

Infrastructure Strategy: 2018 - 2048

Introduction

Infrastructure provides a foundation for building strong and resilient communities. This Strategy sets out how the Invercargill City Council's existing infrastructure base for roading, water supply, sewerage, stormwater, solid waste, building assets, parks and cemeteries will be continued into the near future. The Local Government Act requires that the Council include Roding and 3 Waters, including flood protection, in its Infrastructure Strategy. Solid Waste, Building Assets, and Parks and Cemeteries have also been included to provide the full picture of planned Infrastructure spending over the next 30 years.

Invercargill City Council is required under legislation to plan for the next thirty years and identify what issues relating to infrastructure may be experienced over this timeframe, and how Council intends to manage these issues and what implications may arise. It will further outline how Council will renew or replace their infrastructure assets and respond to varying levels of service for these assets.

This document is supplied under section 101B of the Local Government Act 2002.

The Strategy identifies how Council will meet their long-term renewals for significant assets, adapting to the changing environment and demographic trends while embracing growth projects aligned with Council's vision.

A key purpose of this strategy is to set out how Council is going to manage the renewal funding for Invercargill's infrastructure over the next 30 years within a constrained funding environment.

Invercargill City Council provides residents with services that are essential to the community. The Long-term Plan (LTP) sets out the services, the standard to which they are provided and what they will cost. Some of these services are provided by using assets that form part of the City's infrastructure.

The Infrastructure Strategy is the document that summarises the way in which Invercargill City Council will adapt its infrastructure to meet the challenges ahead.

Infrastructure Strategy Overview

Who are we?

Invercargill City is a relatively small and compact City extending from Makarewa in the north to Bluff in the south, Kennington in the east and Oreti Beach in the west. The Invercargill City District encompasses an area of 49,142 hectares. Generally we cover a land area 33.8km by 20.1km. Landscape features of importance to the community include Bluff Hill (Motupohue) and four major waterways which thread through the City (Makarewa, Waihopai, Otepunui, and Kingswell rivers). These, along with the Oreti River all flow into the New River Estuary. The urban areas of Invercargill and Bluff contain extensive areas of open space as well as distinct heritage buildings.

Invercargill has many extensive parks and recreational areas that are both close and accessible to residents. Queens Park is a centrally located, nationally recognised premier park offering wide and varied recreational use. Sandy Point area is a large environment and recreational area and is close to the city residents.

Road networks are generally formed on a grid layout and with relatively flat terrain, which makes mobility and accessibility easy for all modes of transport. The roading network has plenty of capacity. This ensures that travel reliability is a given for all road users.

Piped networks are compact and generally contained within road reserve and not located in residents private property where access is more difficult. They are well structured and historically well sized to provide for the City's requirements with only short travel distances to and from treatment facilities, with the exception of drinking water. Water is sourced and treated at Branxholme to the north of the City and piped 16.5km to reservoirs within the urban areas of Invercargill and Bluff

This map outlines the territorial boundaries of the Invercargill City Council.



Council's Vision and Direction

Council's vision is to *“enhance the city and preserve its character while embracing innovation and change.”* Council must provide sound management of its infrastructure to realise this vision.

Challenges faced by Council

- Meeting our long-term renewal expectations for Infrastructure.
- Responding to the changing environment (both natural and technological) and retaining Invercargill's character including its built environment.
- The City's changing demographic profile and its ability and willingness to pay.
- Encouraging growth projects whilst ensuring financial and operational sustainability for future generations.
- Ensuring Council works in a financially prudent manner that promotes the current and future interests of the community.

What is our Strategy to achieve this?

- Maintain our current asset base while responding to the challenges.
- Focus on critical aging assets and allow non-critical assets to experience limited failure before renewal (more specifically water piped assets).

- Look to not expanding the existing infrastructure networks (at our own cost), only improve levels of service to meet consent and legislated requirements, utilise the networks current capacity to meet forecast growth.
- Focus on sound evidence based activity investment decisions, rather than just the management of assets.
- Incrementally increase the dollar amounts allocated to renewal of assets to meet the calculated level of annual depreciation (as a baseline measure).
- Should unplanned failures occur, use a mix of Council's financial "good health", accumulated reserves and/or insurances (where appropriate) to manage risks.
- Ensure growth is focused on social, financial and operational sustainability and aligned to the vision.
- Better understand our community's needs, through consultation and agreed levels of service.
- Utilise subsidies, user payments, rates and loans to ensure that both current and future communities pay for the asset they are using.
- When arranging contracts or significant activities, consider how investment decisions may impact a viable competitive supplier market in the Region.

The tools we are going to use:

- Strengthen our Asset Management, to improve cost-efficiency and make better informed decisions.
- Improve business decisions when investing by using an evidence based business case approach.
- Engage our customers to better understand their needs and desires.

Our Assumptions at a glance:

Assumption	Level of Uncertainty
Economic Climate and Growth	Moderate
Population Growth	Moderate
Climate Change	Moderate
Resource Consents	Moderate
Catastrophes	High
Delivery of Service	Moderate
Asset Valuations and Useful Lives	Moderate
Cost Change Factors	Moderate
Interest Rates on Borrowing	Moderate
External Funding for Projects	High

Where will we be in 30 years?

- Infrastructure in Invercargill will continue to meet the needs of the community.
- The CBD will be a vibrant hub and have Community Facilities which support it.
- Assets will have had sufficient maintenance and renewal, and will operate by meeting the agreed community levels of service. Council will have good knowledge on how to sustain and support the assets over their lives.

OUR INFRASTRUCTURE SUMMARY

We own and manage \$780m (value as at 30 June 2017) of public infrastructure.



CORE INFRASTRUCTURE

ROADING \$271M

- Urban sealed roads 294km
- Rural sealed roads 178km
- Rural unsealed roads 123km
- Kerb and Channels 555km
- Bridges 51
- Footpaths 500km
- Street lighting
- Off street carparks 6



STORMWATER \$159M

- Pipe Network 419km
- Pumping Station 9
- Open Drains 15km
- Tidal Protection Banks 3km
- Stead Street and Rifle Range

SEWERAGE \$114M

- Pipe Network 368km
- Pumping Stations 31
- Treatment Plants 3



WATER \$124M

- Pipe Network 419km
- Pump Stations 6
- Branxholme Water Treatment Plant
- Reservoirs 7

OTHER INFRASTRUCTURE

BUILDING ASSETS



\$78M

- Corporate Buildings 2
 - Civic Admin
 - Bluff Service Centre
- Community Facilities 6
 - Civic Theatre
 - Splash Palace
 - Eve Poole Library and Archives Building
 - Scottish Hall
- Animal Care Facility
- Southland Museum and Art Gallery (facility managed but not owned by Council)
- Housing Care Flats 215
- Public Toilets 9
- Other Infrastructure 3

PARKS AND CEMETERIES



\$27M

- Premier Parks 4
 - Queens Park 54.7ha
 - Otepunu Gardens 4.7ha
 - Anderson Park 5.5ha
 - Gala Street 5.1ha
- Amenity Parks 17
- Environmental Parks 24
- Linkage Reserves 27
- Neighbourhood Parks 61
- Outdoor Adventure Parks 3
- Sports Fields Reserves 20
- Special Purpose 11
- Civic Space 4
- Cultural Heritage 7
- Undeveloped Parks 8
- Non-Council Owned 4



SOLID WASTE \$7M

- Closed landfills 2
- Transfer Stations 2
- Kerbside Bins 42,869

This information has been developed from the valuations undertaken for 30 June 2017, for more detail please see individual Activity Management Plans.

What do we deliver?

Roading – The Roothing activity provides a safe, convenient and efficient transport system in the city including streetlights, traffic signs and signals, footpaths, drainage, kerbing, bridges, culverts, street furniture, parking facilities, vehicle access crossings and cycle tracks.

Water Supply – The Water Supply activity owns and maintains assets, and supplies potable water to residential, industrial and commercial properties to protect public health, support city growth and contribute to the general well-being of the community.

Sewerage – The Sewerage activity owns and maintains assets which include pipes, pump stations and treatment plants for the removal of sewage from residential, industrial and commercial properties in urban areas of Invercargill, Bluff, parts of Otatara and Omaui. Treated effluent is discharged to Foveaux Strait at Bluff, to the New River Estuary at Invercargill, and to land at Omaui.

Stormwater including Tidal Protection Banks – The Stormwater activity owns and maintains assets which include pipes and pump stations to provide for the removal of stormwater from residential, industrial and commercial properties to reduce the risk of property damage by flooding. Stormwater is discharged to natural waterways including the Waikiwi Stream, Waihopai River, Kingswell Creek, Clifton Channel, Otepuni Stream, the New River Estuary and Bluff Harbour.

The City is protected by a series of flood protection schemes on the main waterways through the City which includes walls, banks and detention dams. The majority of these schemes are owned and managed by Environment Southland, with Invercargill City Council managing tide protection banks at the Waihopai Arm at Stead Street. These banks protect against the sea tidal movements rather than river flooding.

Other Infrastructure – Community Infrastructure where Council anticipates significant expenditure has also been included within this strategy. These community assets provide a key and significant connection to the community, and include building assets such as the Invercargill Public Library and the Southland Aquatic Centre (Splash Palace), Civic Theatre, Parks and Reserve areas and Solid Waste Services.

Background

In the coming years, Invercargill City will experience greater pressures on infrastructure renewals as the existing networks age towards their end of life. During the periods of the 1920s, 1960s and 1970s, large areas of our city and associated infrastructure were developed over short periods reflecting the growth of the City. These assets will require renewal as they reach end of life and the strategies deployed to manage this work will reflect in the cost to the Community.

Council has built good quality asset data over the last 30 years and this is included in its asset management plans. This has enabled Council to establish budgets that work to ascertain the level of expenditure necessary to ensure a reliable and consistent level of service in our infrastructure areas. Council has maintained its assets well and believes that there is not a large deferred risk on assets from the past but recognise that renewals are essential for service continuity as assets have a finite life.

Roading, Water Supply, Stormwater and Sewerage activities account for 23% of Council's operating expenditure and 62% of Council's capital renewal expenditure. Council is also proposing to invest in new Community projects.

Council is seen to be in good financial health with a debt ratio of 9.2% as at 30 June 2017, (External Borrowing over Total Assets). Council currently maintains an AA- credit rating which is one of the highest ratings available in New Zealand to a Council.

Council has renewal programmes in place; however these programmes are expected to increase. The increase is to enable Council to meet the end of life needs of the assets which were installed in the growth periods. During these times Central Government supported and assisted development and growth, however under current funding structures the renewals are now the financial responsibility of Council (apart from the New Zealand Transport Agency Funding Assistance). These development peaks need careful and structured renewal strategies to renew assets at the right time to meet well understood future demand. The Water Supply Activity has highlighted an area of pipe network where pipes may have to be renewed before their expected scheduled end of life, but have served more than 50 years currently. These pipe materials are widely used across New Zealand and most Councils will be experiencing similar responses as pipes become older and failure more likely.

For some of Council's infrastructure activities a decision has been made to reduce the rate of renewal against which depreciation forecasts. This 'sweating of the asset' is now more widely accepted as getting value for money, but has the potential for more risk. This will enable Council to manage change and extend the predicted life cycle of the asset and use better data and optimisation approaches to predict a just-in-time renewal of the asset. The use of criticality, resilience and risk to balance decisions with experienced practitioners mitigates the risk the community is exposed to.

For example, Council is proposing to under fund the renewal of the footpath programme as it can be done with low risk and has high visibility for future monitoring. In doing so, Council is hoping to extend the overall life of all of the footpath assets beyond what has been earlier planned for and signalled in its Roding Activity Management Plan. The opposite approach has been taken with critically important parts of the water reticulation network where replacement is programmed to coincide with scheduled end of life.

Council needs to ensure that it is delivering the right level of infrastructure at a sustainable cost the community can afford, both now and into the future. Investment needs to be managed through business cases which support current evidence and future demands including possible shifts in demand.

To do this Council has looked closely at the renewals and maintenance of existing infrastructure as well as any planned new infrastructure projects; details of these options are expanded in the Activity Management Plans. This strategy sets out what Council believes to be the most likely scenario for infrastructure needs in the future and assesses the options available to Council and the Community for addressing these needs.

Key Assumptions

Having suitable and relevant assumptions is a solid foundation for the Strategy. The following assumptions and potential impacts have been considered while developing and preparing Activity Management Plans and are seen to be the best and most likely influencing factors to consider and where appropriate develop into the strategy and Activity Management Plan. Assumptions are fully developed in the Long-term Plan Background and Assumptions 2018-28 document.

Economic Climate and Growth

It is Council's assumption that the local economy of Invercargill and Bluff will grow and diversify at a steady rate, over the life of the Long-term Plan. Any significant change to the economy would require Council to review and change its current activities and levels of service. Council has determined this to have a moderate level of uncertainty.

Population Growth

Council assumes that the population will increase from 53,200 (estimate 2013) to a peak of 56,300 by 2028 before decreasing to 55,500 five years before the end of the strategy in line with Statistics New Zealand's medium forecast. This is in line with the Council supported initiative, Southland Regional Development Strategy, which seeks to attract 10,000 people to the Southland region within the next ten years. Council has determined that this assumption has a moderate level of uncertainty.

This increase will impact existing Council infrastructure and services. If the population increases then there will be a demand for increased housing, there will be increased traffic and in turn, there may be an increased demand for public transport. If the population decreases, particularly by a significant amount, it would mean a smaller ratepayer base will be expected to meet the increasing infrastructure cost or Council may need to reduce the level of service provided in order to maintain rates at an affordable level.

Population at 30 June							Population change 2013-43	
2013	2018	2023	2028	2033	2038	2043	Number	Average annual (percent)
53,200	55,300	55,900	56,300	56,300	56,000	55,500	2,300	0.1

Climate Change

Council has made the assumption that climate changes will occur over the life of the Long-term Plan. It is assumed that:

- Median Annual Temperature increase of 0.8°C by 2040;
- Annual rainfall increase of 4% by 2040;
- Mean sea level rise of 0.2m by 2040 and 0.8m by 2090; and
- An increased number and intensity of storms.

Climate Change will impact the way activities are carried out, for example:

- a) Roding – increased frequency and intensity of rainfall may require extra draining works in the road network that may alter long-term maintenance costs;
- b) Water – longer period of drought may result in increased demand whilst flood events create turbidity and increase the cost to treat for consumption;

- c) Wastewater – increased frequency and intensity of rainfall events results in infiltration and inflows that increase volumes to be treated;
- d) Stormwater – increased frequency and intensity of rainfall events result in service levels falling.
- e) Flood Banks – more events which would test the structures.

Resource Consents

Council has made the assumption that resource consents for discharging of stormwater and sewerage will be obtained with conditions which are reasonable and achievable, expiring resource consents will be renewed with similar conditions during the period of the Long-term Plan. Council has assessed the level of uncertainty of this assumption as moderate.

Catastrophes

Council has made the assumption that there will be no major catastrophes that will impact on Invercargill or its economy. Council has assessed the level of uncertainty of this assumption as high. This is because the Alpine Fault is regularly reported as likely to rupture but the uncertainty lies in when and what level of impact this will have on Invercargill. A Civil Defense Emergency in the District would impact financially on Council and the Community. The financial risk to Council is reduced by maintaining insurance cover for emergency events and by ensuring there are some reserves available to sustain any upgrade or urgent replacements that may be required.

Delivery of Service

Council has made the assumption that there will be no significant changes to the way that it delivers its services – in-house or contractors. This assumption has been assessed as having a moderate level of uncertainty. Service delivery will be reviewed consistently in accordance with the requirements of the Local Government Act 2002.

Fixed Asset Valuations and Useful Lives of Assets

Council assumes there will be a three-yearly reassessment of useful lives of assets throughout the life of the Long-term Plan; the next assessment will be earlier than planned, being 2019. Council operates on the assumption that assets will be replaced at the end of their useful life. Any planned asset acquisitions (per Council's Capital Expenditure Programme) would be depreciated on the same basis as existing assets. The useful lives of significant assets will be shown in Council's Statement of Accounting Policies.

Asset lives and valuations are based upon estimates made by experienced Engineering Professionals and Registered Valuers aligned to industry knowledge and are peer reviewed independently of Council. There is a risk that these estimates do not match the actual asset life and are not accurate, for instance that these assets deteriorate at a faster or slower rate than predicted. Council is already aware that some of the pipe network is deteriorating at a faster rate than was initially assumed.

The risk will always be that Council activities direction and or demands change and this could result in decisions not to replace existing assets in their current location and size. Council has a comprehensive asset management planning process and if a decision is made not to replace an asset then this will be factored into capital projects.

Confidence Level in Data and Programmes

Our infrastructure data and programmes were assessed as confidence level B or have an accuracy of $\pm 10\%$, as independently assessed and peer reviewed by AECOM.

There is a low level of uncertainty for this assumption. The impact of this assumption is high, if the assumption is not reliable then council has options to utilise its good financial health.

Cost Change Factors

Council has made the assumption that the rate of inflation will remain steady over the life of this Long-term Plan and will follow the Local Government Cost Index (LGCI). There is a moderate level of uncertainty surrounding this assumption. Please see Financial Strategy for more details.

Expected Interest Rates on Borrowing

Council has assumed borrowing rates beginning at 4.75% and gradually increasing to 6.50% from the 2026/27 financial year. This has been assessed as having a moderate level of uncertainty. Higher than expected interest rates on borrowing will require Council to consider collecting a greater amount from rates to cover the additional interest costs or reducing the amount borrowed. Please see Financial Strategy for more details.

External Funding for Projects

There is an underlying assumption that external funding for the Art Centre Invercargill, Additional Pool and Living Dinosaurs projects will be received at the levels included in the preliminary budget work

There is a high level of uncertainty for this assumption. Although preliminary investigations have been started, there are no signed agreements or commitment to funding from the external parties. If external funding is not received the projects will not go ahead. This will decrease both the rates required and the levels of service provided.

Significant Challenges and Issues

Like many parts of New Zealand, the area served by Invercargill City Council faces a number of strategic challenges in the years ahead.

Meeting our long-term renewal expectations for Infrastructure

Past investment cycles in the 1920's, particularly in piped networks, have created an echo of renewal requirements, which means that a significant part of Council's infrastructure will require renewal within the term of the Long-term Plan. These forecasts are in line with the assessed industry life expectation of the materials used.

The services provided from the piped network assets, namely water supply, stormwater and wastewater, will be subject to larger expenditure increases in coming years to meet demand. These increases are due to the pipes reaching the end of their useful life and the need to renew them before significant failure occurs.

The magnitude of renewals expected from within the Invercargill City District, the Southland Region and the South Island exceeds the capacity for the work to be undertaken in the market place. Work has, therefore, been planned so as to smooth both the financial and supplier impact. This means that higher risk assets, assessed by condition and criticality, will be replaced as a priority and non-critical pipes in networks will be replaced potentially after their nominated useful lives. To achieve this there could be an increase to maintenance costs and also an increase in complaints regarding breaks in supply.

Council's building infrastructure is also reaching half its useful life with significant renewals required.

Responding to the changing environment (both natural and technological) and retaining Invercargill's character including its built environment

Climate change is a significant issue for most activities. The most likely immediate risk to assets is the rise in sea level, the increased risk of flooding will need to be managed and costs to mitigate the impact will be significant. There will also be a need to review Invercargill's tidal flood protection with wider consultation on the future provision or renewal of flood banks alongside Environment Southland on the waterways through the City, or decide whether it is no longer viable to protect parts of the City.

Policy setting from Central Government will have the possibility for the most volatility. Responding to regulation can place extra cost pressures on Council, for example in the costs of meeting increasing environmental standards in fresh water or new Discharge Consent Conditions requiring improved discharge water quality.

Council has a good road network but has higher safety risks (when considered against national peers) particularly for cycling and pedestrians and at intersections, investment will be focused on intersection and safety improvements to reduce crashes, deaths and serious injuries, especially to vulnerable users.

More recent trends in technology, particularly around retail, accommodation and vehicle use will have the potential to change our society. This has already been seen in the use of community facilities which are changing to be more social and open spaces.

Monitoring the compliance of existing resource consent conditions will provide a record of compliance for future processes. The renewal of consents is dependent upon the legislative and environmental standards and expectations that exist at that time. If a resource consent was not granted, or failed to be renewed for a major Council activity, this would have significant impacts on

both costs and the ability to provide that activity. A major non-renewal may mean an entirely new approach to the activity would be required.

The City's changing demographic profile and its ability and willingness to pay

Council's network assets have sufficient capacity to manage the projected demographic profile; the continued and increasing investment required in our renewal programmes to maintain levels of service appropriately makes up a significant proportion of Council expenditure. The impact of this is that a relatively static ratepayer base (which is aging) is required to pay for a wave of infrastructure renewals on limited means. Council's debt to revenue ratio and Council's good "financial health" will be used to smooth out renewal expenditure. The Council's Financial Strategy sets out how we plan to fund our capital and operational expenditure long-term.

Longstanding and slowly advancing issues like population aging are progressively being felt. This can drive increased demand on community infrastructure such as housing care and pools, including accessibility and capacity at facilities. There is no longer adequate space at Splash Palace due to the current demand on the facility; there is also an increase in disabled users at the facility. As the population ages, Council considers that demand, particularly demand from disabled users, will continue to increase.

Encouraging growth projects whilst ensuring financial and operational sustainability for future generations

The Southland Regional Development Strategy action plan has two transformational projects noted for Invercargill. Their purpose is to rejuvenate the City. They are an art gallery and redevelopment of the museum. These projects are in the feasibility phase to establish if they will be viable. Other growth project options include increasing pool capacity at Splash Palace and the future use of Anderson House.

An option for operational sustainability of our provision of water is to investigate an alternative water supply and in turn increase the resilience of the network.

Ensuring Council works in a financially prudent manner that promotes the current and future interests of the community

The biggest challenge of all is one of funding; the changing demographic will mean a high percentage of our population will be on a fixed income. Based on the best information available, this document, in conjunction with the Financial Strategy, aims to provide a transparent response to the strategic challenges and ensure that the financial cost of providing the necessary infrastructure is predictable.

In the past Council has funded renewals as and when required. Council plans to increase the level of funding over the next 10 years to the rate of consumption of assets (renew at a rate equal to depreciation). Council aims to fully fund sewerage and stormwater by 2022 to 2028 using loan funding, and all core infrastructure to be fully funded by 2028. In some cases the work is not yet required or unachievable in a current year, and in these instances Council plan to put the difference of unspent rates into reserves to ensure the funds are available when required.

Assets are to be revalued in June 2019 and each three years thereafter, which requires a review of the amount of depreciation which is to be allocated each year. Each valuation considers the latest costings and understanding. In the last valuation the replacement cost and depreciation rose sharply as new information has been learnt from the Christchurch earthquakes and other experiences, which impact renewal cost.

One important funding source is a subsidy from New Zealand Transport Agency (NZTA) for roading activities; this is the Funding Assistance Rate (FAR). Council's 2017 rate was 58% but is

reducing to 51% by financial year 2023-2024. This will mean more ratepayer funding is necessary as less is contributed by NZTA.

Our Strategic Response to the Challenges and Issues

Council has recognised a number of important challenges and issues which will impact the community over the next 30 years and potentially longer given the expected lives of some asset components.

Council has developed a number of key responses which will be utilised in making decisions in day to day operations and the long-term planning for assets. The Strategy for the delivery of Activity Management is listed below.

Maintain Our Current Asset Base

Council sees that it is important not to encourage wider expansion in providing the core services beyond that which is currently serviced or outlined in the Activity Management Plans or District Plan. By limiting future growth of services, the long-term financial responsibility can be better managed. Invercargill has, through the district planning process, clearly set where planned growth is desirable and required. Limiting expansion to align with these processes is appropriate.

Focus on Asset Criticality

In a move to reduce large and sudden increases in rates on the Community, the strategy looks to balance the risks of failure of some elements of a system (e.g. water pipes). Simply put, pipes with a lower criticality rating will have their replacement delayed. This strategy will enable a reduced financial demand in the short-term but clearly needs to be understood that this approach increases potential failure risks which must have supporting financial mechanisms. These risks need to be understood and managed.

Focus on Sound Evidence based Activity Decision Making

Council has identified that making better investment decisions is an important response for managing long-term assets. Using tools such as the better business case approach are another way of supporting good asset decisions.

Incrementally Increase the Amounts of Renewal of Assets

Council has considered the impact of moving immediately to a fully funded depreciation model but has considered the appropriate strategic response is to take an incremental approach. This approach will allow the ratepayers managed increases in their rates over a period but this is balanced by increased risk that the earlier renewals of some infrastructure may be required. Improved asset management and its development are important to better understand and have better knowledge to reduce as many uncertainties as is possible.

Understand Our Community

Council has recognised that a better understanding and improved communication with the community will enhance how assets are delivered. It is key to align the communities expectation and its needs, given the assets which are managed are long life assets. The assumptions made in any planning process create the tangible to inputs in future designs and decision making. Council is developing an engagement strategy to assist with this understanding.

Other considerations are:

- Should unplanned failures occur, use a mix of Council's financial "good health", accumulated reserves and/or insurances (where appropriate) to manage risks.
- Ensure growth is focused on social, financial and operational sustainability, and aligned to the vision.

- Utilise subsidies, user payments, rates and loans to ensure that both current and future communities pay for the asset they are using.
- When arranging contracts or significant activities, consider how investment decisions may impact a viable competitive supplier market in the Region.

Our Tools to Deliver the Strategy

Strengthen our Asset Management

Council has recognised that strengthening its asset management delivery will produce more robust long term impacts on asset management.

Responding to this Council has established a whole of organisation approach to Asset Management, and aligned outcomes with the Asset Management Policy and Strategy.

Council continues to utilise the International Infrastructure Management Manual 2015 (IIMM) to identify what is achievable through adopting best international practice and also strengthen internal knowledge and expertise.

Having a strong platform for delivering asset management will allow robust plans to be developed and then delivered. Without this knowledge and ability to know and analyse the networks and assets, how future renewals are managed is less than optimal. The long term understanding (in its widest context) of the renewal of assets is the key to ensuring assets are delivered at the right level in the most appropriate way.

The Asset Management Policy confirms for Council, the asset management objectives and responsibilities, with the high level commitment of Councillors ensuring the appropriate stewardship decisions are developed, understood and through business case investment decisions processes are being made. Asset management is not now just how well the asset is managed but also understanding your assets and ensuring you are utilising an investment focused approach to the decision making for the community in both the short and long term.

The Asset Management Strategy defines a detailed approach to how Council will advance the management of infrastructure assets to appropriate levels of maturity, how the objectives in the Policy will be achieved, and the approach for developing and implementing Activity Management Plans. Council will continue to develop the quality of our asset data, better understand how the assets need to be managed and these improvements will be ongoing for the life of the strategy.

Using independent peer reviews of Activity Management Plans, the Asset Managers development work has been assessed by independent expertise to ensure that the future delivery plans meet the legislative requirements and where gaps in best practices expectations have been identified in the activity, improvements have been noted within the Improvement Plan section which highlights those future actions needed to strengthen the development of the activity.

The following diagram shows how each of the sections of asset management contributes to the successful delivery.



Better Investment Decision Making

Decisions within asset management have both short and long term impacts on the community. This strategy looks to ensure that these decisions are made with the best knowledge available and use current thinking about how investment is best understood, communicated and decisions made.

Government, through Treasury has accepted the “The Better Business Case (BBC) approach” as being a way to ensure that investment is well considered and appropriate decision making can occur.

The previous Asset Plans have now all been redeveloped in the form of an Activity Management Plan which has a focus on investment and is aligned to the Better Business Case approach.

This new format and approach has asked questions of the asset areas - what is the problem, what are the benefits of solving it and how would this occur (options available). This is a significant and important shift in thinking for asset management and this strategy looks to strengthen this approach through all levels of participation which includes how customers are involved and informed, Councillors understand the stewardship responsibility and making investment decisions, senior management accept and monitor policy and strategies.

Engage our Customers to better understand their needs and wants

Council is currently developing an Engagement Strategy that will shape how each area of Council, including elected members and staff, will engage with our Community in the future. It is anticipated that the Engagement Strategy will assist in delivering positive outcomes to the Community by identifying how the different groups within our Community wish to be engaged on different topics.

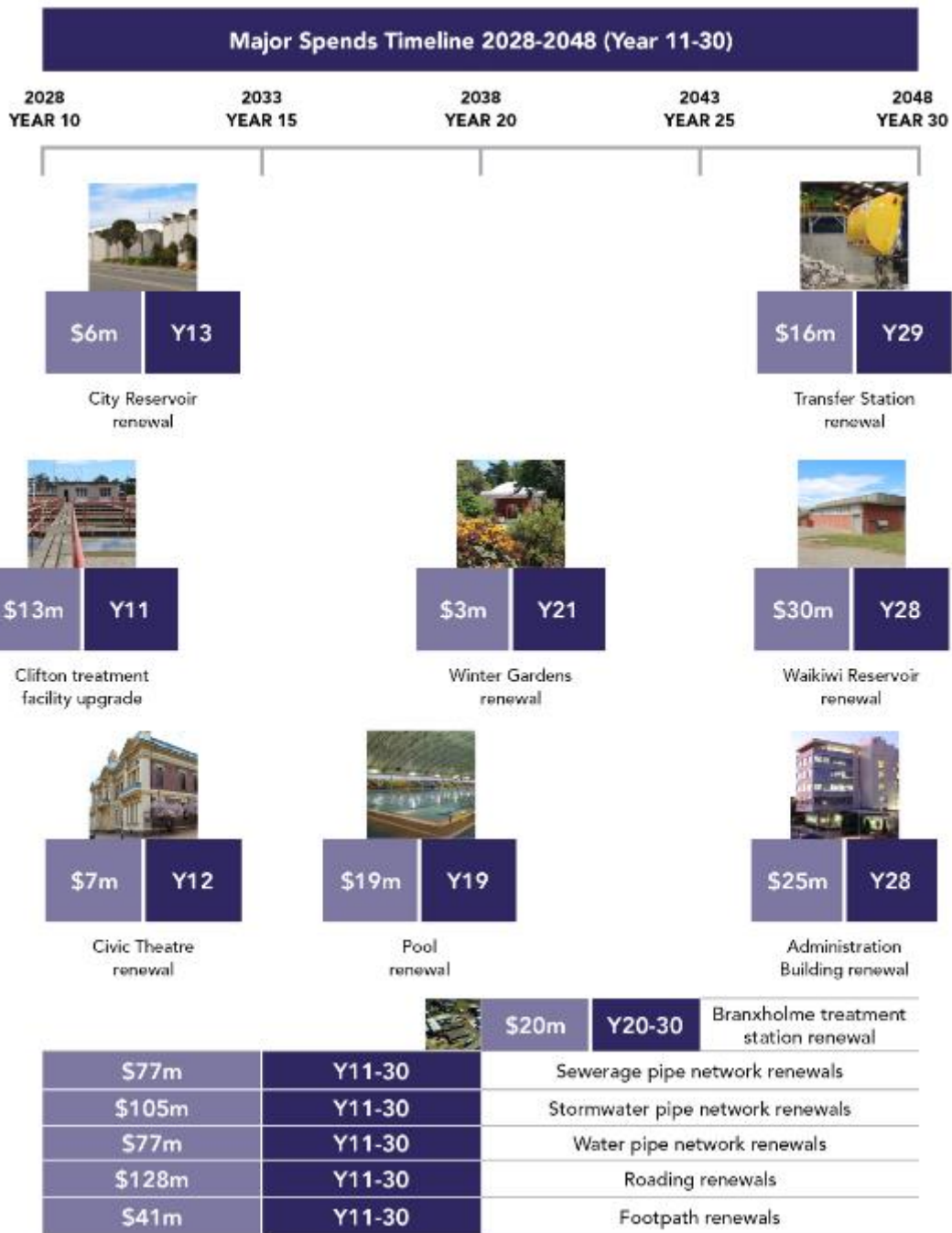
Linking the Long-term Plan to Activity Plans

Core Infrastructure

Community Outcome	Council's Role	How the Activity Contributes
Enhance our city	Invercargill's economy continues to grow and diversify	Roading provides the vital connections with state highways for the freight task distributing the goods needed for a city and throughout the city. The stormwater activity protects urban areas from flooding. The sewerage activity receives and treats trade waste. The Water activity provides a water network with sufficient capacity to meet demand and firefighting requirements.
	Invercargill's business areas are bustling with people, activities and culture.	Roading (pavements) contributes to accessibility, via integrated networks of connected roads and footpaths. Safe roads allows freedom of movement for residents including appropriate lighting.
Preserve its character	The building blocks for a safe, friendly city are provided for all members of the community	Safe roads allows residents to select a mode of transport they wish to use with confidence. Street lighting allows residents to feel safe at nights. Roading corridor management contributes to make events have safe road and pedestrian access to use. Wide streets and low traffic allows ease of movement, together with networks resilient and reliable for all events. Properties are protected from flooding damage, and receiving waters are not adversely affected by contaminated discharge. The sewerage activity protects public health by the safe collection of sewage. The water activity provides a safe reliable supply of water.
	Ease of access throughout the City is maintained.	Roading provides roads to connect people, signs to direct, footpaths for pedestrians, street furniture for streetscape usage. CBD areas have high amenity values.
	Strong, collaborative leadership of the City is demonstrated.	Good asset management delivers a core infrastructure in leading the City.
Embrace innovation and change	The development of future industry is encouraged	The stormwater activity protects urban areas from flooding. The sewerage activity receives and treats trade waste.
	Technology is utilised in both existing and new City services.	Street facilities such as visitor signs, streetscape, seating, and car charging etc offer high value people space and have flexibility to quickly adapt.

Other Infrastructure

Community Outcome	Council's Role	How the Activity Contributes
Enhance our city	Invercargill has the 'wow factor' with the right facilities and events to enjoy	Parks and Cemeteries enhance the aesthetic value of the City and usability of reserve land.
	Healthy and active residents utilise space, including green space, throughout the City	Parks and Cemeteries encourage residents and visitors to our green spaces of the City.
Preserve its character	The building blocks for a safe, friendly city are provided for all members of the community	The building assets are safe to use, accessible for those with disabilities and well maintained. Council owned buildings on Parks, Cemeteries and Crematorium land are provided and maintained in a safe condition. Parks, Cemeteries and crematorium are provided and maintained in a safe condition. Burial, interment and bereavement needs of the community are met with sensitivity and professionalism. Provision of solid waste facilities and services for the sorting, collection and disposal of waste.
	Our natural and existing points of difference are celebrated	Parks and Cemeteries are managed in such a way as to protect important natural habitats, scenic landscapes and other environmental features.
	Invercargill is celebrated for preserving its heritage character.	Our heritage building assets are maintained well and keep their heritage status. Parks and Cemeteries assist in protecting Invercargill's history and heritage.
	Strong, collaborative leadership of the City is demonstrated.	Good asset management delivers a core infrastructure in leading the City. Collaboration with other Local Territorial Authorities for the coordinated delivery of waste management and minimisation in Southland.
	Technology is utilised in both existing and new City services.	New innovations are investigated during the building asset renewal process. Parks and Cemeteries endeavour to utilise technology in order to engage effectively with the community through communication methods.
	Invercargill's culture is embraced through Community projects	Parks and Cemeteries endeavour to provide Council facilities and resources for community based activities, including the best utilisation of volunteers.
	Residents of, as well as visitors to, Invercargill give positive feedback and have great experiences	Parks and Cemeteries enhance the aesthetic value of the City and usability of reserve land.



The Priority Projects are as follows:

Water – Alternative Water Source

Issue and Consequence	Option	Implication	Cost
Invercargill City is at high risk being reliant on one open source water supply. If this water supply is contaminated or not useable as a result of a catastrophic event, the City could be without access to water for a significant time.	Develop a new secondary water source.	Invercargill has a resilient supply of water, any event of significance will have a reduced risk to the community.	\$ 10,700,000
	Increase water storage. Either untreated water at the Branxholme Water Treatment Plant or within the City.	Level of protection will be limited to size of storage. And is likely to mitigate only for short term events. Any storage structure will be subject to being managed as any other constructed asset, i.e. maintenance and renewal plus exposure to damage during seismic events.	Not costed but likely to exceed that for option above.
	Do nothing.	Invercargill is vulnerable to the potential of having limited water after a catastrophic event. Should there be no water supply then evacuation of the city may become necessary.	\$0

Water – Renewal Pipe Network

Issue and Consequence	Option	Implication	Cost
The asbestos cement (a/c) pipe within the water pipe network is reaching the end of useful life. The timing of their renewal will influence reliability of supply as well as have cost implications. Options identified relate to the level of risk exposure associated with the rate of renewal of non-critical pipes (those that if fail, will have a low impact on the likes of public health and amount of damage caused). All options identified allow for renewal of critical pipes by their nominated conservatively assessed asset life but vary according to the commitment in timing of renewal of non-critical pipes.	All a/c pipes renewed by expiry of the shortest expected pipe life.	Maintains high network reliability and low risk but quantum of work larger than local contracting resources could complete within a very short timeframe.	\$63,000,000 varying from \$1 to \$40 million per annum.
	Critical a/c pipe renewed by expiry of the shortest expected pipe life.	Network reliability slightly reduced and risk elevated but quantum of work is still larger than local contracting resources could complete within the short timeframe.	\$48,200,000 varying from \$2.2 to \$16 million per annum.
	Non critical a/c pipe renewed by expiry of the longest expected pipe life.		
	Critical a/c pipe renewed by expiry of the shortest expected pipe life. Non-critical pipe renewed according to a budget set by affordability as set down within the parameters of the Financial Strategy.	Expect the occurrence of pipe failure to increase, thus network reliability will further reduce and risk exposure increase.	\$34,900,000 varying from \$2.2 to \$5.9 million per annum.

Stormwater – Renewal Pipe Network

Issue and Consequence	Option	Implication	Cost
The oldest parts of the Invercargill stormwater network are reaching the end of their useful life, and renewal of these assets will reduce risk of failure, improve capacity and reduce the risk of stormwater contamination.	Prioritise pipe renewals by material, criticality, capacity and condition. Renewal of non-critical pipes may be delayed until maintenance requirements and disruption to the end user become unacceptable.	Critical, aging, high cost infrastructure is renewed and overall quality of the network is maintained or improved.	Increase renewals spend to \$3,520,000 per annum (depreciation allocation) by 2022.
	Replace pipe network on age or condition factors alone.	Structural integrity and maintenance requirement would remain at current levels. Capacity issues and stormwater quality would take longer to resolve.	Increase renewal spend to \$3,520,000 per annum by 2022.
	Replace pipe network at twice rate of depreciation to address contamination problems more quickly.	Would require significant additional expenditure, and place high demand on the supply market which could inflate prices. Would not address contamination issues within private properties.	Increase renewal expenditure to \$7,039,000 per annum by 2022.

Stormwater – Investigate Infiltration Sources

Issue and Consequence	Option	Implication	Cost
The stormwater network receives stormwater from properties which are susceptible to contamination prior to entering the stormwater network. This may result in failure to comply with discharge consent conditions.	Increase monitoring of system to trace infiltration to the source, and require property owners to repair.	Improved data on the sources of contamination to the system. Improvement of water discharge quality in to the environment over time.	\$200,000 per annum for monitoring and investigation programmes. Additional costs of repair to property owners.
	Accept infiltration will happen in the system, put post collection treatment in place.	This option comes at an extremely high financial cost to Council and will not encourage the correct behaviours at the source of the issue. This also increases the cost to all ratepayers when it is not the fault of the community but sporadic private properties.	\$42,000,000 per annum for capital and financing costs, and maintenance of treatment systems, over the life of the treatment devises. (Based on "Southland Industrial and Municipal Water Values" Invercargill Case Study, 2013)
	Do nothing.	Failure to comply with consent conditions would result in regulatory action by Environment Southland, and directive to fix.	Unknown cost to defend regulatory action, and for fines imposed by courts. Court imposed costs to correct may also apply.

Sewerage – Renewal Pipe Network

Issue and Consequence	Option	Implication	Cost
The oldest parts of the Invercargill sewerage network are reaching the end of useful life, and have increased risk of failure, public health issues, and of contamination of stormwater.	Prioritise pipe renewals by material, criticality, capacity and condition, at rate of depreciation. Renewal of non-critical pipes may be delayed until maintenance requirements and disruption to the end user become unacceptable.	High risk, high cost infrastructure is renewed and overall quality of the network is maintained or improved.	Increase renewal expenditure to \$2,563,000 per annum (depreciation allocation) by 2022.
	Replace pipe network on age and condition factors alone.	Structural integrity and maintenance would be maintained at current levels, or improved. Capacity issues and cross contamination of stormwater may take longer to resolve.	Increase renewal spend to \$2,563,000 per annum by 2022.
	Replace pipe network at twice the rate of depreciation to address contamination issues.	Additional cost to ratepayers would be a significant burden, and higher demand on the supply market may inflate prices. Cross contamination issues within private properties would not be addressed.	Increase renewal spend to \$5,126,000 per annum by 2022.

Sewerage – Discharge Consent Renewal 2029

Issue and Consequence	Option	Implication	Cost
Wastewater Treatment Plant Discharge Consents require renewal in 2025 for Bluff, and 2029 for Clifton.	Negotiate new consents for discharge to Coastal Marine Area.	Bluff: Impacts on receiving environment are low. Quality improvement may not be required. Invercargill: Nutrient removal likely to be required to reduce load on estuary.	Bluff: \$500,000 for consent renewal. Invercargill: \$10,000,000 plus for nutrient removal.
	Remove discharges from Coastal Marine Area. Pump Bluff effluent to Clifton (2025), and discharge Clifton effluent to land (2029).	Bluff: Discharge Consent not required. Receiving water improvement at Bluff, and additional effects at Clifton would both be minor. Clifton: Effects on estuary would reduce, and may be transferred to catchment in which land disposal area is located. Suitable disposal site has not been identified.	Bluff: \$3,100,000 capital plus \$164,000 per annum operational. Clifton: \$28,000,000 capital plus \$3,100,000 per annum operational.
	Do nothing.	Failure to renew consents would result in regulatory action by Environment Southland, and directive to fix.	Unknown cost to defend legal action, and for fines imposed by courts. Court imposed directives to upgrade may also apply.

Community Facilities – New Pool 2022

Issue and Consequence	Option	Implication	Cost
There is no longer adequate space at Splash Palace due to current demand on the facility; there is also an increase in disabled users at the facility. In consideration of population and demographic projections, the demand will only continue to increase with special regard to the ageing and disabled users.	Build additional FINA standard pool space, a 25m x 25m and 2m deep, with accessibility ramp and stair access.	This will increase the available space in the water at the facility and improve accessibility. It will reduce tension between pool users as space is currently at a premium. Potential to engage more national water based competitions and meets to the City with FINA approved competition area.	Capital Cost \$ 6,266,000 – \$3,313,000 loan funded by Council and \$3,000,000 of proposed grant funding. Ongoing operational increase required from rates of \$129,000 in 2020/2021 increasing to \$220,000 by 2027/28.
	Increase opening hours of the current facility.	May reduce overall demand, but demand peak times would remain the same (due to competing time demands on the customer).	Operational cost increase
	Increase admission costs.	This would reduce the demand for the facility, but would shift affordability to a wealthier demographic.	Unknown – could increase or decrease revenue to the facility.

Community Facilities – Anderson House 2019

Issue and Consequence	Option	Implication	Cost
Issue: Not up to EQ standard. Issue: Council has responsibility of stewardship for grounds, bush and buildings – expectations are that we continue to use the building for the public. Consequence: engage in public consultation to find out what the public want and what they are prepared to pay for.	Make the building safe to look at from the outside but not useable inside.	Public cannot use the inside of the building but it will be aesthetically pleasing as a background.	\$194,000
	Earthquake strengthen buildings to 33% - 67% and minimal work to open ground floor only.	Restricted use.	\$954,000 Capital Cost
	Strengthen, provide toilets, lift and regress but no fit out for restaurant and heritage displays.	Restricted use.	\$1,717,000 Capital Cost
	Complete all work as per Venture Southland's Report.	Very high cost and continual subsidisation.	\$1,916,000 Capital Cost

Roading – Safety

Issue and Consequence	Option	Implication	Cost
Invercargill has a number of unsafe road layouts and together with unsafe driving behaviours continues to cause too many fatal and serious crashes occurring, especially to vulnerable drivers.	A low-budget around 5% of the road renewals budgets and limit the projects which can be completed typically to one lane projects.	Limits to the speed in response to issues and problems wait until they are prioritised. Public do not see any improvements. Some major projects once identified can take 10 years to be enacted. A limited response to a key problem. Current budget range.	\$400,000 per annum increasing with inflation.
	A mid-range budget where two significant improvements are targeted each year.	A more proactive response. Still has limitations on budget but has greater ability to increase improvements in key areas, deliver two big improvements per year and reduce the deficiency listings.	\$600,000 per annum increasing with inflation.
	A high-range budget where the deficiencies identified are completed over 10 years with some projects having a lower priority.	A significant shift in project work needing skills and resources to ensure sound investment. Would require NZTA to also agree that the safety projects meet a national threshold of importance. Identified deficiencies would be removed in a more responsive manner.	\$1,200,000 per annum increasing with inflation.

Roading – Accessibility

Issue and Consequence	Option	Implication	Cost
Current infrastructure together with changing land use is restricting choices of travel for people around the city.	Low Budget Model \$4.0M – for resurfacing including chip sealing, asphaltting and rehabilitation works.	The renewals of the road pavement model has suggested that the optimum investment is the low model and that given the available budget that less can be wisely invested to achieve the output of roughness and road gutting required from the model. The users however seek smoother roads and this option continues to deliver similar statistical indicators (STE) results.	\$3,400,000 per annum increasing with inflation.
	Normal Budget Model \$4.3M – for resurfacing including chip sealing, asphaltting and rehabilitation works.	More investment would mean some roads are smoother earlier. NZTA are unlikely to agree to invest beyond the optimum model output.	\$4,300,000 per annum increasing with inflation.
	High Budget Model \$5.0M – for resurfacing including chip sealing, asphaltting and rehabilitation works.	Smoother roads in some targeted places which would allow wider access for heavier trucks earlier. Higher costs are not an optimum solution but potentially more aligned to customer wants (which may change when the cost impacts are tested). NZTA are unlikely to support or fund at the higher level making the extra investment much more expensive.	\$5,000,000 per annum increasing with inflation.

Special Project – Arts Centre Invercargill 2019

Issue and Consequence	Option	Implication	Cost																				
The Art Gallery was identified by the Southland Regional Development Strategy as a driver of inner city rejuvenation. The project identified there was a strong community interest in a dedicated Arts Centre with the opportunity to include and house the various local art collections.	Build a new art centre using a mixture of council, local and central government funds with the operation being delivered by council.	A new Art Centre would allow the collections to be better stored and would also assist the Southland Museum to refine its redevelopment to focus on areas other than art.	Council's estimated capital contribution Year 1 = 2019/20: <table border="1"> <tr> <td>Year 1</td> <td>\$200,000</td> </tr> <tr> <td>Year 2</td> <td>\$1,300,000</td> </tr> <tr> <td>Year 3</td> <td>\$1,200,000</td> </tr> <tr> <td>Year 4</td> <td>\$13,300,000</td> </tr> </table>	Year 1	\$200,000	Year 2	\$1,300,000	Year 3	\$1,200,000	Year 4	\$13,300,000												
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			Ongoing operational costs: <table border="1"> <tr> <td>Year 1</td> <td>\$168,000</td> </tr> <tr> <td>Year 2</td> <td>\$267,000</td> </tr> <tr> <td>Year 3</td> <td>\$374,000</td> </tr> <tr> <td>Year 4</td> <td>\$722,000</td> </tr> <tr> <td>Year 5</td> <td>\$1,269,000</td> </tr> <tr> <td>Year 6</td> <td>\$1,308,000</td> </tr> <tr> <td>Year 7</td> <td>\$1,325,000</td> </tr> <tr> <td>Year 8</td> <td>\$1,345,000</td> </tr> <tr> <td>Year 9</td> <td>\$1,385,000</td> </tr> <tr> <td>Year 10</td> <td>\$1,407,000</td> </tr> </table>	Year 1	\$168,000	Year 2	\$267,000	Year 3	\$374,000	Year 4	\$722,000	Year 5	\$1,269,000	Year 6	\$1,308,000	Year 7	\$1,325,000	Year 8	\$1,345,000	Year 9	\$1,385,000	Year 10	\$1,407,000
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	Status quo.	Non co-ordinated art activity and a regional missed opportunity.	No increased costs.																				

Special Project – Living Dinosaurs 2020

Issue and Consequence	Option	Implication	Cost
The tuataras current facility within the museum has a couple of issues. The presence of tuatara are a risk to the required environment of the museum collection which is significantly different to that of the tuatara and therefore they require separation. The current space that the tuatara are in requires significant renewals to improve appearance and prevent corrosion. DOC are looking for a permanent home for the kakapo chick rearing, the current temporary lab is not fit for purpose. The foyer at SMAG requires development for a seamless flow from SMAG reception to Living Dinosaur experience. Create tourism attractions in Invercargill. More tourists will visit Invercargill and stay for multiple days.	Renew current tuatara enclosure remaining in the Museum Building.	The tuatara roof requires renewal as it is believed that the degrading of the roof surface is reducing the success of the breeding programme. The climatic atmosphere and feeding requirements of the tuatara are in conflict with requirements for the Museum collection, posing a higher risk than desired.	Estimated cost is \$400,000.
	Build an enclosure beside the Southland Museum and Art Gallery suitable for an enhanced tuatara experience. Tuataras have a purpose built facility and continued success of the tuatara breeding programme.	<ul style="list-style-type: none"> Create tourism attractions in Invercargill. More tourists will visit Invercargill and stay for multiple days. A significant taonga species whose 'home' is Murihiku are celebrated. Risk to the tuatara and museum collection is reduced. The feasibility study indicates this can be cash positive from year one if partly co-funded or from year six if fully loan funded. 	Estimated capital cost is \$5M loan funded. Ongoing operational impact to the rates in Year 2019/20 – \$100,000. From Year 2020/21 there is an estimated \$260,000 contribution to the Museum Activity.
	Build an enclosure beside the Southland Museum and Art Gallery suitable for an enhanced tuatara	<ul style="list-style-type: none"> Create tourism attractions in Invercargill. More tourists will visit 	Estimated capital cost is \$5M loan funded. Ongoing operational impact to the rates in Year 2019/20

Issue and Consequence	Option	Implication	Cost
	<p>experience; include facilities for rearing kakapo chicks which will also be a highly desirable attraction.</p> <p>Tuataras and Kakapō have a purpose built facility, continued success of the tuatara breeding programme.</p>	<p>Invercargill and stay for multiple days.</p> <ul style="list-style-type: none"> Two significant taonga species whose 'home' is Murihiku are celebrated. Risk to the tuatara and museum collection is reduced. The feasibility study indicates this can be cash positive from year one if partly co-funded or from year six if fully loan funded. Purpose build facility for rearing of Kakapo chicks – they currently have no fixed facility. The chick will be present 10 weeks of the year every second, third or fourth year, dependant on their natural food source and success of breeding. 	<p>– \$100,000.</p> <p>From Year 2020/21 - there is an estimated \$260,000 contribution to the Museum Activity.</p> <p>Cost of Kakapō funded by others (Sponsorship of project, income and ongoing operational cost responsibility of DOC)</p>

Special Project – Storage Facility 2025 and SMAG Re-development 2028

Issue and Consequence	Option	Implication	Cost
<p>Southland Museum and Art Gallery has identified a need to provide better public areas and exhibition space, seismic strengthening and a weatherproof roof.</p>	<p>Remove the museum collection and art collection to a nearby purpose built building for separate storage of regional museum collections.</p>	<p>Reduced risks to heritage of Southland by storing collection objects in optimum conditions.</p> <p>Heritage of Southland is catalogued in a common system.</p>	<p>Estimated Council Capital Grant contribution \$8,600,000.</p>
<p>The Museum and collection is needed to be relocated to a facility designed for purpose.</p>	<p>Redevelop the existing pyramid building.</p>	<p>Building will be more functional, attractive to visit and increase seismic capacity.</p> <p>Storage of collection will be off current site, allowing the Pyramid to have increased display and operational space.</p>	<p>Estimated Council Capital Grant contribution \$10,800,000 (not including Storage Facility).</p>
	<p>Build additional areas associated with the development of an Arts Centre in the Invercargill.</p>	<p>One facility delivering a number of outcomes co-located. Additional costs in an Inner City location where land is more expensive.</p>	<p>Costs yet to be identified.</p>

Changes to Levels of Service

Levels of Service (LOS) for asset groups included within this Strategy are not planned to have significant changes implemented unless noted below. During the Long-term Plan (10 years) and the Activity Management Plan (AMP) (30 years), ongoing consideration of the LOS will be undertaken and where changes are sought these will be included in future plans. This strategy looks to manage our existing assets at the same level of service. As Options are selected within the LTP process, some changes can occur. Where these are different from the recommended programmes within the AMP this document would need adjustment.

Council intends to maintain and renew its infrastructure assets to ensure that the assets remain in such a condition to continue to deliver a reliable and similar level of service to that currently being provided.

Required significant LOS adjustment

- For stormwater the proposed Southland Water and Land Plan will require improvements to stormwater quality

Propose options for LOS changes

- Additional pool at Splash Palace
- Alternative water supply
- Living Dinosaurs display
- ACI (Art Centre) development – museum changes

Our Approach to Asset Management

Council has recognised that to provide a better service to the community we must strengthen our approach to asset management and the systems we use. It must have sound evidence based information for decision making, the risks faced must be quantified in a consistent and formal way, and we must work closely as a coordinated team within Council across all departments.

We will deliver asset management by:

Statutory and regulatory requirements

Asset Managers ensure that all Statutory and Legislative requirements are known and are covered by the set levels of service which are monitored. Regular reports on performance against these targets are made through the Council Committees and Council structures.

Corporate wide approach to Health and Safety systems for all employees and contractors working on assets is in place and managed outside this strategy.

Asset Management Policy and Asset Management Strategy

Council must continue to maintain suitable governance and guidance documents in the form of policies and strategies to direct the delivery of asset management. These documents are considered by Council and when adopted they set the forward governance framework for staff to operate within. These documents also provide a high level plan which Council should expect itself to meet and exceed through having systems and processes which aid the delivery. These areas may include the level of maturity Council sets for each asset group, how it is resourced, and the level of expertise it holds in-house. These documents will also set the commitment to funding renewals and other activities, and need to be aligned and referenced when reviewing budgets or financial decision making.

Asset Management Information Systems (AMIS)

Council will have systems which are capable of storing asset information and data in a coordinated and managed way, which is able to assist with the stewardship of owning assets.

These systems will be nationally recognised and have a low Information Management operational risk.

Currently two systems are utilised being Infor IPS (for piped network, buildings and Parks) and RAMM for roading. Both are recognised systems and are capable of delivering analytical processes to assist in the development of advanced asset management solutions.

RAMM has been used by Council for nearly 30 years and has high data availability. Infor IPS is a suitable product which is currently being implemented and data is now being consolidated into the package.

Systems such as this need to be adequately resourced and funded.

Progressively improve asset evidence

All assets are collected and maintained accurately using Asset Management Information Systems (AMIS) which includes:

- Asset condition
- Performance
- Age and expected life
- Value and cost to replace
- Criticality

A common criticality framework is planned to be developed which considers risk and resilience in decisions. The future use of predictive modelling will be developed and used to implement preventative maintenance, improving predictable renewal programmes when and where data is available, and if it is not available, start to gather the data which is required.

Operate in a prudent manner

When assets are added to existing portfolios, lifecycle management including operational costs are considered.

Service will be regularly reviewed to ensure that they are being delivered effectively, efficiently and to best practice. Structures will also be reviewed (Section 17A of LGA) to ensure that any opportunities are understood and changes implemented.

When procuring operational and/or maintenance services (in house and outsourced) or renewal works, value for money is attained through competitive procurement processes aligned to best practice. Generally an open market process is used for contracts with key outcomes being whole of life cost, contractor performance, and Health and Safety.

Financial performance will be monitored and reported against Annual Plan Budgets aligned with six weekly reports to Council.

Renew in a financially prudent manner

Existing assets are maintained and networks are only extended in accordance with the District Plan, Activity Management Plans, or where Council resolves on a case by case basis. The strategy suggests that we need to maintain and manage existing assets and not look to grow or expand those services.

Risk, cost, whole of life operating costs and benefits will be considered before accepting any new privately funded assets constructed in association with property development.

Financial inputs are a key element to decision making and working closely with Council's finance teams is important. Making evidence driven sound investment decisions through the use of advanced asset management and business case analysis is the direction planned.

An organisational approach is taken to prepare for the Long-term, Annual and Activity Management Plans. This preparation prioritises renewal projects based on optimised decision making, major expenditure decisions prioritised in order from the highest benefit cost ratio with consideration to condition, criticality, performance and non-asset solutions are considered.

Valuations of all assets is planned to be undertaken during or prior to the review of the Activity Management Plans.

This strategy in conjunction with the Financial Strategy looks to develop the renewal funding level over a 10 year window to a level which is consistent with the calculated depreciation (unless

agreed otherwise such as in footpaths). This approach utilises increasing rates funding, loan and risk to balance the financial demands.

The approach taken in Water is to focus renewals around criticality. Supply pipelines which are specific assets delivering the water in bulk and are not networked or have alternatives are key to being able to deliver a service and if they fail they disrupt thousands of users and a “system” failure occurs. Their renewals are significant and large expensive projects are planned to occur and be complete no later than end of expected life. Some repairs take days and could have consequences if multiple simultaneous failures occurred, meaning no water to distribute and reservoirs run dry. The risk of a failure in these assets is too high and an unacceptable community risk. Non critical infrastructure however have many connected options and when a failure occurs, typically disrupts only a few customers, is easily repaired and have low cost impacts. These would be monitored and only renewed after evidence of pending significant (rendering wider level of service disruptions) failure. This evidence may be several small failures in a street, area or specific material type. Pipes would be run to their most optimistic life age and beyond, which delivers maximum use of the asset and best value for money. This is a significant shift in strategy from the past. This approach allows for a better balanced depreciation funded focus but develops an understood and acknowledged risk profile for Council which can then be assessed and managed through financial and investment tools and techniques.

Levels of service and demand

Levels of service are consulted on and agreed through the Long-term Plan. This is the best time to review demand forecasts, and these are documented in AMPs. We seek to understand the customer and community requirements for level of service and identify any gaps or demands for change by:

- Monitoring requests for service
- Understanding the utilisation and capacity of our infrastructure
- Using satisfaction surveys and/or specific focus groups

Council endeavour to ensure that levels of service are set at agreed sustainable levels and moving forward any change to level of service will have an evidence based decision (benefit cost ratio or similar assessment factor) developed to demonstrate the impact of the changes.

Improve the asset management system

Activity Management Plans are developed to agreed maturity levels as outlined within the Asset Management Policy. This Policy is reviewed as part of the Long-Term Plan development and more frequently if required.

Each activity plan has been developed using a consistent framework approach with similar sections and layouts. This has been based on Treasury Better Business Case Model. This approach assists to ensure all components are developed consistently, has similar and high visibility of key areas for readers to compare activities and uses techniques developed for evidence based decision making. This is the first cycle of the plans in this format and will improve with future iterations.

Activity Plans have a 30 year minimum horizon for planning, particularly for renewals. The piped networks, bridges and kerbing, and building assets however have assets which have lives in excess of the plan length of 30 years. These assets, sometimes up to 100 years are considered (through analysis) over their whole of life periods and the AMP generally only reports the 30 year window. Technical analysis over the whole of life is used and wherever possible modelled for impacts. Should a significant impact be identified just beyond the AMP minimum report period, it will be included to show that material aspect of the future planning cycle.

Each plan has an improvement plan and proposed actions are a key area where future advancement is recognised to occur. The Improvement Plans and Actions are reviewed and ideally reported to the Executive Leadership Team.

The wider Asset Teams co-ordinate to ensure common direction and actions are known and best practice is acknowledged and shared. Where available resources are shared. Each plan has a specific owner and responsibility.

The Corporate Risk framework is under review with all plans having a specific risk register which is actively maintained and evaluated to reduce impacts.

Sustainability and Resilience

Environmental effects are considered in operational and renewal considerations to reduce negative impacts throughout the process where possible. Emerging technologies will be considered when appropriate for sustainability and if they can deliver service improvements. Both resilience and vulnerability are considered through corporate lifeline projects and as these plans are strengthened the inputs will be added to current AMPS.

Resilience is planned to be reviewed and improved along with the Corporate Risk framework, which includes contingency planning.

How Are We Going To Fund Infrastructure?

This Strategy develops the asset activities which are needed to be planned for and delivered over at least the next 30 years. This strategy needs to work and interact with the Financial Strategy and through these connections develop methods and options for the planned works to be funded in the short and long term in a sustainable way.

Council looks to use a mix of annual rates funding, dividends from investments, user pays, subsidies and other sources to balance the financial demands from assets with the ability and willingness from ratepayers and users to pay for them.

By getting infrastructure spending right, Council can assist our community and economy in continuing to thrive. This strategy will assist both Council and the Community to make well-informed decisions regarding the future development of any assets, as well as the maintenance and renewal of our existing assets.

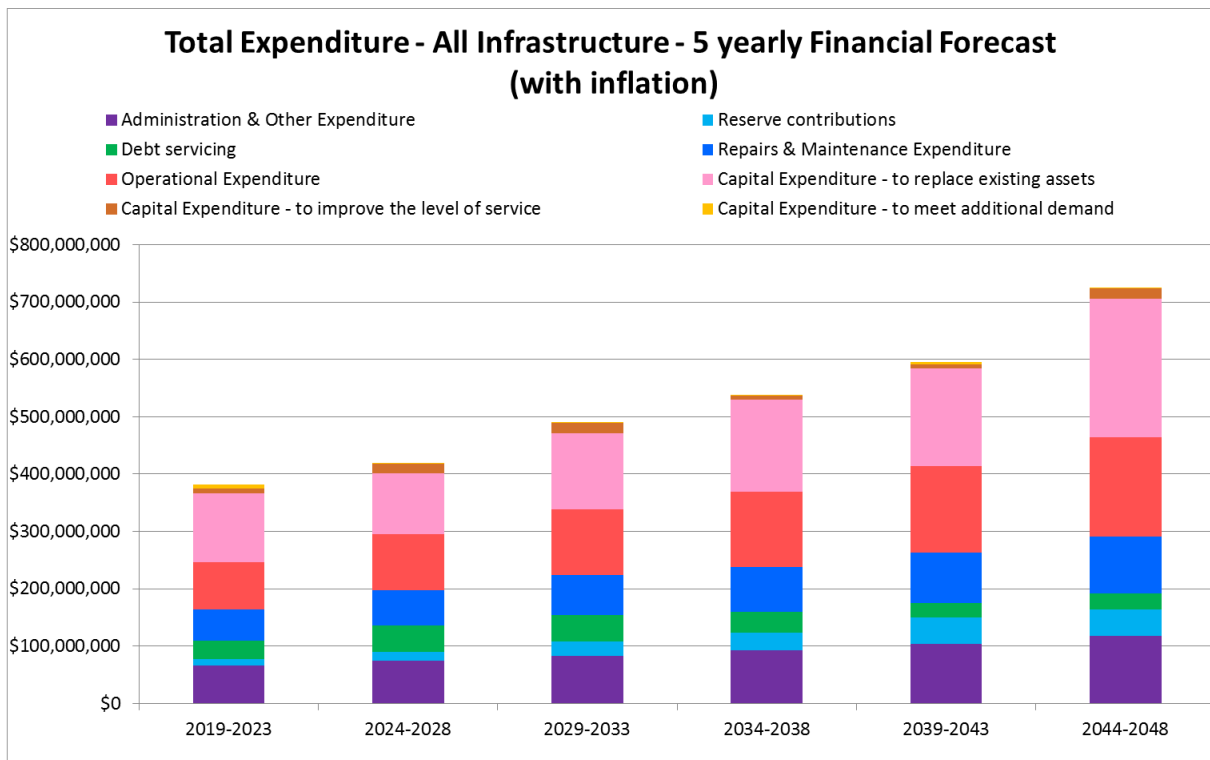
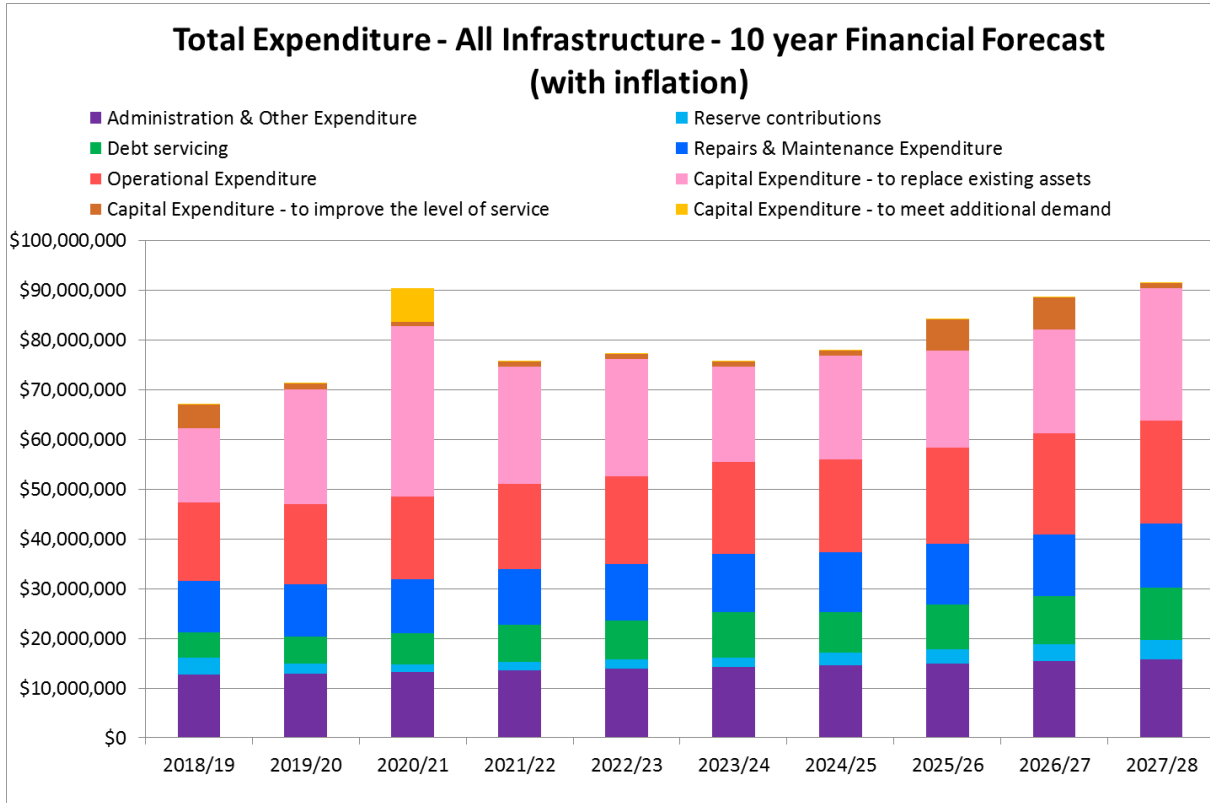
The Financial Strategy and Long-term Plan sets out which of the options are selected for each asset to pay for their activity.

Council believes it has a strong financial position which allows a 'safety net' if renewals demands are required sooner than anticipated and planned by the strategy timing. Council can increase debt in the short term to meet increasing costs.

Long Term Financial Estimates

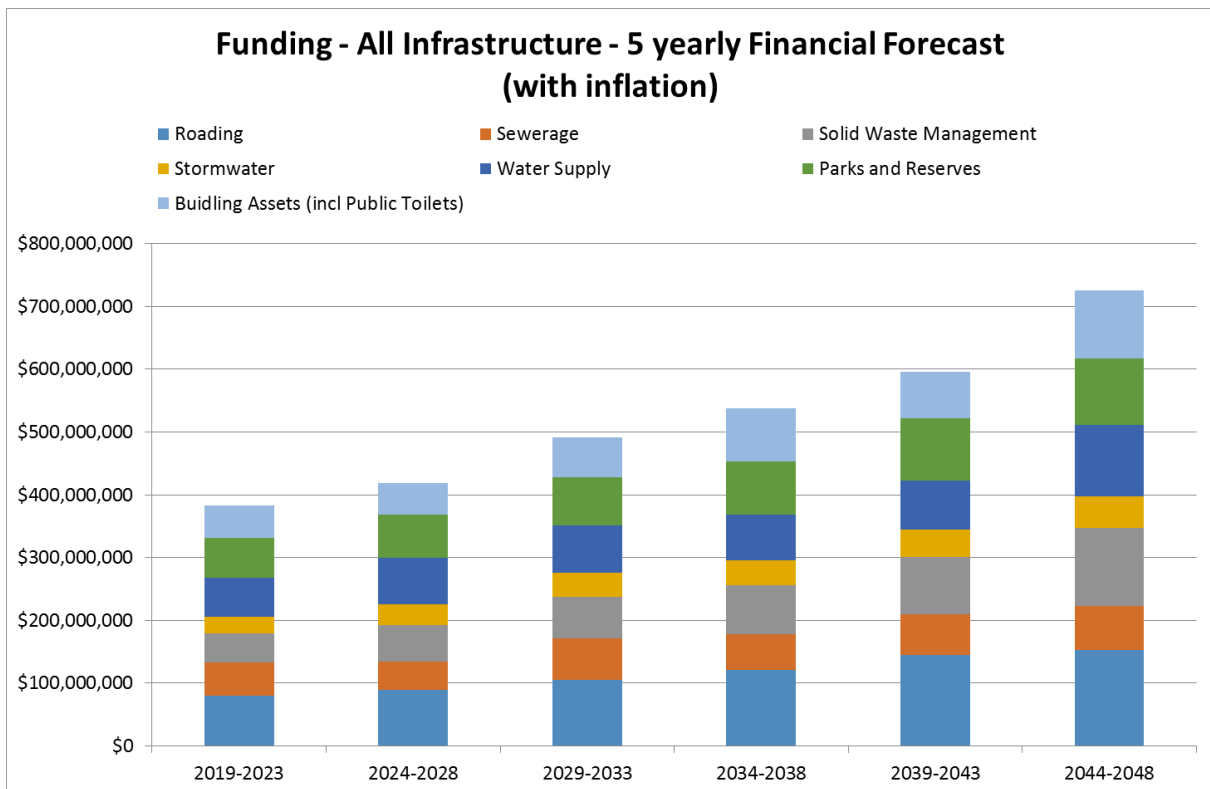
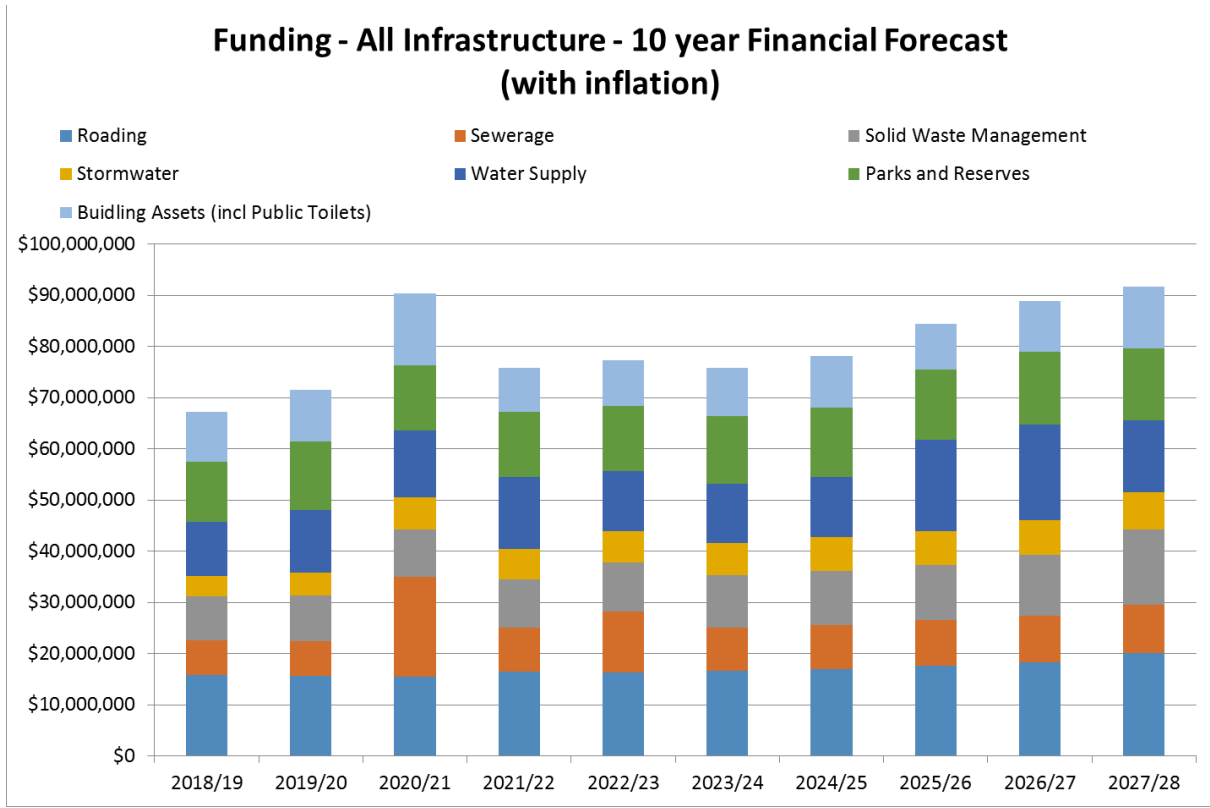
Total Infrastructure Expenditure by Type

The two graphs below show, in detail for the first 10 years and then in five year blocks, the total infrastructure expenditure anticipated (excluding Special Projects) over the next 30 years.



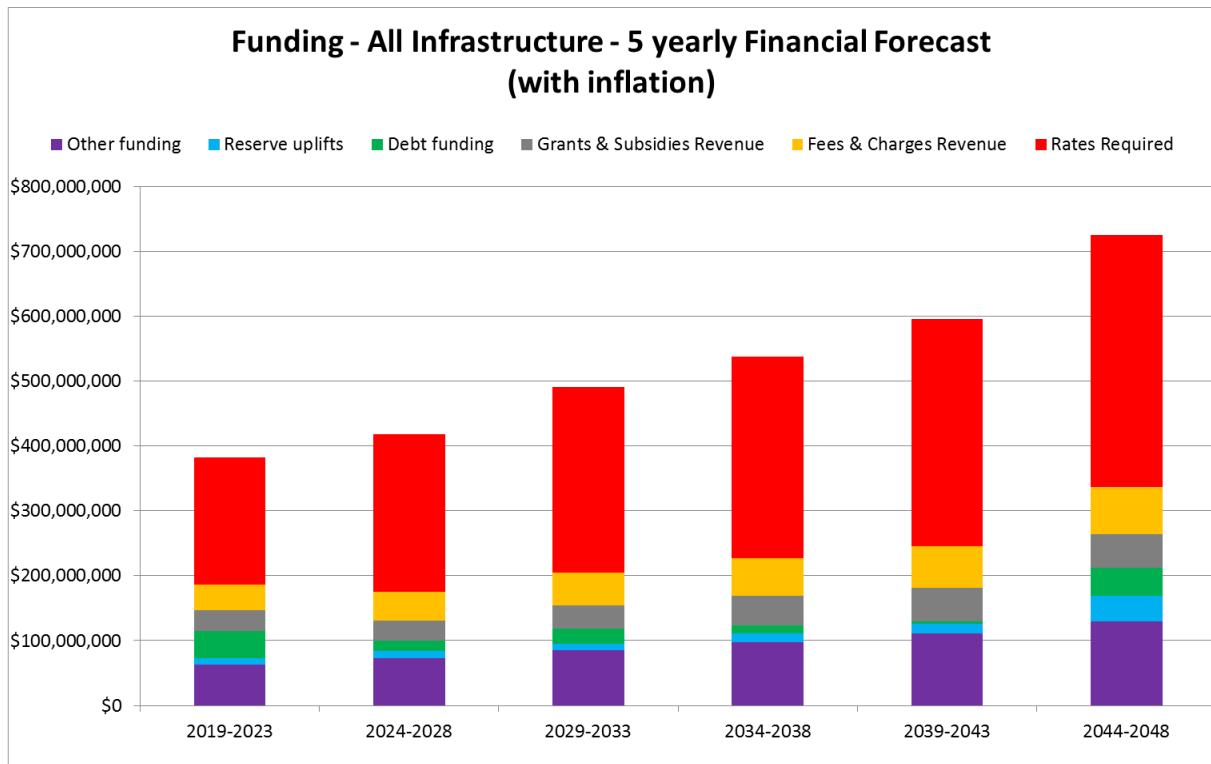
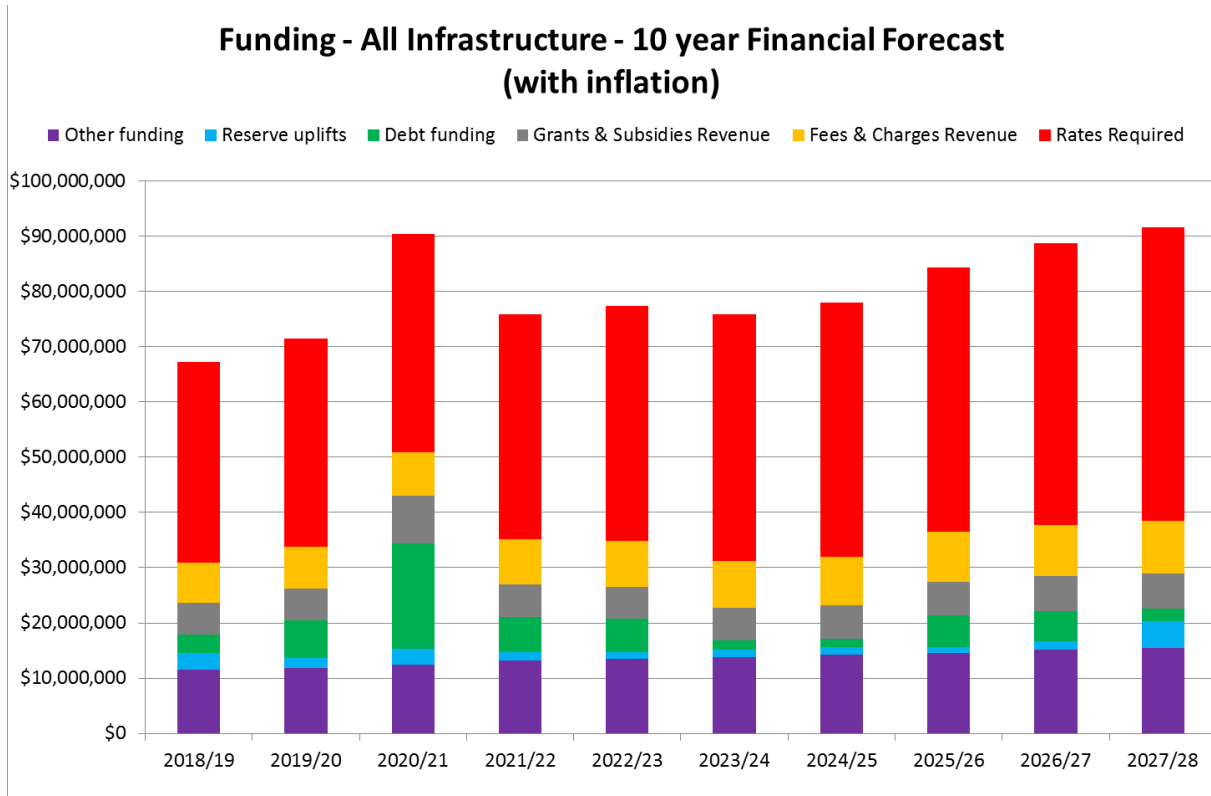
Total Infrastructure Expenditure by Asset Group

The two graphs below (in detail for the first 10 years and then in five year blocks) show the total infrastructure funding anticipated (excluding Special Projects) over the next 30 years.



Total Infrastructure Funding Forecast

The two graphs below (in detail for the first 10 years and then in five year blocks) show the total infrastructure funding anticipated (excluding Special Projects) over the next 30 years.



Total Infrastructure Financials

Below are details for the first 10 years, of the total infrastructure financials anticipated (excluding Special Projects) over the next 10 years.

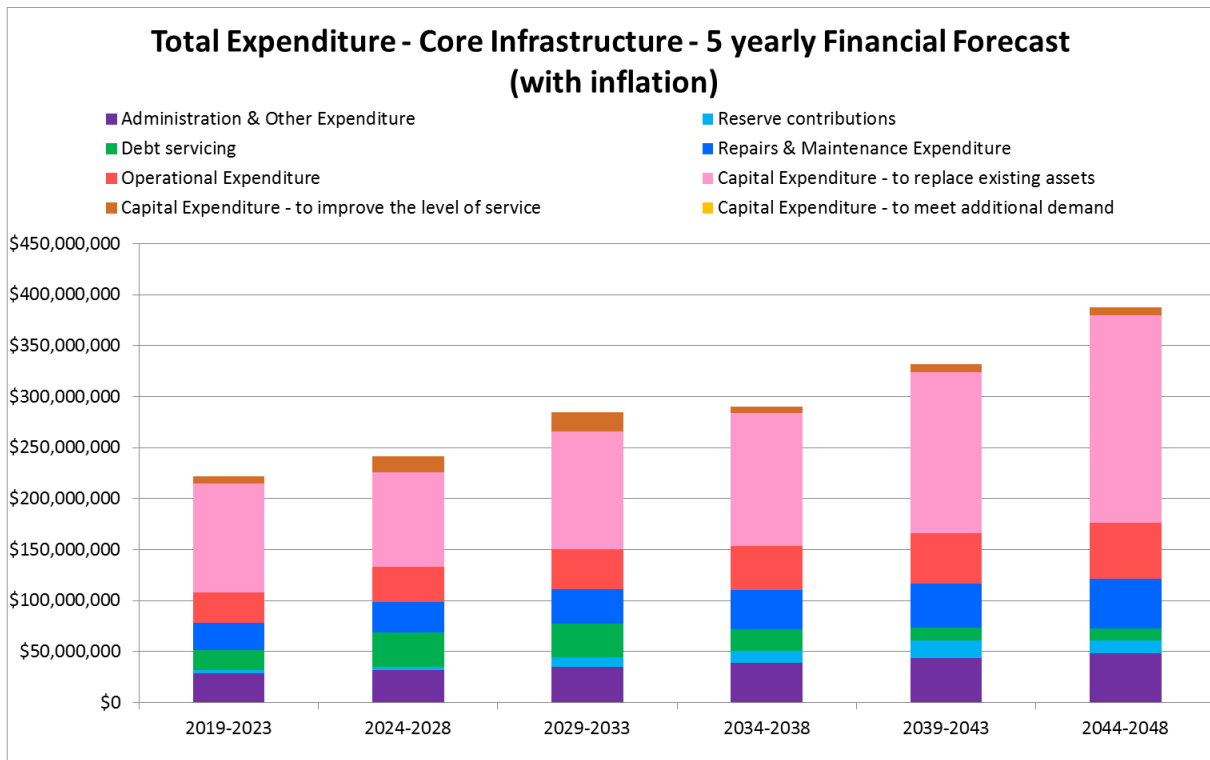
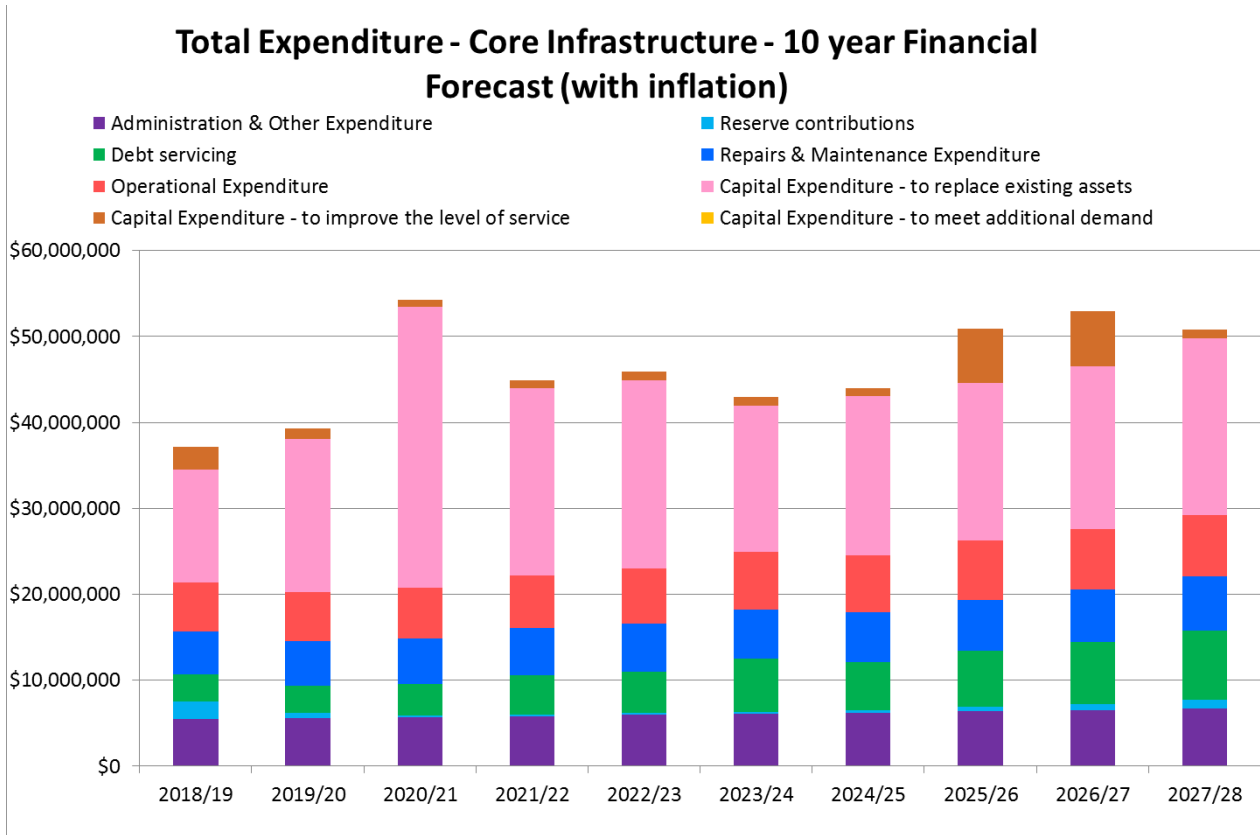
	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
	LTP	LTP	LTP	LTP	LTP	LTP	LTP	LTP	LTP	LTP
Internal Revenue	11,175,799	11,433,961	12,027,105	12,676,655	13,071,686	13,374,298	13,699,077	13,981,754	14,575,009	14,968,535
Fees & Charges Revenue	7,365,407	7,620,448	7,883,146	8,153,714	8,341,250	8,577,784	8,783,650	9,003,242	9,237,326	9,486,734
Grants & Subsidies Revenue	5,741,152	5,749,861	8,742,580	5,999,345	5,777,551	5,796,974	5,953,604	6,084,504	6,275,183	6,411,254
Rates Revenue	0	0	0	0	0	0	0	0	0	0
Financial Revenue	403,323	438,799	450,590	463,305	475,873	488,765	500,503	513,016	526,354	540,566
Total Revenue	24,685,681	25,243,069	29,103,421	27,293,019	27,666,359	28,237,820	28,936,834	29,582,515	30,613,872	31,407,088
Internal Expenditure	9,318,423	9,474,721	9,727,071	9,945,838	10,169,335	10,399,203	10,646,800	10,906,598	11,343,394	11,641,744
Staff Expenditure	1,322,310	1,348,843	1,375,908	1,403,516	1,431,725	1,460,501	1,489,905	1,519,950	1,550,653	1,582,030
Administration Expenditure	2,161,857	2,165,503	2,210,060	2,270,752	2,324,891	2,380,318	2,437,446	2,498,382	2,563,340	2,632,550
Financial Expenditure	2,015,971	2,219,230	3,022,547	3,583,331	3,723,234	4,025,858	3,824,147	3,744,594	4,032,214	3,840,855
Grants & Subsidies Expenditure	0	0	0	0	0	0	0	0	0	0
Repairs & Maintenance Expenditure	10,373,776	10,633,885	10,867,831	11,130,141	11,401,422	11,648,015	11,927,567	12,237,482	12,543,626	12,882,304
Operational Expenditure	15,679,580	16,007,954	16,596,704	17,208,768	17,682,212	18,541,340	18,711,787	19,244,071	20,349,298	20,849,309
Depreciation Expenditure	25,353,250	25,919,770	26,549,002	27,620,514	28,260,671	28,915,044	29,620,293	30,372,321	31,168,171	32,013,797
Total Expenditure	66,225,167	67,769,906	70,349,124	73,162,860	74,993,490	77,370,280	78,657,945	80,523,398	83,550,698	85,442,589
Operating Surplus / (Deficit)	(41,539,486)	(42,526,837)	(41,245,703)	(45,869,841)	(47,327,131)	(49,132,460)	(49,721,111)	(50,940,883)	(52,936,826)	(54,035,501)
Capital Expenditure - to meet additional demand	238,303	171,662	6,804,184	170,333	131,835	166,531	182,536	110,783	290,473	197,148
Capital Expenditure - to improve the level of service	4,736,152	1,193,948	866,405	916,804	937,891	959,462	982,489	6,284,861	6,448,267	1,061,132
Capital Expenditure - to replace existing assets	15,010,361	23,183,233	34,189,781	23,668,892	23,665,428	19,147,644	20,920,895	19,665,447	20,740,325	26,494,756
Capital Expenditure	19,984,816	24,548,844	41,860,370	24,756,029	24,735,153	20,273,637	22,085,921	26,061,091	27,479,065	27,753,036
Proceeds from Asset Disposal	(25,500)	(26,061)	(26,634)	(27,220)	(27,846)	(28,487)	(29,171)	(29,900)	(30,677)	(31,505)
Debt movements	(248,273)	(3,552,694)	(15,747,189)	(2,453,080)	(2,111,047)	3,418,501	2,935,837	(509,824)	184,698	4,405,600
Reserve movements	455,956	127,167	(1,312,648)	105,470	777,856	639,129	1,056,155	1,778,904	1,743,608	(911,756)
Cash Back Depreciation	(25,353,250)	(25,919,770)	(26,549,002)	(27,620,514)	(28,260,671)	(28,915,044)	(29,620,293)	(30,372,321)	(31,168,171)	(32,013,797)
Rates Required	36,353,235	37,704,323	39,470,600	40,630,526	42,440,576	44,520,197	46,149,561	47,868,832	51,145,348	53,237,079

Below are details in five year blocks, of the total infrastructure financials anticipated (excluding Special Projects) over the next 30 years.

	2019-2023	2024-2028	2029-2033	2034-2038	2039-2043	2044-2048
	LTP	LTP	LTP	LTP	LTP	LTP
Internal Revenue	60,385,206	70,598,672	81,916,236	94,067,455	107,656,964	125,147,270
Fees & Charges Revenue	39,363,965	45,088,735	50,960,166	57,376,046	64,599,685	72,732,779
Grants & Subsidies Revenue	32,010,488	30,521,518	36,092,233	45,730,972	51,858,406	52,034,795
Rates Revenue	0	0	0	0	0	0
Financial Revenue	2,231,890	2,569,203	2,903,772	3,269,357	3,680,969	4,144,403
Total Revenue	133,991,549	148,778,129	171,872,407	200,443,830	227,796,024	254,059,246
Internal Expenditure	48,635,389	54,937,740	60,624,079	67,966,447	76,482,611	86,913,789
Staff Expenditure	6,882,302	7,603,040	8,401,007	9,281,653	10,254,744	11,330,004
Administration Expenditure	11,133,063	12,512,036	14,141,347	15,921,741	17,926,287	20,183,205
Financial Expenditure	14,564,313	19,467,669	18,657,254	12,029,248	10,677,091	9,528,694
Grants & Subsidies Expenditure	0	0	0	0	0	0
Repairs & Maintenance Expenditure	54,407,055	61,238,994	69,585,186	78,345,954	88,209,702	98,765,898
Operational Expenditure	83,175,217	97,695,806	113,989,438	131,472,756	151,321,279	172,807,766
Depreciation Expenditure	133,703,208	152,089,626	172,052,163	193,875,542	218,502,208	246,261,016
Total Expenditure	352,500,547	405,544,910	457,450,473	508,893,340	573,373,922	645,790,371
Operating Surplus / (Deficit)	(218,508,998)	(256,766,781)	(285,578,067)	(308,449,510)	(345,577,899)	(391,731,125)
Capital Expenditure - to meet additional demand	7,516,317	947,471	1,149,513	1,591,354	4,753,469	1,038,073
Capital Expenditure - to improve the level of service	8,651,200	15,736,211	18,351,717	6,417,759	7,225,754	18,549,234
Capital Expenditure - to replace existing assets	119,717,695	106,969,068	133,469,810	160,334,130	169,602,474	241,642,096
Capital Expenditure	135,885,212	123,652,749	152,971,041	168,343,243	181,581,696	261,229,403
Proceeds from Asset Disposal	(133,262)	(149,740)	(169,239)	(190,546)	(214,536)	(241,546)
Debt movements	(24,112,283)	10,434,812	4,779,603	11,672,436	10,913,054	(25,372,813)
Reserve movements	153,800	4,306,040	14,485,030	16,420,077	30,760,452	7,074,153
Cash Back Depreciation	(133,703,208)	(152,089,626)	(172,052,163)	(193,875,542)	(218,502,208)	(246,261,016)
Rates Required	196,599,259	242,921,017	285,592,339	310,819,178	350,116,358	388,159,307

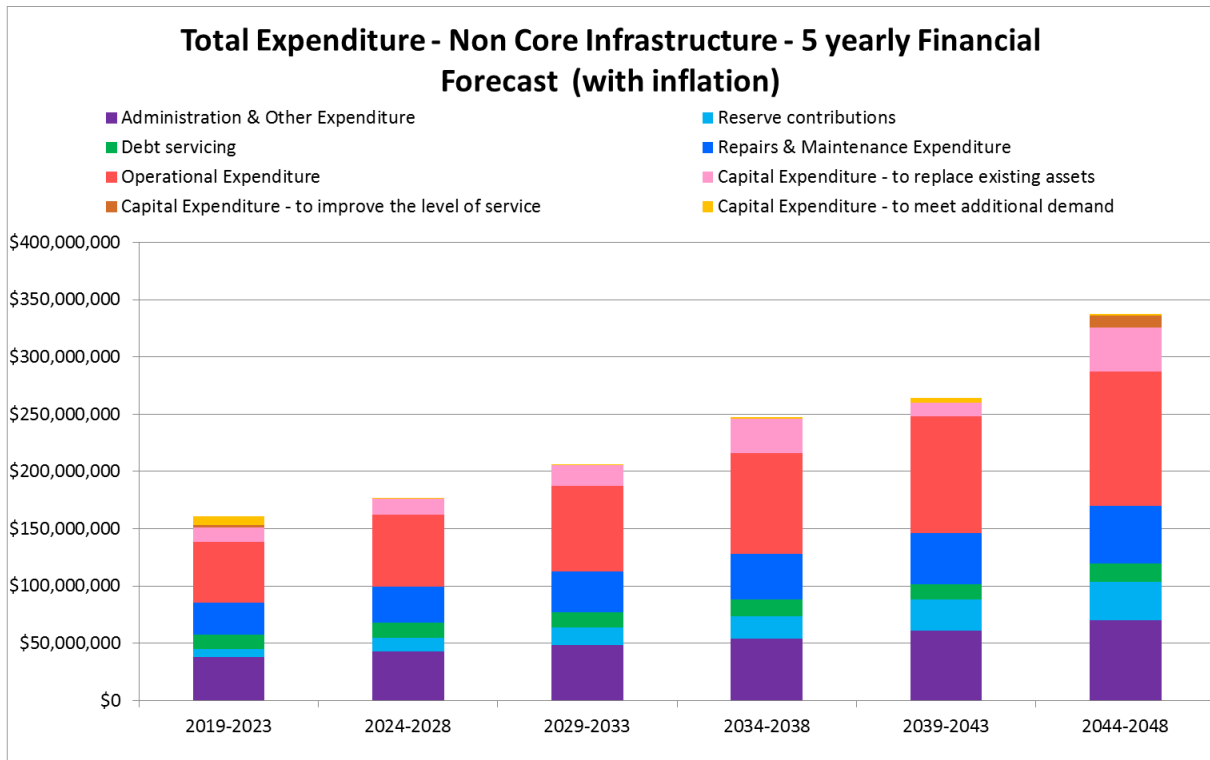
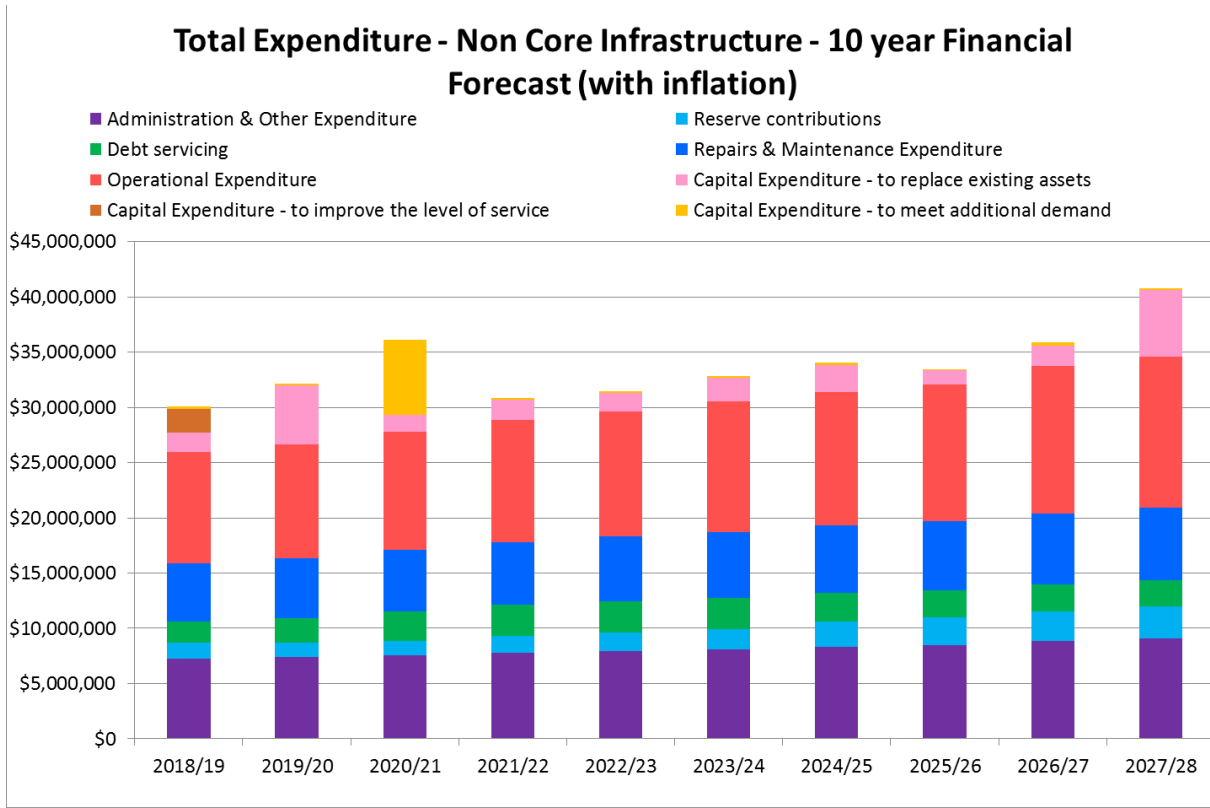
Core Infrastructure Expenditure by Type

The two graphs below show, in detail for the first 10 years and then in five year blocks, the core infrastructure expenditure anticipated over the next 30 years.



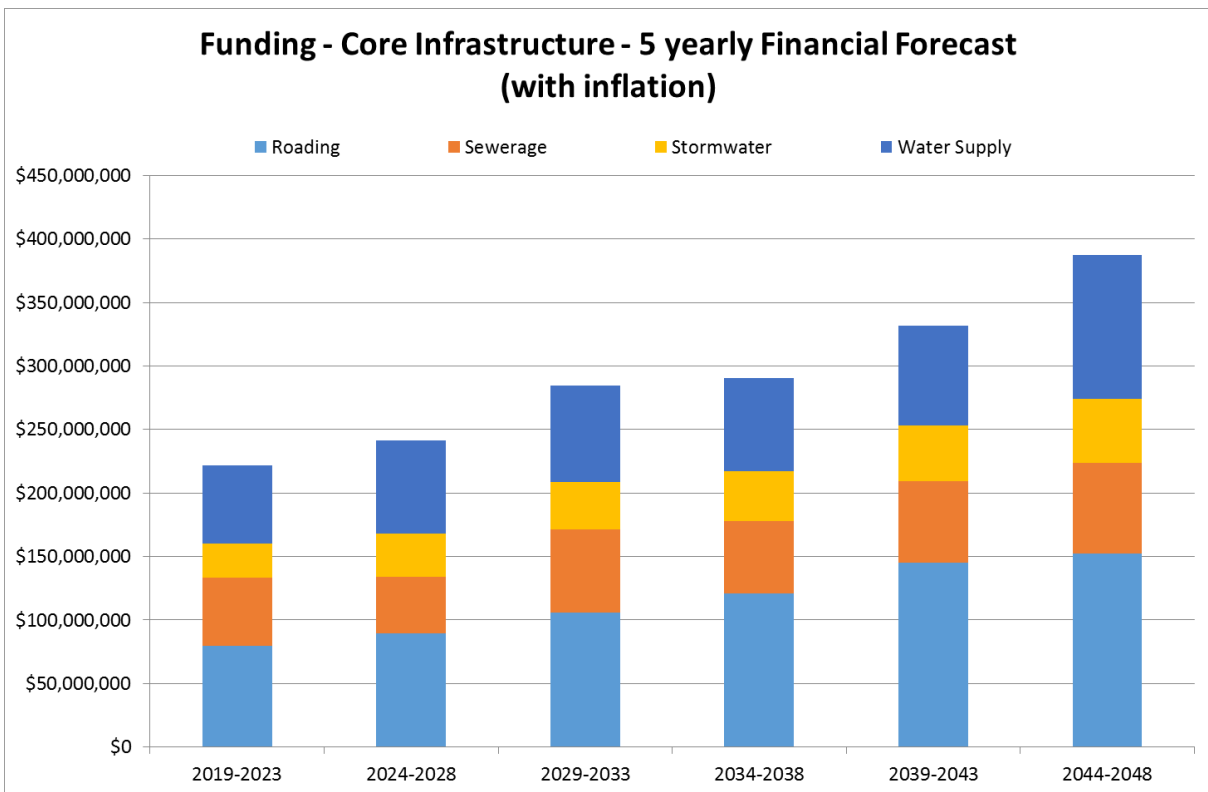
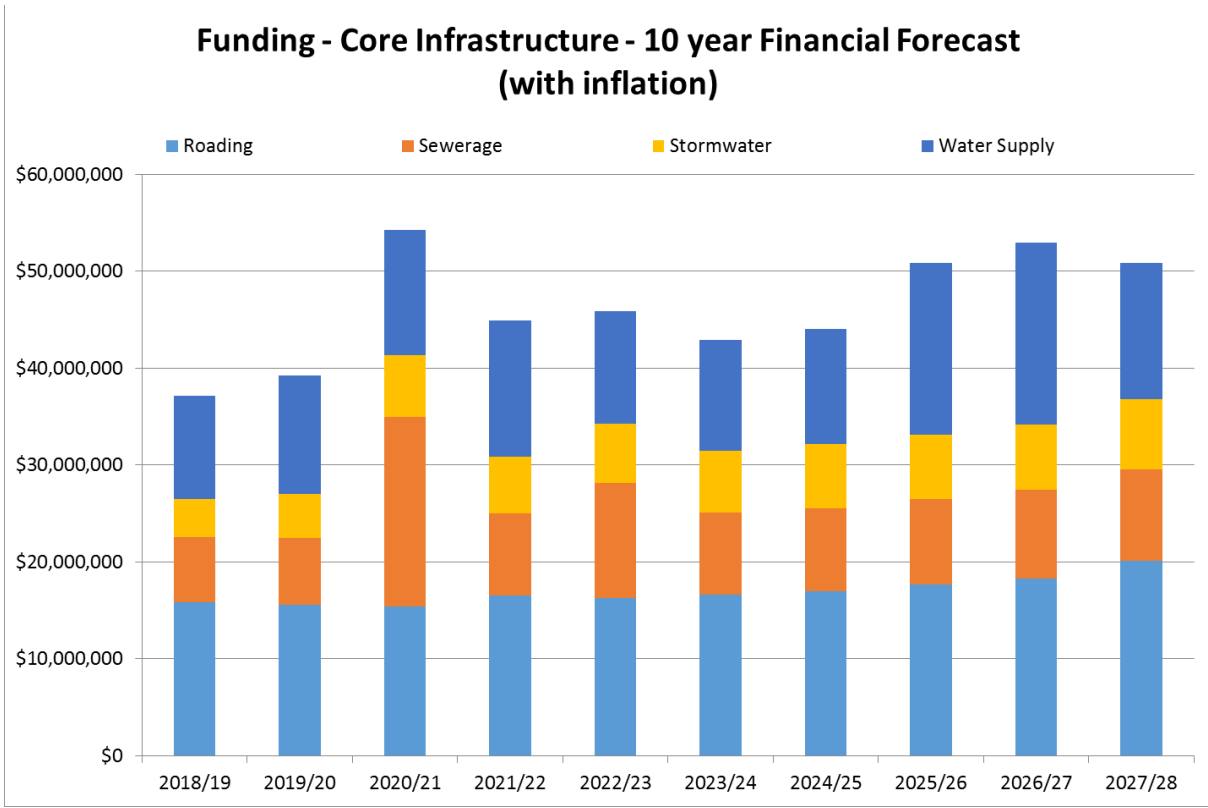
Other Infrastructure Expenditure by Type

The two graphs below show, in detail for the first 10 years and then in five year blocks, the other infrastructure expenditure anticipated (excluding Special Projects) over the next 30 years.



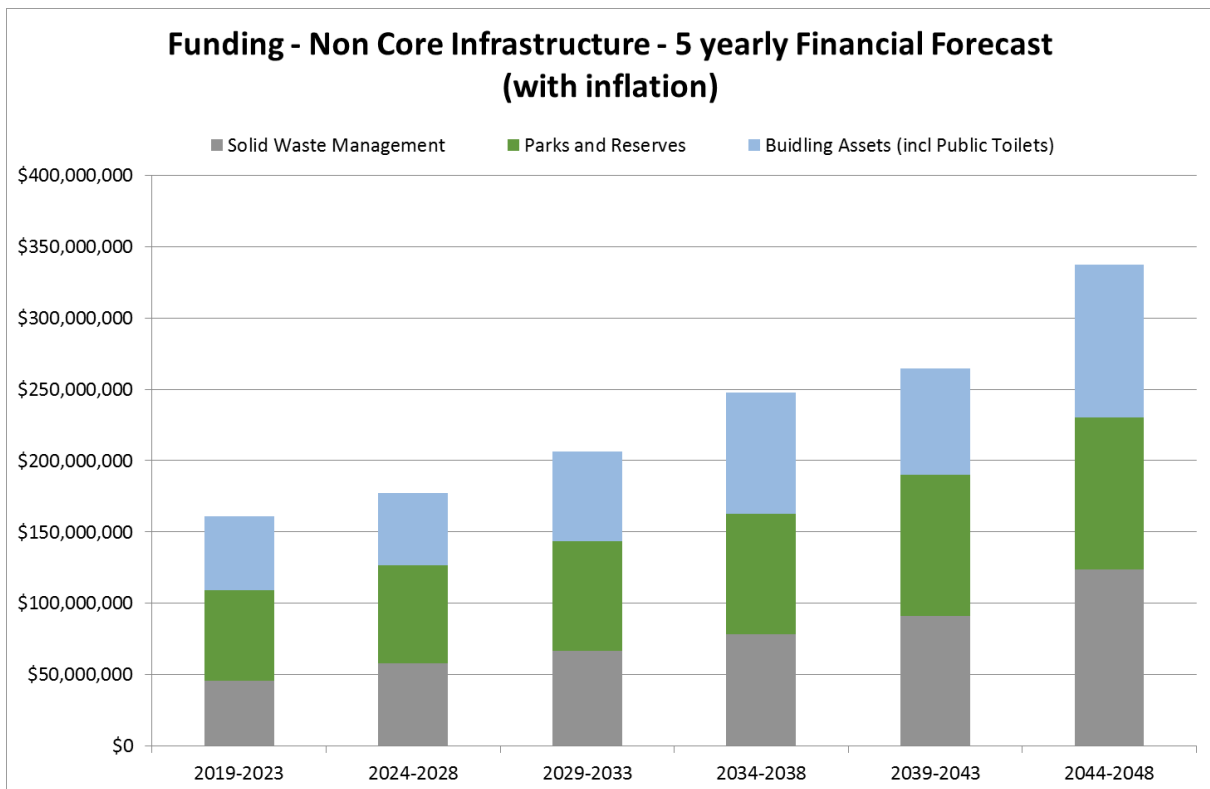
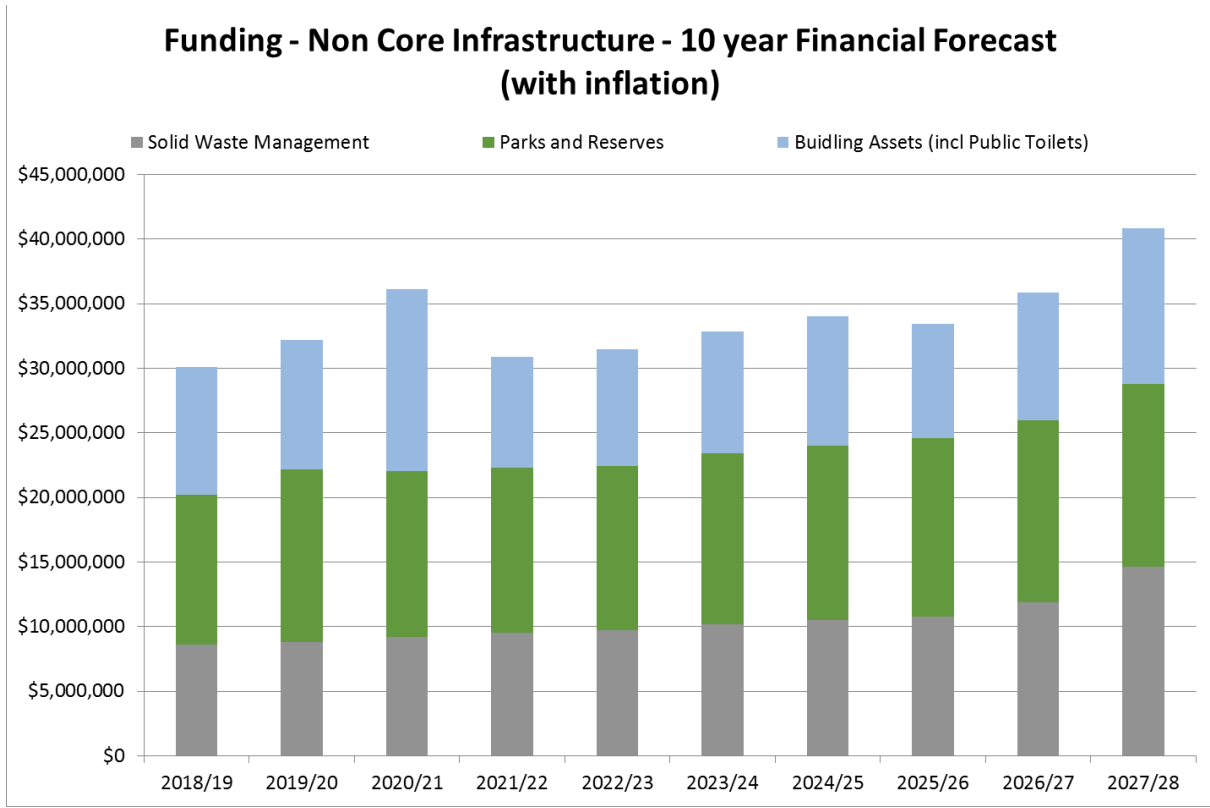
Core Infrastructure Expenditure by Asset Group

The two graphs below (in detail for the first 10 years and then in five year blocks) show the core infrastructure funding anticipated over the next 30 years.



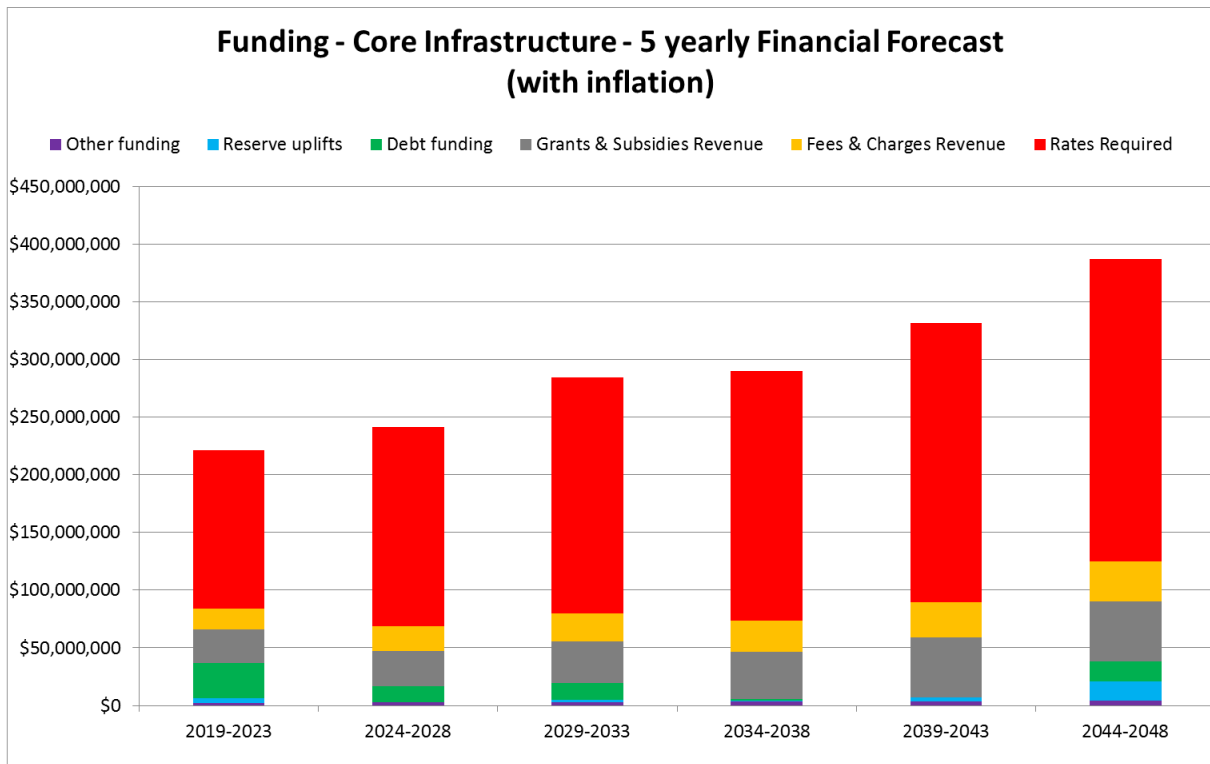
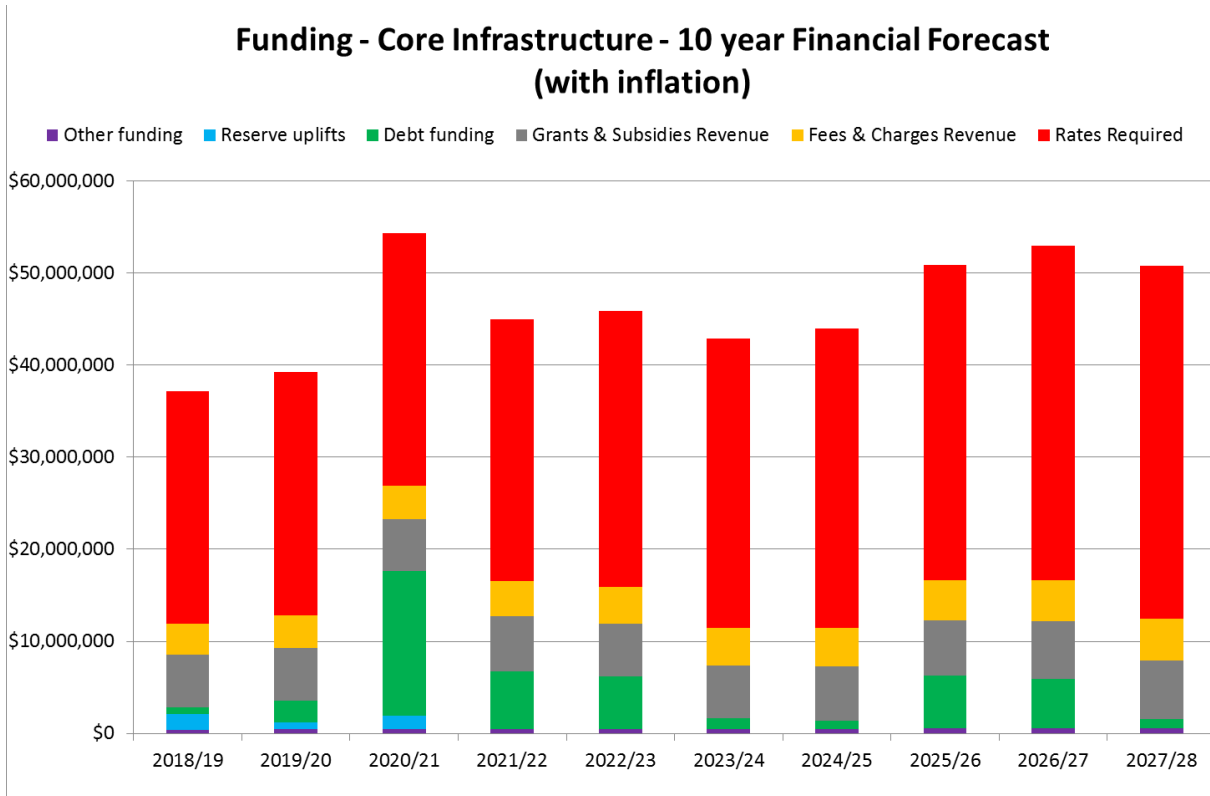
Other Infrastructure Expenditure by Asset Group

The two graphs below (in detail for the first 10 years and then in five year blocks) show the other infrastructure funding anticipated (excluding Special Projects) over the next 30 years.



Core Infrastructure Funding Forecast

The two graphs below (in detail for the first 10 years and then in five year blocks) show the core infrastructure funding anticipated over the next 30 years.



Other Infrastructure Funding Forecast

The two graphs below (in detail for the first 10 years and then in five year blocks) show the other infrastructure funding anticipated (excluding Special Projects) over the next 30 years.

