

Draft 2018-48 Long-term Infrastructure Strategy

Hamilton City Council

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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 of 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 life.
Core network infrastructure	Infrastructure that relates to the water, wastewater, stormwater or transportation networks.
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 required for provision of 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 is a central government backed funding arrangement that provides 10-year interest free funding for specified growth projects.

About the Strategy

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

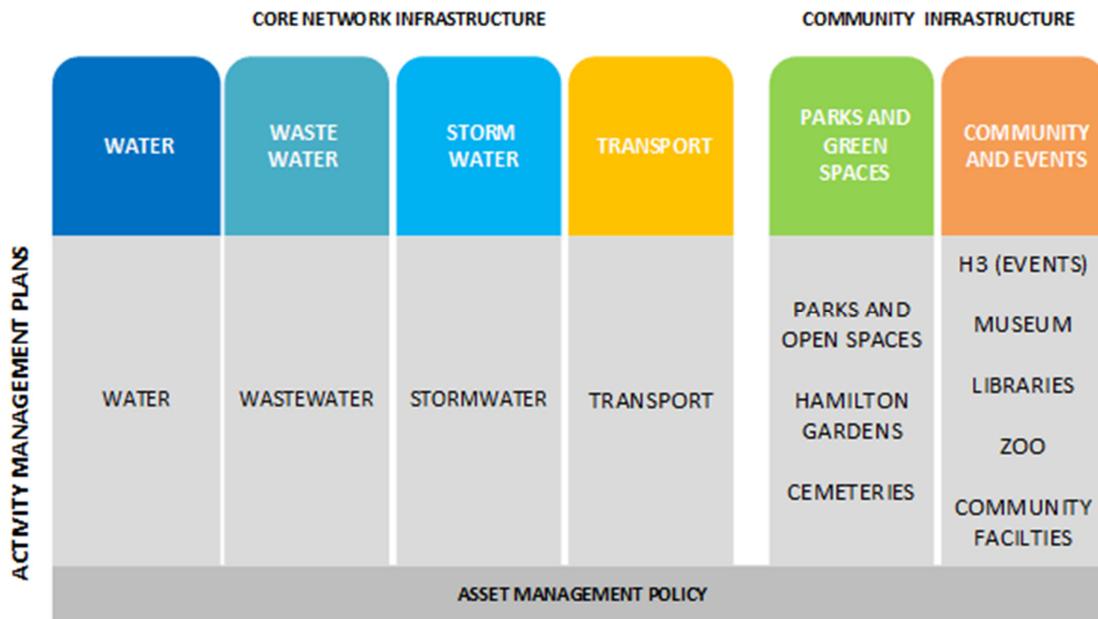
Providing and maintaining the Council’s infrastructure requires good asset management practices and strategic thinking, and this Strategy assists the Council in taking a long-term view of Hamilton’s infrastructure needs. The Strategy is an indicative estimate of the Council’s future infrastructure needs. It is not a budget and by itself does not commit the Council to any future project, cost or timing. It is a statement of current assumptions and thinking on what infrastructure will be required to address the major issues facing the City over the next 30 years.

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 Green spaces
- Community and Events Facilities

The Strategy categories draws together information from 12 infrastructure related Activity Management Plans (AMPs) of the Council.

Figure 1: Infrastructure Strategy Categories



Community outcomes and Infrastructure challenges

Community Outcomes are the outcomes that the Council aims to achieve in meeting the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions.

The Outcomes have a role to play in strategic direction setting and help in prioritising improvements to activities and services by the Council.

The Council has identified three community outcomes, and each have implications for the provision and maintenance of infrastructure for the City.

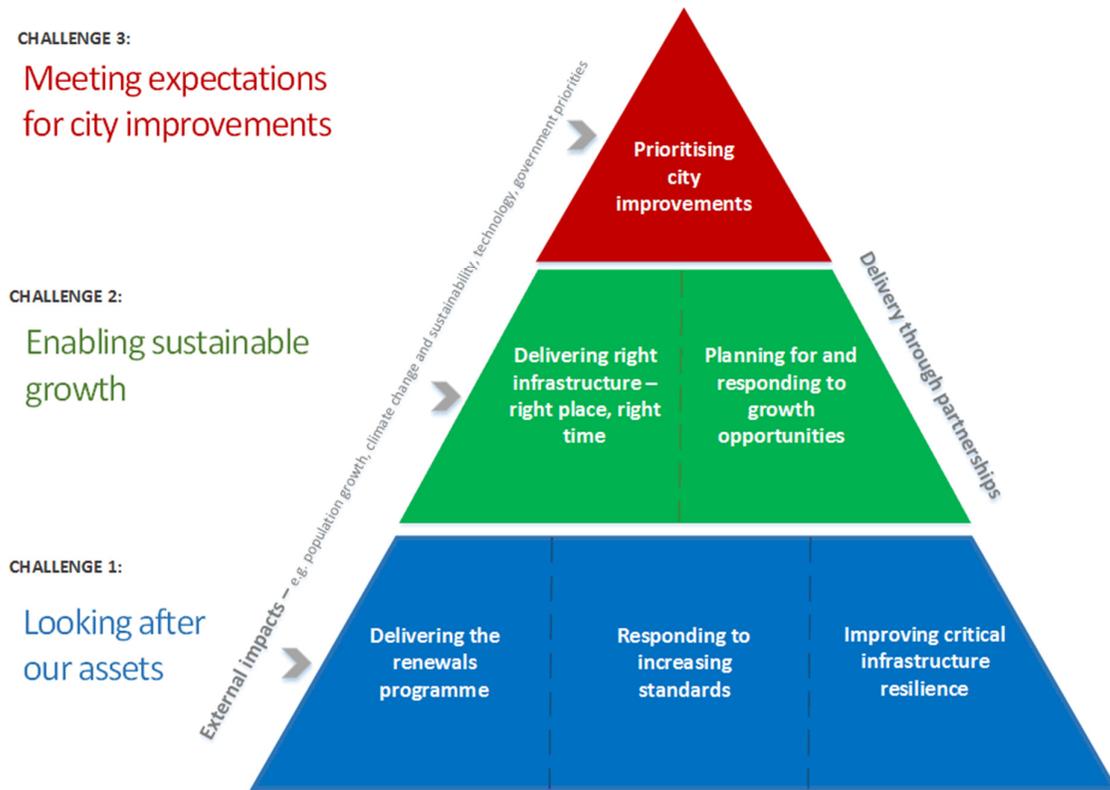
Figure 2: Community Outcomes



To deliver the Community Outcomes, the Council needs to focus its infrastructure investments wisely.

The following three challenges and six focus areas are the most important infrastructure matters for the Council to address.

Figure 3: Infrastructure Challenges and Focus Areas



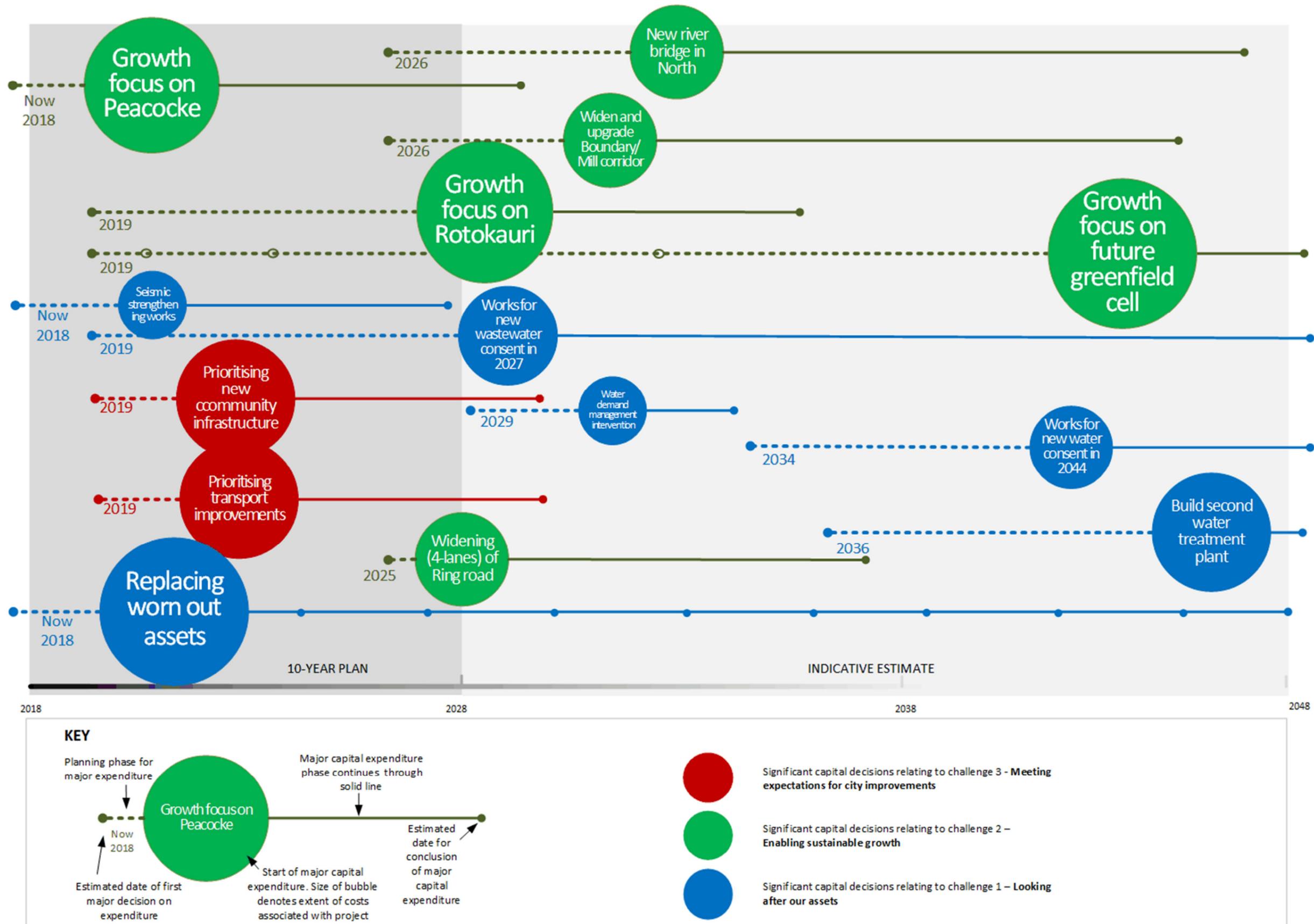
The above diagram provides the structure for the discussion in this Strategy.

- Each challenge and focus area is discussed in the following section of this Strategy. The discussion identifies significant capital decisions that are anticipated over the next 30 years and options that will need to be considered as part of these decisions.
- The key external factors that may impact infrastructure investment opportunities and timing are discussed in the External Factors section.
- Examples of types of partnerships and the challenges and opportunities that the Council faces using them for delivery of infrastructure is discussed in the Using Partnership Opportunities section.

Significant capital expenditure decisions required

There are significant decisions on capital expenditure anticipated over the next 30 years to address the above challenges and focus areas. The decisions are represented on the timeline in the next page.

Figure 4: Significant Capital Expenditure Decisions



Our infrastructure challenges and focus areas

Challenge 1: Looking after our assets

The Council actively looks after our existing assets through operations, maintenance and renewals. To ensure that this is done well the Council has the following three focus areas:

- **Delivering the renewals programme** - Assets are renewed (replaced) when they reach the end of their useful life to ensure that the levels of service are maintained,
- **Responding to increased standards** - Assets are maintained and upgraded to ensure that we meet all relevant standards and resource consent conditions,
- **Improving critical infrastructure resilience** - Assets are managed to ensure that the network is resilient and can be relied on to deliver the required service.

Focus Area: Delivering the renewals programme

Hamilton is a relatively young city as much of its development has taken place in the last 50 years. This means that its infrastructure is aging but still comparatively young when compared to other large New Zealand cities. While there is still a lot of life remaining in much of the public infrastructure, there is always a need to keep maintaining and replacing infrastructure that has short lives.

Determining the optimal time that assets should be renewed is often complex. Some assets are visible and can be observed daily by staff and or contractors. Other assets may be underground where it is difficult to forecast when they may fail. The Council can limit unplanned failure of assets by renewing assets earlier, but for many assets this is not necessary or prudent. Renewing some assets after they fail can be more expensive and therefore renewal on failure is not necessarily regarded as good practice. An unplanned failure may have a significant impact on the end user if the service provided by the asset is interrupted – particularly for critical assets.

The Council uses updated condition assessment data with relevant asset life expectancy rates to forecast an asset's likely end of life and to forecast future renewal requirements. Renewals forecasts have been prepared with critical assets in mind to ensure that assets that are most critical for the delivery of the service or pose the greatest risk through an unplanned failure are renewed at the appropriate time.

It is usual that not all the potential works forecast can be afforded within available funding. The budgeting process prioritises expenditure on maintaining and renewing existing assets before creating new ones. This focus to look after existing assets is reflected in the following financial principle that the Council used in the development of the 2018-28 10-Year Plan:

The Council will look after existing assets i.e. the Council will fund maintenance and renewals as per approved Activity Management Plans.

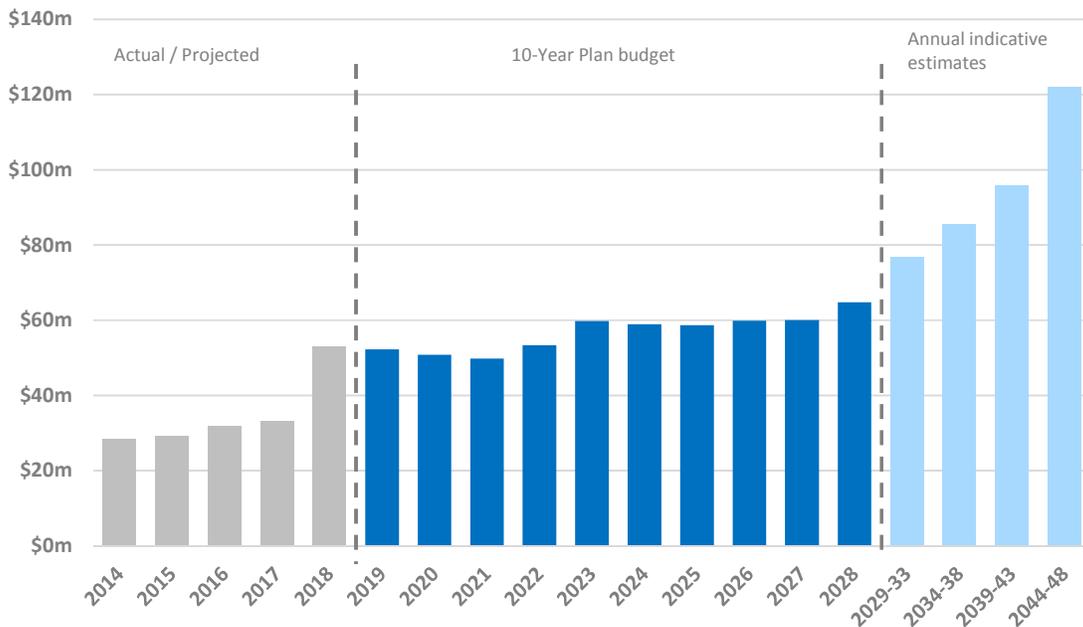
The initial renewals forecasts that were produced using information from the Activity Management Plans ranged from \$45m per annum to \$60m per annum over the first 10 years. To aid in limiting spikes in financial requirements and to assist in the delivery of the renewals, the programme has

been ‘smoothed’ over the 10 years to approximately \$49m per year. Any risks and implications of this smoothing were considered during this process and minimised. The Council has fully funded the renewals programme in the budget for the Draft 2018-28 10-Year Plan.

For the three-year period from 2014 to 2017 the annual spend on renewals was \$31.3m (budget \$33.5m). As the assets have aged and our asset data has improved, the required renewal works has increased significantly for the next 30 years.

From 2018/19 to 2027/28 the average renewals requirement is \$49m (uninflated) and this increases slightly to an average of \$55m (uninflated) from 2028/29 to 2048/49. The increase from 2028/29 is due to the large number of stormwater pipes that are due to come to the end of their useful life at this stage.

Figure 5: Forecast renewals – 30 Years



Forecasts in graph are gross and inflated

SIGNIFICANT CAPITAL EXPENDITURE DECISION:

**Decision:
Every 3 years**

REPLACING WORN OUT ASSETS

At each 10-Year Plan, the Council needs to confirm the level of funding it will provide for the renewal of its existing assets. Through the 2018-28 10-Year Plan process, the Council decided to fund the renewal of assets to the level recommended by the Council staff.

Key options for decisions include:

- Whether there are assets that the Council chooses not to renew in the future
- The degree to which the forecasted renewal requirements are funded through each 10-Year Plan.

Key Relevant Projects and Programmes:

Project/Programme	Type	Y1-3	Y4-10	Y11-20*	Y-21-30*
Community Renewals	R	\$27m	\$75m	\$160m	\$190m
Corporate Renewals	R	\$21m	\$43m	\$45m	\$55m
H3 Renewals	R	\$11m	\$27m	\$80m	\$80m
Transportation Renewals	R	\$49m	\$118m	\$320m	\$350m
Water, Wastewater, Stormwater and Solid waste Renewals	R	\$44m	\$151m	\$230m	\$420m

*Financial estimates beyond year 10 in these table have been rounded up to nearest \$5m for values up to \$50m and nearest \$10m for values over \$50m. This is reflect the uncertainty of long-term financial estimates.

Focus Area: Responding to increasing standards

Recent experience and future forecasts indicate that costs associated with complying with required standards are sizeable and significantly more than inflation. This is particularly the case in relation to:

- Increasing **seismic performance** standards for structures and buildings
- Renewal of **resource consents** and compliance with Healthy Rivers
- **Drinking water standards**

There are both capital and operating impacts from increasing compliance. The budget forecasts in the 10 -Year Plan and timing and scale of significant decisions in this Strategy have been built on current legislation and known changes to standards that are expected. There has been no allowance for standards that will change where there is currently no indication.

Seismic Performance

In recent years, Hamilton has been reclassified as being in a seismic risk zone of medium (increased from low). As we better understand seismic risk and asset condition, we may need to invest more in our existing assets to bring them up to an acceptable standard.

In many cases the Council’s buildings are not at modern standards. While the condition of these building assets may be assessed as being in good condition, the configuration or nature of the assets are often considered inadequate for delivery of the desired service levels to the community.

The Council has determined its preferred approach to seismic performance of its buildings through adoption of a policy in 2017. The policy outlines the pace of assessments that will be undertaken on the Council owned facilities. It also sets out a process for managing buildings when they are identified through assessments as being earth-quake prone (that is less than 34% of the New Building Standard). Funding provision has been made in the 10-year plan to improve seismic performance of the following buildings / facilities:

- Water Treatment Plant
- Wastewater Treatment Plant
- Artspost
- Waterworld Aquatic Facility

The Council also considers the seismic performance of key large infrastructure for the City. Focus to date has been on the following assets:

- Six bridges in the City were identified in a high-level screening as requiring a detailed seismic assessment. These assessments are being progressed. All identified seismic resilience deficiencies will be addressed in the first 3 years of the 10-Year Plan.
- The City’s reservoirs have been assessed and a programme seismic strengthening work has been included as part of the 2018-28 10-Year Plan.

SIGNIFICANT CAPITAL EXPENDITURE DECISION:

**Decision:
2018**

SEISMIC STRENGTHENING WORK

The Council will gain more information about the likely seismic performance of infrastructure and buildings as more assessments are undertaken over coming years. At that point, the Council will need to make decisions on the pace and extent of upgrade if required from these assessment works. Budget provision will need to be made at the relevant 10-Year Plan or Annual Plan funding rounds.

Key options for decisions include:

- Whether there are assets that the Council chooses not to retain and therefore won't require seismic strengthening.
- The pace at which any upgrades are required and planned for.

Key Relevant Projects and Programmes:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
ArtsPost Seismic Strengthening	LOS		\$6m		
Bridge Seismic Strengthening	LOS	\$2m			
Wastewater Treatment Plant Seismic Strengthening	LOS	\$1m	\$6m		
Water Reservoir and Treatment Plan Seismic Strengthening	LOS	\$1m	\$6m		

Resource Consents

There are many resource consents in place to allow the Council to carry out current and future activities. Most of the consents will need to be renewed before the expiry dates to ensure ongoing compliance with the relevant regulatory requirements (particularly the operational Waikato Regional Plan). The estimated costs associated with the renewal of the resource consents has been included as part of the forecasted renewals where this has been possible. However, in the case of the water take and wastewater discharge it is expected that there will be works needed at the treatment plant and associated assets to ensure that the Council continues to comply with increasing environmental standards.

Resource consents for discharge of treated wastewater, discharge to air and use of river outfall structure are due for renewal in 2027. Renewal of these consents may be subject to new, and more stringent regulatory measures that will require careful planning well ahead of time.

SIGNIFICANT CAPITAL EXPENDITURE DECISION:

**Decision:
2019**

WORKS FOR THE NEW WASTEWATER CONSENT RENEWAL IN 2027

Like the renewal of the water take consent, the Council will need to renew its consent for discharging treated wastewater into the Waikato River by 2027. The extent of the works required following consent renewal to meet any new compliance regime is currently unknown. It is recommended that a strategy be determined for the approach to be taken for the consent renewal. This will need to be done within as soon as practicable.

Key options for decisions include:

- Operating within current consent conditions until consent renewal required in 2027 and then start making improvements once conditions of the new condition are known.
- Start making investments and improvements ahead of consent renewal date and in anticipation of new conditions.

Key Relevant Projects and Programmes:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
Wastewater Treatment Plant Compliance	LOS	\$5m	\$14m	\$25m	\$35m
Wastewater Treatment Plant Upgrade	Growth	\$19m	\$8m	\$80m	\$90m

The Waikato River is under considerable water allocation pressure and our current water take consent expires in 2044. Renewal of the consent beyond 2044 may be subject to new, and more stringent regulatory measures that will require careful planning and consideration of mitigation well ahead of time. The current investments in Hamilton’s water supply have been forecasted based on the existing consent conditions.

SIGNIFICANT CAPITAL EXPENDITURE DECISION:

**Decision:
2029**

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.

Key options for decisions include:

- Extension of water meters for volumetric charging to include all residential properties with Hamilton
- Continuation and potential extension of education initiatives for smart water use

Key Relevant Projects and Programmes:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
Water Demand Management – Universal Meters	Growth			\$40m	
Water Demand Management – Reservoirs	Growth	\$13m	\$1m		\$35m
Water Demand Management – Network Water Loss	LOS	\$1m			

**Decision:
2034**

WORKS FOR NEW WATER CONSENT RENEWAL

The Council will need to renew its consent for taking water from the Waikato River for municipal use by 2044. By 2034 it is forecasted that the development of a strategy for the renewal of the water consent should be undertaken. This will allow time for the impact of the earlier water demand management intervention to be quantified and understood. The extent of the works required following consent renewal to meet any new compliance regime is currently unknown.

Key options for decisions include:

- Operating within parameters and limits set by current consent conditions until consent

renewal required in 2044

- Start making investments and improvements ahead of consent renewal date and in anticipation of new conditions.

Key Relevant Projects and Programmes:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
Water Treatment Plant Compliance	LOS	\$3m	\$4m	\$10m	\$15m

Drinking Water Standards

Hamilton’s water supply is fully compliant with the current New Zealand Drinking Water Standards, the Health Act and has a comprehensive approved and audited Water Safety Plan in place that identifies potential risk and details how they are managed.

The Council’s water supply has been assess as having a Ministry of Health ‘Aa’ grading which indicates our water supply, treatment process and distribution system is managed to ensure there is an extremely low risk of contamination occurring to the drinking water the Council provides the Hamilton community.

Following the Havelock North water supply contamination event that occurred in August 2016, the Government initiated an Inquiry. Two Inquiry reports have been released which have identified recommended improvements to the way in which drinking water supplies are managed nationally. These will likely lead to increased Drinking Water Standards, particularly in relation to bore water compliance criteria.

As Hamilton already provides appropriate and effective treatment it not anticipated that the current treatment processes will require immediate improvement. However, it is likely that there will be a need for new training and competency requirements for Council staff.

Staff are continuing to monitor Government response to understand any potential implications resulting from this Inquiry and any future changes to standards.

Focus Area: Improving critical infrastructure resilience

It is important that in an unexpected event the City can get critical infrastructure back up and running quickly to ensure that the public health and safety is maintained.

Studies¹ have shown that the most likely hazards that pose the greatest risk in terms of potential loss of human life, social disruption, economic cost and infrastructure damage for Hamilton are:

- Earthquake
- Severe wind
- Drought

Currently, we are dependent on the Waikato River as our single source of water and draw from a single treatment plant. If the Waikato River was not available for use, there are very limited options for supply of water to the City. Being able to access an alternative water source and a second water treatment plant is considered the best way to improve resiliency of the water supply for the City in the long term.

¹ An overview of natural hazards for the Hamilton City Council – Waikato Regional Council Technical Report 2014/04, August 2015

SIGNIFICANT CAPITAL EXPENDITURE DECISION:

**Decision:
2036**

SECOND WATER TREATMENT PLANT

A long-term strategy for improving the resilience of the City’s water supply network is to provide a second water treatment plant. The current forecast is for a capital investment of approximately \$100m from year 28.

Key options for decisions include:

- Utilising a different water source / water body from that currently used by the existing treatment plant
- Creation of a treatment plant that could provide for other areas in the sub-region that require water treatment improvements or more capacity.

Key Relevant Projects and Programmes:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
Water Treatment Plant Upgrade	Growth	\$12m	\$17m	\$40m	\$220m

Challenge 2: Enabling sustainable growth

The Council has been experiencing very high growth and this is projected to continue. Demand from additional people, along with the mandatory requirements under the National Policy Statement on Urban Development Capacity, places a heavy burden on the City to fund key infrastructure to meet housing demand.

Legally, the Council has a role to provide ‘strategic infrastructure’ to enable growth and the wider public benefit. There are often large lead costs involved to enable growth which include investing in assets such as treatment plants, water reservoirs, large wastewater interceptors, large bulk and some trunk water pipes and major arterial roads. Council receives funding towards these projects in the form of development contributions from individual developers, NZTA subsidies for transport projects, and through private development agreements.

It is also important that the Council comprehensively plans for the location of growth to ensure infrastructure is provided in an efficient and effective way over the long-term as out of sequence growth is very expensive. The Council currently has enough zoned land, including infill land, to accommodate projected growth for the next 30 years. A new and yet to be defined greenfield growth cell is required to meet the projected demand beyond this time. Investment in strategic infrastructure for a new cell would be required from approximately year 25 of the 30-year period to be ready to meet demand from year 30 onwards.

There are two focus areas for the Council when looking to enable growth;

- **Delivering right infrastructure - right place, right time** – Ensuring the optimal timing and location of infrastructure to address demand for new housing and employment.
- **Planning for, and responding to growth opportunities** – The Council needs to start planning for where it will accommodate growth once the City’s current growth cells are full, and how it will fund the infrastructure required.

Focus Area: Delivering right infrastructure – right place, right time

One of the Council's main roles is to determine the optimal timing and location of infrastructure to enable Hamilton to grow. This means investing in efficient and effective infrastructure solutions at the right time.

In the 2015-25 10-Year Plan, the Council pushed out some of the biggest strategic infrastructure investments to beyond the 10-Year Plan horizon as the forecasted growth could be accommodated within the serviced land. The acceleration of growth means that it is no longer feasible to continue deferring these projects.

The Council must balance the need to provide adequate available serviced land for development with affordability. Investing in the right strategic infrastructure too early results in infrastructure that is underutilised yet still incurs costs to the ratepayer, while providing strategic infrastructure too late may result in sub-optimal solutions that may be costly to maintain and operate or growth potential not being realised.

It is not feasible for the Council to 'opt out' of investing in infrastructure for growth. Growth will happen, so it's important that we manage how we deliver infrastructure to balance what people need and the impact of today's decisions over the long term.

All areas inside the City (except Templeview) are already zoned for development and have structure plans in place, meaning development can occur in accordance with the District Plan. Relying on private developers to deliver strategic infrastructure can lead to ad-hoc infrastructure that doesn't link well to the existing network and ends up costing the Council more to fix in the long run. Other potential negative consequences for the Council and the City may include:

- Making further development more expensive, and possibly preventing adjacent land from being developed.
- Increased operating costs to the Council to maintain a network of piecemeal vested assets.
- Impacts on current service levels (such as traffic congestion) caused by the cumulative effects of individual developments.
- Legal challenges where developers consider the Council's lack of investment unreasonable particularly where development can only be mitigated by significant infrastructure (e.g. a Waikato River bridge) that is beyond the capacity of any one developer to provide.
- Inhibition of growth where no individual developer can reasonably fund significant infrastructure on their own.
- New housing and business land development would not be enabled, which would erode our competitive and comparative advantage as a City.
- Fragmented growth on multiple fronts leads to inefficiencies in infrastructure provision. Land is unable to be unlocked due to constraints by infrastructure sized only for previous individual developments resulting in the Council needing to retrofit infrastructure to allow greater capacity. Infrastructure investments also need to be duplicated across the City to allow for growth on multiple fronts.

The Draft 2018-28 10-Year Plan and this Strategy propose to initially focus greenfield investment in strategic infrastructure to unlock the Peacocke growth cell. This investment in infrastructure is forecasted in the next 5 years to create the necessary strategic infrastructure to enable residential development deep into the Peacocke greenfield area. \$289m of the direct investment required for enabling Peacocke development is proposed to be funded through the Government Housing Infrastructure Fund (HIF) loan. This includes:

- Construction of a new bridge over the Waikato River which is the extension of Wairere Drive into Peacocke
- Construction of the connecting arterial roading network
- Strategic investments in wastewater and water infrastructure
- Purchase of some land for future parks in the Peacocke area.

The HIF loan is a 10-year interest free loan from the government to build specific, approved projects. Support through the HIF loan to fund the initial strategic infrastructure for this area means the Peacocke area will be able to grow faster with incremental pipe and road extensions as required. This option also provides access to a further \$112 million in funding from the NZ Transport Agency on the transport projects in the first phase of the development.

Further investment in infrastructure for the Peacocke growth cell will continue beyond the next 10 years. This forecasted expenditure has been timed to align with the anticipated development of the growth cell and release of sections to the market. However, this pace is largely determined by the development community and will be dependent on market conditions at the time.

As well as regenerating the south of the City, an added benefit of investing in Peacocke is that infrastructure investments also advance work on the Southern Links road network – a regionally significant roading project.

While Peacocke requires significant investment, over the long-term this will support a much higher number of new homes for the City than other current greenfield growth cell options such as Rotokauri.

In addition to the infrastructure to unlock Peacocke, the Council is also proposing investing in other infrastructure to address demand for housing and employment land, including:

- Projects needed to accommodate increasing demand, such as upgrading the water and wastewater treatment plants, completing the Ring Road and intersection with Cobham Drive
- Development already committed to and under contract.
- Completing work in Rototuna. The main strategic infrastructure is largely complete. Still required are some community essentials like turning undeveloped reserve land into usable parks, Rototuna Town Centre, upgrading water mains and upgrading rural roads to urban standards.
- Investment in strategic infrastructure to support residential and employment development in Ruakura
- Investment to support the ongoing incremental growth in the first stage of Rotokauri for residential and employment land uses.

Substantial investment in strategic infrastructure for the Rotokauri greenfield cell is forecasted within the 10-Year Plan but following the major investment in Peacocke in the first few years. Investment in the strategic stormwater solution for Rotokauri is the most significant capital decision to allow the future full development of the growth cell. The forecast expenditure for a strategic stormwater solution for Rotokauri is more than \$100m. The first of this expenditure is forecasted at the end of the Draft 2018-28 10-Year Plan. The financial impact on developments for this growth cell is potentially substantial given that the benefits from this large infrastructure project are localised to new sections in Rotokauri and therefore costs are spread over relatively few new sections.

SIGNIFICANT CAPITAL EXPENDITURE DECISIONS:

**Decision:
2018**

GREENFIELD GROWTH FOCUS ON PEACOCKE

Key options for decisions include:

- What infrastructure the Council will need to provide to ensure that the growth cell develops in a manner that is efficient and cost-effective over the long-term.
- When infrastructure is required and therefore when the capital expenditure is best timed.
- What mix of the available funding tools should be used to deliver the best outcomes for Peacocke and wider City. This will potentially include the use of the HIF loan, Development Contributions and Private Development Agreements in conjunction with revenue from rates.

Key Relevant Projects and Programmes:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
Parks and Open Spaces Network	Growth	\$10m	\$35m	\$50m	\$20m
Stormwater	Growth	\$14m	\$14m	\$20m	
Transportation	Growth	\$93m	\$155m	\$180m	\$100m
Wastewater	Growth	\$52m	\$29m	\$20m	
Stormwater	Growth	\$3m	\$6m	\$10m	\$5m

GREENFIELD GROWTH FOCUS ON ROTOKAURI

**Decision:
2019**

Key options for decisions include:

- What the final optimal strategic stormwater solution should be for Rotokauri and the Council’s role in its provision and timing.
- How the strategic stormwater solution is best funded utilising the range of available funding mechanisms.

Key Relevant Projects and Programmes:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
Parks and Open Spaces Network	Growth		\$2m	\$45m	\$80m
Stormwater	Growth	\$6m	\$35m	\$180m	\$10m
Transportation	Growth	\$31m	\$33m	\$140m	\$100m
Wastewater	Growth	\$3m	\$3m	\$15m	\$10m
Stormwater	Growth	\$0.6m	\$1.4m	\$20m	\$15m

NEW RIVER BRIDGE IN NORTH OF CITY

**Decision:
2026**

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 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 \$150m.

Key options for decisions include:

- When timing for construction of the bridge is optimal.
- The route for the roading approaches and location of the bridge – this will be as part of the designation process.
- What opportunities exist for the funding of the infrastructure.

Key Relevant Projects and Programmes:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
Northern River Crossing	Growth		\$5m	\$120m	\$50m

**Decision:
2026**

WIDEN AND UPGRADE BOUNDARY ROAD / MILL ST CORRIDOR

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 the critical route remains effective. The programme of investment is forecasted to begin during the 2018-28 10-year period and the full programme is forecast to cost in excess of \$180m.

Key options for decisions include:

- The scope and nature of the individual projects as they move from concept into planning phase.
- The timing and sequence of the individual projects.

Key Relevant Projects and Programmes:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
Cross City Connector	Growth		\$6m	\$90m	\$90m

**Decision:
2025**

WIDENING (4-LANES) OF RING ROAD

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 a need to increase capacity through 4-laning sections of the existing Ring Road. 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:

- The scope and design of the roading improvements as they move from concept into planning phase.
- The timing and sequence of the individual roading improvement projects that make up the Ring Road 4-laning programme.

Key Relevant Projects and Programmes:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
Ring Road 4-Laning	Growth			\$150m	

Focus Area: Planning for and responding to growth opportunities

The Council influences how the City grows by deciding what areas can grow and what order it will focus its investment in strategic infrastructure; and how much infrastructure to enable growth it will plan for.

The Council has a strong history of strategic planning for growth. The Hamilton Urban Growth Strategy (HUGS) has set out the Council's approach to growth, including the sequencing and timing of new greenfield growth cells in different areas of the City. HUGS aims to manage growth by establishing an increasingly compact City where land and infrastructure can be provided and used efficiently while ensuring a good quality of environment and urban form.

The Council's District Plan also promotes an increasingly sustainable urban form for Hamilton to accommodate the expected growth over the next 30-40 years. Structure Plans and Master Plans are in place for the City's existing growth cells and provide a diverse range of housing options to accommodate Hamilton's growing population in a way that delivers quality outcomes.

Beyond Hamilton, the Future Proof strategy sets out the sequencing and timing proposed for residential and industrial growth in the Waikato, Waipa and Hamilton sub-region. The sequencing and timing of infrastructure has been thought through extensively. Each of the Future Proof partners plays a role in meeting the projected demands in the sub-region. If Hamilton does not accommodate its share of the growth, this could lead to additional unplanned growth outside of the City boundaries.

The 2018-28 10-Year Plan and this Strategy have been developed based on the continued delivery of HUGS, and delivering on the settlement pattern agreed to through Future Proof.

Based on current growth projections, the City has enough zoned land within its existing growth cells to provide for projected growth for the next 30 years, however will need to begin making decisions to address longer term growth within the timeframe of this strategy.

There are currently two large capital expenditure 'peaks' forecasted within the first period:

- Years 1 – 5 reflects the start of investment in strategic infrastructure to unlock new greenfield capacity in the Peacocke growth cell
- Years 8 – 15 reflects investment in strategic infrastructure to progress the remainder of the Rotokauri greenfield growth cell

Based on decisions about the location and timing of long-term growth, the Council will need to invest in more strategic growth infrastructure beyond what is currently planned for and shown in the 30-Year indicative estimates. This will require additional capital investment in the period from year 25 onwards to ensure that there is sufficient greenfield capacity for growth beyond the 30-year horizon. This would likely result in the creation of a third 'peak' in growth related capital for delivering growth over the next 30 years.

Land availability and funding options will be key factors influencing where and how the Council plans and responds to growth opportunities over the long-term.

Land availability

The Council has strategic urban boundary agreements in place with neighbouring councils to bring additional land within the City boundaries based on certain triggers in the future. These agreements relate to some of the land areas that is adjoining the current City boundary. There are other areas that are not under any agreement that could also be considered for transfer into the City. A number of these areas have land owners and developers that have expressed interest in progressing developments and bringing these to market.

Having a good long-term supply of land under the Council jurisdiction will simplify strategic land management and decision-making for strategic infrastructure provision.

With many options available to the City for future development it is important to have a plan of how the Council sees the City developing and the relative benefits of different areas. While an update to the long-term urban development plan is timely over the next couple of years, the Council must remain flexible and able to respond to opportunities to develop areas if they provide positive outcomes for the City and are affordable.

Funding

The funding of strategic infrastructure has become a major issue for local councils across New Zealand that are experiencing high demands for growth. This challenge is driving the need for new and innovative funding and delivery models.

A number of these models are currently being considered by central and local government:

- the use of a special purpose vehicle – ‘crown infrastructure partners’ - to fund infrastructure on behalf of local government and enter into agreements directly with developers to repay the costs;
- the potential for an Urban Development Authority to enable developments to be built more quickly;
- public private partnerships, where funding is provided by a private entity but ownership of assets is retained by councils.

These new tools, and Government Policy to increase housing supply (including affordable housing), are going to require a much more responsive and flexible approach to planning for growth by Council, as they all have the potential to impact on the sequence and timing of the long-term growth of the City. Future Proof and HUGS (and other planning processes) will need to adapt and take an enabling approach, while still looking to plan for a balanced supply/demand profile and good urban planning outcomes.

This may introduce risk, but these new tools will hopefully allow councils to mitigate and share that risk with other equity funders of infrastructure.

It is also possible that in the future, Council may not own all strategic infrastructure, for example these may be provided by 3rd parties under PPP arrangements with access gained under long term contracts.

SIGNIFICANT CAPITAL EXPENDITURE DECISIONS:

**Decision:
2019**

GROWTH FOCUS ON FUTURE GREENFIELD CELL

Over the next couple of years, the Council needs to examine and decide on the relative benefits of the options that exist for long-term future development in and around the City. This would allow the Council to be clear on the benefits and costs that would be traded off if specific land uses were enabled.

Through the Council’s proposed investments in Peacocke and Rotokauri over the next 15 years, there will be significant capacity for residential development. However, based on current projections for demand this capacity will be used up by the end of the next 30 years.

New greenfield growth opportunities will be required. Different options for the funding of strategic infrastructure should be considered as part of this process.

Key options for decisions include:

- Updating the existing Hamilton Urban Growth Strategy to indicate the Council's long-term future greenfield preferences and indicative long-term funding timeframes for strategic infrastructure investments. Options for new growth cells include but not limited to:
 - HT1 – North of Rototuna
 - R2 – North of Ruakura
 - HT2 – North of Rapa / Pukete
 - Southern Links area
 - Templeview
 - Other areas not currently within the City boundaries.

Key Relevant Projects and Programmes:

There are currently no projects or programmes in this Strategy to enable the development of additional long-term future growth cells (other than Peacocke, Ruakura and Rotokauri) due to uncertainty on priority. A detailed analysis of the costs and benefits of new growth cells will be carried out in coming years prior to decisions on future growth cell priorities are made.

Challenge 3: Meeting Expectations for Improvements

While water, wastewater, stormwater are important for public health it is often open spaces, community facilities, services and events that make Hamilton an enjoyable and desirable place to be.

Over recent years there has been little development of new community infrastructure as other priorities have been the Council's focus. The 2018-28 10-Year Plan has seen an increase in the level of investment in community infrastructure from previously planned in the 2015-25 10-Year Plan. This is on top of the increased budget for renewing existing assets and basic open spaces in new growth areas.

The Access Hamilton Strategy seeks to improve a range of transport outcomes including safety, increased travel choice and economic efficiency of the transport network. As a result, there are many options for the investing of limited funding.

There is a lot of uncertainty around the future expenditure for new community infrastructure and transportation improvements due to the discretionary nature of these assets. Is this the reason that there is no significant decisions and limited capital expenditure shown beyond year 10 in this Strategy.

The focus areas for the Council when looking to meeting expectations for city improvements is;

- **Prioritising new community infrastructure** – The Council needs to balance the community expectations for new community infrastructure with timing of improvements that are affordable.
- **Prioritising transport improvement** – The Council needs to balance the community expectations for improvements to the transport system with timing that is affordable.

Focus Area: Prioritising city improvements

The Council has written and approved many plans and strategies that have proposed projects detailed within the document to deliver on its outcomes. These documents are aspirational and have led to an increase in customer expectations for new community infrastructure and services. Some of the projects have been undertaken, others are being progressed through the 2018-28 10-

Year Plan, other plans remain unfunded and have not been included in the budget for the next 10-years.

Significant plans and strategies that have had limited implementation to date include:

- Central City Transformation Plan
- River Plan
- Frankton Neighbourhood Plan
- Hamilton East Neighbourhood Plan
- Biking Plan
- Hamilton Gardens Development Programme
- Playgrounds of the Future
- Hamilton Arts Agenda and Theatres
- Open Spaces Plan
- Libraries Strategic Plan
- Access Hamilton Strategy

Every 3 years, the Council makes decisions about the investment priorities it has for the City in the 10-Year Plan. Ahead of the next 10-Year Plan, the relative priorities for improvements to the City should be confirmed. This may result in changes being made to the current plans and strategies so that public expectations about the extent of likely improvements and timeframes are appropriately managed.

The Council is continually looking for smart and innovative ways to deliver projects. A key consideration in prioritising City improvement projects is the opportunity available for the partnering with other organisations for delivery and funding. The land area of Hamilton is small, the second smallest Council area in New Zealand. This means that Hamilton provides a lot of community infrastructure that is used by people who live out of the City. New funding models are required for community infrastructure that ensure that everyone pays their fair share of costs. These are further discussed in the Using Partnership Opportunities section.

SIGNIFICANT CAPITAL EXPENDITURE DECISIONS:

**Decision:
2019**

PRIORITISING NEW COMMUNITY INFRASTRUCTURE

Understanding the relative priority of potential improvements and new facilities is beneficial for planning. This allows the targeting of available funding and to allow other potential partners to understand the Council priorities.

Key options for decisions include:

- Which of the current plans and strategies are priorities for implementation
- Identify the partnership opportunities for projects and whether these are a priority for the Council to progress
- How much funding will / can be made available through budget processes for City improvement projects

Key Relevant Projects and Programmes*:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
Central City Transformation Plan – Garden Place Development	LOS	\$4m			

Cemeteries Management Plan	LOS/ Growth	\$1m	\$5m	\$3m	\$1m
Rototuna Community Facilities	Growth	\$11m	\$9m		
Hamilton Gardens Development Programme	LOS	\$4m	\$3m		
Libraries Strategic Plan	LOS	\$1m		\$2m	
Parks and Open Spaces Plans	LOS/ Growth	\$21m	\$5m	\$30m	
River Plan	LOS	\$8m	\$5m	\$20m	\$25m
Zoo Master Plan	LOS	\$2.7m	\$1m	\$25m	\$30m
Peacocke Community Facility	Growth			\$25m	

**Decision:
2019**

PRIORITISING TRANSPORT IMPROVEMENTS

The Council's Access Hamilton strategy outlines the direction for investment in transport improvements. Similarly, to prioritising new City improvements, there are more projects requiring investment than current budgets allow. Therefore, a continual process of prioritisation and decision-making on the programme is required. This will allow for flexible and optimised investments to be made. The Council should consider the subsidy and third-party opportunities in determining the programme of best benefit for Hamilton. For example, if there is increased central government support and funding for passenger rail then the Council should consider its response to this new opportunity. These decisions can be ongoing but will need to be formalised through 10-Year Plan and Annual Plan budgeting processes.

Key options for decisions include:

- Which of the current projects and programmes are highest priority for implementation
- Identify the partnership opportunities for projects / programmes and whether these are a priority for the Council to progress
- How much funding will / can be made available through budget processes for transport improvement projects

Key Relevant Projects and Programme*:

Project/Programme	Type	Y1-3	Y4-10	Y11-20	Y-21-30
Access Hamilton Projects – Economic Development	Growth	\$1m	\$32m		
Access Hamilton Projects – Safety	LOS/ Growth	\$21m	\$44m		
Access Hamilton Projects – Travel Choice	LOS/ Growth	\$44m	\$93m	\$32m	\$42m

* There were some new community and transport improvements shown in the Activity Management Plans that were not funded as part of the 2018-28 10-Year Plan. Due to the uncertainty, around whether these projects will ever go ahead these unfunded projects have not been rephrased into Year 11-15 in the above tables. Then the Council has decided which plans and strategies will be implemented there will be more clarity around which projects should form part of future Infrastructure Strategies.

External factors

There are many external factors that will impact how the Council delivers infrastructure in the future. Although these factors are generally beyond the control of the Council, it is important that we continue to monitor and respond to them to ensure that our infrastructure plans take advantage of new opportunities, and remains fit for purpose.

Figure 6: Infrastructure External Factors



Population Growth

Hamilton has been experiencing very high growth and this is projected to remain strong into the future.

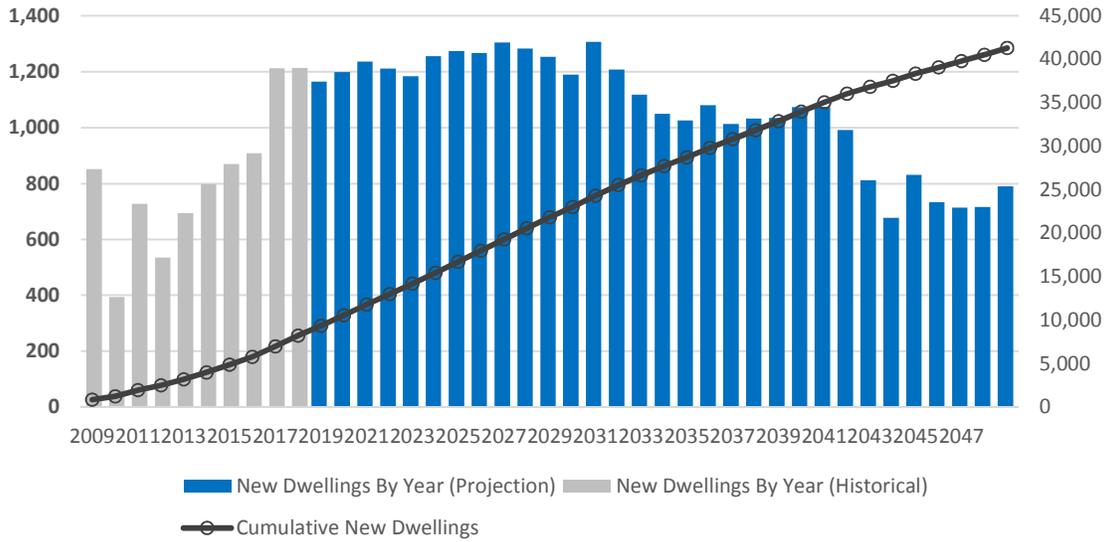
The Council is using population projections produced by University of Waikato's National Institute of Demographic and Economic Analysis (NIDEA) as the basis for developing the 10-Year Plan and Infrastructure Strategy.

People aged 60 years and above constitute Hamilton's fastest growing age group. This has been factored into the population projections and impacts that this will have on our services.

Under the NIDEA projection that has been selected, the Council is needing to provide strategic infrastructure to enable 12,500 new dwellings over the next 10 years, and 32,000 dwellings over the next 30 years. Currently there are approximately 58,000 dwellings in Hamilton.

Government requires the Council through the National Policy Statement on Urban Development Capacity (NPS) to provide for a level of new development that is greater than the forecasted demand. The NPS requires a margin above projected demand (NIDEA projection) of 20% in the short term and 15% in the longer term. This is intended to keep supply ahead of demand to maintain housing affordability.

Figure 7: Historical and Projected new dwellings



To meet these demands, new greenfield areas are required for housing development within the next 10-years. At the same time, development is also anticipated to occur within the existing City.

The Council monitors population change through official statistics and produces regular growth activity reports to assist in managing growth and provision of infrastructure. If there are significant changes to the growth forecasted in the 10-Year Plan, the Council can accelerate or slow its investment in infrastructure through Annual Plans. An assessment of growth is undertaken at each Annual Plan as well as more fundamentally as part of developing each 10-Year Plan.

Climate Change & Sustainability

In New Zealand, changes in climate, such as temperature and rainfall, are already occurring. These changes will occur to differing extents in different places.

Climate change is considered as part of the Council’s long-term asset management planning processes. Current models predict storms of greater frequency and intensity in the future for Hamilton. This will particularly impact the Council’s water, wastewater and stormwater assets. The Council staff review new studies and guidance as part of their ongoing planning for assets.

Examples of programmes that planned over the next 30 years which will assist in mitigating the effects of climate change:

- extensive catchment erosion control works for stormwater in gully systems
- wastewater storage throughout the existing network.

Technological Advancements

Technology can have a large impact on the type and timing of infrastructure required. It can also be used to help deliver services differently and alter what infrastructure is required.

Managing infrastructure systems in a smarter way could reduce the need to construct new assets in the face of increasing demand. Also, technology can increase the effective capacity of our infrastructure, reduce maintenance and operating costs and improve reliability and safety.

New technology may increase the demand for certain infrastructure, redefine how we use infrastructure, or even lead to an entirely new infrastructure system. This would need to be supported by an accessible and sustainable charging infrastructure system.

Council's planning for technological change is driven through:

- the Smart Hamilton programme has been funded in the 10-Year Plan to examine how technology can transform the city and how it operates.
- new technologies being incorporated into relevant Activity Management Plans as part of their 3-yearly review.

Changing Government Priorities & Legislation

With the Government change in 2017, there will be changes to policy and priorities over the next few years. This will likely include changes to central government expectations, requirements and priorities for the delivery of infrastructure. Policy changes can have a significant impact on what investments Council makes through incentivising services and types of infrastructure through funding mechanisms and targeted use of subsidies

Council is working closely with relevant Government Ministers and officials to understand changes in policy direction as quickly as possible in an effort to respond to any new opportunities. A deliberate focus is being put on strengthening relationships and looking for opportunities to be innovative in service and infrastructure delivery.

Other policy changes cannot easily be anticipated and so current planning is generally undertaken based on the current and known policy priorities and legislation.

Using partnership opportunities

The Council cannot alone provide all of Hamilton’s infrastructure and community needs. The Council continually looks for opportunities to partner with others to provide services and infrastructure. Key partners involved in the delivery of infrastructure include:

- Community and Philanthropic Organisations
- Developers
- Other local Councils – Waikato and Waipa District Councils and Waikato Regional Council
- Central Government

The Council will consider the partnership opportunities that exist for projects when it is prioritising what infrastructure investment decisions to progress within strategies and plans.

Community and Philanthropic Organisations

There are opportunities to partner with other organisations to provide services and community infrastructure. A recent example of this is that the Council contributed funding to the development of the Rototuna Indoor Recreation Centre (renamed The Peak), in partnership with the Ministry of Education and Rototuna High School. This facility provides indoor court space for competitive and community sports such as netball, basketball and volleyball. An annual operating grant is paid annually for the operation of the centre, but the Council do not own the facility.

There are other new services and facilities that are planned as part of the 2018-28 10-Year Plan that have Council contribution but are not traditional models of the Council owned assets and service delivery. These projects or opportunities include:

- Partnering with The University of Waikato for the development of a further indoor recreation facility. The Council may make operational grants to help construct and operate the facility.
- Partnering with Momentum Waikato on the Waikato Regional Theatre project. The Council is looking at providing an operating grant to support the building of a new performing arts theatre in Hamilton.
- Partnering with community organisations to fund ongoing development of the Hamilton Gardens.
- Investigating a public private partnership for construction and operation of a new aquatic facility in Rototuna Town Centre
- Joint funding with private land owners for proposed upgrade to Garden Place.

Developers

The development community is a key partner in delivering infrastructure for growth. While the Council may undertake some strategic infrastructure projects for growth, the timing of growth projects is largely set by when a developer or group of developers undertake their investment and make the land available for the market.

The Council works closely with developers to ensure as much as possible the planning for expenditure on growth related infrastructure is timed to match developer’s intentions.

For core network growth projects, the Council provides strategic infrastructure projects when it is reasonable for only the Council to provide due to the project scale or because the infrastructure services a large area or multiple developments. The majority of other core network infrastructure will be provided by developers.

Other Local Councils and Waikato Regional Council

The Council's community infrastructure and event facilities are largely sub-regional in function – providing services that are used by many from outside Hamilton. While this relationship can provide an economic benefit to the City, this also comes at considerable cost to city ratepayers who predominately fund these facilities.

The Waikato Plan outlines areas where local government and other partners can work together to deliver infrastructure more efficiently. Continuing work on models for funding of sub-regional and regional facilities should remain a priority for the future.

Changes to current arrangements to ensure that regional funding of proposed new community facilities that have a catchment larger than Hamilton are being explored.

There are also opportunities to grow the capacity and resilience of water and wastewater infrastructure through projects that service the sub-region, rather than just the City or a single district. Before any councils invest in major new infrastructure capacity, the benefits of shared projects and investment should be explored.

Central Government

Central government partners with the Council on providing and funding infrastructure that have benefits that are beyond the local area.

Over recent years, central government and the Council have partnered on constructing the Ring Road in anticipation of the Hamilton section of the Waikato Expressway project. The Hamilton section of the Waikato Expressway is scheduled for completion in 2019/20. The Council will work with central government on this project and in some cases, co-invest in the final parts of the strategic transport network with this piece of key national infrastructure.

In 2017 the Government offered five cities experiencing high population growth, access to the HIF loan. Across the five councils a total of \$1 billion is available interest free for 10 years for infrastructure that enable housing growth. Hamilton has been allocated a proportion of the HIF loan to assist with the works needed to open up the Peacocke growth cell. This provides substantial financial benefit comprising of interest savings totalling approximately \$70 million over the 10 years.

The Council's 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 draft 2018-28 10-Year 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 assumed to be required in the future and this is reflected in the Financial Strategy.
- Using the assumptions for levels of service, demand and renewals as outlined in Appendices 2-5 of this Strategy.
- The preferred options for the significant capital decisions discussed in the Infrastructure challenges and focus areas section of this Strategy are those that are included in the draft 10-Year Plan budget (where applicable).

The plans and forecasts for the first 3 years have the most detail and confidence as the greatest amount of planning has taken place. The investments identified between 4 and 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 and more information is obtained.

Changes to the requirements and management of infrastructure is expected to occur and the Council will consider the appropriate approach as part of the future relevant 10-Year Plan process. This uncertainty and need for ongoing refinement is acknowledged in the tiered framework for forecast expenditure contained in the Local Government Act.

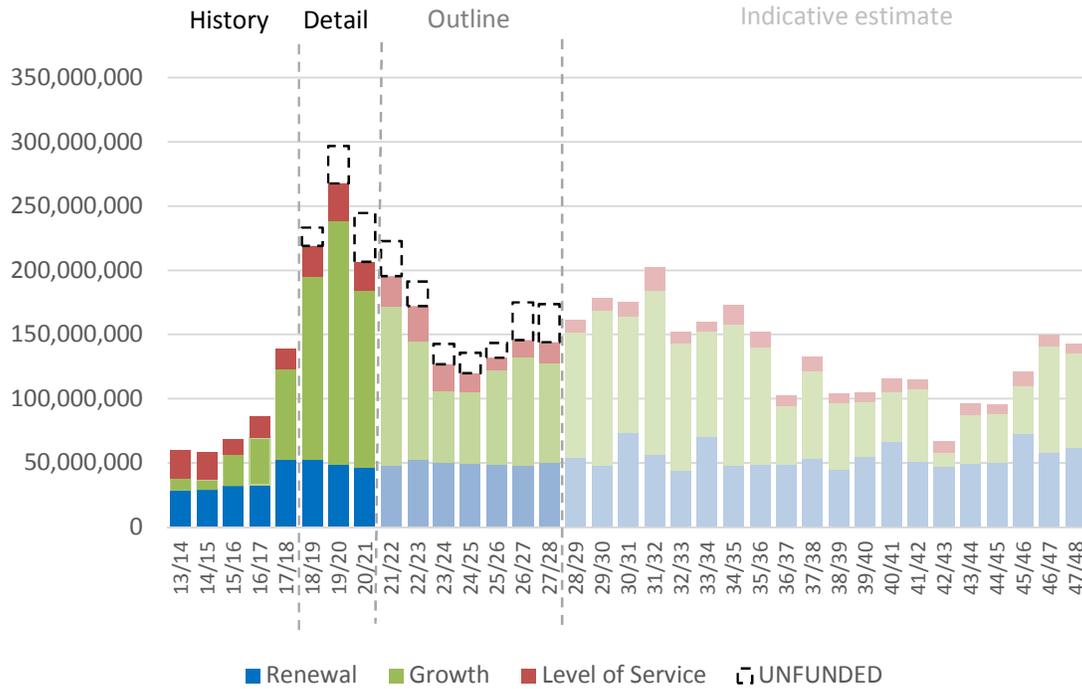
Table 1: Forecast expenditure required in the Local Government Act (LGA) 2002

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

The forecasted expenditure is significantly higher than historical expenditure. For each of the next five years, the forecasted annual capital expenditure is over \$150m. The most significant driver of this expenditure is the investment required in infrastructure to strategically service the Peacocke growth cell. Some of the investment in Peacocke related infrastructure is being funded through the HIF loan.

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

Figure 8: 30-Year Capital forecasts – Expenditure type



Note: Financial figures are gross and not inflated in this graph to show relativity of expenditure over time.

The forecasted expenditure from 2028 to 2036 is another period where there will be significant capital investment required. This is due to an investment phase for the further development of the Rotokauri growth cell.

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:

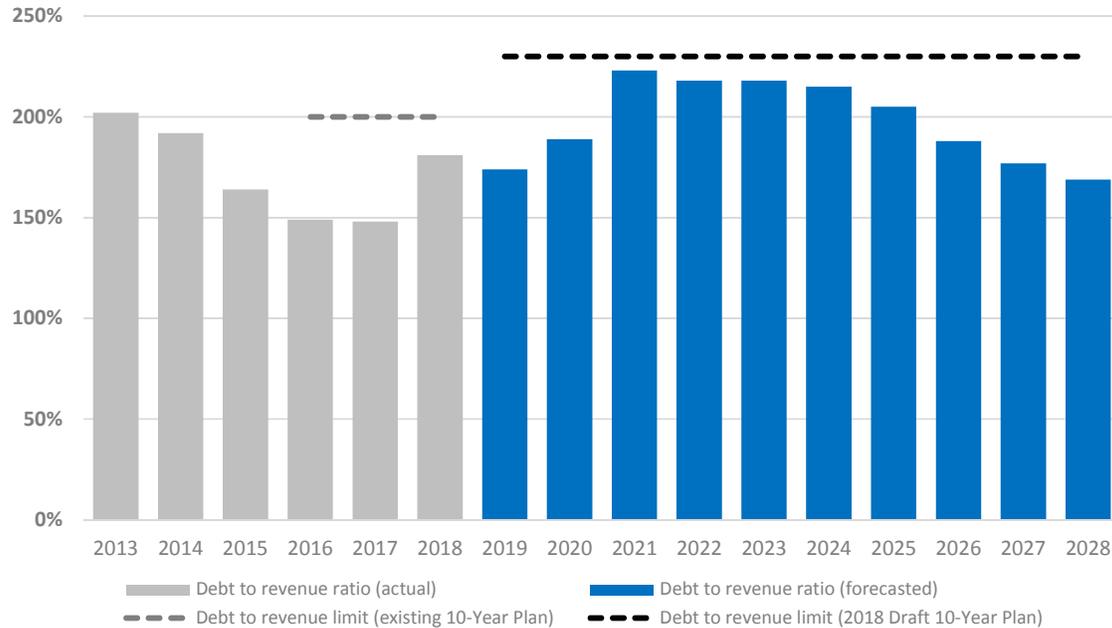
- changes in assumed growth rates
- changes to standards and compliance requirements not anticipated
- new technologies and options for provision of infrastructure
- new models for the funding and delivery of infrastructure (these may include the Council not funding and / or owning infrastructure)
-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

The Council’s Financial Strategy has been updated through the development of the 2018-28 10-Year 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 within a prudent debt to revenue limit of 230% 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 9: Debt to Revenue Ratio



The Council’s Financial Strategy notes that at a debt to revenue ratio below 230%, the Council maintains its strong credit ratio (AA-) and still provide capacity to fund any unforeseen events. The debt to revenue ratio figure above includes the HIF loan.

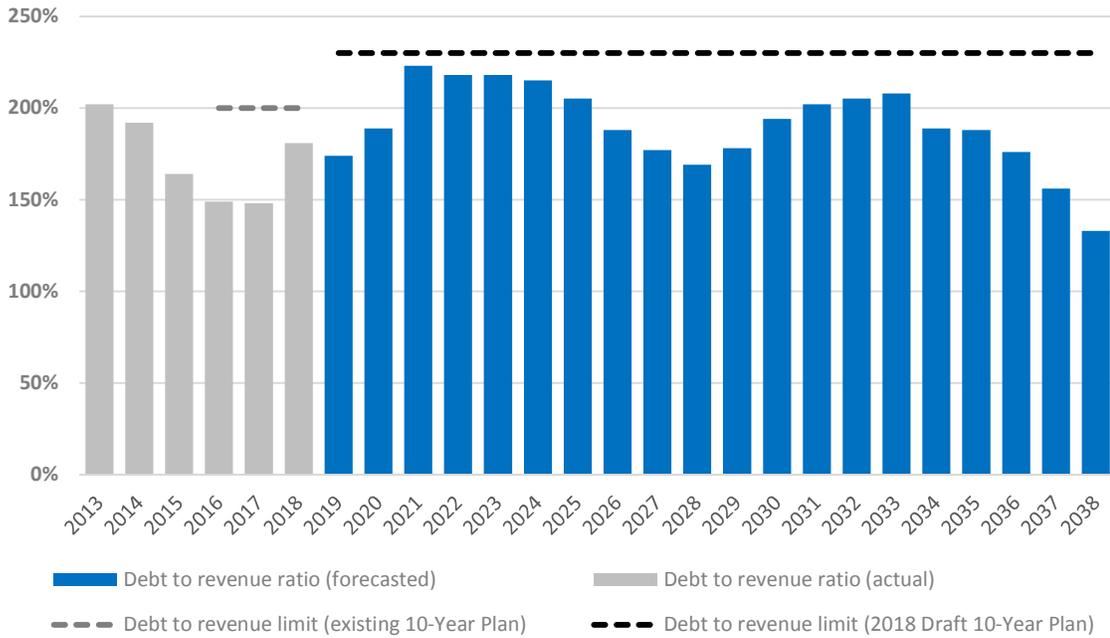
The debt to revenue ratio peaks in year 3 due to an unprecedented forecast capital expenditure on projects to enable the continued growth of Hamilton. The forecast capital expenditure is lower in the second 5 years of the 10-Year Plan period. This means that with increased revenues forecast from rates, development contributions and other fees, that the debt to revenue ratio decreases.

The development of indicative expenditure on assets for the next 30 years has allowed the Council to gain a preliminary view of the sustainability of its finances and infrastructure for the next 20-years.

The estimated capital expenditure has been used to project the effect on the Council’s debt to revenue ratio and the financial strategy debt limit. This has been prepared using the following assumptions:

- Capital and operating expenditure in years 1-10 as included in the draft 10-Year Plan budget
- The shown unfunded projects from the 10-Year Plan will need to be undertaken and a provision for these projects is included by equally spreading their value over years 11-15
- Debt to revenue ratio is set at a limit of 230% (as in the draft 10-Year Plan budget) and remaining the limit into the future.
- Rates increases as in the draft 10-Year Plan (9.5 per cent in years 1 and 2 and 3.8 per cent for 8 years to existing ratepayers). From 2028/29 (year 11) rates decreasing to match the estimated inflation rate of 2.6 per cent (this is the projected Local Government Cost Index inflation at 2027/28).

Figure 10: 20 Year Projected Debt to Revenue ratio financial strategy limit



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, and
- an allocation made for projects and programmes that have not been included in the Draft 2018-28 10-Year Plan and remain unfunded but are likely to be required in the future.

The reduction of debt to revenue ratio in the years beyond 2035 should be understood within the context of:

- a need for significant growth-related capital expenditure needed for strategic infrastructure in the period from 2040 onwards.
- the very high uncertainty of projected debt levels given the assumptions that are needed to be made in relation to the compounding effects of inflation, rates increase, new assets and their operation and depreciation.

The Council will manage the long-term sustainability for infrastructure through:

- 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 10-Year Plan and then Annual Plan processes.
- Quality business cases prior to final approval for projects to proceed.

Operational expenditure for the 30 years has also been estimated. The forecasts for the first 10 years are from the 2018-28 10-Year Plan and longer-term estimates have been based on applying inflation and estimated growth factors.

Figure 11: Total infrastructure forecasted operational expenditure each year - 2018-28 10-Year Plan

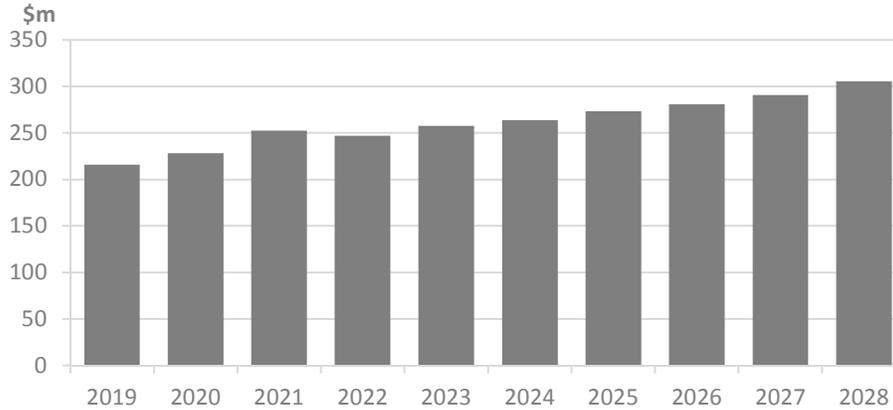
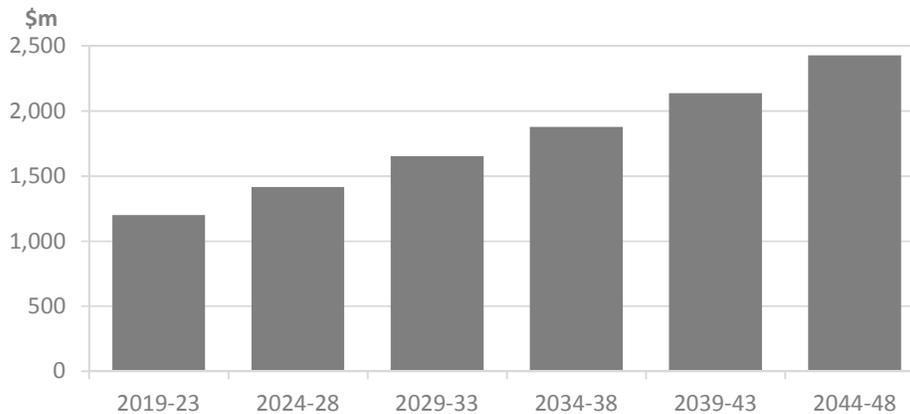


Figure 12: Total infrastructure forecasted operational expenditure - five yearly periods - 2018-48



OUR APPROACH TO THE MANAGEMENT OF INFRASTRUCTURE ASSETS

Over recent years asset management has been an organisational focus for improvement. The establishment of the Asset Management Centre of Excellence in 2015 has enabled the increase in the knowledge of assets and improved capability in asset management practice across the organisation.

The Asset Management Centre of Excellence identified the following five asset management goals for the Council to determine what aspects of asset management require interventions, and priorities for work to be undertaken:

- The Activity Management Plans drive financial decision making for the Council’s 10-Year Plan and 30-Year Infrastructure Strategy.
- Accessible, reliable asset data is available; data entry is devolved, repeatable and timely.
- There is a culture of valuing Asset Management - ‘we are an Asset Management business’

- In-house Asset Management expertise is available.
- Maturity level is best practice, where appropriate, with smart thinking applied to core infrastructure.

Activity Management Plans have been prepared for the Council's activities that have a high reliance on assets to deliver services. These plans have been prepared based on standard industry practice and have been used to forecast the expenditure needed to operate, maintain and renew worn out assets. The Council uses its Activity Management Plans as an initial basis for its 10 Year Plan and 30 Year Infrastructure Strategy.

The 10-Year Plan balances the forecasted spending needs with ratepayer affordability. This affordability has been determined by projected rates and other income and prudent debt levels. It is usual that not all the identified spending requirements in Activity Management Plans can be afforded within funding available. In these cases, the budgeting process 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 10-Year Plan process.

The Council is committed to improving the Activity Management Plans and takes improving asset management processes and systems seriously. 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.

Water

Council is responsible for the treatment, storage, distribution and management of the city's water supply.

The water treatment plant sources raw water from the Waikato River and treats it to provide a high standard of drinking water.

The treated water is pumped to reservoirs from where it is distributed through a network to meet the needs of residential and commercial/industrial properties.

CONTEXT

The City's water supply system is made up of a single treatment plant, eight reservoirs and over 1,000 kilometres (km) 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 per cent 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 eight 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 1,100km 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 per cent of water that is treated.

OVERVIEW OF ASSETS*Table 2: Overview of Water assets*

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.	8 operational	33,612
Network	Service connections	Pipe that connects the private water pipe within a property to the water network.	50,039	42,426
	Bulk watermains	Bulk watermains carry treated water from the treatment plant to the reservoirs.		
	Reticulation pipes	Pipes of decreasing sizes that carry treated water from treatment plant or reservoirs to properties.	1,159 km	284,435
	Valves	Devices to control the flow of water from one pipe to the next.	10,081	19,888
	Hydrants	Above-ground connection that provides access to a water supply for the purpose of fighting fires or for flushing.	6,532	16,598
	Meters	Measure water use for our commercials and industrial customers and bulk water flows within the network.	3,691	2,508
	Backflow Preventers	These devices prevent water from private pipes re-entering into the water network	284	286
	Bulkmain Chambers	These are miscellaneous assets grouped together consisting of manholes and chambers that house various valves	16	77
Total value				462,339

Figure 13: Bulkwater Network



- Urban Area
- Growth Area
- Main Roads
- Water Treatment Plant
- Bulkmain
- New Bulkmain
- Reservoir
- New Reservoir

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 2019 to 2028 has been included in the draft 2018-28 10-Year Plan.

Figure 14: Forecasted yearly capital expenditure for Water - 2018-28 10-Year Plan

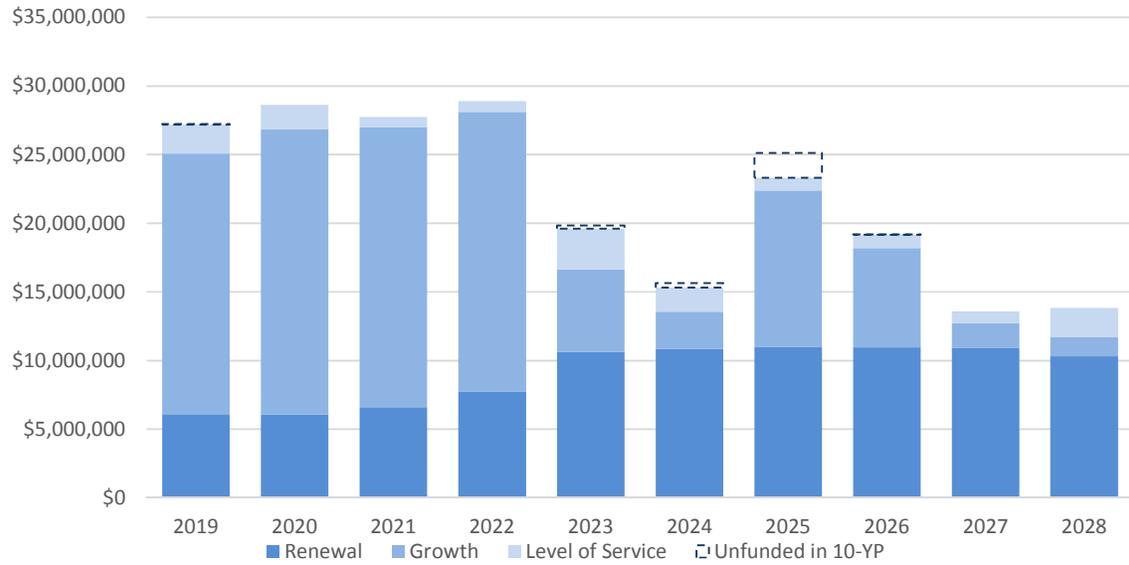
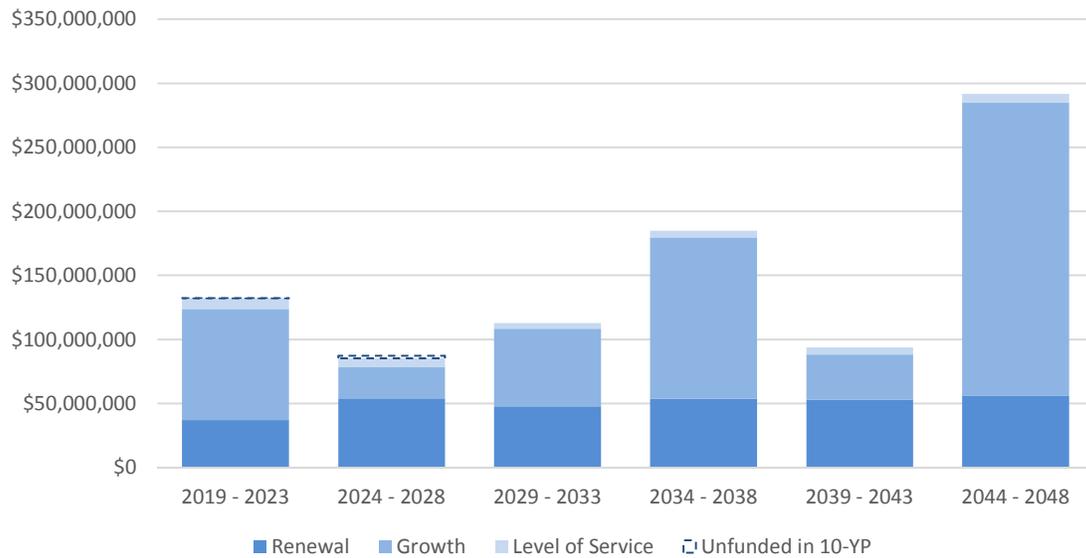


Figure 15: Forecasted capital expenditure for Water - five yearly periods - 2018-48



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2019 to 2028 has been included in the draft 2018-28 10-Year Plan. Estimated expenditure beyond 2028 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 16: Forecasted yearly operational expenditure for Water – 2018-28 10-Year Plan

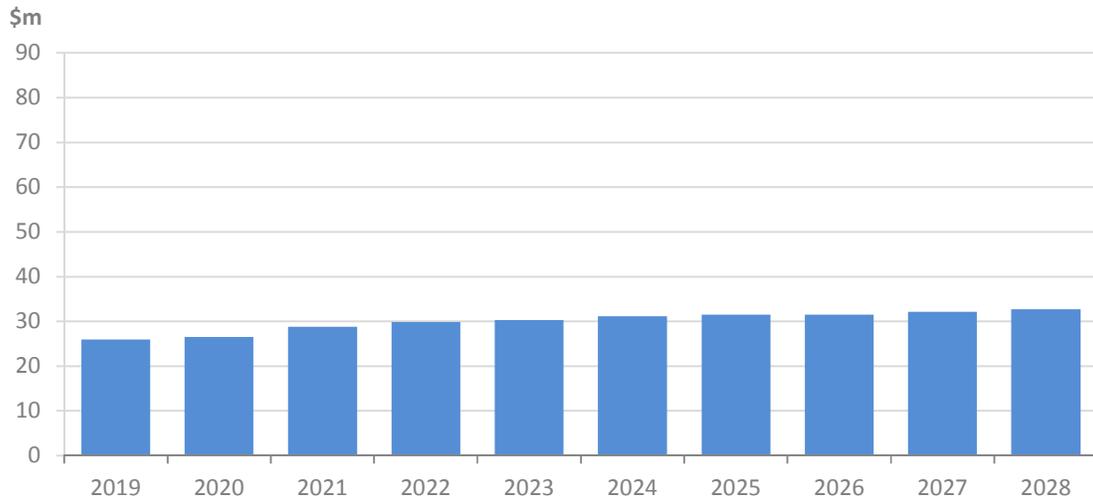
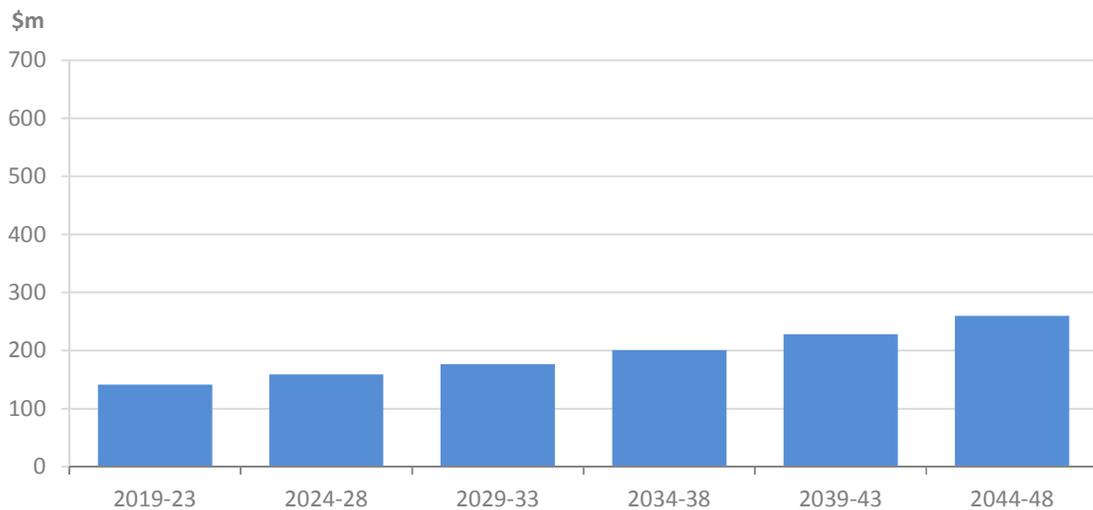


Figure 17: Forecasted operational expenditure for Water – five yearly periods – 2018-48

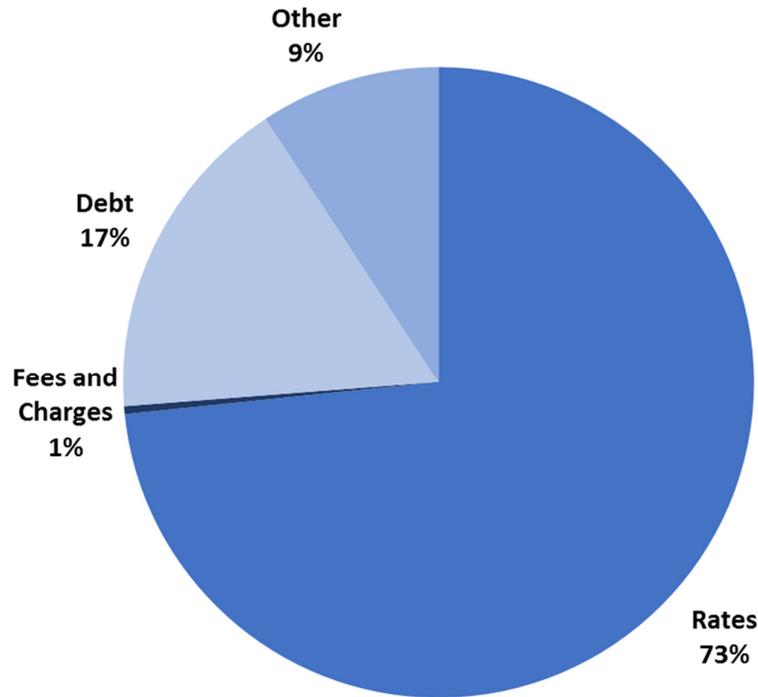


Funding of activity

The Water Supply activity is currently funded through a mixture of:

- rates collected in the year of expenditure
- rates to repay loans raised for capital works
- user charges for commercial / industrial and out of City water users, including:
 - metered water for non-domestic customers
 - metered water for tanker use
 - new connections

Figure 18: Water Supply activity funding



Capital projects that are caused by (and provide benefits to) growth areas of the City are part funded by development contributions.

Wastewater

Council is responsible for the collection, transfer, treatment and disposal of Hamilton's wastewater and trade waste. Wastewater and trade waste are discharged from properties into a network of gravity and pressure pipelines, which take the wastewater to the treatment plant.

At the treatment plant, wastewater is treated before being discharged into the Waikato River.

Solids, removed as part of the treatment process, are currently composted off site and reused.

CONTEXT

The City's wastewater system is comprised of a single centralised wastewater treatment plant, 121 pump stations and over 800km of connecting pipework. The system services over 50,000 households, and provides trade waste services to 4,000 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 121 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 providing 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.

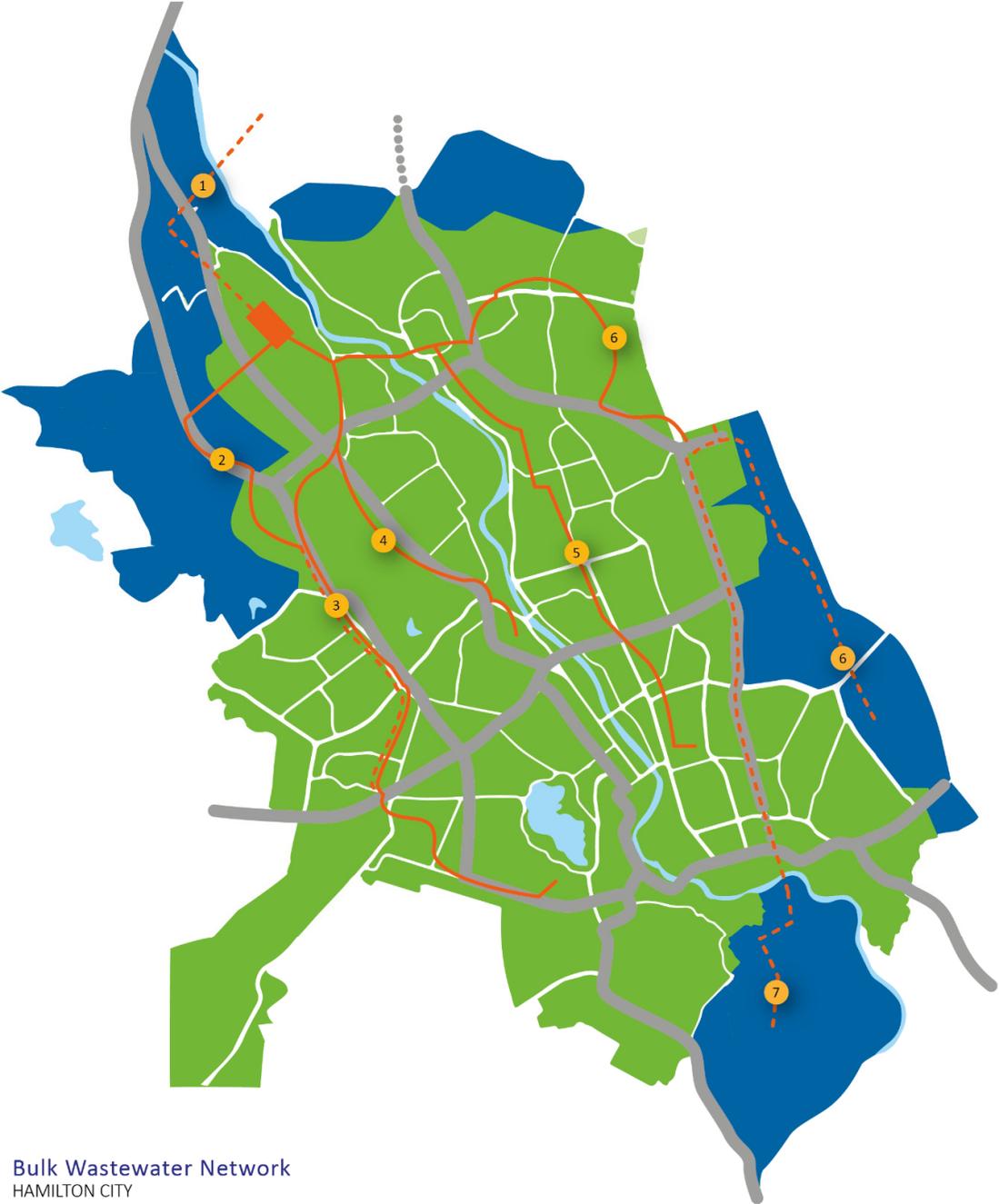
The existing resource consent for the wastewater treatment plant expires in 2027 and a high focus on discharge quality can be expected.

OVERVIEW OF ASSETS

Table 3: Overview of Wastewater 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.	55,485 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.	810 km	313,063
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: <ul style="list-style-type: none"> • Gravity pipes • Rising mains • Interceptors • Bridges. 		
Manholes	Service opening which allows access for inspection, cleaning or maintenance of the public wastewater network.	15,370	110,164
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.	121	24,414
Treatment plant	The treatment plant converts wastewater and trade waste into a disposable effluent and solids.	1	77,359
Total value			586,158

Figure 19: Wastewater Network



Bulk Wastewater Network
HAMILTON CITY

- Urban Area
- Growth Area
- Main Roads
- Wastewater Interceptor
- - - Proposed 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

INDICATIVE ESTIMATES

Capital expenditure

The estimated capital needs for the wastewater activity have been prepared for the next 30 years. The forecasted capital expenditure from year ending 30 June 2019 to 2028 has been included in the draft 2018-28 10-Year Plan.

Figure 20: Forecasted capital expenditure for Wastewater each year – 2018-28 10-Year Plan

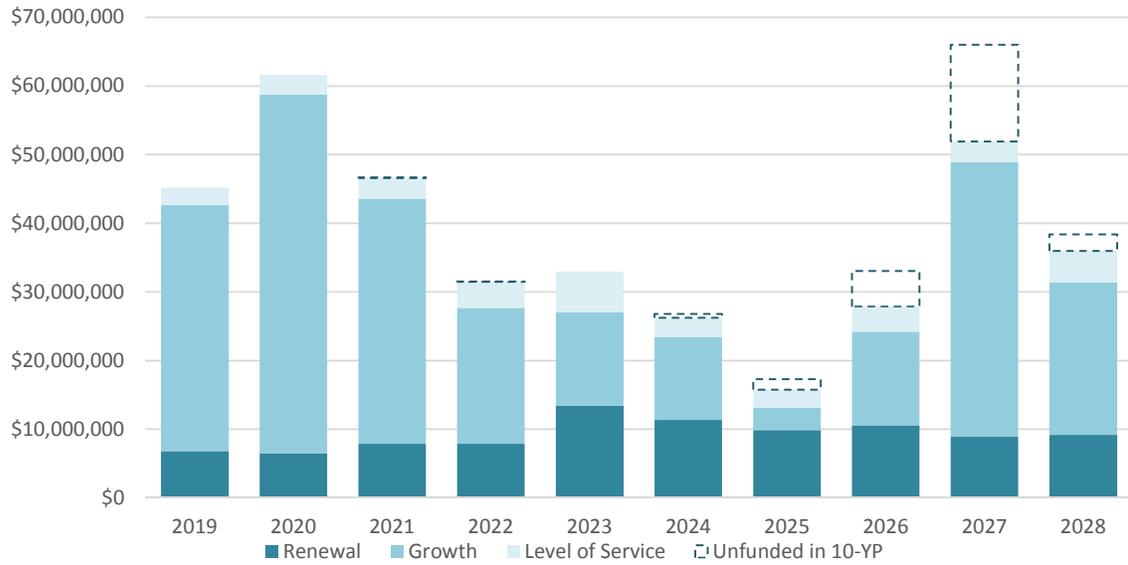
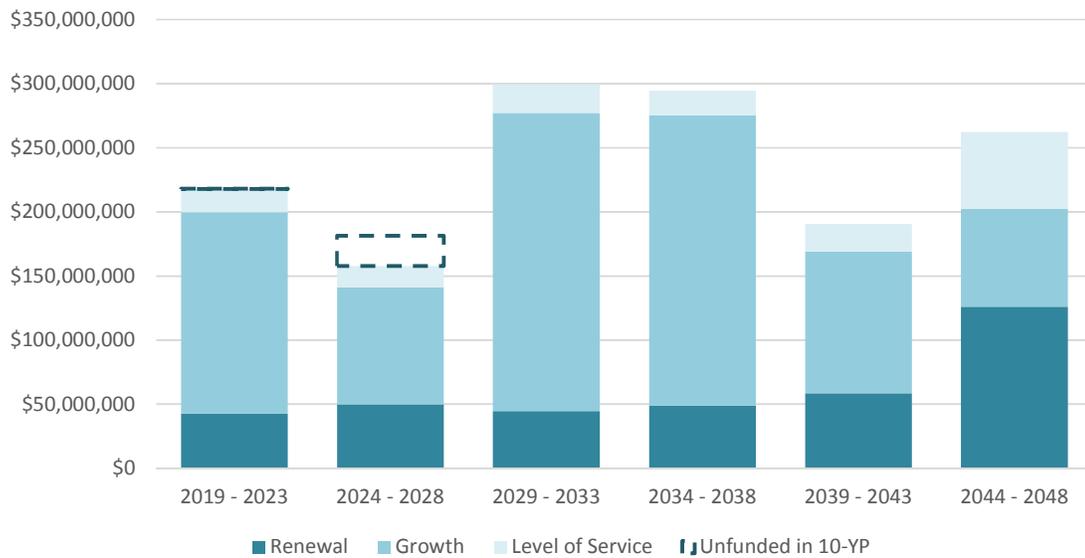


Figure 21: Forecasted capital expenditure for Wastewater - five yearly periods - 2018-48



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2019 to 2028 has been included in the draft 2018-28 10-Year Plan. Estimated expenditure beyond 2028 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 22: Forecasted operational expenditure for Wastewater each year – 2018-28 10-Year Plan

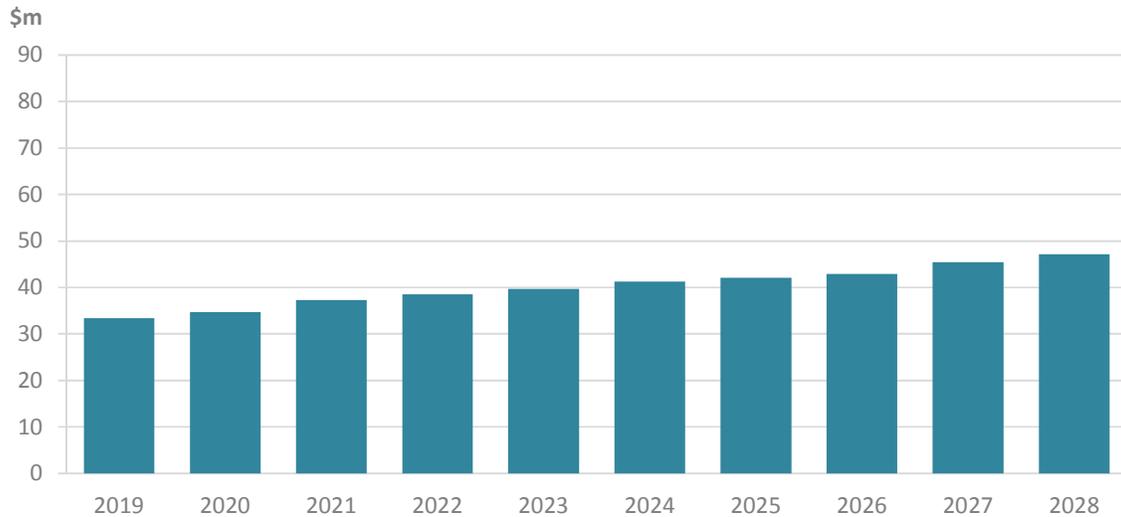
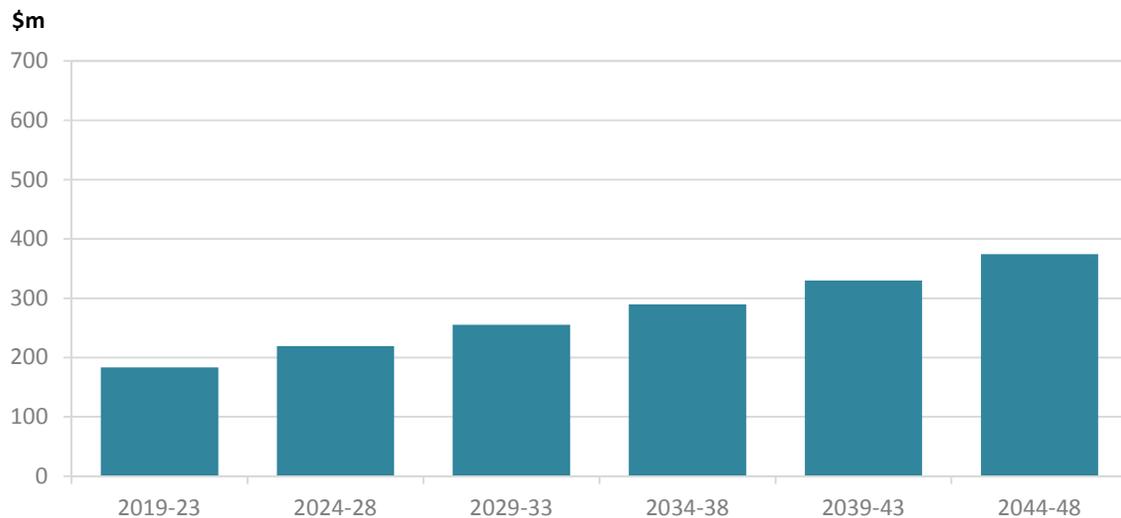


Figure 23: Forecasted operational expenditure for Wastewater - five yearly periods - 2018-48

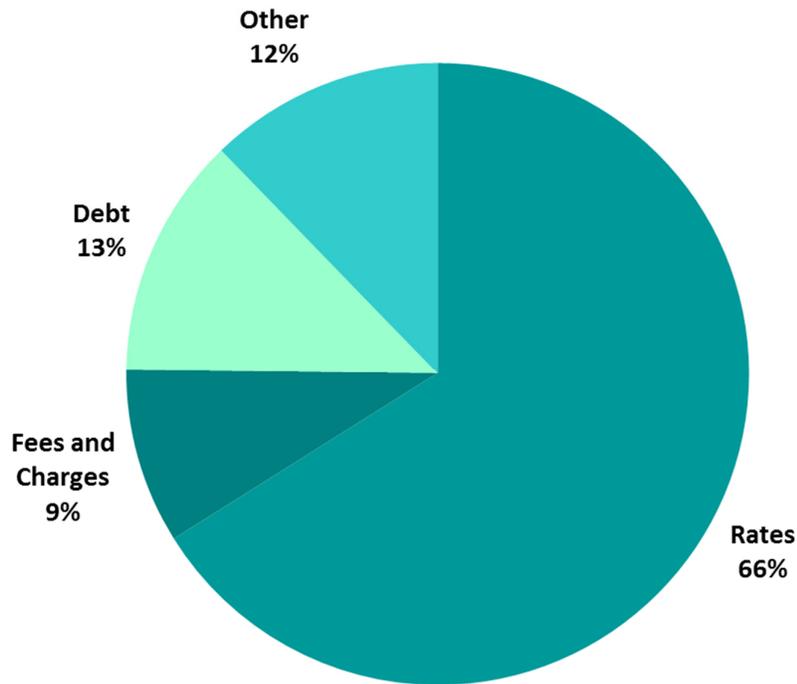


Current funding of activity

The Wastewater activity is currently funded through a mixture of:

- rates collected in the year of expenditure
- rates to repay loans raised for capital works
- user charges for disposal of trade waste through the wastewater network.

Figure 24: Wastewater activity funding



Capital projects that are caused by (and provide benefits to) growth areas of the City are part funded by development contributions.

Stormwater

Council is responsible for the collection, transfer and treatment of Hamilton's stormwater.

Rainwater that flows from houses and buildings roofs, footpaths, roads, etc. is called stormwater and is directed to either the ground or the stormwater system.

The stormwater system consists of pipes, channels, treatment devices and open watercourses, which release water into 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 9,000 hectares (ha) 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.

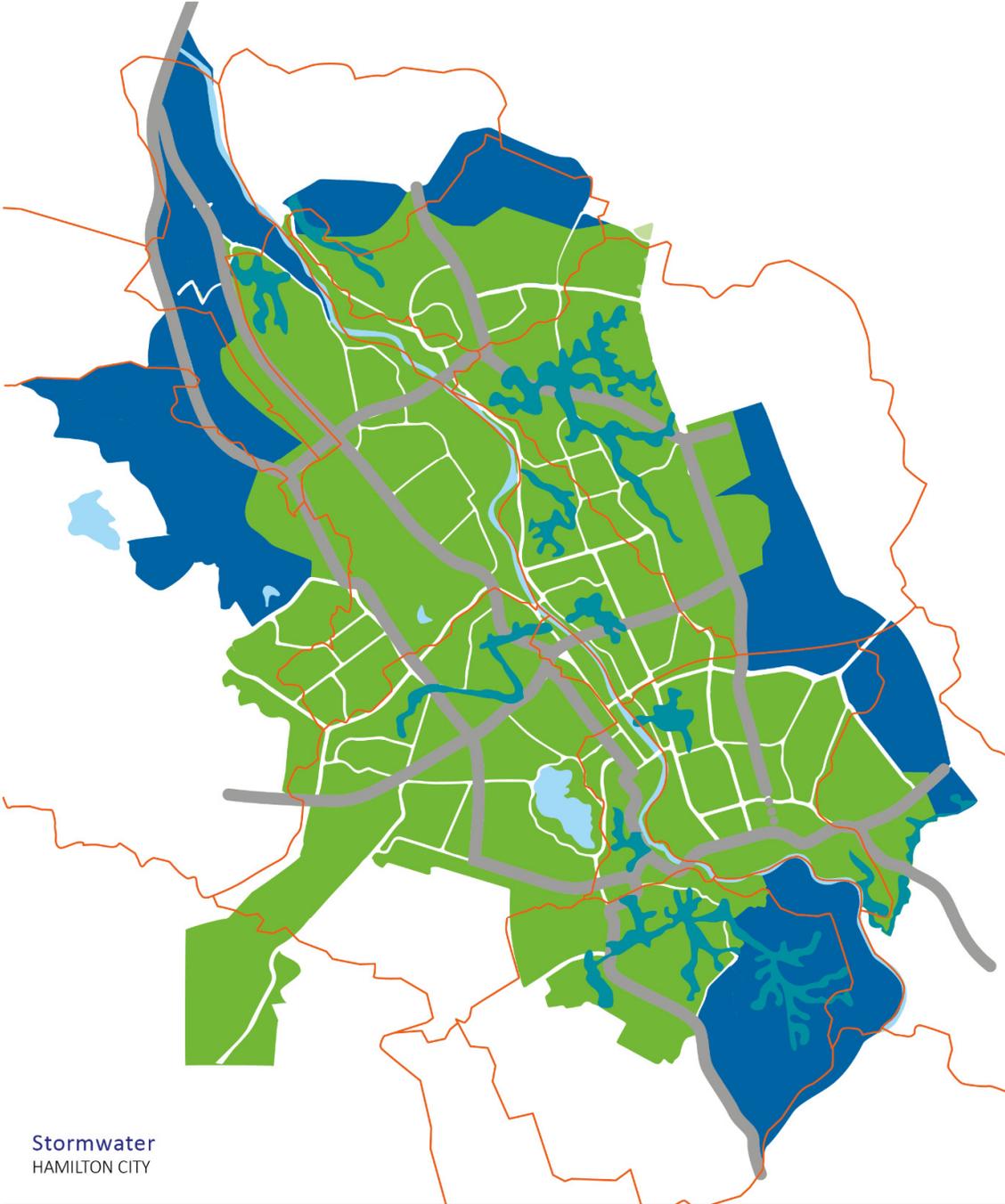
Stormwater discharge activities require assessment under the Waikato Regional Plan. The Council has a 'City-wide' comprehensive stormwater discharge consent from Waikato Regional Council (granted in 2011) to divert and discharge stormwater to receiving environments from its existing urban network for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

OVERVIEW OF ASSETS

Table 4: Overview of Stormwater 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.	42,034	63,161
	Reticulation pipes	Once stormwater leaves a property it can travel in pipes to an open watercourse	669km	586,787
	Manholes	Service opening which allows access for inspection, cleaning or maintenance of the public stormwater piped network	12,859	85,390
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	24	2,895
Assets within streams and rivers	Lined open watercourses	Drains and streams that transport water to other streams or the Waikato River	104km	5,218
	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	146	837
	Other	We have a number of other devices within the network including soakage trenches, soakage pits, fish passage devices, and erosion control devices		1,577
Total value				745,865

Figure 25: Stormwater Network



- Urban Area
- Growth Area
- Main Roads
- Stormwater Catchments
- Gully System

INDICATIVE ESTIMATES

Capital expenditure

The estimated capital needs for the stormwater activity have been prepared for the next 30 years. The forecasted capital expenditure from year ending 30 June 2019 to 2028 has been included in the draft 2018-28 10-Year Plan.

Figure 26: Forecasted capital expenditure for Stormwater each year – 2018-28 10-Year Plan

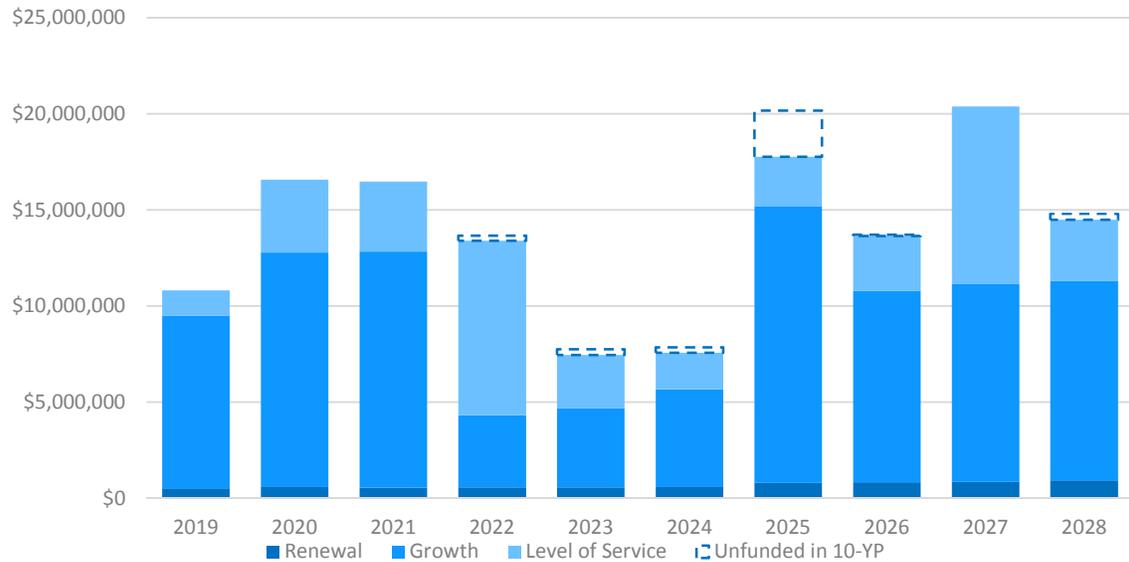
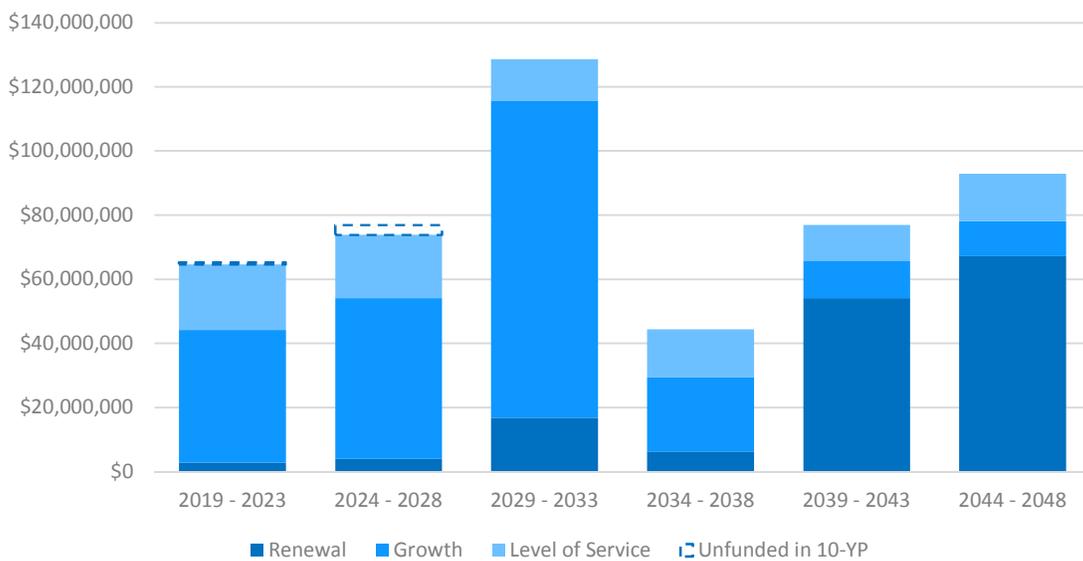


Figure 27: Forecasted capital expenditure for Stormwater - five yearly periods - 2018-48



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2019 to 2028 has been included in the draft 2018-28 10-Year Plan. Estimated expenditure beyond 2028 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 operational expenditure for Stormwater each year – 2018-28 10-Year Plan

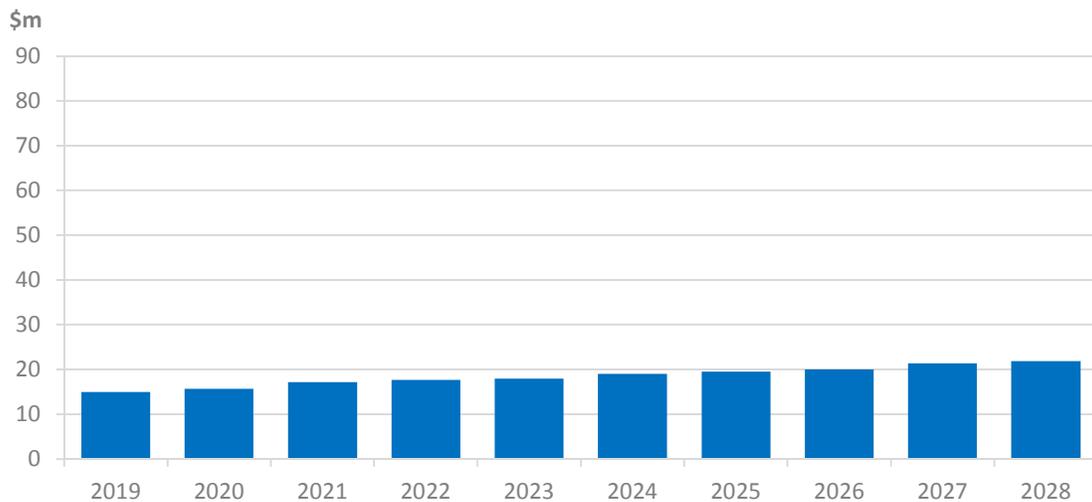
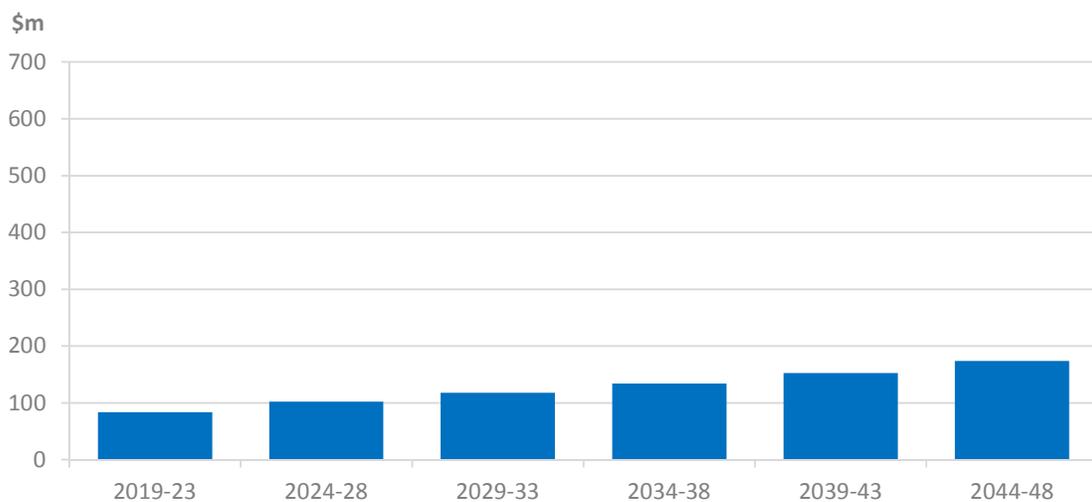


Figure 29: Forecasted operational expenditure for Stormwater - five yearly periods - 2018-48

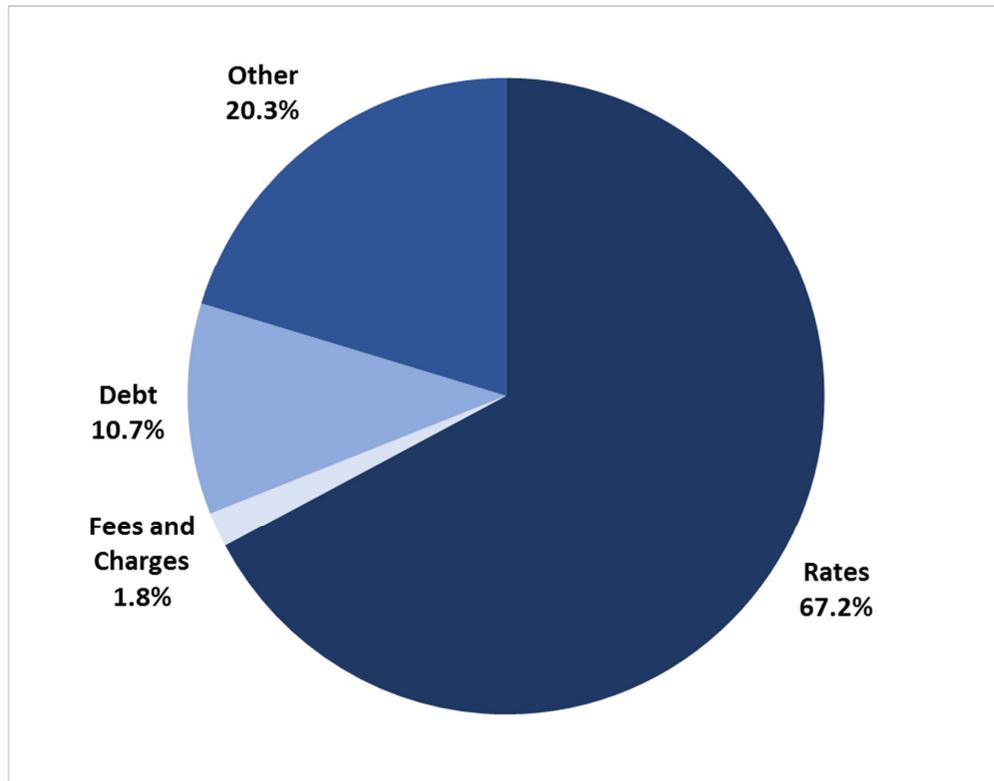


Current funding of activity

The Stormwater activity is currently funded through a mixture of:

- rates collected in the year of expenditure
- rates to repay loans raised for capital works
- subsidies for capital works from Waikato Regional Council through Project Watershed.

Figure 30: Stormwater activity funding



Capital projects that are caused by (and provide benefits to) growth areas of the City are part funded by development contributions.

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 the New Zealand 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.

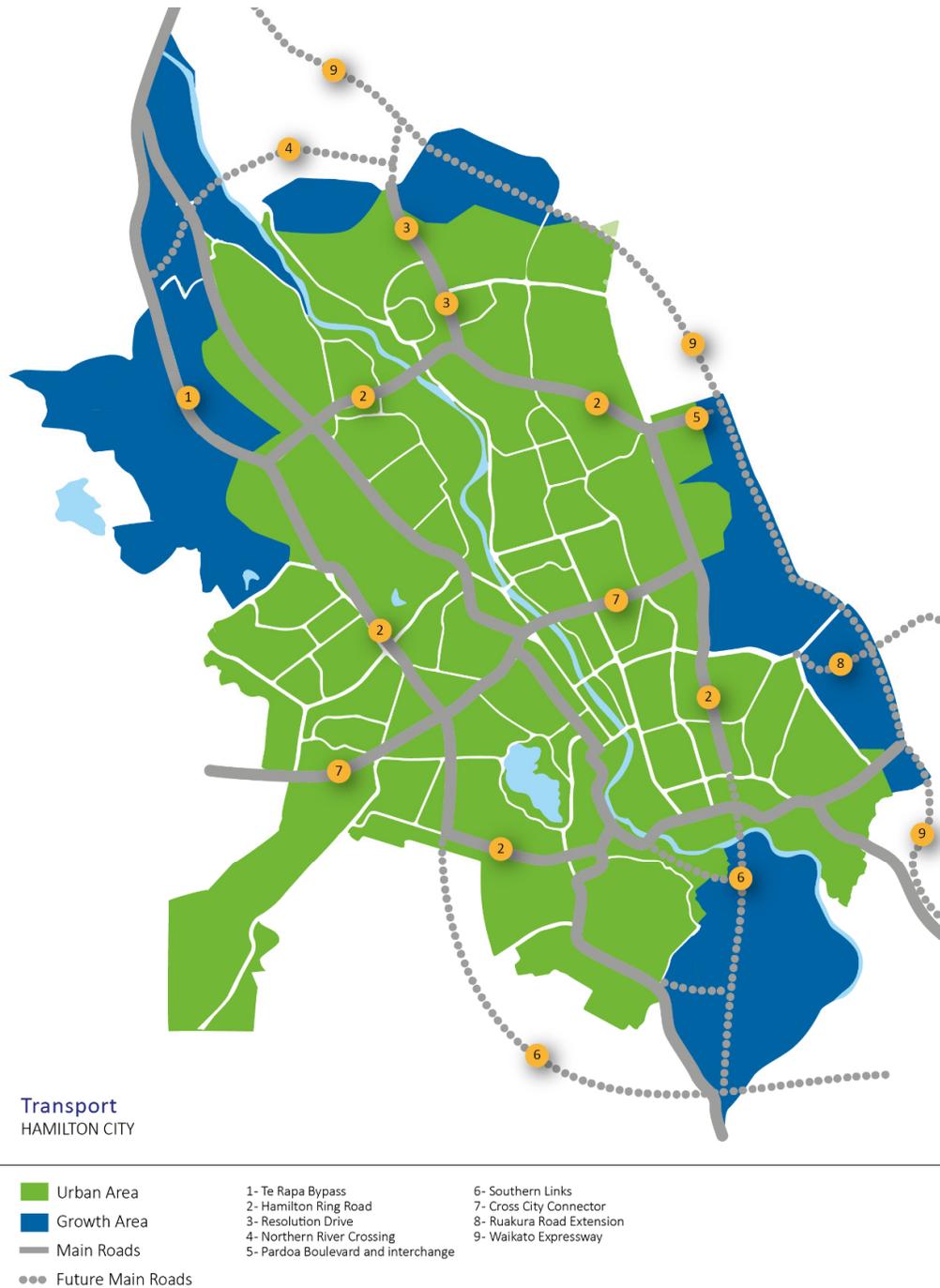
OVERVIEW OF ASSETS

Table 5: Overview of Transport 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. tactiles) for use by pedestrians and selected low speed vehicles such as mobility scooters. Some are 'shared use' with cyclists.	1,034km	212,658
	Carparks	Off street carparks owned and managed by the Council to provide parking facility for vehicles.	16 sites 37,000 m ²	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.	14,454	3,646
	Street lights	The Council owned and maintained street lights to improve road safety and personal security.	17,332	26,897
	Traffic Islands	Islands on the carriageway that control the traffic and pedestrian flow e.g. kerb extension, speed hump, and pedestrian refuge.	1,318	13,104
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.	550,700m ²	N/A
	Verge Landscaping	Grassed areas in traffic islands and medians and areas of verges which are	569,620m ²	N/A

Asset group	Asset type	Purpose and description	Quantity	Value \$000s
		mowed by the Council.		
Buildings	Buildings	Various properties owned by the Council for transportation purposes.	9	21,311
Total value				1,096,447

Figure 31: Transport infrastructure



INDICATIVE ESTIMATES

Capital expenditure

The estimated capital needs for the transport activity have been prepared for the next 30 years. The forecasted capital expenditure from year ending 30 June 2019 to 2028 has been included in the draft 2018-28 10-Year Plan.

Figure 32: Forecasted capital expenditure for Transport each year – 2018-28 10-Year Plan

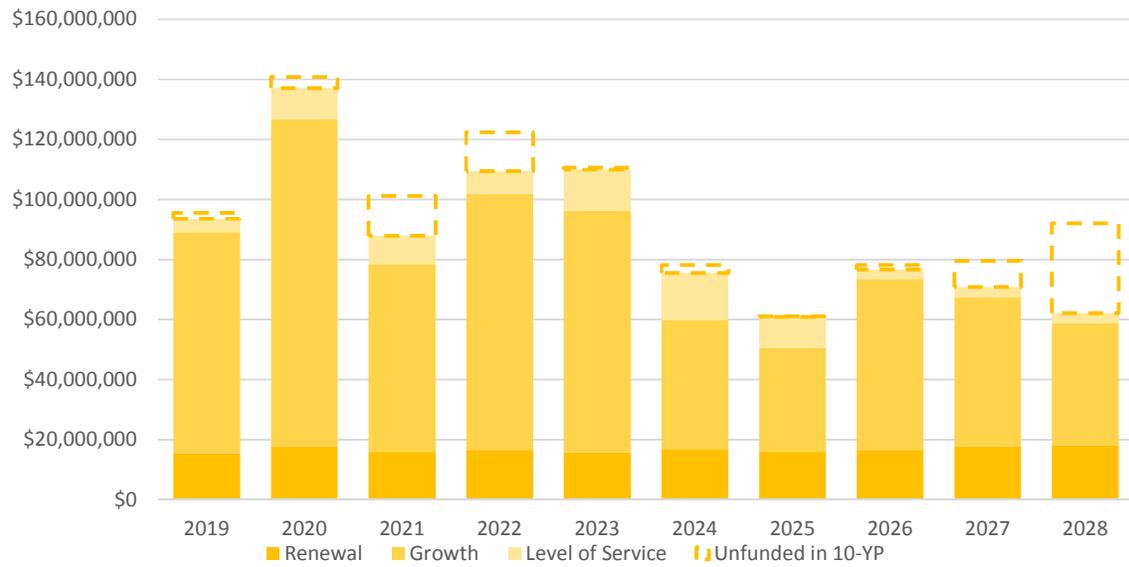
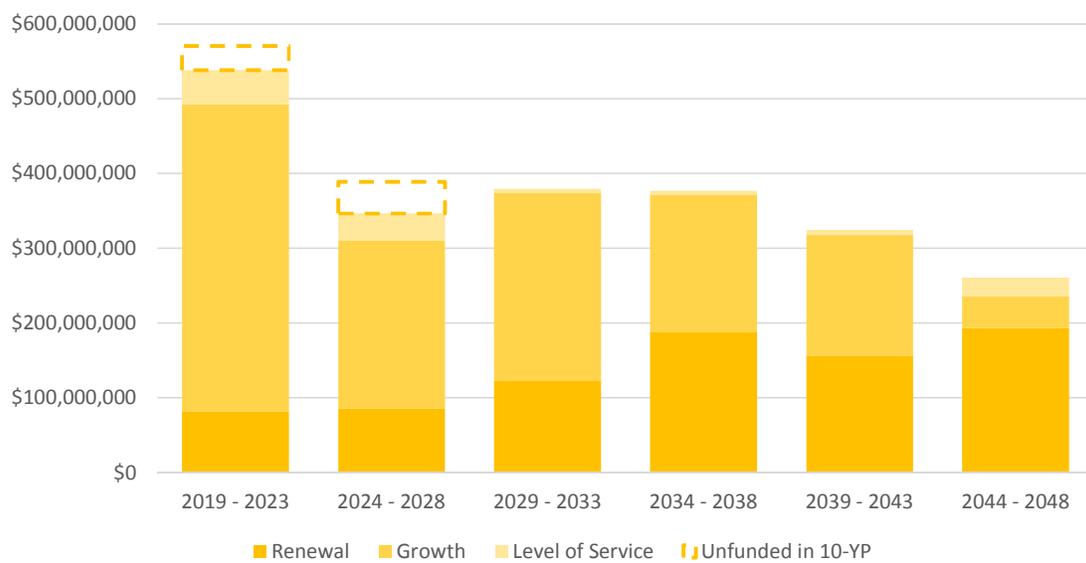


Figure 33: Forecasted capital expenditure for Transport – five yearly periods – 2018-48



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2019 to 2028 has been included in the draft 2018-28 10-Year Plan. Estimated expenditure beyond 2028 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 34: Forecasted operational expenditure for Transport each year – 2018-28 10-Year Plan

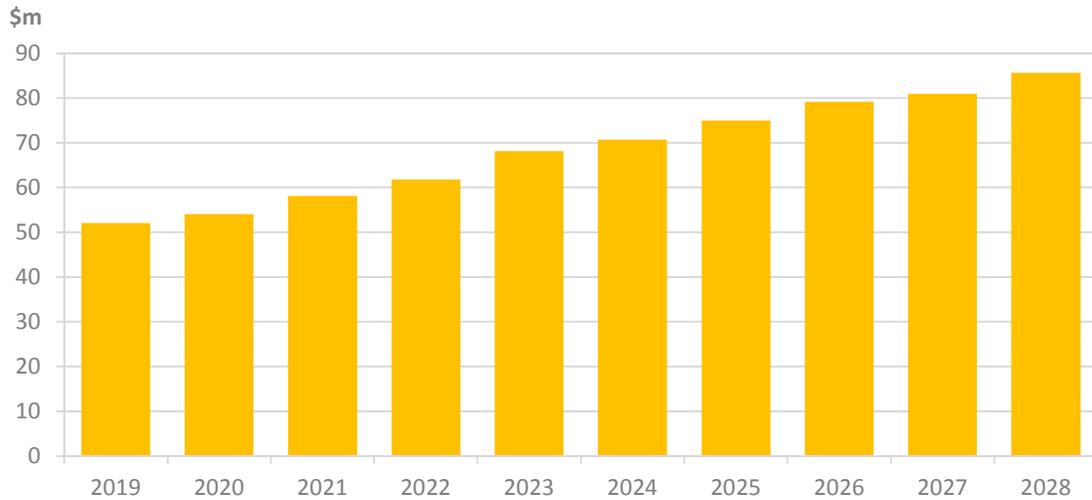
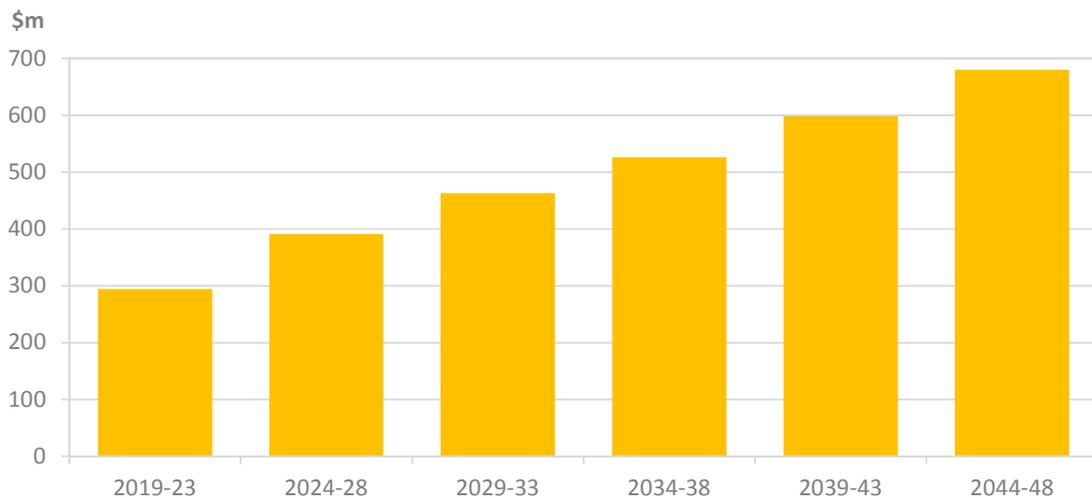


Figure 35: Forecasted operational expenditure for Transport – five yearly periods - 2018-48



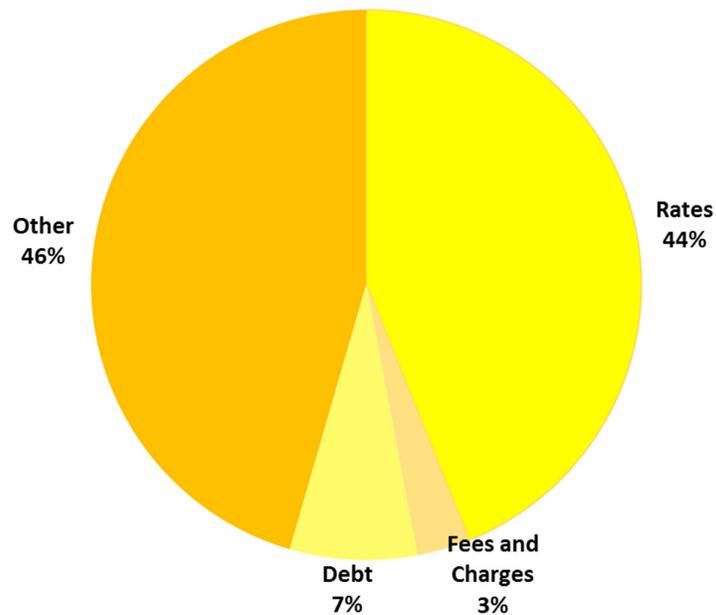
Current funding of activity

The Transport activity is currently funded through a mixture of:

- rates collected in the year of expenditure
- rates to repay loans raised for capital works
- subsidies from central government through the New Zealand Transport Agency for:
 - operating and maintenance
 - renewals
 - other capital improvement

The current subsidy from NZ Transport Agency for eligible projects and programmes is at a rate of 51 per cent.

Figure 36: Transport activity funding



Capital projects that are caused by (and provide benefits to) growth areas of the City are part funded by development contributions.

Parks and Green spaces

The Parks and Green Spaces 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

Within the Parks and Green Spaces activity, the Council owns and manages over 1,190 hectares of open space. This includes destination parks, neighbourhood parks, sports parks and natural areas. Fifty-four hectares 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 Green 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:

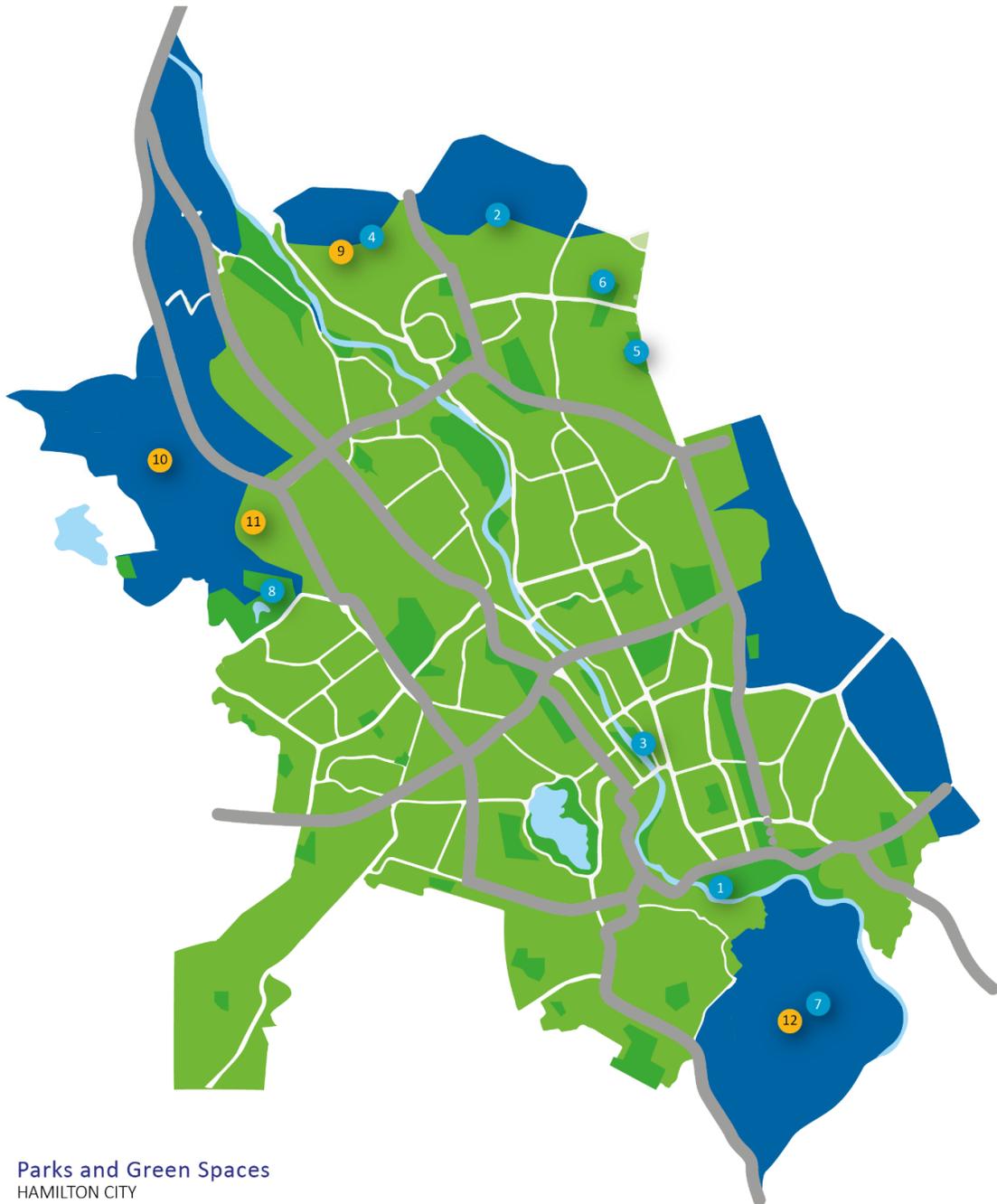
- Hamilton Park Cemetery, including the crematorium and chapel facilities. It operates on 18 hectares, with a further 14 hectares available for future development. A development plan for Hamilton Park Cemetery was developed in 2014.
- Hamilton West Cemetery opened in 1869 and was closed in 1975.
- Hamilton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

OVERVIEW OF ASSETS

Table 6: Overview of Parks and Green Spaces 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				\$152,127

Figure 37: Parks and Green Spaces



Parks and Green Spaces
HAMILTON CITY

- | | | |
|--|--|--|
| <ul style="list-style-type: none"> Urban Area Growth Area Main Roads Major Parks/Green Spaces | <ul style="list-style-type: none"> Short-medium term (years 1-10) 1- Hamilton Gardens Developments 2- Rototuna Sports Park 3- Central City Park (River) 4- Hare Puke Park 5- Mangaiti Park 6- Te Manatu Park 7- Peacocke Parks Network 8- Waiwhakareke Natural Heritage Park | <ul style="list-style-type: none"> Long term (years 11+) 9- Hare Puke Sports Park 10- Rotokauri Parks Network 11- Rotokauri Sports Park 12- Peacocke Parks Network |
|--|--|--|

INDICATIVE ESTIMATES

Capital expenditure

The estimated capital needs for the Parks and green spaces activity have been prepared for the next 30 years. The forecasted capital expenditure from year ending 30 June 2019 to 2028 has been included in the draft 2018-28 10-Year Plan.

Figure 38: Forecasted capital expenditure for Parks and Green Spaces each year – 2018-28 10-Year Plan

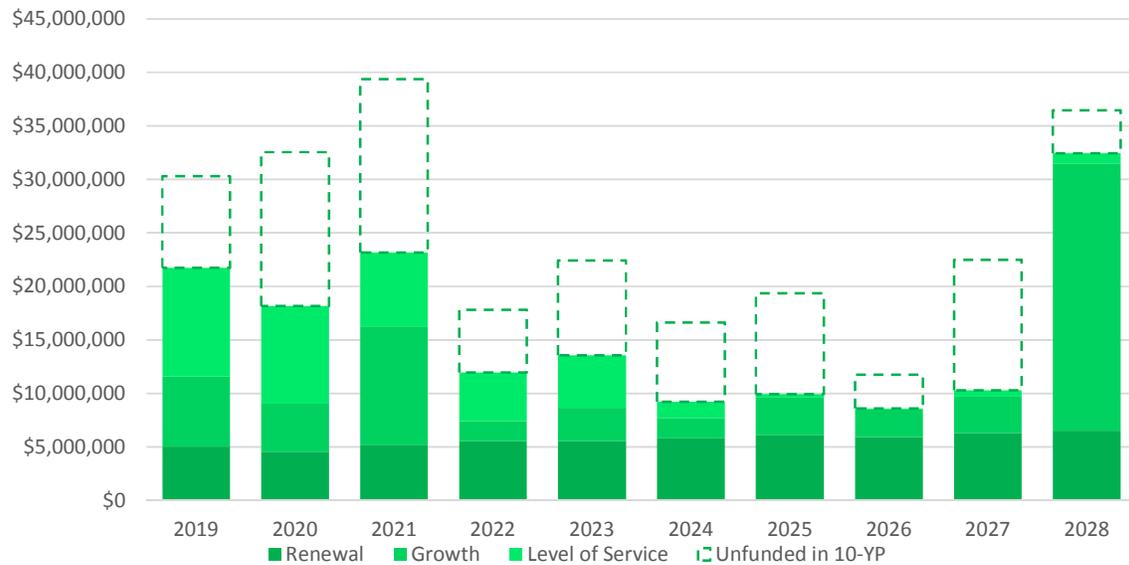
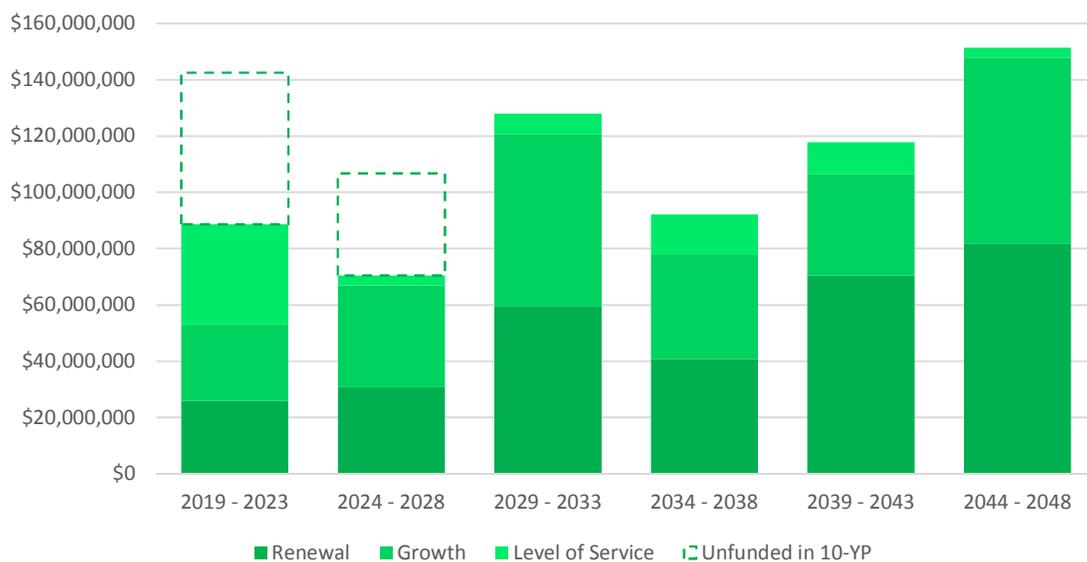


Figure 39: Forecasted capital expenditure for Parks and Green Spaces - five yearly periods - 2018-48



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2019 to 2028 has been included in the draft 2018-28 10-Year Plan. Estimated expenditure beyond 2028 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 cost.

Figure 40: Forecasted operational expenditure for Parks and Green Spaces each year – 2018-28 10-Year Plan

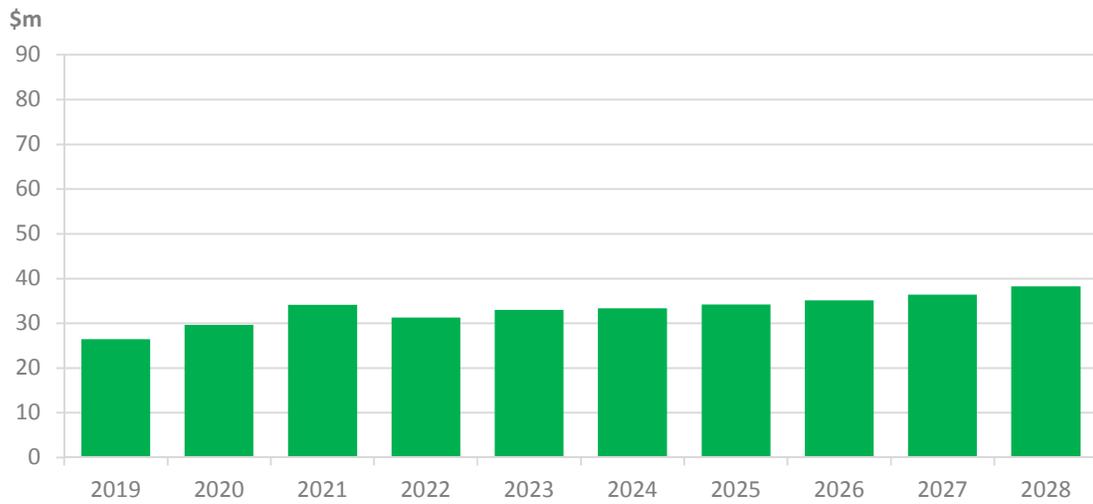
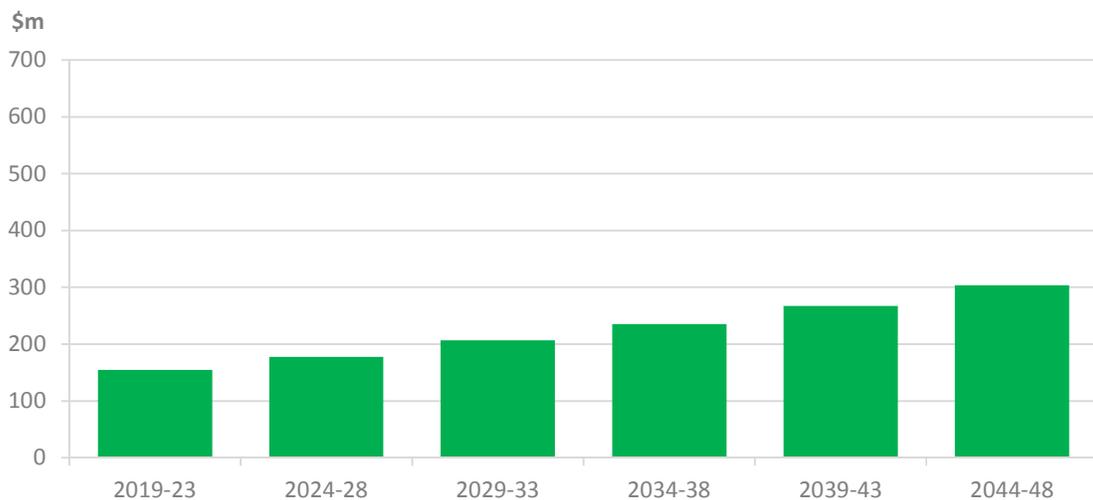


Figure 41: Forecasted operational expenditure for Parks and Green Spaces – five yearly periods – 2018-48

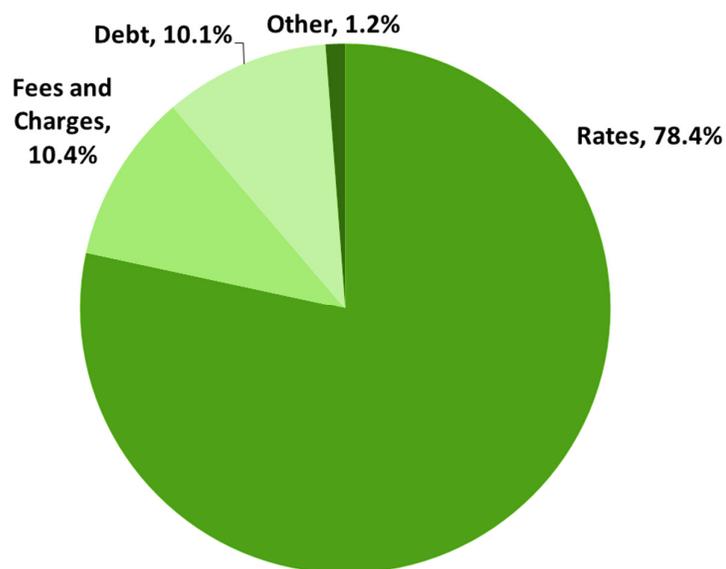


Current funding of activity

The Parks and Green Spaces activity is currently funded through a mixture of:

- rates collected in the year of expenditure
- rates to repay loans raised for capital works
- user charges for organised sports.

Figure 42: Parks and Green Spaces activity funding



Community and Events 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 is the regional hub for many of the aquatic and indoor sporting codes. As such the City requires facilities to provide for regional and sub-regional competitions and training facilities.

Waterworld, is the Waikato regional centre for swimming and hosts local and national competitions. It is also a major facility for residents and visitors to Hamilton. Gallagher Aquatic Centre, is a smaller community pool.

Community Facilities

These facilities enable local organisation and private providers to deliver a variety of community based resources, services and activities to meet the needs of local communities. In addition, these provide bookable space for groups and communities to enable social and recreational activities to occur at a local level.

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, comedy.

Events are delivered from the following facilities:

- Theatres (Founders Theatre) – currently closed pending final funding decisions on the new Regional Theatre proposal.
- Stadiums (Waikato Stadium and Seddon Park).
- Claudelands (Arena, Conference and Exhibition Centre, The Grandstand, Holman Stand).

Hamilton Zoo

The zoo covers 21 hectares of landscaped grounds with another 7 hectares available for future use. It is home to more than 600 exotic and native New Zealand animals. The unique experience at Hamilton Zoo allows residents and visitors to enjoy wildlife in a natural setting and encourage support for wildlife conservation and sustainability of natural resources.

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 be 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

The Waikato Museum cares for, preserves and shares the stories about the objects and *taonga* of the Waikato region and beyond. The museum provides exhibitions, public programmes and education programmes about social history, visual arts, *tangata whenua* and science. It delivers its services from three sites:

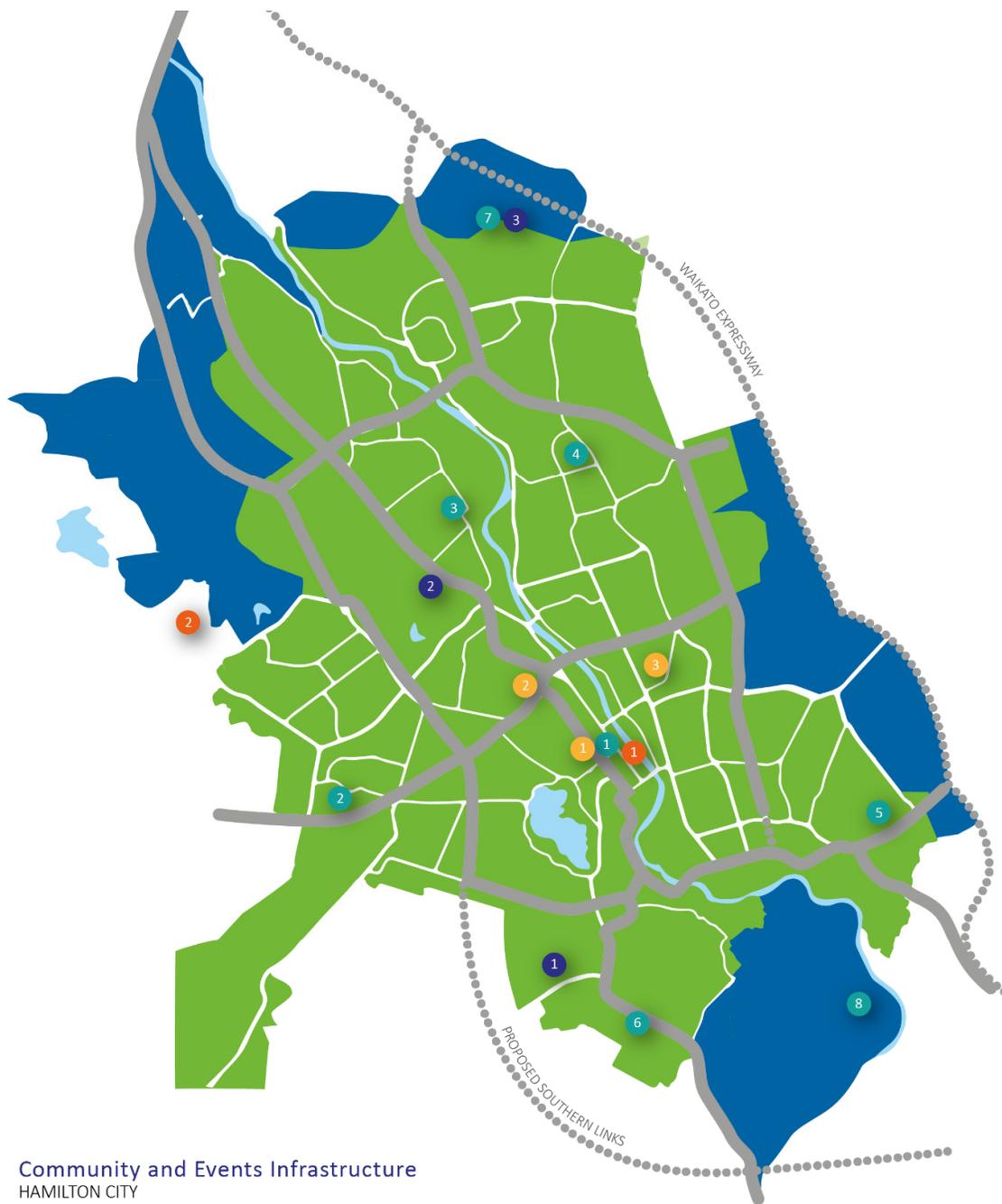
- The museum building in Grantham Street which houses collections, and offers public exhibitions, education and public programmes.
- ArtsPost, a retail and community gallery space.
- Beale Cottage, a 'Category 1' Historic Place, open for public tours.

OVERVIEW OF ASSETS

Table 7: Overview of Community and Events 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 Sportsdrome.
	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. Central library is currently closed.
Operational assets	Waikato Museum	Waikato Museum building, ArtsPost, Beale Cottage.
	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, utilities, 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, <i>taonga</i> and objects. Furniture and equipment.

Figure 43: Community and Events infrastructure



Community and Events Infrastructure
HAMILTON CITY

- | | | | | |
|---|---|---|--|--|
| ■ Urban Area | ● Libraries | ● Aquatic Centres | ● Event Venues | ● Attractions |
| ■ Growth Area | 1- Central Library | 1- Gallagher Aquatic Centre | 1- Seddon Park | 1- Waikato Museum |
| — Main Roads | 2- Dinsdale Library | 2- Waterworld | 2- FMG Waikato Stadium | 2- Hamilton Zoo |
| ⋯ Future Main Roads | 3- St. Andrews Library | 3- Future Aquatic Centre | 3- Claudelands | |
| | 4- Chartwell Library | | | |
| | 5- Hillcrest Library | | | |
| | 6- Glenview Library | | | |
| | 7- Rototuna Community Hub | | | |
| | 8- Peacocke Community Hub | | | |

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 2019 to 2028 has been included in the draft 2018-28 10-Year Plan.

Figure 44: Forecasted capital expenditure for Community and Events each year – 2018-28 10-Year Plan

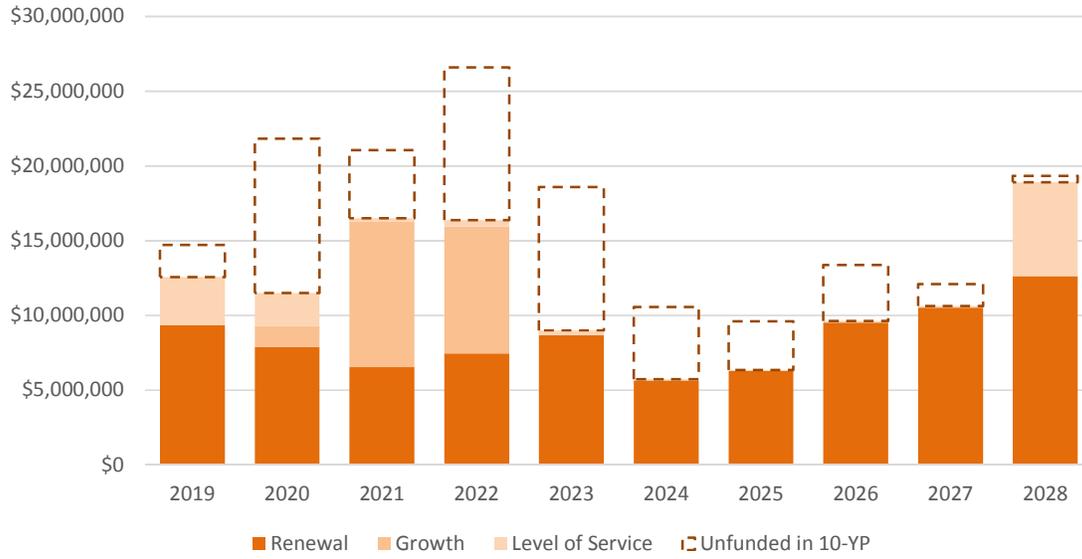
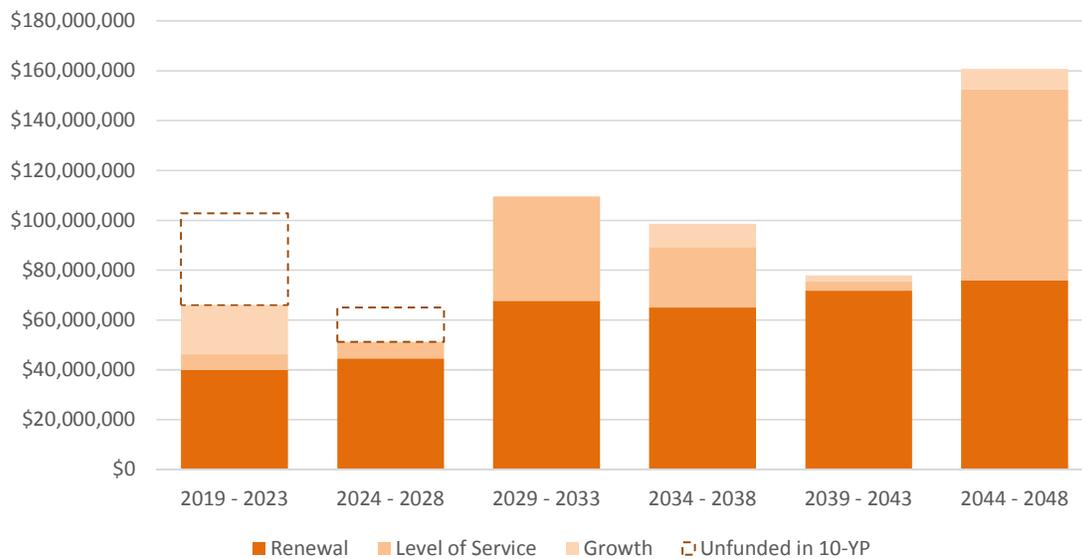


Figure 45: Forecasted capital expenditure for Community and Events – five yearly periods – 2018-48



Operational expenditure

The forecasted operational expenditure from year ending 30 June 2019 to 2028 has been included in the draft 2018-28 10-Year Plan. Estimated expenditure beyond 2028 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 cost.

Figure 46: Forecasted operational expenditure for Community and Events each year – 2018-28 10-Year Plan

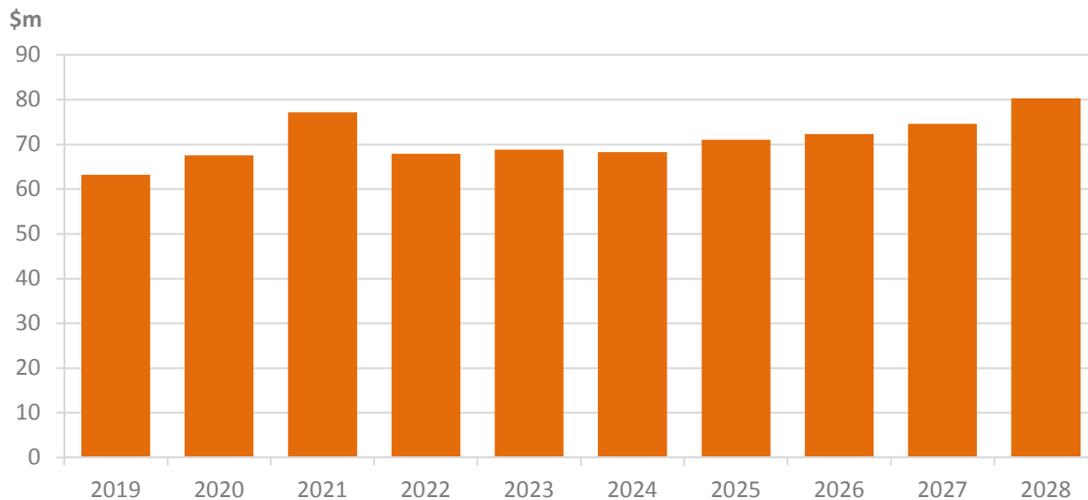
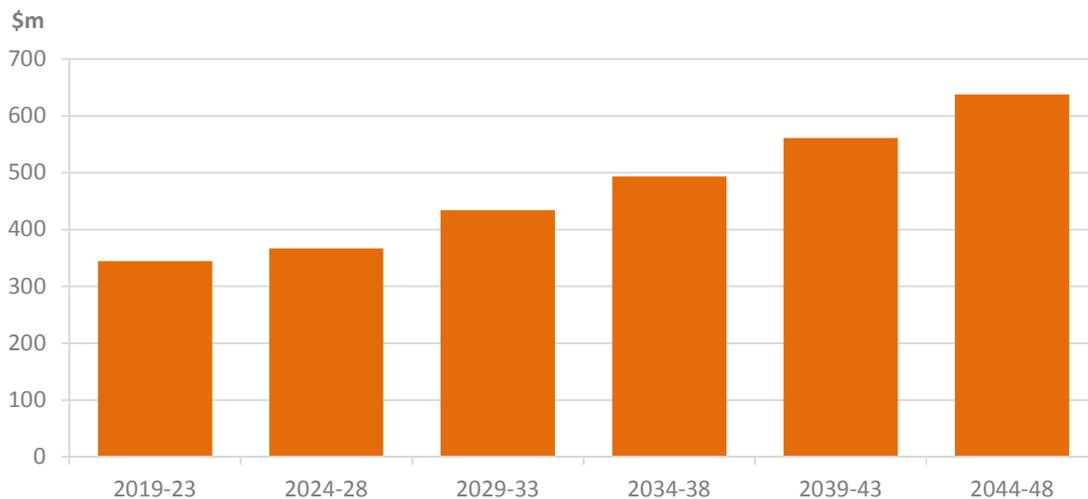


Figure 47: Forecasted operational expenditure for Community and Events – five yearly periods – 2018-48



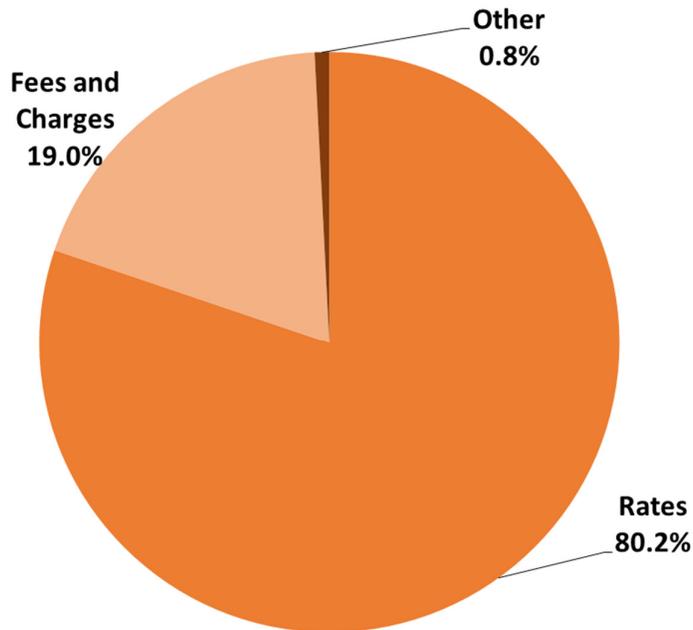
Current funding of activities

The Community and Events activities are currently funded through a mixture of:

- rates collected in the year of expenditure
- rates to repay loans raised for capital works
- donations
- user charges for services provided and venue hireage.

The graph below shows the proportion of funding for the various activities.

Figure 48: Community and Events activities funding



General Assumptions

The Infrastructure Strategy has been prepared using the following overall assumptions which are consistent with the significant forecasting assumptions contained in the 2018-28 10-Year Plan.

Table 8: 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.
Graphs of forecast capital expenditure are based on a 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.
Graphs of forecast operational expenditure are 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.
Hamilton needs an extra 12,500 dwellings over the next 10 years and 32,000 over the next 30 years to meet the housing needs for extra 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.
NZ Transport Agency subsidies continue as currently provided at a rate of 51% subsidy for eligible projects in analysis of Long-term projections of Financial Strategy.	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. This would be particularly significant as there is a large amount of forecast expenditure on transport over the 30-year period.
There will be no significant changes to legislation that would impact on the need for and nature of infrastructure.	High level of uncertainty as some 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.
There will be no significant changes to technology that would alter how services are delivered or what infrastructure is required.	High level of uncertainty as technological advancement is highly likely over the next 30 years. This could have a major impact on the scope, timing and costs of anticipated projects as new technologies may deliver services in different ways through different types of infrastructure
New resource consents for three waters activities and the Waikato	High degree of uncertainty as the impact of Healthy Rivers planning regime is new and was not in place when current consents were

Assumption	Level of uncertainty and potential impact
River are renewed and with similar conditions.	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.
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 inflation rate in its budget (specifically forecasted for the sub region by BERL) to mitigate this risk.
There is no significant change to service delivery models for any of the activities in this Strategy.	Medium level of uncertainty as the Council is considering creating a CCO for the operation and management of water and wastewater services. However, this is currently on hold as Waipa District Council are not wanting to progress a CCO option at this point.

Assumptions relating to each infrastructure activity area are provided in Appendices 1 to 4 of this Strategy.

Appendix 1

ASSUMPTIONS FOR USEFUL LIVES OF ASSETS

Table: 9: Water

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	100
Electrical Services	25 – 40
Instrumentation	15 - 30
Mechanical Services	25 – 40
Pumps and Motors	40

**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 renewals forecasts in this Strategy.*

Table 10: Wastewater

Asset group	Useful life (years)
Aerial pipes	
Exposed	50
Ducted	100
Pipes (Rising Mains)	
Asbestos Cement	40
Pipes (Gravity)	
Asbestos Cement	60 – 80
Earthenware, PVC, PE	100
Earthenware cured in place	50
HDPE	50 – 100
Reinforced Concrete, Stainless Steel Cement Lined	75
Stainless Steel	30
Manholes	100
Valves	40 - 75
Pump station	
Electrical Cabinet and Level Control	15
Wetwell	75
Storage and Valve Chambers	100
Lids, Valves and Pipework	20-25
Pumps	20
Electrical	75-100
Treatment Plant	
Civil – Tanks, Building, Pipework, Metalwork	100
Electrical Services	
Instrumentation	25 – 40
Mechanical Services	15 - 30
Pumps and Motors	25 – 40
	40

Table 11: Stormwater

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

Table 12: Transport

Asset group	Useful life (years)
Roads	
Basecourse	50-140
Subbase and Subgrade	Not Depreciated
Chipseal surface	6-16
Ashphalt 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

Asset group	Useful life (years)
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
Islands	
Raised Platform – Printed	20
Raised Platform – Paved	60
All others	35
Carparks	
Basecourse	110
Subbase and Subgrade	Not depreciated
Surface	10 – 18
Concrete	60
Parking Equipment	15

Table 13: Parks and Green Spaces

Asset group	Useful life (years)
Access	5-50
Artwork	50
Carparks	7 – 100
Cemetery Burial and Ash Lawn	100
Crematorium Equipment	20 – 40
Electrical	10 – 45
Entry Points	25 – 75
Fences	10 – 100
Furniture	20 – 50
Gates	10 – 50
Gardens	5 – 15
Hardscapes	25 – 50
Irrigations Systems	10 – 30
Lights	25
Landscapes	Not Depreciated
Playground Equipment	15 – 50
Plaques	50 – 80
Paths	10 – 50
Roads	10 – 100
River Structures	10 – 50
Security System	10
Sportsfields	7 – 100
Signs	10 – 30
Structures	8 – 100
Stormwater	15 – 80
Turf Drainage	5 – 25
Water Features	10 – 50
Walls	5 - 150
Youth Facility Equipment	30

Table 14: Buildings

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

Table 15: Community and Events Operational Assets

Asset group	Useful life (years)
Libraries	
• Lending Collection	3 - 8
• Heritage Collection	Held in perpetuity
Aquatic Facilities (note: pool structure is included with building assets)	
• Electrical Services	10 – 30
• Plumbing Elements	20 – 30
• Pumps and Heat Exchanger	10 – 30
• Fitness Equipment	7 – 10
Museum	
• Public Art	20 – 50
• Collection	50 – 100
• Operational Assets	10 - 30
Events (note: the FMG turf is included with building assets)	
• Technical Equipment	2 – 20
• Turf Equipment	8 – 15
• Plant and Equipment	15 - 20
Park Type assets in community and events are in line with the Parks and Garden assets	

Appendix 2

ASSUMPTIONS FOR LEVELS OF SERVICE

Water

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.

Wastewater

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, 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
- a timely response if there is a problem with wastewater system
- a quality service.

Stormwater

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.

Transport

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

Parks and Green Spaces

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 plantings

Community and event facilities

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

Table 16: Changes in Levels of Service

Activity	The community can expect ...	Planned increases or decreases in the levels of service
Aquatic Facilities	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Expect community facilities to be safe and accessible 	<ul style="list-style-type: none"> • No change
H3	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • A new Regional theatre is provided by a third party (The Council contributes operational grants to assist with construction and ongoing maintenance).
Hamilton Zoo	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • The Zoo Master Plan is implemented progressively and entrance integrated with the Waiwhakareke Natural Heritage Park.
Library	<ul style="list-style-type: none"> • That libraries to provide programmes and events that support literacy and promote reader development • Libraries that are safe welcoming and attractive community spaces 	<ul style="list-style-type: none"> • 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 ratio of e-books to print collection items purchased will

Activity	The community can expect ...	Planned increases or decreases in the levels of service
	<ul style="list-style-type: none"> • 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 	<p>increase from 22% to 30% by 2020/21</p> <ul style="list-style-type: none"> • The City's Heritage will be progressively digitised and available digitally for public access.
Waikato Museum	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Elements of the Museum Strategic Plan will be implemented progressively over time with a focus on connecting to Waikato River.

Appendix 3

ASSUMPTIONS FOR RENEWAL OF ASSETS

GENERAL

An asset is 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 economical 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, 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 the same asset is not identified for renewal by two different programmes and the 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 renew a water pipe.

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

- Carry out reactive maintenance to immediately return it to service, or
- It is prioritised against the planned programme and renewed accordingly.

WATER, WASTEWATER AND STORMWATER

Significant renewal programmes of work are described in methodology statements for each asset type as outlined below.

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 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 Valves, Hydrants and Meters: This programme is only for those assets that are not due to be replaced within 10 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 devices to protect the public supply must be tested annually. At present there are no comprehensive renewals or testing programme for testable backflow devices.

Wastewater Pipes: The wastewater pipe renewals programme development and optimisation is based on a combination of base life, CCTV condition rating, and blockage report from IPS. All pipelines with four or 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 2015-25 LTP 10 Year Plan a unit rate per metre was assigned to mains to include the replacement of manholes. In the 2018-28 10 Year 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 all 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 peak the works program has been spread over a 10 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 \$35,000. 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.

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 or 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.

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.

Water and Wastewater Treatment Plant and Water Reservoirs: A 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 2 years in advance. Where significant

scientific justification to support an Assessment of Environmental Effects (AEE) is required (eg monitoring program), the schedule should be established a minimum of 3 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.

Water and 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.

Deferred Renewals

The water supply network renewal programme has identified that there are a number of assets that have already exceeded their expected lives and have been scheduled for renewal in the first year of the programme. This peak in renewals is largely due to revised base lives due to improved asset management information, not that renewals previously identified have not being funded or carried out. Assumptions on asset construction dates can also create peaks in the age related renewal profile. Renewals for pipes, valves, hydrants and meters have been smoothed over the first 10 years of the forecast so that any renewals backlog is addressed by the end of year 10.

TRANSPORT

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 GREEN SPACES

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 Open Spaces asset management plan (AMP), Hamilton Gardens AMP, The Cemeteries and Crematorium AMP and subsequent 2018-28 10-Year Plan budgets.

The operational/non-building asset renewal programme for Parks and Green Spaces 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

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.

Appendix 1 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.

Appendix 4

ASSUMPTIONS FOR GROWTH IN DEMAND

Water

Infrastructure that is required to provide for growth is forecasted 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 central 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.

Wastewater

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 (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.

Stormwater

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.

Transport

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 roads
- 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 10 years
- with a higher importance being put on healthy lifestyle there is an increase in demand for walking and cycling facilities.

More detail on specific projects in the Infrastructure challenges and Focus Areas section.

Parks and Green Spaces

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.

Community and event facilities

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.

Appendix 5

IDENTIFYING SIGNIFICANT CAPITAL EXPENDITURE DECISIONS

The following capital decisions relating to infrastructure over the next 30-years have been identified as significant. These are discussed Our infrastructure challenges and focus areas section.

- Renewal Programme each 10YP
- Seismic Strengthening work
- Water demand management Intervention
- Works for water consent renewal in 2044
- Works for wastewater consent renewal in 2027
- Second water treatment plant
- Greenfield investment focus in Peacocke
- Greenfield investment focus in Rotokauri
- Norther river bridge crossing
- Cross city connector
- 4-Laning Ring road
- Greenfield investment focus in future cell
- Prioritising new City Improvements
- Prioritising Transport Improvements

In considering what capital decisions the Council will need to make in the next 30 years are significant, the drivers for the projects identified in AMPs and 10-Year Plan draft budget processes have been considered. Where there are key decisions of the Council that will have a major impact on driving capital expenditure these have been grouped together – for example the decision to extend strategic infrastructure into a growth cell to enable new development.

Other projects or programmes have been identified as significant capital decisions given the public interest of these decisions. These are often projects where there may be obvious public impact or there has been, or likely to be, significant public involvement in the decision-making process.

Decisions have been identified as significant in this Infrastructure Strategy where there is substantial effect on:

- Changes to future service levels
- The Council finances
- Ability to reverse a decision.
- Potential for major inconsistency with a prior decision / position of the Council.
- Known high levels of public interest.
- Extent of community that may be impacted.

Appendix 6

DATA RELIABILITY

The following infrastructure grading guidelines have been used to assess the data reliability for the information that is used for asset management and to create the financial forecasts for this Strategy.

Table 17: Data Reliability Criteria

GRADE	LABEL	DESCRIPTION
A	Highly Reliable	Data based on sound records, procedure, investigations and analysis which is properly documented and recognised as the best method of assessment.
B	Reliable	Data based on sound records, procedure, investigations and analysis which is properly documented but has minor shortcomings.
C	Uncertain	Data based on sound records, procedures, investigation and analysis which are incomplete or unsupported, or extrapolations from limited sample of which grade A or B data is available.
D	Very Uncertain	Data base on unconfirmed verbal report and/or cursory inspection and analysis.

The data reliability for the assets included in this Strategy are shown in the table below.

Table 18: Data Reliability

ASSET GROUP	GRADE	COMMENT
WATER		
Water Treatment Plant and Reservoirs	D	Asset data is incomplete, with approximately 80% of civil, mechanical and structural assets captured. Attribute information such as pump size is missing. No asset information is available for electrical or SCADA assets. A major project is underway to capture asset data in BIMS.
Water Network	B to C	The data for the pipes, hydrants and valves is good. Just minor data missing such as pipe bridge support data, some bulkmain chamber data and the length and diameter is assumed for some water services lines.
WASTEWATER		
Wastewater Network	B	The data for the pipes and manholes is good. However, depth data not available for all. The wastewater service lines have not all been entered into IPS so number, length and diameter have been estimated.
Pump Stations	B	Data for pump stations has recently added to IPS.
Wastewater Treatment Plant	C – D	Asset data is incomplete, with approximately 80% of civil, mechanical and structural assets captured. Attribute information such as pump size is missing. No asset information is available for electrical or SCADA assets. A major project is underway to capture asset data in BIMS.
STORMWATER		
Stormwater network	B	The data for the pipes and manholes is good. However, depth data not available for all. The stormwater service lines have not all been entered into IPS so number, length and diameter have been estimated.
Treatment/ Detention Devices	D	Asset data is not complete in IPS. The data is contained in various spreadsheets which were based on site inspections and staff knowledge. There are no processes in place to ensure these spreadsheets are maintained.

ASSET GROUP	GRADE	COMMENT
TRANSPORT		
Transportation assets	B	All transportation assets are held in RAMM and the data is considered to be reasonably reliable. There are good processes in place for maintaining the data held in RAMM.
PARKS AND GREEN SPACES		
Parks and Open Spaces, Hamilton Gardens and Cemetery Assets	B	Most of these assets are recorded in IPS and there are processes around updating this data.
Crematorium Assets	C	The crematorium assets are not yet recorded in IPS.
COMMUNITY AND EVENT FACILITIES		
Aquatic Facilities operational assets	C - D	Some major operational assets are recorded in SPM, however, there is limited information recorded on many of the assets. Collection of asset data is planned as part of 2018 renewal project.
Community Facilities non-building assets	D	Asset data is recorded in a spreadsheet that is updated on an ad hoc basis. Staff are regularly on-site and carry out informal condition assessment.
H3 plant and equipment	B	Plant and equipment assets have been recorded in a spreadsheet by H3 staff. There was a robust process for collecting the data and the data set is considered complete.
Zoo animals	A	Animal recorded with an appropriate level of information.
Zoo infrastructure	B	Infrastructure is documented by not yet recorded in IPS.
Zoo furniture and equipment	C	These are recorded in a spreadsheet.
Library lending collection	A	Recorded with sound and robust processes and policy.
Library heritage collection	B	Recorded with improved data, new policy and processes.
Council Archives	B	Recorded improved data, new policy, processes documentation and active management.
Library furniture and equipment	C	All assets recorded, however need to improve condition assessment processes.
Library technology	B	Recorded with improved data, process documentation and active management.
Museum collection and public art	B	Collections are recorded in Vernon with condition data and asset attributes.
Museum furniture and equipment	C	Recorded in a spreadsheet.
ALL BUILDINGS		
Hierarchy	B	A new hierarchy has been set up as part of the move of building assets into IPS.
Attribute Information	B	Quantity and information derived from on-site surveys and as-builts
Condition	B	Condition assessments were carried out for all buildings in 2017 using a combination of external contractors and in-house staff.
Base Life	B	Base lives are based on industry standards and supplied by SPM and suppliers
Unit Rates	B	Unit rates are based on industry costs and past renewal costs.
Comments and Photos	B	Photos are added at the time of the condition assessment and as required.

FINANCIAL CONFIDENCE

Based on the data reliability and methodology used to calculate them the financial forecasts have the aggregated confidence level shown in the table below. The confidence level only relates to the use of the aggregated estimates (i.e. budgets as a whole) for the purpose of long-term financial planning and should not be attributed to any individual projects for the purposes of project delivery.

The confidence level assessments have been graded using the criteria of the International Infrastructure Management Manual 2011.

Table 19: Financial Confidence

Activity	Confidence level		
	Years 1-3	Years 4-10	Years 10+
Infrastructure – Maintenance	Reliable	Reliable	Uncertain
Infrastructure – Renewals	Highly Reliable	Reliable	Uncertain
Infrastructure – New Works	Reliable	Reliable	Uncertain
Transport – Maintenance	Highly Reliable	Reliable	Uncertain
Transport – Renewals	Highly Reliable	Reliable	Uncertain
Transport – New Works	Reliable	Reliable	Uncertain
Parks and Green Spaces - Maintenance	Highly Reliable	Reliable	Uncertain
Parks and Green Spaces – Renewals	Reliable	Reliable	Uncertain
Parks and Green Spaces – New Works	Reliable	Reliable	Uncertain
Community and Events Facilities – Maintenance	Highly Reliable	Reliable	Uncertain
Community and Events Facilities – Renewals	Reliable	Reliable	Uncertain
Community and Events Facilities – New Works	Reliable	Uncertain	Very Uncertain