Gundagai Shire Council

Transport

Asset Management Plan

Scenario 1 Version 12

December 2013

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TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

Context

Gundagai Shire Council is a small regional council with limited population growth, an aging asset base and changing community expectations.

Council provides an urban and rural road network throughout the Gundagai Local Government area in partnership with the Roads and Traffic Authority, RTA, to enable safe and efficient transport of people, freight and equipment.

In recent years, flooding has caused widespread damage to many transport assets which has only now been overcome. Many assets have been repaired with their remaining lives substantially extended

The Transport Service

The Transport network comprises:

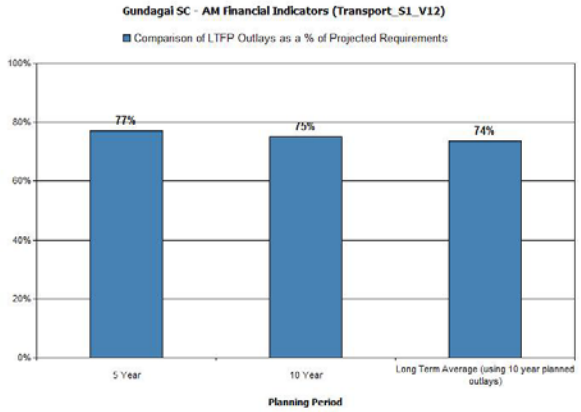
- 733km of Rural Roads (Local and Regional)
- 40km of Town Streets (Local and Regional)
- 64 Bridges (Concrete, Steel and Timber)
- 44 Major Culverts
- 13km of Footpaths
- 28km of Kerb and Gutters

These infrastructure assets have a replacement value of $126,089,000.

What does it Cost?

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 $72,660,000 or $7,266,000 on average per year.

Estimated available funding for this period is $37,971,000 or $3,797,100 on average per year which is 52% of the cost to provide the service. This is a funding shortfall of $3,469,000 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.



What we will do

We plan to provide Transport services for the following:

- Operation, maintenance, renewal and upgrade of town streets, sealed and unsealed rural roads, bridges and other drainage structures to meet service levels set in annual budgets.
- Some upgrades to areas with existing service deficiencies within the 10 year planning period.
- Renew damaged road services beyond repair within the 10 year planning period

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:

- Gobarralong Bridge Renewal
- Gundagai Main Street Redevelopment

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:

Crashing and/or damage to vehicles
Loss of business to land owners

We will endeavour to manage these risks within available funding 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:
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 the organisation is obtaining best value for resources used.

Confidence Levels

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

The Next Steps

The actions resulting from this asset management plan are:

- Reviewing the condition grading and useful life of assets apparently approaching life expiry
- Reviewing service levels to match funds availability
- Improving the recording of actual maintenance and operating costs.

Questions you may have

What is this plan about?

This asset management plan covers the infrastructure assets that serve the Gundagai Shire Council community's Transport needs. These assets include Roads, Bridges, Culverts, Paths, Stormwater, Kerb and Guttering throughout the community area that enable safe and efficient transport of people, freight and equipment.

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.

An 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?

Most of the organisation's Transport network was constructed by developers and from government grants, often provided and accepted without consideration of ongoing operations, maintenance and replacement needs.

Many of these 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 insufficient to continue to provide existing services at current levels in the medium term.

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 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 service levels in some areas, unless new sources of revenue are found. For Transport, the service level reduction may include

- Increased degradation of transport assets
- Disposal of transport assets
- Extended service intervals
- Failure to create and upgrade new assets

What can we do?

We can develop options, costs and priorities for future Transport 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.

What can you do?

We will be pleased to consider your thoughts on the issues raised in this asset management plan and suggestions on how we may change or reduce the Transport mix of services to ensure that the appropriate level of service can be provided to the community within available funding.

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 Manual[1].

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

Gundagai Shire Council Roads Program

The infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to provide safe and efficient transport of people, freight and equipment services to its community.

Table 2.1: Assets covered by this Plan

Asset category	Dimension	Replacement Value
Roads	773km	$110,109,950
Bridges	1.3km	$8,502,282
Culverts	0.2km	$2,528,070
Footpaths	13km	$1,464,600
Kerbs and Gutter	28km	$3,483,700
TOTAL		**$126,089,000**

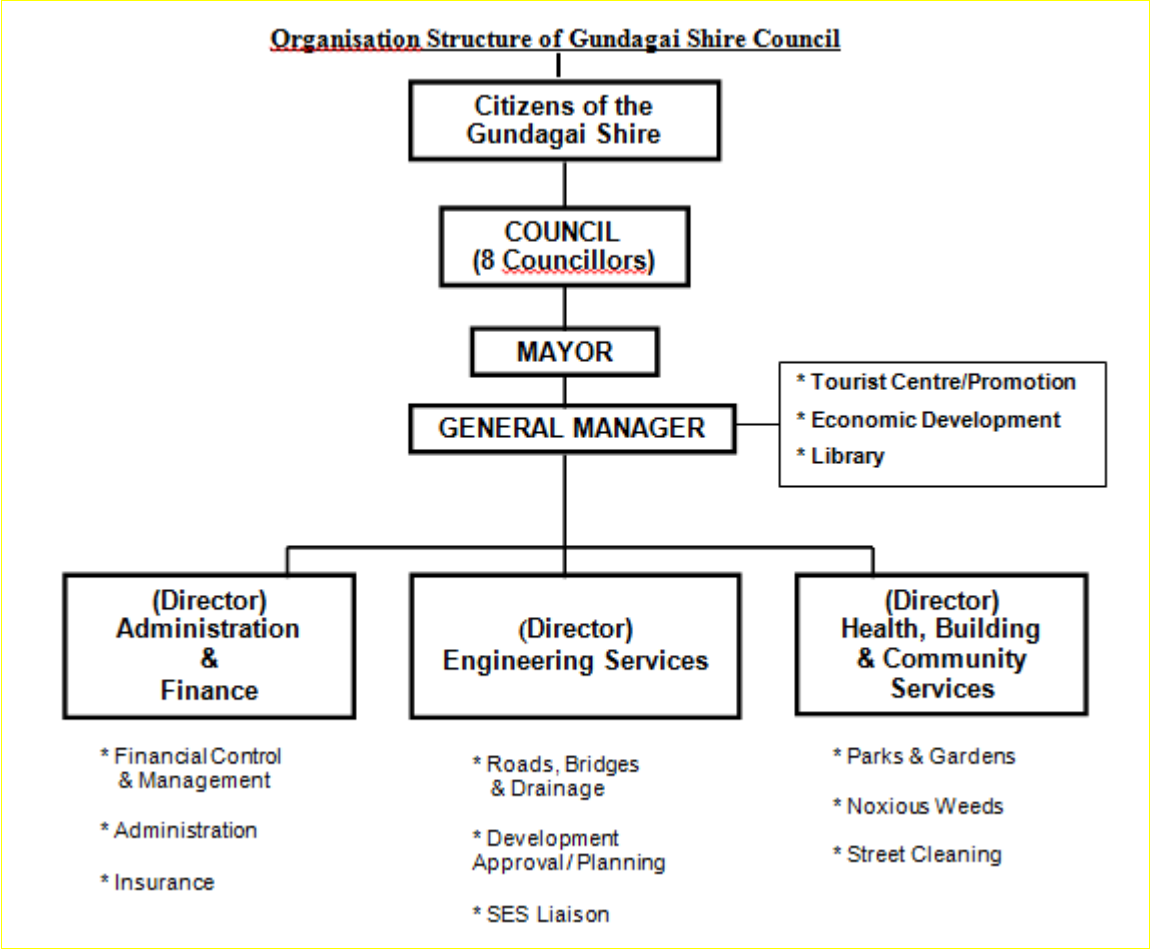
Key stakeholders in the preparation and implementation of this asset management plan are: Shown in Table 2.1.1.

Table 2.1.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Councillors/Board Members	• Represent needs of community/shareholders, • Allocate resources to meet the organisation's objectives in providing services while managing risks, • Ensure organisation is financial sustainable.
CEO/General Manager	Setting Policy relating to objectives, key priorities, service levels and budgeting
Director of Engineering Services/Assets Engineer	Asset data, valuations, review of priorities
Director of Administration and Finance	Financial analysis and financial planning

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

Our organisation's organisational structure for service delivery from infrastructure assets is detailed 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

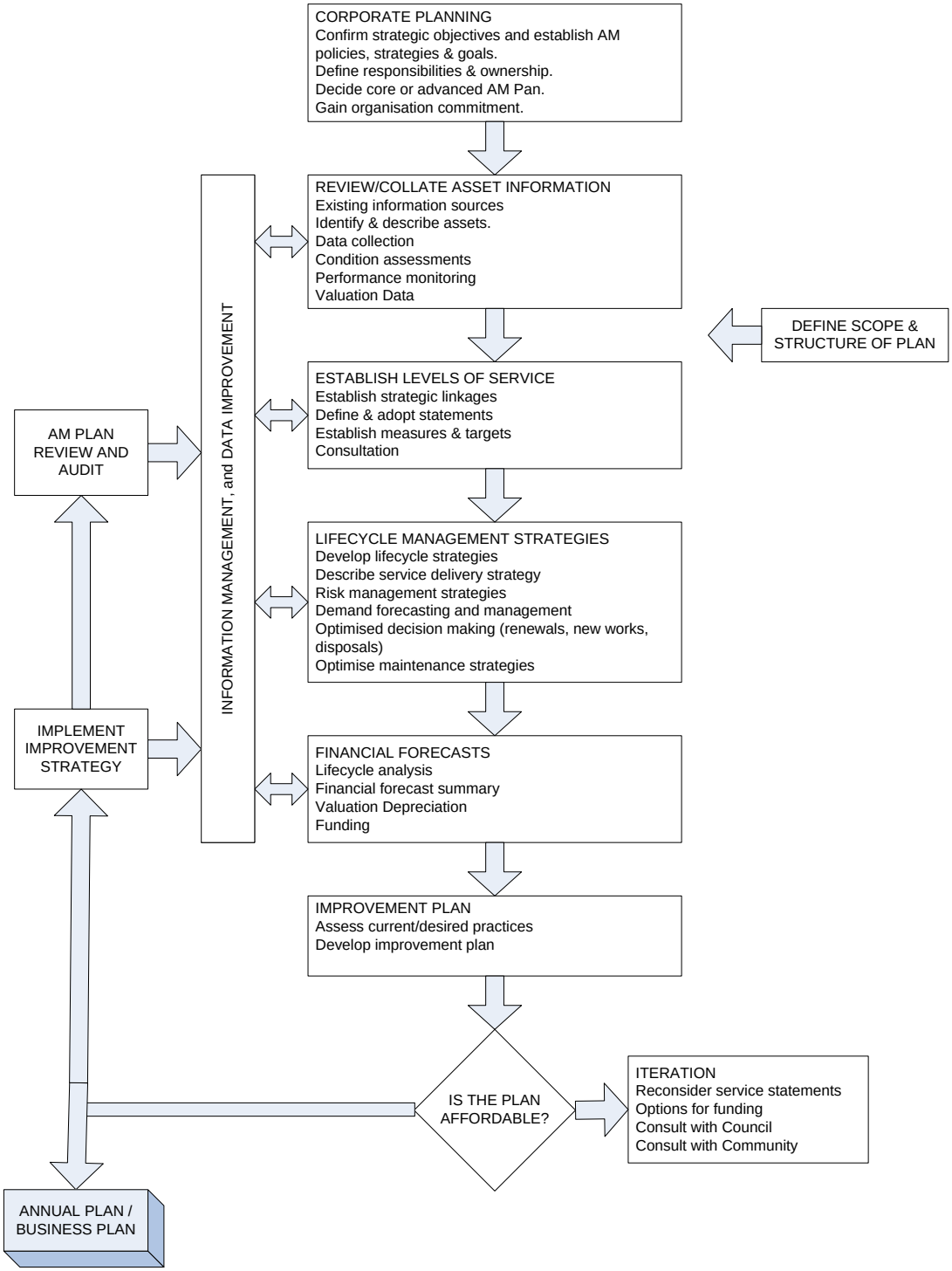
Levels of service – specifies the services and levels of service to be provided by the organisation,
Future demand – how this will impact on future service delivery and how this is to be met,
Life cycle management – how we will manage our existing and future assets to provide defined levels of service,
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 below.

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

Road Map for preparing an Asset Management Plan

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



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 Manual[3]. 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/Board. 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/Board 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.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

The organisation has not carried out any research on customer expectations. This will be investigated for future updates of the asset management plan.

3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of the organisation's vision, mission, goals and objectives.

Our vision is:

"To work with and for the Community to create the quality of life to meet current and future needs of residents and ratepayers of the Gundagai Shire."

Our mission is:

"To develop an organisation that is cost effective, operationally efficient, environmentally sensitive and community responsive. Whilst leading the community, Council will ensure that it adopts a consultative role that allows all community needs to be identified and properly considered in Council's forward planning processes."

Relevant organisation goals and objectives and how these are addressed in this asset management plan are:

Table 3.2: Organisation Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in AM Plan
CSP Objective 2.1	Facilitate strong two way relationships and partnerships with the community and involve them in local planning and decision making	• Plan describes the level of service, cost of providing that standard of service and the sustainability of that service based on current funding.
CSP Objective 3.3	Provide quality well managed services and facilities that meet service standards and community expectations	• Level of service goals are described and the sustainability of providing that level of service is described.
CSP Objective 9.1	Provide and maintain sustainable	• Renewals and new assets programme provided to

[3] IPWEA, 2011, IIMM.

	infrastructure and assets that enhance the public domain, improve the amenity and achieve better outcomes for the community	match desired level of service • Works proposed to address identified high risks • Sustainability of current level of service considered

The Council/Board will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management plan prepared in conjunction with this AM Plan. 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
Local Government Act 1993	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Protection of the Environment Operations Act 1997	Defines the offence and punitive arrangements for water pollution and licensing processes to permit the pollution of waters subject to the requirements of that licence.
Work Health and Safety Act 2011	Sets out the responsibility of Council for the protection of the health and safety of employees, contractors and visitors to the Council's workplace.

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 asset 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 (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. 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.

Table 3.4: Current and Desired Service Levels

Sealed Roads:

Key Performance Measure	Level of Service Objective	Performance Measure Process	Current Level of Service	Optimal Level of Service
COMMUNITY LEVELS OF SERVICE				
Quality	Quality	Provide a smooth ride	Customer service requests	Less than 10 per month
Function	Function	Ensure that the road meets user requirements for travel time and availability	Customer service requests relating to travel time and availability	Less than 2 per month
Capacity/ Utilisation	Safety	Provide safe suitable roads, free from hazards	Number of injury crashes	Less than 5 per annum
TECHNICAL LEVELS OF SERVICE				
Condition	Undertake resealing programme	Resealing frequency	Regional 13 yrs Local Collector – 15 yrs Local access –18 yrs	Regional - 16yr Local Collector - 18yr Local access -20yr
	Carry out routine patching	Patching Frequency	Potholes do not exceed 150 mm dia	Potholes do not exceed 200mm dia
Accessibility	Provide all weather access to Regional, Local Collector and Local Access road	Duration and frequency of road being impassable	Less than ½ hour when road is impassable per year at no more than 2 locations	Less than 1 hour when road is impassable per year at no more than 2 locations
Cost effectiveness	Provide services in cost-effective manner	Maintenance cost $/km	5 yr Average Regional roads $5,500/km Sealed Rural $700/km Town Streets $2,500/km	5 year Average Regional roads $4,800/km Sealed Rural $593/km Town Streets $2,600/km
Safety	Provide clear safety signage	Annual defect & condition survey	Less than 10% of signs with defects.	Less than 10% of signs with defects.

Unsealed Roads:

Key Performance Measure	Level of Service Objective	Performance Measure Process	Current Level of Service	Optimal Level of Service
COMMUNITY LEVELS OF SERVICE				
Quality	Provide a smooth ride Road does not have excessive loose material or dust	Customer service requests	Less than 10 per month	Less than 4 per month
Function	Ensure that the road meets user requirements for travel time and availability	Customer service requests relating to travel time and availability	Less than 2 per month	Less than 1 per month
Safety	Provide safe suitable roads, free from hazards	Number of injury crashes	Less than 5 per annum	10 year average 10.7 per annum (all local roads)

[4] IPWEA, 2011, IIMM, p 2.22

TECHNICAL LEVELS OF SERVICE				
Condition	Carry out routine maintenance grading as per service level specifications	Grading frequency (times per year)	Regional - 4/yr Local Collector - 2/yr Local access -1/yr	Regional - 4/yr Local Collector - 4/yr Local access -2/yr
Accessibility	Provide all weather access to Regional, Local Collector and Local Access road	Duration and frequency of road being impassable	Less than 4 hours when road is impassable per year at no more than 2 locations	1 day 4 times per year on up to 4 Local Access Roads
Cost effectiveness	Provide services in cost-effective manner	Maintenance cost $/km	5 yr Average Regional roads $5,500/km Unsealed Rural $500/km	5 year Average Regional roads $4,800/km Unsealed Rural $450 /km
Safety	Provide clear safety signage	Annual defect & condition survey	Less than 10% of signs with defects.	Less than 10% of signs with defects.

Bridges:

Key Performance Measure	Level of Service Objective	Performance Measure Process	Current Level of Service	Optimal Level of Service
COMMUNITY LEVELS OF SERVICE				
Quality	Quality	Provide a smooth ride	Customer service requests	Less than 10 per month
Function	Function	Ensure that the road meets user requirements for travel time and availability	Customer service requests relating to travel time and availability	Less than 2 per month
Safety	Safety	Provide safe suitable roads, free from hazards	Number of injury crashes	Less than 5 per annum
TECHNICAL LEVELS OF SERVICE				
Condition	Undertake resealing programme	Resealing frequency	Regional 13 yrs Local Collector – 15 yrs Local access –18 yrs	Regional - 16yr Local Collector - 18yr Local access -20yr
	Carry out routine patching	Patching Frequency	Potholes do not exceed 150 mm dia	Potholes do not exceed 200mm dia
Accessibility	Provide all weather access to Regional, Local Collector and Local Access road	Duration and frequency of road being impassable	Less than ½ hour when road is impassable per year at no more than 2 locations	Less than 1 hour when road is impassable per year at no more than 2 locations
Cost effectiveness	Provide services in cost-effective manner	Maintenance cost $/km	5 yr Average Regional roads $5,500/km Sealed Rural $700/km Town Streets $2,500/km	5 year Average Regional roads $4,800/km Sealed Rural $593/km Town Streets $2,600/km
Safety	Provide clear safety signage	Annual defect & condition survey	Less than 10% of signs with defects.	Less than 10% of signs with defects.

Footpaths:

Key Performance Measure	Level of Service Objective	Performance Measure Process	Current Level of Service	Optimal Level of Service
COMMUNITY LEVELS OF SERVICE				
Quality	Provide a smooth ride	Customer service requests	Less than 10 per year	Less than 4 per year
Function	Ensure that the bridge meets user requirements	Customer service requests relating to travel time and	Less than 2 per month	Less than 1 per month

	for travel time and availability	availability		
Safety	Provide safe suitable bridges, free from hazards	Number of injury crashes	Less than 1 per annum	Less than 1 per annum
TECHNICAL LEVELS OF SERVICE				
Condition	Carry out routine maintenance inspections each year	Inspection completed and action plan formulated	One inspection per year Repair work carried out with 80 % compliance with intervention	One inspection per year 90% compliance with intervention levels
Accessibility	Maintain footpaths that link to residential, commercial and institutional facilities within the town areas.	Continuity of footpath facilities	Interruptions to footpaths less than 10%	Interruptions to footpaths less than 5%
Cost effectiveness	Provide services in cost-effective manner	Maintenance cost $/m^2	5 yr Average Local footpaths $0.50/m^2	5 yr Average Local Footpaths$0.40/m^2
Safety	Joint deflections within standards	Annual defect & condition survey	Less than 10% of paths with defects.	Less than 10% of paths with defects.

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
Dwellings – Gundagai Urban Centre	781 (2011, occupied)	794 in 2021 807 in 2031	Marginal increase in serviced area or density which may lead to increased demand on existing assets

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 failures[5]. 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

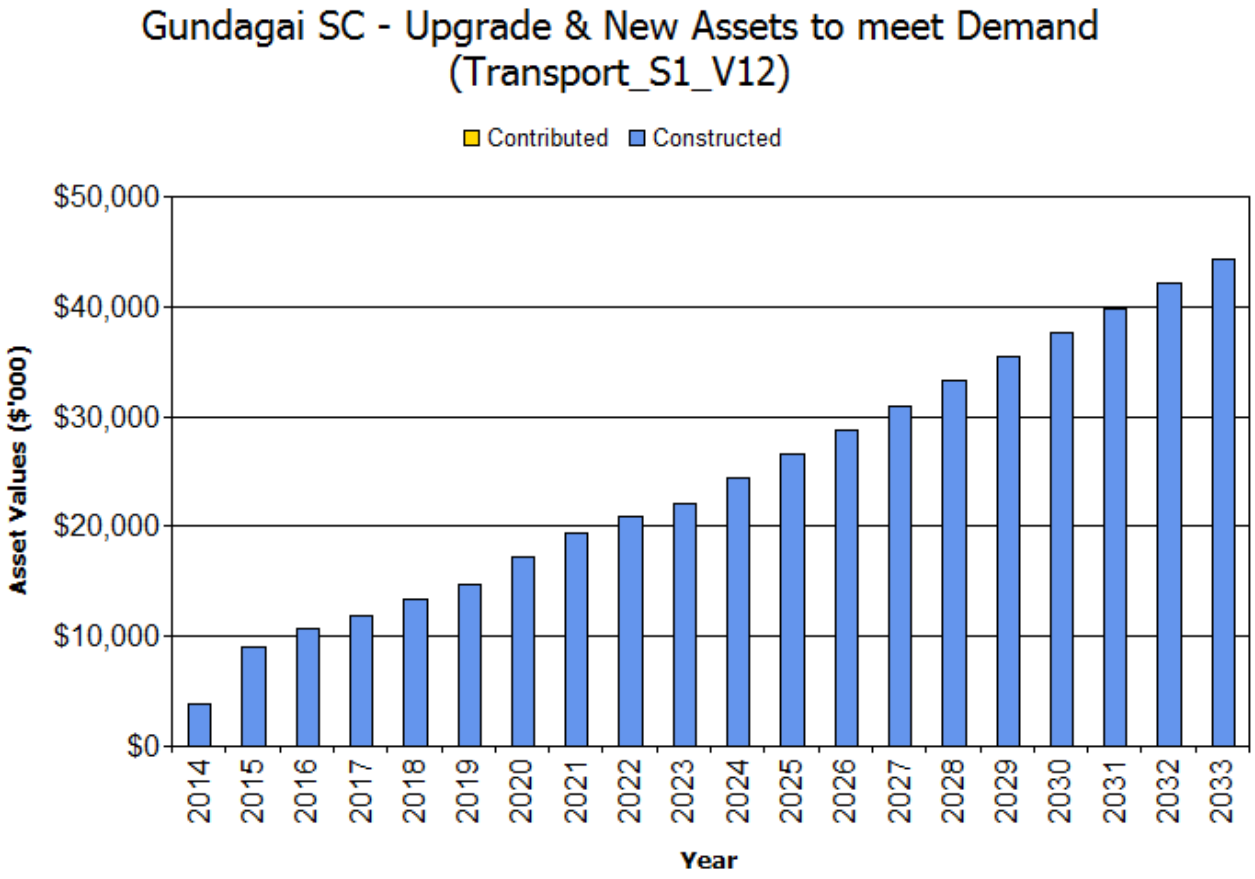
Demand Driver	Impact on Services	Demand Management Plan
Dwellings – Gundagai Urban Centre	Marginal increase in serviced areas	On-site or neighbourhood detention of stormwater flows where required to ensure downstream transport capacity is not exceeded.

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

4.5 Asset Programs to meet Demand

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by the organisation. 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



Acquiring these new 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

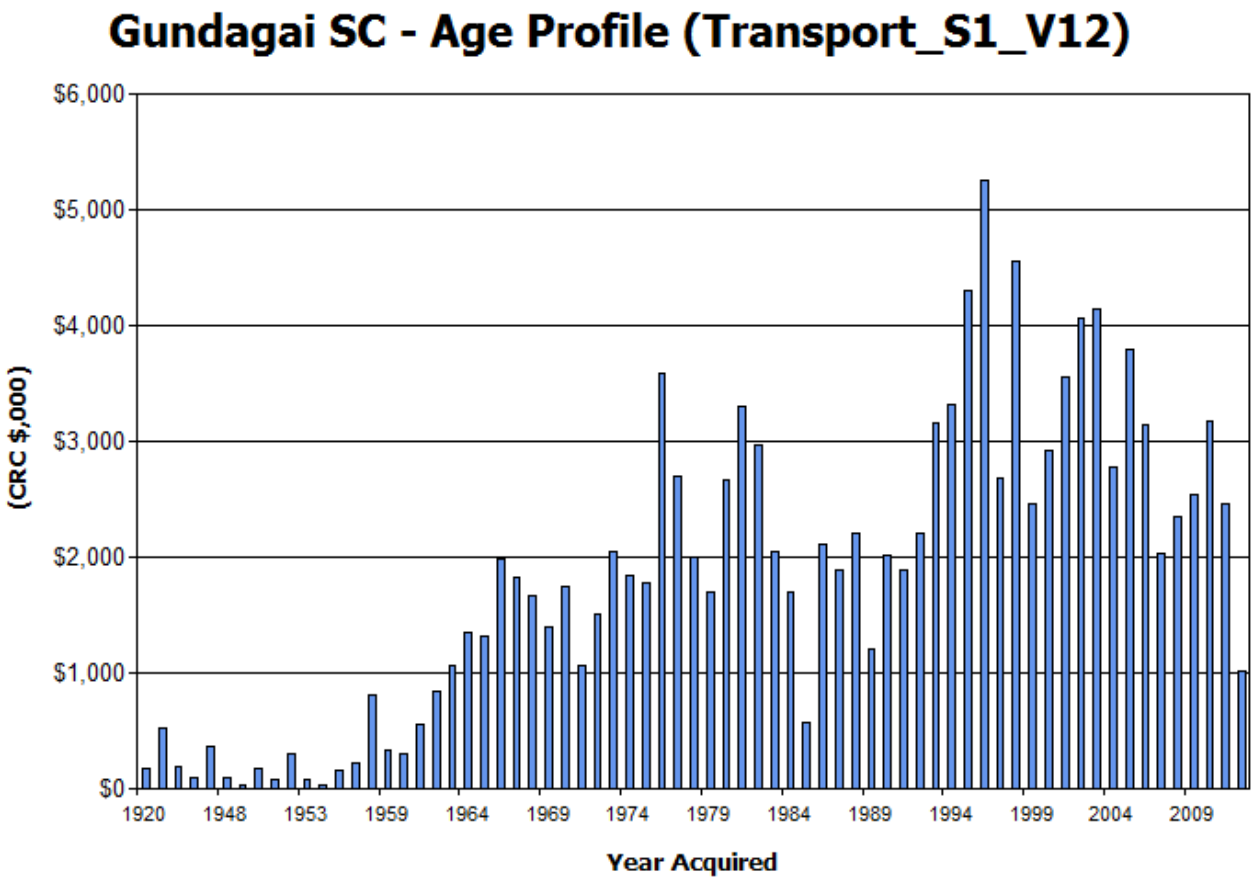
5.1.1 Physical parameters

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

All town streets that have residential frontage are bitumen sealed. The sealed rural road network is considered to give adequate coverage and supports Councils aim to provide a bitumen sealed road within 10 km of 95% of all inhabited rural holdings. The unsealed rural road network is of a generally good condition and supports Council's aim to provide all weather access to all inhabited holdings. Recent flood damage repairs have brought the unsealed road network to a better position than reported in the last Transport Asset Management Plan. The bridge stock is in fair to good condition and is generally performing adequately, with the exception of the Gobarralong bridge. Council is actively seeking tenders and other funding sources for the repair and hope to have the bridge repaired to required levels in the imminent future. Council is actively expanding and renewing the footpath and cycleway network to improve pedestrian access and alternative urban transport.

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

Figure 2: Asset Age Profile



Plans showing the Transport assets are:

GIS Datasets
Paper Format Plans

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

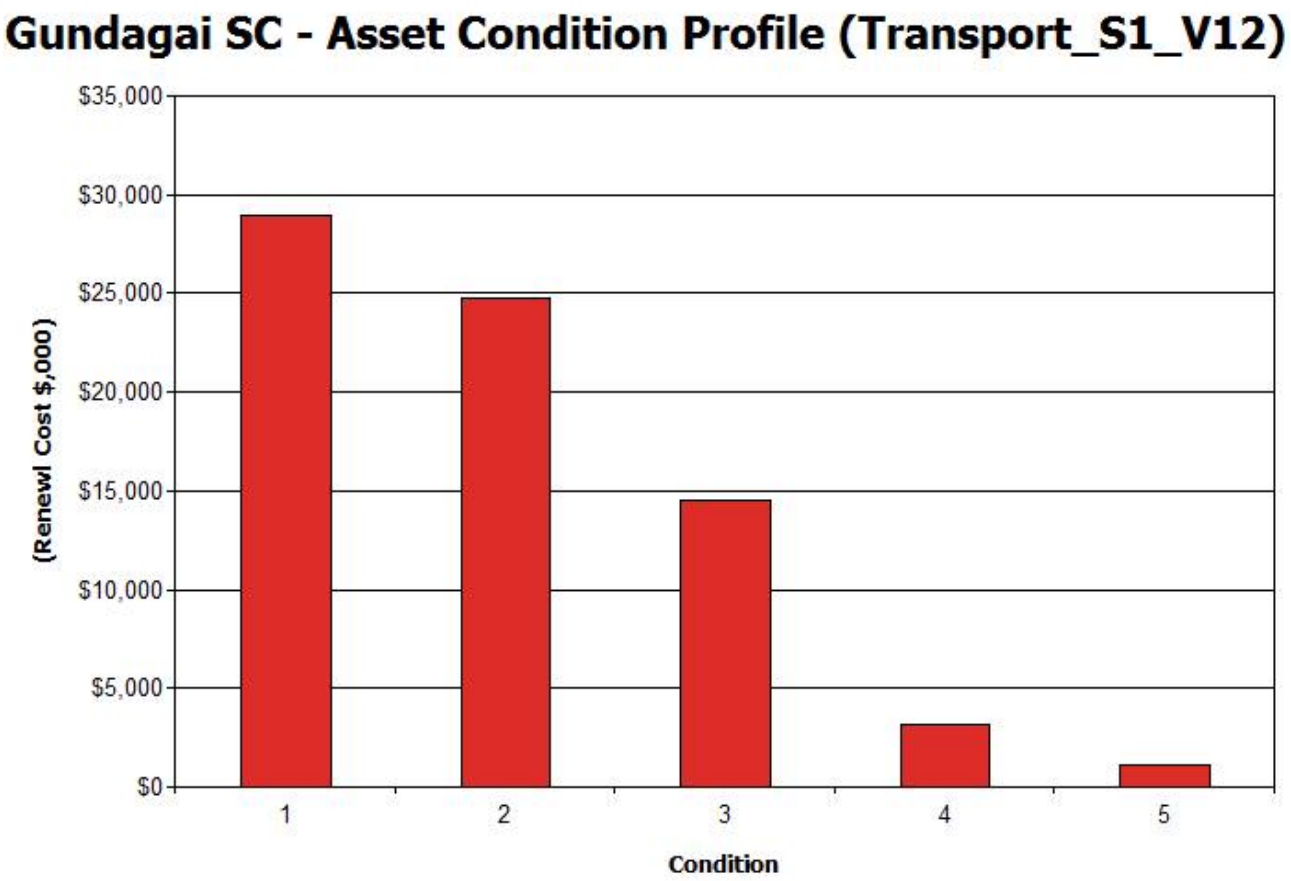
Location	Service Deficiency
Gobarralong Bridge	• Bridge was flood damaged and currently has weight and speed restrictions
Sheridan Street	• Street aesthetics and functions are 'tired' • Defects are forming along the whole street infrastructure
Anne Pyers Drive	• Heavy traffic use from Highway traffic is causing rapid damage to the road surface

5.1.3 Asset condition

Condition is monitored by Engineering staff across all levels. Routine monitoring is now carried out and a new inspection regime is currently being developed

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

Fig 3: Asset Condition Profile



Condition is measured using a 1 – 5 grading system[6] as detailed in Table 5.1.3.

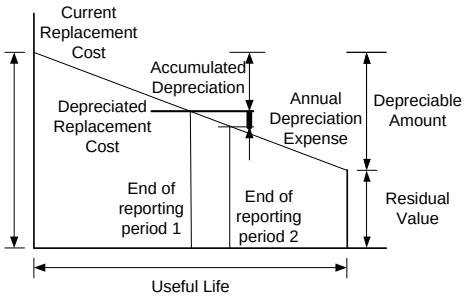
Table 5.1.3: Simple Condition Grading Model

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

5.1.4 Asset valuations

The value of assets recorded in the asset register as at the 5th of December 2013, covered by this asset management plan is shown below. Assets were last revalued at 5th of December 2013. Assets are valued at Depreciated Replacement Cost using a Modern Engineering Equivalent Replacement Asset (MEERA) approach.

Current Replacement Cost	$126,089,000
Depreciable Amount	$33,953,000
Depreciated Replacement Cost[7]	$92,136,000
Annual Depreciation Expense	$1,922,000



Useful lives were reviewed in December 2013 by using standard useful lives of assets.

Key assumptions made in preparing the valuations were:

- The material of some assets has been assumed based on typical material selection for the era of construction.
- The life of assets are assumed to be consistent with a typical life for transport assets.

Major changes from previous valuations are due to a transition from depreciated historical cost valuation to a depreciated replacement cost technique. 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)	5.7%
Rate of Annual Asset Renewal (Capital renewal exp/Depreciable amount)	2.0%
Rate of Annual Asset Upgrade/New (Capital upgrade exp/Depreciable amount)	11.3%
Rate of Annual Asset Upgrade/New (including contributed assets)	11.3%

In 2014 the organisation plans to renew assets at 35% of the rate they are being consumed and will be increasing its asset stock by 11.3% in the year.

[6] IPWEA, 2011, IIMM, Sec 2.5.4, p 2|79.
[7] Also reported as Written Down Current Replacement Cost (WDCRC).

5.1.5 Historical Data

There is minimal historical data available on the Transport asset base, other than for the information used to construct the asset register.

Expenditure on the system has been largely in response to performance concerns.

5.2 Infrastructure Risk Management Plan

An assessment of risks[8] 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/Board.

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
Footpaths	Trip Hazard become a more serious problem with the ageing population	H	Identify and rectify trip hazards which are outside tolerances.	L	
Sealed surfaces	Extreme deterioration if resealing programme not kept up	H	Maintain resealing programme.	M	
Unsealed surfaces	Road becomes impassable	H	Enhance gravel resheeting plan.	M	

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 classifies 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 past maintenance expenditure is shown in Table 5.3.1.

Table 5.3.1: Maintenance Expenditure Trends

Year	Maintenance Expenditure	
	Planned and Specific	Unplanned
	$	$
	$	$
	$	$

Reactive maintenance is carried out in accordance with response levels of service detailed in Appendix A.

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 operations 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 activities (50 – 70% planned desirable as measured by cost),
- 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/Board,
- 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 the organisation 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 is Table 5.3.2.

Table 5.3.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Transport	Assessment and prioritisation of planned and reactive maintenance is undertaken by Council staff using experience and judgement.

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 refines investigative activities, maintenance plans and capital expenditure plans at the appropriate time.

Operations and maintenances 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
Sealed Roads	Severe cracking/degradation	Routine inspections, resealing and patching of sealed surfaces
Unsealed Roads	Washing away of roadbase and subgrade	Routine inspections and resheeting of unsealed surfaces
Bridges	Structural damage from flooding	Routine inspection of structural integrity and flood resistant design

Standards and specifications

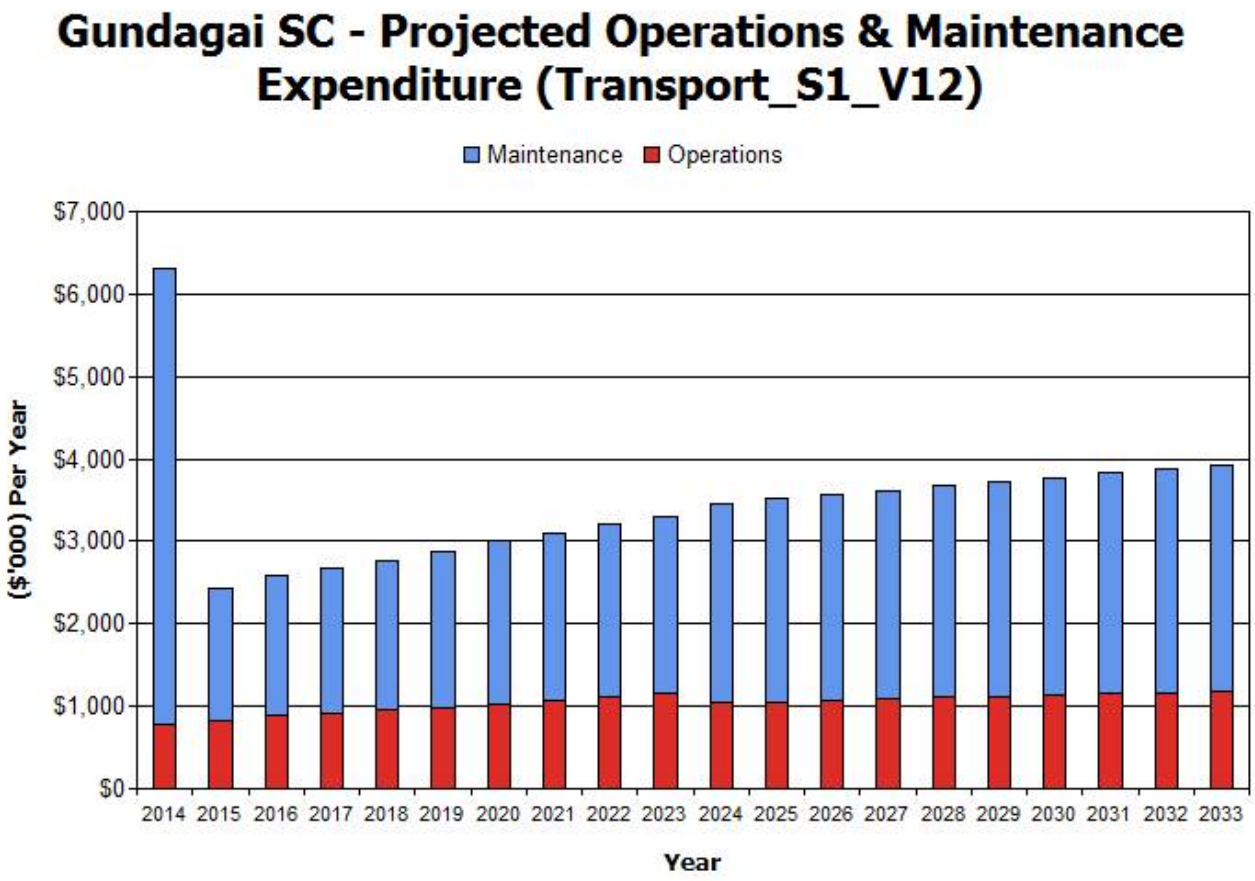
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Gundagai Shire Council Safe Method Work Statements

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 2014 dollar values (i.e. real values).

Figure 4: Projected Operations and Maintenance Expenditure



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 external condition modelling systems (such as Pavement Management Systems), 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'.

Method 1 was used for this asset management plan.

The useful lives of assets used to develop projected asset renewal expenditures are shown in Table 5.4.1. Asset useful lives were last reviewed on 5th of December 2013.[9]

Table 5.4.1: Useful Lives of Assets

Asset (Sub)Category	Useful life
Formation	100 years
Pavement	20-50 years
Seal	15-25 years
Bridge	50-80 years
Culvert	60 years
Footpath	30-50 years
Kerb and Guttering	80 years

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 the organisation, 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 the Council/Board,
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 the organisation 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).[10]

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,
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,

[9] Gundagai Shire Council Transport Register
[10] IPWEA, 2011, IIMM, Sec 3.4.4, p 3|60.

Have high operational or maintenance costs, and
Where replacement with modern equivalent assets would yield material savings.[11]

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
Function	40%
Safety	20%
Condition	20%
Operation/Maintenance Cost	10%
Risk of Failure	10%
Total	**100%**

Renewal and replacement standards

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

- NSW Roads and Traffic Authority Road Design Guide
- AUSTROADS Guide to Traffic Engineering Practice
- Australian Standard AS 5100-2004 Bridge Design
- AUSTROADS Pavement Design Guide
- RTA Interim Guide to Signs and Markings 1978

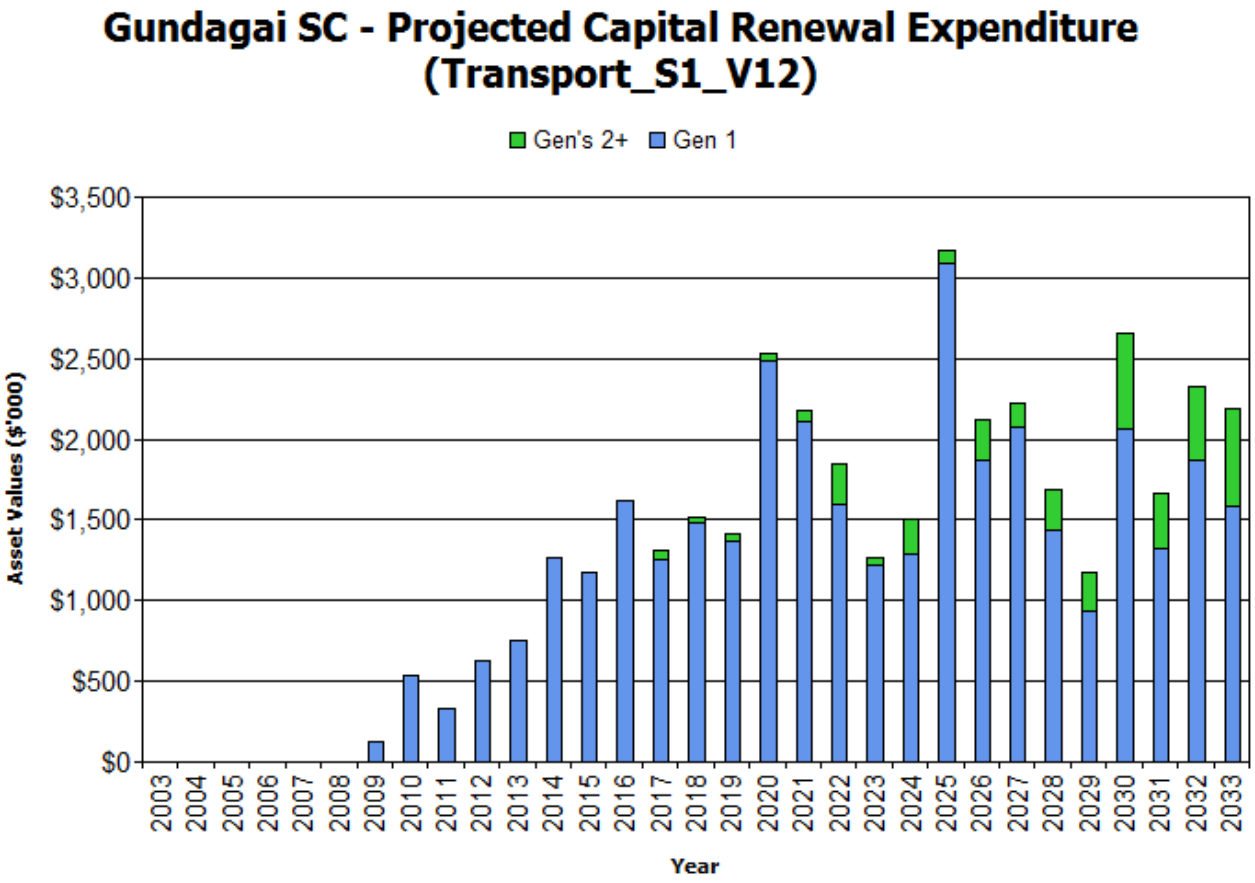
5.4.3 Summary of future renewal and replacement expenditure

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.

Fig 5: Projected Capital Renewal and Replacement Expenditure

[11] Based on IPWEA, 2011, IIMM, Sec 3.4.5, p 3|66.



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
Function	40%
Safety	20%
Operation/Maintenance cost	20%
Risk of Failure	20%
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/Board, 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,

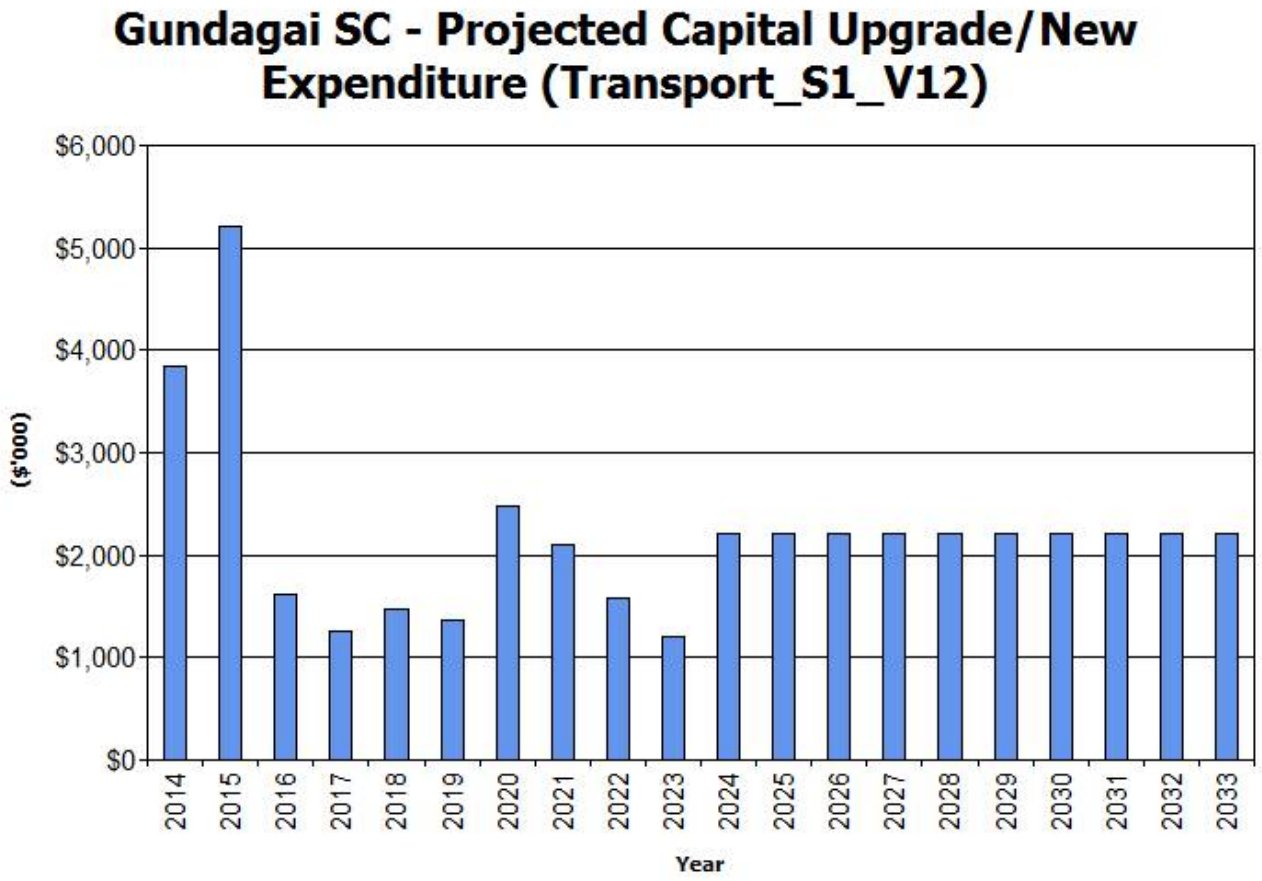
Review management of capital project management activities to ensure the organisation is obtaining best value for resources used.

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



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.

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

Table 5.6: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Expenditure	Operations & Maintenance Annual Savings
Nil				

5.7 Service Consequences and Risks

The organisation has prioritised decisions made in adopting this AM Plan to obtain the optimum benefits from its available resources. Decisions were made based on the development of 3 scenarios of AM Plans.

Scenario 1 - What we would like to do based on asset register data

Scenario 2 – What we should do with existing budgets and identifying level of service and risk consequences (i.e. what are the operations and maintenance and capital projects we are unable to do, what is the service and risk consequences associated with this position). This may require several versions of the AM Plan.

Scenario 3 – What we can do and be financially sustainable with AM Plans matching long-term financial plans.

The development of scenario 1 and scenario 2 AM Plans provides the tools for discussion with the Council/Board and community on trade-offs between what we would like to do (scenario 1) and what we should be doing with existing budgets (scenario 2) by balancing changes in services and service levels with affordability and acceptance of the service and risk consequences of the trade-off position (scenario 3).

5.7.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years without further funding. These include:

- Gobarralong Bridge Renewal
- Gundagai Main Street Redevelopment

5.7.2 Service consequences

Operations and maintenance activities and capital projects that cannot be undertaken will maintain or create service consequences for users. These include:

Limited transport options for residents
Decreased productivity of affected land owners
Decreased aesthetic appeal
Decreased function of main street business access

5.7.3 Risk consequences

The operations and maintenance activities and capital projects that cannot be undertaken may maintain or create risk consequences for the organisation. These include:

Crashing and/or damage to vehicles
Loss of business to land owners

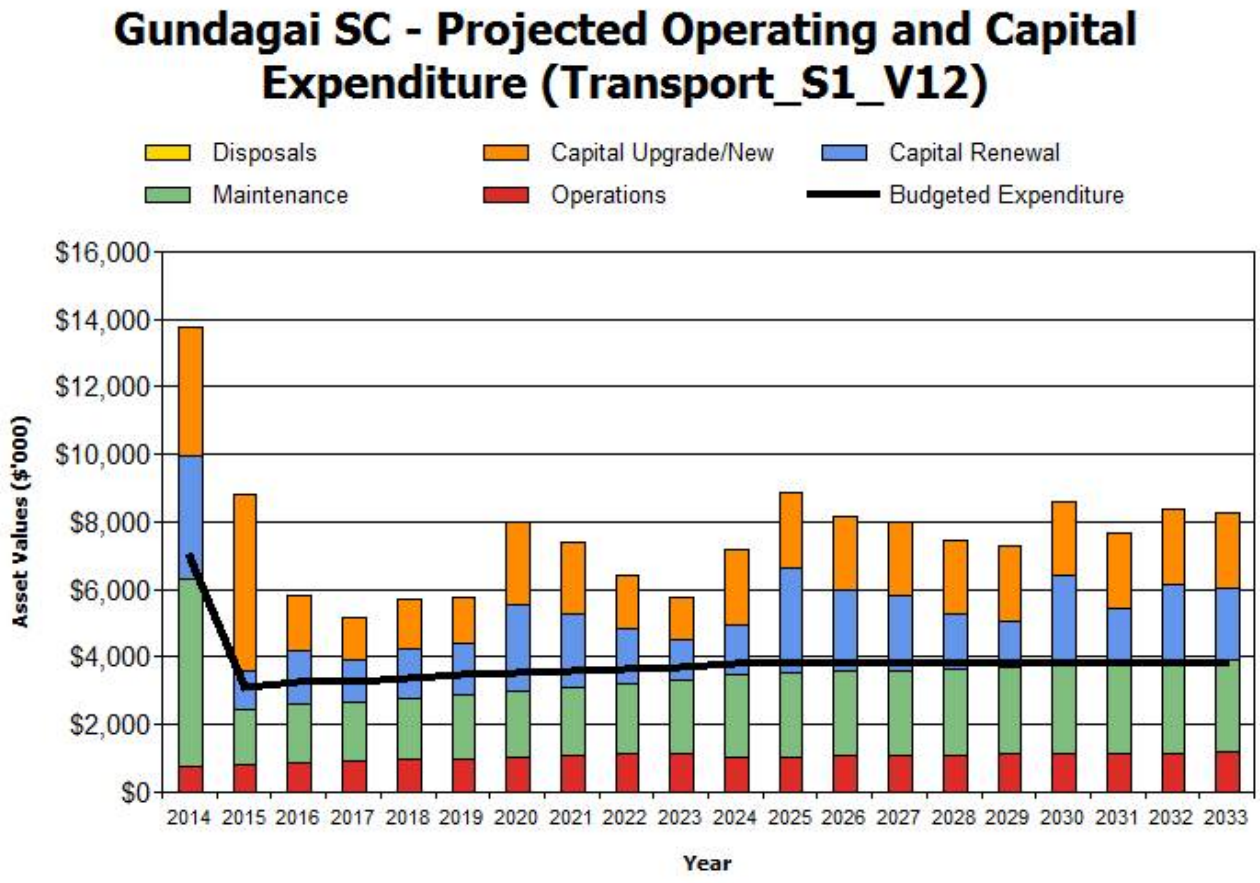
6. FINANCIAL SUMMARY

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.

Fig 7: Projected Operating and Capital Expenditure



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.

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[12] 46%

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 46% of the funds required for the optimal renewal and replacement of its assets.

Long term - Life Cycle Cost

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 $5,150,000 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 $3,797,000 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 -$1,254,000 per year (-ve = gap, +ve = surplus).

Life cycle expenditure is 74% 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 $5,051,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $3,797,000 on average per year giving a 10 year funding shortfall of -$1,254,000 per year. This indicates that the organisation expects to have 75% of the projected expenditures needed to provide the services documented in the asset management plan.

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 $5,188,000 on average per year.

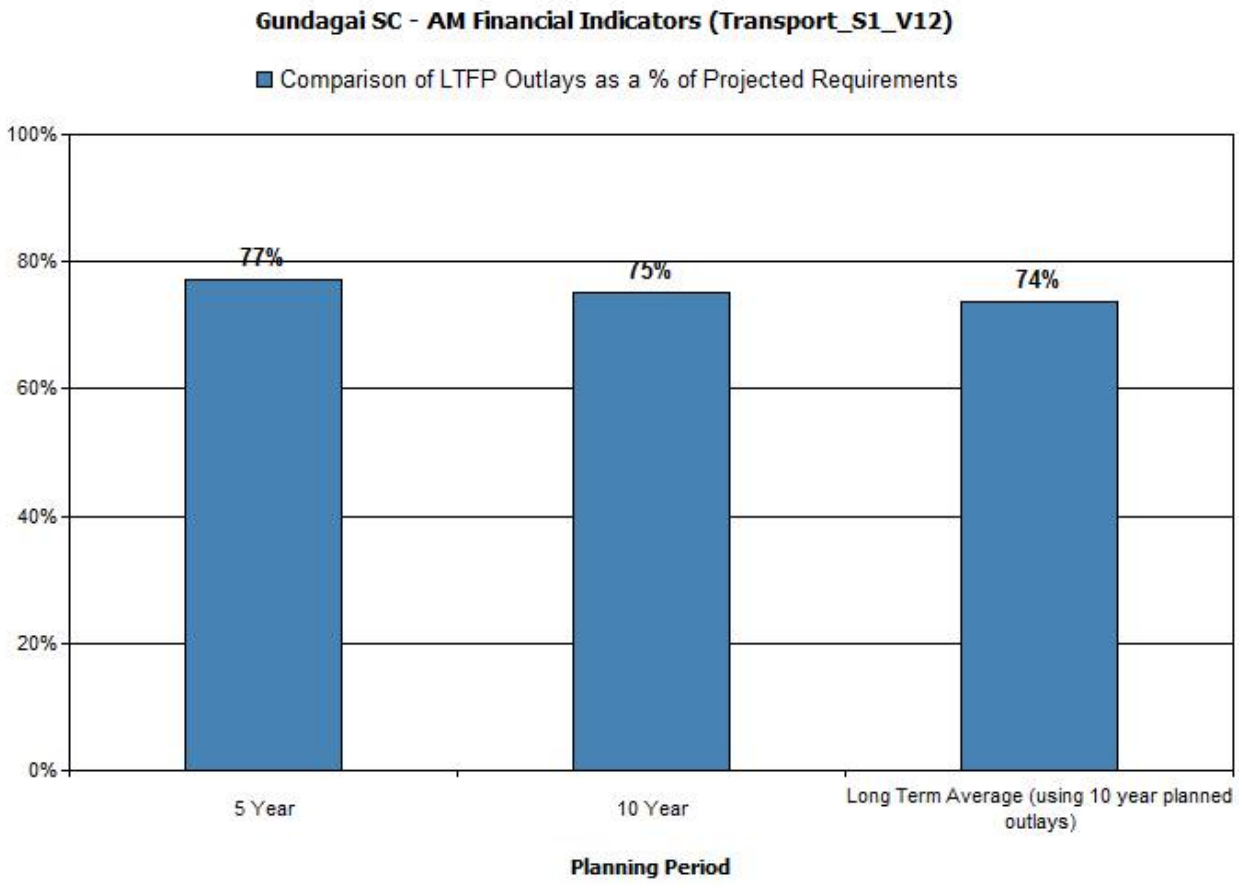
Estimated (budget) operations, maintenance and capital renewal funding is $4,001,000 on average per year giving a 5 year funding shortfall of -$1,187,000. This indicates that the organisation expects to have 77% of projected expenditures required to provide the services shown in this asset management plan.

[12] AIFMG, 2009, Financial Sustainability Indicator 8, Sec 2.6, p 2.18

Asset management financial indicators

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

Figure 7A: Asset Management Financial Indicators



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.

Figure 8 shows the projected asset renewal and replacement expenditure over the 20 years of the AM Plan. 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: Projected and LTFP Budgeted Renewal Expenditure

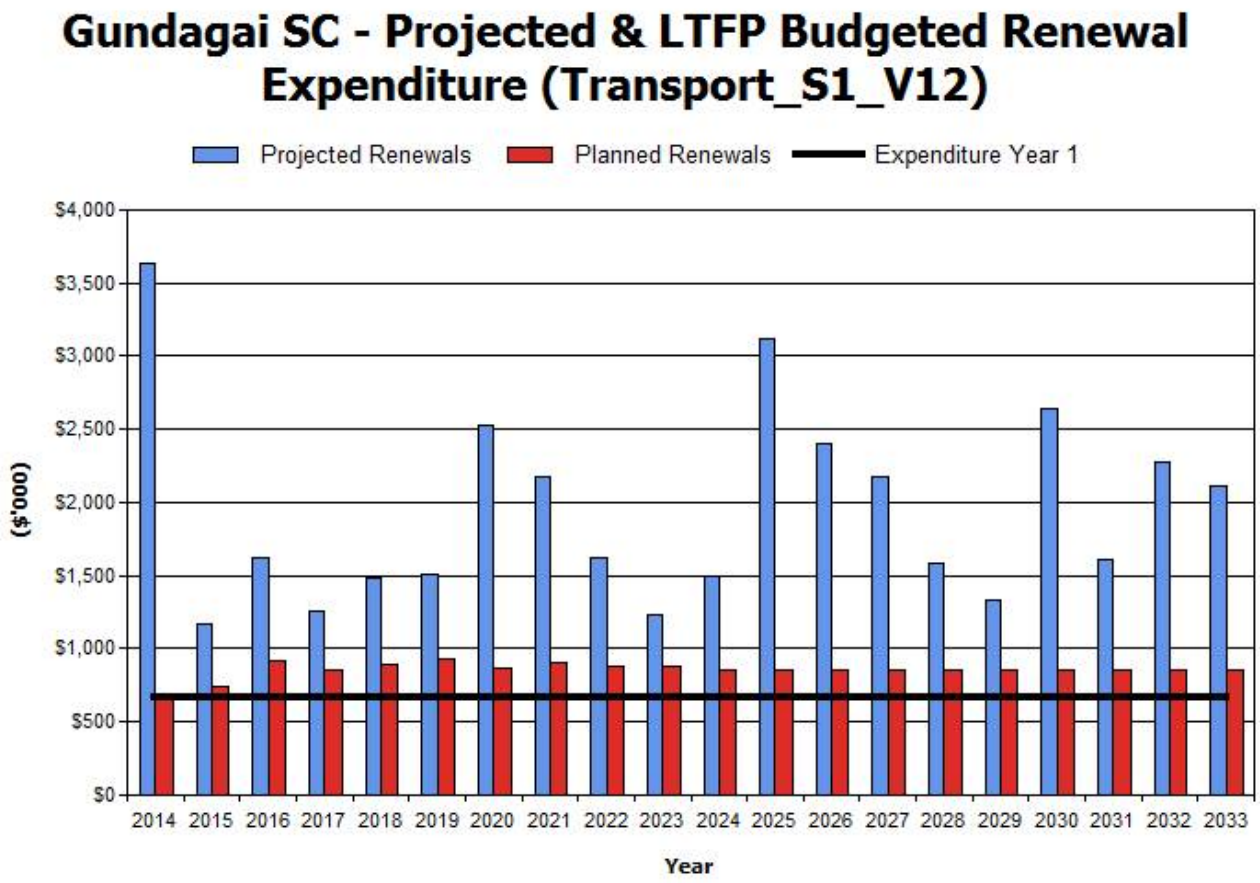


Table 6.1.1 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in long term financial plan. Budget expenditures accommodated in the long term financial plan or extrapolated from current budgets are shown in Appendix D.

Table 6.1.1: Projected and LTFP Budgeted Renewals and Financing Shortfall

Year	Projected Renewals ($000)	LTFP Renewal Budget ($000)	Renewal Financing Shortfall ($000) (-ve Gap, +ve Surplus)	Cumulative Shortfall ($000) (-ve Gap, +ve Surplus)
2014	$3,639	$666	-$2,973	-$2,973
2015	$1,175	$736	-$439	-$3,412
2016	$1,617	$912	-$705	-$4,117
2017	$1,256	$857	-$399	-$4,516
2018	$1,484	$894	-$590	-$5,106
2019	$1,508	$927	-$581	-$5,687
2020	$2,529	$872	-$1,657	-$7,344
2021	$2,170	$905	-$1,265	-$8,609
2022	$1,617	$875	-$742	-$9,351
2023	$1,234	$875	-$359	-$9,710
2024	$1,495	$852	-$643	-$10,353
2025	$3,119	$852	-$2,267	-$12,621
2026	$2,409	$852	-$1,557	-$14,178
2027	$2,178	$852	-$1,326	-$15,504
2028	$1,587	$852	-$736	-$16,239
2029	$1,330	$852	-$478	-$16,717
2030	$2,638	$852	-$1,786	-$18,503

2031	$1,608	$852	-$756	-$19,260
2032	$2,276	$852	-$1,424	-$20,684
2033	$2,114	$852	-$1,263	-$21,946

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)** before finalising the asset management plan to manage required service levels and funding **to eliminate any funding gap**.

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 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in2014 real values.

Table 6.1.2: Projected Expenditures for Long Term Financial Plan ($000)

Year	Operations ($000)	Maintenance ($000)	Projected Capital Renewal ($000)	Capital Upgrade/ New ($000)	Disposals ($000)
2014	$773	$5,531	$3,639	$3,846	$0
2015	$824	$1,609	$1,175	$5,205	$0
2016	$885	$1,705	$1,617	$1,617	$0
2017	$920	$1,760	$1,256	$1,251	$0
2018	$955	$1,810	$1,484	$1,469	$0
2019	$991	$1,885	$1,508	$1,370	$0
2020	$1,028	$1,981	$2,529	$2,486	$0
2021	$1,073	$2,032	$2,170	$2,108	$0
2022	$1,116	$2,101	$1,617	$1,585	$0
2023	$1,157	$2,147	$1,234	$1,212	$0
2024	$1,043	$2,420	$1,495	$2,215	$0
2025	$1,058	$2,456	$3,119	$2,215	$0
2026	$1,074	$2,492	$2,409	$2,215	$0
2027	$1,090	$2,528	$2,178	$2,215	$0
2028	$1,105	$2,564	$1,587	$2,215	$0
2029	$1,121	$2,601	$1,330	$2,215	$0
2030	$1,136	$2,637	$2,638	$2,215	$0
2031	$1,152	$2,673	$1,608	$2,215	$0
2032	$1,167	$2,709	$2,276	$2,215	$0
2033	$1,183	$2,745	$2,114	$2,215	$0

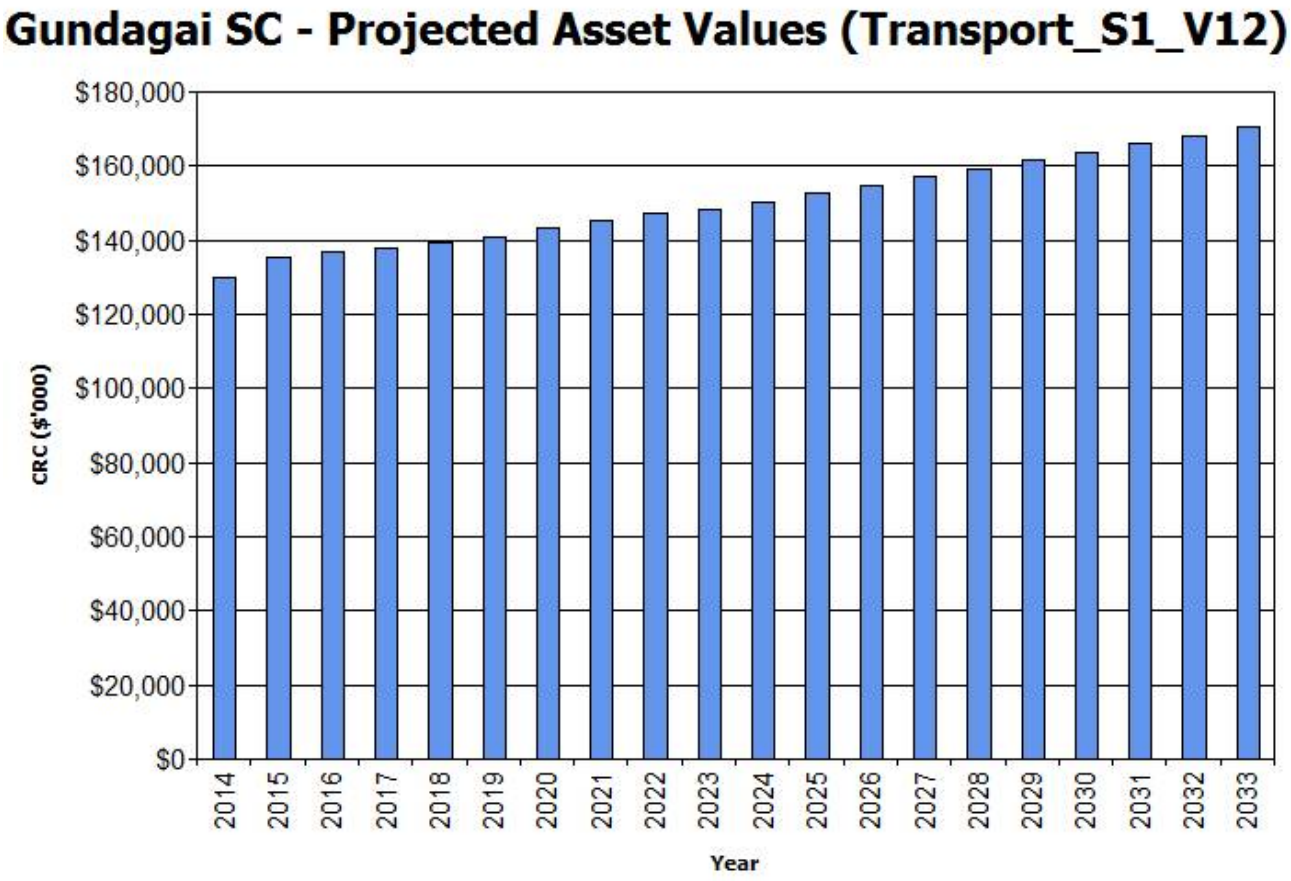
6.2 Funding Strategy

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

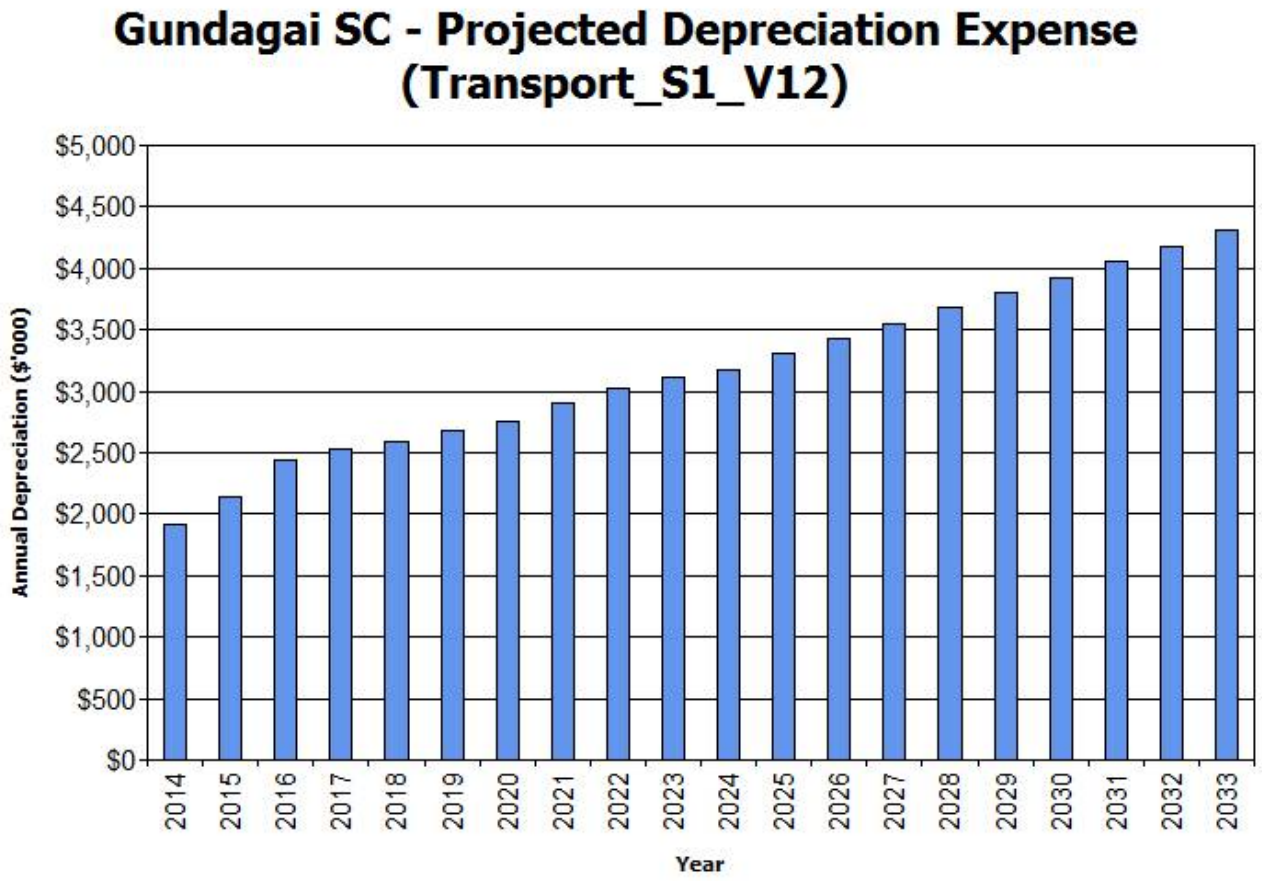
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by the organisation and from assets constructed by land developers and others and donated to the organisation. Figure 9 shows the projected replacement cost asset values over the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

Figure 9: Projected Asset Values



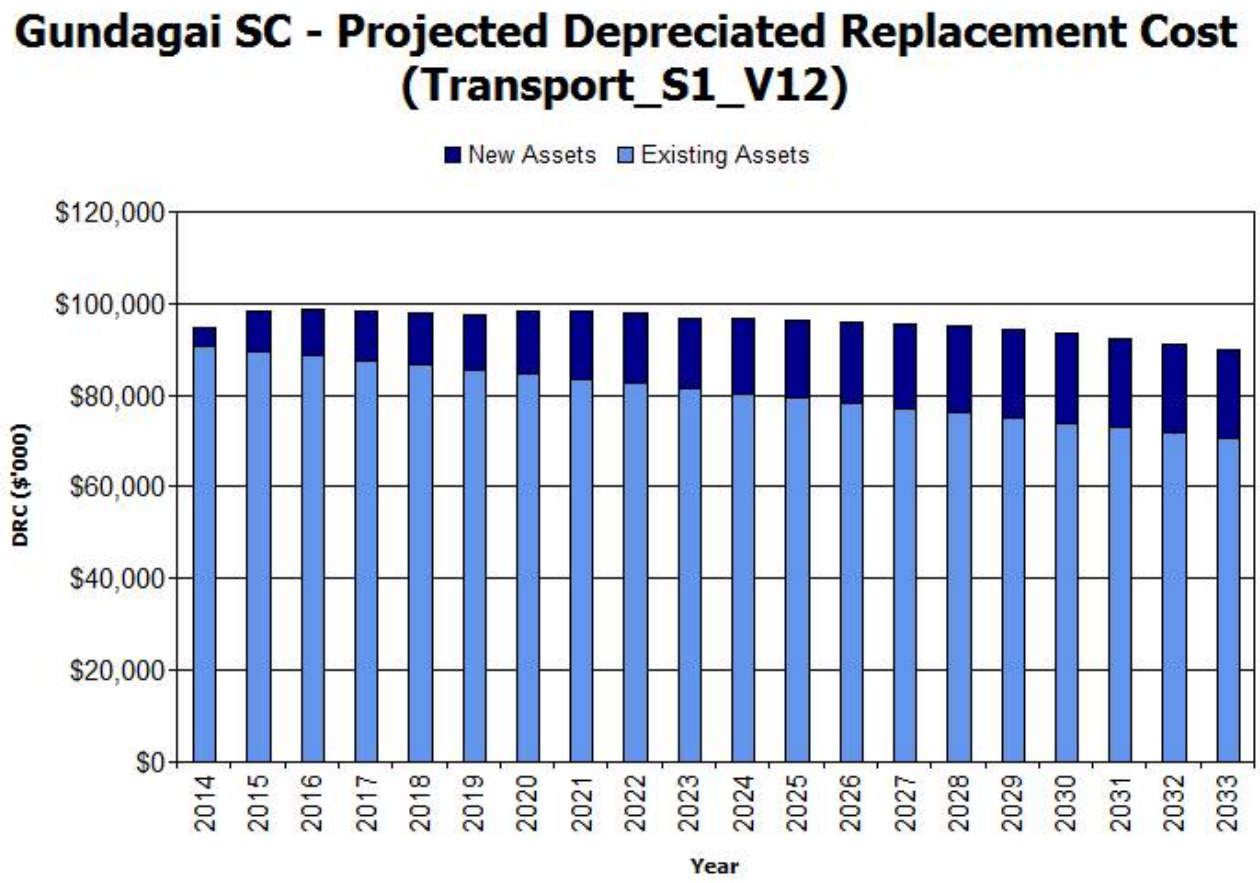
Depreciation expense values are forecast in line with asset values as shown in Figure 10.

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
Asset renewal schedule from transport valuation is accurate	Timing of unfunded renewals may change significantly
LTFP funding will prioritise new and upgraded works (i.e. network deficiencies) over renewals	Mix between delayed renewals and ongoing service level deficiencies may change.

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 scale[13] in accordance with Table 6.5.

Table 6.5: Data Confidence Grading System

[13] IPWEA, 2011, IIMM, Table 2.4.6, p 2|59.

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 ± 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 ± 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 ± 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 ± 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.

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

Data	Confidence Assessment	Comment
Demand drivers	B	Subject to social and economic dynamics, largely out of the control of the community
Growth projections	B	Subject to social and economic dynamics, largely out of the control of the community
Operations expenditures	B	Expenditures based from previous years in line with expectations
Maintenance expenditures	B	Expenditures based from previous years in line with expectations
Projected Renewal exps. - Asset values	C	Basis of valuation is unit rates.
- Asset residual values	C	Assumed from asset register. Further updates and inspections will improve data accuracy.
- Asset useful lives	C	Assumed from asset register. Further updates and inspections will improve data accuracy.
- Condition modelling	C	Assumed from asset register. Further updates and inspections will improve data accuracy.
- Network renewals	D	Foundation of renewals is based on useful life estimate
- Defect repairs	C	Priorities identified from asset register and regular inspections. Vast road network does create difficulty in regular accurate assessment.
Upgrade/New expenditures	D	Cost estimates are based on unit rates. Finalised service levels and other design standards may vary significantly.
Disposal expenditures	A	None proposed.

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

7. PLAN IMPROVEMENT AND MONITORING

7.1 Status of Asset Management Practices

The 'Authority' software program is Council's accounting and financial system. This system tracks all financial transactions relating to Council's assets.

Accountabilities for financial systems

General Manager	Overseeing Budget and Financial system
Director of Administration and Finance	Extracting the information needed as well as directing the IT Manager to maintain the Chart of Accounts
Finance Officer	Assist Director Finance and Administration to extract the information needed as well as direct the IT Manager to maintain the Chart of Accounts
IT Manager	responsible for maintaining the Authority system

Accounting standards and regulations

- The Local Government Act (1993);
- The Local Government Code of Accounting Practice and Financial Reporting;
- AASB 116 / IAS 16 Property, Plant & Equipment
- AASB 136 / IAS 36 Impairment of Assets
- AASB 5 / IFRS 5 Non-Current Assets held for Sale & Discontinued Operations
- AASB 137 / IAS 37 Provisions, Contingent Assets & Contingent Liabilities
- AASB 1049 Whole of Government and General Government Sector Financial Reporting
- AASB 1051 Land Under Roads

Capital/maintenance threshold

There is a $1,000 threshold between capitalisation and expense on individual items. There is no fixed dollar value threshold between capital and maintenance. It will depend on the type of activity as maintenance will maximise the full service potential and capital will renew or extend the service potential.

Required changes to accounting financial systems arising from this AM Plan

The Asset Management Plan will assist in the development of Work Orders to enhance feedback into the plan.

7.2.1 Asset management system

The Asset Management system is currently Excel Spreadsheet based. There is no direct link to the accounting financial system at the current time.

Asset registers

The asset register consists of a spreadsheet prepared as part of the 2010 revaluation, adjusted and expanded to reflect the acquisition, renewal and disposal of assets as required.

Linkage from asset management to financial system

There is no direct link to the financial system at the current time. The financial system is reconciled to the asset registers at each revaluation using book entries.

Accountabilities for asset management system and data maintenance

Director of Engineering Services and Assets Engineer are responsible for the establishment and maintenance of this Asset Management Plan

Required changes to asset management system arising from this AM Plan

No particular changes are proposed, other than the evolution of the asset register into a more systematic record of the nature and condition of the asset.

7.2 Improvement Program

The asset management improvement plan generated from this asset management plan is shown in Table 8.2.

Table 7.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Review Asset Register regarding condition rating and remaining life	DES/AE	Staff time & fund allocation	Each 4 yrs
2	Review valuations particularly with respect to useful lives	DES/AE	Staff time	Every 4 yrs
3	Review Service levels to address funding gap	Council	Councillor time	Within 2 yrs
4	Improve budgeting and job recording to separately identify work on stormwater assets	DAF/DES	Staff time	Ongoing

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 organisation's long term financial plan.

The AM Plan has a life of 4 years (Council/Board election cycle) and is due for complete revision and updating within 2 years of each Council/Board 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

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

Organisation, 'Strategic Plan 20XX – 20XX',

Organisation, 'Annual Plan and Budget'.

9. APPENDICES

Appendix A Maintenance Response 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 LTFP

Appendix E Abbreviations

Appendix F Glossary

Appendix A Maintenance Response Levels of Service

To be developed.

Appendix B Projected 10 year Capital Renewal and Replacement Works Program

Gundagai SC - Report 6 - Appendix B 10 year Renewal & Replacement Program (Transport_S1_V12)

Asset ID	Sub Category	Asset Name	From	To	Rem Life (Years)	Planned Renewal Year	Renewal Cost ($)	Useful Life (Years)
SS11201	Seal	MtAdrah Church Rd			-11	2003	$3,780	18
						Subtotal	**$3,780**	
FS57604R	Footpath	Punch St	Church Hall	Otway	-5	2009	$5,040	50
FR58503R	Footpath	Sheridan St	Otway	Byron	-5	2009	$115,500	53
SS55701	seal	Middle St	Hume Hwy	Mount St	-5	2009	$5,400	5
SR60506	seal	West St	Sheridan St	Sheridan La	-5	2009	$2,928	17
						Subtotal	**$128,868**	
CS014005	culvert	Brungle Rd			-4	2010	$61,380	80
CS016010	culvert	Stuckeys Rd			-4	2010	$43,860	60
FS53003R	Footpath	Hanley St	Otway St	West St	-4	2010	$15,120	60
FR58504L	Footpath	Sheridan St	Byron	Homer	-4	2010	$115,500	40
FR58503bL	Footpath	Sheridan St	Kitchener	Byron	-4	2010	$84,000	40
PS50601	pavement	Byron St	Sheridan La	Sheridan St	-4	2010	$50,000	50
PS54002	pavement	Jack Moses St	West St	End	-4	2010	$3,000	15
PS58603	pavement	Sheridan La	West St	Otway St	-4	2010	$40,000	51
SR53301	seal	Homer St	Yarri Br	Sheridan St	-4	2010	$7,650	15
SR55904	seal	Mount St	LagoonSt	Middle St	-4	2010	$5,106	18
SR24318	Seal	Nangus Rd			-4	2010	$42,000	12
SR24315	Seal	Nangus Rd			-4	2010	$61,680	12
SS58603	seal	Sheridan La	West St	Otway St	-4	2010	$6,100	17
						Subtotal	**$535,396**	
CS001005	culvert	Old Hume Hwy			-3	2011	$43,200	60
FS54501L	Footpath	Kitchener St	Sheridan St	First Ave	-3	2011	$16,500	31
FS56701L	Footpath	Otway St	Sheridan La	Sheridan St	-3	2011	$7,200	50
PS50602	pavement	Byron St	Sheridan St	First Ave	-3	2011	$55,000	50
PS11202	Pavement	MtAdrah Church Rd			-3	2011	$1,050	15
PS00105	Pavement	Old Hume Hwy			-3	2011	$45,000	50
PS09001	Pavement	The Hill Rd			-3	2011	$14,000	20
PR60505	pavement	West St	Punch St	Sheridan St	-3	2011	$97,500	50
SR55601	seal	Middleton Dr	Yarri Br	PA Bridge	-3	2011	$24,642	20
SR55901	seal	Mount St	Tumut St	Ridge St	-3	2011	$7,500	18
SS10701	Seal	Muttama Village Roads			-3	2011	$4,320	18
SR60501	seal	West St	Hume Hwy	William St	-3	2011	$13,320	13

						Subtotal	$329,232	
BS045020	Bridge	Gobarralong Rd			-2	2012	$118,500	72
CS001010	culvert	Old Hume Hwy			-2	2012	$56,700	60
FS56703R	Footpath	Otway St	Punch St	Church	-2	2012	$7,200	50
PS50603	pavement	Byron St	First Ave	Punch St	-2	2012	$55,000	50
PS51001	pavement	Camp St	Dodd St	Phillip St	-2	2012	$12,000	10
PS01203	Pavement	Edwardstown Rd			-2	2012	$90,000	50
PR27804	Pavement	WeeJasper Rd			-2	2012	$60,000	10
SS02607	Seal	Adjungbilly Rd			-2	2012	$16,200	18
SR52006	seal	Eagle St	Cross St	South St	-2	2012	$6,210	18
SR27918	Seal	Gocup Rd			-2	2012	$34,692	12
SR08701	Seal	Muttama Rd			-2	2012	$26,400	12
SR08702	Seal	Muttama Rd			-2	2012	$29,040	12
SR08703	Seal	Muttama Rd			-2	2012	$9,768	12
SR24316	Seal	Nangus Rd			-2	2012	$54,000	12
SR24309	Seal	Nangus Rd			-2	2012	$48,000	5
SS00104	Seal	Old Hume Hwy			-2	2012	$7,992	5
						Subtotal	$631,702	
BS020010	Bridge	Beerena Rd			-1	2013	$172,500	65
CS001020	culvert	Old Hume Hwy			-1	2013	$46,980	60
PS50101	pavement	Ann Street	Neil McInerney St	RLPB Shed	-1	2013	$8,000	15
PS01405	Pavement	Brungle Rd			-1	2013	$120,000	50
PS01204	Pavement	Edwardstown Rd			-1	2013	$180,000	50
PS54501	pavement	Kitchener St	Sheridan St	First Ave	-1	2013	$33,000	50
PS55102	pavement	Landon St	Otway St	End	-1	2013	$4,500	15
SR28003	Seal	Adelong Rd			-1	2013	$32,208	15
SS51301	seal	Carrigg Pl	William St	End	-1	2013	$3,927	18
SS51401	seal	Charlotte St	Phillip St	William St	-1	2013	$4,860	5
SS52004	seal	Eagle St	Tom St	Lagoon St	-1	2013	$7,020	18
SR27914	Seal	Gocup Rd			-1	2013	$35,574	12
SS07201	Seal	Long Tunnel Rd			-1	2013	$13,500	5
SS00105	Seal	Old Hume Hwy			-1	2013	$9,250	20
SS08003	Seal	Oura Rd			-1	2013	$16,200	15
SS08004	Seal	Oura Rd			-1	2013	$14,850	5
SS59101	seal	Springflat Dr	William St	End	-1	2013	$20,130	18
SS11401	Seal	Tumblong Rd			-1	2013	$26,460	20
						Subtotal	$748,959	

PS04901	Pavement	Caulderwood Rd			0	2014	$306,000	50
PS10201	Pavement	Hazledene Rd			0	2014	$33,600	15
PS55101	pavement	Landon St	Middleton Dr	Otway St	0	2014	$112,500	50
PS07404	Pavement	Oakhills Rd			0	2014	$90,000	50
PS57607	pavement	Punch St	Bourke St	Jones Ck Br	0	2014	$153,000	57
PS57604	pavement	Punch St	Byron St	Otway St	0	2014	$80,500	50
PS57602	pavement	Punch St	Virgil St	Homer St	0	2014	$40,000	51
PS58601	pavement	Sheridan La	Jones Ck	EB	0	2014	$2,000	25
PR60504	pavement	West St	Hanley St	Punch St	0	2014	$54,000	52
SS02605	Seal	Adjungbilly Rd			0	2014	$16,200	5
SS52005	seal	Eagle St	Middle St	Cross St	0	2014	$6,210	20
SR27915	Seal	Gocup Rd			0	2014	$44,394	12
SR27916	Seal	Gocup Rd			0	2014	$34,692	12
SS11302	Seal	Jessops Lagoon Rd			0	2014	$26,460	20
SR24319	Seal	Nangus Rd			0	2014	$42,000	12
SR24317	Seal	Nangus Rd			0	2014	$46,800	12
SS56102	seal	Nurse Murray St	Mt Parnassus Dr	EB	0	2014	$3,750	5
SS07402	Seal	Oakhills Rd			0	2014	$9,990	6
SS56503	seal	O'Hagan St	Bridge	End	0	2014	$6,600	8
SS00110	seal	Old Hume Hwy			0	2014	$66,083	16
SS56901	seal	Ovid St	Sheridan St	Pope St	0	2014	$7,425	5
SS57501	seal	Pope St	Ovid St	Dodd St	0	2014	$8,910	5
SS57609	seal	Punch St	Stafford St	Mackellar St	0	2014	$6,240	15
SS57602	seal	Punch St	Virgil St	Homer St	0	2014	$6,800	16
SR58501	seal	Sheridan St	Jones Ck Br	West St	0	2014	$7,980	13
SS58506	seal	Sheridan St	Virgil St	Ovid St	0	2014	$6,765	5
SS59502	seal	Tom St	Eagle St	Camphor La	0	2014	$2,400	18
SS59602	seal	Tor St	Nurse Murray	O'Hagan St	0	2014	$10,800	18
SR60504	seal	West St	Hanley St	Punch St	0	2014	$15,600	13
SS60601	seal	William St	Tor St	West St	0	2014	$13,524	20
						Subtotal	**$1,261,223**	
BS055020	Bridge	Burra Rd			1	2015	$183,000	85
BS055030	Bridge	Burra Rd			1	2015	$126,000	85
FS53302aR	Footpath	Homer St	Sheridan St	First Ave	1	2015	$7,200	50
FS56703L	Footpath	Otway St	Punch St	Hanley St	1	2015	$14,400	50
FS58505L	Footpath	Sheridan St	Homer	Virgil	1	2015	$50,400	50
FS60603R	Footpath	William St	Neil McInerney	Charlotte	1	2015	$7,500	20
PS55001	pavement	Lagoon St	Eagle St	Mount St	1	2015	$12,600	25
PS07405	Pavement	Oakhills Rd			1	2015	$252,000	50
PS07901	Pavement	Radio Tower Rd			1	2015	$8,000	20
PS07902	Pavement	Radio Tower			1	2015	$12,000	20

		Rd						
PS58101	pavement	Railway Pde	Sheridan St	Hemans St	1	2015	$60,000	65
PS58001	pavement	Ridge St	Ferry St	EB	1	2015	$3,000	20
PS58702	pavement	Short St	EB	Ann St	1	2015	$5,000	20
PS58803	pavement	South St	Railway	End	1	2015	$2,000	15
PS07501	Pavement	Springvale Rd			1	2015	$14,000	15
PS59703	pavement	Tumut St	EB	Ferry St	1	2015	$3,000	15
SR28007	Seal	Adelong Rd			1	2015	$29,832	15
SR28002	Seal	Adelong Rd			1	2015	$38,016	15
SS07805	Seal	Bethungra Rd			1	2015	$33,000	19
SS51503	seal	Cross St	Eagle St	Camphor St	1	2015	$4,692	18
SR51502	seal	Cross St	Mount St	Eagle St	1	2015	$4,692	18
SS52701	seal	Francis Ave	Hume Highway	Mackellar St	1	2015	$5,280	5
SS53002	seal	Hanley St	Bourke St	West St	1	2015	$9,900	18
SS54101	seal	Judy St	West St	End	1	2015	$2,700	6
SR24321	Seal	Nangus Rd			1	2015	$39,600	12
SS56102	seal	Nurse Murray St	West St	Mt Parnassus Dr	1	2015	$3,750	20
SS00111	seal	Old Hume Hwy			1	2015	$58,575	15
SS56704	seal	Otway St	Hanley St	Otway La	1	2015	$3,960	20
SS57701	seal	Phillip St	Charlotte Sr	O'Briens Rd	1	2015	$3,300	20
SS57607	seal	Punch St	Bourke St	Jones Ck Br	1	2015	$16,320	17
SS58602	seal	Sheridan La	EB	West St	1	2015	$3,300	20
SS03801	Seal	Tard Rd			1	2015	$2,400	6
SS01702	Seal	Tarrabandra Rd			1	2015	$16,500	18
SS01703	Seal	Tarrabandra Rd			1	2015	$33,000	18
SS03001	Seal	Threeways Rd			1	2015	$49,500	19
SR27802	Seal	WeeJasper Rd			1	2015	$18,600	5
SR27803	Seal	WeeJasper Rd			1	2015	$9,300	5
SR60505	seal	West St	Punch St	Sheridan St	1	2015	$9,672	13
SR60502	seal	West St	William St	O'Hagan St	1	2015	$18,720	13
						Subtotal	**$1,174,709**	
BS014010	Bridge	Brungle Rd			2	2016	$157,500	60
PS04902	Pavement	Caulderwood Rd			2	2016	$144,000	50
PS54101	pavement	Judy St	West St	End	2	2016	$30,000	50
PR55905	pavement	Mount St	Middle St	Cross St	2	2016	$103,500	40
PS56701	pavement	Otway St	Landon St	Sheridan St	2	2016	$60,000	50
PS11801	Pavement	Sylvias Gap Rd			2	2016	$135,000	50
PS11802	Pavement	Sylvias Gap Rd			2	2016	$351,000	50
PS00501	Pavement	Tenandra Rd			2	2016	$60,000	50
PR60506	pavement	West St	Sheridan St	Sheridan La	2	2016	$32,000	50
SS00801	seal	Adelong Creek Rd			2	2016	$1,200	10

SS026010	Seal	Adjungbilly Rd			2	2016	$40,260	16
SS02608	Seal	Adjungbilly Rd			2	2016	$14,700	17
SS02609	Seal	Adjungbilly Rd			2	2016	$15,000	17
SS02604	Seal	Adjungbilly Rd			2	2016	$24,480	5
SS50102	seal	Ann Street	RLPB Shed	Charlotte St	2	2016	$3,000	18
SS11501	Seal	AnniePyers Drive			2	2016	$14,700	18
SS07804	Seal	Bethungra Rd			2	2016	$29,700	19
SS51201	seal	Camphor La	Luke St	Tom St	2	2016	$2,220	20
SS51202	seal	Camphor La	Tom St	End	2	2016	$1,665	20
SS51102	seal	Camphor St	Cross St	End	2	2016	$1,800	20
SS51602	seal	Carberry Place	TI centre	End	2	2016	$7,350	14
SS04512	Seal	Gobarralong Rd			2	2016	$14,850	17
SS53004	seal	Hanley St	Otway St	Mt Parnassus Dr	2	2016	$13,200	18
SS04103	Seal	Hopewood Rd			2	2016	$27,000	5
SS54001	seal	Jack Moses St	Tor St	West St	2	2016	$10,140	18
SS55501	seal	Mackellar St	Punch St	End	2	2016	$2,475	20
SS55703	seal	Middle St	Eagle St	End	2	2016	$7,326	20
SR55905	seal	Mount St	Middle St	Cross St	2	2016	$10,350	10
SR08713	Seal	Muttama Rd			2	2016	$42,768	12
SR08706	Seal	Muttama Rd			2	2016	$25,080	12
SR24320	Seal	Nangus Rd			2	2016	$56,400	12
SS56703	seal	Otway St	Punch St	Hanley St	2	2016	$8,820	18
SS57603	seal	Punch St	Homer St	Byron St	2	2016	$8,514	17
SS58505	seal	Sheridan St	Homer	Virgil St	2	2016	$12,210	20
SS08301	Seal	Soldier Settlers Rd			2	2016	$66,000	19
SS01704	Seal	Tarrabandra Rd			2	2016	$33,000	19
SS03002	Seal	Threeways Rd			2	2016	$49,500	19
						Subtotal	**$1,616,708**	
CS055050	culvert	Burra Rd			3	2017	$26,325	60
CS055060	culvert	Burra Rd			3	2017	$26,325	60
PS12201	Pavement	Cookeys Beach Rd			3	2017	$3,000	20
PR24324	Pavement	Nangus Rd			3	2017	$234,000	50
PS08301	Pavement	Soldier Settlers Rd			3	2017	$396,000	50
SS02614	Seal	Adjungbilly Rd			3	2017	$3,300	16
SS02615	Seal	Adjungbilly Rd			3	2017	$98,700	16
SS01616	Seal	Adjungbilly Rd			3	2017	$16,800	16
SS07803	Seal	Bethungra Rd			3	2017	$33,000	19
SS50601	seal	Byron St	Sheridan La	Sheridan St	3	2017	$5,490	18
SS51403	seal	Charlotte St	Ann St	end	3	2017	$7,200	18
SS04513	Seal	Gobarralong			3	2017	$20,790	18

		Rd						
SS53003	seal	Hanley St	West St	Otway St	3	2017	$10,560	16
SS53302	seal	Homer St	Sheridan St	Punch St	3	2017	$11,220	18
SS04101	Seal	Hopewood Rd			3	2017	$11,100	24
SS01003	seal	Lewins La			3	2017	$13,500	5
SR55902	seal	Mount St	Ridge St	Tom St	3	2017	$19,800	13
SR08707	Seal	Muttama Rd			3	2017	$44,880	12
SR08714	Seal	Muttama Rd			3	2017	$14,520	12
SS03201	Seal	Nanangroe Rd			3	2017	$36,000	15
SS03202	Seal	Nanangroe Rd			3	2017	$36,000	15
SS03203	Seal	Nanangroe Rd			3	2017	$36,000	15
SS03204	Seal	Nanangroe Rd			3	2017	$23,400	15
SR24322	Seal	Nangus Rd			3	2017	$44,400	12
SR243010	Seal	Nangus Rd			3	2017	$21,360	12
SS56104	seal	Nurse Murray St	EB	Neil McInerney St	3	2017	$3,000	20
SS00112	seal	Old Hume Hwy			3	2017	$37,950	15
SS07103	Seal	Reno Rd			3	2017	$16,500	6
SS58605	seal	Sheridan La	Homer St	Sheridan St	3	2017	$5,124	18
						Subtotal	**$1,256,244**	
BS048010	Bridge	Cooneys Ck Rd			4	2018	$93,000	65
CR280020	culvert	Adelong Rd			4	2018	$113,880	60
CS014030	culvert	Brungle Rd			4	2018	$153,900	60
CS055010	culvert	Burra Rd			4	2018	$92,925	60
CS055020	culvert	Burra Rd			4	2018	$66,000	60
PS09401	Pavement	Corkhills Rd			4	2018	$1,050	20
PS52501	pavement	Ferry St	Tumut St	Lagoon St	4	2018	$30,000	25
PS00401	Pavement	MtYaven			4	2018	$15,800	20
PR24323	Pavement	Nangus Rd			4	2018	$120,000	50
PS10401	Pavement	Native Dog Creek Rd			4	2018	$6,000	20
PS57608	pavement	Punch St	Jones Ck Br	Stafford St	4	2018	$99,000	60
PS57605	pavement	Punch St	Otway St	West St	4	2018	$82,500	58
PS07101	Pavement	Reno Rd			4	2018	$210,000	50
PS07104	Pavement	Reno Rd			4	2018	$21,000	15
PS60001	pavement	Virgil St	Sheridan St	Punch St	4	2018	$50,000	50
SS50604	seal	Byron St	Punch St	end	4	2018	$4,500	18
SS52901	seal	Gilmour Pl	Lawson Dr	End	4	2018	$3,600	16
SR27917	Seal	Gocup Rd			4	2018	$47,040	12
SS53201	seal	Hemans St	Railway Pde	Hanley St	4	2018	$4,485	18
SS53501	seal	Isaac St	South St	Gocup Rd	4	2018	$3,300	18
SR24311	Seal	Nangus Rd			4	2018	$36,000	12
SR24312	Seal	Nangus Rd			4	2018	$48,000	12
SR24323	Seal	Nangus Rd			4	2018	$19,200	12
SS07701	Seal	Nangus			4	2018	$6,000	18

		Village Roads						
SS56002	seal	Neil McInerney St	Ann St	Nurse Murray St	4	2018	$4,620	16
SS56001	seal	Neil McInerney St	William St	Ann St	4	2018	$3,960	16
SS10501	Seal	O'Briens Rd			4	2018	$15,000	20
SS10502	Seal	O'Briens Rd			4	2018	$15,000	20
SS10503	Seal	O'Briens Rd			4	2018	$17,250	20
SS57605	seal	Punch St	Otway St	West St	4	2018	$8,646	15
SS58901	seal	Stafford St	Punch St	Francis Ave	4	2018	$2,160	18
SS03003	Seal	Threeways Rd			4	2018	$34,200	20
SS05801	Seal	Wambidgee Rd			4	2018	$16,500	18
SR27804	Seal	WeeJasper Rd			4	2018	$27,000	12
SS60603	seal	William St	Neil McInerney St	Charlotte St	4	2018	$12,600	18
						Subtotal	**$1,484,116**	
CS019020	culvert	Darbalara Rd			5	2019	$33,000	60
CS019030	culvert	Darbalara Rd			5	2019	$21,600	60
CS002010	culvert	Deltroit Rd			5	2019	$64,170	60
PS05507	Pavement	Burra Rd			5	2019	$60,000	50
PS52601	pavement	First Ave	Virgil St	Homer St	5	2019	$44,000	50
PS04504	Pavement	Gobarralong Rd			5	2019	$150,000	50
PS04505	Pavement	Gobarralong Rd			5	2019	$120,000	50
PS04507	Pavement	Gobarralong Rd			5	2019	$120,000	50
PS11102	Pavement	Makehams Rd			5	2019	$4,500	30
PS10901	Pavement	Mantons Rd			5	2019	$12,000	20
PR24322	Pavement	Nangus Rd			5	2019	$277,500	50
PS56103	pavement	Nurse Murray St	Mt Parnassus Dr	EB	5	2019	$3,750	10
PS57601	pavement	Punch St	Railway Pde	Virgil St	5	2019	$42,500	50
PS57609	pavement	Punch St	Stafford St	Mackellar St	5	2019	$58,500	60
PS05001	Pavement	SpringDam Rd			5	2019	$21,800	20
PS60801	pavement	Yarri Pl	Landon St	End	5	2019	$25,000	50
SS02605	Seal	Adjungbilly Rd			5	2019	$16,200	5
SS07301	Seal	Backstation Creek Rd			5	2019	$9,900	20
SS50501	seal	Bourke St	Punch St	Hanley St	5	2019	$6,741	18
SS51401	seal	Charlotte St	Phillip St	William St	5	2019	$4,860	5
SR27919	Seal	Gocup Rd			5	2019	$51,156	12
SR27920	Seal	Gocup Rd			5	2019	$53,802	12
SS53001	seal	Hanley St	End	Bourke St	5	2019	$3,960	18
SS04107	Seal	Hopewood Rd			5	2019	$15,000	18
SS12001	Seal	Kimovale Rd			5	2019	$9,240	20
SS07201	Seal	Long Tunnel Rd			5	2019	$13,500	5

SS55701	seal	Middle St	Hume Hwy	Mount St	5	2019	$5,400	5
SS55702	seal	Middle St	Mount St	Eagle St	5	2019	$4,440	8
SR08711	Seal	Muttama Rd			5	2019	$46,200	12
SR08708	Seal	Muttama Rd			5	2019	$39,600	12
SR24324	Seal	Nangus Rd			5	2019	$37,440	12
SR24309	Seal	Nangus Rd			5	2019	$48,000	5
SS56102	seal	Nurse Murray St	Mt Parnassus Dr	EB	5	2019	$3,750	5
SS56601	seal	OI Bell Dr	Middleton Dr	Showground grid	5	2019	$19,305	15
SS00104	Seal	Old Hume Hwy			5	2019	$7,992	5
SS56702	seal	Otway St	Sheridan St	Punch St	5	2019	$6,000	15
SS08004	Seal	Oura Rd			5	2019	$14,850	5
SS56901	seal	Ovid St	Sheridan St	Pope St	5	2019	$7,425	5
SS57501	seal	Pope St	Ovid St	Dodd St	5	2019	$8,910	5
SS57604	seal	Punch St	Byron St	Otway St	5	2019	$8,901	15
SS58506	seal	Sheridan St	Virgil St	Ovid St	5	2019	$6,765	5
						Subtotal	**$1,507,657**	
BS022010	Bridge	Carrs Rd			6	2020	$117,000	80
BS012010	Bridge	Edwardstown Rd			6	2020	$112,500	80
BS012020	Bridge	Edwardstown Rd			6	2020	$103,500	80
BS001040	Bridge	Old Hume Hwy			6	2020	$627,750	100
CS078010	culvert	Bethungra Rd			6	2020	$54,600	60
CS055070	culvert	Burra Rd			6	2020	$43,920	60
FS52602R	Footpath	First Ave	Homer	Byron St	6	2020	$15,120	50
FS58505aR	Footpath	Sheridan St	Homer	Virgil	6	2020	$33,600	50
KS53302aL	Kerb and Gutter	Homer St	Sheridan St	First Ave	6	2020	$13,000	80
KS53302aR	Kerb and Gutter	Homer St	Sheridan St	First Ave	6	2020	$13,000	80
KS54501L	Kerb and Gutter	Kitchener St	Sheridan St	First Ave	6	2020	$14,300	80
KS54501R	Kerb and Gutter	Kitchener St	Sheridan St	First Ave	6	2020	$14,300	80
KR58504L	Kerb and Gutter	Sheridan St	Byron St	Homer St	6	2020	$29,900	80
KR58504R	Kerb and Gutter	Sheridan St	Byron St	Homer St	6	2020	$29,900	80
KS58505L	Kerb and Gutter	Sheridan St	Homer	Virgil St	6	2020	$28,600	80
KR58503L	Kerb and Gutter	Sheridan St	Otway St	Byron St	6	2020	$29,900	80
KR58503R	Kerb and Gutter	Sheridan St	Otway St	Byron St	6	2020	$29,900	80
PS05511	Pavement	Burra Rd			6	2020	$360,000	50
PS05513	Pavement	Burra Rd			6	2020	$73,500	50
PS51201	pavement	Camphor La	Luke St	Tom St	6	2020	$22,500	50

PS09501	Pavement	Cooba Rd			6	2020	$36,750	15
PS11101	Pavement	Makehams Rd			6	2020	$14,000	15
PS11201	Pavement	MtAdrah Church Rd			6	2020	$27,000	50
PS58505	pavement	Sheridan St	Homer	Virgil St	6	2020	$110,000	50
PS59601	pavement	Tor St	Hanley St	Nurse Murray	6	2020	$212,500	50
PR27805	Pavement	WeeJasper Rd			6	2020	$32,000	10
PR27801	Pavement	WeeJasper Rd			6	2020	$68,000	10
SR28001	Seal	Adelong Rd			6	2020	$12,144	15
SR28006	Seal	Adelong Rd			6	2020	$24,288	15
SS02601	Seal	Adjungbilly Rd			6	2020	$20,400	15
SS50201	seal	Attwood Ave	Tor St	end	6	2020	$1,500	18
SS52701	seal	Francis Ave	Hume Highway	Mackellar St	6	2020	$5,280	5
SS53005	seal	Hanley St	Virgil St	Hemans St	6	2020	$4,830	18
SS55301	seal	Lawson Dr	West St	End	6	2020	$7,200	10
SR08709	Seal	Muttama Rd			6	2020	$40,920	12
SR08710	Seal	Muttama Rd			6	2020	$34,320	12
SS56201	seal	Nicholls Ave	Tor St	End	6	2020	$2,079	18
SS07402	Seal	Oakhills Rd			6	2020	$9,990	6
SS00101	Seal	Old Hume Hwy			6	2020	$26,400	15
SS57601	seal	Punch St	Railway Pde	Virgil St	6	2020	$4,386	15
SR58504	seal	Sheridan St	Byron St	Homer St	6	2020	$12,765	13
SR58503	seal	Sheridan St	Otway St	Byron St	6	2020	$12,765	13
SR58502	seal	Sheridan St	West St	Otway St	6	2020	$15,180	13
SR27802	Seal	WeeJasper Rd			6	2020	$18,600	5
SR27803	Seal	WeeJasper Rd			6	2020	$9,300	5
						Subtotal	**$2,529,387**	
BS045010	Bridge	Gobarralong Rd			7	2021	$1,443,000	100
CS014020	culvert	Brungle Rd			7	2021	$39,600	60
CS019010	culvert	Darbalara Rd			7	2021	$53,550	60
PS05512	Pavement	Burra Rd			7	2021	$187,500	50
PS51202	pavement	Camphor La	Tom St	End	7	2021	$16,875	50
PS56602	pavement	OI Bell Dr	Showground grid	Racecourse gate	7	2021	$49,500	50
PS11001	Pavement	Poveys Rd			7	2021	$4,500	20
PS10101	Pavement	Rays Rd			7	2021	$1,500	20
SR28005	Seal	Adelong Rd			7	2021	$26,136	15
SS02602	Seal	Adjungbilly Rd			7	2021	$20,400	15
SS02604	Seal	Adjungbilly Rd			7	2021	$24,480	5
SR27921	Seal	Gocup Rd			7	2021	$56,448	12
SR27922	Seal	Gocup Rd			7	2021	$34,692	12
SS05302	Seal	Harvey Park La			7	2021	$900	18
SS04103	Seal	Hopewood Rd			7	2021	$27,000	5

SS54101	seal	Judy St	West St	End	7	2021	$2,700	6
SS55401	seal	Mount Parnassus Dr	Hanley St	Nurse Murray St	7	2021	$16,005	18
SR08715	Seal	Muttama Rd			7	2021	$26,400	13
SR08712	Seal	Muttama Rd			7	2021	$17,160	12
SR24313	Seal	Nangus Rd			7	2021	$46,800	12
SR24314	Seal	Nangus Rd			7	2021	$30,000	12
SS56801	seal	Otway La	Hanley St	end	7	2021	$4,500	18
SS07102	Seal	Reno Rd			7	2021	$33,000	18
SS03801	Seal	Tard Rd			7	2021	$2,400	6
SS59501	seal	Tom St	Mount St	Eagle St	7	2021	$5,280	18
						Subtotal	**$2,170,326**	
BS055060	Bridge	Burra Rd			8	2022	$147,000	70
CS045010	culvert	Gobarralong Rd			8	2022	$53,625	60
CS045020	culvert	Gobarralong Rd			8	2022	$61,200	60
FS50603L	Footpath	Byron St	First Ave	Punch St	8	2022	$7,920	50
PS51402	pavement	Charlotte St	William St	Ann St	8	2022	$40,000	50
PS11301	Pavement	Jessops Lagoon Rd			8	2022	$202,500	50
PS11302	Pavement	Jessops Lagoon Rd			8	2022	$189,000	50
PR24308	Pavement	Nangus Rd			8	2022	$288,000	50
PS01101	Pavement	Snowball Rd			8	2022	$105,000	12
PS59101	pavement	Springflat Dr	William St	End	8	2022	$247,500	50
SS51402	seal	Charlotte St	William St	Ann St	8	2022	$3,600	15
SS03302	Seal	Happy Valley Rd			8	2022	$4,200	15
SS05401	Seal	Hoares La			8	2022	$21,600	15
SS05403	Seal	Hoares La			8	2022	$1,200	15
SS04102	Seal	Hopewood Rd			8	2022	$16,650	15
SS54601	seal	Kendall Pl	Eagle St	End	8	2022	$3,000	15
SS01003	seal	Lewins La			8	2022	$13,500	5
SS55201	seal	Luke St	Mount St	Eagle St	8	2022	$8,640	15
SS55801	seal	Moon St	Dodd St	Ovid La	8	2022	$2,013	15
SS55906	seal	Mount St	Cross St	South St	8	2022	$7,500	15
SR08716	Seal	Muttama Rd			8	2022	$19,272	14
SR24308	Seal	Nangus Rd			8	2022	$46,080	13
SS56101	seal	Nurse Murray St	Tor St	West St	8	2022	$1,830	15
SS07401	Seal	Oakhills Rd			8	2022	$15,000	15
SS56503	seal	O'Hagan St	Bridge	End	8	2022	$6,600	8
SS56602	seal	OI Bell Dr	Showground grid	Racecourse gate	8	2022	$3,663	15
SS00102	Seal	Old Hume Hwy			8	2022	$26,400	15
SS57001	seal	Ovid La	Moon St	Dodd St	8	2022	$2,160	15

SS04304	Seal	Parsons Creek Rd			8	2022	$16,500	15
SS57606	seal	Punch St	West St	Bourke St	8	2022	$18,400	11
SS58003	seal	Ridge St	Mount St	Eagle St	8	2022	$5,280	18
SS59201	seal	Sandhills Rd	Brungle Rd	End	8	2022	$1,665	15
SS58701	seal	Short St	William St	EB	8	2022	$2,400	16
SS58801	seal	South St	Hume Hwy	Mount St	8	2022	$3,000	15
SS01602	Seal	Stuckeys Rd			8	2022	$19,800	15
SS60001	seal	Virgil St	Sheridan St	Punch St	8	2022	$4,980	15
						Subtotal	**$1,616,678**	
CS055030	culvert	Burra Rd			9	2023	$66,000	60
CS055040	culvert	Burra Rd			9	2023	$44,550	60
FS50603R	Footpath	Byron St	First Ave	Punch St	9	2023	$7,920	50
PS05510	Pavement	Burra Rd			9	2023	$375,000	50
PS08101	Pavement	Chandlers Rd			9	2023	$21,000	15
PS52603	pavement	First Ave	Byron St	Otway St	9	2023	$44,000	50
PS10301	Pavement	Rawilla Rd			9	2023	$14,000	15
PS07105	Pavement	Reno Rd			9	2023	$21,000	15
PS07106	Pavement	Reno Rd			9	2023	$26,600	15
PR58504	pavement	Sheridan St	Byron St	Homer St	9	2023	$115,000	50
PS11401	Pavement	Tumblong Rd			9	2023	$189,000	50
PS59702	pavement	Tumut St	Mount St	EB	9	2023	$80,000	50
SS02603	Seal	Adjungbilly Rd			9	2023	$16,320	15
SS02606	Seal	Adjungbilly Rd			9	2023	$11,100	15
SS50603	seal	Byron St	First Ave	Punch St	9	2023	$6,039	18
SS50602	seal	Byron St	Sheridan St	First Ave	9	2023	$6,039	18
SS52502	seal	Ferry St	LagoonSt	Middle St	9	2023	$3,600	15
SS52601	seal	First Ave	Virgil St	Homer St	9	2023	$3,960	15
SS03301	Seal	Happy Valley Rd			9	2023	$13,750	15
SR24307	seal	Nangus Rd	Sheridan La	Jones Ck Br	9	2023	$9,699	14
SS00106	Seal	Old Hume Hwy			9	2023	$28,188	15
SS08001	Seal	Oura Rd			9	2023	$13,750	15
SS576010	seal	Punch St	Mackellar St	Burra Rd	9	2023	$13,725	15
SS07103	Seal	Reno Rd			9	2023	$16,500	6
SS01705	Seal	Tarrabandra Rd			9	2023	$33,000	15
SR59701	seal	Tumut St	Eagle St	Mount St	9	2023	$6,960	13
SR60503	seal	West St	O'Hagan St	Hanley St	9	2023	$25,560	15
SS60602	seal	William St	West St	Neil McInerney St	9	2023	$5,400	18
SS06806	Seal	Yammatree Rd			9	2023	$16,500	15
						Subtotal	**$1,234,160**	
						Program Total	**$18,229,144**	

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

Gundagai SC
Projected Capital Upgrade/New Works Program - Transport_S1_V12

($000)

Year	Item	Description	Estimate
2014	1	Transport Construction Expenditure	$3,846
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2014		Total	$3,846

($000)

Year	Item	Description	Estimate
2015	1	Gundagai Main Street Redevelopment	$4,000
	2	Transport Construction Expenditure	$1,205
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2015		Total	$5,205

($000)

Year	Item	Description	Estimate
2016	1	Transport Construction Expenditure	$1,617
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2016		Total	$1,617

($000)

Year	Item	Description	Estimate
2017	1	Transport Construction Expenditure	$1,251
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2017		Total	$1,251

($000)

Year	Item	Description	Estimate
2018	1	Transport Construction Expenditure	$1,469
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2018		Total	$1,469

($000)

Year	Item	Description	Estimate
2019	1	Transport Construction Expenditure	$1,370
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2019		Total	$1,370

($000)

Year	Item	Description	Estimate
2020	1	Transport Construction Expenditure	$2,486
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2020		Total	$2,486

($000)

Year	Item	Description	Estimate
2021	1	Transport Construction Expenditure	$2,108
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2021		Total	$2,108

($000)

Year	Item	Description	Estimate
2022	1	Transport Construction Expenditure	$1,585
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2022		Total	$1,585

($000)

Year	Item	Description	Estimate
2023	1	Transport Construction Expenditure	$1,212

	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2023		Total	$1,212

Appendix D Budgeted Expenditures Accommodated in LTFP

NAMS.PLUS2 Asset Management **Gundagai SC**

Transport_S1_V12 Asset Management Plan

First year of expenditure projections **2014** (financial yr ending)

Transport

Asset values as at end financial year 2013

			Calc CRC from Asset Register
Current replacement cost	$126,089	(000)	$126,333 (000)
Depreciable amount	$33,953	(000)	This is a check for you.
Depreciated replacement cost	$92,136	(000)	
Annual depreciation expense	$1,922	(000)	

Operations and Maintenance Costs for New Assets

	% of asset value
Additional operations costs	0.70%
Additional maintenance	1.63%
Additional depreciation	5.66%

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 **2014** values

Financial year ending	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000
Expenditure Outlays included in Long Term Financial Plan (in current $ values)										
Operations										
Operations **budget**	$773	$797	$821	$845	$871	$897	$924	$952	$980	$1,010
Management **budget**		$0	$0	$0	$0	$0	$0	$0	$0	$0
AM systems **budget**		$0	$0	$0	$0	$0	$0	$0	$0	$0
Total operations	$773	$797	$821	$845	$871	$897	$924	$952	$980	$1,010
Maintenance										
Reactive maintenance **budget**		$0	$0	$0	$0	$0	$0	$0	$0	$0
Planned maintenance **budget**	$5,531	$1,546	$1,557	$1,586	$1,615	$1,666	$1,740	$1,751	$1,785	$1,805
Specific maintenance items **budget**		$0	$0	$0	$0	$0	$0	$0	$0	$0
Total maintenance	$5,531	$1,546	$1,557	$1,586	$1,615	$1,666	$1,740	$1,751	$1,785	$1,805
Capital										
Planned renewal **budget**	$666	$736	$912	$857	$894	$927	$872	$905	$875	$875
Planned upgrade/new **budget**		$0	$0	$0	$0	$0	$0	$0	$0	$0
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

Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)										
Additional Expenditure Outlays required and not included above	2014 $000	2015 $000	2016 $000	2017 $000	2018 $000	2019 $000	2020 $000	2021 $000	2022 $000	2023 $000
Operations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Maintenance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Capital Renewal	to be incorporated into Forms 2 & 2.1 (where Method 1 is used) OR Form 2B Defect Repairs (where Method 2 or 3 is used)									
Capital Upgrade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
User Comments #2										

Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)										
	2014 $000	2015 $000	2016 $000	2017 $000	2018 $000	2019 $000	2020 $000	2021 $000	2022 $000	2023 $000
Forecast Capital Renewal from Forms 2A & 2B	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Forecast Capital Upgrade from Form 2C	$3,846	$5,205	$1,617	$1,251	$1,469	$1,370	$2,486	$2,108	$1,585	$1,212

Appendix E Abbreviations

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

Appendix F Glossary

Annual service cost (ASC)

1) Reporting actual cost
   The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.
2) 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, e.g.. 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, e.g.. 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, e.g.. 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 non-critical 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.

Expenses
Decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or increases in liabilities that result in decreases in equity, other than those relating to distributions to equity participants.

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, e.g.. 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, e.g. 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 e.g. 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 organisation, e.g.. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations
Regular activities to provide services such as public health, safety and amenity, e.g. 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, e.g. 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 road pavements 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 organisation.

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, AIFMG Glossary

Additional and modified glossary items shown *