillary buildings.
	H3 - FMG Stadium	Turf, Grandstands and ticket booths.
	H3 - Seddon Park	Pavilion and ancillary buildings.
	H3 - Founders Theatre	Theatrical venue for performing arts and entertainment. The theatre is currently closed.
	Hamilton Zoo	Main Zoo reception/shop, ancillary buildings, significant animal houses.
	Libraries	Six libraries.
	Waikato Museum	Waikato Museum building, ArtsPost, Beale Cottage.
Operational assets	Aquatic Facilities	Pools, hydroslide, dive towers, pool equipment, furniture, water quality assets, technical, gym, play and aqua education equipment.
	Community Facilities	Furniture and audio-visual and event equipment
	H3	Furniture, Technical and Turf equipment
	Hamilton Zoo	Animal collection, animal enclosures and structures, carparks, roads, utiliites,furniture and equipment.
	Library	Lending collections of books, serial items, DVDs, CDs, recordings and heritage collections. Furniture, technology and library equipment.
	Waikato Museum	Collections of artwork, taonga and objects. Furniture and equipment.

Asset Group	Asset Type	Reliability Grade	Comments
Buildings	Aquatic Facilities Community Facilities H3 Hamilton Zoo Libraries Waikato Museum	B - Reliable	Buildings are recorded in the corporate asset management system (IPS). Overall, buildings data is graded 'B'. Some data is estimated and further improvements are required to improve data reliability.

Asset Group	Asset Type	Reliability Grade	Comments
Operational Plant and Equipment	Aquatic Facilities	C- Uncertain	Operational plant and equipment is recorded in the corporate asset management system (IPS). Overall the data is graded 'C'. Some data is estimated and further improvements are required to improve data completeness and reliability
	H3	B - Reliable	Asset data is stored in the Ungerboeck fixed asset register. There is a high level of confidence that H3's operational plant & equipment asset data is accurate and complete. Work is ongoing to further validate asset data to maintain this level of confidence. A project is in the planning stages to better use this asset data for asset maintenance purposes and asset utilisation
Parks and Gardens	H3	B - Reliable	Asset data is stored in the Ungerboeck fixed asset register. There is a high level of confidence that H3's parks and gardens asset data is accurate and complete. Work is ongoing to further validate asset data to maintain this level of confidence.
Animal Collection	Hamilton Zoo	A - Highly Reliable	Sound and robust record keeping
Site Assets	Hamilton Zoo	C- Uncertain	Assets are recorded both in spreadsheets and in IPS and are incomplete.
Furniture and Equipment	Hamilton Zoo	C- Uncertain	Assets are recorded both in spreadsheets and in IPS and are incomplete.
	Waikato Museum	B - Reliable	Most of the assets are recorded in the corporate asset management system (IPS)
Libraries Lending Collection	Libraries	A - Highly Reliable	The Lending Collection is recorded in the Library Management System (Kōtui). Sound and robust policy and processes are in place.
Libraries Heritage and Archives Collection	Libraries	C- Uncertain	The recently acquired Collection Management System (Vernon) is now fully operational and staff have begun the process of transitioning, from spreadsheets, all Heritage-Archival Collection data into Vernon (anticipated to take 10 years). Policy and processes for Vernon are currently being finalised. The Heritage-Print Collection is managed through the Library Management System and sound policies and procedures are in place.
Operational Assets	Libraries	B - Reliable	Operational assets are currently recorded in a spreadsheet. In 2019, it was decided that IPS will hold all operational assets and the spreadsheet data will be transitioned into IPS
Collection	Waikato Museum	B - Reliable	All collections are recorded in the Vernon Collection Management System (CMS) with condition data and asset attributes

Indicative estimates

Capital expenditure

The estimated capital needs for the community and events activity have been prepared for the next 30 years. The forecasted capital expenditure from year ending 30 June 2021 to 2031 has been included in the 2021-31 Long-Term Plan.

Figure 38: Forecasted yearly capital expenditure for Community and Events – 2021-31 Long-term Plan

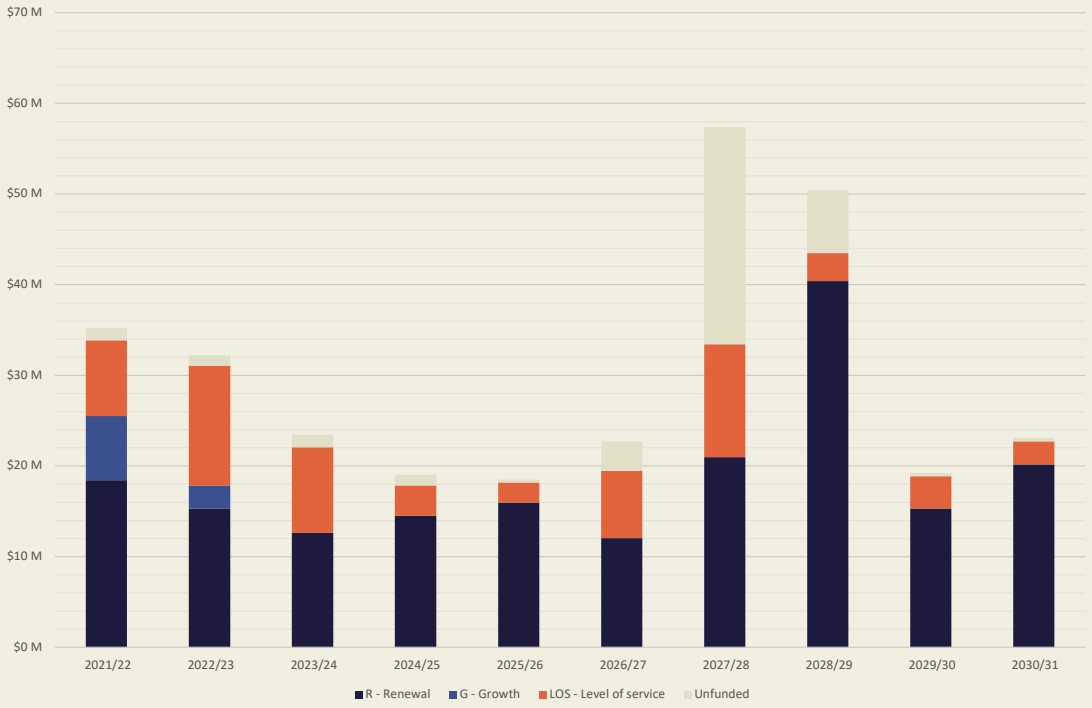
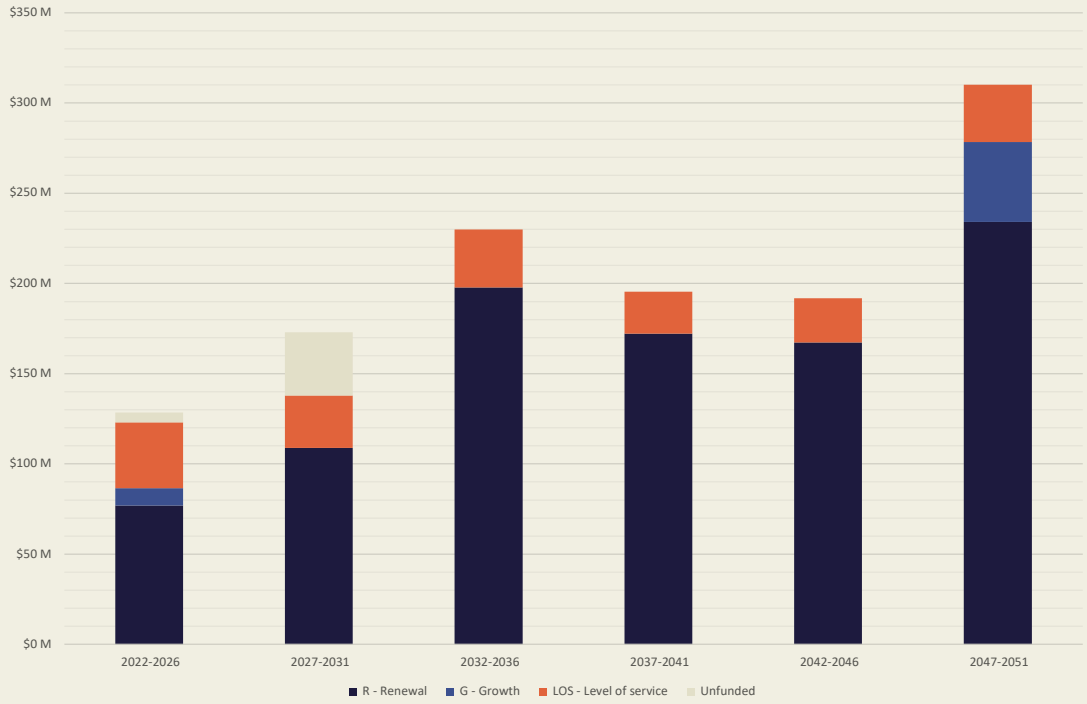


Figure 39: Forecasted capital expenditure for Community and Events - five yearly periods – 2021-51



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2021 to 2031 has been included in the 2021-31 Long-Term Plan. Estimated expenditure beyond 2031 is based on the year 10 forecast and then adjusted for anticipated future growth of the city.

Operational expenditure includes indirect costs to provide the service to the community such as depreciation, interest costs and overheads. Forecasted operational expenditure is shown as gross costs.

Figure 40: Forecasted yearly operational expenditure for Community and Events – 2021-31 Long-Term Plan

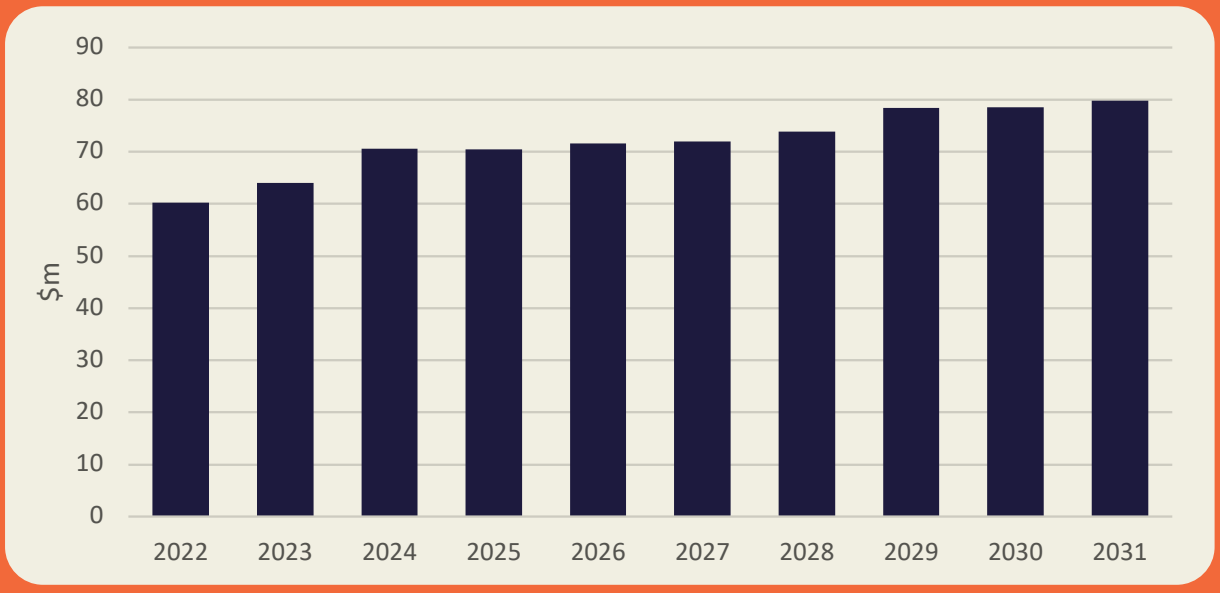
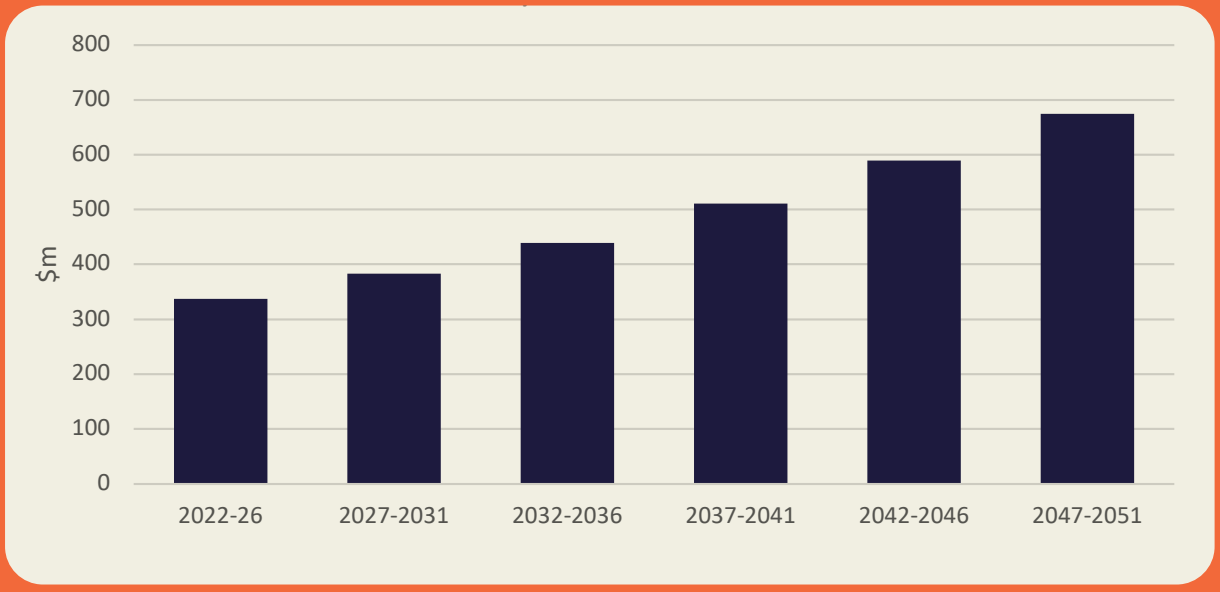
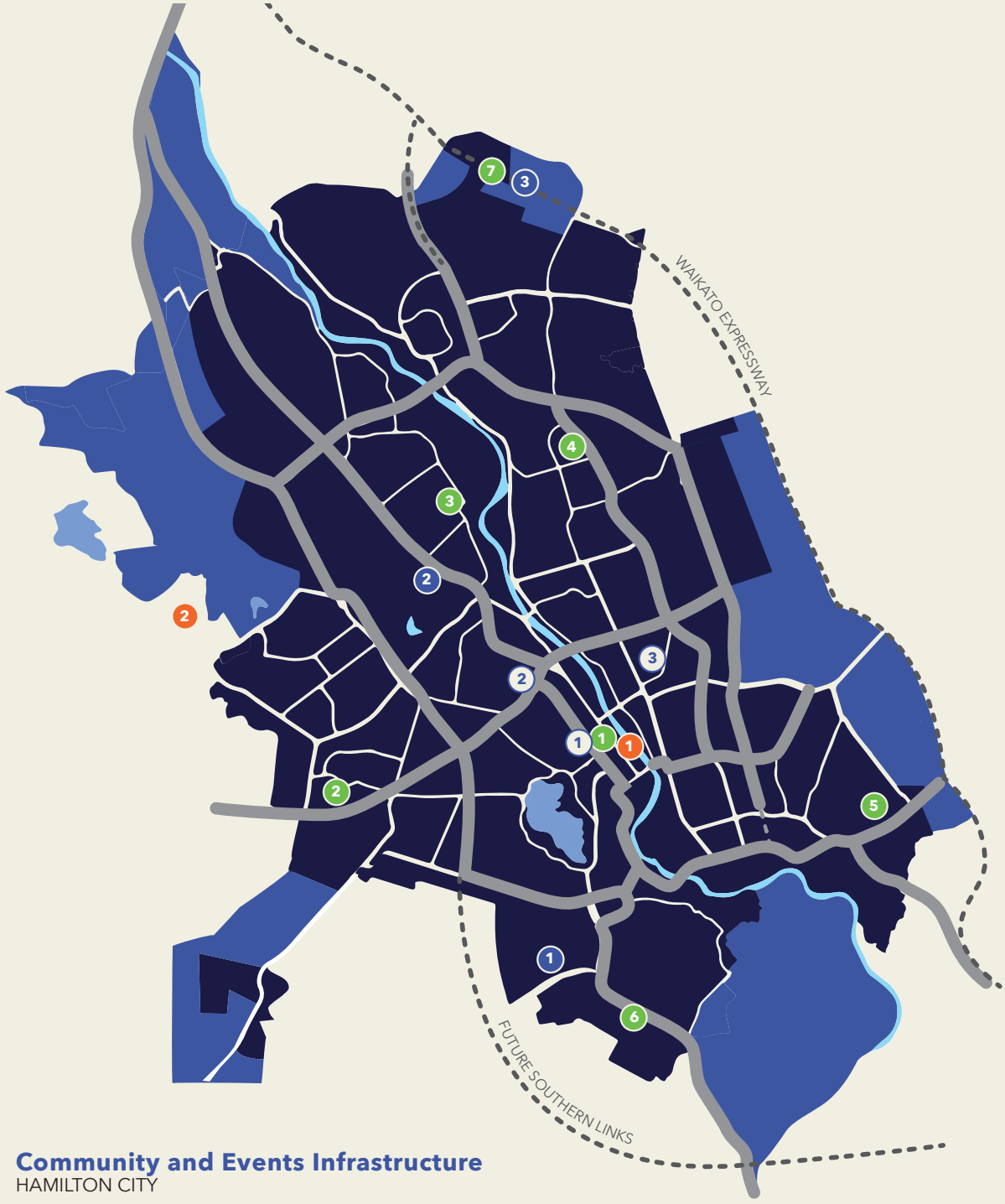


Figure 41: Forecasted operational expenditure for Community and Events – five yearly periods – 2021-51



Current and future assets



Community and Events Infrastructure
HAMILTON CITY

- Already developed
- Growth area
- Main transport corridors

Libraries
1 - Central Library
2 - Dinsdale Library
3 - St. Andrews Library
4 - Chartwell Library
5 - Hillcrest Library
6 - Glenview Library

Aquatic centres
1 - Gallagher Aquatic Centre
2 - Waterworld
3 - Future Aquatic Centre

Event venues
1 - Seddon Park
2 - FMG Waikato Stadium
3 - Claudelands Event Centre

Attractions
1 - Waikato Museum
2 - Hamilton Zoo

Assumptions

Lifecycle of significant infrastructure assets

Asset group	Useful life (years)
External fabric	
External walls	15-75
Roof	15-75
Windows and doors	10-50
External work	5-75
Internal finishes	
Ceiling	15-75
Fittings and fixtures	3-50
Floor	7-75
Interior doors	10-50
Interior walls	18-50
Wall finishes	10-50
Services	
Electrical	7-45
Fire services	10-50
Lifts/hoists	25-40
Mechanical	7-75
Pool structure	50-60
Sanitary plumbing	10-50
Special services	3-25
Specialised stadia assets	
FMG Stadium turf and irrigation	10-30
Steel tie rods	25
Specialised zoo assets	
Livestock cages	5-30
Livestock enclosures	30
Livestock gates/doors	30-50
Structural	
Floor	50-120
Residual – heritage buildings	100-200
Residual – other buildings	25-100
Roof	50-100
Walls	50-100
Libraries	
• Lending collection	3-8
• Heritage collection	Held in perpetuity

Asset group	Useful life (years)
Aquatic facilities (note: pool structure is included with building assets) • Electrical services • Plumbing elements • Pumps and heat exchanger • Fitness equipment	 10-30 20-30 10-30 7-10
Museum • Public art • Collection • Operational assets	 20-50 50-100 10-30
Events (note: the FMG Stadium turf is included with building assets) • Technical equipment • Turf equipment • Plant and equipment	 2-20 8-15 15-20
Park type assets in community and events are in line with the Parks and garden assets.	

Growth or decline in the demand for relevant services

The community and event related infrastructure provides services to both Hamilton and surrounding areas. Infrastructure required to provide for growth is anticipated through analysing a combination of:

- population projections
- current and future trends for passive and active recreation and organised sport
- commissioned research and studies that assess future demand for services and infrastructure.

Much of the current community and event infrastructure is adequate to meet the needs of a larger population. However, over the period of the Infrastructure Strategy increases in capacity to meet demands of growth are required for:

- aquatic facilities
- library services.

Increases or decreases in relevant levels of service

The community and event infrastructure covered in this plan helps to make Hamilton a highly liveable city. This strategy has been prepared on the assumption the service levels for the following activities are maintained to the current standard unless stated in the following table.

Aquatic Facilities	• Aquatic facilities that can be used for local and regional swim meetings, and person and group fitness • Learn to Swim and Water Safety Education programmes at out aquatic facilities • Access to recreational swimming facilities	• The implementation of the North Arena Learn to Swim programme is expecting to improve the quality of the swimming lessons and increase the number of students attending.
Community Facilities	• Expect community facilities to be safe and accessible.	• No change.
Hamilton Zoo	• To see a wide variety of animal species at the Hamilton Zoo. • A safe environment to be provided. • Opportunities to learn about wildlife, living sustainably and conservation at Hamilton Zoo. • Hamilton Zoo to provide quality animal care and contribute to protecting and conserving wild animals and plants.	• The Zoo Master Plan is implemented progressively, and entrance integrated with the Waiwhakareke Natural Heritage Park.
Library	• That libraries to provide programmes and events that support literacy and promote reader development. • Libraries that are safe welcoming and attractive community spaces. • Libraries that provide collections and technology that meet the communities need for learning. • The Council records to be stored for current and future generations. • The City's Heritage Collection to be available for future generations.	• New Library at Rototuna to service the North East of the City. • The number of community services offered through the libraries will increase each year. • The City's Heritage will be progressively digitised and available digitally for public access.
Waikato Museum	• The Waikato Museum to offer a range of quality exhibitions and experiences. • Supporting programmes and resources that align to the New Zealand curriculum. • The Museum to hold public events and programmes. • Waikato Museum to be the guardian/kaitiaki for historically significant collections including Tainui taonga.	• Elements of the Museum Strategic Plan will be implemented progressively over time with a focus on connecting to Waikato River.

H3	• Venues are well utilised and provide multiple opportunities for people to attend events. • Quality events are provided that people want to attend. • Venues attract national and international events. • Venues and services provide a quality experience for event attendees. • Venues and services provide a quality experience for hirer's. • A new Regional theatre is provided by a third party (The Council contributes operational grants to assist with construction and ongoing maintenance).	

The Council owns and maintains a significant amount of building infrastructure to deliver its community and events services to the community. These buildings range in age and use.

Both asset condition and performance information is used to determine when a renewal is required for the facility.

The lifecycle of significant infrastructure assets is a list of expected lives that have been used for community and event facilities and other types of assets. These are used as a basis for developing the projected renewal needs.

As the asset is used over the years its condition is monitored to ensure that the asset is replaced at the most cost effective time. Decisions on the priority of replacements and renewals of assets are identified mainly on the basis of:

- periodic reviews of asset condition
- feedback from users on appropriateness of venues and building infrastructure for activities
- need for upgrades to increase or maintain revenue from users.

Hamilton City Council
Garden Place, Private Bag 3010, Hamilton

/HamiltonCityCouncil
@hamiltoncitycouncil
07 838 6699

hamilton.govt.nz