

Supporting policies

Infrastructure strategy 2015-2045

Infrastructure Strategy 2015-2045



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Rotorua Lakes Council is the operating name of Rotorua District Council

Strategy Overview

Strategy Introduction

This strategy explains how we will deliver infrastructure services to meet the needs of current and future generations.

It aims to achieve a balanced investment programme which keeps existing infrastructure in good condition, as well as allowing for investment in new infrastructure to meet expected growth. The strategy covers a period of 30 years and includes an overview of major infrastructure issues and trends that will have an impact on our infrastructure over this period, how we propose to respond to these, and the risks and costs associated with our investment in infrastructure over that time.

Strategy Context

This Infrastructure Strategy has been developed in the following context:

Rotorua has experienced modest growth over recent years - 0.9% p.a. between 2003 and 2013 as opposed to the national growth of 2.1% p.a. for the same period. The long term Plan aims to invest in projects and activities that will accelerate this economic growth. The Urban Revitalisation Plan 2015-2045 envisages economic growth which should lead to increased population from the current level of around 65,000 to one of 71,800 within the 30 year period, with the majority of this growth along a defined spatial plan.

Whereas there will be some ageing of the population it will be considerably less than in other parts of the country.

With this in mind, and as our district relies heavily on tourism and forestry, infrastructure and the services delivered through these assets are pivotal components of our strategy. The focus of this strategy will be to maximise the benefits and value of investments already made in the past, and into the future.

Collectively the district has \$1.5 billion invested in physical assets– everything from water, roads and footpaths (network assets) through to library and community halls (social assets), and we spend around \$50m per year to maintain and renew these assets. Over the first third of this 30 year infrastructure strategy (30IS), we will be investing in additional infrastructure to meet higher environmental outcome demands and to fill gaps in our current service offering, particularly where these investments support the council's economic and community development goals. The forecast capital expenditure is derived from the information held in the underlying asset management plans. Council has provided funding of 85% of total asset management plan capital expenditure to reflect a higher level of scrutiny on capital spending and an increased emphasis on completion of projects at the time the work is required.

This strategy provides a clear ‘line of sight’ from our 2013 vision and through to the 2015 long-term plan. The two foundation strategies, infrastructure and financial, inform this plan.

The strategy will have the following imperatives:

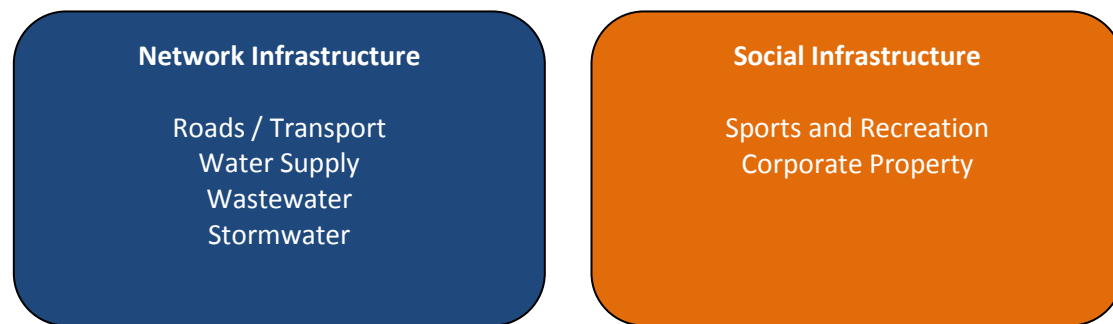
- Continued development of evidenced-based decision-making tools for any infrastructure investment proposal.
- A continued programme to improve asset knowledge of condition, utilisation and performance.
- A focus on renewals to maintain existing levels of service, within an agreed risk environment – including a focus on increasing the resilience and environmental performance in all networks.
- Integration of planning tools to direct new growth where possible to areas with existing surplus infrastructure capacity.
- Incentives to support increasing the use of existing community and recreation facilities.
- Integration and optimisation of upgrade works with forecasted renewals to reduce cost and disruption.

Figure 1

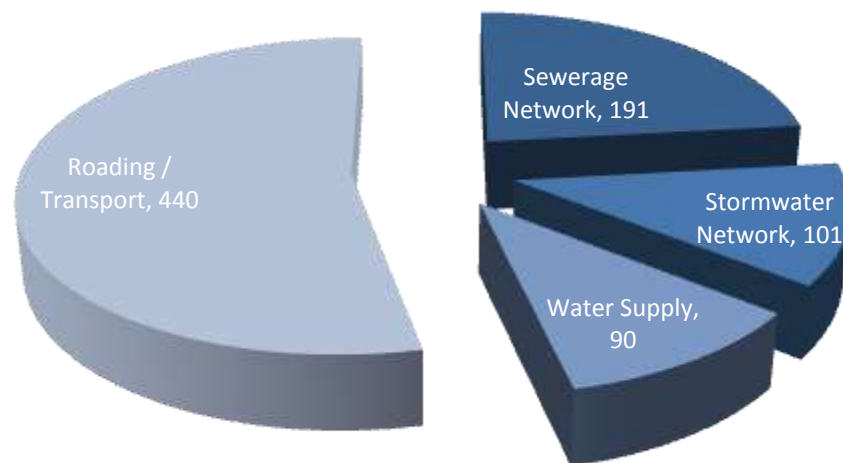


This strategy scope includes network infrastructure
(It does not include social infrastructure assets)

Figure 2



**Network Infrastructure Net Book Value (NBV)
as at 30 June 2014**



Network infrastructure NBV is the net difference between the estimated asset replacement costs and the depreciated value in millions of dollars.

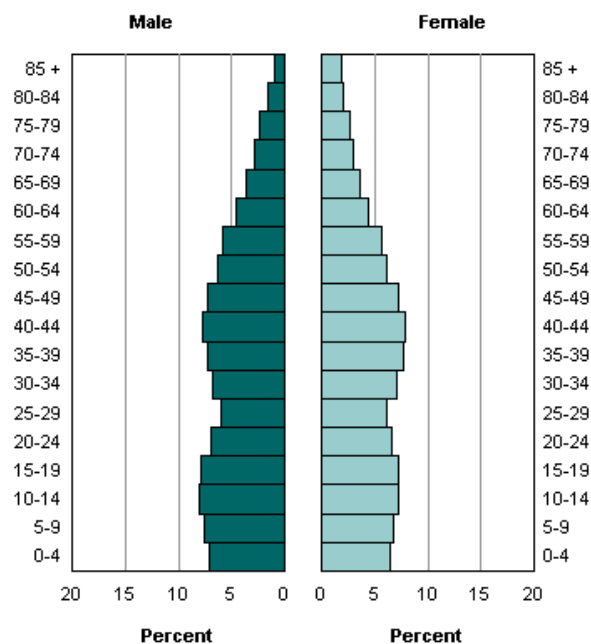
Major Issues Influencing Our Strategy

Population Growth and Demographics

We expect that the district will experience modest population growth over the next 30 years, similar to current and historic trends (see figure 3 below). Beyond this period, population in New Zealand is expected to stabilise and Rotorua is not expected to be materially different. Planning implications are being considered as part of the longer-term view of our long-life assets as part of any deliberations for investment.

The council is considering targeted investment in the district to unlock more economic growth. While we do not expect that growth to place unpredictable demand on infrastructure services in the future, any significant demand growth in response to a more buoyant local economy will increase demand on services and infrastructure. We will regularly update service levels through annual plans in response to demand growth beyond those currently forecast.

Figure 3: Demographic Chart of the district – Population make up (gender)



Resilience and Sustainability

The council has a responsibility to manage its assets and services in a way that provides resilience and environmental brand protection for the district. Rotorua is not particularly exposed to the risk of natural disasters any more than any other city in New Zealand. The main concern is the risk of severe weather events (e.g., big storms), as well as the longer-term effects of climate change.

A number of programmes looking at quantifying and measuring the impact of climate change on our infrastructure are underway. Additional data and information from these studies will inform future versions of the infrastructure strategy.

These initiatives support an ongoing programme of capital renewals which provide for improved physical and environmental resilience in our networks, with a careful selection of material types and engineering design techniques. Critical assets have been treated with priority. This programme has been underway for more than a decade and will continue through the 2015 long-term plan (LTP), the 2015/45 30IS and beyond.

Community Demand and Affordability

Community expectations of council services are continually increasing, while tolerance for cost increases, disruptions and service failure is decreasing.

Council will have an ongoing dialogue with the community, through annual and long-term plans, about the levels of service it provides. This is to ensure it meets expectations, and any changes to service levels will take into account factors such as cost, the distribution of benefits and who pays.

Alongside current economic growth and demand considerations, asset capacity and utilisation (discussed below) are being carefully analysed against future demand. One of the key programmes of work is to understand where prior investments in infrastructure are underutilised in the current environment. District Plan planning rules and other key constructs (e.g. urban design) are being considered carefully as part of this analysis. Affordability and 'Levels of Service' provision, current and future, is another.

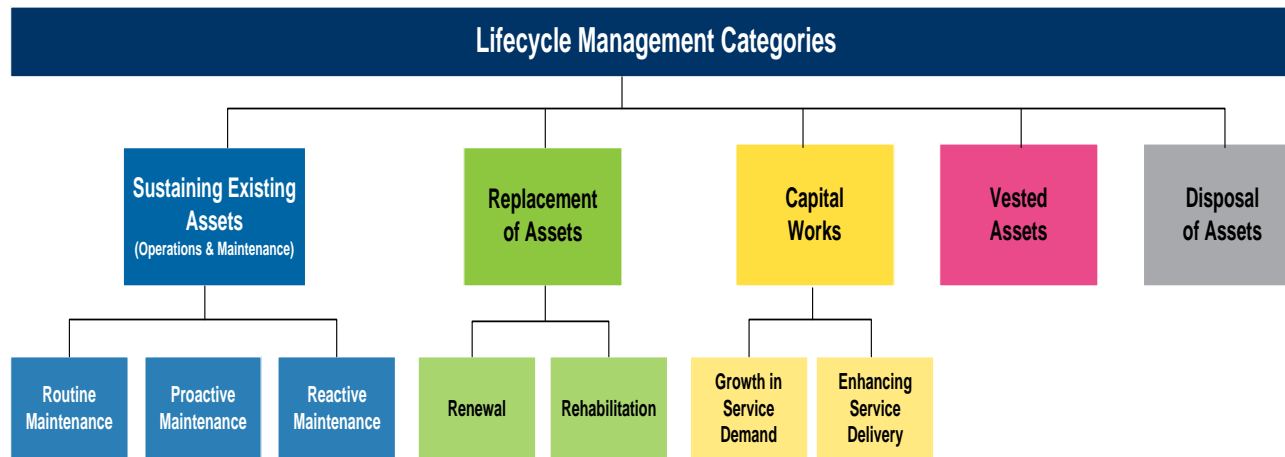
To that effect some \$43 million of investment in the 'three waters', primarily in enhanced waste water treatment options for around the lakes small communities, has been noted in this strategy as requiring investment, although it has not been included in our financial forecasts pending community consultation in the LTP process.

Regulatory Requirements

Changing statutory requirements and national standards set by central government (e.g. health and safety) can impact on how and to what level, we deliver services. We will work with government on changes to national standards that impact on our infrastructure services and implement them in accordance with legislative requirements.

Overall Approach

We will take a principled approach to how we manage our infrastructure portfolio. The following principles will guide our decision-making. The council has developed and is implementing a data collection programme across all its infrastructure assets. This is informing our strategic asset management framework which aims to use evidenced-based decision-making tools to inform short, medium and long term infrastructure investment decisions on behalf of the community. New disciplines have to be integrated into the more traditional engineering and financial disciplines to build appropriate forecasting models and to inform the 2015 LTP and the 2015/45 30IS. One of the key considerations has been a refocus on the 'whole of life' costs and benefits of an asset and the services these provide.



- The routine maintenance plan relates to the day-to-day running and upkeep of the asset. It supports the level of service required of the asset. Operations and maintenance expenditure can be a significant proportion of the asset's total lifecycle cost.
- Routine maintenance is divided into planned (proactive) maintenance and unplanned (reactive) maintenance.
- Planned Maintenance
- This is the proactive inspection and maintenance work to support asset reliability and quality, and to prevent costly failures of associated assets.
- Reactive maintenance

Attends to urgent or unplanned maintenance work which is required to remove a hazard or to repair a fault. This work is required in the short term to restore the asset to working condition and is generally undertaken in response to inspections, complaints or Renewal and Maintenance of Assets

Renewal expenditure includes the renewal or rehabilitation of assets to restore an asset to its original level of service i.e. capacity or the required condition. Required levels of expenditure on the cyclic asset replacement programme will vary from year to year, and will reflect:

- The age profile of the assets.
- The condition / performance profile of the assets.

- The ongoing maintenance demand.
- The differing economic/useful lives of individual assets comprising the overall system of assets.

The broad funding consolidation of maintenance and renewal for the four networks covered by this strategy is as follows:

Key Assets	Estimated Replacement Value \$000	Average Annual Renewal \$000	Average Annual Maintenance \$000
Transport	440,000	6,300	6,200
Stormwater	186,000	2,458	3,077
Potable water	182,000	1,816	6,150
Waste water	312,000	4,565	10,380
TOTAL	1,120,000	12,681	25,807

Critical to these considerations has been reconciliation of the depreciation expense (funding) against the forecast renewals (expense) across the whole of life of the council’s assets (although 30 years is published in this report the analytics must be for longer periods i.e. for 100 years). The direct correlation of these two parameters indicates that the planned renewal investment is around 82% of the theoretical depreciation value of the assets. We believe that this is reasonable as the long term depreciation level is based on an as yet untested rate of asset condition and deterioration. On-going asset condition and actual performance evaluation will calibrate and optimise the ratio between depreciation and renewal investment.

Additionally, the theoretical asset depreciation lifecycles as indicated by the relevant graphs indicate spikes in renewal demand over certain periods. These spikes simply correspond to the current nominal life expectations for certain assets and the periods of their initial construction. It is our intention to recalibrate these projections taking into consideration actual asset deterioration rather than the theoretical one in order to smooth the demand for renewal funding and in a more consistent manner than that currently projected.

The financial principles which support this approach are embodied in the council’s Financial Strategy. There are a number of key general considerations which, when combined, have supported the approach and informed this strategy.

Fit for Purpose

We will provide appropriate quality infrastructure that can deliver services in a manner that meets community expectations now and into the future;

We will maintain and renew infrastructure and related facilities in accordance with balanced and financially sustainable best practice.

Asset Utilisation

We will improve our understanding of the current capacity and actual utilisation of our assets. Where asset networks are under-utilised, we will develop strategies to increase utilisation, before asset augmentation, to ensure maximum benefit is derived from our historical investment.

Strategic Long-term View

We will continue to scrutinise our asset performance, and service outcomes and investment value, with a focus on whole-of-life costs and long-term affordability. We will consider the long-term implications of investment in infrastructure and will make sure the level of contribution from each generation is set at a fair and reasonable level.

Improved Knowledge and Data

We will increase the level of understanding of our assets to ensure that investment in maintenance and renewal programmes is optimally set, and assets are renewed at the right time before maintenance demand exceeds benefits. Quality information and data will enable us to accurately link the relationships between costs, benefits and risks.

Coordinated

We will ensure infrastructure decisions are coordinated across Council, its subsidiaries, other agencies and other councils in the region.

Resilient

We will work to ensure our infrastructure can deal with significant disruption as a result of natural hazards. We have a good understanding of the risk to Council assets. We will continue to utilise technological advances to increase the resilience of assets that we renew, and ensure the risk of financial loss from natural events is prudently managed and reduced over time.

We will increase our understanding of the impact of climate change on our infrastructure networks, to improve management of our assets and guide future infrastructure investment.

Managed Risk

We will comply with all legislation and national standards that apply to infrastructure and service provision.

Our Assumptions

Underlying this strategy is a number of key assumptions. These assumptions have a specific and important influence on the picture this strategy builds for Rotorua Lakes Council and how we address any challenges and opportunities it highlights. These assumptions similarly inform the Financial Strategy. This strategy is based on the following assumptions;

Investment

Investment in civic infrastructure will be set at a level that retains and maintains existing levels of service and can meet realistic demand from growth. The funding models which support the longer-term view of our infrastructure replacement and upgrade profiles must demonstrate that this is affordable over the next 30 years and beyond.

Population Growth

The population through to 2045 is expected to reach around 71,800 (a movement of 10.5%). Should economic growth be achieved above the historic norms, population growth is likely to exceed this expected level. Population, if it follows current long-term projections for New Zealand generally, will likely remain static for the next 30-50 years.

Community Demand

Community demand for improved services will generally only be made where there is a gap in our target service offering, or where increasing service levels would retain our competitive advantage in that service in comparison to other cities.

Key investment planned in the life of this strategy to meet community demand, growth and environmental standards are:

Network	Planned Investment \$000	Brief Comment
Transport	32,000	A variety of projects to address more and improved active transport mode choices, improvements in corridor and intersection capacity and efficiency, road safety and general amenity enhancement for the district to support our tourism objectives.
Stormwater	4,500	<ul style="list-style-type: none"> • A number of projects and programmes to improve network capacity and to enhance the network’s ability to protect the district from flooding and contaminants. • The primary drivers are flood protection of private and community property, access resiliency and community health wellbeing
Potable Water	21,175	<ul style="list-style-type: none"> • While there is a plan to improve and optimise network operations the dominant planned investment objective relates to servicing and maintaining potable water sources and to increasing future storage to the south. • Water is a critical lifeline and the network’s ability to meet current and anticipated demand arising from population growth, statutory requirements and environmental conditions are pivotal to the purpose of this proposed investment.
Waste Water	93,510	<ul style="list-style-type: none"> • The major investment is in the expansion of the centralised Rotorua Waste Water Treatment Plant to replace the existing Forest Land Disposal System, and to meet community demand for wastewater treatment and reticulation around lakeside and rural communities. • Key statutory requirements and environmental standards are the leading considerations of this proposed investment.
TOTAL	119,185	These proposed investments span the timeframe of the LTP and the strategy.

National Standards

Although the statutory environment for local government will evolve, the broad requirements for infrastructure will remain static.

Economic

The district's economic performance (in terms of performance as measured by GDP) will move from below the national average to 2.0% p.a. over the period of this strategy.

Forecasting Assumptions

Over recent years there has been a systematic data collection programme across all core infrastructure assets (transport, water, wastewater and stormwater). This information has been used to determine asset value, asset life and to forecast renewal programmes which are captured in the expenditure graphs, on the following pages. Our forecasting assumptions are based on deterministic modelling on available information of asset quantity, condition, life, value to inform our depreciation and renewal programme. The capital expenditure presented in the graphs and tables in the following pages is at 85% of the underlying asset management plans. This reflects a higher level of scrutiny on capital spending and an increased emphasis on completion of projects at the time the work is required.

This information tells us that our short-term asset renewal requirements are generally higher than we have budgeted for renewals in the past.

We have maintained a prudent approach in continuing to fund depreciation only where it is anticipated that Council will be responsible for renewing the asset in the future. We have also mitigated the risk to cover a need for renewal expenditure above that determined by our model (e.g. to respond to urgent / emergency situations).

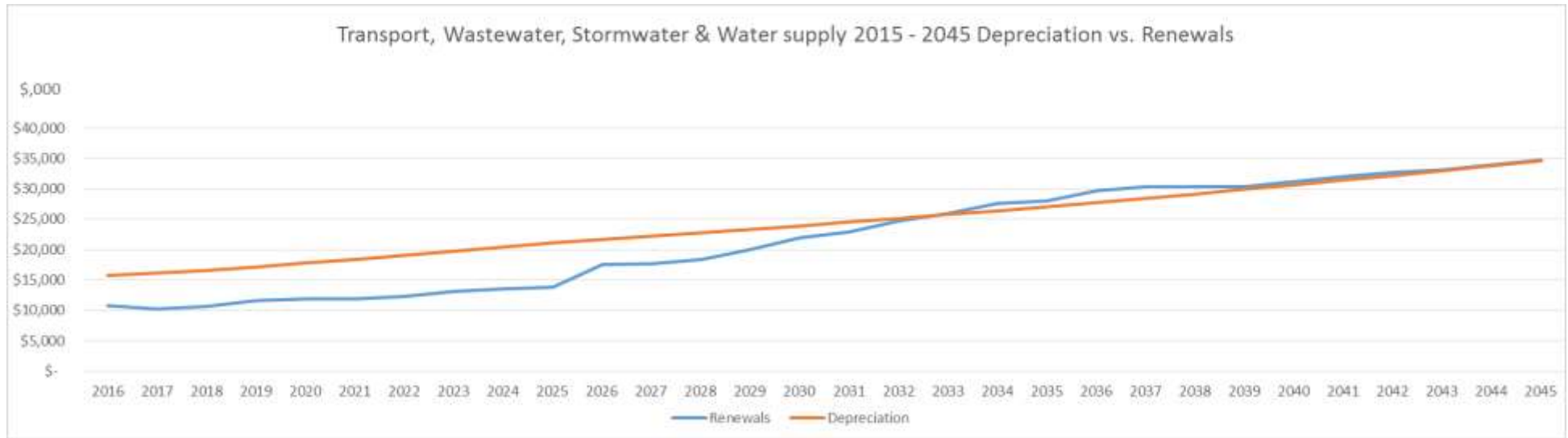
We have achieved this by provisioning appropriate capital funding capacity in some years of our LTP. This amount is equal to the theoretical difference between our renewal expenditure and depreciation over the earlier years of our LTP.

Inflation has been applied to the financial information included in this Infrastructure Strategy using BERL inflation forecasts.

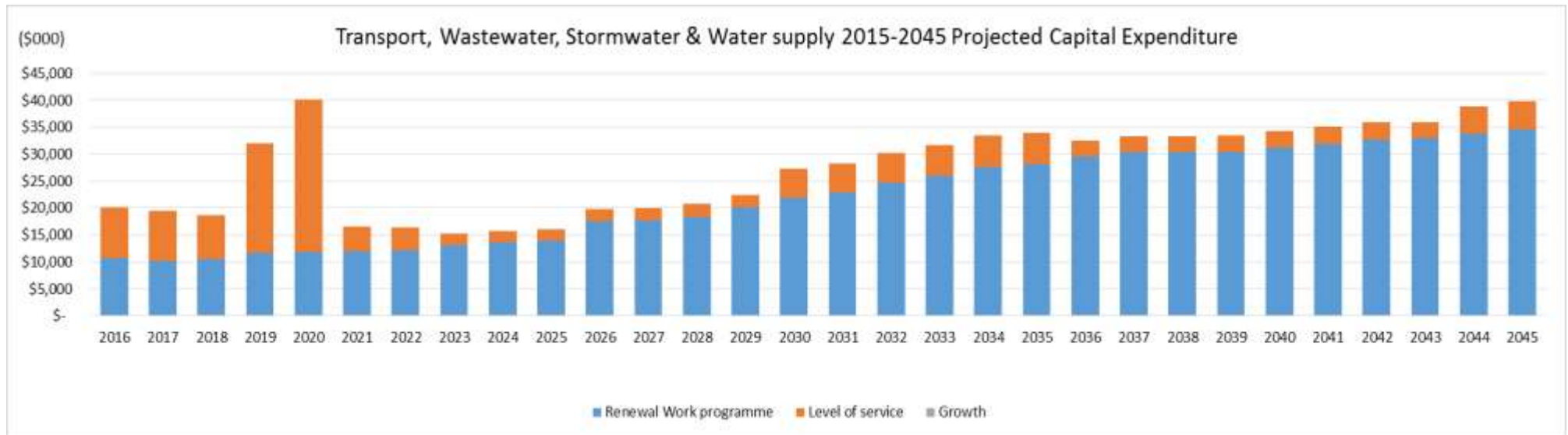
All Infrastructure Financials

ALL	\$000	2016	2017	2018	2019-2025	2026-2030	2031-2035	2036-2040	2041-2045	30 Year Total
Income		39,198	40,741	42,459	356,411	304,567	344,579	389,840	441,047	1,958,843
Operating Expenditure		26,574	27,137	28,557	223,912	176,163	199,331	225,524	255,150	1,162,348
Depreciation		15,677	16,141	16,619	133,501	113,880	128,847	145,778	164,934	735,377
Net Operating Loss		(3,053)	(2,537)	(2,717)	(1,002)	14,524	16,401	18,538	20,963	61,118
<i>Add: Depreciation</i>		(15,677)	(16,141)	(16,619)	(133,501)	(113,880)	(128,847)	(145,778)	(164,934)	(735,377)
Net Spend		12,624	13,604	13,902	132,499	128,404	145,248	164,316	185,897	796,495
Capital Renewals		10,722	10,236	10,587	88,047	95,596	129,092	151,907	166,220	662,407
Capital Growth		0	0	0	0	0	0	0	0	0
Capital Levels of Service		9,397	9,262	8,080	64,294	14,588	28,618	14,815	19,297	168,351
Total Capital Expenditure		20,119	19,498	18,667	152,341	110,184	157,710	166,722	185,517	830,758
Net Expenditure		32,743	33,102	32,569	284,840	238,588	302,958	331,038	371,414	1,627,253

All infrastructure Depreciation Vs Renewals



All Infrastructure - 2015 – 2045 Projected Capital Expenditure



Transport

Summary

Our transport network and services are focused on delivering safe, effective and efficient movement of people and goods. This includes carriageways for private car travel, public transport and cycling and walking. As with all our core infrastructure services, we have a significant inventory of physical assets and therefore the funding requirement for the operation, renewal and capacity/demand development reflects the scale of the asset. The district has a relatively widely spread transport network, with a corresponding maturity in its operational and capital management programmes for delivering appropriate stewardship of the network and related transport service.

Transport Infrastructure Profile and Level of Service

Our transport infrastructure is in good condition, our levels of service are currently meeting the needs of the district and are sustainable and affordable. The overall asset condition is assessed annually and whole of life investment decisions are made based on the evidence of the information provided from these surveys. Our current operations and renewal programmes are adequate to sustain this key level of service over the short and medium-term (10-30 year horizon). The current levels of service are not expected to materially change. There will however be an issue-based focus from time-to-time on different types of interventions, demands, and initiatives to meet shifting and evolving priorities as circumstances dictate.

Broad Network Information

Key Assets	Qty.	Estimated Replacement Value \$000	Life Cycle	Annual Renewal \$000	Maintenance \$000
Roads	1003 km	338,394	10-15 years	4,596	2,522
Footpaths	665 km	23,383	93 years	511	305
Bridges	123	24,815	98 years	255	170
Stormwater controls	8960 units	3,488	50-100 years	250	450
Miscellaneous	Varied	54,913	Varied	714	2,751
TOTALS	N/A	444,993	N/A	6,326	6,198

Asset General Condition

Roads and carriageways are structurally sound but face increasing demand from heavy freight loading.

Footpaths have an average life of 32 years, with 92% constructed in concrete and 8% in asphaltic bitumen.

Bridges are in sound structural condition with an average of 45 years.

Kerbing and channelling and other stormwater control assets are in average condition but facing increasing pressure from urban densification and climate change. Average age of the asset is 32 years.

Meeting Future Growth and Demand

Growth and demand in transport service is very closely aligned with population and economic growth. These are expected to moderately increase in the future. Demand is also affected by behavioural changes (such as parents using cars to deliver children to schools or people choosing to use public transport versus driving a car, walking or cycling). Consequently, there is a number of corridor capacities and utilisation projects underway to improve our understanding of current and future demand, community behaviour and use of the transportation network. Growth in terms of capital expenditure requirements is primarily in the areas of sustainability, safety and network infrastructure capacity improvements that have been identified in existing local and regional transport plans, and network improvements needed to unlock economic growth (e.g. national state highways).

This growth is catered for in the current capital development programmes of the service. A high level summary of these projects and programmes is outlined below

Project/Programme	Description	Estimate \$000	Note
Urban cycleway network	To complete the district’s primary urban cycleway corridors network and to increase the mode share to 4% of all commuting and utility trips.	2,500	This can be accelerated to be completed within the first 4 years of the LTP if our application to the Urban Cycleway Fund is successful. Alternatively it will take place over a period of 10 years.
East/Central/West Corridors Planning	<p>To address;</p> <ol style="list-style-type: none"> 1. Options for improving the economic performance of the District 2. The impacts of growth on through traffic 3. Reduce costs and improve outcomes through coordinating land use and transport investment 4. Crash related deaths and injuries 	Not fully assessed yet and within the lifespan of the 30 year IS.	In collaboration with NZTA and other stakeholders. To be principally funded by NZTA.
Malfroy Rd / Old Taupo Road	Intersection improvements to address safety, capacity and efficiency of traffic flow	2,300	<p>In 2019/2020</p> <p>Co-investment with NZTA</p> <p>The local council share can be abandoned or reduced but this will lead to an equivalent reduction of investment from NZTA and diminished capacity of the intersection, causing further congestion and traffic delays.</p>

Project/Programme	Description	Estimate \$000	Note
Ranolf Road - 4 lanes	North/South commuter route improvement to improve capacity, reduce congestion and improve safety risk.	4,000	Beyond the 2025 LTP and to be co-invested by NZTA. The programme can be abandoned with a reduced road capacity to accommodate future traffic demand leading to higher levels of congestion and lower safety quality.
Minor Safety Programme	In response to road crash record and aims to improve overall safety risk through targeting crash black spots. Aim is to reduce the annual crash related social costs to the community which amounts to \$30 million.	5,500	<ul style="list-style-type: none"> ▪ Programmed in the first 10 years of the LTP and co-invested by NZTA. ▪ Council may decide not to invest in these programmes and accept a higher level of road safety risk. Currently road crashes in the district cause some \$30m of community social costs. Abandoning this programme will not reduce these costs.

Project/Programme	Description	Estimate \$000	Note
Rural Road seal extensions	<p>To gradually seal the currently unsealed portion of the roading network (142kms).</p> <p>To improve the level of service to rural communities and the economic performance of these roads.</p>	12,000	<ul style="list-style-type: none"> Over the life of the 30 year Infrastructure Strategy. Fully funded locally; not NZTA investment. Council may decide to invest less in this programme with the consequence of rural roads remaining unsealed indefinitely, or for a longer period.
Urban Street Upgrades and Rural Villages plus amenity lighting	To upgrade appearance and level of service for urban and village neighbourhoods.	6,000	<ul style="list-style-type: none"> Over the first 10 years of the LTP. Council may opt to discontinue these programmes and accept the current level of service for such areas. However, without the appropriate programme and financial allocation needed neighbourhood upgrades may not proceed.

Major Issues and Risks

Issue / Risk	Options to address risk
<ul style="list-style-type: none"> Increasing congestion in some areas of the district, especially around the inner city at peak times and along major routes, could compromise the inner city revitalisation strategy. Optimising operation of the transport network whilst supporting enhancement of urban form. 	<ul style="list-style-type: none"> Integration with the planned investment by NZTA, particularly on the east, central and west corridors. Ensure that mass movement of traffic for the economic benefit of the district is enabled through dedicated corridors with the appropriate capacity, structural integrity and all weather/event protection. These corridors are protected and supported by the urban plan. Design standards of the corridors are affordable and not in conflict with good urban design principles. Encourage change in transport mode choice through active programmes and interventions such as improved patronage of the public transport system, increased commuting and utility trips by cycling and walking. Pivotal to these changes is the completion of safe and effective primary cycle and walking network corridors planned in the LTP. Review and modify the council’s parking policy to promote a shift away from high use of private cars to more active modes.
<p>Increased public expectations for convenient, safe and affordable multi-modal transport options</p>	<p>There is limited investment in PT and other active modes. The Infrastructure Strategy and LTP propose investment in projects and programmes that would encourage an increased capacity for active transport modes through investment in improved PT facilities and active networks such as cycling and walking.</p>
<ul style="list-style-type: none"> Seismic / Volcanic tremor/Severe weather vulnerability Some roads and footpaths are at risk of slips and subsidence Bridges, walls and unsupported slopes are 	<ul style="list-style-type: none"> A robust emergency response and recovery plan. Maintain redundancy and alternative route access to key destinations to mitigate event-caused disruptions. Bridges regularly inspected and repairs made as necessary. Seismic risk part of design parameters.

Issue / Risk	Options to address risk
<p>continually at risk of collapse, thereby limiting access.</p>	<ul style="list-style-type: none"> • Appropriate control of stormwater runoff has a mitigating benefit for transportation assets.
<ul style="list-style-type: none"> • Community expectations on surface quality. • Increasing community expectations are for wider use of expensive surface treatments such as asphaltic concrete. • That suburban centres are given the same urban design considerations as the CBD through the use of higher quality and more expensive levels of service treatments and furniture. 	<ul style="list-style-type: none"> • Apply surface treatments in line with the roading network hierarchy that reflects the significance of a road corridor in terms of traffic volume and economic activity value. • Apply NZTA specifications for development of benefit/cost criteria in the selection of surface treatment. • Develop and embed asset treatment and related financial demands only, in line with council approved plans such as the upcoming cycling, walking, bus priorities, centre development and densification plans. Maintain discipline in application of the range of available treatment programmes.

Most Likely Scenario for Service

Increased service levels are proposed in the provision of multi-modal infrastructure, over the next 10 years.

Collaboration with NZTA to address current and anticipated capacity and growth issues on the main transport corridors of the district should future-proof the network for anticipated growth scenarios and related transport impacts.

Level of service in roading surfaces and streetscapes will be maintained over the next 10+ years as all primary road integrity indicators suggest that the district's roading network meets its target levels of service and is equal to or better than peer networks.

Recommended operations and renewals programmes will adequately deliver and maintain the level of service at a sustainable level over the medium and long-term of this strategy and Long-term Plan.

Significant Future Decisions

Significant future decisions are subject to the council's 'Policy on Significance'. This is reviewed every three years with the LTP. Over the period of this strategy the council will consider the following as part of the review:

- Development and maintenance of an increasingly multimodal network to address emerging congestion issues in some parts of the district, by funding cycle, pedestrian and public transport routes. These decisions will be made incrementally as detailed design of key corridor components proceeds and is consulted on.
- Maintaining sufficient flexibility in the network to enable response to changing transport mode choices, and assign priorities to different modes according to hierarchy of access developed for different segments of the district.
- Integrating the council's primary transport corridors network and spatial planning with NZTA investment, particularly the three main corridors. Council will have to make decisions on key corridor land designations over the first three years of this LTP.
-

Financial Commentary

Spending on the network over the next 30 years is relatively predictable and stable. The forecasted actual operational and renewal costs are in line with the current LTP for the first 10 years. Thereafter some adjustments to the renewal programmes may be needed to closely match the currently theoretical depreciation curve, based on further condition validation.

Most renewal and maintenance spending will be on pavement surfaces, with a relatively high proportion going towards surface renewals. Network capacity and safety upgrades are linked to Council's overall strategic priorities outlined in the Rotorua 2030 Strategy.

Anticipated investment in upgrade projects and programmes will raise the level of depreciation and operational funding requirements over the life of the plan but these are forecast to broadly remain within the projected financial parameters of this plan and affordable in the context of the overall value of the asset base.

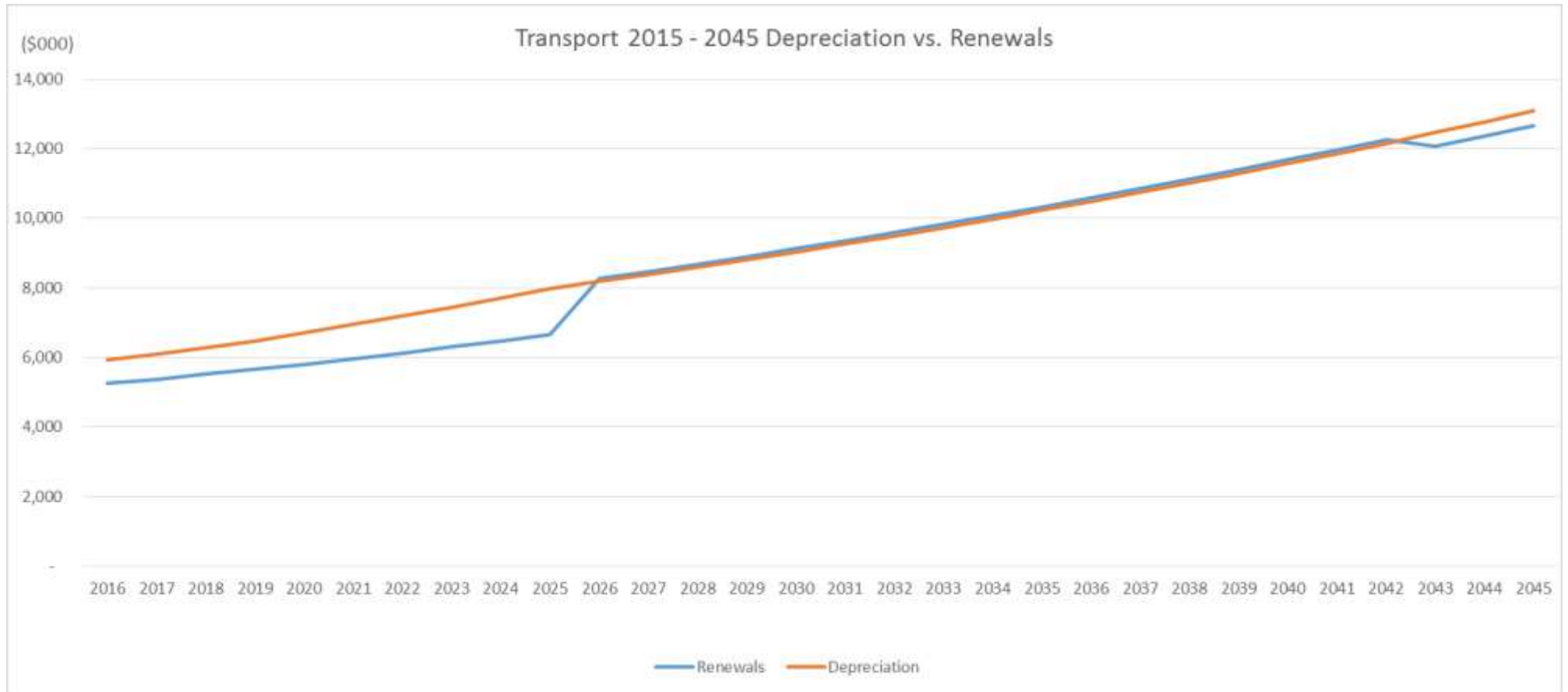
Infrastructure and Financial Profiles

The tables and graphics that follow outline the council's funding plan projections over the 30 year period of this LTP.

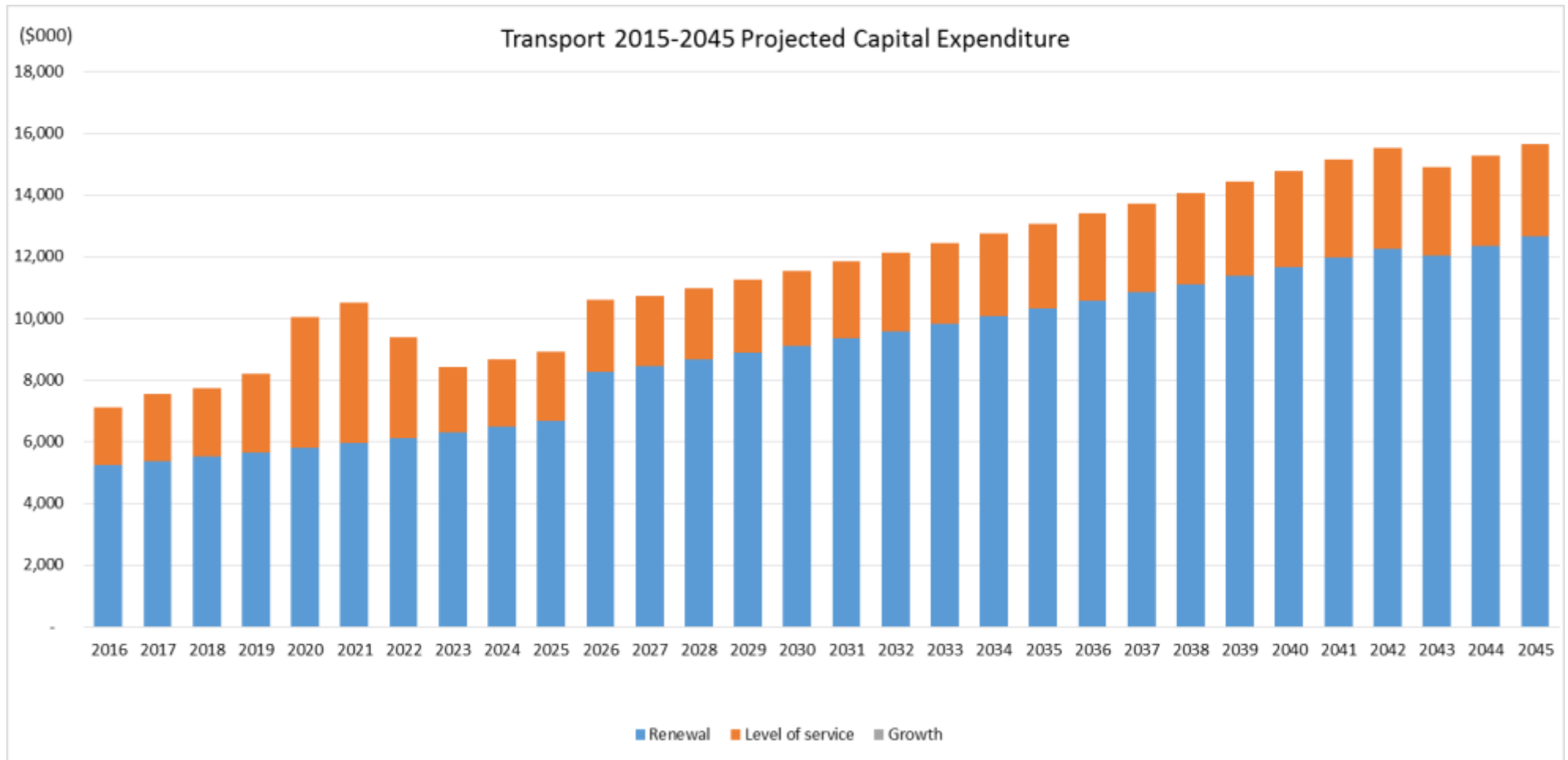
Scenario / Service Cost Transport 2015 - 2045 Financial Plans

Transport	\$000	2016	2017	2018	2019-2025	2026-2030	2031-2035	2036-2040	2041-2045	30 Year Total
Income		11,456	12,233	12,900	113,269	96,437	109,110	123,442	139,650	618,496
Operating Expenditure		8,803	9,035	9,326	72,908	60,236	68,169	77,139	87,286	392,902
Depreciation		5,927	6,102	6,284	50,475	43,056	48,718	55,122	62,363	278,047
Net Operating Loss		(3,274)	(2,904)	(2,710)	(10,114)	(6,855)	(7,777)	(8,819)	(9,999)	(52,453)
<i>Add: Depreciation</i>		(5,927)	(6,102)	(6,284)	(50,475)	(43,056)	(48,718)	(55,122)	(62,363)	(278,047)
Net Spend		2,653	3,198	3,574	40,361	36,201	40,941	46,303	52,364	225,594
Capital Renewals		5,250	5,381	5,517	43,031	43,453	49,163	55,625	61,336	268,756
Capital Growth		0	0	0	0	0	0	0	0	0
Capital Levels of Service		1,866	2,174	2,229	21,200	11,707	13,095	14,815	15,196	82,282
Total Capital Expenditure		7,116	7,555	7,746	64,231	55,160	62,258	70,440	76,532	351,038
Net Expenditure		9,769	10,753	11,320	104,592	91,361	103,199	116,743	128,896	576,632

Transport Depreciation Vs Renewals



Transport 2015 – 2045 Projected Capital Expenditure



Stormwater

Summary

Our stormwater service provides protection from flooding and bad weather events, while minimising the adverse effects of stormwater discharge into lakes, streams and other water bodies in the district. We have a significant inventory of physical assets and appropriate funding for operation, renewal and development of the network.

The design and provision of stormwater services are predominantly a risk mitigation exercise aimed at providing cost effective protection against an identified level of risk/flooding, and the impacts of this risk on the community's wellbeing and property.

Not all flooding risk can be mitigated but risks can be reduced. Under extreme rainfall conditions flooding cannot reasonably be avoided.

Council's stormwater design standards provide for a recommended 20% increase in flows as the network gets renewed and upgraded, due to climate change.

Major CBD discharges are treated prior to discharge to the lake and Council is currently preparing to submit a consent application for a comprehensive, urban area, discharge consent.

Council has developed a hierarchy of procedures and relevant plans to assist with the provision of both cost effective and reliable upkeep of the three waters networks.

Stormwater Infrastructure Profile and Level of Service

While our stormwater infrastructure is generally in good condition, the network has evolved over a long period of time during which design standards have nationally and internationally changed as accepted levels of risk exposure have declined. Consequently, as in all developed urban areas, Council's stormwater system comprises a variety of designs and therefore varied risk exposure tolerance standards. Raising the entire network to current standards is neither practical nor financially sustainable in the short term. It is therefore planned to align network improvements with our renewal programme which has a horizon of at least 100 years. In the interim, better identification of surface flow paths will continue to be carried out to address the highest risks and where the appropriate benefit risk ratio is present for early intervention this will be implemented.

Our challenge over the next few years will be to model our stormwater catchments (hydraulic models) to the level of detail where we can make more informed capital investment and planning decisions in the future. In the meantime we will be focussing our efforts on determining the location at-risk areas where we will need to undertake stormwater improvements.

Our over-arching management plan for the stormwater network is to continue to meet the level of service currently provided (generally a flow capacity for a 1-in-10 year severity event for primary piped systems, and 1-in-50 year protection for residential buildings).

It is likely that this work will also highlight the need for some rethinking of current policy settings in stormwater – and in particular what levels of service the district might be able to provide into the future. Our investigations and management plan approach will inform these future discussions with our community.

Rotorua district is located at the top of the Kaituna River catchment and does not normally suffer from extreme floods as happens in some lower catchment coastal communities.

Stormwater collection and discharges directly impact on lakes and freshwater quality around the district. Council's pollution control function is instrumental in responding to spillages and discharges of contaminants, and reducing any adverse impact.

Broad Network Information

Key Assets	Qty.	Estimated Replacement Value \$000	Life Cycle	Annual Renewal \$000 (30 yr average)	Maintenance \$000
Pipe-network and supporting facilities	244 km	185,540 (2014)	20 - 100	2,458	3,077

Asset General Condition

The network is of a relatively young age and in good condition. The average age of the system is about 35 years.

In geothermal areas of the district the network assets experience more pronounced corrosion and deterioration, depending on the type of materials they have been constructed of.

Growth and Demand

Future pressure on the network will come from climate change, weather patterns and city densification. While city densification is taking place at a reasonably slow pace and in line with slow population growth, we have incomplete data to accurately quantify future demand on the stormwater network as a result of climate change. The effects of climate change are expected to lead to increased discharges into waterways and would impact on the network where capacity constraints already exist.

Network upgrade expenditure will focus on demand management through planning controls and onto targeted projects to address service data collection and key network deficiencies

A high level summary of these projects and programmes is outlined below:

Project/Programme	Description	Estimate \$000	Note
Open drain/stream improvements	Flood mitigation works in the Otamatea Stream (Ford & Sunset Roads) and the Parawai drain area.	700	2017 – 2018. The alternative is to abandon these improvements and allow the current risk to escalate.
Pipe network improvements	Various upgrades of pipes to alleviate periodic flooding in parts of the urban area.	3,250	2016 – 2021. Alternatively Council may opt not to deliver these capacity improvements and accept a higher flooding risk with unpredictable economic impacts.
Monitoring equipment	Rain gauges within the Urban and rural areas to provide better information for modelling, design and consent compliance.	50	2016. These technological information gathering improvements aim to help Council optimise its networks. Without such aids optimisation is difficult and costs high.
Global stormwater resource consent conditions compliance	Investigation work to anticipate and plan mitigation options for new resource consents for discharging stormwater into the lakes and other receiving environments.	200	2016 – 2017. This work is not optional as resource consent conditions are statutory requirements to which Council must comply.
Barnard Road and Western Road sewage pumps flooding	To investigate and design options addressing health risk to local communities from the overflow of the Waiowhiro and Ngongotaha streams	100	2016. Council may opt to abandon these programmes, but the risk to the communities cannot be mitigated.
The watercourse between Selwyn and Larcy roads in Lynmore	To investigate and design options addressing flood risk to Selwyn/ Larcy roads.	400	2017. Council may decide to abandon this investigation with the high risk acceptance.

Key Risks and Challenges

Risk	Risk Management Approach
<ul style="list-style-type: none"> • Seismic / Volcanic Tremor/Severe Weather Vulnerability. • All assets are at risk of structural damage and/or slumping due to the effects of land subsidence or liquefaction. The risk from liquefaction varies with the location. High sediment loading under volcanic ash fall. 	<ul style="list-style-type: none"> • An effective emergency response plan. • Structures regularly inspected and repairs made as necessary. • Seismic risk is part of all new design parameters and of critical assets where appropriate. • Mechanical clean-up of ash, dumped in an approved landfill, to minimise sediment and chemical loading of pipes and waterways. • Not doing this work would result in more significant disruption to the community during these events.
Risk	Risk Management Approach
<ul style="list-style-type: none"> • Limited network flow capacity. • There are areas prone to surface flooding in heavy rain events, and some known constrictions in several open watercourses. 	<ul style="list-style-type: none"> • Model catchments to identify at risk and under capacity networks locations • Design new capital works improvements to mitigate risk in these locations. • Allow for secondary flow paths to reduce network loading. • Not doing this work will result in a higher level of flood risk than the community considers appropriate.

Stormwater and Land Drainage Challenges Ahead	
Issue/Challenge	Approach/Comment
A comprehensive resource consent for all urban stormwater discharges is likely to impose stricter discharge conditions.	<ul style="list-style-type: none"> • Prepare an assessment of likely conditions and conduct necessary investigations to highlight future augmentation works required to meet these conditions. The financial demand of such augmentation works will be updated during the next LTP in 2018-2028. • Not doing this work would result in continuing inefficient management of multiple consents and unexpected upgrading works.

Issue/Challenge	Approach/Comment
<ul style="list-style-type: none"> • During heavy rainfall events, the Waiowhiro Stream and Ngongotaha Stream levels rise and inundate land on which the Barnard Road and Western Road sewage pump stations are located. • This causes a health risk for neighbouring properties, and results in a large inflow of stormwater into the sewerage system. 	<ul style="list-style-type: none"> • Initially, a small bund or wall to protect the pump stations, but in the longer term improvement of the flood-paths in order to reduce the frequency and severity of flooding. • Proceed with investigation of options to design mitigation of risks and submit financial demand during the next LTP 2018-2028. • Not doing this work would result in a higher level of flooding exposure and disruption than the community expects in accordance with Councils standards.
Issue/Challenge	Approach/Comment
The watercourse between Selwyn and Larcy roads in Lynmore is located on private properties, and has flooded on recent occasions. Work is required to improve the channel to increase flow capacity. This	<ul style="list-style-type: none"> • Study the existing and potentially developed catchment and flow-path all the way to Lake Rotorua, and design construction of an improved channel. Report financial demand of these works to the next LTP 2018-2028

water course also takes water from land which is likely to be developed above Lynmore, and so any increased runoff will need to be taken into account. Downstream effects on properties between Lynmore and Lake Rotorua also need to be assessed.

- Not carrying out these works would result in increased exposure to flooding for the property owners adjacent to the water course and drain.

Most Likely Scenario for Service

The most likely scenario will be to maintain the level of service we are currently providing for flood protection, and targeting at-risk areas where flood protection needs to be provided to a 1-in-50 year severity event.

Continue to provide the necessary resources required to maintain the level of service that we are currently providing for water quality – i.e. compliance with resource consents and maintaining appropriate standards of water quality and waterway health across the District’s waterway environments.

In order to achieve this we need to better understand limitations of the existing capacity of the network. Proposed actions in further developing the network’s hydraulic modelling will address this over the next three years.

It is likely that targeted, incremental capital budget increases in years three to ten will be necessary to improve service levels in high risk locations across the district in conjunction with planning controls that will play an important and increasing role in reducing the identified risk. Financial demand for these investigations will be articulated during the next LTP review of 2018-2028.

Significant Future Decisions

Over the period of this strategy, the council will need to consider the following and make decisions with potentially significant funding implications:

- Funding and consenting impacts of water quality standards in the National Policy Statement on Freshwater Management, and set through the regional plan review and related processes. This will be further identified from investigative works required to meet the likely comprehensive stormwater resource consent conditions for discharges into the lakes and other receiving environments. Likely timeframe is around 2018/19.

- Integration of land use and infrastructure development – identifying network upgrades and bringing forward renewals to support Council’s growth aspirations. Depending on the success of the council’s spatial plan, augmentation of main trunks may be necessary to facilitate development growth. The timeframe would cover the lifespan of this 30 year strategy, and be reviewed every three years when the LTP is reviewed.
- Identifying and funding those localised flood protection projects required to provide flood protection to a 1-in-50 year severity event in at-risk areas. Once investigative works are completed, the resulting business cases are to be submitted to Council for funding provision, provided that the appropriate benefit cost ratio justifies such investment.

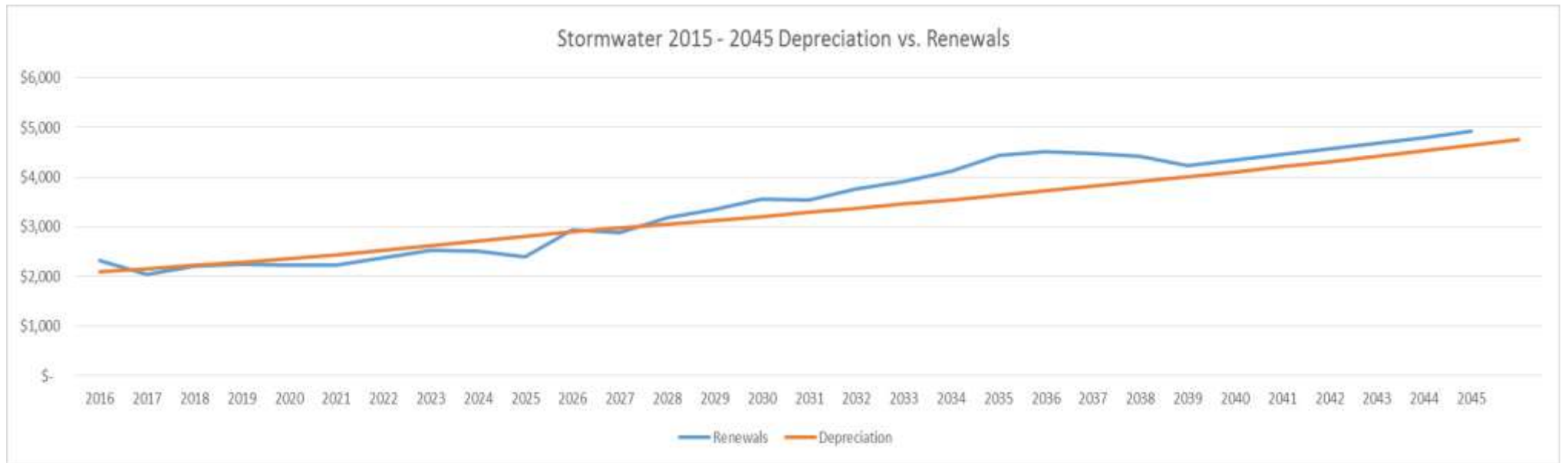
Financial Commentary

The diagrams that follow indicate that forecast network renewal costs will be less than budgeted for in the current LTP at this stage. Spending fluctuates over the next 100 years with several theoretical spending spikes relating to the (desktop) age and anticipated condition of the assets during that time. It is however a normal and well established practice adopted by this strategy to verify actual condition and ability of the network to provide the agreed levels of service closer to the time of their theoretical renewal.

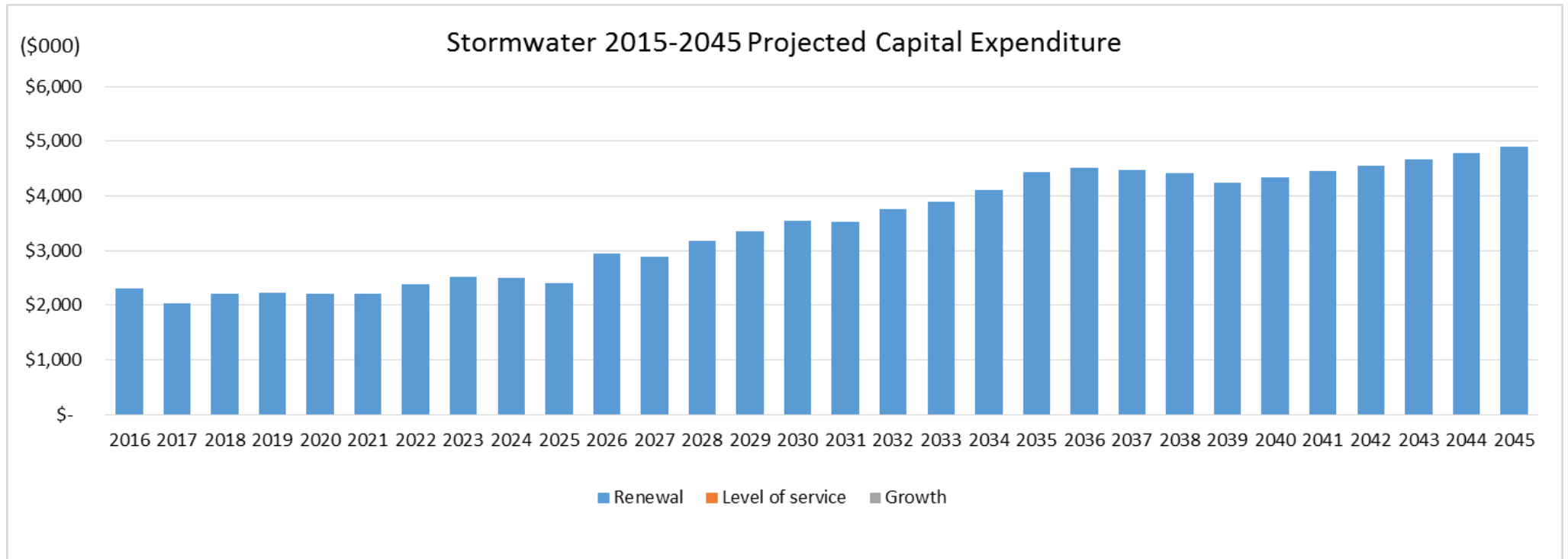
Scenario / Service Cost Stormwater 2015 - 2045 Financial Plan

Stormwater \$000	2016	2017	2018	2019	2026-2030	2031-2035	2036-2040	2041-2045	30 Year Total
Income	3,357	3,445	3,777	32,919	27,701	31,329	35,433	40,080	178,041
Operating Expenditure	1,956	2,014	2,095	16,346	13,334	15,099	17,079	19,321	87,244
Depreciation	2,153	2,217	2,282	18,334	15,640	17,691	20,017	22,649	100,983
Net Operating Loss	(752)	(786)	(600)	(1,761)	(1,273)	(1,461)	(1,663)	(1,890)	(10,186)
<i>Add: Depreciation</i>	(2,153)	(2,217)	(2,282)	(18,334)	(15,640)	(17,691)	(20,017)	(22,649)	(100,983)
Net Spend	1,401	1,431	1,682	16,573	14,367	16,230	18,354	20,759	90,797
Capital Renewals	2,312	2,040	2,209	16,464	15,908	19,720	21,976	23,386	104,015
Capital Growth	0	0	0	0	0	0	0	0	0
Capital Levels of Service	0	0	0	0	0	0	0	0	0
Total Capital Expenditure	2,312	2,040	2,209	16,464	15,908	19,720	21,976	23,386	104,015
Net Expenditure	3,713	3,471	3,891	33,037	30,275	35,950	40,330	44,145	194,812

Stormwater 2015 – 2045 Depreciation Vs Renewals



Stormwater 2015 – 2045 Projected Capital Expenditure



Water Supply

Summary

Our water network provides the district with a cost-effective, safe and secure supply of potable water during normal conditions (on a day-to-day basis) along with the supply of water during adverse conditions, such as after a natural event or disaster. The water supply network is large and complex, delivering 14 billion litres of water a year. We operate a large inventory of physical assets that require funding commitments for operation, renewal and development. The council is working with other stakeholders to agree on a level of service for the provision of water during and after a major event.

Water Supply Infrastructure Profile and Level of Service

Our water supply infrastructure is in good condition and our levels of service are meeting the needs of the district. These service levels are sustainable and affordable. Our current operations, programmes and financial commitments are adequate to sustain this level of service over the immediate and medium-term (10-30 year horizon). Where high-risk assets are operating to full capacity, close monitoring of key performance indicators takes place in order to ensure an appropriate intervention to any part failures. Customer satisfaction levels are extremely high at 98%.

We ensure that network renewals are adequately funded in order to retain and maintain system levels of service. Like many water supply authorities, programmed replacement of unsatisfactory asbestos cement pipes is of significant importance, and we have an on-going programme for such pipeline replacement.

Broad Network Information

Key Assets	Qty.	Estimated Replacement Value \$000	Life Cycle	Annual Renewal \$000 (30 yr average)	Maintenance \$000
Network Reticulation	825km	161,949 (2009)	50-90 yrs.	1,469	3,281
Pumping, Treatment & Storage	40 Sites	19,806 (2009)	20 - 100 yrs.	346	2,869
TOTAL	N/A	181,755	Varied	1,816	6,000

Asset General Condition

Network reticulation is generally in good condition, but there is a large proportion of asbestos cement pipes that is due for replacement during the period of this strategy.

Pumping equipment is generally in good condition, although there is a number of older pumps in service that requires close observation and monitoring.

Treatment plants are in very good condition, with all UV plants less than six years old, and most chlorine plants recently renewed.

Reservoirs are in good condition.

Growth and Demand

While at a city-wide level we do not have a problem in meeting expected future demands on water supply, we do expect to see increased demand in localised parts of the district. This will place pressure on the local network's ability to meet increased demand and may necessitate extra local storage.

The majority of Rotorua's water sources are from springs. The continued use of these sources is of particular concern when re-consenting the water takes. Under pressure from land owners and Iwi, and regional pressures on shared water resources, Council's continued use of spring sources is not guaranteed. Significant pro-active engagement is required to enable continued community support for water source takes.

Should the sources be secured, the likely future needs will be for additional storage in eastern, and later in central, supply areas.

The linking of supplies (Ngongotaha, urban and eastern) would also be of benefit to allow more efficient use of the sources and to improve resilience in the event of failure of a spring source or storage.

Due to the predicted low level of growth expansion, metering of residential customers is likely to be uneconomic for some time. The sectorisation project, aimed at reducing pressures and leakage and providing significantly better monitoring, modelling and control, is far more cost-effective and useful.

The Rotorua Basin Strategy will be reviewed to identify options, should the continued use of current sources become unviable.

Key Projects and Programmes to address growth and demand

Project/Programme	Description	Estimate \$000	Note
Data / Communications	Equipment and software to electronically record and communicate field data.	250	2016. Council may opt to abandon this programme at the risk of having insufficient and timely data to operate the network at reliable and efficient levels.
Network Improvements	Additional pipelines, valves and backflow preventers to reduce water losses as well as health and operational risks.	4,605	2016 – 2025. Without these programmes the network cannot respond to new demand and or to regulations and operating resiliency. There will be more frequent failures and higher health risks.
New supplies/extensions	Possible new areas at Tarawera, Rotoma, West Rotoiti and Lynmore.	13,200	2019 – 2045. Highly dependent on community support and agreement on funding formulae. An option is available to abandon these plans and allow local communities to find alternative and individual solutions to their water needs.
Plant improvements	Additional standby electricity generation, control systems, and additional filtration at Rotoma.	460	2016 – 2017. Without this additional energy resource, there could be increased risk of plant and plumbing failure, and service interruptions.
Source improvements	Source improvements at Taniwha Springs (Ngongotaha) and additional source investigations for eastern area.	2,560	2016 – 2018. The investment could be abandoned at the risk of source contamination and supply reliability.
TOTAL		20,615	

Risk profile and current risk management plans

Water Supply Risks

Risk	Risk Management Approach
<ul style="list-style-type: none"> • Seismic / Volcanic tremor vulnerability. • All assets are at risk of structural damage and/or slumping due to the effects of land subsidence or liquefaction. This risk varies according to location. 	<ul style="list-style-type: none"> • An effective emergency response plan. • Structures regularly inspected and repairs made as necessary. • Seismic risk part of new and renewed design parameters. • Not doing this work would result in unnecessary additional disruption to the public during these events.
Risk	Risk Management Approach
<p>Failure of critical plant and/or network assets leading to extended loss of service for large parts of the serviced areas.</p>	<ul style="list-style-type: none"> • A robust asset management process including appropriate levels of preventive maintenance, condition monitoring and replacements. • Standby/backup equipment for critical plant items. • Have in place appropriate business continuity plans, real-time SCADA monitoring system. • Not doing this work would result in a significant drop in level of service.

Water Supply Challenges Ahead	
Issue/Challenge	Approach/Comment
Preliminary modelling work indicates that development of some parts of the network has not kept pace with urban growth. There is also uncertainty over where and when urban development will occur.	Apply hydraulic model optimisation to assess future pressure points and scope mitigation options to be included in future LTPs and in response to realistic growth trends.
Issue/Challenge	Approach/Comment
Each of the three urban water supply systems have their own sources. Their networks are adjacent to each other, but only the Ngongotaha and city networks have a physical link. There is no link enabling flow from the city to the eastern supply and vice-versa, which could be used in case of a temporary loss of one source.	<ul style="list-style-type: none"> • Undertake a risk assessment of the likelihood and consequence of loss of one source, and carry out modelling and preliminary design for network upgrades that could mitigate this risk. • The consequence of not doing this work would be the inefficient use of the water supply sources available to the urban area and increased vulnerability in the event of localised network and source failure.
Issue/Challenge	Approach/Comment
Whilst the outlook is for modest growth across the district in future, it is difficult to predict where future growth will occur. There is an indication of demand for growth into elevated areas surrounding the city, and in particular above the eastern suburbs. There may be sufficient water volume available, but at present there is not the pumping capacity to lift water to such elevations.	<ul style="list-style-type: none"> • Robust analysis of census data and trends, information from landowners and developers. Confirmation of water volumes available, and design of infrastructure to service anticipated developments. • Initially, a desktop study by hydro geologists to provide a preliminary assessment of the likelihood of viable water sources. • Not doing this work would result in the inability to efficiently service new land development projects.

Issue/Challenge	Approach/Comment
<p>The existing resource consent to take water from the Taniwha Spring at Ngongotaha expires in 2018. This spring is of cultural significance to the Ngati Rangiwewehi iwi, and Council wishes to look for alternatives to the current use of this site prior to that date.</p>	<ul style="list-style-type: none"> • Develop a new water source for the Ngongotaha area, most likely to be groundwater bores (based on initial desktop investigations to date). • Continue use of the existing Taniwha Spring but with changes to be determined following extensive consultation with Ngati Rangiwewehi. • Not doing one of these options with the support of Ngati Rangiwewehi could result in inadequate water source for the Ngongotaha supply.
Issue/Challenge	Approach/Comment
<p>Reservoir storage for most water supplies is approximately equivalent to one day's consumption, and the system depends on large electric motor-driven pumps to maintain this storage. Council does not have any on-site or mobile generation equipment in that can provide power to our four largest sites in the event of a power outage.</p>	<ul style="list-style-type: none"> • Purchase or permanently hire units to be available to us at all times. • Not doing this could result in unnecessary low storage volumes during events caused by network failures or natural hazard events.
Issue/Challenge	Approach/Comment
<ul style="list-style-type: none"> • Currently Tarawera residents obtain water from various sources including the lake, springs bore and rooves. • As discussion over the need for a sewerage scheme for the area has progressed, there have also been calls for a water supply scheme to be established. 	<ul style="list-style-type: none"> • To engage with the Tarawera community regarding options for a water supply and to ensure community support. • Not doing this could result in Council not meeting community concerns over poor drinking water quality, especially with the potential for deterioration of the lake water quality, which is the existing private primary source.

<ul style="list-style-type: none"> • A major combination of issues is the large costs, small number of properties and unlikelihood of any subsidies. 	
Issue/Challenge	Approach/Comment
<ul style="list-style-type: none"> • The existing Rotoma water supply only covers a portion of the community. • There are calls for the scheme to be extended to cover all of the community. Issues include large costs, small number of properties and unlikelihood of any subsidies. 	<ul style="list-style-type: none"> • To engage with the Rotoma community regarding options for a water supply and to ensure community support. • Not doing this could result in Council not meeting community concerns over poor drinking water quality, especially with potential for deterioration of the lake water quality, which is the existing private primary source.

Most Likely Scenario for Service

The current level of service will be maintained and with operations and renewal programmes in place will sustainably deliver this level of service over the medium and long-term. Reactive maintenance costs will be monitored closely to identify transition trends from cost effective maintenance to replacement timing.

Innovation is likely to reduce renewal costs in the medium term, with optimised renewal programmes bridging any gap between the theoretical depreciation curve and the actual renewal investment.

Spending on renewing potable water pipes and other network components will be at a steady level over the 30 year period.

We will work with stakeholders in the district to agree on levels of service for the provision of a water supply during and after a major event. This will then inform a work programme to ensure the system can be designed and optimised to be able to achieve this target.

Significant Future Decisions

Over the period of this strategy the Council will need to consider the following issues and make decisions with potentially significant funding implications:

- Ensuring that network renewal levels are appropriate. Theoretical network lifecycle curves indicate a spike in renewal demand for the period between 2018 and 2022. Actual condition validation for the next LTP of 2018-2028 will inform renewals budgets for the period.
- Ensuring storage levels are appropriate. While population and demand growth appears steady and low for now, these may change if economic growth accelerates. No immediate decisions are required, but trends will be monitored to inform future LTP reviews.
- Ensuring source protection and/or replacement. Depending on resource consent applications with the nearest been in 2019.
- Improvements associated with the development and maintenance of an increasingly resilient network. The region's emergency management plan will inform any augmentation of resiliency requirements by 2018.

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Infrastructure and Financial Profiles

While the theoretical lifecycle curve for the water supply network indicates a gap between depreciation and actual renewal allocation, further work is required to validate the actual condition of the asset. At present the theoretical lifecycle appears to be conservative as we see no rapid demand escalation for reactive repairs, and the network meets supply demand without stress.

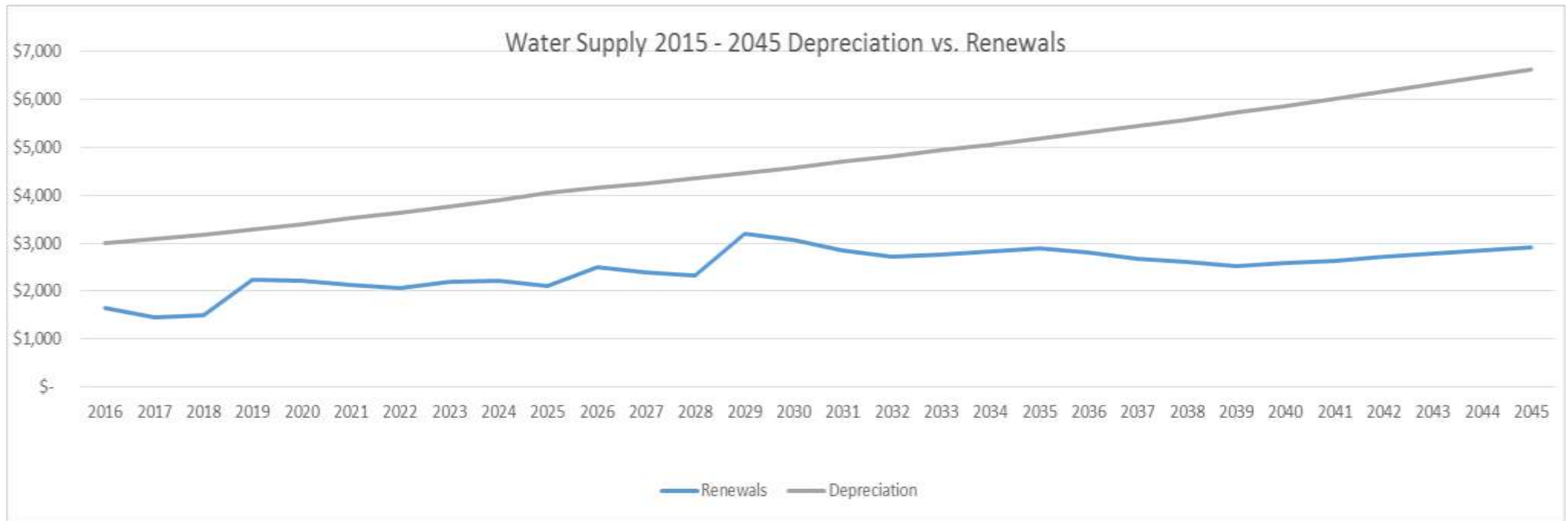
The following tables and graphics demonstrate the detail of information that Council has at its disposal to monitor the performance of its infrastructure assets. It also clearly demonstrates expected future financial commitments expected in each asset class.

Over the next three years a combination of hydraulic modelling and actual condition assessment will indicate whether Council needs to augment its investment in optimised renewal programmes and capacity upgrades. The results of these programmes will inform our asset management programmes over the 2018-21 period and beyond.

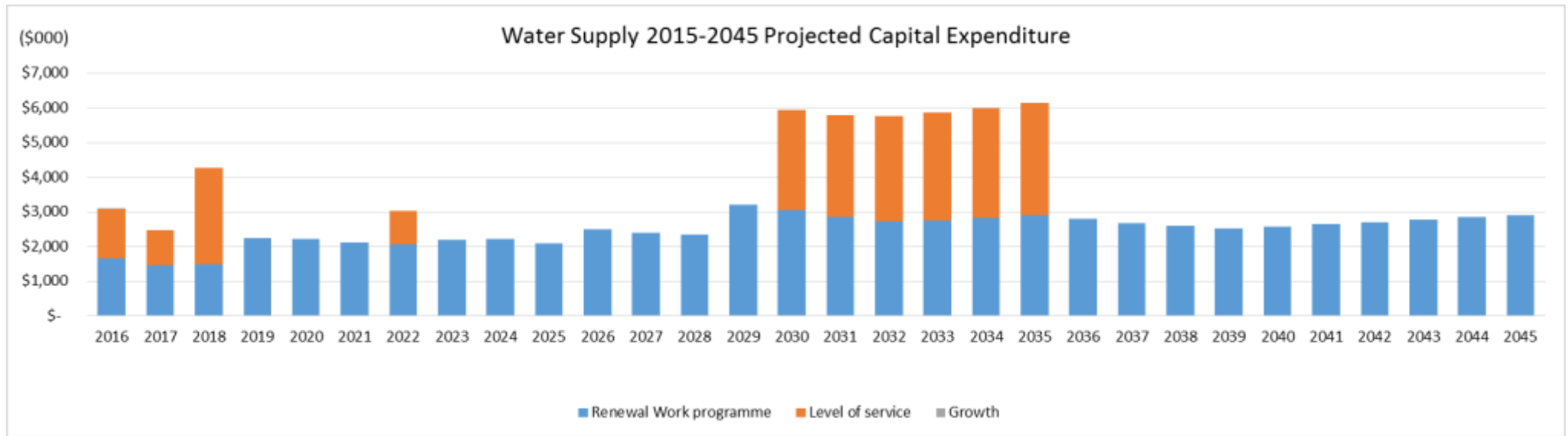
Water Supply – 2015-2045 Financial Plan

Water Supply	\$000	2016	2017	2018	2019-2025	2026-2030	2031-2035	2036-2040	2041-2045	30 Year Total
Income		9,002	9,257	9,528	80,825	70,130	79,344	89,772	101,567	449,425
Operating Expenditure		7,119	7,257	7,450	56,196	44,343	50,160	56,746	64,198	293,469
Depreciation		3,005	3,094	3,185	25,588	21,824	24,690	27,933	31,605	140,924
Net Operating Loss		(1,122)	(1,094)	(1,107)	(959)	3,963	4,494	5,093	5,764	15,032
<i>Add: Depreciation</i>		(3,005)	(3,094)	(3,185)	(25,588)	(21,824)	(24,690)	(27,933)	(31,605)	(140,924)
Net Spend		1,883	2,000	2,078	24,629	25,787	29,184	33,026	37,369	155,956
Capital Renewals		1,656	1,458	1,490	15,154	13,481	14,043	13,186	13,882	74,350
Capital Growth		0	0	0	0	0	0	0	0	0
Capital Levels of Service		1,414	1,020	2,789	969	2,881	15,523	0	0	24,596
Total Capital Expenditure		3,070	2,478	4,279	16,123	16,362	29,566	13,186	13,882	98,946
Net Expenditure		4,953	4,478	6,357	40,752	42,149	58,750	46,212	51,251	254,902

Water Supply 2015 – 2045 Depreciation Vs Renewals



Water Supply 2015 -2045 Projected Capital Expenditure



Wastewater

Summary

Our wastewater service is focused on providing for safe and reliable conveyance and treatment of wastewater. This incorporates conveyance of wastewater from households and other properties to treatment plants, and the provision of treatment that meets environmental and health standards as embodied in resource consent conditions. We have a large inventory of physical assets, and require significant funding commitments for the operation, renewal and development of the network.

Wastewater network primary assets are pipes for conveyance and treatment plants. Flagship projects focusing on the construction of an alternative to the urban treated effluent land disposal system, and the reticulation and treatment facilities for the remainder of the Lakes communities, are currently underway or in the very early stages of scoping and development.

In response to pressing water quality concerns of Lake Rotorua and the other lakes within the district, and the highly aggressive subsoil conditions in some areas, Council has always researched, constructed and operated wastewater facilities with the objective of utilising the highest level of innovation and effectiveness to address the challenges.

To attain high levels of expected nutrient removal, treatment plants and network optimised renewals are necessary to operate within this environment. Council has to remain at the forefront of performance and technical knowledge.

Wastewater Infrastructure Profile and Levels of Service

Our wastewater infrastructure is in good condition and our levels of service are meeting the needs of the district. These service levels are sustainable but expensive. Our current operations, programmes and financial commitments can sustain this level of service over the immediate and medium-term (10-30 year horizon). Where high-risk assets are operated at near capacity, close monitoring will occur to ensure timely intervention so any part failure is not unacceptably disruptive to the service.

Although the earliest wastewater networks in Rotorua date from the late 1890s, most urban reticulation and treatment has occurred during the 1970s and 1980s, and in 2010 for the more recent expansions into lakeside communities as part of the Rotorua Te Arawa Lakes Water Quality Programme (in conjunction with the BOPRC, TALT and MfE).

Anticipated network renewals for these systems highlight funding peaks after their 50 year theoretical lives, in 2030 and 2060. Further, very aggressive soil and geothermal conditions in parts of Rotorua mean much shorter life expectancy for part of the network. (Parts of the network in areas such as Ohinemutu have historical life expectancies of 10 years, even with the most modern technologies and materials.)

Condition monitoring, condition assessment and the use of modern technologies will even out renewal and replacement expenditure profiles. Council also implements leading trade waste and pollution control practices to reduce wastage, recover costs on a user-pays basis and reduce consequential impacts of spillages or overflows. Council is engaged in an innovative and groundbreaking joint project with SCION and MfE to develop a thermal deconstruction plant for wastewater bio-solids. Called TERAX, this project is now in the final design stages.

Broad Network Information

Key Assets	Qty.	Estimated Replacement Value \$000	Life Cycle	Annual Renewal \$000 (30 yr average)	Maintenance \$000
WWTP	1	42,125 (2011)	10-100 yrs.	832	6,260
Land disposal system	1	19,772 (2011)	8 – 50 yrs. There is a small number of assets with lives 100 yrs. +. (i.e. ponds)	0 will be obsolete	645
Pump Stations	83	9,842 (2011)	10 – 75 yrs.	317	862
Reticulation Network	500 kms	240,155 (2014)	15-100 yrs.	3,413	2,613
TOTAL	N/A	311,894	Varied	4,562	10,380

Asset General Condition

The wastewater treatment plant is in good condition with some further treatment modules planned over next three years.

The land disposal system is in good condition; however, its operating efficiency has deteriorated in recent years.

Pump stations are in general good condition, but in geothermal areas there are signs of early structural deterioration.

Pipeline network is in general good condition, although there are some parts that are in poor condition due to age and location in geothermal areas.

Growth and Demand

Service demand pressure is likely to come from an increase in population, and from tourism or business growth. Any large industrial type uses built adjacent to the urban area will likely connect to the urban system to provide for cost effective treatment.

Due to very tight constraints on nutrient discharge to the Rotorua Lakes, our wastewater treatment will need to continue to play a leading role in nutrient reduction to the receiving environment. This may increase demand for highly effective nutrient removal ability of the wastewater plant.

Key Projects and Programmes to address growth and demand

Project/Programme	Description	Estimate \$000	Note
Network improvements	Connecting Brunswick Park properties to new reticulation and work associated with the eastern corridor.	750	2016 -2025. This programme could be abandoned or reduced but it would create a capacity issue, compromising future development.
New Treatment schemes	Possible new small community schemes at Rotoiti, Rotoma, Rotoehu, Tarawera and Mamaku	60,000	2016 – 2025 Rotoiti and Rotoma are well advanced, but others are highly dependent on community support and agreements on funding options. The alternative is to abandon the programme and accept that each property will make its own arrangements, with sub-optimal outcomes
WWTP upgrade project	Major upgrade to the treatment process to produce an effluent quality that could be disposed to land or water.	25,000	2016 – 2019. Reduction or abandonment of this programme would place Council in a non-compliance position with regards to its resource consents.
Plant improvements	Treatment plant and pump station upgrades to address risk from power outages and volcanic ash fall.	660	2016 – 2017. Council may opt to abandon the programme and accept a lower resiliency level for some of its critical assets.
TERAX	Construction of a plant to thermally deconstruct bio-solids and produce useful by-products.	7,000	2016 -2018 Still in final evaluation/design stage Council may opt to abandon the project and continue to dispose of bio-solids on land, after composting.
TOTAL		93,410	

Key Risks and Challenges

Risk profile and current risk management plans

Wastewater Risks

Risk	Risk Management Approach
<ul style="list-style-type: none"> • Seismic / Volcanic tremor vulnerability/weather events. • All assets are at risk of structural damage and/or slumping due to the effects of land subsidence or liquefaction. 	<ul style="list-style-type: none"> • A robust emergency response and recovery plan. Maintain redundancy and alternative options • Structures regularly inspected and repairs made as necessary. • Seismic risk part of new design parameters. • Not doing this work would increase potential for failure of the network at unacceptable levels of risk.
Risk	Risk Management Approach
<ul style="list-style-type: none"> • Limited network capacity. • Certain parts of the network are under-capacity, particularly in rain events, due to inflow and infiltration of stormwater into the network. 	<ul style="list-style-type: none"> • Utilise flow monitoring and network modelling, followed by traditional inflow and infiltration reduction techniques to reduce extraneous flow into the network. Upgrade network and treatment where specific development or sprawl mandates. • Not doing this work would reduce levels of service and increase the risk of sewage overflows
Risk	Risk Management Approach
<p>Increasingly demanding and costly regulatory compliance. The Rotorua Lakes Strategy means very stringent limits on nutrient discharges and corresponding discharge consent limits, which are difficult and costly to comply with. Sewage overflows from the network are under close scrutiny from regulators who are increasingly inclined to consider prosecution as an option.</p>	<ul style="list-style-type: none"> • Development of additional treatment and disposal systems. • Close monitoring and management of operations to ensure that all practicable steps have been taken to eliminate overflows from the network. • Not doing this could result in potential for failure of the network at unacceptable levels of risk.

Wastewater Challenges Ahead	
Issue/Challenge	Approach/Comment
Effective management of WWTP bio-solids	<ul style="list-style-type: none"> • Council, in conjunction with SCION, is in the process of developing thermal deconstruction technology (TERAX) which should provide a disposal option for bio-solids from the WWTP and, possibly in the future, all solid waste. A pilot plant with an estimated cost of \$12.5m is under design and programmed for construction in the 2015 and 2016 years. • Not doing this work would reduce Council’s ability to control the effective disposal of bio solids from the WWTP.
Issue/Challenge	Approach/Comment
Council’s resource consent to dispose of treated effluent on land in the Whakarewarewa Forest expires in 2021. Due to concerns of landowners about this discharge, Council has agreed to take all practicable steps to identify alternative treatment and disposal options in order to cease operations in the forest by 2019.	<ul style="list-style-type: none"> • Proceed with consultation on, and evaluation of, alternative options and progress to detailed design, resource consent application, construction and commissioning by December 2019. • Not doing this work could result in unnecessarily protracted and expensive consent renewal processes, and reduce certainty of disposal.
Issue/Challenge	Approach/Comment
The community has strongly indicated a desire to protect and improve lakes water quality and public health issues around Lakes Rotoiti and Rotoma by installing a system to cater for sewage discharges from these lakeside settlements. Government funding has been made available for this project, but there is a time limitation to its availability. Agreement has been reached on an appropriate	<ul style="list-style-type: none"> • Scope, design and implement appropriate treatment system that is environmentally acceptable and fiscally sustainable. • Not doing this work could result in a reduction of water quality in lakes Rotoiti and Rotoma, and an increase in public health issues within lakeside communities.

type of disposal and treatment system.	
Issue/Challenge	Approach/Comment
<p>In the event of sustained loss of electrical power to the WWTP, Council has a limited amount of on-site generation capacity, but not enough to provide full treatment in the event of outages lasting more than four hours under normal flow conditions.</p>	<ul style="list-style-type: none"> • Purchase or permanently hire a unit to be available at all times. • Not doing this would result in emergency discharge of wastewater at unacceptable levels of risk.
Issue/Challenge	Approach/Comment
<p>The MBR tank is open to the air, and would be rendered inoperable should a volcanic ash-fall be experienced in Rotorua. This is a critical facility, and there have been at least two eruptions at Ruapehu within the last 20 years that had the potential to shut down and damage the MBR. Considering this likelihood and consequence, a protective cover is proposed.</p>	<ul style="list-style-type: none"> • Design and construct a cover for the MBR structure to protect from ash fall. • Not doing this work would result in disruption to treatment processes and expensive repairs to the membrane filters due to volcanic ash.
Issue/Challenge	Approach/Comment
<p>There have been calls for Council to promote reticulated sewerage schemes for the communities of Tarawera, Rotoehu and Mamaku. The cost of such projects is likely to be large in relation to the numbers of properties in serviced areas. There is currently no funding available for this.</p>	<p>Assess and monitor environmental and community adverse effects. Establish key benchmarks for adverse effects before any mitigation options are scoped and funded.</p>

Most Likely Scenario for Service

Current levels of service will be maintained, and operations and renewals programmes in place will continue to adequately deliver levels of service sustainably over the medium and long-term.

Significant investment into new treatment projects and re-configuration of the current one is anticipated over the life of this strategy. The primary drivers for these investments are increasing constraints in discharges to the receiving environment and community expectations around lakes.

Significant Future Decisions

Over the period of this strategy the council will need to consider the following:

- Funding and consenting impacts of water quality standards in the National Policy Statement on Freshwater Management set through BOP regional plan review and whitua processes in 2016.
- Development and maintenance of an increasingly resilient network.
- A delivery model that Council wishes to employ at the end of the current forest disposal tenure in 2019.
- Options for reducing the impact of waste water sludge (bio-solids) on solid waste minimisation initiatives, in 2016.

Financial Commentary

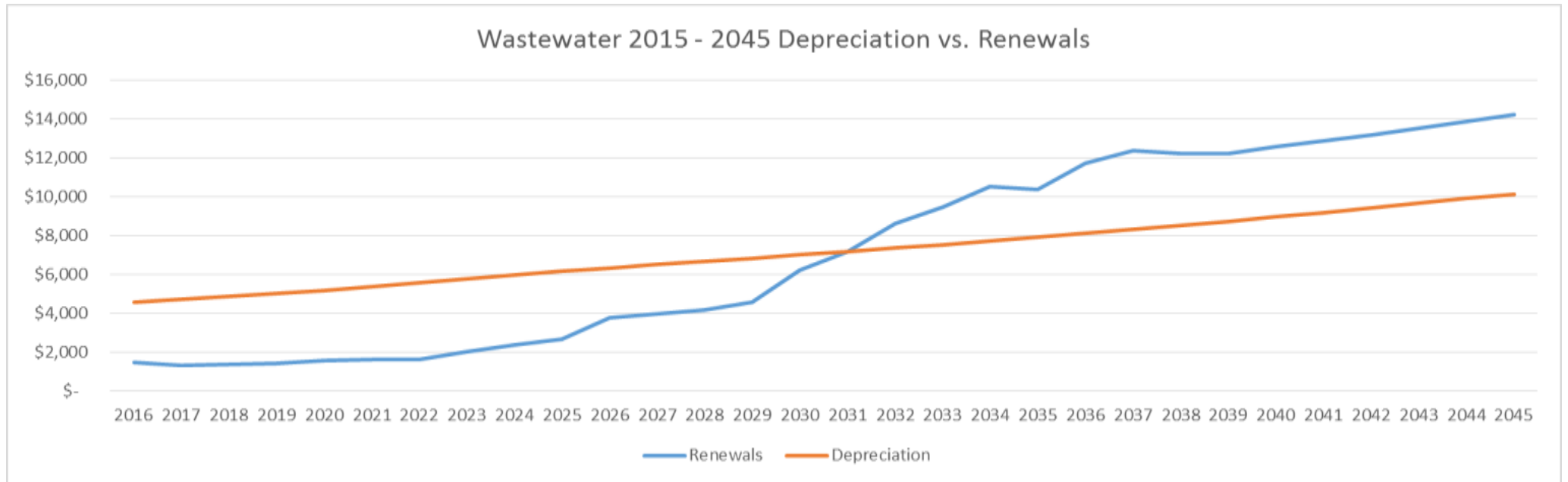
While the theoretical lifecycle curve for the water supply network indicates a gap between depreciation and actual renewal allocation, further work is required to validate the actual condition of the asset. Currently it appears that the theoretical lifecycle is conservative as we see no rapid demand escalation for reactive repairs, and the network meets supply demand without stress.

The forecast actual costs over the next 100 years are closely aligned with what is budgeted in the LTP. A high proportion of future renewals work is concentrated in time periods, which will be reviewed and revisited using enhanced condition and asset performance monitoring.

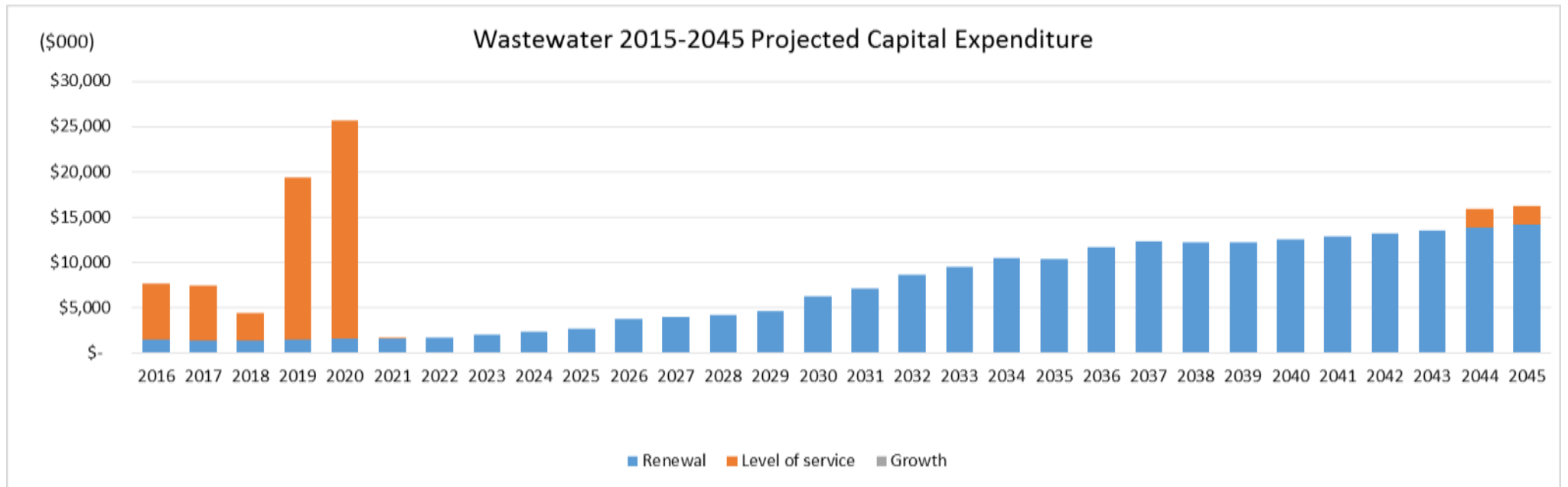
Wastewater 2015 – 2045 Financial Plan

Wastewater	\$000	2016	2017	2018	2019-2025	2026-2030	2031-2035	2036-2040	2041-2045	30 Year Total
Income		15,383	15,807	16,254	129,398	110,299	124,796	141,193	159,750	712,880
Operating Expenditure		8,696	8,831	9,686	78,462	58,250	65,903	74,560	84,345	388,733
Depreciation		4,592	4,728	4,868	39,104	33,360	37,748	42,706	48,317	215,423
Net Operating Loss		2,095	2,248	1,700	11,832	18,689	21,145	23,927	27,088	108,724
<i>Add: Depreciation</i>		(4,592)	(4,728)	(4,868)	(39,104)	(33,360)	(37,748)	(42,706)	(48,317)	(215,423)
Net Spend		6,687	6,976	6,568	50,936	52,049	58,893	66,633	75,405	324,147
		0	0	0	0	0	0	0	0	0
Capital Renewals		1,504	1,357	1,371	13,398	22,754	46,166	61,120	67,616	215,286
Capital Growth		0	0	0	0	0	0	0	0	0
Capital Levels of Service		6,117	6,068	3,062	42,125	0	0	0	4,101	61,473
Total Capital Expenditure		7,621	7,425	4,433	55,523	22,754	46,166	61,120	71,717	276,759
Net Expenditure		14,308	14,401	11,001	106,459	74,803	105,059	127,753	147,122	600,906

Wastewater Depreciation Vs Renewals Graph



Wastewater 2015 – 2045 Projected Capital Expenditure



Strategy Development and Review

The 30 Year Infrastructure Strategy [30IS] will be reviewed in each three-yearly Long-Term Plan review. Our 30IS will evolve and develop as infrastructure management capability evolves. As the quality of our information and analytics improves understanding of our assets, levels of service and demand for those services, we will focus on infrastructure strategies, planning and outcomes.

The horizon for our strategy will be held at a 30 year constant for each iteration; as the strategy develops the legacy of changes will be quantified in the document. In theory, there should be continuity across 30IS development cycles and it should be possible to pick-up our 30IS years later and see a clear and concise pathway of progression. In practice, this would encompass:

- A review of any material changes in principle, direction and focus of the strategy.
- A synopsis of the drivers for those changes, both internal and external.
- A structure highlighting the continuity of one iteration of the strategy to the next.

Significant forecasting assumptions

Introduction

In preparing forecasts, both financial and non-financial, there is a need to provide assumptions to address the uncertainties of the future. This is important for a number of reasons, including:

- allowing readers of the forecasts to understand the basis that financial information has been prepared on.
- providing a means of explaining differences that will inevitably occur between the actual result and that which was forecast.
- ensuring risks faced by the organisation in the future have been appropriately identified and evaluated.

The following societal trends have been used as a basis for preparing the Long-term Plan:

- There will be an increasing proportion of Maori residents.
- Rotorua's population will become more multicultural, including increases in residents from Pacific Islands and Asia, over the next twenty years.
- The number of people aged 75 and over is expected to increase over the next twenty years.
- More than half of Rotorua's young people are of Maori descent and this is expected to continue although the number of young people in the district is expected to decrease over the next twenty years.

The purpose of this section is to:

- comment on the process used to develop assumptions
- analyse legislation
- understand best practice
- set out the major assumptions
- outline any continuous improvement that may be required.

Integrated Risk Management (IRM)

Council has adopted an Integrated Risk Management (IRM) framework and process as the means for managing risk within the organisation. The IRM process and framework is intended to demonstrate responsible stewardship by Rotorua Lakes Council on behalf of its customers and stakeholders. It

ensures that risk is managed from an organisational perspective, facilitating the effective and transparent allocation of resources to where they will have most effect on the organisation in successfully delivering its services. The process is integrated into the Long-term Plan 2015-2025.

The aim is to integrate risk management into Council's organisational decision making so that it can achieve its strategic goals cost effectively, while optimising opportunities and reducing threats.

Summary of Significant Assumptions

The following assumptions have been used in preparation of estimated financial statements in this Long-term Plan:

Assumptions, Risks and Uncertainties for 2015-2025 Long-term Plan Risk Assessment Matrix				
No.	Assumption	Likelihood	Consequence	Overall Risk
1	Asset lives	Unlikely	Minor	Low
2	Funding sources	Very unlikely	Medium	Moderate
3	Growth assumptions	Possible	Minor	Moderate
4	Cost growth	Possible	Medium	Moderate
5	Subsidy rate	Likely	Medium	Moderate
6	Asset revaluations	Possible	Medium	Moderate
7	Return on investments	Unlikely	Minor	Negligible
8	Interest on borrowing	Possible	Medium	Medium
9	Resource consents/designations	Possible	Medium	Moderate
10	Currency exchange rates	Likely	Minor	Low
11	Renewability of debt funding	Very unlikely	Medium	Moderate
12	Structure of local government	Unlikely	Medium	Low
13	Legislative demands on council resources	Possible	Medium	Moderate
14	Information technology disasters	Possible	Medium	Moderate
15	Local natural disaster	Unlikely	Major	Low
16	Climate change	Possible	Medium	Low
17	Emissions trading scheme	Possible	Minor	Low
18	Insurance	Possible	Medium	Low
19	Other Revenue	Possible	Minor	Low
20	Subsidies and Grants	Possible	Medium	Moderate
21	Capital Spending	Possible	Medium	Low

Forecasting Assumptions Commentary

1. Asset lives

Assumption

Council holds a number of assets that are significant to its operations and provision of services. These include assets related to water supplies, waste water, parks and reserves, stormwater, airport, roads, library, museum, events venues, buildings, plant and equipment. The assumption is that assets will function as expected for the duration of their estimated useful lives. The useful lives of these assets are referred to in the Statement of Accounting Policies and summarised in the table below:

	Years
Water supplies	5 to 130
Waste water	5 to 140
Parks and reserves	5 to 100
Stormwater	10 to 130
Roads	7 to 100
Buildings	2 to 80
Plant and equipment	10 to 20
Landfill	3 to 100

Risk

The risk is that the assets will not last as long as forecast and will need replacement earlier than planned. This would require the funding of replacements to also be brought forward. One option may be to see if other replacements could be delayed to avoid having to increase the rates required to fund this. Council's modelling does not depreciate assets until the year after capitalisation. However if not, then rates would increase in the year of the replacement, but not be required in the year the replacement was planned, so it is only a timing issue. Additional costs associated with the timing and lives of assets would be an interest component and/or depreciation component impacting rates and/or debt. For every \$1million movement in debt there would be an approximate interest impact of \$54,000.

Risk Assessment

Asset management plans are in place for these assets, and professionally qualified staff and consultants have been engaged over the years to advise on this risk. The risk is now well understood and considered to be low.

2. Funding sources

Assumption

That the various funding sources for assets and activities included in the Asset Activity Statements and the Funding Impact Statement will continue to be available to meet these requirements.

Risk

With the risk of a significant portion of available external funding being channelled to Christchurch or higher yielding development portfolios, some sources of funds may significantly reduce.

Risk Assessment

This risk is considered to be moderately low over the term of the plan as the majority of the funding included comes from user pays or general rates. Council, through the Local Government Funding Agency and traditional lenders, has the opportunity to diversify access to external funding. If there are projects/ activities within the plan that utilise external funding, that funding has only been included where there has been an acknowledgement of support.

3. Growth assumptions

Assumption

In order to inform future planning, growth assumptions have been developed identifying a number of growth scenarios. Council believes that it needs to be proactive in its assessment of growth to investigate strategic level implications, and view the consequences for future land use planning and asset management. Berl has provided projections for future population based on migration, unemployment and labour force factors and assume that a growing economy will generate increased employment (particularly on the back of a recovery in tourism) and discourage outward migration.

Rotorua Lakes Council's growth model makes growth assumptions for the district through to 2045. The assumptions identify three key parameters: population, households (represented as household equivalent units - HUEs), and visitor nights.

The growth assumptions are not for the purpose of setting growth targets, nor are they assumptions that seek to promote growth. The assumptions have been developed in order to ensure that there is sufficient infrastructure provided for managing increases in population and visitors over the next 10, 20 and 40 year periods, and ensuring that there is sufficient zoned land to enable projected growth to occur. Council has decided to take the cautious approach to planning for growth in the wake of recent past economic crises and natural disasters such as the Christchurch earthquake. To this end a low forecast for growth (approximately averaging 0.33% pa over the 10 year period) has been used for modelling of project expenditure and needs assessments for capital investment.

Risk

The risk is that growth is much higher or lower than that factored into the Long-term Plan. If lower, the district will have a lower rating base to collect rates from, resulting in higher than planned rates increases, and infrastructural assets (roads, water, and wastewater) will have greater capacity than required. However if growth is higher than the assumptions applied, the district could experience a demand higher than the capacity of the assets, which could result in asset failures and a need to rapidly and heavily invest in assets to accommodate the growth. This in turn would result in much higher than planned debt or a significant increase in rates (or both).

Risk Assessment

Currently growth is planned to be low and, taking into account the current economic conditions and expected slow recovery, the risk is considered low.

4. Cost growth

Assumption

The Reserve Bank Act requires that price stability be defined and negotiated between the government and the Reserve Bank. This is called the Policy Targets Agreement (PTA) and defines price stability as annual increases in the

Consumers Price Index (CPI) of between 1 and 3 percent on average over the medium term, with a focus on keeping future average inflation near the 2 percent target midpoint. The inflation assumption currently used by Treasury after five years is the mid-point of the RBNZ target range of 1.0% pa to 3.0% pa, being 2.0% pa. History has shown that 2.5% (0.5% above midpoint) is a probable outcome in the shorter term. The Business and Economic Research Limited (BERL) price change estimates are shown below for two specific areas used in this Long-term Plan (% are per annum change).

Years ending 30 June:	Operating - LGCI Staff (%)	Operating - LGCI Other(%)
2016	1.8	2.3
2017	1.9	2.5
2018	2.0	2.6
2019	2.1	2.7
2020	2.2	2.9
2021	2.3	3.0
2022	2.4	3.1
2023	2.5	3.3
2024	2.6	3.4
2025	2.7	3.6

Risk

That prices rise higher than the assumptions built into the plan. Higher than expected inflation will result in higher rates increase or a reduction in service levels if overall pools of funds for capital spend are not altered.

A lower inflation factor will allow a lower than planned rates increase or reduction of debt. The effect of this would be as follows - for \$100 million of costs a 1% increase would mean a \$1 million increase in costs.

Risk Assessment

A number of factors will affect economic performance and certainty around these cost factors is difficult to judge. BERL has had many years of experience in providing cost adjustors to local government and is the best known resource available. However, with volatility within the global economy, currently the risk is considered moderate.

5. Subsidy rate

Assumption

Council receives subsidies from New Zealand Transport Agency (NZTA) for local roads within the district, of 51%. This subsidy comes from road user charges and petrol tax, and is allocated to roading projects at the rates listed below, depending on the type of project.

Financial assistance rates	%
Year 1 - 2016	51
Year 2 - 2017	52
Year 3 - 2018	53

It is assumed that the projects in the Long-term Plan will be subsidised at these rates.

Risk

The risk is that transport projects included in the Long-term Plan will not be approved by NZTA due to lack of funds or the subsidy rates are reviewed down. This would result in a shortfall in funding for planned projects. The largest risk is around renewals and maintenance, so if the subsidy is reduced, the level of service for renewals and maintenance would be reviewed and reduced to fit the budget.

Risk Assessment

Financial assistance rates (FAR) have been reviewed and are now set for the next three years. Therefore risk is currently considered moderate.

6. Asset revaluations

Modelling parameter

An annual valuation has been modelled using the “Other” inflation factor at section above for each year of the Long Term Plan.

Risk

The risk is that asset values over the period of the plan are significantly different to the estimated increases in the Long-term Plan.

Risk Assessment

The modelling assumption does not align with accounting practice of revaluation of particular assets classes on a three year rolling cycle. However, there is no real effect on cash flow or rates as a result of revaluation differences, but the replacement and maintenance of these assets will require more funds which will eventually result in higher than planned rates increases. Risk is considered moderate.

7. Return on investments

Assumption

It is assumed cash investment will net 4.4% return on short term cash investments over the duration of the Long-term Plan. Although the interest earned on short term cash investments will fluctuate considerably over the 10 years, it is not considered material and so a single assumption for all of the ten years has been used.

Risk

The risk is that Council will obtain lower returns on its cash investments.

Risk Assessment

As Council has minimal investments, this risk considered negligible.

8. Interest on borrowing

Assumption

Council has an actual portfolio of fixed interest rate debt that matures at various times over the next 6 years. The weighted average cost was 5.47% at June 2014. Taking into account current low interest rates and the slow economic recovery, the interest rate on the cost of borrowing for the Long-term Plan is as follows.

Year	Interest Rate
2016	5.4%
2017	5.4%
2018	5.6%
2019	5.8%
2020-2025	6%

Risk

The risk is that interest rates will be in excess of the 6.0% assumption. A movement in interest rates of 0.5% on debt of \$100million is \$500,000.

Risk Assessment

Council has a Treasury Management Group (TMG) which includes external experts. The TMG meets regularly to closely monitor council's levels and profile of debt as well as keeping up to date with global and local economic indicators. This has proved to be successful with council achieving average interest rates within the industry. So despite the close monitoring and good controls in place, the risk is still considered medium in longer run due to the volatility and unpredictability of the many factors that can affect interest rates.

9. Resource consents/designations

Assumption

Council will need to apply for numerous resource consents, designations etc., for new projects over the Long-term Plan. Major activities that will require consents (or district plan change) include landfill, water supply, new cemetery site and roading. It is assumed that all necessary consents will be granted when required with reasonable conditions.

Risk

The risk is that consents will take longer to be granted and therefore not be available at the time assumed within the Long-term Plan for commencement of the development; will include conditions that are more onerous than anticipated and the development becomes substantially more expensive, potentially to the extent that it becomes uneconomic to proceed or are not granted.

Risk Assessment

In deciding on and costing projects for the Long-term Plan, Council is well aware of the requirements to meet resource consent requirements; however the risk is around notified consents that could be appealed in the Environment court. This has the possibility to make the consent process both costly and long. The risk is therefore considered moderate.

10. Currency exchange rates

Assumption

It is assumed that currency exchange rates, particularly US and Australian dollars, will not fluctuate significantly during the period on the Long-term Plan. The exchange rates used is the BNZ 10 year average as at February 2015.

NZD \$1 = \$0.74 USD NZD \$1 = \$0.84 AUD

Risk

This assumption applies to certain pumping equipment, much of the new library book purchases, some computer software, accommodation and expenses associated with overseas travel, are in USD. Council has minimal exposure to currency movement risk in respect of significant assets or liabilities.

Risk Assessment

The amounts involved in foreign currency exchange rates for council are not considered material, so risk is low.

11. Renewability of debt funding

Assumption

It is assumed that Council's portfolio of debt, which has differing maturity dates from 1 to 6 years and new funding required, will be able to be raised on favourable terms.

Risk

The risk is that Council will not be able to raise new debt on favourable terms. The result would mean council would have to borrow at higher than planned interest rates.

Risk Assessment

Local government is a very low risk to investors, second only to central government. For this reason it is very unlikely that council will not be able to raise funds on favourable terms as and when required. Council has a comprehensive treasury policy and management practices, employs expert advice when required, has a debenture trust deed for raising loans and

employ qualified staff. Habitual lenders have always shown confidence in Rotorua Lakes Council in the past and this is not likely to change.

In addition the raising of debt is structured so that less than \$60 million is required to be raised in any one year. This helps to limit Council's exposure to difficult borrowing market conditions in any one year of the Long-term Plan. This risk is considered moderate.

12. Structure of local government

Assumption

Effective local government discussions have increased across New Zealand following the changes in the Auckland region but there are no clear or agreed scenarios within the Bay of Plenty region.

Risk

The risk is that continued discussions lead to dis-function and increased costs in local government. These could alter council's structure and would impact the ability to successfully implement the contents of the Long-Term-Plan

Risk Assessment

Central government has indicated local government re-organisation would only happen if communities want it. There is no visible groundswell for reform in the Rotorua District but there is more risk through possible re-organisation in the wider Bay of Plenty that could trigger further regional change, therefore the risk is assessed as higher during the period of this plan.

13. Legislative demands on council resources

Assumption

Over the past decade there has been a substantial increase in the level of delegation from central government to local government through legislative reforms. In almost all cases there has been no funding provided to develop the policy and/or deliver these new services. This has meant that the services have had to be funded from efficiency gains, local user charges, and an increase in rates, or combination of all these mechanisms. In some instances there has been a need to increase resources, such as staff, consultants and contractors. The assumption is that any legislative reform or amendments

will not require Council to assume responsibilities that require additional resources and hence additional cost.

Risk

The risk is that there will be significant change to legislation that will cause a material change in operations and costs.

Risk Assessment

Change of Government or even a change in Ministers could have an impact on this risk, therefore the risk is considered moderate.

14. Information technology disasters

Assumption

Council runs a complex business and has a statutory responsibility to capture and retain data. In addition, Council needs to be able to provide technology support for various business functions across Council. Without the support of information and communication technology (ICT) infrastructure many of Council's services could not be provided. The assumption is, in the event of an ICT disaster, all services will continue to be provided and alternative support is available.

Risk

The risk is that in the event of an ICT disaster, services provided by Council will not be able to be delivered.

Risk Assessment

There is a range of mitigation measures adopted by Council to further reduce the likelihood of a major disaster including: sharing servers with other local authorities, such as at the library; a server virtualisation project that allows servers to be replicated in the event of a failure of any one of the servers; the OZONE platform which is used by 15 other local authorities which would provide a level of support; server room environment optimised for long life of servers; hardware renewal programme that ensures replacement before failure. This risk is considered moderate.

15. Local natural disaster

Assumption

It has been assumed that there will be no significant natural disaster during the term of the Long-term Plan.

Risk

The risk is that there could be a significant natural disaster within the next ten years that is in Rotorua or close enough to Rotorua to have a major impact on our levels of service.

Council's mitigating control for this is having business continuity plans in place.

Risk Assessment

The assessment is the chance of an event happening is low, however the effects on the district would be major.

16. Climate change

Assumption

The impacts of climate change have been taken into account allowing for additional demand on infrastructure due to climate change.

Risk

The risk is that there effects of climate change are much greater than anticipated.

Risk Assessment

Climate change effects have been measured and tracked for some time now and are reasonably well understood. This risk is low.

17. Emissions trading scheme

Assumption

There has been cost and income (arising from carbon credits) in relation to the gas flaring project at the landfill included in the Long-term Plan.

Risk

The risk is there are unknown costs associated with ETS that are not included in the Long-term Plan. This could have an effect on rates required.

Risk Assessment

It is not expected that these costs would be material to the plan so the risk is considered low.

18. Insurance

Assumption

The insurance industry now appears to have settled down and it is assumed in the Long-term Plan that with this stability that there will be no further major cost adjustors for insurance. The BERL recommended inflation factor for "Other" will be applied to each year.

Risk

The risk is that there could be further large adjustments in insurance that are not allowed for in the Long-term Plan.

Risk Assessment

If the world has another major natural disaster, there is little doubt that insurance costs will be affected, however the effects from the Christchurch and Japan earthquakes have now been built into the existing premiums and the risk of further significant price increases is considered low.

19. Other Revenue

Assumption

The other revenue is assumed to grow by 1.0% per year over and above inflation for the first three years of the long term plan. This increase is based on the assumption that revenue as at a very low point and with increased focus on revenue growth a 1.0% increase is achievable.

Risk

The other revenue does not grow as assumed in the plan and that has a negative impact on surplus or deficit.

Risk Assessment

As 1.0% growth is a small growth target and other revenue is not the main source of revenue for Council the risk is considered negligible.

20 Subsidies and Grants

Assumption

Council receives a significant amount of revenue from subsidies and grants. These subsidies and grants are in general associated with a dedicated capital expenditure or operating programme.

Risk

The risk is that given these subsidies are not guaranteed by the third party that they may not be received as budgeted or be lower than budgeted. This would result in a shortfall in funding for planned projects and could result in a negative impact on operating result and an increase in debt.

Risk Assessment

Prior to committing to most operating or capital programmes Council has an opportunity to ensure more certainty around funding. If the funding is lower or not available Council can look for alternative funding options to offset, or reassess the programme spending. This risk is considered moderate.

21 Capital Spending

Assumption

Council has budgeted a level of capital spending at 85% of its asset management plan (AMP). The AMP spend is based on information held in our asset management systems which group assets, holds condition assessments, applies assumptions and averages, which in turn determines estimated useful lives and expected replacement dates and values.

Risk

The risk is that Council spends more than 85% of its AMP over the period of the long term plan resulting in higher debt.

Risk Assessment

Over the last 6 years Council has spent on average 74% of its annual budgeted capital expenditure. Council also has the ability to reassess capital expenditure over the duration of the long term plan and reduce and reprioritise spend. This risk is considered low.

Significance and engagement policy

Date Adopted	Next Review	Officer Responsible
2 December 2014	December 2017	Governance and Partnerships Manager

1.0 Policy Purpose:

The purpose of the policy is to:

- enable Rotorua Lakes Council and our community to identify the degree of significance attached to particular issues, proposals, assets, decisions, and activities,
- provide clarity about how and when communities can expect to be engaged in decisions about different issues, assets, or other matters; and
- to inform council from the beginning of a decision-making process about:
 - the extent of any public engagement that is expected before a particular decision is made; and
 - the form or type of engagement required.

2.0 Policy outcomes

Enable Council to assess how significant particular issues, proposals, assets, and activities are and, the level of community engagement that is required once the degree of significance is known.

Make it clear about when the Council will engage and how it may engage, so that significant decisions can be made alongside the community.

Provide a guide that outlines the engagement principles that will be followed when engaging with the community.

3.0 Significance

3.1 How will the Council determine significance?

To determine the level of significance of a proposal or decision the Council will make judgements about the likely impact of that proposal or decision on:

- a) The District;
- b) The persons who are likely to be particularly affected by, or interested in, the proposal or decision; and
- c) The cost to, or the capacity of, the Council to perform its role and carry out its activities, now and in the future.

3.2 Criteria for assessing significance

The following criteria will be used as a guide to determine the level of significance of a proposal or decision being considered is significant. If any of the following criteria are met, the proposal or decision may be significant. However, the criteria should be considered collectively to make this determination.

Where the significance of a proposal or decision is unclear against any of the criterion, the council will treat the criterion as being more significant rather than less.

- a) The proposal or decision adversely affects all or a large portion of the community.
- b) The impact or consequences of the proposal or decision on the affected persons (being a number of persons) will be substantial.
- c) The financial implications of the proposal or decision on the Council's overall resources are substantial.
 - It involves \$10 million or more budgeted expenditure
 - It involves \$3 million or more unbudgeted capital expenditure
- d) The proposal or decision will be difficult to reverse once the Council has committed to it.
- e) The proposal or decision is likely to generate a high degree of controversy in the community.
- f) The proposal or decision does not flow logically and consequentially from a significant decision already made, or, does flow from a significant decision already made but with substantial variations

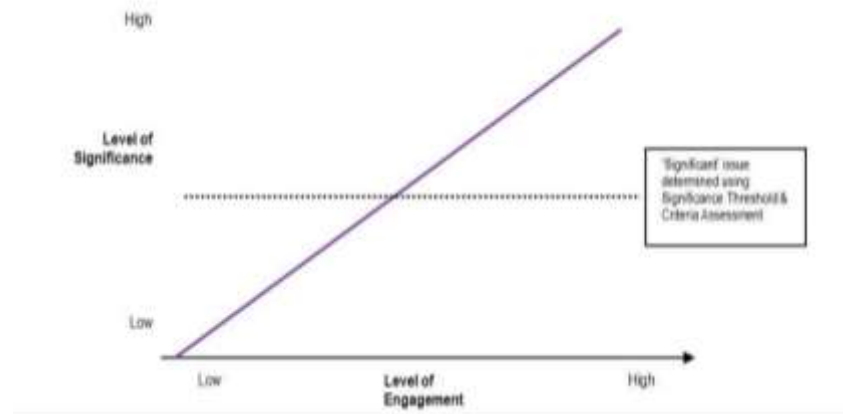
- g) It involves a proposal or decision to transfer ownership or control, or abandonment, of a strategic asset to or from council (Schedule 1 – list of strategic assets)
- h) It involves a proposal or decision to significantly change the intended level of service provision for any significant activity, including a proposal or decision to commence or cease any significant activity. A proposal is generally only considered significant if it relates to the activity as a whole. (Schedule 2 – list of significant activities)

5.0 Engagement

5.1 How the Council will determine the level of community engagement?

The Council will give consideration to the views and preferences of persons likely to be affected by, or to have an interest in, the matter, for all decisions. However, the level of community engagement that is directly undertaken will vary, depending on the level of significance attached to the matter.

In general, the more significant an issue, the greater the need for, and level of, community engagement. If the matter is considered significant, under this policy, then the Council may carry out a consultation process. (See Council’s Community Engagement toolkit for examples and guidance on engagement methods.)



5.2 When the council will engage

- a) When legislation requires that consultation or engagement be undertaken
- b) When a significant proposal or decision is being considered
- c) For some matters that do not trigger significance however are considered to have a greater level of interest from within the community.

5.3 When the council may not formally engage

- a) When, in the opinion of the council, failure to make a decision urgently would result in unreasonable or significant damage to property, or risk to people’s health and safety, or the loss of a substantial opportunity to achieve the council’s strategic objectives.
- d) When physical alterations to strategic assets are required to:
 - i. Prevent an immediate hazardous situation arising
 - ii. Repair an asset to ensure public health and safety due to damage from an emergency or unforeseen situation.

5.4 How will council engage?

Where the Council undertakes community engagement, the level of engagement, and the tools and techniques to be applied, will be tailored to the nature and significance of the matter being considered and to the target audience, notwithstanding legislative requirements. There are a variety of tools and techniques that the Council may apply when undertaking community engagement.

In carrying out consultation the Council will be cognisant of the requirements of section 82 and 82A of the LGA 2002

The Council will use the SCP (as set out in section 83 of the LGA 2002) where required to do so by law.

5.5 Engagement principles

Council will underpin all its engagement efforts with best practice principles to help establish, consistent, effective and high quality engagement with the community. These principles align with LGA 2002 principles, ensuring we meet our statutory responsibilities in this regard.

The principles also set out what community, can expect from council, while allowing for some flexibility regarding the forms that engagement may take. The following are key engagement principles, which align with LGA 2002 principles, which Council will follow in its engagement with the community.

Transparency

Council ensures that decision-making is accessible, open, honest and understandable.

Our community receives the information needed, and with enough lead time, to participate effectively.

Building Relationships and Community Capacity

Council is actively aware of, and has regard to, the views of all its communities.

Community engagement processes invest in and develop long-term, collaborative working relationships and learning opportunities with community partners and stakeholders.

Inclusiveness and Fairness

Engagement and decision-making processes identify, reach out to, and encourage participation of the community in its full diversity.

Processes respect a range of values and interests and the knowledge of those involved.

Historically excluded individuals and groups are included authentically in processes, activities, and decision and policy making.

Impacts, including costs and benefits, are identified and distributed fairly.

Māori and Tāngata Whenua Participation

Council should actively provide opportunities for Māori to contribute to its decision-making processes. Iwi Environmental Management Plans, Joint Management Agreements, Memoranda of Understanding or any other similar high level agreements will be considered as a starting point when engaging with Iwi and Māori.

6.0

Definitions

Community	A group of people living in the same place or having a particular characteristic in common. Includes key stakeholders, interested parties, and affected people, families, neighbourhoods, groups, marae, Hapū and Iwi, organisations and businesses
Decisions	Refers to all decisions made by or on behalf of council including those made by officers under delegation
Engagement	In terms of this policy, engagement is a term used to describe the process of involving the community in council decisions. Engagement occurs along a continuum from informing (the most passive form of engagement for the community) through to empowering (the most active form of engagement for the community).
Significant and Significance	The Local Government Act (LGA 2002) defines the terms “significant” and “significance”. Significance means the degree of importance of the issue, proposal, decision, or matter, as assessed by council, in terms of its likely impact on, and likely consequences for the district; any people who are likely to be particularly affected by, or interested in, the issue, proposal, decision, or matter; and, the capacity of council to perform its role, and the financial and other costs of doing so. Significant means that the issue, proposal, decision, or other matter has a high degree of significance.
Significant Activity	A list of the Significant Activities of the council is contained in Schedule 2 of this policy. Significant activities, per Schedule 2, are the activities in total and not the separate elements of the activities.
Strategic asset	The LGA 2002 defines strategic assets as an asset or group of assets that council needs to retain if council is to maintain council’s capacity to achieve or promote any outcome that council determines to be important to the current or future wellbeing of the community. A list of the strategic assets of the council is contained in Schedule 1 of this policy. For the purposes of this policy, council considers its strategic assets as a whole.

SCHEDULE 1– STRATEGIC ASSETS

For the purposes of section 76AA of the LGA 2002 the Council considers the following assets to be strategic assets.

The Council will consider the following strategic assets as a whole because it is the asset class as a whole that delivers the service.

The Council will therefore not undertake the special consultative procedure for decisions that relate to the transfer of ownership or control, or minor construction or replacement, of a part of a strategic asset, unless that decision triggers the significance thresholds and criteria outline in this policy.

The assets and groups of assets that the council considers to be "strategic assets" are:

- the council's roading network
- the council's wastewater network and treatment plant
- the council's water supply network
- the council's stormwater network
- the Rotorua Museum
- the council's public library, pensioner housing, event facilities, aquatic facilities, parks and reserves, cemeteries and crematorium
- shares in any council-controlled organisation
- waste management infrastructure consisting of disposal and collection

SCHEDULE 2 – SIGNIFICANT ACTIVITIES

The following is a list of Council's significant activities for the purposes of sections 76AA and 97(1) of the LGA 2002.

These have been determined because of their strategic importance in the delivery of service to the community. Significant activities are the activities in total and not the separate elements of the activities

Activity Group	Significant Activities
Network infrastructure	Transport networks
	Water supplies
	Sewerage treatment and disposal
	Storm water and land drainage
Solid waste	Collection
	Disposal
District Library	
Rotorua Museum	
Pensioner housing	
Gardens, Reserves, Sports grounds	Reserves
	Aquatic Centre
	Sports grounds

Long-term plan disclosure statement

Long-term plan disclosure statement for period commencing 1 July 2015

What is the purpose of this statement?

The purpose of this statement is to disclose the council's planned financial performance in relation to various benchmarks to enable the assessment of whether the council is prudently managing its revenues, expenses, assets, liabilities, and general financial dealings.

The council is required to include this statement in its long-term plan in accordance with the Local Government (Financial Reporting and Prudence) Regulations 2014 (**the regulations**). Refer to the regulations for more information, including definitions of some of the terms used in this statement.

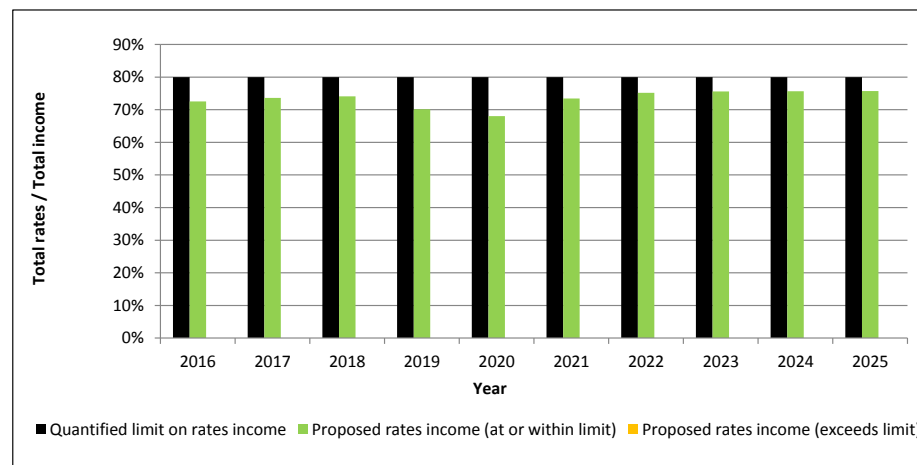
Rates affordability benchmark

The council meets the rates affordability benchmark if-

- Its planned rates income equals or is less than each quantified limit on rates; and
- Its planned rates increases equal or are less than each quantified limit on rates increases.

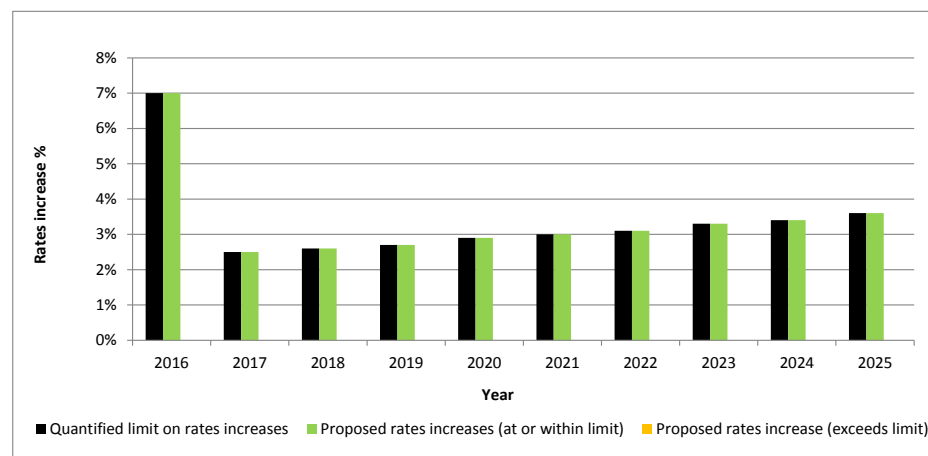
Rates (income) affordability

The following graph compares the council's planned rates with a quantified limit on rates contained in the financial strategy included in this long-term plan. The quantified limit is rates as a proportion of total revenue is less than 80%.



Rates (increases) affordability

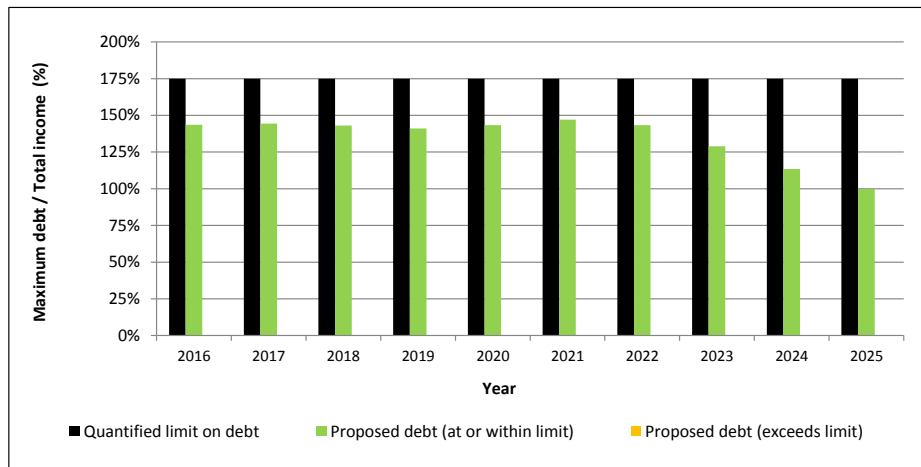
The following graph compares the council's planned rates increases with a quantified limit on rates increases contained in the financial strategy included in this long-term plan. The quantified limit is a one-off 7% increase in the first year, and from year two onwards at the prevailing rate of inflation applied to our cost base.



Debt affordability benchmark

The council meets the debt affordability benchmark if its planned borrowing is within each quantified limit on borrowing.

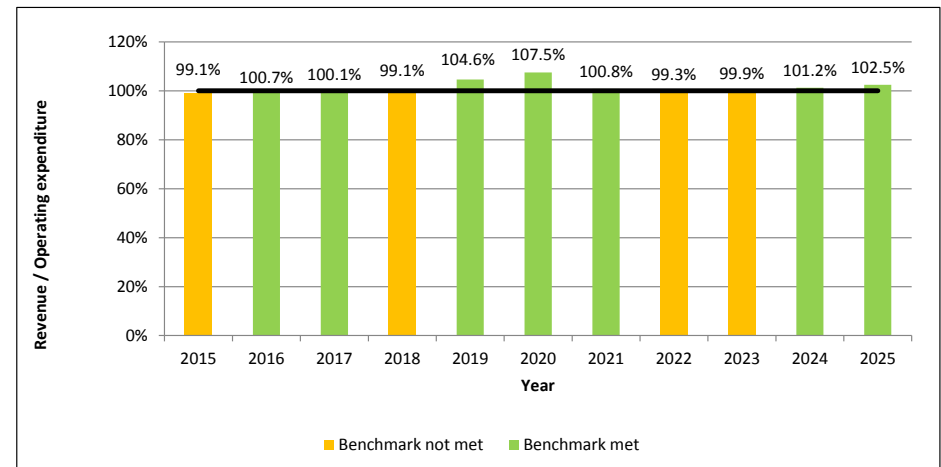
The following graph compares the council's planned debt with a quantified limit on borrowing contained in the financial strategy included in this long-term plan. The quantified limit is that total debt will be lower than 175% of total income.



Balanced budget benchmark

The following graph displays the council's planned revenue (excluding development contributions, vested assets, gains on derivative financial instruments and revaluations of property, plant, or equipment).

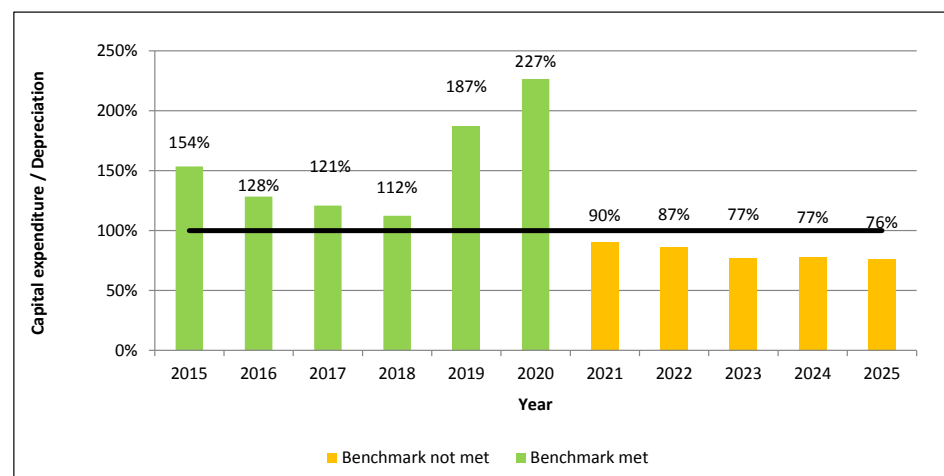
The council meets the balanced budget benchmark if its planned revenue equals or is greater than its planned operating expenses.



Essential services benchmark

The following graph displays the council’s planned capital expenditure on network services as a proportion of expected depreciation on network services.

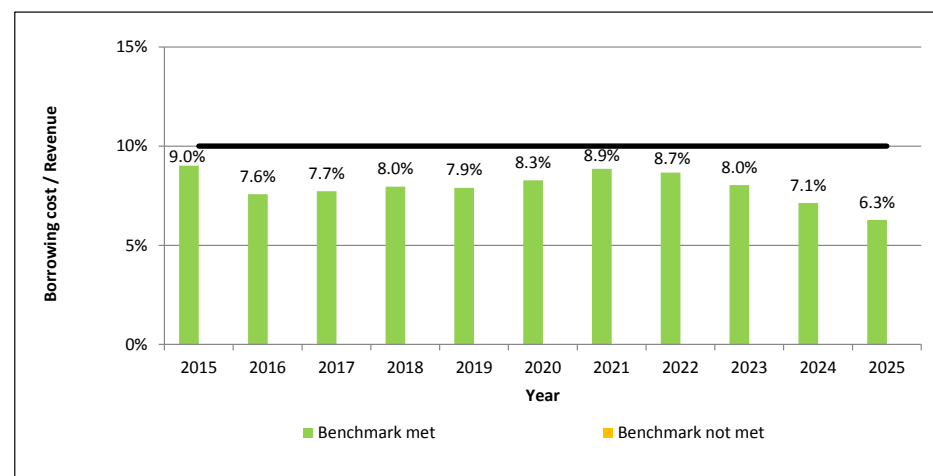
The council meets the essential services benchmark if its planned capital expenditure on network services equals or is greater than expected depreciation on network services.



Debt servicing benchmark

The following graph displays the council’s planned borrowing costs as a proportion of planned revenue (excluding development contributions, financial contributions, vested assets, gains on derivative financial instruments, and revaluations of property, plant, or equipment).

Because Statistics New Zealand projects the council’s population will grow more slowly than the national population is projected to grow, it meets the debt servicing benchmark if its planned borrowing costs equal or are less than 10% of its planned revenue.



Breach in the Local Government Act, 2002

The Council did not adopt the long-term plan before the commencement of the first year to which it relates as required by section 93(3) of the Local Government Act, 2002. The delay in the adoption was as a result of deliberations on the 2015-25 LTP Consultation Document taking longer than anticipated and to ensure all feedback obtained during the consultation process was fully considered in preparing the long-term plan.