



Roads and Transport Infrastructure Asset Management Plan



Ku-ring-gai Council
February 2014

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1. EXECUTIVE SUMMARY

Context

The Ku-ring-gai local government area is located in Sydney's northern suburbs, 16 kilometres north of the city centre. With nine suburbs, covering 84 square kilometres, the area is predominantly residential. There are significant areas of park and bushland with very little commercial and no industrial land use.

A key issue facing Council is the management of ageing assets in need of renewal and replacement. Our infrastructure, including council roads present particular challenges. Their condition and longevity can be difficult to determine.

Financing needs can be large, requiring planning for large peaks and troughs in expenditure for renewing and replacing such assets. The demand for new and improved services adds to the planning and financing complexity.

The creation of new assets also presents challenges in funding the ongoing operating and replacement costs necessary to provide the needed service over the assets' full life cycle.

Ku-ring-gai Council provides a road network in partnership with the Roads and Traffic Authority of NSW to enable vehicles and other road users to safely travel throughout the Council area.

The Transport Infrastructure network comprises:

- Local Roads
- Collector Roads
- Regional Roads
- Road Structures and Street Furniture
- Kerb and Gutter
- Bridges
- Footpaths & Cycleways
- Car parks

These infrastructure assets have a replacement value of \$549 M.

The Asset Plan Methodology

One of the important aspects of the asset management plan is the forecast of existing asset renewal requirements. For Ku-ring-gai Council the Transport Infrastructure Asset Management Plan three alternatives have been considered when developing the forecast.

AMP Renewal Scenario 1 uses the council's asset register valuation data to project the renewal costs. In this scenario the acquisition year of an asset is added to the useful life of the asset to estimate the year when renewal is due. Scenario 1 when compared to scenario 3 provides an estimate of confidence in the accuracy and currency in the register used for asset valuation purposes.

AMP Renewal Scenario 2 uses capital renewal expenditure projections assessed by technical staff to sustain current service levels. This assessment uses a combination of detailed technical analysis and an estimate of the average network renewals required.

AMP Renewal Scenario 3 is the reality of the situation when the capital renewal expenditures that can be achieved are within available funds in the Long Term Financial Plan.

In addition to the 3 methods of asset renewal forecasting this Asset Management Plan analyses 3 Funding Variations as these are currently being considered as 3 alternative options for an application for a Special rate Variation (SRV)

Special Rate Variation 1- SRV1

An existing Special Rate Variation will expire in June 2014. Should this not be retained the available funding for Roads and Transport Renewal will reduce by \$2.7M per annum (current prices).

Special Rate Variation 2- SRV2

SRV2 allows for maintaining the existing rate variation.

Special Rate Variation 3- SRV3

SRV3 includes the funding to close the gap on the funding required (described in AMP Renewal Scenario 2)

The results for the 3 scenarios described are included in this asset management plan. Scenario 1 shows that the registers are not fully aligned with funding in the LTFP. This indicates that current unit rates and useful lives in the register are consistent with current asset performance and renewal practises.

Scenario 2 was prepared using the technical estimates of what renewal is required to sustain the current levels of service, and this estimated that the renewal requirements will be beyond the current funding capacity of council.

Scenario 3 is a reflection of the actual funding available. The difference between Scenario 2 and Scenario 3 represents “what we can’t do”. The discussion about this “gap” will lead us into a much better informed community discussion about what are achievable and acceptable service levels, as well as giving a focus on managing risk

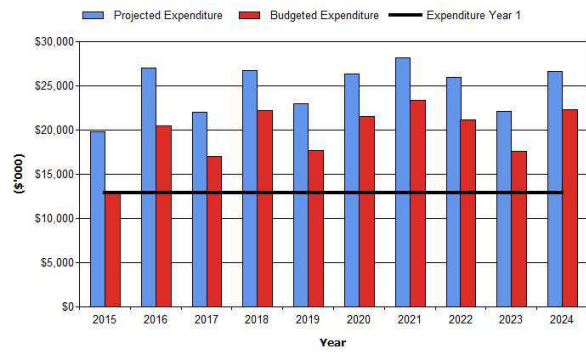
What does it Cost?

The forecast of the projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is \$247M or \$24.7M on average per year. This is based on the Scenario 2 methodology (Estimate to sustain current service levels).

If the current Special Rate Levy is continued (Special Rate Variation SRV2) the estimated available funding for this period is \$223M or \$22.3M on average per year which is 90% of the cost to provide the service.

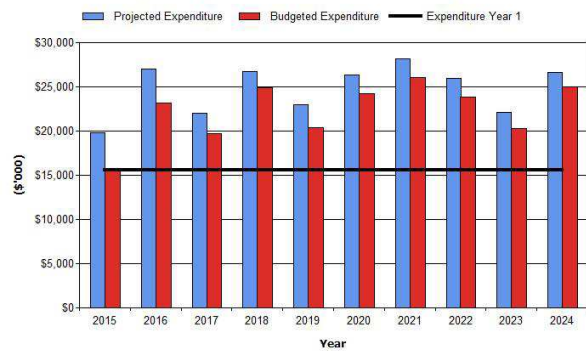
This is a funding shortfall of -\$2.45M on average per year. Projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan are shown in the graph below with the required expenditure compared with the funding for each of the 3 rate variation options.SRV1.

Ku-ring-gai - Projected and Budget Expenditure for (Transport_SRV1_2014_S2_V2)



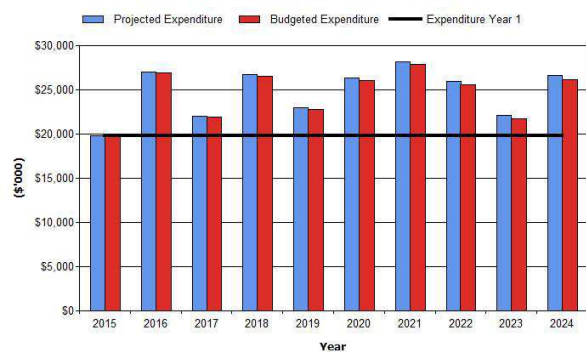
SRV2

Ku-ring-gai - Projected and Budget Expenditure for (Transport_SRV2_2014_S2_V2)



SRV3

Ku-ring-gai - Projected and Budget Expenditure for (Transport_SRV3_2014_S2_V2)



What we will do

We plan to provide Transport Infrastructure services for the following:

- Operation, maintenance, renewal and upgrade of infrastructure to meet service levels set by council in annual budgets.
- Upgrades funded within the 10 year planning period.

This will be provided to the extent of the current budget.

What we cannot do

We do not have enough funding to provide all services at the desired service levels or provide new services. Works and services that cannot be provided under present funding levels are:

- Some shortfall in the required funds to reseal roads at the optimum renewal cycle.

Managing the Risks

There are risks associated with providing the service and not being able to complete all identified activities and projects. We have identified major risks as:

- Rising costs of managing infrastructure
- Meeting Community expectations for services
- Providing the most appropriate and affordable infrastructure for the community
- Highly variable and unpredictable extreme weather events, and the impact this will have on transport assets. What seemingly is a manageable position can change very quickly.
- The dependence on grants from other tiers of government

We will endeavour to manage these risks within available funding by:

- Manage the existing infrastructure
- Manage the expansion of any transport infrastructure based on the priorities established in the Community Plan.
- Expand transport infrastructure in a financially responsible manner and as funded in Council's Long Term Financial Plan.
- Seek additional funding in the form of grants wherever possible.

Confidence Levels

This AM Plan is based on Medium to high level of confidence information.

The Next Steps

The actions resulting from this asset management plan are:

- Maintain the current assets in a safe condition
- Continue to assess condition
- Define maintenance standards and levels of service that can be delivered at various funding levels
- Improve the analysis of options so that an informed discussion can be had with the community about priorities and future levels of service and funding
- Prioritise renewal and upgrade works based on risk
- Continue to improve asset information and knowledge.
- Develop a single corporate asset register for financial and reporting purposes
- Monitor the provision of roads and transport infrastructure in line with community expectations as expressed in the Ku-ring-gai Community Plan.

Questions you may have

What is this plan about?

This asset management plan covers the Transport Infrastructure assets that serve the Ku-ring-gai community's needs. These assets include:

- Local Roads
- Collector Roads
- Regional Roads
- Road Structures and Street Furniture
- Bridges
- Kerb and gutter
- Footpaths & Cycleways
- Car Parks

The provision of this infrastructure enables people to have access to property and services and is crucial to the social and economic activity of the region.

What is an Asset Management Plan?

Asset management planning is a comprehensive process to ensure delivery of services from infrastructure is provided in a financially sustainable manner.

The asset management plan details information about infrastructure assets including actions required to provide an agreed level of service in the most cost effective manner. The plan defines the services to be provided, how the services are provided and what funds are required to provide the services.

Why is there a funding shortfall?

As assets are approaching the later years of their life and require replacement, services from the assets are decreasing and maintenance costs are increasing.

Our present funding levels are lower than what is required to provide the required network renewal and upgrades.

What options do we have?

Resolving the funding shortfall involves several steps:

1. Improving asset knowledge so that data accurately records the asset inventory, how assets are performing and when assets are not able to provide the required service levels,

2. Improving our efficiency in operating, maintaining, renewing and replacing existing assets to optimise life cycle costs,
3. Identifying and managing risks associated with providing services from infrastructure,
4. Making trade-offs between service levels and costs to ensure that the community receives the best return from infrastructure,
5. Identifying assets surplus to needs for disposal to make saving in future operations and maintenance costs,
6. Consulting with the community to ensure that Transport Infrastructure services and costs meet community needs and are affordable,
7. Developing partnership with other bodies, where available to provide services,
8. Seeking additional funding from governments and other bodies to better reflect a 'whole of government' funding approach to infrastructure services.

What happens if we don't manage the shortfall?

It is likely that we will have to reduce some service levels in some areas, unless new sources of revenue are found.

What can we do?

We can develop options, costs and priorities for future services, consult with the community to plan future services to match the community service needs with ability to pay for services and maximise community benefits against costs.

2. INTRODUCTION

2.1 Background

This asset management plan is to demonstrate responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed to provide the required levels of service over a 20 year planning period.

The asset management plan follows the format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual¹.

The asset management plan is to be read with the organisation's Asset Management Policy, Asset Management Strategy and the following associated planning documents:

- NSW DLG Integrated Planning Guidelines and Manual 2010, 2013
- NSW 2021: A Plan To Make NSW Number One September 2011
- Ku-ring-gai Council Community Strategic Plan 2030
- Ku-ring-gai Council Resourcing Strategy 2015-2024
- Ku-ring-gai Council Delivery Program and Operational Plans 2013-2014
- Ku-ring-gai Council Long Term Financial Plan 2015-2024

This infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to support a broad range of services to the community

Table 2.1: Assets covered by this Plan 1

Asset (Sub)Category	Replacement Value	Depreciated Replacement Cost
Roads (including formation)	\$ 370,301,276.29	\$ 227,582,296.09
Footpaths	\$ 43,761,198.80	\$ 29,870,104.80
Kerb and Gutter	\$ 105,449,852.00	\$ 42,535,409.27
Bridges	\$ 9,211,639.82	\$ 6,874,799.86
Street Furniture and Structures	\$ 10,197,824.31	\$ 7,072,407.80
Car Parks - Pavement (including formation)	\$ 6,787,459.70	\$ 4,194,925.58
Car Parks - Structures	\$ 3,176,032.50	\$ 2,087,664.85
TOTALS	\$ 548,885,283.42	\$ 320,217,608.26

Asset Values are based on the Technical Asset Register.

¹ IPWEA, 2011, Sec 4.2.6, Example of an Asset Management Plan Structure, pp 4|24 – 27.

Key stakeholders in the preparation and implementation of this asset management plan are: Shown in Table 2.1.1.

Table 2.1.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Councillors	<ul style="list-style-type: none"> • Represent needs of community/shareholders, • Allocate resources to meet the organisation's objectives in providing services while managing risks, • Ensure organisation is financial sustainable.
Asset Management Steering Group (AMSG)	A multi-disciplinary and cross-functional working group established to assist with strategic asset management planning.
Director Operations	Preparation and direction of AMP
Strategic Asset Coordinator	Preparation and direction of AMP
Pavement Engineer	Development of programs and specifications for works and updating pavement management system
Civil Works Coordinator	Development of maintenance programs and quality of works

Our organisation's organisational structure for service delivery from infrastructure assets is shown below.



2.2 Goals and Objectives of Asset Management

The organisation exists to provide services to its community. Some of these services are provided by infrastructure assets. We have acquired infrastructure assets by 'purchase', by contract, construction by our staff and by donation of assets constructed by developers and others to meet increased levels of service.

Our goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and

- Having a long-term financial plan which identifies required, affordable expenditure and how it will be financed.²

2.3 *Plan Framework*

Key elements of the plan are

- Levels of service – specifies the services and levels of service to be provided by Council,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Life cycle management – how we will manage our existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices,
- Monitoring – how the plan will be monitored to ensure it is meeting the organisation’s objectives,
- Asset management improvement plan.

A road map for preparing an asset management plan is shown on the next page.

2.4 *Core and Advanced Asset Management*

This asset management plan is prepared as a ‘core’ asset management plan over a 20 year planning period in accordance with the International Infrastructure Management Manual³. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a ‘top down’ approach where analysis is applied at the ‘system’ or ‘network’ level.

Future revisions of this asset management plan will move towards ‘advanced’ asset management using a ‘bottom up’ approach for gathering asset information for individual assets to support the optimisation of activities and programs to meet agreed service levels.

2.5 *Community Consultation*

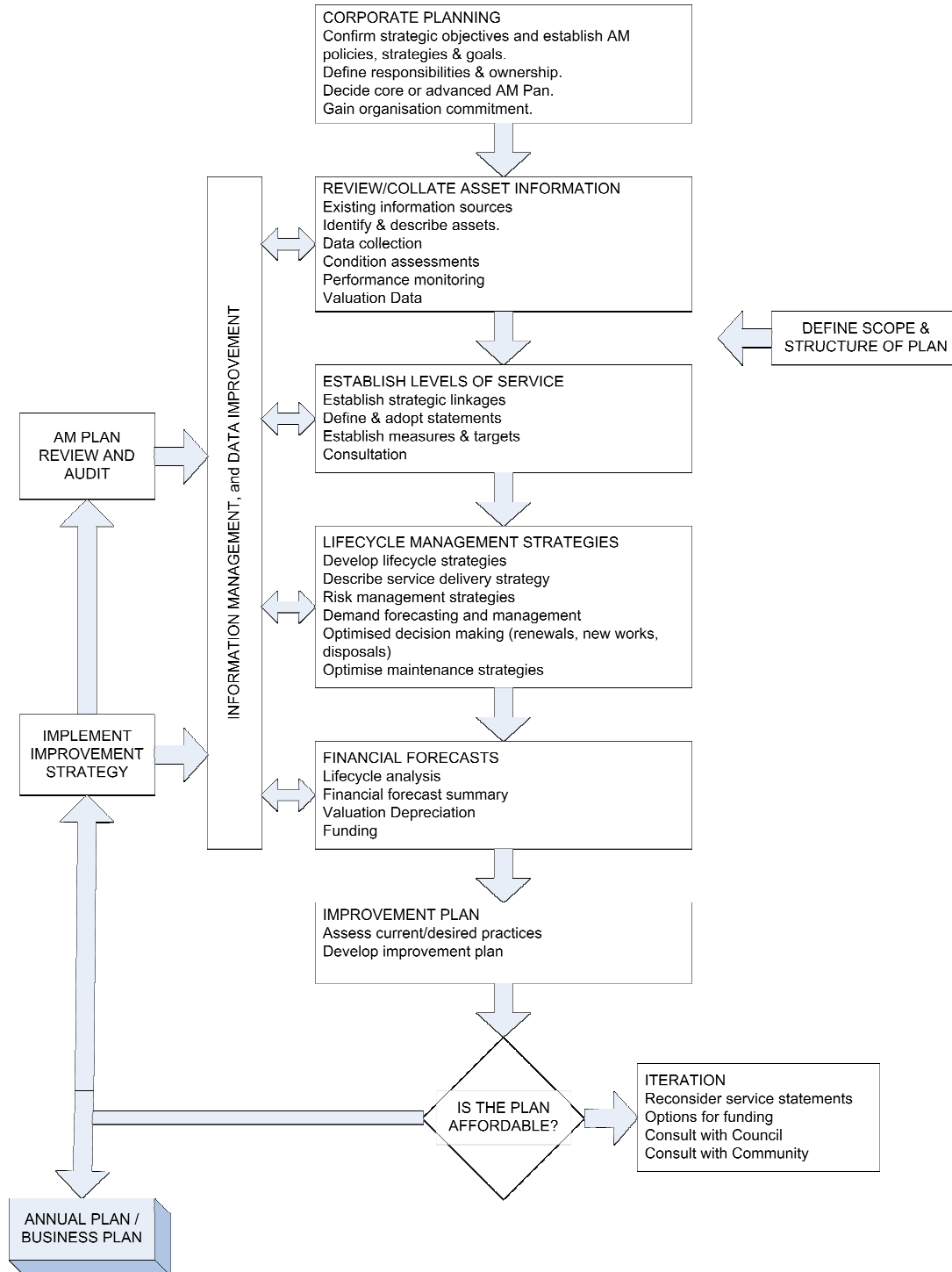
This ‘core’ asset management plan is prepared to facilitate community consultation initially through feedback on public display of draft asset management plans prior to adoption by the Council. Future revisions of the asset management plan will incorporate community consultation on service levels and costs of providing the service. This will assist the Council and the community in matching the level of service needed by the community, service risks and consequences with the community’s ability and willingness to pay for the service.

² Based on IPWEA, 2011, IIMM, Sec 1.2 p 1|7.

³ IPWEA, 2011, IIMM.

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11.



3. LEVELS OF SERVICE

3.1 *Customer Research and Expectations*

Council regularly conducts customer satisfaction surveys to determine community attitudes towards the services and facilities provided, and the quality and appropriateness of each of its services.

Throughout 2012, Council consulted with the community on improving our infrastructure assets. The '*Closing the Gap*' survey asked the community to respond on the importance and satisfaction over a range of asset classes.

The survey indicated:

- Satisfaction with Council roads, footpaths and car parks is moderate.
- Satisfaction with kerb and gutter is moderately high
- Low level of support was given to closing the gap for kerb and gutter
- Overall our roads and footpaths were given high priority and kerb and gutter was rated a low priority to the community

In 2013-2014, Council engaged an independent research company to complete a survey with ratepayers. The purpose of the community survey was twofold, firstly to measure the support for the continuation of the special rate variation to fund the roads renewal program in Ku-ring-gai, and secondly to explore community opinions on expected levels of service and to future funding options for priority assets.

The community consultation for the Special Rate Variation carried out in 2013-2014, and the survey results indicated that there was a high level of support for the continuation of the special rate variation, with 81% of all respondents indicating they supported it. The survey also indicated that there was an expectation of high quality roads, with more than half of the respondents considering the minimum acceptable condition to be 'good'. The survey also revealed that the majority of respondents indicated that continuing to improve our roads conditions was of high importance.

Further community consultation was conducted through a deliberative forum with ratepayers who had participated in the survey. The objectives of the forum were to discuss the outcomes of the survey and to gauge community opinions on the options for future funding of footpaths, drainage and building assets. Four options were presented to the participants and option 2 (apply for an additional levy to fund priority assets) was the preferred option.

An important body of work will be to explore further funding options with the community throughout 2014-2015.3.2

Strategic and Corporate Goals

This asset management plan is prepared under the direction of the organisation's vision and long term achievements as identified in the Community Strategic Plan 2030 and the Delivery Program 2013-2017.

Our Vision:

Ku-ring-gai will be a creative, healthy and liveable place where people respect each other, conserve the magnificent environment and society for the children and grandchildren of the future.

Table 3.2: Community Strategic Plan Themes and Long Term Objectives relating to our assets

Theme	Community Aspiration	Long Term Objective	Integration with asset class
Community, People and Culture	A healthy, safe, and inclusive community that respects our history, and celebrates our differences in a vibrant culture of learning	An equitable and inclusive community that cares and provides for its members A community that embraces healthier lifestyle choices and practices	Buildings Recreational Facilities
Natural Environment	Working together as a community to protect and enhance our natural environment and resources	Our natural waterways and riparian areas are enhanced and protected. A community addressing and responding to the impacts of climate change and extreme weather events.	Stormwater Drainage Recreational Facilities
Places, Spaces and Infrastructure	A range of well planned, clean and safe neighbourhoods and public spaces designed with a strong sense of identity and place	Recreation, sporting and leisure facilities are available to meet the community's diverse and changing needs Multipurpose community buildings and facilities are available to meet the community's diverse and changing needs Ku-ring-gai's heritage is protected, promoted and responsibly managed. An improved standard of infrastructure that meets the community's service level standards and Council's obligations as the custodian of our community assets.	Recreational Facilities Buildings Buildings Recreational Facilities All asset classes
Access, Traffic & Transport	Access and connection to, from and within Ku-ring-gai provides safe, reliable and affordable	An accessible public transport and regional road network that meets the diverse and changing needs of the community The local road network is managed to achieve a safe and effective local road network. A range of integrated transport choices are available to enable effective movement to, from and around Ku-ring-gai.	Roads and Transport
Local Economy and employment	Creating economic employment opportunities through vital, attractive centres, business innovation and technology	Ku-ring-gai is an attractive location for business investment	Roads and Transport Buildings Recreational Facilities

Theme	Community Aspiration	Long Term Objective	Integration with asset class
Leadership and & Governance	Ku-ring-gai is well led, managed and supported by ethical organisations which deliver projects and services to the community by listening, advocating and responding to their needs.	Council rigorously manages its financial resources and assets to maximise delivery of services.	Roads and Transport Stormwater Drainage Buildings Recreational Facilities

The Council will exercise its duty of care to ensure public safety in accordance with Council risk management framework. Management of infrastructure risks is covered in Section 5.2

3.3 Legislative Requirements

We have to meet many legislative requirements including Australian and State legislation and State regulations. These include:

Table 3.3: Legislative Requirements

Legislation	Requirement
<i>Local Government Act 1993</i>	<p>Sets out role, purpose, responsibilities and powers of local governments.</p> <p>The purposes of this Act are as follows:</p> <ol style="list-style-type: none"> a) to provide the legal framework for an effective, efficient, environmentally responsible and open system of local government in New South Wales, b) to regulate the relationships between the people and bodies comprising the system of local government in New South Wales, c) to encourage and assist the effective participation of local communities in the affairs of local government, d) to give councils: <ul style="list-style-type: none"> • the ability to provide goods, services and facilities, and to carry out activities, appropriate to the current and future needs of local communities and of the wider public • the responsibility for administering some regulatory systems under this Act • a role in the management, improvement and development of the resources of their areas, e) to require councils, councillors and council employees to have regard to the principles of ecologically sustainable development in carrying out their responsibilities. <p>The land management provisions of the Act require that Council prepare plans of management for all community land. The plan of management identifies the management objectives for the land category, performance indicators and performance measures to meet the objectives identified.</p>
<i>Local Government Amendment (Planning and Reporting) Act 2009</i>	<i>Local Government Amendment (Planning and Reporting) Act 2009</i> includes the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.

Legislation	Requirement
<i>Disability Discriminations Act, 1992</i>	<p>The Federal <i>Disability Discrimination Act 1992</i> (D.D.A.) provides protection for everyone in Australia against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and the economy that flow from participation by the widest range of people.</p> <p>a) to eliminate, as far as possible, discrimination against persons on the ground of disability in the areas of:</p> <ul style="list-style-type: none"> i. work, accommodation, education, access to premises, clubs and sport; and ii. the provision of goods, facilities, services and land; and iii. existing laws; and iv. the administration of Commonwealth laws and programs; and <p>b) to ensure, as far as practicable, that persons with disabilities have the same rights to equality before the law as the rest of the community; and</p> <p>to promote recognition and acceptance within the community of the principle that persons with disabilities have the same fundamental rights as the rest of the community.</p>
<i>Work Health & Safety Act 2011</i>	<p>Sets out roles and responsibilities to secure the health, safety and welfare of persons at work and covering injury management, emphasising rehabilitation of workers particularly for return to work. Council is to provide a safe working environment and supply equipment to ensure safety.</p>
<i>Environmental Planning and Assessment Act 1979</i>	<p>An Act to institute a system of environmental planning and assessment for the State of New South Wales. Among other requirements the Act outlines the requirement for the preparation of Local Environmental Plans (LEP), Development Control Plans (DCP), Environmental Impact Assessments (EIA) and Environmental Impact Statements.</p>
<i>Plant Protection Act 1989</i>	<p>This act sets out requirements in respect to Flora Protection</p>
<i>Environmental Protection Act 1994</i>	<p>This act sets out requirements in respect to environmental protection</p>
<i>Threatened Species Conservation Act, 1995</i>	<p>An Act to conserve threatened species, populations and ecological communities of animals and plants.</p> <p>Under the terms of this Act Council is required to ensure the long term survival of the species identified.</p>
<i>Rivers and Foreshores Improvements Act, 1948</i>	<p>An Act to provide for the carrying out of works for the removal of obstructions from and the improvement of rivers and foreshores and the prevention of erosion of lands by tidal and non-tidal waters</p>
<i>Protection of the Environment Operations Act 1997</i>	<p>Council is required to exercise due diligence to avoid environmental impact and among others are required to develop operations emergency plans and due diligence plans to ensure that procedures are in place to prevent or minimise pollution.</p>

Legislation	Requirement
<i>National Parks and Wildlife Act (1974)</i>	An Act relating to the establishment, preservation and management of national parks, historic sites and certain other areas and the protection of certain fauna, native plants and Aboriginal objects
<i>Native Vegetation Act 2003</i>	This Act regulates the clearing of native vegetation on all land in NSW, except for excluded land listed in Schedule 1 of the Act. The Act outlines what landowners can and cannot do in clearing native vegetation.
<i>Public Works Act 1912</i>	Sets out the role of Council in the planning and construction of new assets.
<i>Road Transport (General) Act 2005</i>	Provides for the administration and enforcement of road transport legislation. It provides for the review of decisions made under road transport legislation. It makes provision for the use of vehicles on roads and road related areas and also with respect to written off and wrecked vehicles.
<i>Road Transport (Safety and Traffic Management) Act 1999</i>	Facilitates the adoption of nationally consistent road rules in NSW, the Australian Road Rules. It also makes provision for safety and traffic management on roads and road related areas including alcohol and other drug use, speeding and other dangerous driving, traffic control devices and vehicle safety accidents.
<i>Roads Act 1993</i>	Sets out rights of members of the public to pass along public roads, establishes procedures for opening and closing a public road, and provides for the classification of roads. It also provides for declaration of the RTA and other public authorities as roads authorities for both classified and unclassified roads, and confers certain functions (in particular, the function of carrying out roadwork) on the RTA and other roads authorities. Finally it provides for distribution of functions conferred by this Act between the RTA and other roads authorities, and regulates the carrying out of various activities on public roads.
<i>Local Government (Highways) Act 1982</i>	An Act to consolidate with amendments certain enactments concerning the functions of the corporations of municipalities with respect to highways and certain other ways and places open to the public.
<i>NSW Road Rules 2008</i>	A provision of road rules that are based on the Australian Road Rules so as to ensure that the road rules applicable in this State are substantially uniform with road rules applicable elsewhere in Australia.
<i>Valuation of Land Act 1916</i>	This act sets out requirements in respect Land Valuation
<i>Crown Lands Act, 1989</i>	An Act to provide for the administration and management of Crown land in the Eastern and Central Division of the State of NSW Council has large holdings of Crown land under its care, control and management.
<i>Heritage Act, 1977</i>	An Act to conserve the environmental heritage of the State. Several properties are listed under the terms of the Act and attract a high level of maintenance cost, approval and monitoring.

Legislation	Requirement
<i>Building Code of Australia</i>	The goal of the BCA is to enable the achievement of nationally consistent, minimum necessary standards of relevant, health, safety (including structural safety and safety from fire), amenity and sustainability objectives efficiently.
<i>Building Fire and Safety Regulation 1991</i>	This Act sets out the regulations for things such as means of escape, Limitation of people in buildings, Fire and evacuation plans and testing of special fire services and installations.
<i>Electrical Safety Act 2002</i>	This act sets out the installation, reporting and safe use with electricity
<i>Building Regulation 2003</i>	This act sets out requirements in respect to Building Requirements
<i>Plumbing and Drainage Act 2002</i>	This act sets out requirements in respect to Plumbing Requirements
<i>Rural Fires Act, 1997</i>	An Act to establish the NSW Rural Fire Service and define its functions; to make provision for the prevention, mitigation and suppression of rural fires. Under the terms of this Act Council is required to mitigate any fire that emanate from bushland.
<i>Dangerous Goods Safety Management Act 2001</i>	This act sets out the safe use, storage and disposal of dangerous goods
<i>Fire and Rescue Service Act 1990</i>	This act sets out requirements in respect to Emergency Services for Fire and Rescue
<i>Public Records Act 2002</i>	This act sets out requirements in respect maintaining Public Records
<i>Surveillance Devices Act</i>	This act sets out requirements in respect use of Surveillance Devices
<i>Civil Liability Act, 2002</i>	An Act to make provision in relation to the recovery of damages for death or personal injury caused by the fault of a person
<i>Companion Animals Act, 1998</i>	An Act to provide for the identification and registration of companion animals and for the duties and responsibilities of their owners. Under the terms of the Act Council is required to provide and maintain at least one off leash area. It currently has eleven areas identified as off leash.
<i>Rural Fires Act, 1997</i>	An Act to establish the NSW Rural Fire Service and define its functions; to make provision for the prevention, mitigation and suppression of rural fires. Under the terms of this Act Council is required to mitigate any fire that emanate from bushland.

3.4 Current Levels of Service

We have defined service levels in two terms.

Community Levels of Service - measure how the community receives the service and whether the organisation is providing community value.

Community levels of service measures used in the asset management plan are:

Quality	How good is the service?
Function	Does it meet users' needs?
Capacity/Utilisation	Is the service over or under used?

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the organisation undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

Technical service measures are linked to annual budgets covering:


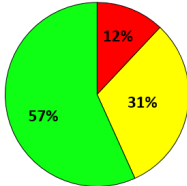
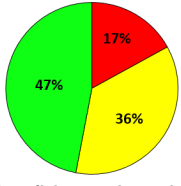
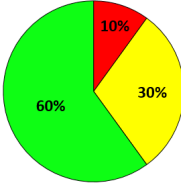
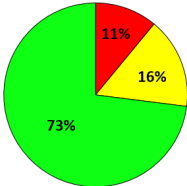
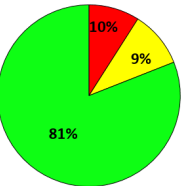
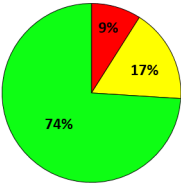
- Operations – the regular activities to provide services such as opening hours, cleansing frequency, mowing frequency, etc.
- Maintenance – the activities necessary to retain an assets as near as practicable to an appropriate service condition (e.g. road patching, unsealed road grading, building and structure repairs),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade – the activities to provide an higher level of service (eg widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (eg a new library).

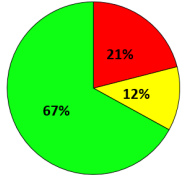
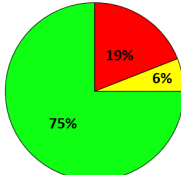
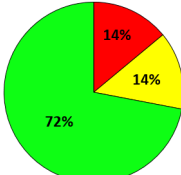
Asset managers plan, implement and control technical service levels to influence the customer service levels.⁴

Our current service levels are detailed in Table 3.4.

⁴ IPWEA, 2011, IIMM, p 2.22

Table 3.4: Current and Desired Service Levels

Key Performance Measure	Community Expectation	Performance Measure Process	Current Level of Service	10 Year Projection (without the SRV)	10 Year Projection (including SRV)
					
COMMUNITY LEVELS OF SERVICE					
Condition	Well maintained roads Do not pond water Look well maintained Transport infrastructure condition meets hierarchy requirements for condition measures	Customer surveys Customer requests	To be provided from continued Resident Survey and Community Plan research.	It is anticipated that customer requests and community dissatisfaction would increase over the next 10 years	Requests received should not increase annually. Further assessment required to inform future revisions of this Asset Management Plan
		State of the Assets Report. % Poor/Very Poor	 Confidence Level: Medium	 Confidence Level: Medium	 Confidence Level: Low
Function	Ensure access to facilities and services is provided that is suited to the use Transport Infrastructure meets hierarchy requirements for traffic volumes, design speed, width, alignment, access etc.	Customer surveys Customer requests	To be provided from continued Resident Survey and Community Plan research	It is anticipated that customer requests and community dissatisfaction would increase over the next 10 years	Requests received should not increase annually. Further assessment required to inform future revisions of this Asset Management Plan
		State of the Assets Report. % Poor/Very Poor	 Confidence Level: Low	 Confidence Level: Low	 Confidence Level: Low

Key Performance Measure	Community Expectation	Performance Measure Process	Current Level of Service	10 Year Projection (without the SRV)	10 Year Projection (including SRV)
Capacity/ Utilisation	Network meets the capacity requirements appropriate to hierarchy	State of the Assets Report. % Poor/Very Poor	 <p>Confidence Level: Low</p>	 <p>Confidence Level: Low</p>	 <p>Confidence Level: Low</p>

TECHNICAL LEVELS OF SERVICE					
Budget Area	Activities	Measure	Current Level of Service	Current Funded Level of Service (SRV2)	Optimal Scenario to close the Gap (Sustain Current Service Levels) SRV3
Operations	Street cleaning Street lighting Inspections Management Systems	Frequency	provided from continued Resident Survey and Community Plan research Further assessment required to inform future revisions of this Asset Management Plan	Reactive to limit of budget allocation.	Requires further assessment to identify and determine whether basic service level expectations would be met
Operational Cost			\$1,159,000 Avg pa over the next 10 years	\$1,159,000 Avg pa over the next 10 years	\$1,159,000 Avg pa over the next 10 years

TECHNICAL LEVELS OF SERVICE					
Budget Area	Activities	Measure	Current Level of Service	Current Funded Level of Service (SRV2)	Optimal Scenario to close the Gap (Sustain Current Service Levels) SRV3
Maintenance	Remove hazards Repair damage to Transport Infrastructures within appropriate intervention levels	Respond to complaints Budget and resources are adequate to complete the required works within an acceptable time	Has not been fully assessed at this time. Further assessment required to inform future revisions of this Asset Management Plan	Reactive maintenance to limit of budget allocation.	Regular Inspections Planned Maintenance
Maintenance Cost			\$2,390,000 pa over the next 10 years	\$2,390,000 pa over the next 10 years	\$2,390,000 pa over the next 10 years
Renewal	Renewal of assets	Replacement Cycle	Renewal frequency limited by current budget	Network in average condition. Renewal replacement cycle not being met in some areas (Unsealed pavements). Increasing renewal required in short to medium term, due to the age of the network.	Current network condition would be sustained.

TECHNICAL LEVELS OF SERVICE					
Budget Area	Activities	Measure	Current Level of Service	Current Funded Level of Service (SRV2)	Optimal Scenario to close the Gap (Sustain Current Service Levels) SRV3
Renewal Cost			\$7,244,000 (without SRV) average pa provided	\$9,944,000 average pa provided	Renewal requirements would essentially be met. The Scenario 2 estimate of average annual renewal requirements is \$12,151,000 Avg pa over the next 10 years
Upgrade/New	Provide services in a cost effective manner	Cost, Meet Corporate Strategy	Achieved by a combination of Council and Contract works. The augmentation of Transport Infrastructure systems to meet appropriate service and risk outcomes is only partially being funded	Funded in LTFP	The augmentation of Transport Infrastructure systems to meet appropriate service and risk outcomes would be funded
Upgrade/New Cost			\$8,839,000 Avg pa over the next 10 years	\$8,839,000 Avg pa over the next 10 years	Achieved by a combination of council and grant funded works Cost to be determined



3.5 Desired Levels of Service

Indications of desired levels of service are obtained from community consultation/engagement. The asset management planning process includes the development of 3 scenarios to develop levels of service that are financially sustainable.

4. FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecast

The present position and projections for demand drivers that may impact future service delivery and utilisation of assets were identified and are documented in Table 4.3.

4.3 Demand Impact on Assets

The impact of demand drivers that may affect future service delivery and utilisation of assets are shown in Table 4.3.

Table 4.3: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Population	2012 – 116,527	2036 – 134,000	Additional demand for new roads will increase life cycle costs of the roads asset group
Increased unit rates	Current costs	Increase in unit rates for surface and pavement renewal	Increase in unit rates for material and labour will impact on future capital and maintenance programs
Demographics	2011 – 36% born overseas	40% born overseas	Likely to have more impact on public transport
Technological change	New method regularly available	Change in road construction methods and the materials used	May increase the life of road components, reducing the susceptible to damage, or by reducing the cost of construction or maintenance
Technological change	Pavement management system to monitor performance and change	Advanced systems that improve performance monitoring and predict renewal and maintenance timing more accurately	Improve programs and schedules an prioritisation work based on more accurate data
Environmental awareness	Increased emphasis on environmental sustainability	Increase the use of recycling materials in Councils road construction and renewal program	Could result in savings in road construction

4.4 Demand Management Plan

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

Non-asset solutions focus on providing the required service without the need for the organisation to own the assets and management actions including reducing demand for the service, reducing the level of service (allowing some assets to deteriorate beyond current service levels) or educating customers to accept

appropriate asset failures⁵. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another community area or public toilets provided in commercial premises.

Opportunities identified to date for demand management are shown in Table 4.4. Further opportunities will be developed in future revisions of this asset management plan.

Table 4.4: Demand Management Plan Summary

Demand Driver	Impact on Services	Demand Management Plan
Transport needs increasing	Pressure to expand councils Transport networks	Communicate options and capacity to fund Transport Infrastructure with the State Government Monitor community expectations and communicate service levels and financial capacity with the community to balance priorities for infrastructure with what the community is prepared to pay for
Increasing community expectations	Pressure to expand councils Transport networks	Funding priority works. Continue to seek grant funding for projects identified in the Community Strategic Plan and Asset Management Plans Improve understanding of costs and capacity to maintain current service levels. Continue to analyse the cost of providing services and the capacity to fund at the current level of service
Increasing development	Additional Transport loads on councils Transport network	Continue to monitor and manage development controls

⁵ IPWEA, 2011, IIMM, Table 3.4.1, p 3|58.

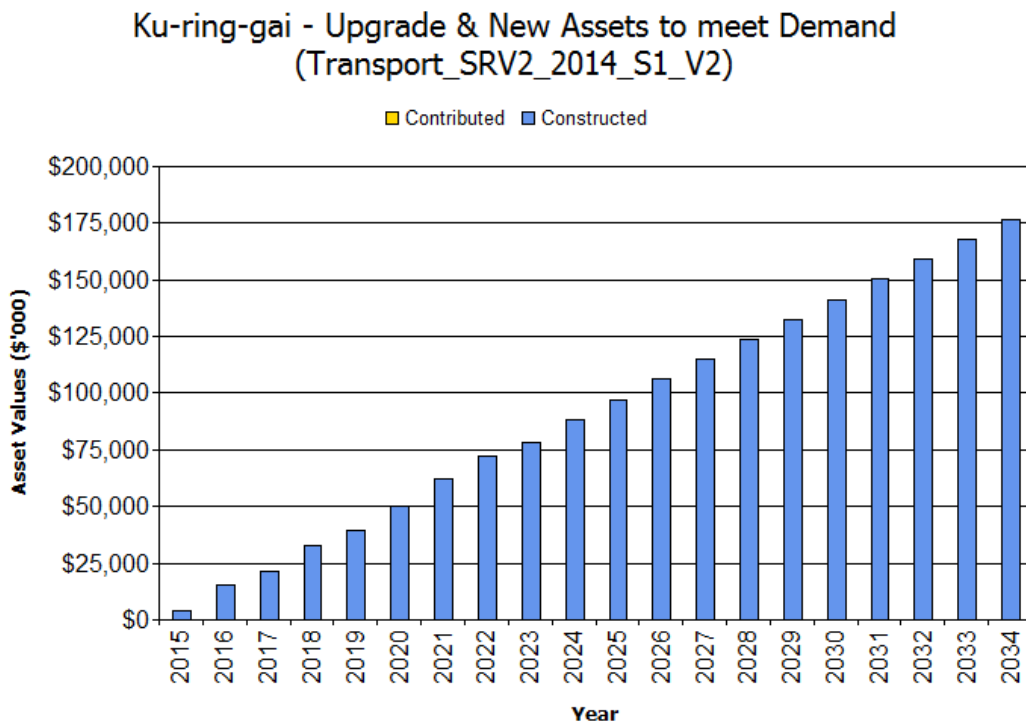
4.5 Asset Programs to meet Demand

Funding spent on our upgraded and new assets is predominately a requirement of our s.94 Contribution Plan (CP), and is funded through restricted reserves – not general revenue.

In addition there is a Council co-contribution requirement of \$54M to deliver new and upgraded assets/facilities listed in the CP and this is identified in the 10 year LTFP.

New assets constructed/acquired by the organisation are discussed in Section 5.5. The cumulative value of new contributed and constructed asset values are summarised in Figure 1.

Figure 1: Upgrade and New Assets to meet Demand (Cumulative)



Presently council proposes to provide significant upgraded assets in the first 10 years of this version of the Asset Management Plan

Acquiring any new assets or upgrading existing assets will commit the organisation to fund ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs in Section 5.

5. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the organisation plans to manage and operate the assets at the agreed levels of service (defined in Section 3) while optimising life cycle costs.

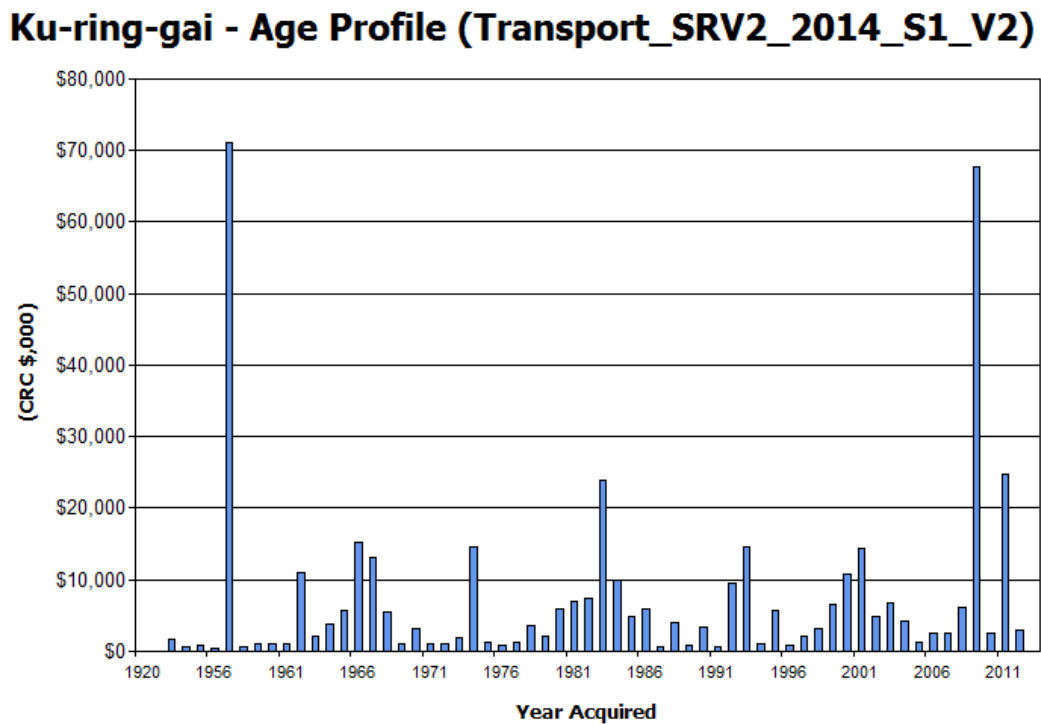
5.1 Background Data

5.1.1 Physical parameters

The assets covered by this asset management plan are shown in Table 2.1.

The age profile of the assets include in this AM Plan is shown in Figure 2.

Figure 2: Asset Age Profile



The age profile information in Figure 2 is based on the data in council's asset register.

5.1.2 Asset capacity and performance

The organisation's services are generally provided to meet design standards where these are available.

Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

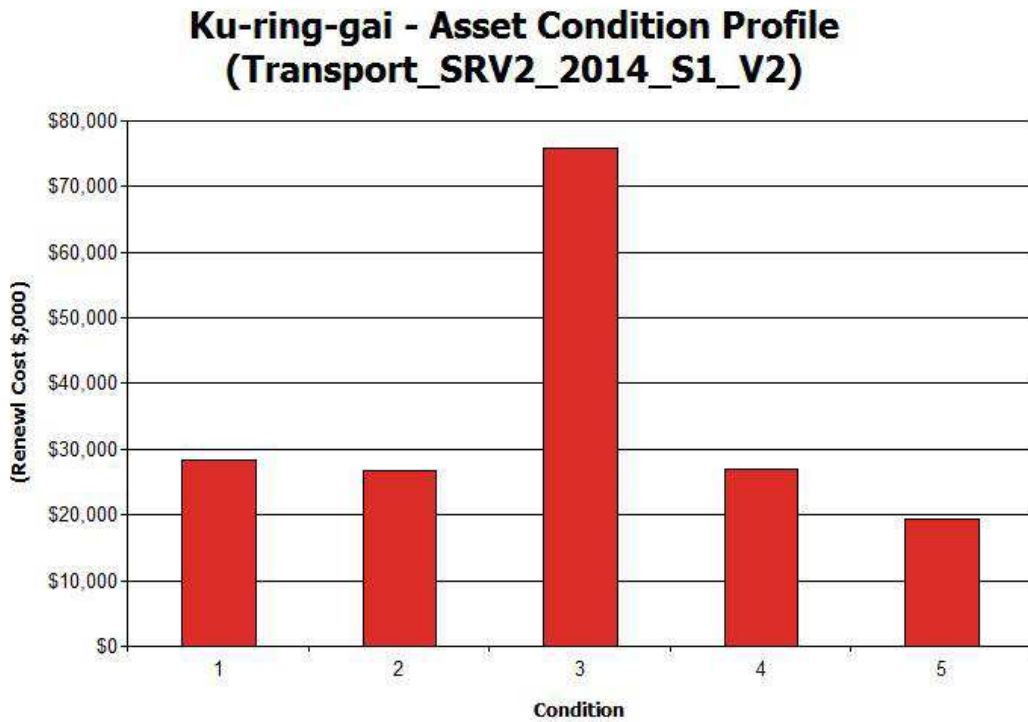
Location	Service Deficiency
Reseal program	The program is underfunded which results in resurfacing to be deferred
Asphalt surface	Oxidation and increased traffic loads create cracking, moisture penetration and subsequent pavement failure and safety risk

5.1.3 Asset condition

Condition is monitored and managed at an operational level, and the information used to prepare the condition profile is based on technical knowledge of the transport network.

The condition profile of our assets is shown in Figure 3.

Fig 3: Asset Condition Profiles



Condition is measured using a 1 – 5 grading system⁶ as detailed in Table 5.1.3 and summarised into good, fair and poor.

Frequency of Assessment: Every 3-4 years.

Table 5.1.3: Simple Condition Grading Model

Condition Grading	Description of Condition
1	Very Good: only planned maintenance required
2	Good: minor maintenance required plus planned maintenance
3	Fair: significant maintenance required
4	Poor: significant renewal/rehabilitation required
5	Very Poor: physically unsound and/or beyond rehabilitation

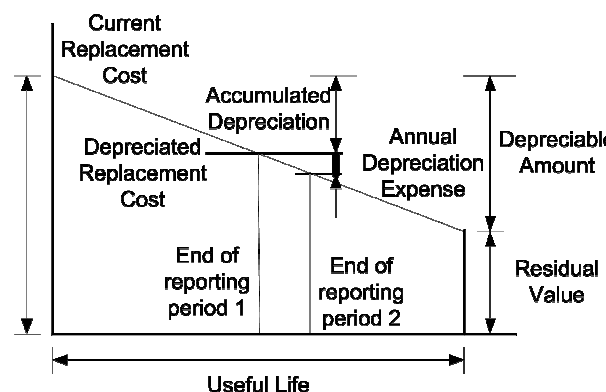
⁶ IPWEA, 2011, IIMM, Sec 2.5.4, p 2|79.

5.1.4 Asset valuations

The value of assets recorded in the technical asset register as at 2012 covered by this asset management plan is shown below.

Assets are valued at replacement cost.

Current Replacement Cost	\$548,885,000
Depreciable Amount	\$548,885,000
Depreciated Replacement Cost ⁷	\$320,218,000
Annual Depreciation Expense	\$10,515,000



Useful lives were reviewed in June 2013 and updated based on technical knowledge provided by the Engineering services staff. The useful lives are reviewed and updated (if required) at the end of each financial year.

Key assumptions made in preparing the valuations were:

- Use of existing valuation data

Various ratios of asset consumption and expenditure have been prepared to help guide and gauge asset management performance and trends over time.

Rate of Annual Asset Consumption (Depreciation/Depreciable Amount)	1.9%
Rate of Annual Asset Renewal (Capital renewal expenditure/Depreciable amount)	1.5% (Year 1)
Rate of Annual Asset Upgrade/New (Capital upgrade expenditure/Depreciable amount)	0.7% (Year 1)
Rate of Annual Asset Upgrade/New (Including contributed assets)	0.7% (Year 1)

In 2013 the organisation plans to renew assets at 75.7% of the rate they are being consumed (For Scenario 2 continuation of Rate Levy) and will be increasing its asset stock by 0.7% in the year.

To provide services in a financially sustainable manner, Council will need to ensure that it is renewing assets at the rate they are being consumed over the medium-long term and funding the life cycle costs for all new assets and services in its long term financial plan.

5.1.5 Historical Data

Based on the existing asset register

⁷ Also reported as Written Down Current Replacement Cost (WDCRC).

5.2 Infrastructure Risk Management Plan

An assessment of risks associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock' to the organisation. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified in the Infrastructure Risk Management Plan, together with the estimated residual risk after the selected treatment plan is operational are summarised in Table 5.2. These risks are reported to management and Council.

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk*	Treatment Costs
Maintenance of Transport Infrastructure	Decreasing frequency of maintenance	High	Follow documented service level risk rating processes and prioritisation for establishing future maintenance works	Not reduced but next actions are understood	Staff time
Overall Condition	Deterioration to a lesser standard and higher risk situation	High	Required renewal of road components is being achieved in the short to medium term Future planning improvements can be made by further documented service level risks and utilisation of these in establishing future renewal priorities	Not reduced but next actions are understood but risks are reduced by funding priority areas	Staff time
Sealed road asset renewals not funded when required	Conditions will deteriorate and funding shortfall grows due to higher cost renewal treatments being required	Very High	Limited funding available requires needs to be directed to highest priority areas, by utilising road hierarchy, condition data, and priorities identified in the Community Strategic Plan	Not reduced but next actions are understood but risks are reduced by funding priority areas	Staff time

*Note: the residual risk is the risk remaining after the selected risk treatment plan is operational.

5.3 Routine Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, e.g. street sweeping, grass mowing and street lighting.

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again.

5.3.1 Operations and Maintenance Plan

Operations activities affect service levels including quality and function through street sweeping and grass mowing frequency, intensity and spacing of street lights and cleaning frequency and opening hours of building and other facilities.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating, e.g. road patching but excluding rehabilitation or renewal. Maintenance may be classified into reactive, planned and specific maintenance work activities.

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions.

Planned maintenance is repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown experience, prioritising, scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacing air conditioning units, etc. This work falls below the capital/maintenance threshold but may require a specific budget allocation.

Actual projected maintenance expenditure is shown in Table 5.3.1.

Table 5.3.1: Maintenance Expenditure

Year	Maintenance Expenditure Planned and Specific
2014-2015	\$2,390,000
Ongoing	\$2,390,000 (not indexed)

Planned maintenance work as a 80% of total maintenance

Maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance expenditure levels are such that will result in a lesser level of service, the service consequences and service risks have been identified and service consequences highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

Assessment and prioritisation of reactive maintenance is undertaken by Council staff using experience and judgement.

5.3.2 Operations and Maintenance Strategies

The organisation will operate and maintain assets to provide the defined level of service to approved budgets in the most cost-efficient manner. The operation and maintenance activities include:

- Scheduling operational activities to deliver the defined level of service in the most efficient manner,
- Undertaking maintenance activities through a planned maintenance system to reduce maintenance costs and improve maintenance outcomes. Undertake cost-benefit analysis to determine the most cost-effective split between planned and unplanned maintenance

- Maintain a current infrastructure risk register for assets and present service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council,
- Review current and required skills base and implement workforce training and development to meet required operations and maintenance needs,
- Review asset utilisation to identify underutilised assets and appropriate remedies, and over utilised assets and customer demand management options,
- Maintain a current hierarchy of critical assets and required operations and maintenance activities,
- Develop and regularly review appropriate emergency response capability,
- Review management of operations and maintenance activities to ensure Council is obtaining best value for resources used.

Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

The organisation's service hierarchy is shown in Table 5.3.2.

Table 5.3.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Regional Roads	Those roads form the principal avenue of communication for movements
Collector Roads	Main function is to form an avenue of communication for movements between important centres
Local Roads	These roads provide for moderate to low volumes of predominantly local through traffic

Critical Assets

Critical assets are those assets which have a high consequence of failure but not necessarily a high likelihood of failure. By identifying critical assets and critical failure modes, organisations can target and refine investigative activities, maintenance plans and capital expenditure plans at the appropriate time.

Operations and maintenance activities may be targeted to mitigate critical assets failure and maintain service levels. These activities may include increased inspection frequency, higher maintenance intervention levels, etc. Critical assets failure modes and required operations and maintenance activities are detailed in Table 5.3.2.1.

Table 5.3.2.1: Critical Assets and Service Level Objectives

Critical Assets	Critical Failure Mode	Operations & Maintenance Activities
Not yet identified within the Asset Management Plan, but it likely to be high volume sections of the network.	Condition degradation	Intervention maintenance (reactive and planned)

Standards and specifications

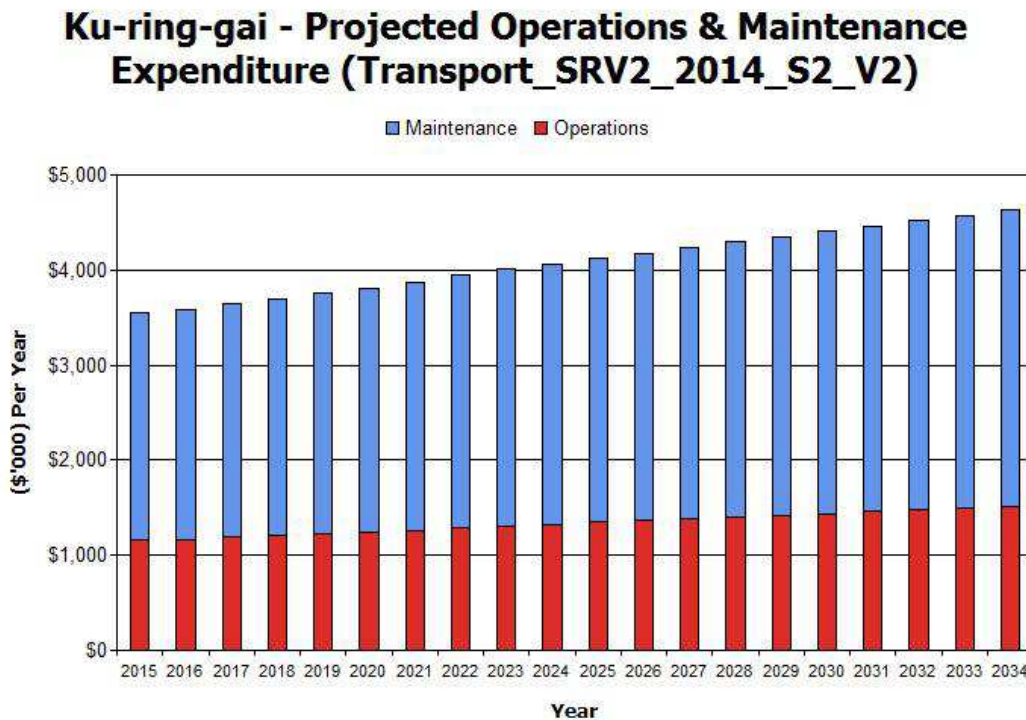
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Auspec 4 – Road Reserve Maintenance
- AS1160-1990 Bituminous emulsions for construction and maintenance of pavements
- AS4283-1995 Cold mixed asphalt for maintenance patching
- AS2008-1997 Residual Bitumen for pavements
- AS3727-1993 Guide to residential pavements
- Austroads Guide to Traffic Engineering Practice, Part 13 – Pedestrians.
- AS2436-1981 Guide to noise control on construction maintenance and demolition sites.
- Sealed Local Roads Manual: July 2005 authored by ARRB Group

5.3.3 Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2013 dollar values (i.e. real values).

Figure 4: Projected Operations and Maintenance Expenditure



The increase in operations and maintenance requirements is indicative of the need to fund operations and maintenance associated with the creation of new assets created during the planning period.

Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment and analysis in the infrastructure risk management plan.

Maintenance is funded from the operating budget where available. This is further discussed in Section 6.2.

5.4 Renewal/Replacement Plan

Renewal and replacement expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original or lesser required service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

5.4.1 Renewal plan

Assets requiring renewal/replacement are identified from one of three methods provided in the 'Expenditure Template'.

- Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or
- Method 2 uses capital renewal expenditure projections from technical asset register, or
- Method 3 uses a combination of average *network renewals* plus *defect repairs* in the *Renewal Plan* and *Defect Repair Plan* worksheets on the 'Expenditure template'.

A combination of these methods was used to prepare the 3 renewal scenarios included in this asset management plan.

Assets requiring renewal are identified comparing 3 Scenarios.

- Scenario 1 uses the Asset Register valuation data to project the renewal costs for renewal years using the acquisition year and useful life, or
- Scenario 2 uses capital renewal expenditure projections assessed by technical staff to sustain current service levels. This assessment uses a combination of detailed technical analysis and an estimate of the average network renewals required.
- Scenario 3 balances capital renewal expenditure with the Long Term Financial Plan.

Scenario 1 indicates that the funds to meet the forecast renewal requirements are aligned with funding in the LTFP. This indicates that current unit rates and useful lives in the register are consistent with current asset performance and renewal practises.

Scenario 2 is prepared using the technical estimates of what renewal is required to sustain the current levels of service, and it is common that this estimate will be beyond the current funding capacity of council. Scenario 3 is a reflection of the actual funding available. The difference between Scenario 2 and Scenario 3 represents "what we can't do". The discussion about this "gap" will lead us into a much better informed community discussion about what are achievable and acceptable service levels, as well as giving a focus on managing risk. The useful lives of assets used to develop projected asset renewal expenditures are shown in Table 5.4.1.

Table 5.4.1: Useful Lives of Assets

Asset (Sub)Category	Useful life (Average)
Local roads	10 - 25 yrs depending on treatment
Collector roads	5 - 22 yrs depending on treatment
Regional roads	20-50 yrs depending on treatment

5.4.2 Renewal and Replacement Strategies

The organisation will plan capital renewal and replacement projects to meet level of service objectives and minimise infrastructure service risks by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner,
- Undertaking project scoping for all capital renewal and replacement projects to identify:
 - the service delivery 'deficiency', present risk and optimum time for renewal/replacement,
 - the project objectives to rectify the deficiency,
 - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
 - and evaluate the options against evaluation criteria adopted by Council, and
 - select the best option to be included in capital renewal programs,
- Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible,
- Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council,
- Review current and required skills base and implement workforce training and development to meet required construction and renewal needs,
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required ,
- Review management of capital renewal and replacement activities to ensure Council is obtaining best value for resources used.

Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. roughness of a road).⁸

It is possible to get some indication of capital renewal and replacement priorities by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have a high utilisation and subsequent impact on users would be greatest,

⁸ IPWEA, 2011, IIMM, Sec 3.4.4, p 3 | 60.

- The total value represents the greatest net value to the organisation,
- Have the highest average age relative to their expected lives,
- Are identified in the AM Plan as key cost factors,
- Have high operational or maintenance costs, and
- Where replacement with modern equivalent assets would yield material savings.⁹

The ranking criteria used to determine priority of identified renewal and replacement proposals is detailed in Table 5.4.2.

Table 5.4.2: Renewal and Replacement Priority Ranking Criteria

Criteria	Weighting
Available budget	No weighting criteria adopted
Condition	No weighting criteria adopted
Risk	No weighting criteria adopted
Regulatory Standards	No weighting criteria adopted
Total	100%

Renewal and replacement standards

Renewal work is carried out in accordance with the following Standards and Specifications.

- AS1160-1990 Bituminous emulsions for construction and maintenance of pavements.
- AS2436-1981 Guide to noise control on construction maintenance and demolition sites.
- AS4283-1995 Cold mixed asphalt for maintenance patching.
- AS2008-1997 Residual Bitumen for pavements.
- AS3727-1993 Guide to residential pavements.
- AS/NZ road design Standards
- A guide to the design of new pavement for light traffic (APRG21)
- Sealed roads manual (ARRB)
- AP – 8/81 Visual assessment of pavement condition
- AP 11.1/88 Guide to traffic engineering practices Part 1 Traffic Flow
- AP 11.2/88 Guide to traffic engineering practices Part 2 – Roadway capacity
- AP – 36/95 Australian adoptions and innovations in road and pavement engineering
- AP – 60/98 Guide to stabilisation in roadwork's
- AP-232/03 Guidelines for treatment of stormwater run-off from the roads infrastructure
- APG - 17/04 Pavement design – a guide to the structural design of road pavements
- APG – 66/02 Asphalt guide
- APG 76/04 Sprayed sealing guide

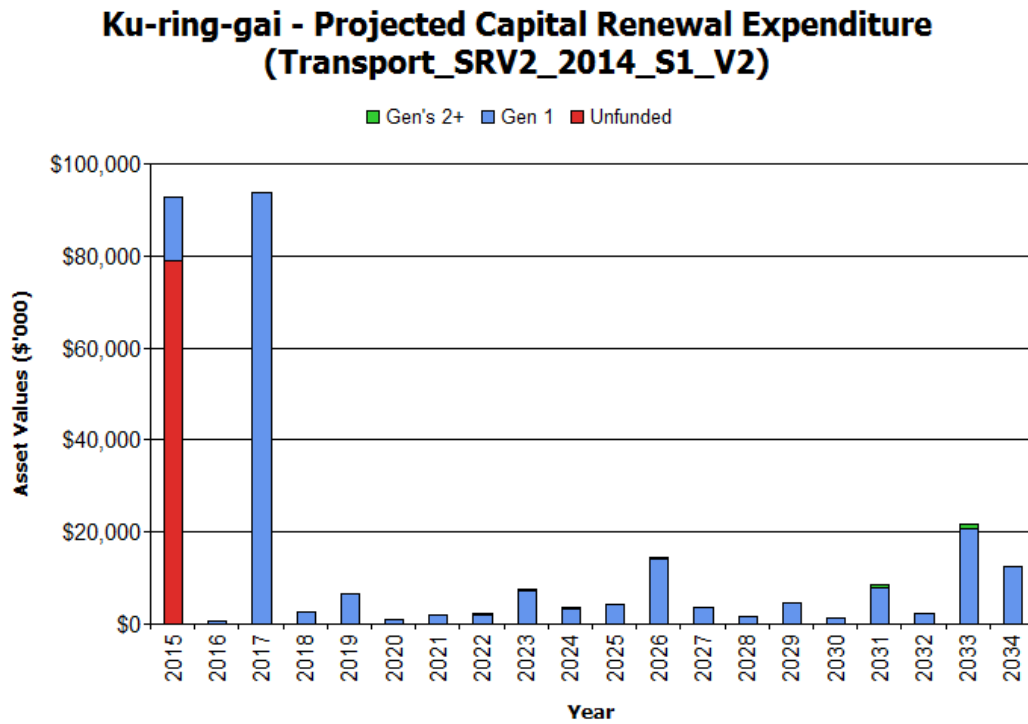
⁹ Based on IPWEA, 2011, IIMM, Sec 3.4.5, p 3 | 66.

5.4.3 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time as the asset stock increases from growth. The expenditure is summarised in Fig 5. Note that all amounts are shown in real values.

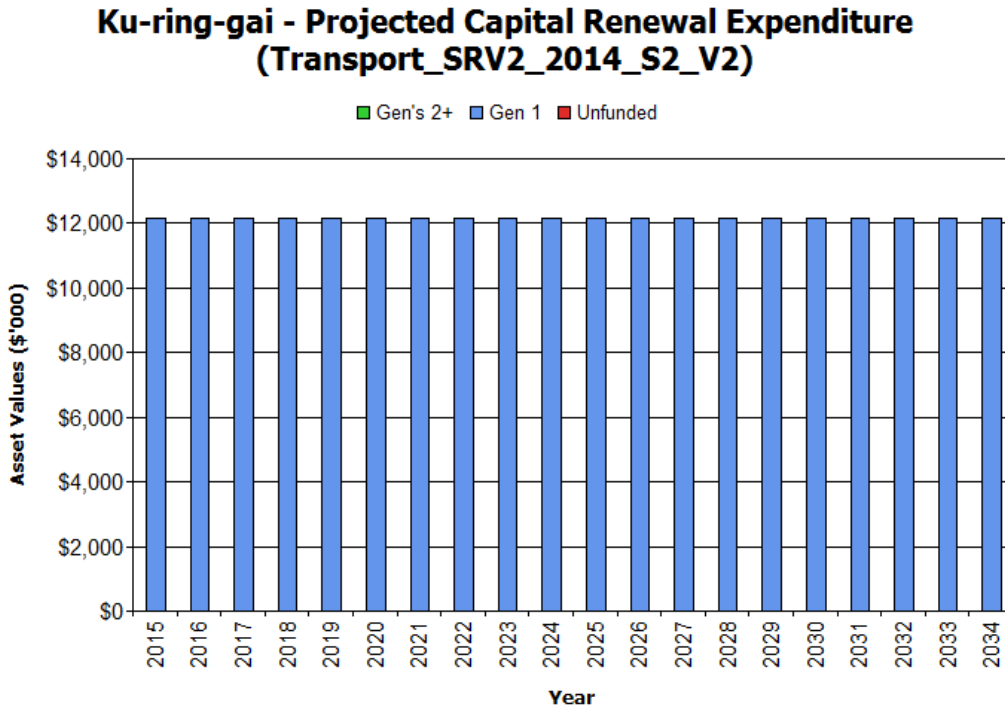
The projected capital renewal and replacement program is shown in Appendix B.

Figure 5.1: Projected Capital Renewal Expenditure (Scenario 1 - from Asset Register)



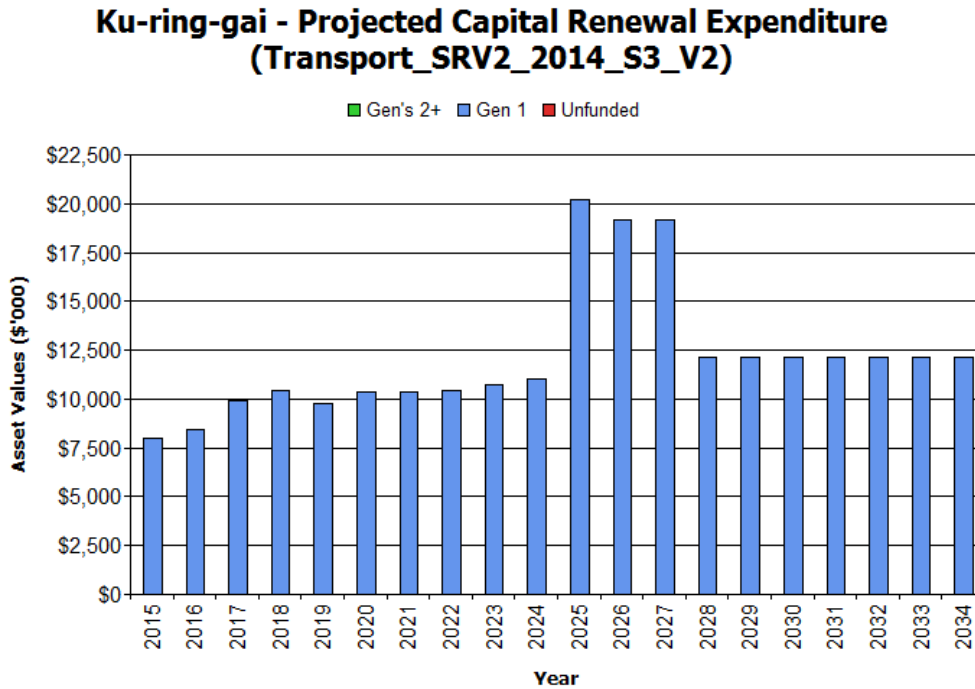
Scenario 1 indicates that the funds to meet the forecast renewal requirements are aligned with funding in the LTFP over a ten year period. This indicates that current unit rates and useful lives in the register are consistent with current asset performance and renewal practises.

Figure 5.2: Projected Capital Renewal Expenditure (Scenario 2 - from Average Network Renewal Estimates)



The current renewal expenditure is anticipated to be insufficient for the short term and there is likely to be reduction in service levels and increasing risks.

Figure 5.3: Projected Capital Renewal Expenditure (Scenario 3 – Balanced with Long Term Financial Plan)



The first 10 years of expenditure shown in Fig 5.3 matches the funding provision in the long term financial plan. The peaks in renewal outside of the 10 year long term financial planning period are indicative of what cannot be done.

Deferred renewal and replacement, i.e. those assets identified for renewal and/or replacement and not scheduled in capital works programs are to be included in the risk analysis process in the risk management plan.

Renewals and replacement expenditure in the organisation’s capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

5.5 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to the organisation from land development. These assets from growth are considered in Section 4.4.

5.5.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as councillor or community requests, proposals identified by strategic plans or partnerships with other organisations. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed below.

Table 5.5.1: New Assets Priority Ranking Criteria

Criteria	Weighting
Expansion of Transport Infrastructure assets is made based on corporate priorities to meet community expectations and as identified in the Community Strategic Plan	Assessed on the Community Strategic Plan objectives and the availability of funding (either from Council’s Capital Works Program or by grants) to build and maintain.
Total	100%

5.5.2 Capital Investment Strategies

The organisation will plan capital upgrade and new projects to meet level of service objectives by:

- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner,
- Undertake project scoping for all capital upgrade/new projects to identify:
 - the service delivery ‘deficiency’, present risk and required timeline for delivery of the upgrade/new asset,
 - the project objectives to rectify the deficiency including value management for major projects,
 - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
 - management of risks associated with alternative options,
 - and evaluate the options against evaluation criteria adopted by Council, and
 - select the best option to be included in capital upgrade/new programs,

- Review current and required skills base and implement training and development to meet required construction and project management needs,
- Review management of capital project management activities to ensure Council is obtaining best value for resources used.

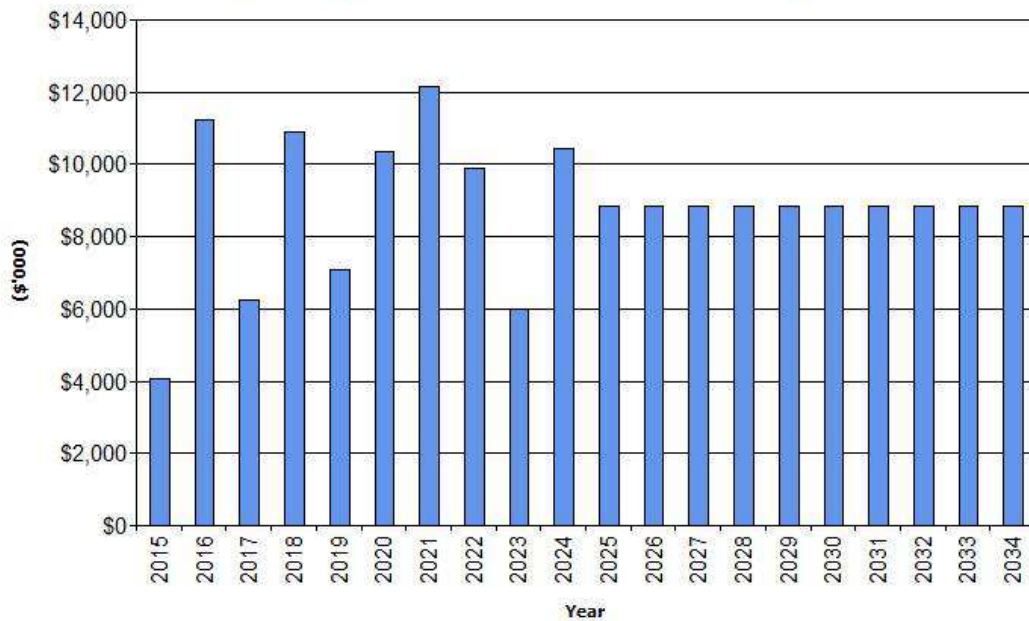
Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.4.2.

5.5.3 Summary of future upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Fig 6. The projected upgrade/new capital works program is shown in Appendix C. All amounts are shown in real values.

Fig 6: Projected Capital Upgrade/New Asset Expenditure

Ku-ring-gai - Projected Capital Upgrade/New Expenditure (Transport_SRV2_2014_S3_V2)



Expenditure on new assets and services in the organisation’s capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2. Notes years 2023 – 2033 are based on the average of the first 10 years.

5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6, together with estimated annual savings from not having to fund operations and maintenance of the assets. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any. Any revenue gained from asset disposals is accommodated in the organisation's long term financial plan.

Where cashflow projections from asset disposals are not available, these will be developed in future revisions of this asset management plan.

6. FINANCIAL SUMMARY

This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset performance.

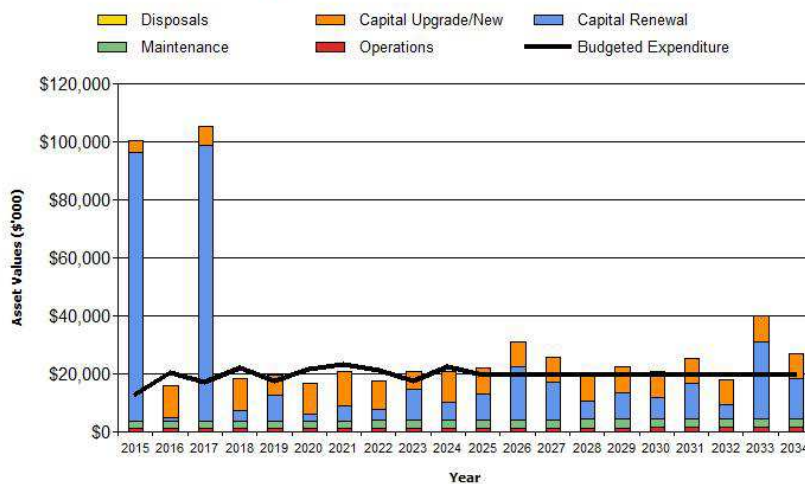
6.1 Financial Statements and Projections

The financial projections are shown in Fig 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in real values.

Figure 7.1: Projected Operating and Capital Expenditure and Budget (Scenario 1 - from Asset Register)

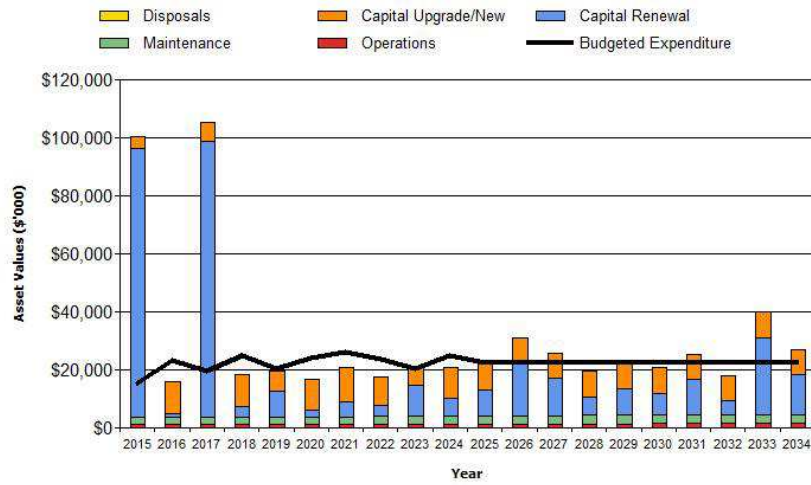
SRV1

Ku-ring-gai - Projected Operating and Capital Expenditure (Transport_SRV1_2014_S1_V2)



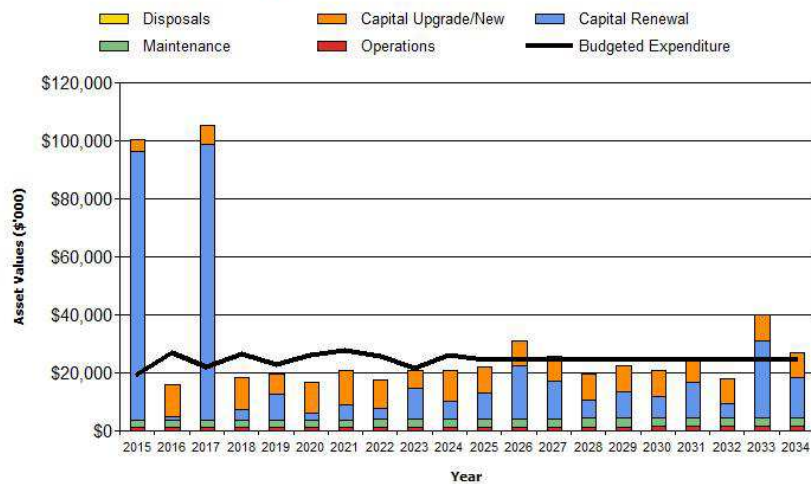
SRV2

Ku-ring-gai - Projected Operating and Capital Expenditure (Transport_SRV2_2014_S1_V2)



SRV3

Ku-ring-gai - Projected Operating and Capital Expenditure (Transport_SRV3_2014_S1_V2)

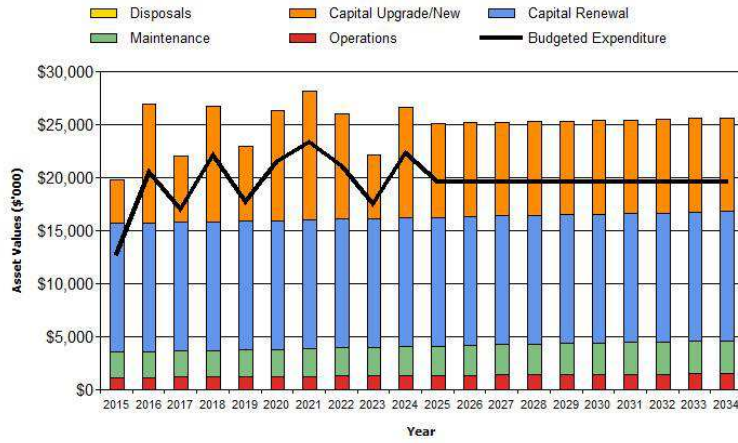


As discussed in Section 5.4 the expenditure projection (forecast) in Scenario 1 (Using the asset/valuation register) is not consistent with the required works program or the long term financial plan over the ten year period.

Figure 7.2: Projected Operating and Capital Expenditure and Budget (Scenario 2 - from Average Network Renewal Estimates)

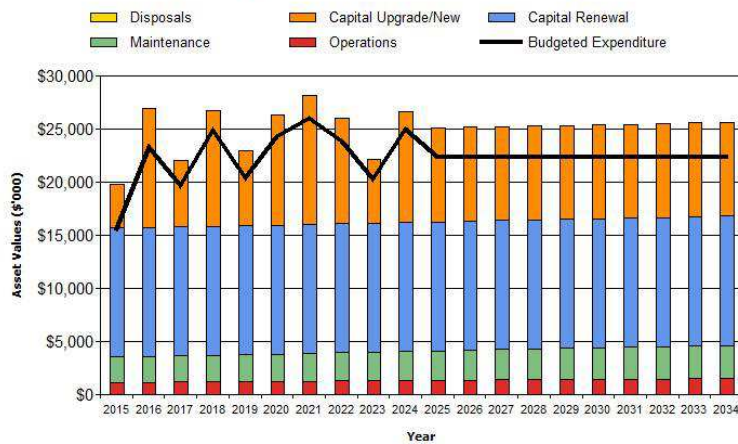
SRV1

Ku-ring-gai - Projected Operating and Capital Expenditure (Transport_SRV1_2014_S2_V2)



SRV2

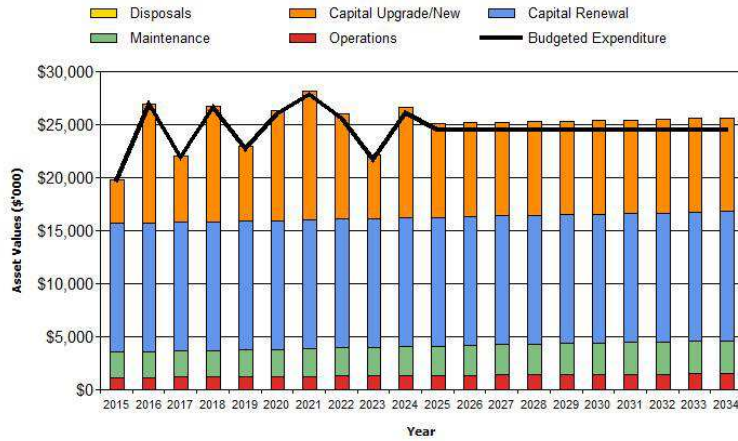
Ku-ring-gai - Projected Operating and Capital Expenditure (Transport_SRV2_2014_S2_V2)



Based on the SRV2 the funding gap will be reduced by \$2.7M per year compared to loss of the existing SRV funds,

SRV3

Ku-ring-gai - Projected Operating and Capital Expenditure (Transport_SRV3_2014_S2_V2)



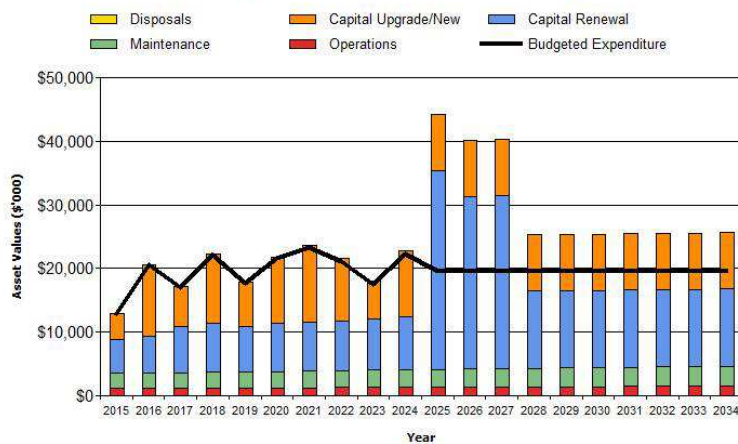
Under the SRV3 the funding gap will be fully closed by the additional funding.

The Scenario 2 renewal requirements are based on the technical judgement made by Ku-ring-gai Council technical staff. This level of funding is not currently being achieved, and indicates a future reduction in services levels and increased risk.

Figure 7.3: Projected Operating and Capital Expenditure and Budget (Scenario 3 – Balanced with Long Term Financial Plan)

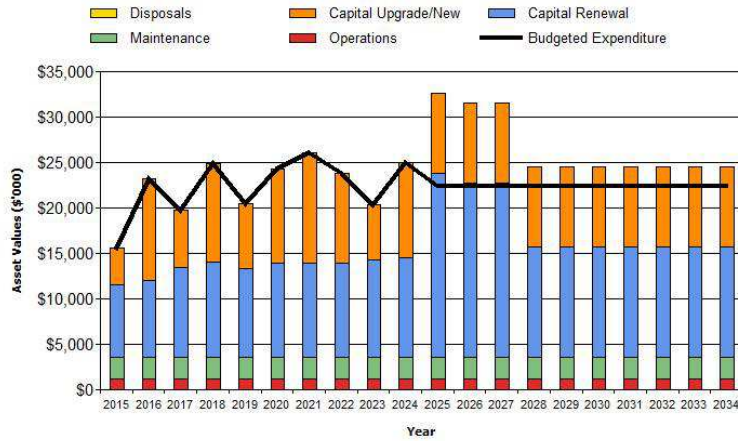
SRV1

Ku-ring-gai - Projected Operating and Capital Expenditure (Transport_SRV1_2014_S3_V2)



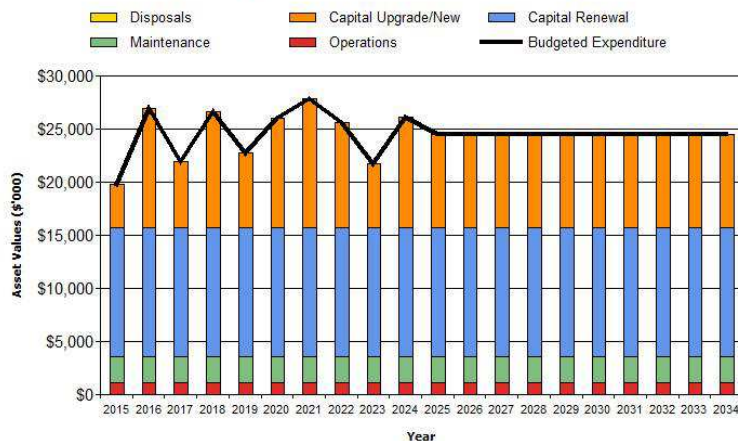
SRV2

**Ku-ring-gai - Projected Operating and Capital Expenditure
(Transport_SRV2_2014_S3_V2)**



SRV3

**Ku-ring-gai - Projected Operating and Capital Expenditure
(Transport_SRV3_2014_S3_V2)**



Under the SRV3 the “gap” is fully funded

The first 10 years of Scenario 3 have been balanced with the funding available. In practice to achieve this infrastructure renewal projects will be deferred. The detailed project implications and the service and risk consequences of this should form the basis of developing an advanced asset management plan.

6.1.1 Sustainability of service delivery

There are four key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category, these being the asset renewal funding ratio, long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period. (Based on Scenario 2 and using the continuation of the current levy SRV2)

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹⁰ 81 %

The Asset Renewal Funding Ratio is the most important indicator and reveals that over the next 10 years, the organisation is forecasting that it will have 81% of the funds required for the optimal renewal and replacement of its assets.

Long term - Life Cycle Cost (For SRV2 – Continuation of current levy)

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the asset life cycle. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The life cycle cost for the services covered in this asset management plan is \$14,306,000 per year (average operations and maintenance expenditure plus depreciation expense projected over 10 years).

Life cycle costs can be compared to life cycle expenditure to give an initial indicator of affordability of projected service levels when considered with age profiles. Life cycle expenditure includes operations, maintenance and capital renewal expenditure. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure over the 10 year planning period is \$13,493,000 per year (average operations and maintenance plus capital renewal budgeted expenditure in LTFP over 10 years).

A shortfall between life cycle cost and life cycle expenditure is the life cycle gap. The life cycle gap for services covered by this asset management plan is \$814,000 per year (-ve = gap, +ve = surplus).

Life cycle expenditure is 94% of life cycle costs.

The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased or cuts in services made in the future.

Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and long term financial plan.

Medium term – 10 year financial planning period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is \$15,942,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$13,493,000 on average per year giving a 10 year funding shortfall of \$2,450,000 per year. This indicates that Council expects to have 85% of the projected expenditures needed to provide the services documented in the asset management plan.

¹⁰ AIFMG, 2009, Financial Sustainability Indicator 8, Sec 2.6, p 2.18

Medium Term – 5 year financial planning period

The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is \$15,795,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$12,860,000 on average per year giving a 5 year funding shortfall of \$2,935,000. This indicates that Council expects to have 81% of projected expenditures required to provide the services shown in this asset management plan.

Table 6 – Summary of Service Sustainability Ratios - SRV2

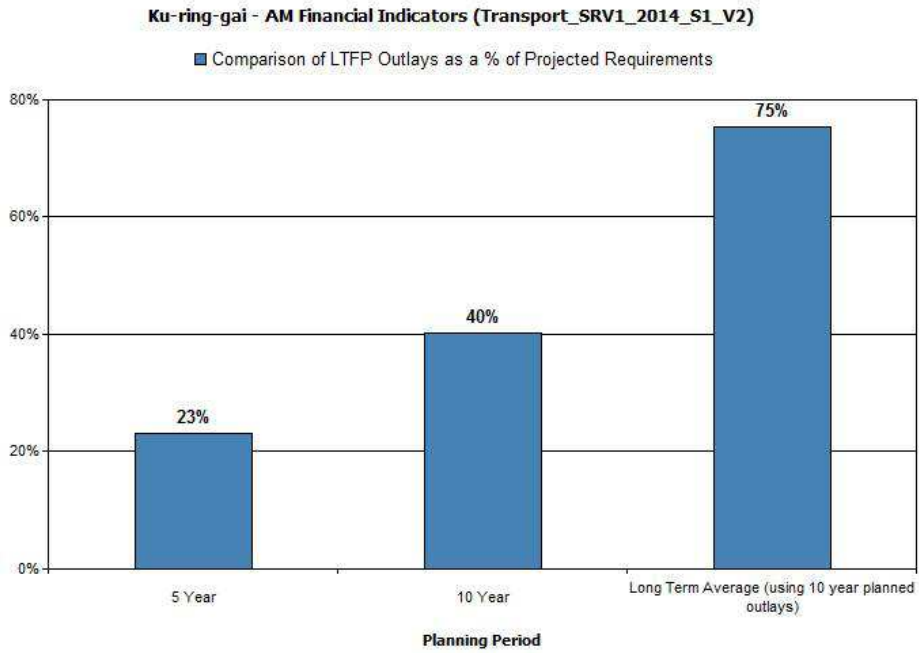
	Scenario 1 (\$000's)	Scenario 2 (\$000's)	Scenario 3 (\$000's)
Asset Renewal Funding Ratio			
Asset Renewal Funding Ratio	39 %	81 %	100 %
Life Cycle Cost (long term) (\$000)			
Life Cycle Cost (depreciation + ops. and maintenance. expenditures – 10 year average)	\$14,306	\$14,306	\$14,064
Life Cycle Exp. (Capital renewal. + operations + maintenance expenditure 10 year average)	\$13,493	\$13,493	\$13,493
Life Cycle Gap [life cycle expenditure - life cycle cost [-ve = gap]	-\$814	-\$814	-\$571
Life Cycle Sustainability Indicator [life cycle expenditure / LCC]	94 %	94 %	96 %
Medium Term (10 yrs) Sustainability			
10 year Operations, Maintenance & Renewal Projected Expenditure	\$26,764	\$15,942	\$13,493
10 year Operations, Maintenance & Renewal Planned (Budget) Expenditures	\$13,493	\$13,493	\$13,493
10 year Funding Shortfall (10 year projected. expenditures. - Planned (Budget) Expenditures)	-\$13,272	-\$2,450	\$0
10 year Sustainability Indicator (10 year planned exp. / projected. Expenditure)	50 %	85 %	100 %
Short Term (5 years) Sustainability			
5 year Operations, Maintenance & Renewal Projected Expenditure	\$44,008	\$15,795	\$12,860
5 year Operations, Maintenance & Renewal Planned (Budget) Expenditure	\$12,860	\$12,860	\$12,860
5 year Funding Shortfall (5 year projected expenditures. - planned (budget) expenditures)	-\$31,147	-\$2,935	\$0
5 year Sustainability Indicator (5 year planned expenditures. / projected expenditures)	29 %	81 %	100 %

Asset management financial indicators

Figure 7A shows the asset management financial indicators over the 5 & 10 year planning period and for the long term life cycle.

Figure 7A: Asset Management Financial Indicators (Scenario 1 - from Asset Register)

SRV1



SRV2

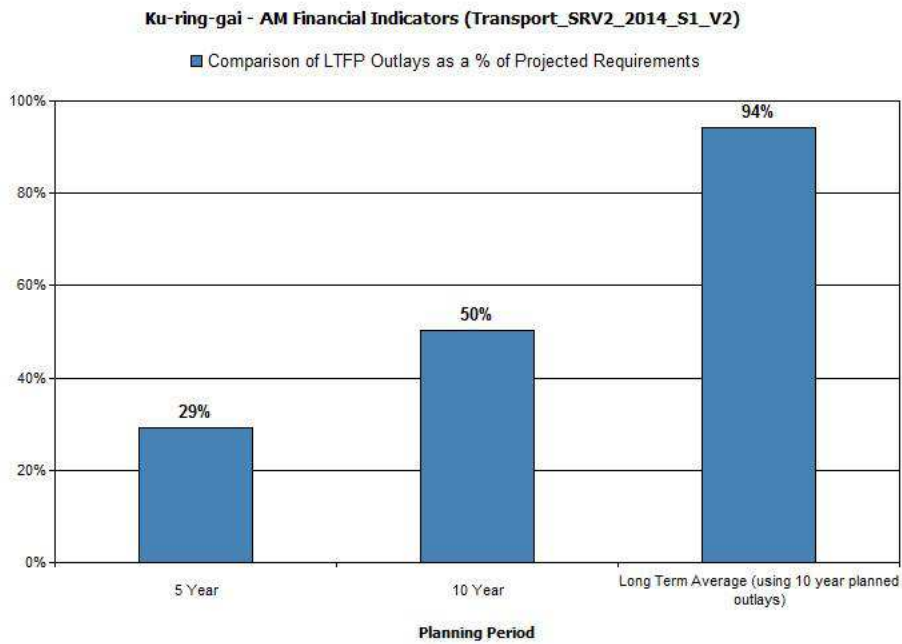
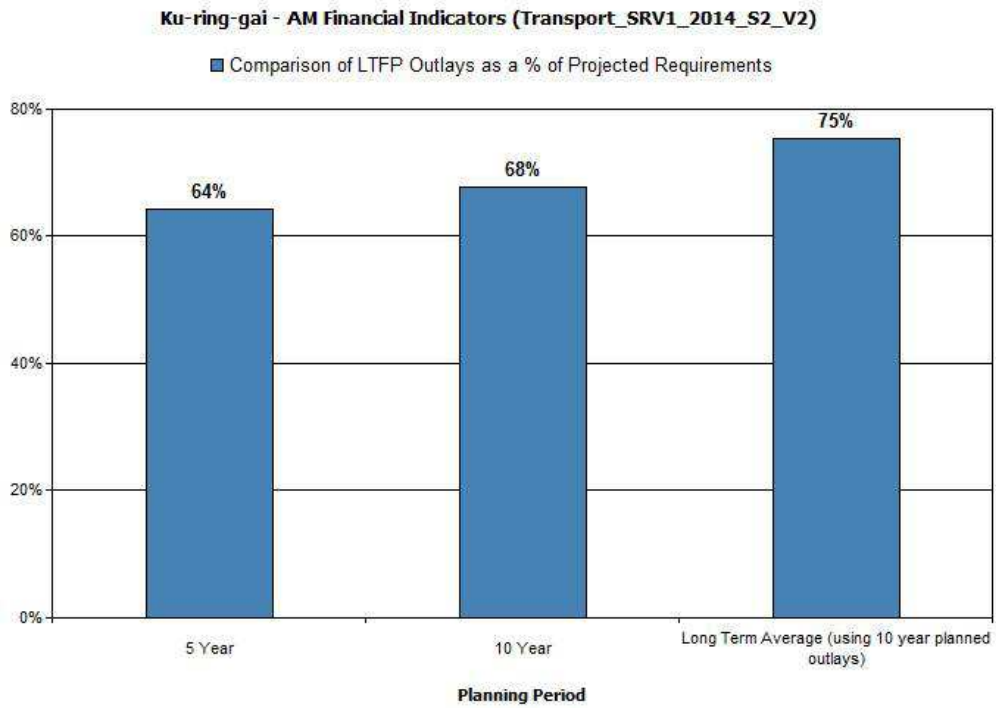


Figure 7B: Asset Management Financial Indicators (Scenario 2 - from Average Network Renewal Estimates)

SRV1



SRV2

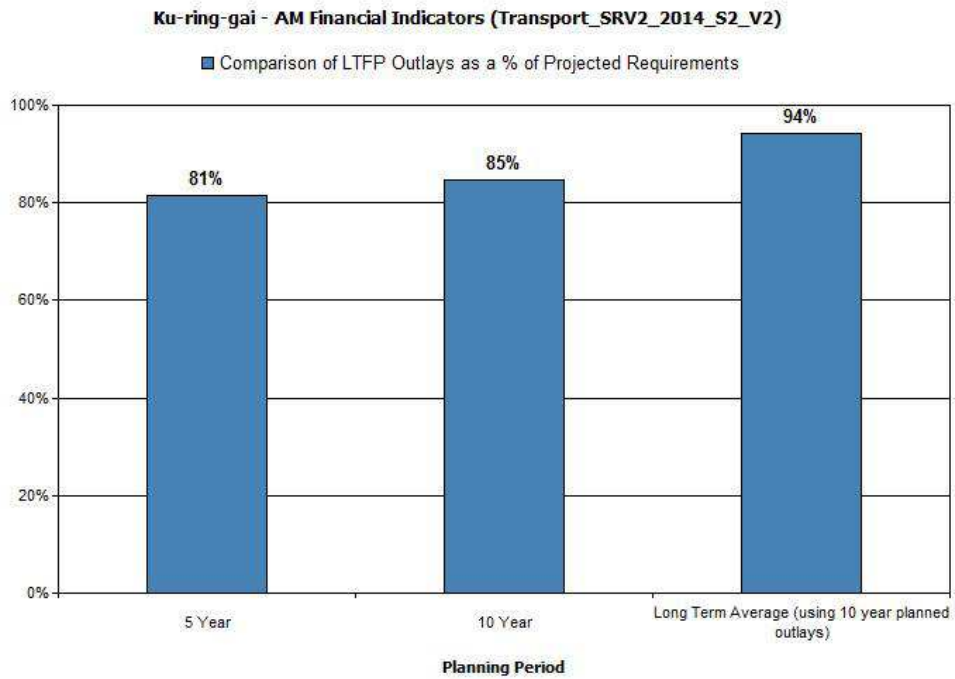
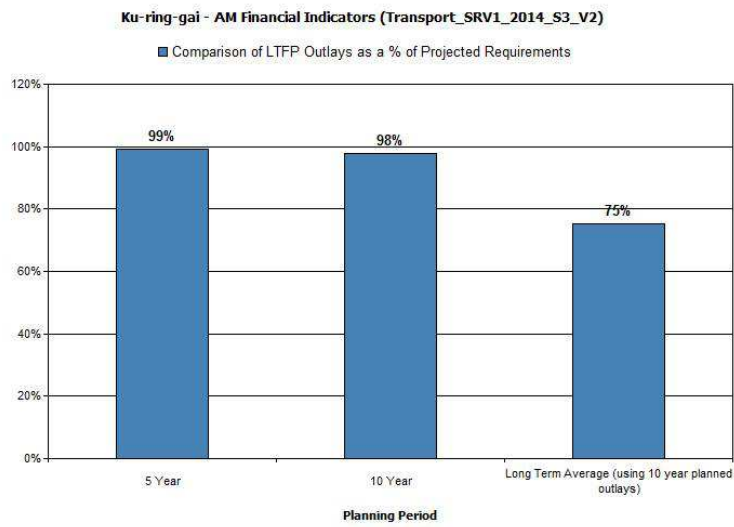
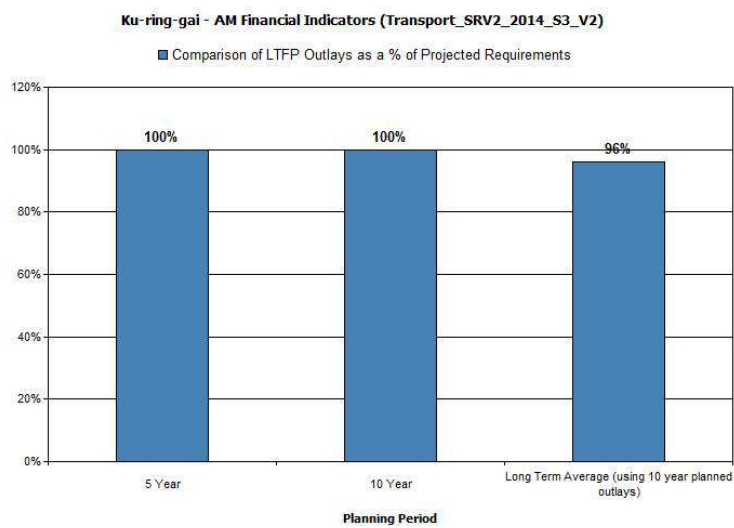


Figure 7C: Asset Management Financial Indicators (Scenario 3 – Balanced with Long Term Financial Plan)

SRV1



SRV2



Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 1.0 for the first years of the asset management plan and ideally over the 10 year life of the Long Term Financial Plan.

Figures 8.1 to 8.3 show the projected asset renewal and replacement expenditure over the 20 years of the AM Plan for the 3 scenarios being considered. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the capital works program, which is accommodated in the long term financial plan

Figure 8.1: SRV2 Projected and LTFP Budgeted Renewal Expenditure (Scenario 1 - from Asset Register)

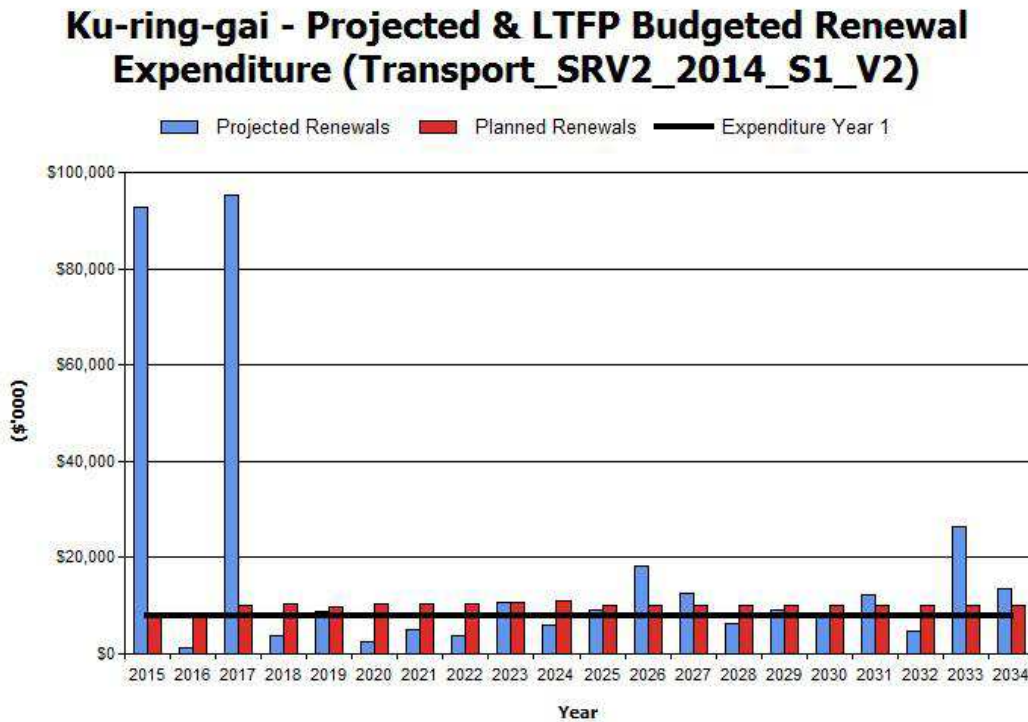


Table 6.1.1.S1 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in long term financial plan. Budget expenditures accommodated in the long term financial plan or extrapolated from current budgets are shown in Appendix D.

Table 6.1.1.S1: Projected and LTFP Budgeted Renewals and Financing Shortfall (Scenario 1 - from Asset Register)

Year	Projected Renewals (\$000)	LTFP Renewal Budget (\$000)	Renewal Financing Shortfall (\$000) (-ve Gap, +ve Surplus)	Cumulative Shortfall (\$000) (-ve Gap, +ve Surplus)
2015	\$92,704	\$7,964	-\$84,740	-\$84,740
2016	\$1,254	\$8,421	\$7,167	-\$77,573
2017	\$95,208	\$9,933	-\$85,275	-\$162,848
2018	\$3,824	\$10,440	\$6,616	-\$156,232
2019	\$8,828	\$9,798	\$970	-\$155,262
2020	\$2,379	\$10,347	\$7,968	-\$147,293
2021	\$4,928	\$10,332	\$5,404	-\$141,889
2022	\$3,736	\$10,413	\$6,677	-\$135,212
2023	\$10,748	\$10,766	\$18	-\$135,194
2024	\$6,120	\$11,022	\$4,902	-\$130,293
2025	\$8,987	\$9,944	\$957	-\$129,336
2026	\$18,175	\$9,944	-\$8,231	-\$137,568
2027	\$12,736	\$9,944	-\$2,792	-\$140,360
2028	\$6,290	\$9,944	\$3,654	-\$136,706
2029	\$9,259	\$9,944	\$685	-\$136,021

Year	Projected Renewals (\$000)	LTFP Renewal Budget (\$000)	Renewal Financing Shortfall (\$000) (-ve Gap, +ve Surplus)	Cumulative Shortfall (\$000) (-ve Gap, +ve Surplus)
2030	\$7,582	\$9,944	\$2,362	-\$133,659
2031	\$12,133	\$9,944	-\$2,189	-\$135,848
2032	\$4,744	\$9,944	\$5,200	-\$130,648
2033	\$26,528	\$9,944	-\$16,584	-\$147,232
2034	\$13,609	\$9,944	-\$3,666	-\$150,898

Note: A negative shortfall indicates a financing gap; a positive shortfall indicates a surplus for that year.

Figure 8.2: SRV2 Projected and LTFP Budgeted Renewal Expenditure (Scenario 2 - from Average Network Renewal Estimates)

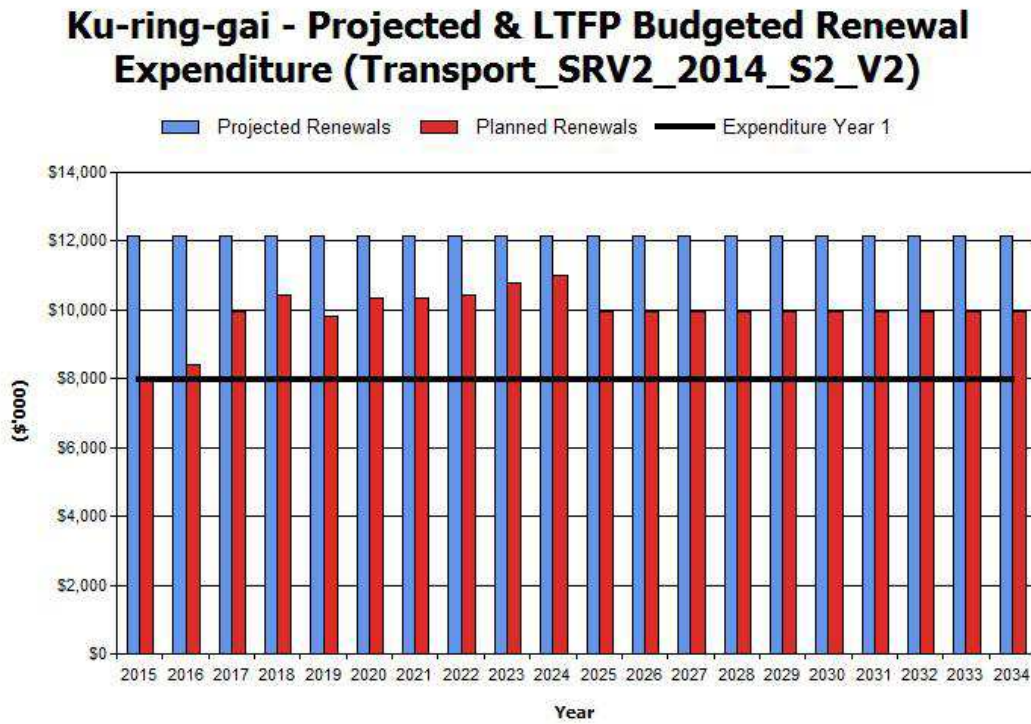


Table 6.1.1.S2 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in long term financial plan. Budget expenditures accommodated in the long term financial plan are shown in Appendix D.

Table 6.1.1.S2: Projected and LTFP Budgeted Renewals and Financing Shortfall (Scenario 2 - from Average Network Renewal Estimates)

Year	Projected Renewals (\$000)	LTFP Renewal Budget (\$000)	Renewal Financing Shortfall (\$000) (-ve Gap, +ve Surplus)	Cumulative Shortfall (\$000) (-ve Gap, +ve Surplus)
2015	\$12,151	\$7,964	-\$4,187	-\$4,187
2016	\$12,151	\$8,421	-\$3,730	-\$7,917
2017	\$12,151	\$9,933	-\$2,218	-\$10,135
2018	\$12,151	\$10,440	-\$1,711	-\$11,846
2019	\$12,151	\$9,798	-\$2,353	-\$14,199
2020	\$12,151	\$10,347	-\$1,804	-\$16,003
2021	\$12,151	\$10,332	-\$1,819	-\$17,822
2022	\$12,151	\$10,413	-\$1,738	-\$19,560
2023	\$12,151	\$10,766	-\$1,385	-\$20,945
2024	\$12,151	\$11,022	-\$1,129	-\$22,074
2025	\$12,151	\$9,944	-\$2,207	-\$24,281
2026	\$12,151	\$9,944	-\$2,207	-\$26,489
2027	\$12,151	\$9,944	-\$2,207	-\$28,696
2028	\$12,151	\$9,944	-\$2,207	-\$30,904
2029	\$12,151	\$9,944	-\$2,207	-\$33,111
2030	\$12,151	\$9,944	-\$2,207	-\$35,318
2031	\$12,151	\$9,944	-\$2,207	-\$37,526
2032	\$12,151	\$9,944	-\$2,207	-\$39,733
2033	\$12,151	\$9,944	-\$2,207	-\$41,941
2034	\$12,151	\$9,944	-\$2,207	-\$44,148

Note: A negative shortfall indicates a financing gap; a positive shortfall indicates a surplus for that year.

Figure 8.3: SRV2 Projected and LTFP Budgeted Renewal Expenditure (Scenario 3 – Balanced with Long Term Financial Plan)

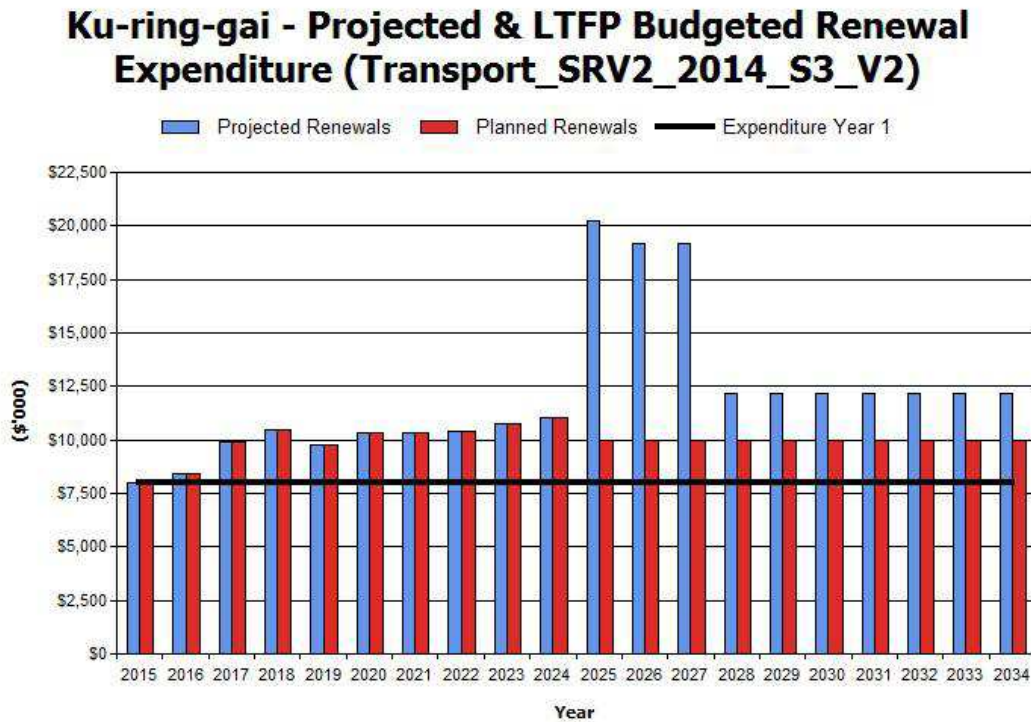


Table 6.1.1.S3 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in long term financial plan. Budget expenditures accommodated in the long term financial plan are shown in Appendix D.

Table 6.1.1.S3: Projected and LTFP Budgeted Renewals and Financing Shortfall (Scenario 3 – Balanced with Long Term Financial Plan)

Year	Projected Renewals (\$000)	LTFP Renewal Budget (\$000)	Renewal Financing Shortfall (\$000) (-ve Gap, +ve Surplus)	Cumulative Shortfall (\$000) (-ve Gap, +ve Surplus)
2015	\$7,964	\$7,964	\$0	\$0
2016	\$8,421	\$8,421	\$0	\$0
2017	\$9,933	\$9,933	\$0	\$0
2018	\$10,440	\$10,440	\$0	\$0
2019	\$9,798	\$9,798	\$0	\$0
2020	\$10,347	\$10,347	\$0	\$0
2021	\$10,332	\$10,332	\$0	\$0
2022	\$10,413	\$10,413	\$0	\$0
2023	\$10,766	\$10,766	\$0	\$0
2024	\$11,022	\$11,022	\$0	\$0
2025	\$20,227	\$9,944	-\$10,283	-\$10,283
2026	\$19,151	\$9,944	-\$9,207	-\$19,491
2027	\$19,151	\$9,944	-\$9,207	-\$28,698
2028	\$12,151	\$9,944	-\$2,207	-\$30,906

Year	Projected Renewals (\$000)	LTFP Renewal Budget (\$000)	Renewal Financing Shortfall (\$000) (-ve Gap, +ve Surplus)	Cumulative Shortfall (\$000) (-ve Gap, +ve Surplus)
2029	\$12,151	\$9,944	-\$2,207	-\$33,113
2030	\$12,151	\$9,944	-\$2,207	-\$35,320
2031	\$12,151	\$9,944	-\$2,207	-\$37,528
2032	\$12,151	\$9,944	-\$2,207	-\$39,735
2033	\$12,151	\$9,944	-\$2,207	-\$41,943
2034	\$12,151	\$9,944	-\$2,207	-\$44,150

Note: A negative shortfall indicates a financing gap; a positive shortfall indicates a surplus for that year.

Providing services in a sustainable manner will require matching of projected asset renewal and replacement expenditure to meet agreed service levels with the corresponding capital works program accommodated in the long term financial plan.

A gap between projected asset renewal/replacement expenditure and amounts accommodated in the LTFP indicates that further work is required on reviewing service levels in the AM Plan (including possibly revising the LTFP). This work forms part of the ongoing improvement of the asset management plan. In this asset the extent of the “gap” is shown in the difference between Scenario 2 and Scenario 3.

We will manage the ‘gap’ by developing this asset management plan to provide guidance on future service levels and resources required to provide these services, and review future services, service levels and costs with the community.

6.1.2 Projected expenditures for long term financial plan

Table 6.1.2.S2 shows the projected expenditures for the 10 year long term financial plan based on the estimated average network renewals (Scenario 2 – Average Network Renewal Estimates). Ongoing consideration of future funding is required as this expenditure is not funded and will result in the consequence of declining service levels and increasing risk.

Expenditure projections are in 2013 real values.

Table 6.1.2.S2: Projected Expenditures for Long Term Financial Plan (\$000) – Based on Scenario 2 - from Average Network Renewal Estimates

Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2015	\$1,159.00	\$2,390.00	\$12,151.00	\$4,085.00	\$0.00
2016	\$1,167.63	\$2,407.79	\$12,151.00	\$11,249.00	\$0.00
2017	\$1,191.38	\$2,456.77	\$12,151.00	\$6,251.00	\$0.00
2018	\$1,204.58	\$2,483.99	\$12,151.00	\$10,882.00	\$0.00
2019	\$1,227.56	\$2,531.37	\$12,151.00	\$7,076.00	\$0.00
2020	\$1,242.50	\$2,562.18	\$12,151.00	\$10,367.00	\$0.00
2021	\$1,264.39	\$2,607.32	\$12,151.00	\$12,140.00	\$0.00
2022	\$1,290.02	\$2,660.18	\$12,151.00	\$9,897.00	\$0.00
2023	\$1,310.92	\$2,703.28	\$12,151.00	\$5,987.00	\$0.00
2024	\$1,323.56	\$2,729.35	\$12,151.00	\$10,451.00	\$0.00

Table 6.1.2.S3 shows the projected expenditures which are matching the 10 year long term financial plan (Scenario 3 – Balanced with Long Term Financial Plan). Ongoing consideration of future funding is required as this expenditure will result in the consequence of declining service levels and increasing risk.

Expenditure projections are in 2013 real values.

Table 6.1.2.S3: Projected Expenditures for Long Term Financial Plan (\$000) – Based on Scenario 3 – Balanced with available funding

Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2015	\$1,159.00	\$2,390.00	\$7,964.00	\$4,085.00	\$0.00
2016	\$1,159.00	\$2,390.00	\$8,421.00	\$11,249.00	\$0.00
2017	\$1,159.00	\$2,390.00	\$9,933.00	\$6,251.00	\$0.00
2018	\$1,159.00	\$2,390.00	\$10,440.00	\$10,882.00	\$0.00
2019	\$1,159.00	\$2,390.00	\$9,798.00	\$7,076.00	\$0.00
2020	\$1,159.00	\$2,390.00	\$10,347.00	\$10,367.00	\$0.00
2021	\$1,159.00	\$2,390.00	\$10,332.00	\$12,140.00	\$0.00
2022	\$1,159.00	\$2,390.00	\$10,413.00	\$9,897.00	\$0.00
2023	\$1,159.00	\$2,390.00	\$10,766.00	\$5,987.00	\$0.00
2024	\$1,159.00	\$2,390.00	\$11,022.00	\$10,451.00	\$0.00

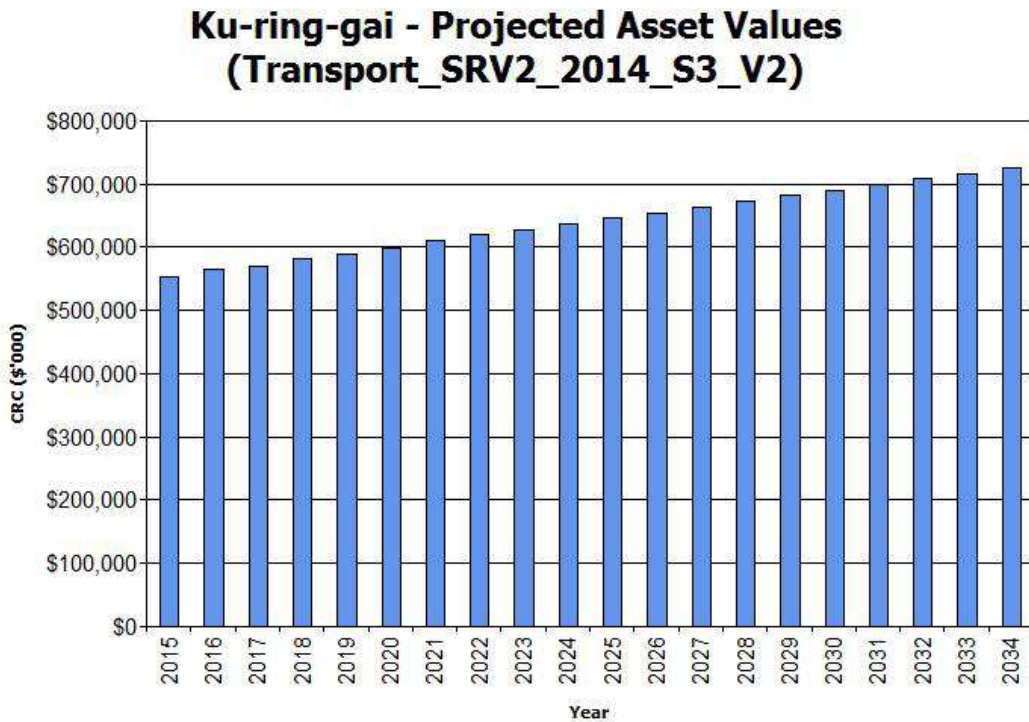
6.2 Funding Strategy

After reviewing service levels, as appropriate to ensure ongoing financial sustainability projected expenditures identified in Section 6.1.2 will be accommodated in the organisation's 10 year long term financial plan.

6.3 Valuation Forecasts

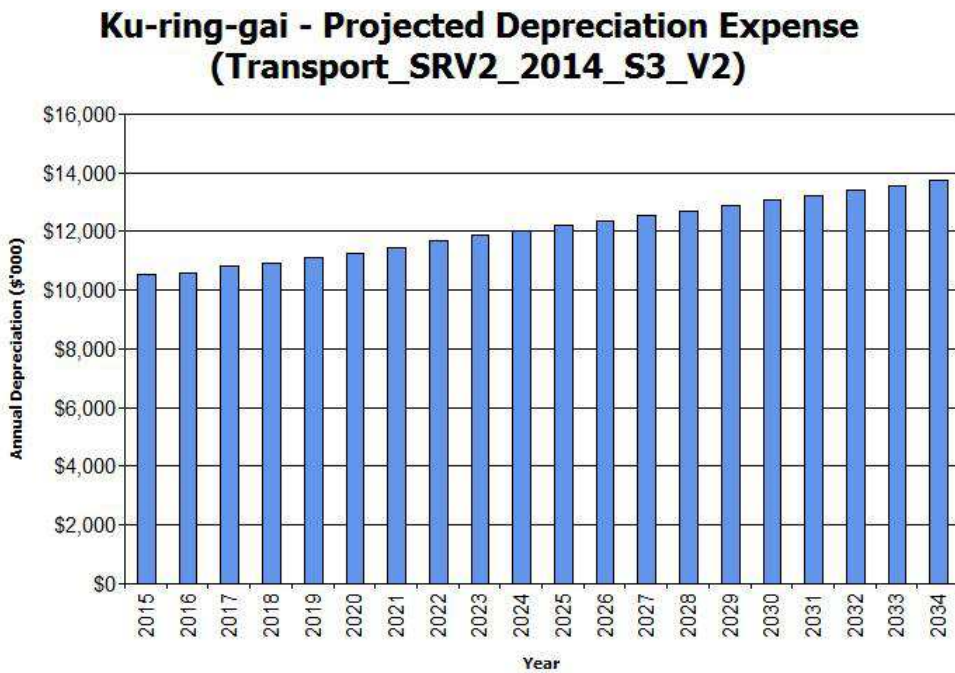
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by the organisation and from assets constructed by land developers and others and donated to the organisation. Figure 9 shows the projected replacement cost asset values over the planning period in real values.

Figure 9: Projected Asset Values



Depreciation expense values are forecast in line with asset values as shown in Figure 10.

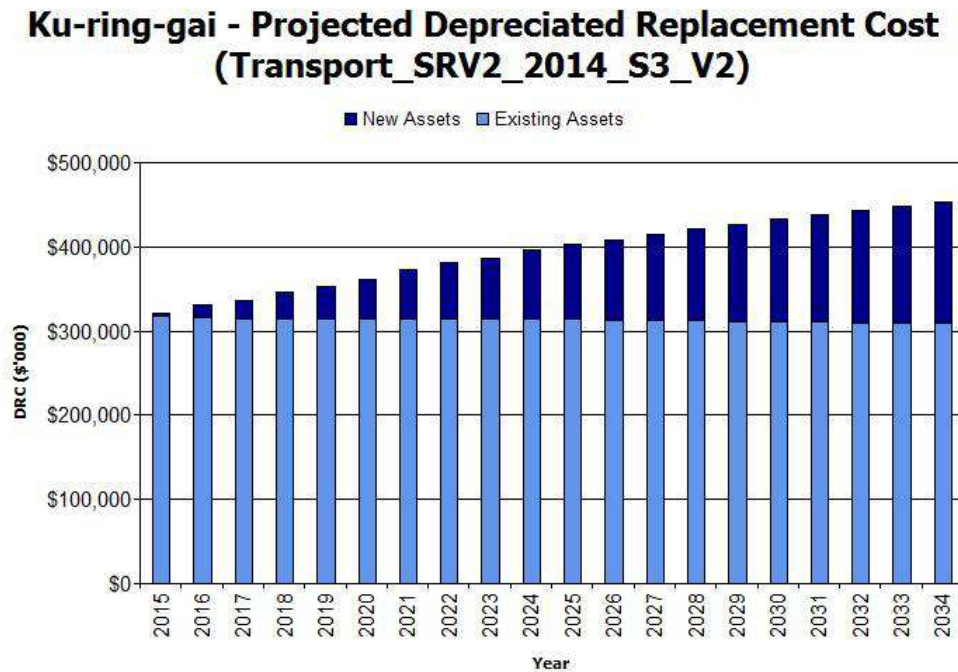
Figure 10: Projected Depreciation Expense



The depreciated replacement cost will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets'

depreciated replacement cost is shown in Figure 11. The depreciated replacement cost of contributed and new assets is shown in the darker colour and in the lighter colour for existing assets.

Figure 11: Projected Depreciated Replacement Cost



6.4 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan and risks that these may change are shown in Table 6.4.

Table 6.4: Key Assumptions made in AM Plan and Risks of Change

Key Assumptions	Risks of Change to Assumptions
Use of the existing inventory data (Scenario 1) including depreciation which is used for the Long Term sustainability assessments	Low Risk
Use of technical judgement for renewal Requirements (Scenario 2)	Medium risk
Use of existing valuations, useful lives and remaining lives determined from asset age and current condition rating	Medium Risk
Use of current expenditure information as best as this can be determined	Medium Risk

Key Assumptions	Risks of Change to Assumptions
Required maintenance is assumed to take place in accordance with relevant guidelines/standards	Low Risk
That road and transport assets will remain in Council's ownership throughout the planning period and that levels of service remain unchanged	Low Risk
Maintenance expenditure is based on historical expenditure and assumes there will no significant change	Medium Risk

6.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale¹¹ in accordance with Table 6.5.

Table 6.5: Data Confidence Grading System

Confidence Grade	Description
A Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate $\pm 2\%$
B Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate $\pm 10\%$
C Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated $\pm 25\%$
D Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy $\pm 40\%$
E Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 6.5.1.

¹¹ IPWEA, 2011, IIMM, Table 2.4.6, p 2|59.

Table 6.5.1: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	B Reliable	Estimated, however further substantiation required for next revision of the AMP
Growth projections	B Reliable	Estimated, however further substantiation required for next revision of the AMP
Operations expenditures	B Reliable	Direct from budget, breakdown into operations and maintenance and renewal is estimated at an individual account level
Maintenance expenditures	B Reliable	Direct from budget, breakdown into operations and maintenance and renewal is estimated at an individual account level
Projected Renewal expenditures. - Asset values	A Highly reliable	Direct from budget, breakdown into operations and maintenance and renewal is estimated at an individual account level. Asset values determined from recent revaluation process
- Asset residual values	A Highly reliable	Residuals only used on formations
- Asset useful lives	B Reliable	Updated following revaluation
- Condition modelling	B Reliable	Desk top audit with field sampling
- Network renewals	A Highly reliable	Based on 10 year rolling works program which is aligned to the LTFP
- Defect repairs	A Highly reliable	Based on 10 year rolling works program which is aligned to the LTFP
Upgrade/New expenditures	A Highly reliable	Based on 10 year rolling works program which is aligned to the LTFP
Disposal expenditures	B Reliable	Determined from recent asset revaluation

Over all data sources, the data confidence is assessed as medium/high confidence level for data used in the preparation of this AM Plan.

7. PLAN IMPROVEMENT AND MONITORING

7.1 *Status of Asset Management Practices*

7.1.1 Accounting and financial systems

Financial transactions are recorded in Council's corporate financial systems (currently Technology 1 – Financials).

Accountabilities for financial systems

The Finance Officers and Financial Accountants are responsible for operating the finance system.

Accounting standards and regulations

Accountabilities for financial systems is with the Finance Officers and Financial Accountants in the Finance Section. The Finance Section reports in accordance with the relevant accounting standards and regulations

- Local Government Act (NSW) 1993
- Local Government Amendment (Planning and Reporting) Act 2009
- Local Government (Finance Plans and Reporting) Regulation 2010
- NSW Code of Accounting Practice
- AASB116

Capital threshold

- Council adopted the Asset Accounting and Capitalisation Policy June 2012. The Policy outlines the capital thresholds for each asset group. The thresholds for the Roads and Transport assets groups are as follows; Roads - \$10,000
- Bridges - \$10,000
- Car parks - \$10,000
- Road structures and street furniture - \$2,000
- Kerb and Gutter - \$5000
- Footpaths and cycleways- \$5,000

Required changes to accounting financial systems arising from this AM Plan

- Develop reporting on expenditures, with separation of costs for operations as opposed to maintenance and improved reporting on capital expenditures as renewal or upgrade/new,
- Continued input and development of a single corporate asset register, in which financial calculations including calculation of annual depreciation can be undertaken by council.
- Linking of the customer service system/work orders to the corporate asset register to link requests to asset records,
- Improved project cost accounting to record costs against the asset component and develop valuation unit rates.

7.1.2 Asset management systems

- Pavement Management System – SMEC, is managed by the Operations Department
- Accountabilities for asset management system and data maintenance
 - Pavement Engineer
- Fair valuation spreadsheet – linked to PMS. Used for reporting purposes.
- Accountabilities for the fair valuation spreadsheet
 - Strategic Asset Coordinator

Pavement Engineer **Required changes to asset management system arising from this AM Plan**

- Review of accuracy and currency of asset data,
- Continued development of a single technical asset register as the corporate asset register, in which financial calculations including calculation of annual depreciation can be undertaken by council at an individual asset component level.
- Development of a works costing and maintenance management system to improve works planning and cost recording, in particular to identify expenditure type (operations, maintenance, capital renewal and capital new/upgrade)
- Improved project cost accounting to record costs against the asset component and develop valuation unit rates.

7.2 Improvement Program

The asset management improvement plan generated from this asset management plan is shown in Table 7.2.

Table 7.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Update Roads and Transport into the Corporate Asset system (Tech 1works and Assets).	Corporate (Technical & Financial)	Staff Time	2014/2015
2	Linking of the customer service system to the corporate asset register to link requests to asset records	Corporate	Staff Time	2014/2015
3	Continue to review the accuracy and currency of asset data	Technical	Staff Time	TBD
4	Review methodology for determining remaining life, with detail assessment for assets requiring renewal in the medium term (next 10-20 years)	Corporate (Technical & Financial)	Staff Time	TBD
5	Maintenance response levels should be documented and adopted.	Technical Services	Staff Time	TBD

7.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget planning processes and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

The AM Plan will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the Council's long term financial plan.

The AM Plan has a life of 4 years (Council election cycle) and is due for complete revision and updating within 1 year of each Council election.

7.4 Performance Measures

The effectiveness of the asset management plan can be measured in the following ways:

- The degree to which the required projected expenditures identified in this asset management plan are incorporated into the organisation's long term financial plan,
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the asset management plan,
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the organisation's Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the target of 1.0.

8. REFERENCES

- NSW DLG Integrated Planning Guidelines and Manual 2010, 2013
- NSW 2021: A Plan To Make NSW Number One September 2011
- Ku-ring-gai Council Community Strategic Plan 2030
- Ku-ring-gai Council Resourcing Strategy 2013-2023
- Ku-ring-gai Council Delivery Program and Operational Plans 2013-2014
- Ku-ring-gai Council Long Term Financial Plan 2013-2023
- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/namsplus.
- IPWEA, 2009, 'Australian Infrastructure Financial Management Guidelines', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AIFMG.
- IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/IIMM

9. APPENDICES

Appendix A Maintenance and Renewal Requirements to Sustain Levels of Service

Appendix B Projected 10 year Capital Renewal and Replacement Works Program

Appendix C Projected 10 year Capital Upgrade/New Works Program

Appendix D Budgeted Expenditures Accommodated in LTFFP

Appendix E Abbreviations

Appendix F Glossary

Appendix A: Maintenance and Renewal Requirements to Sustain Levels of Service

Maintenance Response

Maintenance response is based on site judgement using the condition and risk associated with the defect and to the extent of the current budget.

Appendix B: Projected 10 year Capital Renewal and Replacement Works Program

Ku-ring-gai
 Projected Capital Renewal Works Program -
 Transport_SRV2_2014_S2_V2

(\$000)

Year	Item	Description	Estimate
2015		Network Renewals	
	1	Required Average Transport Renewals	\$12,151
2015		Total	\$12,151
2016		Network Renewals	
	1	Required Average Transport Renewals	\$12,151
2016		Total	\$12,151
2017		Network Renewals	
	1	Required Average Transport Renewals	\$12,151
2017		Total	\$12,151
2018		Network Renewals	Estimate
	1	Required Average Transport Renewals	\$12,151
2018		Total	\$12,151
2019		Network Renewals	
	1	Required Average Transport Renewals	\$12,151
2019		Total	\$12,151
2020		Network Renewals	
	1	Required Average Transport Renewals	\$12,151
2020		Total	\$12,151
2021		Network Renewals	
	1	Required Average Transport Renewals	\$12,151
2021		Total	\$12,151
2022		Network Renewals	
	1	Required Average Transport Renewals	\$12,151
2022		Total	\$12,151
2023		Network Renewals	
	1	Required Average Transport Renewals	\$12,151
2023		Total	\$12,151
2024		Network Renewals	
	1	Required Average Transport Renewals	\$12,151
2024		Total	\$12,151

Appendix C: Projected Upgrade/Exp/New 10 year Capital Works Program

Ku-ring-gai

Projected Capital Upgrade/New Works Program -
Transport_SRV2_2014_S2_V2

(\$000)

Year	Item	Description	Estimate
2015	1	LTFP Upgrade New Estimate for Roads and Transport	\$4,085
2015		Total	\$4,085
2016	1	LTFP Upgrade New Estimate for Roads and Transport	\$11,249
2016		Total	\$11,249
2017	1	LTFP Upgrade New Estimate for Roads and Transport	\$6,251
2017		Total	\$6,251
2018	1	LTFP Upgrade New Estimate for Roads and Transport	\$10,882
2018		Total	\$10,882
2019	1	LTFP Upgrade New Estimate for Roads and Transport	\$7,076
2019		Total	\$7,076
2020	1	LTFP Upgrade New Estimate for Roads and Transport	\$10,367
2020		Total	\$10,367
2021	1	LTFP Upgrade New Estimate for Roads and Transport	\$12,140
2021		Total	\$12,140
2022	1	LTFP Upgrade New Estimate for Roads and Transport	\$9,897
2022		Total	\$9,897
2023	1	LTFP Upgrade New Estimate for Roads and Transport	\$5,987
2023		Total	\$5,987
2024	1	LTFP Upgrade New Estimate for Roads and Transport	\$10,451
2024		Total	\$10,451

Appendix D: Budgeted Expenditures Accommodated in LTFP

10 year Budgeted Expenditures from Worksheet Form 3 Expenditure Planning on the NAMS.PLUS2 Expenditure Template.

NAMS.PLUS2 Asset Management Ku-ring-gai

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Transport_SRV2_2014_S2_V2 Asset Management Plan

First year of expenditure projections **2015** (financial yr ending)

Transport_SRV2_2014

Asset values at start of planning period

Current replacement cost	\$548,885 (000)
Depreciable amount	\$548,885 (000)
Depreciated replacement cost	\$320,218 (000)
Annual depreciation expense	\$10,515 (000)

Calc CRC from Asset Register

\$0 (000)

This is a check for you.

Operations and Maintenance Costs for New Assets

Additional operations costs	% of asset value	0.21%
Additional maintenance		0.44%
Additional depreciation		1.92%

Planned renewal budget (information only)

You may use these values calculated from your data or overwrite the links.

Planned Expenditures from LTFP

20 Year Expenditure Projections

Note: Enter all values in current **2015** values

Financial year ending	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Expenditure Outlays included in Long Term Financial Plan (in current \$ values)										
Operations										
Operations budget	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159
Management budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
AM systems budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total operations	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159	\$1,159
Maintenance										
Reactive maintenance budget	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390
Planned maintenance budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specific maintenance items budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total maintenance	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390	\$2,390
Capital										
Planned renewal budget	\$7,964	\$8,421	\$9,933	\$10,440	\$9,798	\$10,347	\$10,332	\$10,413	\$10,766	\$11,022
Planned upgrade/new budget	\$4,085	\$11,249	\$6,251	\$10,882	\$7,076	\$10,367	\$12,140	\$9,897	\$5,987	\$10,451
Non-growth contributed asset value	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asset Disposals										
Est Cost to dispose of assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Carrying value (DRC) of disposed assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Appendix E: Abbreviations

AAAC	Average annual asset consumption	IRMP	Infrastructure risk management plan
AM	Asset management	LCC	Life Cycle cost
AM Plan	Asset management plan	LCE	Life cycle expenditure
ARI	Average recurrence interval	LTFP	Long term financial plan
ASC	Annual service cost	MMS	Maintenance management system
BOD	Biochemical (biological) oxygen demand	PCI	Pavement condition index
CRC	Current replacement cost	RV	Residual value
CWMS	Community wastewater management systems	SoA	State of the Assets
DA	Depreciable amount	SS	Suspended solids
DRC	Depreciated replacement cost	vph	Vehicles per hour
EF	Earthworks/formation	WDCRD	Written down current replacement cost

Appendix F: Glossary

Annual service cost (ASC)

Reporting actual cost

The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.

For investment analysis and budgeting

An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance/opportunity and disposal costs, less revenue.

Asset

A resource controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity. Infrastructure assets are a sub-class of property, plant and equipment which are non-current assets with a life greater than 12 months and enable services to be provided.

Asset category

Sub-group of assets within a class hierarchy for financial reporting and management purposes.

Asset class

A group of assets having a similar nature or function in the operations of an entity, and which, for purposes of disclosure, is shown as a single item without supplementary disclosure.

Asset condition assessment

The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.

Asset hierarchy

A framework for segmenting an asset base into appropriate classifications. The asset hierarchy can be based on asset function or asset type or a combination of the two.

Asset management (AM)

The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.

Asset renewal funding ratio

The ratio of the net present value of asset renewal funding accommodated over a 10 year period in a long term financial plan relative to the net present value of projected capital renewal expenditures identified in an asset management plan for the same period [AIFMG Financial Sustainability Indicator No 8].

Average annual asset consumption (AAAC)*

The amount of an organisation's asset base consumed during a reporting period (generally a year). This may be calculated by dividing the depreciable amount by the useful life (or total future economic benefits/service potential) and totalled for each and every asset OR by dividing the carrying amount (depreciated replacement cost) by the remaining useful life (or remaining future economic benefits/service potential) and totalled for each and every asset in an asset category or class.

Borrowings

A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided.

Capital expenditure

Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

Capital expenditure - expansion

Expenditure that extends the capacity of an existing asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which increases future operations and maintenance costs, because it increases the organisation's asset base, but may be associated with additional revenue from the new user group, eg. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

Capital expenditure - new

Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operations and maintenance expenditure.

Capital expenditure - renewal

Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it generally has no impact on revenue, but may reduce future operations and maintenance expenditure if completed at the optimum time, eg. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval.

Capital expenditure - upgrade

Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operations and maintenance expenditure in the future because of the increase in the organisation's asset base, eg. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

Capital funding

Funding to pay for capital expenditure.

Capital grants

Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.

Capital investment expenditure

See capital expenditure definition

Capitalisation threshold

The value of expenditure on non-current assets above which the expenditure is recognised as capital expenditure and below which the expenditure is charged as an expense in the year of acquisition.

Carrying amount

The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.

Class of assets

See asset class definition

Component

Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Core asset management

Asset management which relies primarily on the use of an asset register, maintenance management systems, job resource management, inventory control, condition assessment, simple risk assessment and defined levels of service, in order to establish alternative treatment options and long-term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than detailed risk analysis and optimised decision-making).

Cost of an asset

The amount of cash or cash equivalents paid or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, including any costs necessary to

place the asset into service. This includes one-off design and project management costs.

Critical assets

Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than noncritical assets.

Current replacement cost (CRC)

The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset (not a second hand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.

Deferred maintenance

The shortfall in rehabilitation work undertaken relative to that required to maintain the service potential of an asset.

Depreciable amount

The cost of an asset, or other amount substituted for its cost, less its residual value.

Depreciated replacement cost (DRC)

The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.

Depreciation / amortisation

The systematic allocation of the depreciable amount (service potential) of an asset over its useful life.

Economic life

See useful life definition.

Expenditure

The spending of money on goods and services. Expenditure includes recurrent and capital outlays.

Fair value

The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arms length transaction.

Financing gap

A financing gap exists whenever an entity has insufficient capacity to finance asset renewal and other expenditure necessary to be able to appropriately maintain the range and level of services its existing asset stock was originally designed and intended to deliver. The service capability of the existing asset stock should be determined assuming no additional operating revenue, productivity improvements, or net financial liabilities above levels currently planned or projected. A current financing gap means service levels have already or are currently falling. A projected financing gap if not addressed will result in a future diminution of existing service levels.

Heritage asset

An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.

Impairment Loss

The amount by which the carrying amount of an asset exceeds its recoverable amount.

Infrastructure assets

Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, eg. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence

the assets have long lives. They are fixed in place and are often have no separate market value.

Investment property

Property held to earn rentals or for capital appreciation or both, rather than for:

- (a) use in the production or supply of goods or services or for administrative purposes; or
- (b) sale in the ordinary course of business.

Key performance indicator

A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.

Level of service

The defined service quality for a particular service/activity against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.

*Life Cycle Cost **

1. Total LCC The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
2. Average LCC The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises average operations, maintenance expenditure plus asset consumption expense, represented by depreciation expense projected over 10 years. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure

The Life Cycle Expenditure (LCE) is the average operations, maintenance and capital renewal expenditure accommodated in the long term financial plan over 10 years. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of

affordability of projected service levels when considered with asset age profiles.

Loans / borrowings

See borrowings.

Maintenance

All actions necessary for retaining an asset as near as practicable to an appropriate service condition, including regular ongoing day-to-day work necessary to keep assets operating, eg road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.

- Planned maintenance

Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

- Reactive maintenance

Unplanned repair work that is carried out in response to service requests and management/supervisory directions.

- Specific maintenance

Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.

- Unplanned maintenance

Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

*Maintenance expenditure **

Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure, which was anticipated in determining the asset's useful life.

Materiality

The notion of materiality guides the margin of error acceptable, the degree of precision required and the extent of the disclosure required when preparing general purpose financial reports. Information is material if its omission, misstatement or non-disclosure has the potential, individually or collectively, to influence the economic decisions of users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.

Modern equivalent asset

Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing. It allows for technology changes and, improvements and efficiencies in production and installation techniques

Net present value (NPV)

The value to the organisation of the cash flows associated with an asset, liability, activity or event calculated using a discount rate to reflect the time value of money. It is the net amount of discounted total cash inflows after deducting the value of the discounted total cash outflows arising from eg the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.

Non-revenue generating investments

Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations

Regular activities to provide services such as public health, safety and amenity, eg street sweeping, grass mowing and street lighting.

Operating expenditure

Recurrent expenditure, which is continuously required to provide a service. In common use the term typically includes, eg power, fuel, staff, plant equipment, on-costs and overheads but excludes

maintenance and depreciation. Maintenance and depreciation is on the other hand included in operating expenses.

Operating expense

The gross outflow of economic benefits, being cash and non cash items, during the period arising in the course of ordinary activities of an entity when those outflows result in decreases in equity, other than decreases relating to distributions to equity participants.

Operating expenses

Recurrent expenses continuously required to provide a service, including power, fuel, staff, plant equipment, maintenance, depreciation, on-costs and overheads.

Operations, maintenance and renewal financing ratio

Ratio of estimated budget to projected expenditure for operations, maintenance and renewal of assets over a defined time (eg 5, 10 and 15 years).

Operations, maintenance and renewal gap

Difference between budgeted expenditures in a long term financial plan (or estimated future budgets in absence of a long term financial plan) and projected expenditures for operations, maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Pavement management system (PMS)

A systematic process for measuring and predicting the condition of Transport Infrastructures and wearing surfaces over time and recommending corrective actions.

PMS Score

A measure of condition of a road segment determined from a Pavement Management System.

*Rate of annual asset consumption **

The ratio of annual asset consumption relative to the depreciable amount of the assets. It measures the amount of the consumable parts of assets that are consumed in a period (depreciation)

expressed as a percentage of the depreciable amount.

*Rate of annual asset renewal **

The ratio of asset renewal and replacement expenditure relative to depreciable amount for a period. It measures whether assets are being replaced at the rate they are wearing out with capital renewal expenditure expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

*Rate of annual asset upgrade/new **

A measure of the rate at which assets are being upgraded and expanded per annum with capital upgrade/new expenditure expressed as a percentage of depreciable amount (capital upgrade/expansion expenditure/DA).

Recoverable amount

The higher of an asset's fair value, less costs to sell and its value in use.

Recurrent expenditure

Relatively small (immaterial) expenditure or that which has benefits expected to last less than 12 months. Recurrent expenditure includes operations and maintenance expenditure.

Recurrent funding

Funding to pay for recurrent expenditure.

Rehabilitation

See capital renewal expenditure definition above.

Remaining useful life

The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life is useful life.

Renewal

See capital renewal expenditure definition above.

Residual value

The estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the

asset were already of the age and in the condition expected at the end of its useful life.

Revenue generating investments

Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, eg public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

Risk management

The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

Section or segment

A self-contained part or piece of an infrastructure asset.

Service potential

The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

Service potential remaining

A measure of the future economic benefits remaining in assets. It may be expressed in dollar values (Fair Value) or as a percentage of total anticipated future economic benefits. It is also a measure of the percentage of the asset's potential to provide services that is still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).

Specific Maintenance

Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacement of air conditioning equipment, etc. This work generally falls below the capital/ maintenance threshold and needs to be identified in a specific maintenance budget allocation.

Strategic Longer-Term Plan

A plan covering the term of office of councillors (4 years minimum) reflecting the needs of the community for the foreseeable future. It brings together the detailed requirements in the Council's longer-term plans such as the asset management plan and the long-term financial plan. The plan is prepared in consultation with the community and details where the Council is at that point in time, where it wants to go, how it is going to get there, mechanisms for monitoring the achievement of the outcomes and how the plan will be resourced.

Sub-component

Smaller individual parts that make up a component part.

Useful life

Either:

(a) the period over which an asset is expected to be available for use by an entity, or

(b) the number of production or similar units expected to be obtained from the asset by the entity.

It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the Council.

Value in Use

The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.

Source: IPWEA, 2009, Glossary

Additional and modified glossary items shown *