Narrandera Shire Council

Transport Infrastructure

Asset Management Plan

Version 1

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Institute of Public Works Engineering Australia

AM4SRRC

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Asset Management for Small, Rural or Remote Communities Practice Note

The Institute of Public Works Engineering Australia.

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1. EXECUTIVE SUMMARY

Context

A population of over 6,800 resides in the town of Narrandera and the villages of Barellan, Grong Grong and Binya. These communities make up the Local Government area of Narrandera Shire and part of the state electorate of Murrumbidgee and the Federal electorate of Riverina. Narrandera has beautiful tree line streets which expresses its relaxed friendly country way of life. Narrandera has a full range of modern services and facilities but is free from noise, traffic jams and city stress.

The Transport network comprises:

- Bridges and Culverts
- Footpaths
- Kerb and Gutter
- Road Pavements
- Roadside Assets
- Stormwater Drainage

These infrastructure assets have a combined replacement value of $123 M.

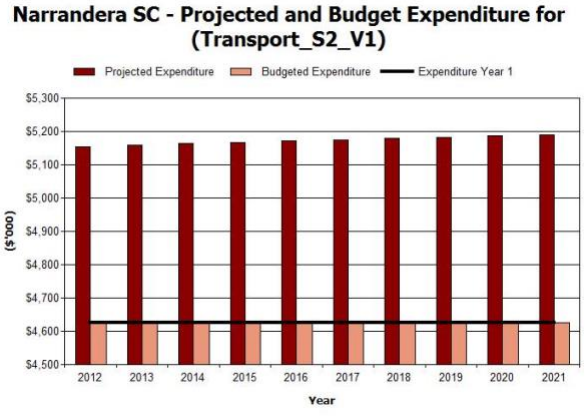
What does it Cost?

The projected cost to provide the services covered by this Asset Management Plan includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is $47,229,000 or an average of $4.7M per year.

Council's estimated available funding for this period is $41,750,000 or $4.2M per year which is 88% of the cost to provide the service. (Scenario 2).

Projected and budgeted expenditure are shown in the table 6.1.1.S2 and 6.1.2.

Councils' present funding levels are insufficient to continue to provide existing services at current levels in the medium term. Further prioritisation of transport renewal programs, in particular the gravel resheeting program will need to be undertaken to reach a funding level that is sustainable with Council's budget figures.



What we will do

Council plans to provide Transport services for the following:

- Prioritise expenditure on operation, maintenance, renewal and upgrade for Transport Assets to meet service levels set by council in annual budgets. The major cost is the gravel resheeting frequency of 12 years at an average cost of projected renewal cost of $2.6M per year. Council will need to prioritise this work to the available budget or make a trade off against the planned new/upgrade work.
- This AMP includes service improvements consisting of $4.5M of new/ major upgrades within the 10 year planning period. This is shown in appendix C.

What we cannot do

Council does not have enough funding to provide all services at the desired service levels in the long term under the current funding scenario (Scenario 2). The long term average sustainability ratio is 0.88 which indicates that the current funding is only 88% of the funds required. Council does not have the funds to carry out major pavement renewal in the future so ensuring pavements are protected by regular resurfacing is critical to managing a sustainable transport network.

Current service levels cannot be maintained in the medium (10 year) term for unsealed roads. Gravel road renewal program will need to be reduced and prioritised, this will have associated service level reductions.

Managing the Risks

- There are risks associated with providing the service and not being able to complete all identified activities and projects. Council has identified major risks as:
- Rising costs of managing infrastructure is likely to be higher than the escalation applied to increases in rate revenue;
- Risk of flood damage not being funded if council cannot demonstrate adequate inspection, maintenance and asset protection procedures.
- Road resurfacing frequency being inadequate to maintain protect underlying pavement from damage;
- Low level of knowledge of pavement rehabilitation needs and reporting service level trends;

- Providing the most appropriate and affordable infrastructure for the community
- Highly variable and unpredictable extreme weather events, and the impact this will have on transport assets. What seemingly is a manageable position can change very quickly.
- The dependence on grants from other tiers of government and this funding inadequate to maintain current service levels.
- Council will endeavour to manage these risks within available funding by:
- Manage the existing infrastructure by optimising renewal and maintenance spending to provide lowest life cycle cost while controlling risk.
- Implementing an asset management improvement program
- Aligning road hierarchy standards within the bounds of available funding.
- Useful lives may need to change when applying an evidence based approach (appendix H) with a corresponding impact on depreciation.

The Next Steps

The actions resulting from this asset management plan are:

- Annually review the 4 year forward delivery programme balanced to the long term financial plan and update this asset management plan projections.
- Maintain the current assets in a safe condition
- Continue to assess condition and report annually on the state of the assets for condition, function and capacity.
- Improve asset management capability to provide the same or better service level at lower life cycle cost whilst managing risk.
- Improve the analysis of options so that an informed discussion can be had with the community about priorities.
- Report annually the state of the assets, reporting on the proportion of the transport network in poor or very poor condition, function and capacity. The actions resulting from this asset management plan are:
- Review the valuations and valuation methodology in the asset register to ensure compliance with AASB116 and Infrastructure Financial Management Guidelines. (IFMG)
- Improve the analysis of options so that an informed discussion can be had with the community about priorities.
- Improve life cycle cost analysis on the optimum frequency of road resurfacing to minimise expensive pavement repairs.

Questions you may have

What is this plan about?

This asset management plan covers the infrastructure assets that serve the Narrandera Shire Council Community's transport asset needs. These assets include sealed, gravel and formed road network, bridges, and footpaths and cycleways throughout the Council area that enable services to be provided to the community.

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 Council's transport network was constructed 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.

Councils' 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, replacing existing and constructing new assets to optimise life cycle costs,
3. Identifying and managing risks associated with providing services from infrastructure,
4. Making tradeoffs between service levels and costs to ensure that the community receives the best return from infrastructure,
5. Indentifying 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?

In the long term (longer than 10 years) it is likely that council will have to reduce service levels for unsealed roads and bridges, unless new sources of revenue are found. For these assets, the service level reduction may include an increase in maintenance and operating expenditure for existing assets, load limits and bridge closures and an inability to fund new assets.

What can we do?

Council can develop options and priorities for future transport services with costs of providing the services, consult with the community to plan future services to match the community services needs with ability to pay for services and maximise benefit to the community for costs to the community.

What can you do?

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

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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.

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

- Narrandera Shire Council Annual Report 2010/11
- Narrandera Shire Council Adopted Management Plan 2011/16

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

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Table 2.1: Assets covered by this Plan

Asset Sub-Category	Asset Register Replacement Cost (*Calculated from form 2 asset register data)	Depreciated Replacement Cost *
Subcategory Unidentified	$406,698	$33,942
Bridge	$6,466,801	$2,688,893
Culvert	$2,646,284	$1,102,410
Footpath	$1,138,217	$542,553
Kerb and Gutter	$1,141,358	$377,936
Open Channel	$3,067,523	$1,220,634
Pavement	$82,300,147	$19,760,286
Pipes	$5,538,687	$1,991,822
Pits	$233,886	$103,224
Road Furniture	$8,400	$504
Surface	$9,406,240	$3,606,360
Traffic Devices	$285,079	$189,178
TOTAL	**$112,639,320**	**$31,617,742**

2.2 Goals and Objectives of Asset Management

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

Council's goal in managing infrastructure assets is to meet the required level of service in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Taking a life cycle approach,
- Developing cost-effective management strategies for the long term,
- Providing a defined level of service and monitoring performance,

- Understanding and meeting the demands of growth through demand management and infrastructure investment,
- Managing risks associated with asset failures,
- Sustainable use of physical resources,
- Continuous improvement in asset management practices.[1]

The goal of this asset management plan is to:

- Document the services/service levels to be provided and the costs of providing the service,
- Communicate the consequences for service levels and risk, where desired funding is not available, and
- Provide information to assist decision makers in trading off service levels, costs and risks to provide services in a financially sustainable manner.

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

Council's vision is:

"Achieving Together", which represents our vision to connect with the people who surround our activities and to work in partnership with community and other government departments to achieve positive outcomes for our community.

Council's mission is:

"To provide high quality affordable local government services and representation for people who live, work, and visit Narrandera Shire, and to assist also, those who have a stake in our local and regional prosperity; by way of effective consultation, policy making and responsive delivery that meets the needs of our community "

Relevant goals and objectives and how these are addressed in this asset management plan are shown in Table 2.2.

Table 2.2: Organisation Goals and how these are addressed in this Plan

Organisation/Internal		
Goal 4: Decisive leadership, strong partnerships and the effective and efficient management of resources	Objective	How Goal and Objectives are addressed in AMP
PF 1 – Corporate Support and Governance • Manage Investments • Payment of Rates, Collection • of Fees and Charges • IT Services • Customer Service • Provide Services, Processes • and Procedures for Council, • Executive Staff and • Corporate Services • Taxation Returns	**Strategy 4.1.1**: Maximise the benefits of information technology in improving communication, process efficiency and promote Council and community activities through the website, Council Newsletter and other media.	Council has limited resources. The Asset Management Planning provides a way in which the community can be engaged in setting the priorities and allocation of these resources.
	Strategy 4.2.1: Develop and review Council Business Plans linked to the Strategic Plan and the financial capacity of Council **Strategy 4.2.2**: Develop and implement a long-term Financial Plan that reflects Council/community directions	The Asset Management Plan in conjunction with Long Term Financial Plan and the Community Plan are the tools by which Council assesses the long term financial sustainability of council's infrastructure assets.
	Strategy 4.3.1: Utilise appropriate	Infrastructure is provided to support

[1] IPWEA, 2006, *IIMM* Sec 1.1.3, p 1.3.

Organisation/Internal		
Goal 4: Decisive leadership, strong partnerships and the effective and efficient management of resources	Objective	How Goal and Objectives are addressed in AMP
• Wages and Salaries in • accordance with employment • provisions • Creditors/ Accounts Payable • Human Resource and • Employee Relations • Corporate communications • OHS/Risk management • Corporate Support, • Engineering Works and • Other Support Services • Governance including: Elections Subscriptions, Meeting of council Policy making committees Area representation Public disclosure	mechanisms to regularly review community needs	services. Getting the correct infrastructure appropriate to the needs of the community is a primary goal of Asset Management Planning.
	Strategy 4.4.1: Examine opportunities and support for partnerships with neighbouring and regional Councils, and government agencies to address priority issues **Strategy 4.5.1**: Identify needs and provide appropriate training and development for staff **Strategy 4.6.1**: Review and amend governance structures, policies and decision making processes on a regular basis	Planning long term sustainable infrastructure is important to enable Council to meet its statutory Council governance.
	Strategy 4.5.2: Ensure safe work practices through the implementation of the Occupational, Health and Safety Policy and Risk Management Strategy	Risk associated with Council infrastructure is identified within the Asset Management Plan. Risk assessment is one of the tools by which Council assesses the long term sustainability of council's infrastructure assets.

2.3 Plan Framework

Key elements of the plan are

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

2.4 Core and Advanced Asset Management

This asset management plan is prepared as a first cut 'core' asset management plan in accordance with the International Infrastructure Management Manual[2]. It is prepared to meet minimum legislative and organisational

[2] IPWEA, 2006.

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.

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 Council. Future revisions of the asset management plan will incorporate community consultation on service levels and costs of providing the service. This will assist Council and the community in matching the level of service needed by the community, service risks and consequences with the community's ability to pay for the service.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

Council's Integrated Community Strategic Plan is the document that guides the future of the local area and it represents a whole of community approach to our ongoing development. It links social, economic, environmental and infrastructure issues and is the end result of extensive community consultations which were based on Council's Communication Strategy. ***This determined the goals in table 2.2.***

3.2 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations. Relevant legislation is shown in Table 3.2.

Table 3.2: Legislative Requirements

Legislation	Requirement
Local Government Act 1993 Local Government Amendment (Planning and Reporting) Act 2009 (the Act).	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. The amendments to the Act give effect to the Integrated Planning and Reporting framework.
Roads Act 1997	To provide public access to roads, to classify roads, to act as the local road authority, to carry out certain functions e.g. road works and to regulate activities on public roads.
Occupational Health, Safety and Welfare Act & Regulations	Sets out roles and responsibilities to secure the health, safety and welfare of persons at work.
Native Vegetation Act	To manage native vegetation, to prevent broad scale clearing, to protect native vegetation, to improve native vegetation and to encourage revegetation of land.
Australian Road Rules	To ensure compliance and uniformity with road rules in the State and elsewhere in Australia
The Australian Accounting Standards	The Australian Accounting Standards AASB116 requires that assets be valued, and reported in the annual accounts, which also includes depreciation value (i.e. how fast are these assets wearing out).
Environmental Planning and Assessment Act 1979	Sets out guild lines for land use planning and promotes sharing of responsibilities between various levels of government in the state.
Environmental Planning and Assessment Amendment Act 2008	Sets out guidelines for land use planning and promotes sharing of responsibilities between various levels of government in the state.
Protection of the Environment Operations Act 1997	Sets out Council responsibility and powers of local area environment and its planning functions.

3.3 Current Levels of Service

Council has defined service levels in two terms.

Community Levels of Service relate to the service outcomes that the community wants in terms of safety, quality, quantity, reliability, responsiveness, cost effectiveness and legislative compliance.

- Quality How good is the service?
- Function Does it meet users' needs?
- Capacity or Utilisation is the asset substantially over or under capacity.
- Safety Is the service safe? This is managed by the risk management plan and the governance process that reports any high residual risks to the audit committee and Council.

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 council undertakes to best achieve the desired community outcomes.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleansing frequency, mowing frequency, etc.
- Maintenance – the activities necessary to retain an assets as near as practicable to its original 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).
- Quality or Condition
- Function
- Capacity

Road condition can be a simple 1-5 scale as per the IMM. For the purpose of community and council engagement this can be further grouped to focus on the proportion of the assets that are poor/very poor. This represents assets at or close to a point where service levels will be affected to the point where the community would notice. Detailed technical indicators can support the 1-5 scale as shown in appendix Council's current service levels are detailed in Table 3.3.

Table 3.3: Current Service Levels

Theme	Community Expectation	Measure	Current Service Level Response	Acceptable Level of Service Response
COMMUNITY LEVELS OF SERVICE				
Quality	Well maintained roads Smooth Roads and Footpaths Do not pond water Look well maintained	Customer surveys Customer requests % of network that has poor or very poor condition	To be provided from the Resident Survey and Community Plan research Monitoring of the average condition of the network should be undertaken to determine adequacy of the resurfacing programs	Requests received should not increase annually Further assessment required to inform future revisions of the Transport Asset Management Plan. These improvements are detailed in section 8.2 – improvement plan.
Function	Ensure access to facilities and services is provided that is suited to the use	Customer surveys Customer requests % of network that has poor or very poor function (road and path geometry and traffic design)	To be provided from the Resident Survey and Community Plan research Has not been fully assessed at this time	Requests received should not increase annually Further assessment required to inform future revisions of the Transport Asset Management Plan
Capacity/Utilisation	Network meets the capacity requirements	% of network that has poor or very poor capacity resulting in congestion and slow average speed	Has not been fully assessed at this time	Further assessment required to inform future revisions of the Transport Asset Management Plan

Theme	Community Expectation	Measure	Current Service Level Response	Acceptable Level of Service Response
TECHNICAL LEVELS OF SERVICE				
Operations	Street cleaning Street lighting Inspections Management Systems	Not identified as separate cost items to assess service level	Requires further assessment to identify and determine whether basic service level expectations are being met	Requires further assessment to identify and determine whether basic service level expectations are being met
Operational Cost			$285,000 pa	Will need to increase over the next 10 years to maintain current funding levels due to some asset growth
Maintenance	Remove hazards Repair damage to roads, footpaths, kerb and gutter	Respond to complaints Budget and resources are adequate to complete the required works within an acceptable time	Reactive maintenance to limit of budget allocation.	Regular Inspections Planned Maintenance
Maintenance Cost			$1,095,000 pa	Will need to increase over the next 10 years to maintain current funding levels due to some asset growth
Renewal	Replacement cycle	Frequency	The works program and long term financial plan have been developed to deliver a satisfactory service standard. Verification and improvement of the useful lives used for valuation purposes, matching these actual services standards will assist to improve financial reporting and planning	Bridges and Culverts Average of 80 years Footpaths Average of 65 years Kerb and Gutter Average of 60 years Road Pavement Average of 65 years Road Surface Target for resurfacing is 12-15 years Stormwater Drainage Average of 65 years Traffic Devices Average of 65 years Road Furniture Average of 100 years
Renewal Cost			Renewal Programme funded and balanced to the LTFP as per table 6.1.1.S2 with annual review.	Renewal Programme funded and balanced to the LTFP as per table 6.1.1.S2

Theme	Community Expectation	Measure	Current Service Level Response	Acceptable Level of Service Response
TECHNICAL LEVELS OF SERVICE				
Upgrade/New	Provide services in a cost effective manner	Cost, Corporate Strategy	Upgrade New Programme funded and balanced to the LTFP as per table 6.1.2. with annual review. Criteria for prioritisation as per section 5.5 of this AMP.	Upgrade New Programme funded and balanced to the LTFP as per table 6.1.2. with annual review. Criteria for prioritisation as per section 5.5 of this AMP.
Upgrade/New Cost			Upgrade/new program detailed in appendix C of this AMP.	Upgrade/new program detailed in appendix C of this AMP.
Quality / Condition	Overall Condition Index as per appendix G % Condition 5 by asset value % Condition 4 % Condition 3 % Condition 2 % Condition 1		See Figure 3 in section. 5.1.3. This service level will deteriorate for gravel roads under scenario 3	Maintain or improve current condition profile .
Function	% by value with alignment to the road hierarchy geometry that is Very Good Good Fair Poor Very Poor with Safety Concerns		Not currently measured	Not currently measured
Capacity	% by value with a match between capacity and actual traffic utilisation that is Very Good Good Fair Poor Very Poor with Safety Concerns		Not currently measured	Not currently measured

3.4 Desired Levels of Service

At present, indications of desired levels of service are obtained from various sources including residents' feedback to Councillors and staff, service requests and correspondence. Council has yet to quantify desired levels of service. This will be done in future revisions of this asset management plan.

4. FUTURE DEMAND

4.1 Demand Forecast

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

Demand factor trends and impacts on service delivery are summarised in Table 4.1.

Table 4.1: Demand Factors, Projections and Impact on Services

Demand factor	Present position	Projection	Impact on services
Population	6208 (Estimated Resident Population at June 2008 (ABS, 2008, 3218.0))	Narrandera Shire is expected to have minimal change in population based on the -0.1% population change between 2005 and 20103	Narrandera Shire's population is projected to remain reasonably stable resulting in a minimum impact on existing infrastructure services.
Construction Costs	Current costs	Costs anticipated to increase	The shortage of skilled labour, high labour costs and increasing material costs, will impact on the future management of plant and equipment
Increasing Costs	The cost to construct, maintain and replace plant and equipment is increasing	Anticipated to continue	Increasingly difficult to maintaining the current level of service Equipment will need to provide greater efficiencies
Climate Change	Higher frequency of extreme weather events	Unknown, but changes likely.	Addition costs may be imposed to fund environmental initiatives e.g. carbon tax Expectation of plant capacity to repair major damage to road infrastructure will increase

4.2 Changes in Technology

Technology changes forecast to affect the delivery of services covered by this plan are detailed in Table 4.2.

Table 4.2: Changes in Technology and Forecast effect on Service Delivery

Technology Change	Effect on Service Delivery
Change in road construction methods and the materials used	May increase the life of road components, reducing the susceptibility to damage, or by reducing the cost of construction or maintenance

4.3 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 council to own the assets. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another council area or public toilets provided in commercial premises.

[3] ABS 3218.0 Regional Population Growth, Australia, Released at 11.30am (Canberra time) 31 March 2011

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this asset management plan.

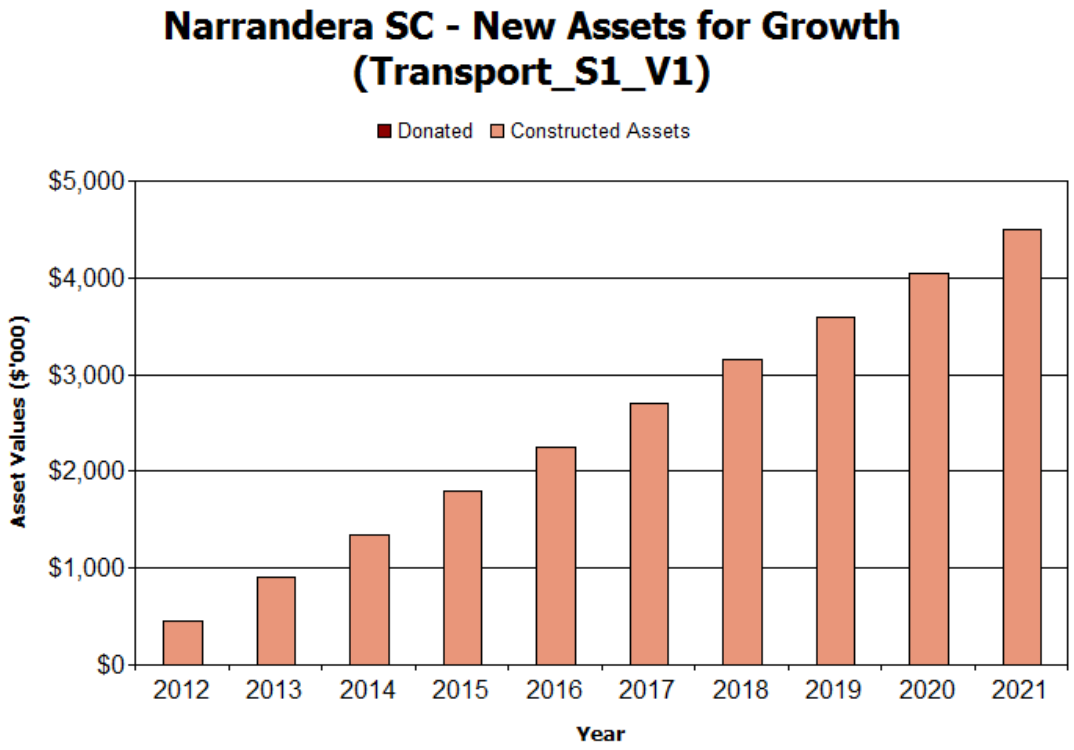
Table 4.3: Demand Management Plan Summary

Service Activity	Demand Management Plan
Communicate options and capacity to fund road infrastructure with the community	Monitor community expectations and communicate service levels and financial capacity with the community to balance priorities for infrastructure with what the community is prepared to pay for
Funding priority works	Continue to seek grant funding for projects identified in the Community Plan and Asset Management Plans
Improve understanding of costs and capacity to maintain current service levels	Continue to analyse the cost of providing service and the capacity to fund at the current level of service

4.4 New Assets for Growth

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by Council. The new contributed and constructed asset values are summarised in Figure 1.

Figure 1: New Assets for Growth



$4.5M of additional transport assets has been forecast in the long term financial plan. See appendix C for details.

Acquiring these new assets will commit council to fund ongoing operations and maintenance 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 and maintenance costs.

5. LIFECYCLE MANAGEMENT PLAN

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

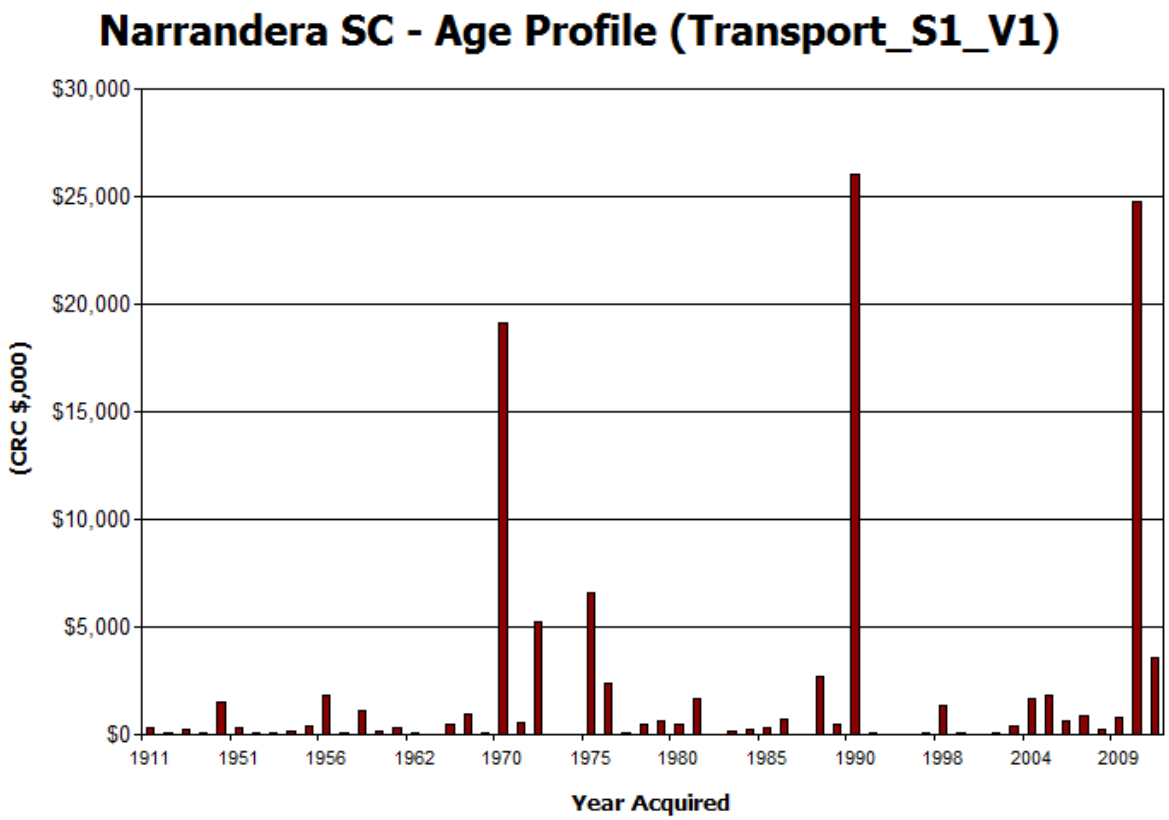
5.1 Background Data

5.1.1 Physical parameters

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

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

Figure 2: Asset Age Profile



The information basis for the Major Transport assets are:

- Financial Valuations
- Technical Inventory
- Maintenance and Renewal Plans

5.1.2 Asset capacity and performance

Council'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
In this first Asset Management Plan detailed performance deficiencies have not been identified	In the development of next asset management plans, and in particular as these plans are developed and integrated along with the Long Term Financial Plans and Community Plans service deficiencies will be identified

5.1.3 Asset condition

The condition profile of assets included within this AM Plan is shown in Figure 3.

Figure 3: Asset Condition Profile

The condition profile shown above is not based on an field assessment of asset condition. It has been calculated from the ratio of remaining life to total useful life in the asset register.

Table 5.1.3: IIMM Description of Condition

Condition Rating	Description
1	Excellent condition: Only planned maintenance required.
2	Very good: Minor maintenance required plus planned maintenance.
3	Good: Significant maintenance required.
4	Fair: Significant renewal/upgrade required.
5	Poor: Unserviceable.

5.1.4 Asset valuations

The value of assets recorded in the asset register as at 30 June 2011 covered by this asset management plan is shown below. Assets were last revalued at 30 June 2011.

Current Replacement Cost	$156,504,841
Depreciable Amount	$156,504,841
Depreciated Replacement Cost	$128,121,031
Annual Depreciation Expense	$1,394,614

Council's sustainability reporting reports the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion.

Asset Consumption	0.90%
(Depreciation/Depreciable Amount)	
Asset renewal	1.80%
(Capital renewal exp/Depreciable amount)	
Annual Upgrade/New	0.30%
(Capital upgrade exp/Depreciable amount)	
Annual Upgrade/New	0.30%
(including contributed assets)	

Council is currently renewing assets at 200.50% of the rate they are being consumed and increasing its asset stock by 0.30% each year.

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

5.1.5 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. Future improvement should link roads to the NAASRA road classification.

Council's service hierarchy is shown is Table 5.1.5.

Table 5.1.5: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Bridges	Bridges are part of the overall road network and provide access to communities and other services, supports economic growth and development, and improve safety.
Footpaths	The footpath network provides accessible communities; provide access to other services and supports health and lifestyle.
Regional Roads	The regional road network provides regional access for communities; provides access to a broad range of services and supports economic growth and development. Regional roads carry heavy traffic and need higher levels of expenditure on resurfacing and pavement reconstruction.
Local Roads	The local road network provides access within local communities; provides access to services and supports local growth and development.

5.2 Risk Management Plan

An assessment of risks[4] 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 are summarised in Table 5.2.

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Associated Costs
Road Maintenance	Increasing maintenance requirements	High	Continue to improve data Documented service level risks and utilisation for establishing future maintenance priorities	Staff Time
Road Renewal	Roads deteriorate to a lesser service standard and higher risk situation	High	Continue to improve data Required renewal of road components is being achieved in the short to medium term Future planning improvements can be made by further documented service level risks and utilisation of these in establishing future renewal priorities	Staff Time
Road Damage	Damage to roads as a result of major storm events	Very High	At present cannot be managed within councils resourcing. Continue to improve data	Staff Time
Increasing financial pressure to adequately maintain the roads	The long term renewal of road seals is not adequate	Very High	Additional analysis of data inventory, assessment of useful lives will be critical to ensure the long term financial planning for roads is reliable	Staff Time

[4] *Council is developing a Risk Register to manage detailed risks*

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Associated Costs
portfolio				
Bridges	Failure. Structural or functional.	High	Increase inspections	Staff Time
Asset Defects causing injury or damage	Potholes, footpath trips, uneven kerb and obstacles for cyclists	Very High	Scheduled inspections based on an affordable and prioritised inspection schedule with agreed and affordable service levels for defects	Staff Time
Unfunded Flood Damage to Unsealed Roads.	Assistance may be provided for the restoration to pre-event level of service of State, Regional and local road (local access) and bridge infrastructure damaged as a direct result of a declared disaster. There is an exclusion clause such that funding is not provided where there is "any damage where there is evidence the cause is a lack of proper maintenance or where previous restoration work was not completed satisfactorily. "[5]	Very High	Council must implement a documented maintenance strategy for all service level gravel roads including: • Culvert and drainage maintenance • Documented inspection programme • Prioritised renewal programme linked to road hierarchy.	Staff Time

5.3 Routine Maintenance Plan

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 Maintenance plan

Maintenance includes 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, building roof replacement, etc. This work generally falls below the capital/maintenance threshold but may require a specific budget allocation.

[5] [5] *NSW Disaster Assistance Guidelines, Edition 1 Version 1, Current as of: 31 October 2010, B.2 Restoration of Public Roads*

Actual past maintenance expenditure is shown in Table 5.3.1.

Table 5.3.1: Maintenance Expenditure Trends

Year	Maintenance Expenditure
Proposed 2012	$1,094,645
Proposed 2013	$1,094,645
Proposed 2014	$1,094,645

Current maintenance expenditure levels are considered to be adequate to meet required service levels in the absence of more detailed information. Future revision of this asset management plan will include linking required maintenance expenditures with required service levels.

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

5.3.2 Standards and specifications

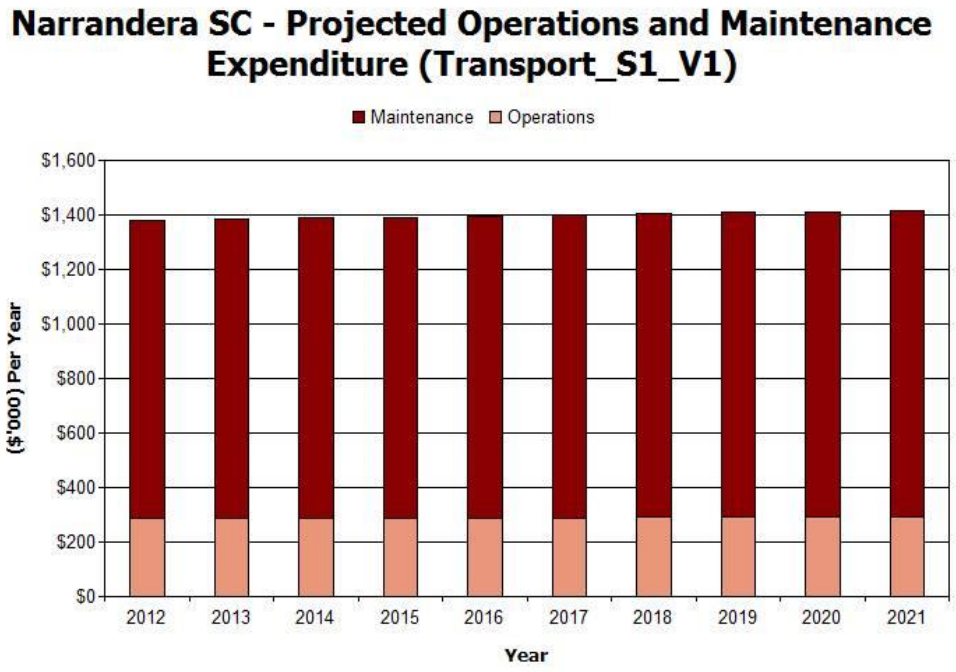
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Relevant engineering Australian Standards
- Relevant technical standards and specifications for road, drainage and works e.g. Austroads, RTA guidelines

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 2012 dollar values.

Figure 4: Projected Operations and Maintenance Expenditure



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

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

5.4 Renewal/Replacement Plan

Renewal 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 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 are identified from one of three methods provided in the 'Expenditure Template".

- Method 1 uses Asset Register data to project the renewal costs for renewal years using acquisition year and useful life, 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 2 was used for this asset management plan.

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.4.1.

Table 5.4.1: Renewal Priority Ranking Criteria

Criteria	Weighting
Community - Function	30%
Community – Quality	5%
Technical – Condition	10%
Technical – Risk of Failure	40%
Technical – Operating/Maintenance and lifecycle costs	15%
Total	100%

Renewal will be undertaken using 'low-cost' renewal methods where practical. The aim of 'low-cost' renewals is to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement cost.

Examples of low cost renewal include bitumen reseals.

5.4.2 Renewal standards

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

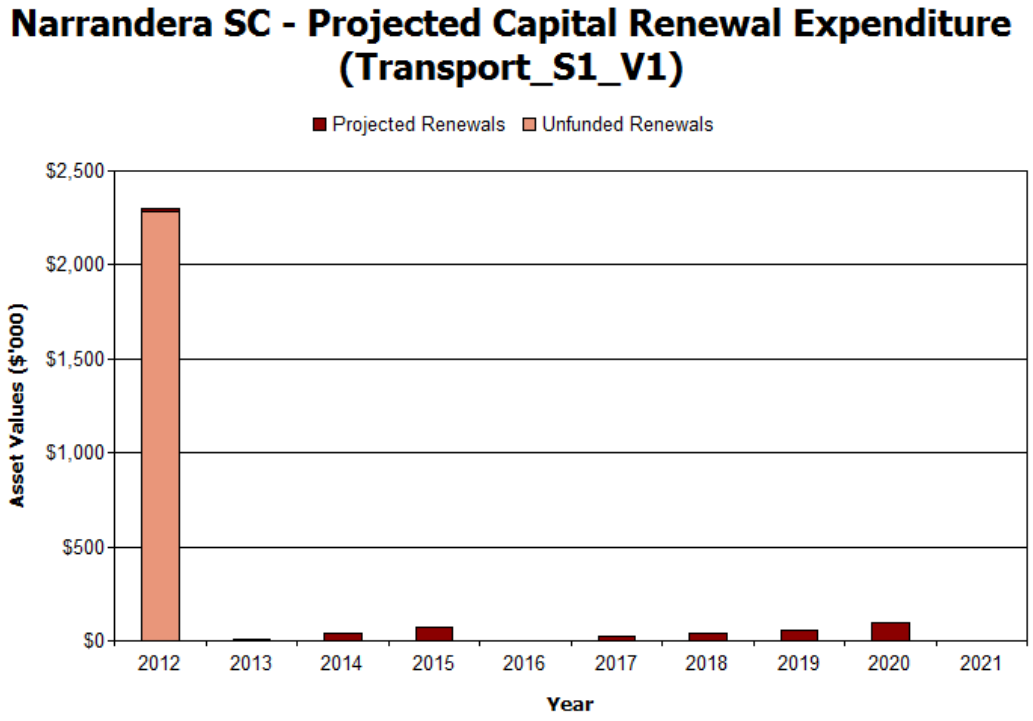
- Relevant engineering Australian Standards
- Relevant technical standards and specifications for road, drainage and works e.g. Austroads, RTA guidelines
- Council codes and design standards.

5.4.3 Summary of projected renewal expenditure

Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs are summarised in Figure 5. Note that all costs are shown in 2012 dollar values.

The projected capital renewal program is shown in Appendix B.

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



The renewal projection (forecast) in Scenario 1 (Using the asset/valuation register) generates a low confidence renewal profile. Whilst the long term averages and total values from this register may be sound, the shorter term renewal forecast are not, and are inconsistent with the known capital renewal plans. This indicates that further refinement of the asset register is required before it is valuable as a capital renewal planning tool. This should be given a high priority in the asset management improvement plan.

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

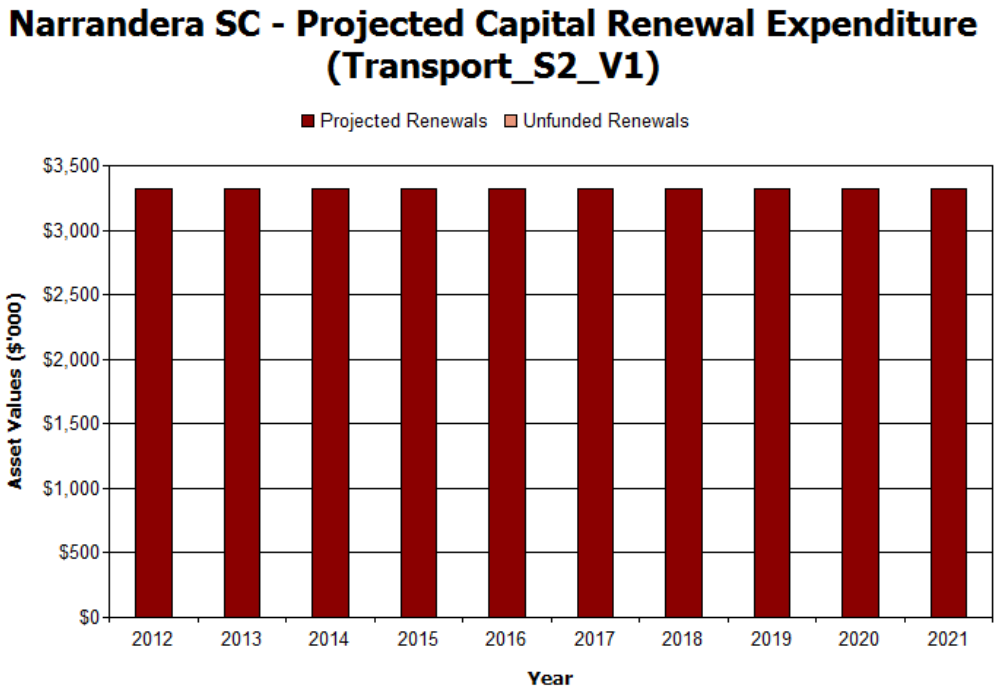
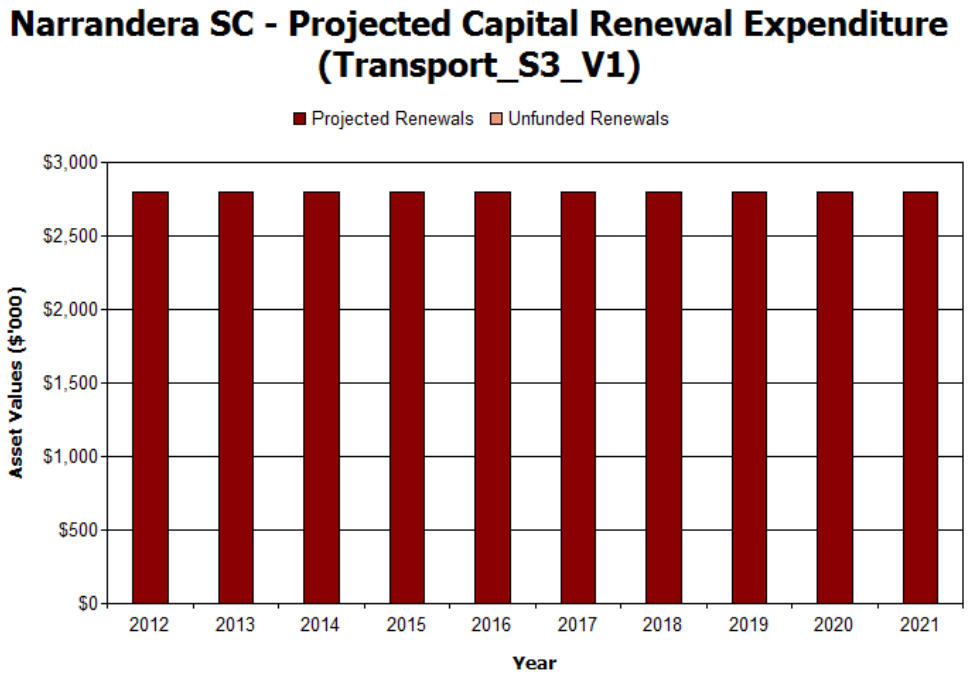


Figure 5.3: Projected Capital Renewal Expenditure (Scenario 3 – Prioritised Network Renewal Program, Balanced with Long Term Financial Plan)



The renewal programs developed for Scenario 2 and 3 differ due to an imbalance between projected network renewals and the budget level for the planning period. Further review will be required to ensure that the planned network renewals shown in scenario 2 balance with the long term financial plan budget figures. This will involve some prioritisation of sealed and unsealed road renewal over the course of the planning period. At this stage under scenario 2 current service levels cannot be maintained.

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

Renewals are to be funded from capital works programs and grants where available. 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 Council 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 estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed in Table 5.5.1.

Table 5.5.1: Upgrade/New Assets Priority Ranking Criteria

Criteria	Weighting
Safety	35%
Community Expectation	15%
Lifecycle Costs	25%
Community Benefits (Usage, Population, Bus Routes, Future Development)	25%
Total	100%

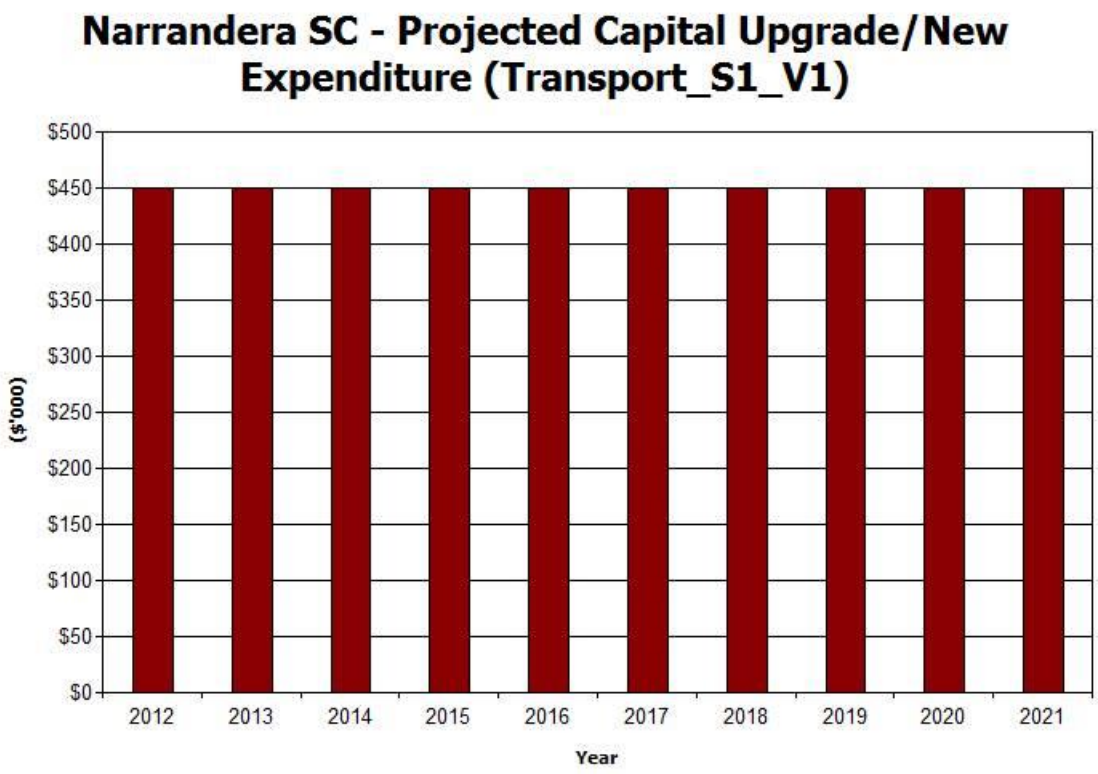
5.5.2 Standards and specifications

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 projected upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Figure 6. The projected upgrade/new capital works program is shown in Appendix C. All costs are shown in current 2012 dollar values.

Figure 6: Projected Capital Upgrade/New Asset Expenditure



New assets and services are to be funded from capital works program and grants where available. 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.

Where cashflow 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	Net Disposal Expenditure (Expend +ve, Revenue –ve)	Operations & Maintenance Annual Savings
No assets identified for disposal in this asset management plan				

6. FINANCIAL SUMMARY

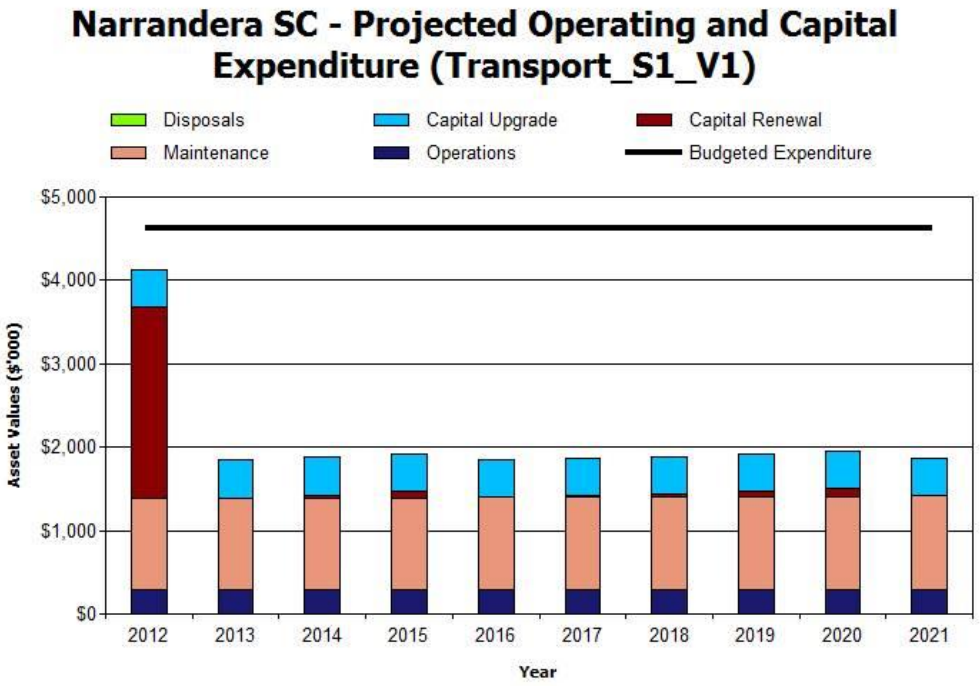
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

6.1 Financial Statements and Projections

The financial projections are shown in Figure 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets), net disposal expenditure and estimated budget funding.

Note that all costs are shown in 2012 dollar values.

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



As discussed in Section 5.3 the expenditure projection (forecast) in Scenario 1 (Using the asset/valuation register) is not consistent with the required works program or the long term financial plan, and is indicative of the continuing work required to improve the asset register.

Figure 7.2: Projected Operating and Capital Expenditure and Budget (Scenario 2 – Average Network Renewal Program)

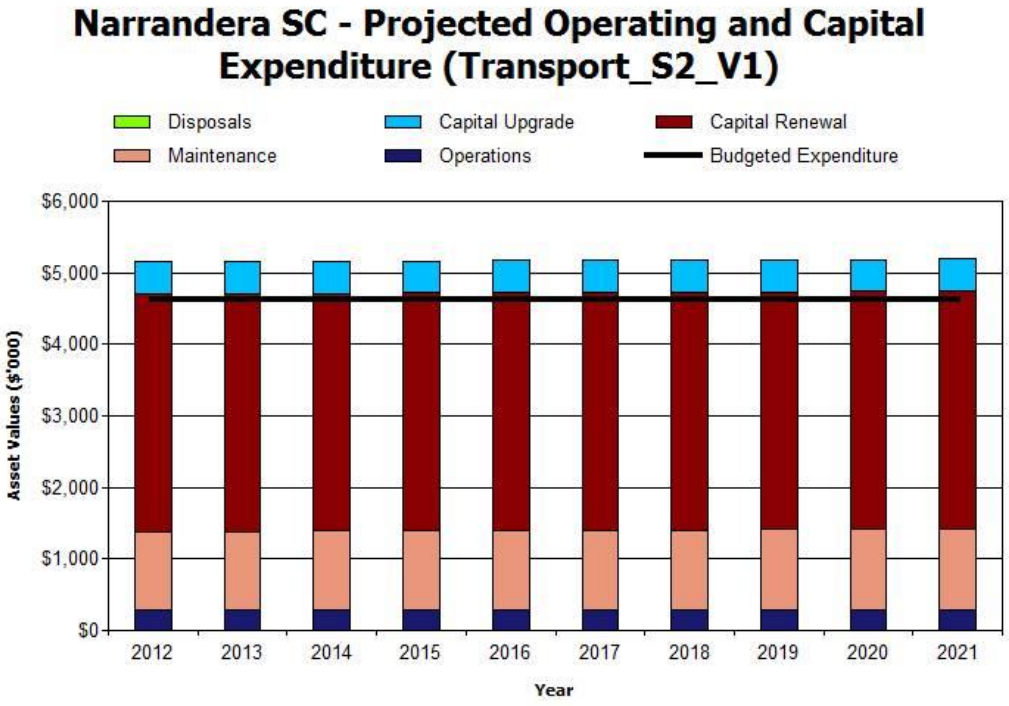
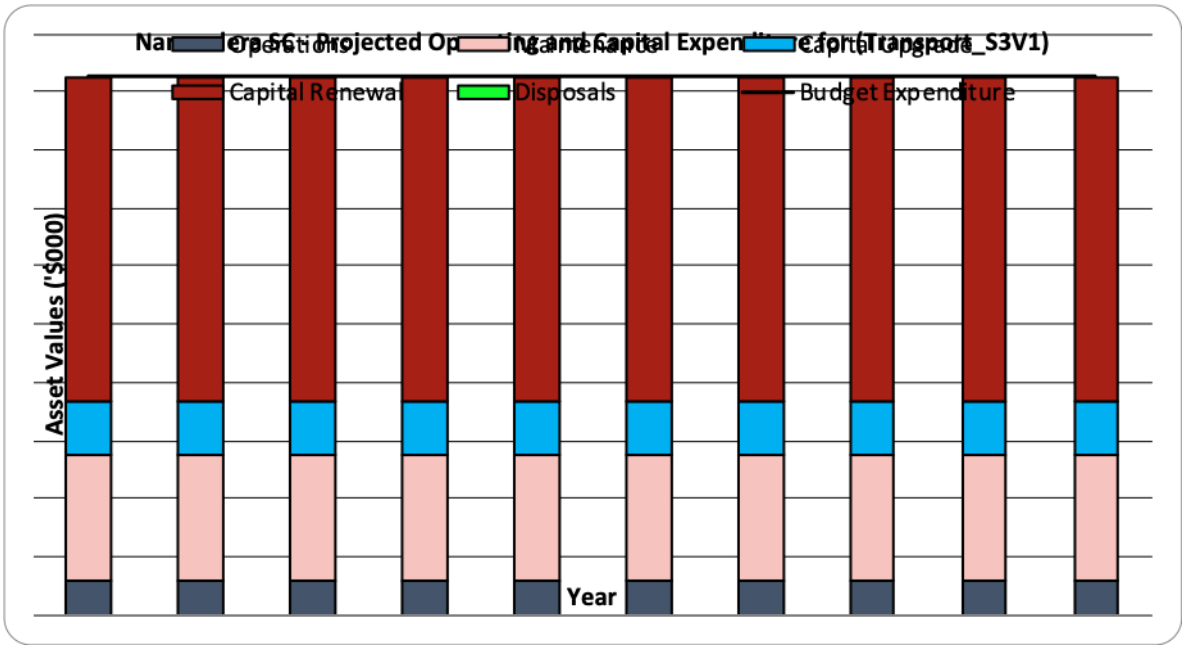


Figure 7.3: Projected Operating and Capital Expenditure and Budget (Scenario 3 – Prioritised Network Renewal Program, Balanced with Long Term Financial Plan)



6.1.1 Financial sustainability in service delivery

There are three key indicators for financial sustainability that have been considered in the analysis of the services provided by this asset category, these being long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period.

Table 6.0: Sustainability Indicators Summary

Narrandera SC >> Table 6.1 Sustainability of Service Delivery for (Transport_AM4SRRC)	Transport S1V1 Asset Register	Transport S2V1 Optimal Renewal - Based on average network renewal programme	Transport S3V1 Balanced with LTFP - Individual prioritised renewal items not identified
Summary - What does it cost?			
Cost over 10 years	$16,610	$47,229	$41,929
Cost per year	$1,661	$4,723	$4,193
Available funding over 10 years	$41,750	$41,750	$41,750
Funding per year	$4,175	$4,175	$4,175
Funding shortfall	$2,514	-$548	-$18
Percentage of cost	251%	88%	100%
Life Cycle Cost (long term)'($000)			
Life Cycle Cost [depreciation + ops. and maint. exp year 1]	$2,774	$2,774	$2,774

Narrandera SC >> Table 6.1 Sustainability of Service Delivery for (Transport_AM4SRRC)	Transport S1V1 Asset Register	Transport S2V1 Optimal Renewal - Based on average network renewal programme	Transport S3V1 Balanced with LTFP - Individual prioritised renewal items not identified
Life Cycle Exp. [capital renewal exp. + ops + mtce exp. yr 1]	$4,175	$4,175	$4,175
Life Cycle Gap [life cycle expenditure - life cycle cost [-ve = gap]	$1,401	$1,401	$1,401
Life Cycle Sustainability Indicator [life cycle expenditure / LCC]	150.50%	150.50%	150.50%
Medium Term (10 yrs) Sustainability			
10 yr Ops, Maint & Renewal Projected Expenditure	$1,661	$4,723	$4,193
10 yr Ops, Maint & Renewal Planned (Budget) Exp	$4,175	$4,175	$4,175
10 yr Funding Shortfall [10 yr proj. exp. - planned (Budget) exp.]	$2,514	-$548	-$18
10 yr Sustainability Indicator [10 yr planned exp. / proj. exp.]	251%	88%	100%
Short Term (5 yrs) Sustainability			
5 yr Ops, Maint & Renewal Projected Expenditure	$1,872	$4,713	$4,183
5 yr Ops, Maint & Renewal Planned (Budget) Exp	$4,175	$4,175	$4,175
5 yr Funding Shortfall [5 yr proj. exp. - planned (budget) exp.]	$2,303	-$538	-$8
5 yr Sustainability Indicator [5 yr planned exp. / proj. exp.]	223%	89%	100%
AIFMG Financial Sustainability Indicator 8.			
NPV Budget Expenditure / NPV Projected Expenditure	921%	84%	100%

Summary of Table 6.0

Scenario	Long Term	Medium Term	
	Lifecycle	5 Year	10 Year
Scenario 1 Transport S1V1 Asset Register	150.50% Sustainability Ratio (Target is 100%)	223% Sustainability Ratio (Target is 100%)	251% Sustainability Ratio (Target is 100%)
	Based on the comparison of current expenditures (Year 1) to the Projected (Forecast Expenditures) using depreciation as the long term renewal requirement. *A second calculation using the current expenditures based on the 10 year planned (forecast) expenditures resulted in a ratio of 142.67%. This allowed for the variability between year 1 expenditures and the 10 year totals. This indicates a variation in expenditures due to the projected required increase in operations	Based on the comparison of current expenditures (5 years) to the Projected (Forecast Expenditures) using the renewals due from the asset register. In isolation this ratio of >100% would indicate that renewals are being over funded. Scenarios 2 & 3 have been undertaken to validate the real position. The apparent surplus reflects that the asset register requires further development to reliably	Based on the comparison of current expenditures (10 years) to the Projected (Forecast Expenditures) using the renewals due from the asset register. In isolation this ratio of <100% would indicate that renewals are being under funded. Scenarios 2 & 3 have been undertaken to validate the real position. The apparent surplus reflects that the asset register requires further development to reliably

Scenario	Long Term	Medium Term	
	Lifecycle	5 Year	10 Year
	and maintenance costs for upgrade/new assets created over the 10 year period. Full alternate ratio calculations are shown in appendix D.	reflect the medium term position. (*Second calculation 199%)	reflect the medium term position. (*Second calculation 219%)
Scenario 2 Transport S2V1 Optimal Renewal - Based on average network renewal programme	150.50% Sustainability Ratio (Target is 100%) Same calculation for Scenario 1, 2 & 3	89% Sustainability Ratio (Target is 100%) Based on the comparison of current expenditures to the Projected (Forecast Expenditures) using the works program to assess the renewal requirements. Further prioritisation of this renewal program is required to bring the works program into line with the LTFP budget figures (*Second calculation 90%)	88% Sustainability Ratio (Target is 100%) Based on the comparison of current expenditures to the Projected (Forecast Expenditures) using the works program to assess the renewal requirements. Further prioritisation of this renewal program is required to bring the works program into line with the LTFP budget figures (*Second calculation 89%)
Scenario 3 Transport S3V1 Balanced with LTFP - Individual prioritised renewal items not identified	150.50% Sustainability Ratio (Target is 100%) Same calculation for Scenario 1, 2 & 3	100% Sustainability Ratio (Target is 100%) Based on the current expenditures balanced to the Projected (Forecast Expenditures) renewal requirements. (*Second calculation 100%)	100% Sustainability Ratio (Target is 100%) Based on the current expenditures balanced to the Projected (Forecast Expenditures) renewal requirements. (*Second calculation 100%)

For the overall assessments used in this asset management plan (including the Executive Summary) the assessment made under Scenario 2 are used.

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 longest asset life. 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 $2,774,000 per year (operations and maintenance expenditure plus depreciation expense in year 1).

Life cycle costs can be compared to life cycle expenditure to give an indicator of sustainability in service provision. Life cycle expenditure includes operations, maintenance and capital renewal expenditure in year 1. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure at the start of the plan is $4,175,000 (operations and maintenance expenditure plus budgeted capital renewal expenditure in year 1).

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 $1,401,000 per year (-ve = gap, +ve = surplus).

Life cycle expenditure is 150.50% of life cycle costs giving a life cycle sustainability index of 1.51. **This indicates that either asset are being overfunded or depreciation is materially understated.**

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 $4,723,000 per year for scenario 2.

Estimated (budget) operations, maintenance and capital renewal funding is $4,175,000 per year giving a 10 year funding shortfall of $548,000 per year and a 10 year sustainability indicator of 0.88. This indicates that Council has 88%of the projected expenditures needed to provide the services documented in the asset management plan.

Short Term – 5 year financial planning period

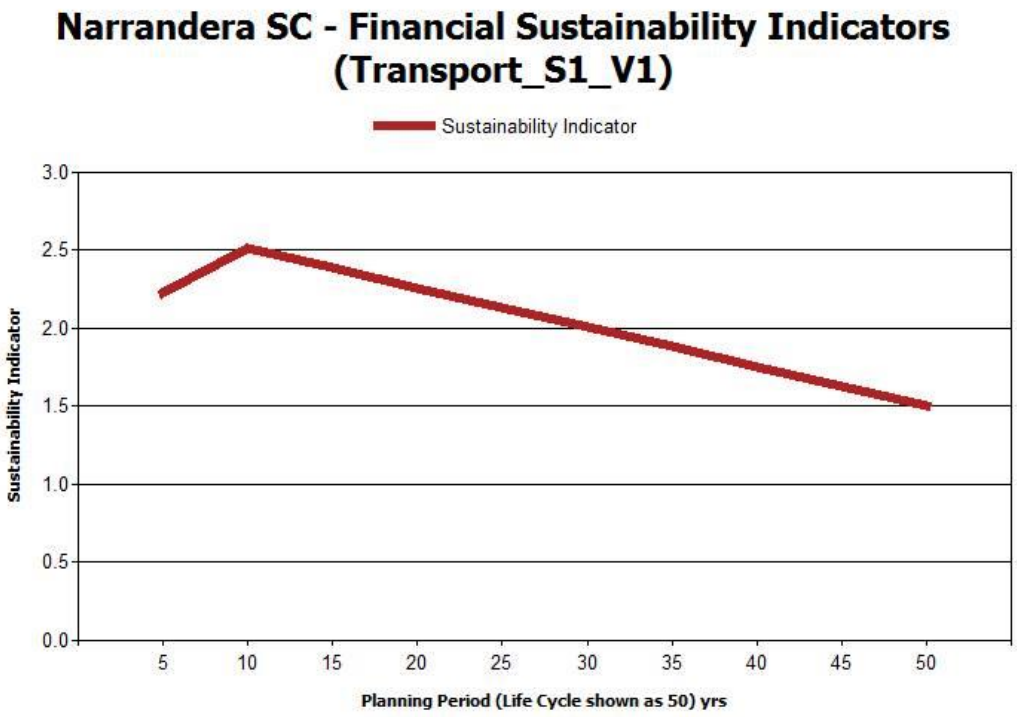
The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is $4,713,000 per year (scenario 2).

Estimated (budget) operations, maintenance and capital renewal funding is $4,175,000 per year giving a 5 year funding shortfall of $538,000. This is 89% of projected expenditures giving a 5 year sustainability indicator of 0.89.

Financial Sustainability Indicators

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

Figure 7A: Financial Sustainability Indicators (Scenario 2 – Average Network Renewal Program)



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

Figure 8 shows the projected asset renewals in the 10 year planning period from Appendix B. The projected asset renewals are compared to budgeted renewal expenditure in the capital works program and capital renewal expenditure in year 1 of the planning period in Figure 8.

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

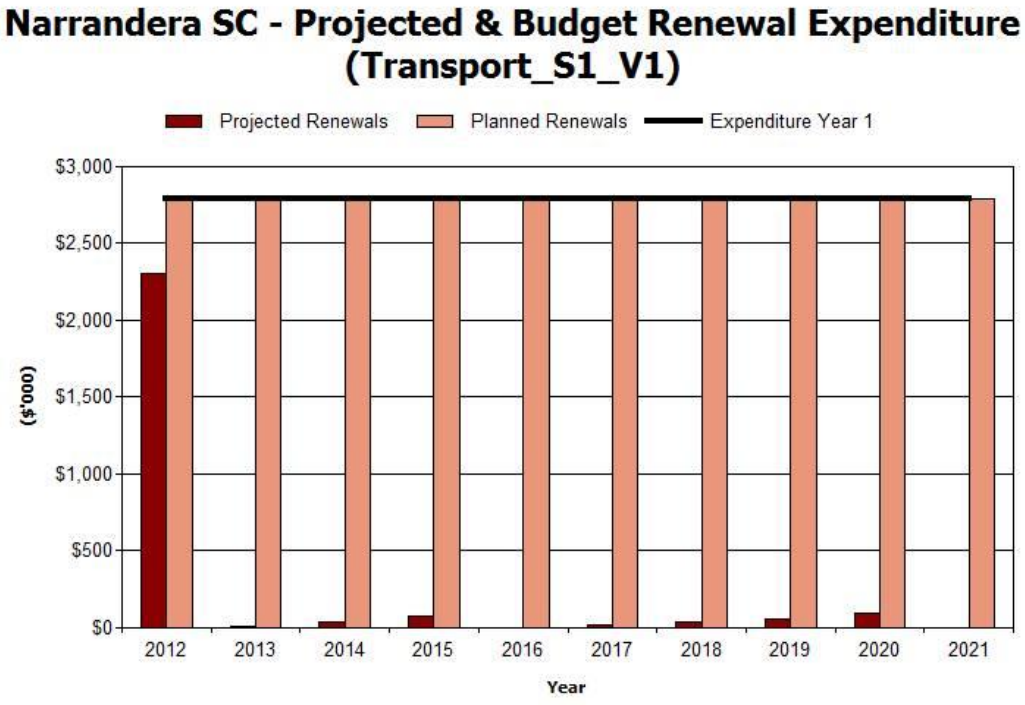


Table 6.1.1.S1 shows the shortfall between projected and budgeted renewals for Scenario 1

Narrandera SC >> Asset Management Plan Table 6.1.1 (Transport_S1_V1)

Year End Jun-30	Projected Renewal ($'000)	Planned Renewal Budget ($'000)	Renewal Funding Difference (- ve = Gap) ($'000)	Cumulative Difference Difference (- ve = Gap ($'000)
2012	$2,301.88	$2,795.00	$493.12	$493.12
2013	$6.84	$2,795.00	$2,788.16	$3,281.28
2014	$37.42	$2,795.00	$2,757.58	$6,038.87
2015	$72.82	$2,795.00	$2,722.19	$8,761.05
2016	$0.00	$2,795.00	$2,795.00	$11,556.05
2017	$21.36	$2,795.00	$2,773.64	$14,329.69
2018	$36.52	$2,795.00	$2,758.48	$17,088.17
2019	$59.85	$2,795.00	$2,735.15	$19,823.32
2020	$94.67	$2,795.00	$2,700.33	$22,523.65
2021	$0.00	$2,795.00	$2,795.00	$25,318.65

Note: An negative shortfall indicates a funding gap, a positive shortfall indicates a surplus for that year.

Figure 8.2: Projected and Budgeted Renewal Expenditure (Scenario 2 – Average Network Renewal Program)

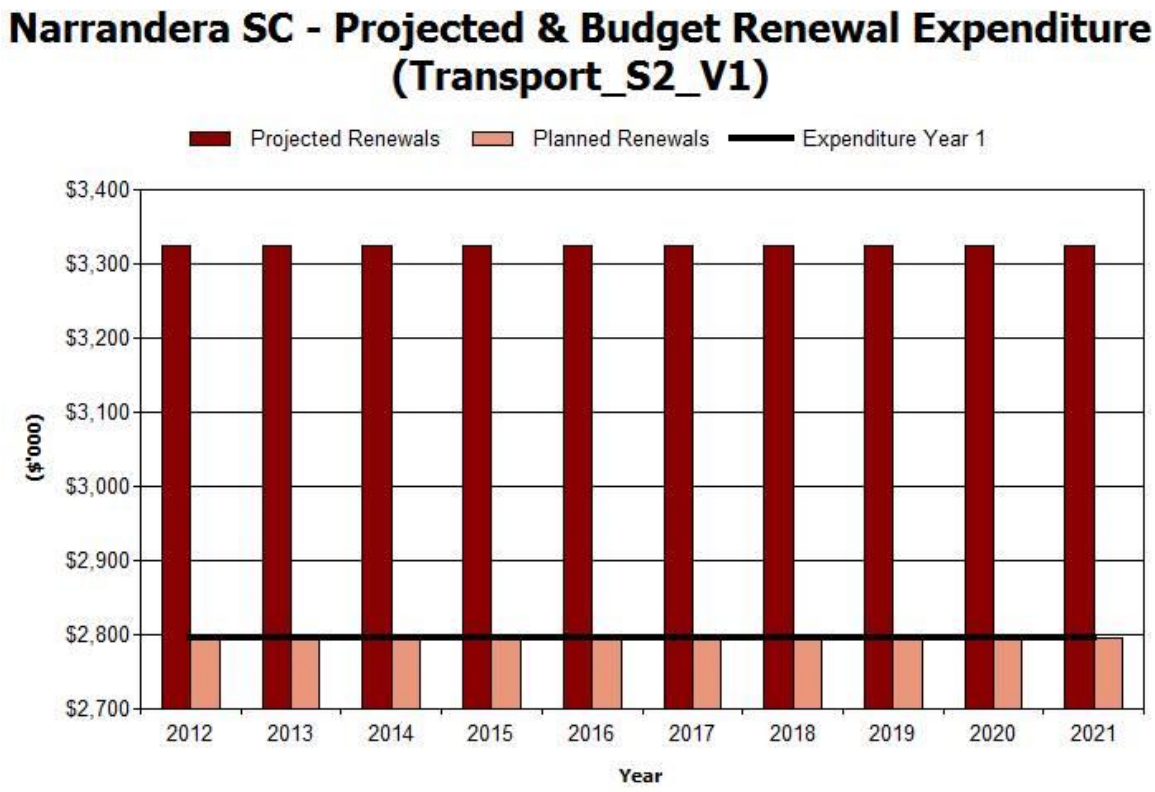


Table 6.1.1.S2 shows the shortfall between projected and budgeted renewals for Scenario 2.

Table 6.1.1.S2: Projected and Budgeted Renewals and Expenditure Shortfall (Scenario 2 - Average Network Renewal Program)

Narrandera SC >> Asset Management Plan Table 6.1.1 (Transport_S2_V1)

Year End Jun-30	Projected Renewal ($'000)	Planned Renewal Budget ($'000)	Renewal Funding Difference (- ve = Gap) ($'000)	Cumulative Difference Difference (- ve = Gap ($'000)
2012	$3,325.00	$2,795.00	-$530.00	-$530.00
2013	$3,325.00	$2,795.00	-$530.00	-$1,060.00
2014	$3,325.00	$2,795.00	-$530.00	-$1,590.00
2015	$3,325.00	$2,795.00	-$530.00	-$2,120.00
2016	$3,325.00	$2,795.00	-$530.00	-$2,650.00
2017	$3,325.00	$2,795.00	-$530.00	-$3,180.00
2018	$3,325.00	$2,795.00	-$530.00	-$3,710.00
2019	$3,325.00	$2,795.00	-$530.00	-$4,240.00
2020	$3,325.00	$2,795.00	-$530.00	-$4,770.00
2021	$3,325.00	$2,795.00	-$530.00	-$5,300.00

Note: An negative shortfall indicates a funding gap, a positive shortfall indicates a surplus for that year.

Figure 8.3: Projected and Budgeted Renewal Expenditure (Scenario 3 – Prioritised Network Renewal Program, Balanced with Long Term Financial Plan)

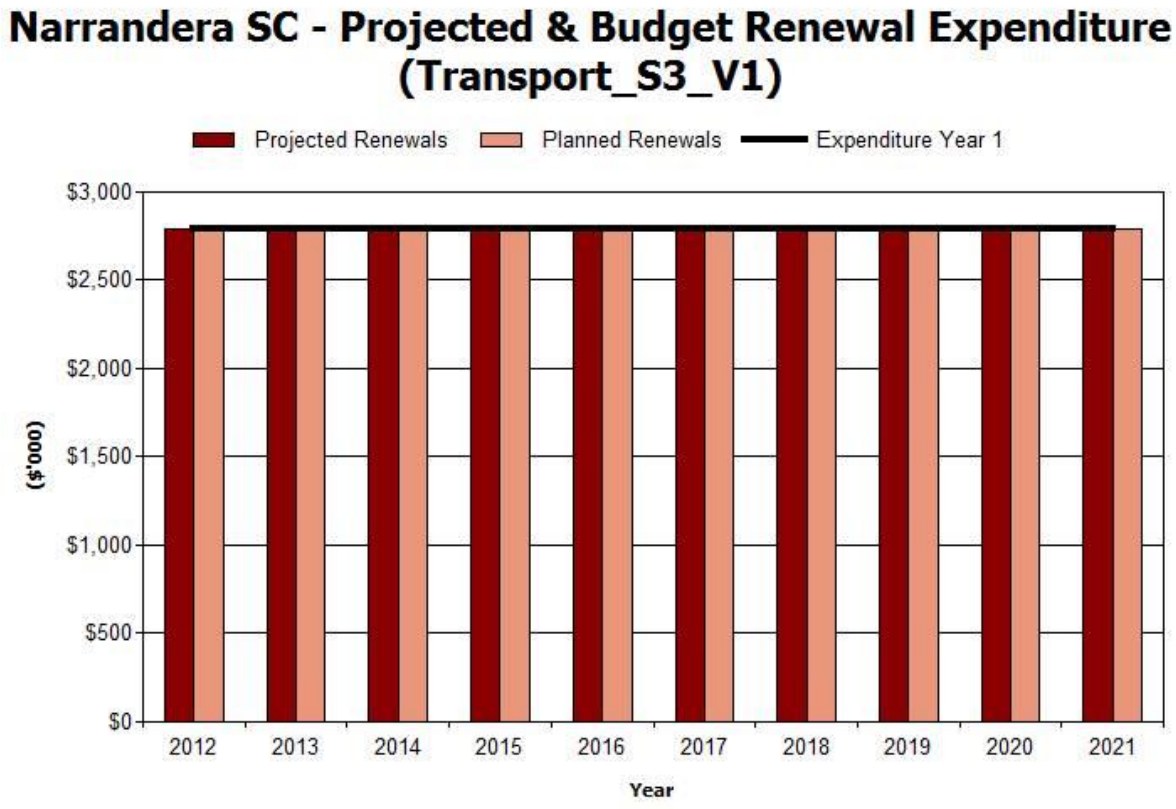


Table 6.1.1.S3 shows the shortfall between projected and budgeted renewals for Scenario 3.

Table 6.1.1.S3: Projected and Budgeted Renewals and Expenditure Shortfall (Scenario 3 – Prioritised Network Renewal Program, Balanced with Long Term Financial Plan)

Narrandera SC >> Asset Management Plan Table 6.1.1 (Transport_S3_V1)

Year End Jun-30	Projected Renewal ($'000)	Planned Renewal Budget ($'000)	Renewal Funding Difference (- ve = Gap) ($'000)	Cumulative Difference Difference (- ve = Gap ($'000)
2012	$2,795.00	$2,795.00	$0.00	$0.00
2013	$2,795.00	$2,795.00	$0.00	$0.00
2014	$2,795.00	$2,795.00	$0.00	$0.00
2015	$2,795.00	$2,795.00	$0.00	$0.00
2016	$2,795.00	$2,795.00	$0.00	$0.00
2017	$2,795.00	$2,795.00	$0.00	$0.00
2018	$2,795.00	$2,795.00	$0.00	$0.00
2019	$2,795.00	$2,795.00	$0.00	$0.00
2020	$2,795.00	$2,795.00	$0.00	$0.00
2021	$2,795.00	$2,795.00	$0.00	$0.00

Note: An negative shortfall indicates a funding gap, a positive shortfall indicates a surplus for that year.

Providing services in a sustainable manner will require matching of projected asset renewals to meet agreed service levels with planned capital works programs and available revenue.

A gap between projected asset renewals, planned asset renewals and funding indicates that further work is required 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 Expenditure projections for long term financial plan

Table 6.1.2 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in current (non-inflated) values. Disposals are shown as net expenditures (revenues are negative).

Table 6.1.2: Expenditure Projections for Long Term Financial Plan ($000) (Scenario 2 - Average Network Renewal Program)

Narrandera SC >> Planned Expenditures for Long Term Financial Plan (Transport_S3_V1)

Year End Jun-30	Total Operations Expenditure ($'000)	Total Maintenance ($'000)	Projected Capital Renewal ($'000)	Planned Capital Upgrade/New ($'000)	Net Disposals ($'000)
2012	$285.00	$1,095.00	$2,795.00	$450.00	$0.00
2013	$285.82	$1,098.15	$2,795.00	$450.00	$0.00
2014	$286.64	$1,101.30	$2,795.00	$450.00	$0.00
2015	$287.46	$1,104.45	$2,795.00	$450.00	$0.00
2016	$288.28	$1,107.59	$2,795.00	$450.00	$0.00
2017	$289.10	$1,110.74	$2,795.00	$450.00	$0.00
2018	$289.92	$1,113.89	$2,795.00	$450.00	$0.00
2019	$290.74	$1,117.04	$2,795.00	$450.00	$0.00
2020	$291.56	$1,120.19	$2,795.00	$450.00	$0.00
2021	$292.38	$1,123.34	$2,795.00	$450.00	$0.00

Note: All projected expenditures are in 2012 values

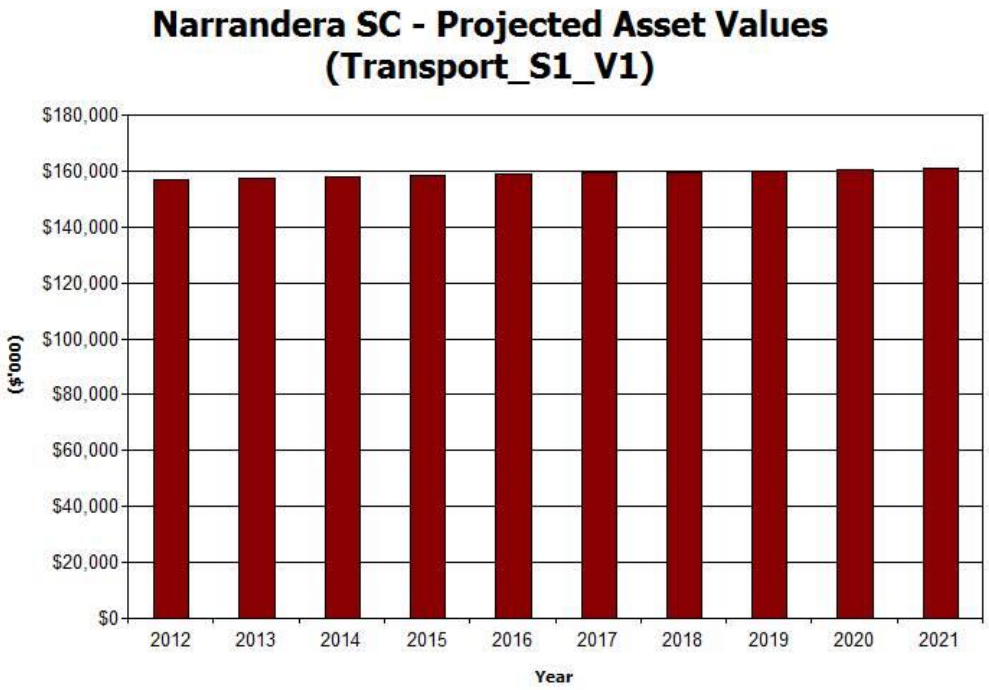
6.2 Funding Strategy

Projected expenditure identified in Section 6.1 is to be funded from future operating and capital budgets. The funding strategy is detailed in the organisation's 10 year long term financial plan.

6.3 Valuation Forecasts

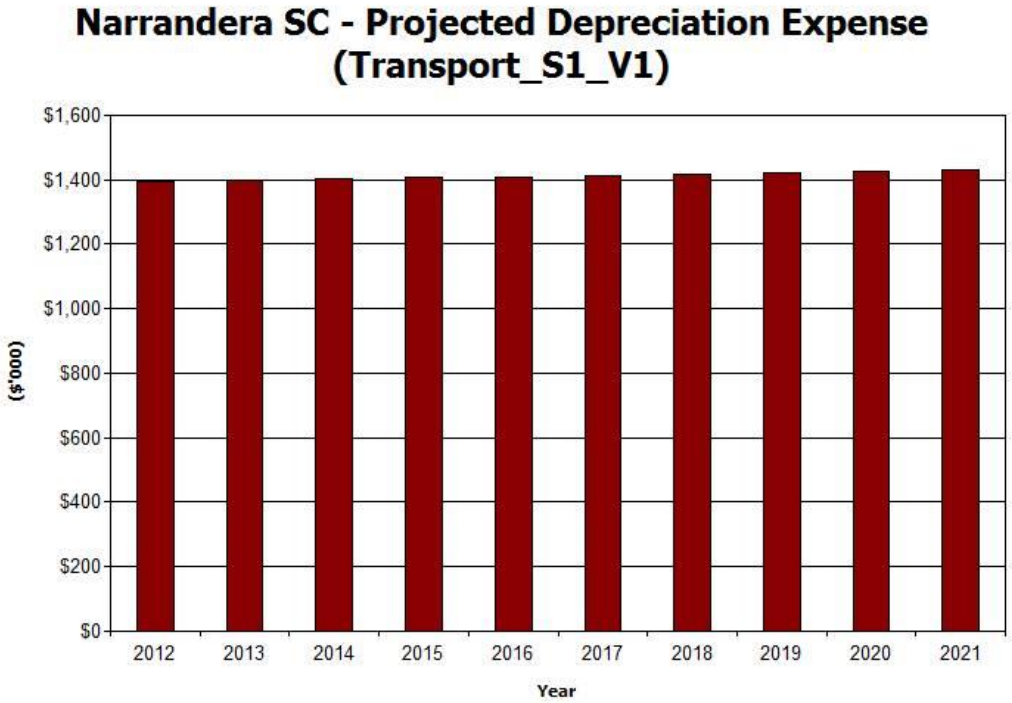
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 9 shows the projected replacement cost asset values over the planning period in 2012 dollar values.

Figure 9: Projected Asset Values



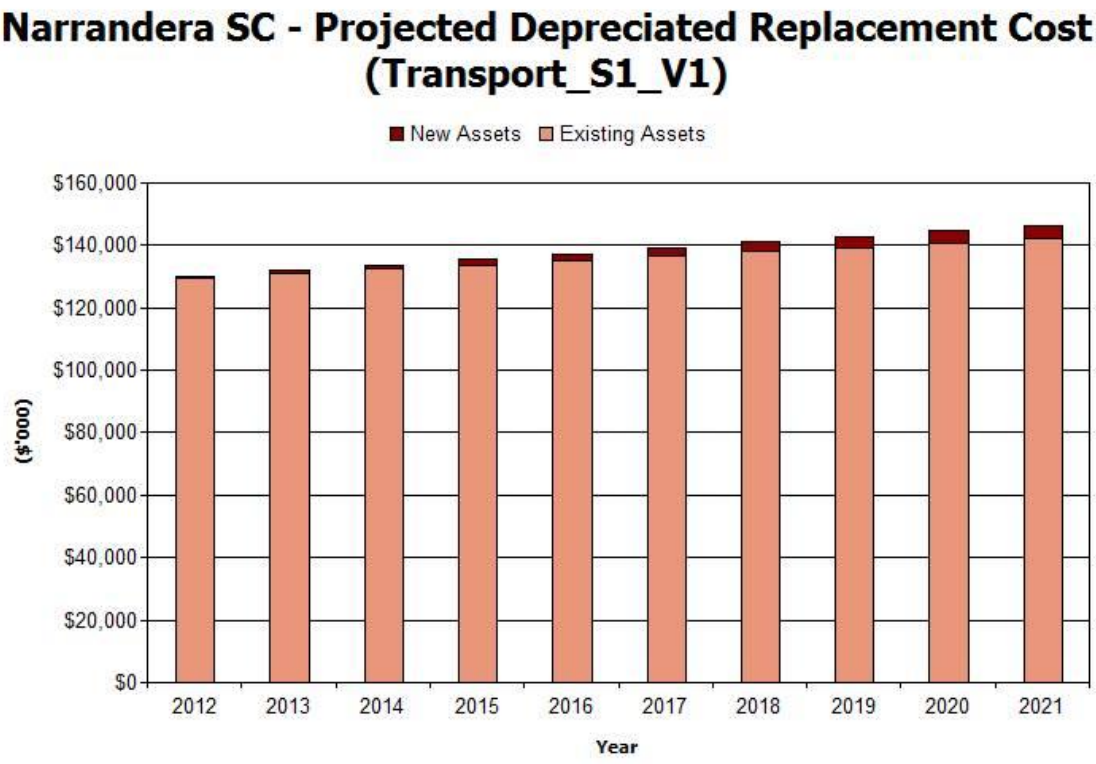
Depreciation expense values are forecast in line with asset values as shown in Figure 10.

Figure 10: Projected Depreciation Expense



The depreciated replacement cost (current replacement cost less accumulated depreciation) 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 effect of contributed and new assets on the depreciated replacement cost is shown in the darker colour.

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 are:

- That road and transport assets will remain in Council's ownership throughout the planning period and that levels of service remain unchanged.
- Required maintenance is assumed to take place in accordance with relevant guidelines/standards
- Natural disasters, accidents and other unplanned events are not considered in the asset lifecycles
- That assets will actually be replaced at the end of their respective useful lives
- Assets are assumed to have reached their allocated useful lives even though actual condition will vary depending on actual usage and prevailing conditions
- Operations and maintenance expenditures have been escalated over the 10 year period in line with LTFP budget output figures

- Maintenance expenditure is based on historical expenditure and assumes there will no significant change.
- Maintenance and operations allocations are based on maintaining current service levels and utilisation.
- It is assumed that regulations/standards relating to roads and transport will remain the same over the planning period (i.e. the 10 years until June 2021)

Accuracy of future financial forecasts may be improved in future revisions of this asset management plan by the following actions.

- Full Implementation of a single Asset Register
- Maintaining the Asset Register
- Reviewing useful lives for assets in conjunction with developing suitable hierarchies within the asset categories.

7. ASSET MANAGEMENT PRACTICES

7.1 Accounting/Financial Systems

7.1.1 Accounting and financial systems

Civica Accounting System

7.1.2 Accountabilities for financial systems

Director Corporate Services

7.1.3 Accounting standards and regulations

AASB116

Local Government Act as Amended for IPR.

7.1.4 Capital/maintenance threshold

See asset accounting policy

7.1.5 Required changes to accounting financial systems arising from this AM Plan

All asset registers currently in XL will be migrated to e-lifecycle

7.2 Asset Management Systems

7.2.1 Asset management system

e-lifecycle Asset Management System provides predictive and asset management modelling for the ongoing update of the asset management plans and strategy. Finmod provides the modelling for water and sewer debt and charges that are needed to ensure self funding water and sewer systems. The transition to new financial management systems and respective roles of GIS, Financial System, asset financial and component registers needs to be guided by a knowledge management strategy.

7.2.2 Asset registers

All asset registers currently in XL will be migrated to e-lifecycle

7.2.3 Linkage from asset management to financial system

Quarterly update of capital transactions from asset management to financial system to keep e-lifecycle asset register up to date for: condition, remaining life, useful life, values. Synchronisation of financial system and e-lifecycle asset register when a revaluation occurs. Annual balancing of end of year note 9a reporting.

7.2.4 Accountabilities for asset management system and data

Design and Asset Manager

7.2.5 Required changes to asset management system arising from this AM Plan

Implementation of e-lifecycle and update of asset register as per table 8.2.

7.3 Information Flow Requirements and Processes

The key information flows *into* this asset management plan are:

- Council strategic and operational plans,
- Service requests from the community,
- Network assets information,
- The unit rates for categories of work/materials,
- Current levels of service, expenditures, service deficiencies and service risks,
- Projections of various factors affecting future demand for services and new assets acquired by Council,
- Future capital works programs,
- Financial asset values.

The key information flows *from* this asset management plan are:

- The projected Works Program and trends,
- The resulting budget and long term financial plan expenditure projections,
- Financial sustainability indicators.

These will impact the Long Term Financial Plan, Strategic Longer-Term Plan, annual budget and departmental business plans and budgets.

7.4 Standards and Guidelines

Standards, guidelines and policy documents referenced in this asset management plan are:

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

8. PLAN IMPROVEMENT AND MONITORING

8.1 Performance Measures

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

- The degree to which the required cashflows identified in this asset management plan are incorporated into the organisation's long term financial plan and Community/Strategic Planning processes and documents,
- 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;

8.2 Improvement Plan

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

Table 8.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Record and report on expenditures, with separate costs for operations, maintenance and capture capital expenditures as renewal or upgrade/new	Corporate (Technical & Financial)	Staff Time	December 2012
2	Continue the development of the corporate asset register, in which financial calculations including calculation of annual depreciation are undertaken by council.	Corporate (Technical & Financial)	Staff Time	December 2012
3	Linking of the customer service system to the corporate asset register to link requests to asset records	Corporate	Staff Time	June 2013
4	Continue to Improve project cost accounting to record costs against the asset component and develop valuation unit rates	Corporate (Technical & Financial)	Staff Time	December 2012
5	Review the accuracy and currency of asset data, especially unit rates and useful life using the format in appendix H.	Technical	Staff Time	December 2012
6	Review methodology for determining remaining life, with detail assessment for assets requiring renewal in the medium term (next 10-20 years) An outcome should be that the remaining lives from the asset register will generate a renewal scenario aligning with the Works Program and Long Term Financial Plan. (Scenario 1 described in this asset management plan will match Scenario 3)	Corporate (Technical & Financial)	Staff Time	June 2013
8	Continue to review the procedures for maintaining the Asset and Financial Registers	Corporate (Technical & Financial)	Staff Time	Ongoing

Task No	Task	Responsibility	Resources Required	Timeline
9	Carry out an asset management maturity audit to ensure compliance with the national asset management framework and IPR guidelines.	Corporate (Technical & Financial)	$3,200	Annual
10	Council must implement a documented maintenance strategy for all service level gravel roads including: • Culvert and drainage maintenance • Documented inspection programme • Prioritised renewal programme linked to road hierarchy.	Corporate (Technical & Financial)	Staff Time	Ongoing

8.3 Monitoring and Review Procedures

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

The Plan has a life of 4 years and is due for revision and updating within 12 months of each Council election.

REFERENCES

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IPWEA, 2011, *Asset Management for Small, Rural or Remote Communities* Practice Note, Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AM4SRRC.

Narrandera Shire Council Annual Report 2010/11

Narrandera Shire Council Adopted Management Plan 2011/16

APPENDICES

Appendix A Planned Expenditures (From Long Term Financial Plan)

IPWEA Asset Management for Small, Rural or Remote Communities

Narrandera SC

Transport_S1_V1 Asset Management Plan **Planned Expenditures**

First year of expenditure projections **2012** (yr ending 30 June)

Asset values as at 30 June 2011			Form 2 CRC values	
Current replacement cost	$156,505	(000)	$112,639	(000)
Depreciable amount	$156,505	(000)	as check for you	
Depreciated replacement cost	$128,121	(000)	82%	of CRC
Annual depreciation expense	$1,394	(000)	1%	of D Amt

DRC value is outside expected range 40%-80%, Check.

Operations and Maintenance Costs from New Assets	% of asset value	Existing %ages calculated from data in worksheet	
Additional operations costs	0.18%	0.18%	of CRC
Additional maintenance	0.70%	0.70%	of CRC
Additional depreciation	0.89%	0.89%	of D Amt
Planned renewals (information only)		1.79%	of CRC

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

Projected Expenditures

10 Year Expenditure Projections Note: Enter all values in current **2012** values

Year ending June	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000
Operations (Budget or LTFP)										
Operations	$285	$285	$285	$285	$285	$285	$285	$285	$285	$285
Management		$0	$0	$0	$0	$0	$0	$0	$0	$0
AM systems		$0	$0	$0	$0	$0	$0	$0	$0	$0
Total operations	$285	$285	$285	$285	$285	$285	$285	$285	$285	$285
Maintenance (Budget or LTFP)										
Reactive maintenance	$1,095	$1,095	$1,095	$1,095	$1,095	$1,095	$1,095	$1,095	$1,095	$1,095
Planned maintenance		$0	$0	$0	$0	$0	$0	$0	$0	$0
Specific maintenance items		$0	$0	$0	$0	$0	$0	$0	$0	$0
Total maintenance	$1,095	$1,095	$1,095	$1,095	$1,095	$1,095	$1,095	$1,095	$1,095	$1,095
Capital										
Planned renewal budget	$2,795	$2,795	$2,795	$2,795	$2,795	$2,795	$2,795	$2,795	$2,795	$2,795
Planned upgrade/new (from Form 2C)	$450	$450	$450	$450	$450	$450	$450	$450	$450	$450
Non-growth contributed asset value	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net Disposal Expenditure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Appendix B Projected 10 year Capital Renewal Works Program (Scenario 2)

Narrandera SC

Projected Capital Renewal Works Program - Transport_S2_V1

($000)

Year	Item	Description	Estimate
2012		Network Renewals	
	1	Bitumen Seals (12 year cycle)	$675
	2	Gravel Resheets (12 year Cycle)	$2,590
	3	Pavement Repairs associated with bitumen reseals (3% of sealed area)	$20
	4	Bridges (Allowance based on the average depreciation)	$40
	5		
2012		Defect Repairs	
	1		
	10		
2012		Total	$3,325

2013		Network Renewals	
	1	Bitumen Seals (12 year cycle)	$675
	2	Gravel Resheets (12 year Cycle)	$2,590
	3	Pavement Repairs associated with bitumen reseals (3% of sealed area)	$20
	4	Bridges (Allowance based on the average depreciation)	$40
	10		
2013		Defect Repairs	
	1		
2013		Total	$3,325

($000)

Year	Item	Description	Estimate
2014		Network Renewals	
	1	Bitumen Seals (12 year cycle)	$675
	2	Gravel Resheets (12 year Cycle)	$2,590
	3	Pavement Repairs associated with bitumen reseals (3% of sealed area)	$20
	4	Bridges (Allowance based on the average depreciation)	$40
	5		
2014		Defect Repairs	
	1		
	10		
2014		Total	$3,325

2015		Network Renewals	Estimate
	1	Bitumen Seals (12 year cycle)	$675
	2	Gravel Resheets (12 year Cycle)	$2,590
	3	Pavement Repairs associated with bitumen reseals (3% of sealed area)	$20
	4	Bridges (Allowance based on the average depreciation)	$40

Narrandera SC

Projected Capital Renewal Works Program - Transport_S2_V1

($000)

Year	Item	Description	Estimate
2015		Defect Repairs	
	10		
2015		Total	$3,325

($000)

Year	Item	Description	Estimate
2016		Network Renewals	
	1	Bitumen Seals (12 year cycle)	$675
	2	Gravel Resheets (12 year Cycle)	$2,590
	3	Pavement Repairs associated with bitumen reseals (3% of sealed area)	$20
	4	Bridges (Allowance based on the average depreciation)	$40
	5		
2016		Defect Repairs	
	1		
2016		Total	$3,325

2017		Network Renewals	
	1	Bitumen Seals (12 year cycle)	$675
	2	Gravel Resheets (12 year Cycle)	$2,590
	3	Pavement Repairs associated with bitumen reseals (3% of sealed area)	$20
	4	Bridges (Allowance based on the average depreciation)	$40
	5		
2017		Defect Repairs	
	1		
2017		Total	$3,325

($000)

Year	Item	Description	Estimate
2018		Network Renewals	
	1	Bitumen Seals (12 year cycle)	$675
	2	Gravel Resheets (12 year Cycle)	$2,590
	3	Pavement Repairs associated with bitumen reseals (3% of sealed area)	$20
	4	Bridges (Allowance based on the average depreciation)	$40
2018		Defect Repairs	
	1		
2018		Total	$3,325

2019		Network Renewals	
	1	Bitumen Seals (12 year cycle)	$675
	2	Gravel Resheets (12 year Cycle)	$2,590
	3	Pavement Repairs associated with bitumen reseals (3% of sealed area)	$20
	4	Bridges (Allowance based on the average depreciation)	$40

Narrandera SC

Projected Capital Renewal Works Program - Transport_S2_V1

($000)

Year	Item	Description	Estimate
2019		Defect Repairs	
	1		
2019		Total	$3,325

($000)

Year	Item	Description	Estimate
2020		Network Renewals	
	1	Bitumen Seals (12 year cycle)	$675
	2	Gravel Resheets (12 year Cycle)	$2,590
	3	Pavement Repairs associated with bitumen reseals (3% of sealed area)	$20
	4	Bridges (Allowance based on the average depreciation)	$40
	5		
2020		Defect Repairs	
	1		
2020		Total	$3,325

2021		Network Renewals	
	1	Bitumen Seals (12 year cycle)	$675
	2	Gravel Resheets (12 year Cycle)	$2,590
	3	Pavement Repairs associated with bitumen reseals (3% of sealed area)	$20
	4	Bridges (Allowance based on the average depreciation)	$40
	5		
2021		Defect Repairs	
	1		
2021		Total	$3,325

Appendix C Planned Upgrade/Exp/New 10 year Capital Works Program (Scenario 2)

Narrandera SC

Projected Capital Upgrade/New Works Program - Transport_S2_V1

($000)

Year	Item	Description	Estimate
2012	1	Typical Annual Budget for Upgrade/New based on current budget for Transport	$450
2012		Total	$450

($000)

Year	Item	Description	Estimate
2013	1	Typical Annual Budget for Upgrade/New based on current budget for Transport	$450
2013		Total	$450

($000)

Year	Item	Description	Estimate
2014	1	Typical Annual Budget for Upgrade/New based on current budget for Transport	$450
2014		Total	$450

($000)

Year	Item	Description	Estimate
2015	1	Typical Annual Budget for Upgrade/New based on current budget for Transport	$450
2015		Total	$450

($000)

Year	Item	Description	Estimate
2016	1	Typical Annual Budget for Upgrade/New based on current budget for Transport	$450
2016		Total	$450

($000)

Year	Item	Description	Estimate
2017	1	Typical Annual Budget for Upgrade/New based on current budget for Transport	$450
2017		Total	$450

($000)

Year	Item	Description	Estimate
2018	1	Typical Annual Budget for Upgrade/New based on current budget for Transport	$450
2018		Total	$450

($000)

Year	Item	Description	Estimate
2019	1	Typical Annual Budget for Upgrade/New based on current budget for Transport	$450
2019		Total	$450

Narrandera SC

Projected Capital Upgrade/New Works Program - Transport_S2_V1

($000)

Year	Item	Description	Estimate

($000)

Year	Item	Description	Estimate
2020	1	Typical Annual Budget for Upgrade/New based on current budget for Transport	$450
2020		Total	$450

($000)

Year	Item	Description	Estimate
2021	1	Typical Annual Budget for Upgrade/New based on current budget for Transport	$450
2021		Total	$450

Appendix D Alternate Ratio Calculations

Narrandera SC >> Table 6.1 Sustainability of Service Delivery	S1 Asset Register	S2 Optimal Renewal - Based on network renewal programme	S3 Balanced with LTFP - Individual prioritised renewal items not identified
Summary - What does it cost?			
Cost over 10 years	$21,110	$51,729	$46,429
Cost per year	$2,111	$5,173	$4,643
Available funding over 10 years	$46,250	$46,250	$46,250
Funding per year	$4,625	$4,625	$4,625
Funding shortfall	-$2,514	$548	$18
Percentage of cost	219%	89%	100%
Life Cycle Cost (long term)'($000)			
Life Cycle Cost [depreciation + Projected Expenditure]	$32,419	$32,419	$32,419
Life Cycle Exp. [capital renewal + Planned Expenditure]	$46,250	$46,250	$46,250
Life Cycle Gap [life cycle expenditure - life cycle cost [-ve = gap]	$13,831	$13,831	$13,831
Life Cycle Sustainability Indicator [life cycle expenditure / LCC]	142.67%	143%	143%
Medium Term (10 yrs) Sustainability			
10 yr Projected Expenditure	$21,110	$51,729	$46,429
10 yr Planned (Budget) Expenditure	$46,250	$46,250	$46,250
10 yr Funding Shortfall [10 yr proj. exp. - planned (Budget) exp.]	$25,140	-$5,479	-$179
10 yr Sustainability Indicator [10 yr planned exp. / proj. exp.]	219%	89%	100%
Short Term (5 yrs) Sustainability			
5 yr Projected Expenditure	$11,609	$25,815	$23,165
5 yr Planned (Budget) Expenditure	$23,125	$23,125	$23,125
5 yr Funding Shortfall [5 yr proj. exp. - planned (budget) exp.]	$11,516	-$2,690	-$40
5 yr Sustainability Indicator [5 yr planned exp. / proj. exp.]	199%	90%	100%

Appendix E Abbreviations

AAAC Average annual asset consumption

AMP Asset management plan

ARI Average recurrence interval

BOD Biochemical (biological) oxygen demand

CRC Current replacement cost

CWMS Community wastewater management systems

DA Depreciable amount

EF Earthworks/formation

IRMP Infrastructure risk management plan

LCC Life Cycle cost

LCE Life cycle expenditure

MMS Maintenance management system

PCI Pavement condition index

RV Residual value

SS Suspended solids

vph Vehicles per hour

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 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 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.

Average annual asset consumption (AAAC)*

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

Borrowings

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

Capital expenditure

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

Capital expenditure - expansion

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

Capital expenditure - new

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

Capital expenditure - renewal

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

a material section of a drainage network with pipes of the same capacity, resurfacing an oval.

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

Capital funding
Funding to pay for capital expenditure.

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

Capital investment expenditure
See capital expenditure definition

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

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

Class of assets
See asset class definition

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

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.

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.

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.

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

Funding gap
A funding gap exists whenever an entity has insufficient capacity to fund 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 funding gap means service levels have already or are currently falling. A projected funding gap if not addressed will result in a future diminution of existing service levels**.**

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

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

Infrastructure assets
Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, eg. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the assets have long lives. They are fixed in place and are often have no separate market value.

Investment property
Property held to earn rentals or for capital appreciation or both, rather than for:
(a) use in the production or supply of goods or services or for administrative purposes; or
(b) sale in the ordinary course of business.

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

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

Life Cycle Cost
1. **Total LCC** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
2. **Average LCC** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises annual operations, maintenance and asset consumption expense, represented by depreciation expense. 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 actual or planned annual operations, maintenance and capital renewal expenditure incurred in providing the service in a particular year. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of life cycle sustainability.

Loans / borrowings
See borrowings.

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

- **Planned maintenance**
  Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.
- **Reactive maintenance**
  Unplanned repair work that is carried out in response to service requests and management/supervisory directions.
- **Significant 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 and renewal gap
Difference between estimated budgets and projected required expenditures for maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Maintenance and renewal sustainability index

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

Maintenance expenditure

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

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

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

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

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

Operations expenditure
Recurrent expenditure, which is continuously required to provide a service. In common use the term typically includes, eg power, fuel, staff, plant equipment, on-costs and overheads but excludes maintenance and depreciation. Maintenance and depreciation is on the other hand included in operating expenses.

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

Pavement management system
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
A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA). Depreciation may be used for AAAC.

Rate of annual asset renewal
A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

Rate of annual asset upgrade
A measure of the rate at which assets are being upgraded and expanded per annum 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).

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.

Specific Maintenance
Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, cycle, 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.

Sub-component
Smaller individual parts that make up a component part.

Useful life
Either:
(a) the period over which an asset is expected to be available for use by an entity, or
(b) the number of production or similar units expected to be obtained from the asset by the entity.

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

Value in Use
The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.
Source: IPWEA, 2009, Glossary

Appendix G1 Roads Technical Services Levels Indicators

NAASRA Class	Cond	Roughness IRI Minimum	Roughness IRI Maximum	Structural Cracking % Segment Minimum	Structural Cracking % Segment Minimum	Environmental Cracking % Segment Minimum	Environmental Cracking % Segment Minimum	Rutting mm Minimum	Rutting mm Maximum	Deflection mm Minimum	Deflection mm Maximum
1	1	0	60	0	1	0	1	0	1	0	1
1	2	61	70	2	5	2	5	2	3	2	3
1	3	71	80	6	8	6	8	4	5	4	5
1	4	81	95	9	12	9	12	6	8	6	8
1	5	96	500	13	100	13	100	9	>9	9	>9
2	1	0	60	0	1	0	1	0	1	0	1
2	2	61	70	2	5	2	5	2	3	2	3
2	3	71	80	6	8	6	8	4	5	4	5
2	4	81	95	9	12	9	12	6	8	6	8
2	5	96	500	13	100	13	100	9	>9	9	>9
3	1	0	60	0	1	0	1	0	1	0	1
3	2	61	80	2	5	2	5	2	3	2	3
3	3	81	95	6	8	6	8	4	5	4	5
3	4	96	110	9	12	9	12	6	8	6	8
3	5	111	500	13	100	13	100	9	>9	9	>9
4	1	0	60	0	1	0	1	0	1	0	1
4	2	61	95	2	5	2	5	2	3	2	3

NAASRA Class	Cond	Roughness IRI Minimum	Roughness IRI Maximum	Structural Cracking % Segment Minimum	Structural Cracking % Segment Minimum	Environmental Cracking % Segment Minimum	Environmental Cracking % Segment Minimum	Rutting mm Minimum	Rutting mm Maximum	Deflection mm Minimum	Deflection mm Maximum
4	3	96	110	6	8	6	8	4	5	4	5
4	4	111	130	9	12	9	12	6	8	6	8
4	5	131	500	13	100	13	100	9	>9	9	>9
5	1	0	80	0	1	0	1	0	1	0	1
5	2	81	95	2	5	2	5	2	3	2	3
5	3	96	130	6	8	6	8	4	5	4	5
5	4	131	180	9	12	9	12	6	8	6	8
5	5	181	500	13	100	13	100	9	>9	9	>9
6	1	0	60	0	1	0	1	0	1	0	1
6	2	61	70	2	5	2	5	2	3	2	3
6	3	71	80	6	8	6	8	4	5	4	5
6	4	81	95	9	12	9	12	6	8	6	8
6	5	96	500	13	100	13	100	9	>9	9	>9
7	1	0	60	0	1	0	1	0	1	0	1
7	2	61	80	2	5	2	5	2	3	2	3
7	3	81	95	6	8	6	8	4	5	4	5
7	4	96	110	9	12	9	12	6	8	6	8
7	5	111	500	13	100	13	100	9	>9	9	>9
8	1	0	60	0	1	0	1	0	1	0	1

NAASRA Class	Cond	Roughness IRI Minimum	Roughness IRI Maximum	Structural Cracking % Segment Minimum	Structural Cracking % Segment Minimum	Environmental Cracking % Segment Minimum	Environmental Cracking % Segment Minimum	Rutting mm Minimum	Rutting mm Maximum	Deflection mm Minimum	Deflection mm Maximum
8	2	61	95	2	5	2	5	2	3	2	3
8	3	96	110	6	8	6	8	4	5	4	5
8	4	111	130	9	12	9	12	6	8	6	8
8	5	131	500	13	100	13	100	9	>9	9	>9
9	1	0	80	0	1	0	1	0	1	0	1
9	2	81	95	2	5	2	5	2	3	2	3
9	3	96	130	6	8	6	8	4	5	4	5
9	4	131	180	9	12	9	12	6	8	6	8
9	5	181	500	13	100	13	100	9	>9	9	>9

Appendix G2 Roads Technical Services Levels Indicators

Condition Index will be 5 if any of these technical limits are exceeded – Minimum Intervention Targets for Condition Index 5 (very poor

NAASRA Class	Environmental / Surface Cracking % Segment Minimum	Structural Cracking % Segment Limit	Rutting mm For >20% of Segment Limit	Patches and Pavement Defects % Segment Limit	Roughness IRI Segment Limit	Deflection mm For >20% of Segment Limit	Ravelling and other surface Defects % Segment Limit
1	12	12	8	20	130	2	20
2	12	12	8	20	130	2	20
3	12	12	8	20	200	3	20
4	12	12	8	20	280	4	20
5	12	12	8	20	280	4	20
6	12	12	8	20	130	2	20
7	12	12	8	20	130	2	20
8	12	12	8	20	200	3	20
9	12	12	8	20	280	4	20

Appendix H Useful Life Review Methodology

Narrandera Shire Council

REPORT

Assessment of Asset Condition and Remaining/Useful Life

for

Sealed Road Assets

Objective

To assess the condition and useful life of sealed road assets using a representative sample of road assets.

Scope

This report covers the assessment of the condition and useful life of Council's sealed road assets of pavements and sealed surfacing for urban local, urban arterial roads, rural local and rural arterial roads.

Background

Council's asset stock is set out in table 2.1 of the asset management plan.

This condition and useful assessment is undertaken to provide data on the condition and remaining life of the asset class for revaluation in accordance with Council's accounting policy.

This condition and useful assessment is undertaken to provide data on the condition and remaining life of the asset class for revaluation in accordance with Council's accounting policy.

Current Useful Lives

Council currently uses the following useful life estimates (from asset register)

Sub Category	Useful Life	Replacement Cost
Bridge	80	$6,466,801
Culvert	80	$2,646,284
Footpath	30	$232,300
Footpath	60	$880,221
Footpath	100	$25,696
Kerb and Gutter	20	$68,408
Kerb and Gutter	100	$1,072,950
Open Channel	60	$3,067,523
Pavement	20	$616,335
Pavement	30	$12,258
Pavement	100	$81,671,554
Pipes	80	$4,649
Pipes	100	$5,534,038
Pits	30	$69,621
Pits	80	$162,715
Pits	100	$1,550
Road Furniture	100	$8,400
Surface	20	$2,132,100
Surface	30	$7,170,466
Surface	31	$1,650
Surface	63	$23,124
Surface	100	$78,900
Traffic Devices	20	$176,550
Traffic Devices	80	$12,916
Traffic Devices	100	$95,613

Methodology

A sample of assets was selected to represent the asset stock. The sample was selected to represent asset condition and useful life variables of age and climate applying across the Council area. Details are shown below.

Variable	Range
Pavement Depth	
Traffic Loading	
Age Groups	
Soil type	
Maintenance levels	
Climate	

A sample of roads was selected to provide at least two road component lengths within each road class and variable.

A sample of assets was selected to provide at least two components within each asset class and variable.

The condition assessment for each sample was assessed by a panel of ____ Council staff experienced in the maintenance, construction and renewal of assets for over 30 years. Members of the assessment panel were:

____ , Manager Technical Services, 20 years experience, 5 years in XX district.

____ Works Manager, 30 years experience in XX district.

____ , Asset s Maintenance Foreman, 35 years experience, 10 years in XX district.

____ , Asset s Maintenance Ganger, 25 years experience in XX district.

The assessment sample

Table G3

Asset Name and ID	Asset Type	Asset Class	Age (yrs)	Climate

Condition assessment

The panel assessed the condition of assets and by consensus estimated the remaining life for each of the asset in the sample. The estimated remaining life is the remaining period of time that the asset is able to provide the required future economic benefits to the council and the community and is replaced/renewed or disposed of. Condition may be determined by mains break history, visual assessment, inspection during mains break repairs or visual methods.

The age of each asset was added to the estimated remaining life to determine an estimate of useful life for each. The results are summarised below.

Condition, estimated remaining life and useful life

Table G4

Asset Name	Asset Type	Asset Class	Age (yrs)	Climate	Condition	Est. rem. life	Est. useful life

Table G5

Sub Category	Existing Useful Life	Sample size	Average Est. Useful Life (yrs)	Recommendations (Increase or Reduce)
Bridge - Life = 80	80			
Culvert - Life = 80	80			
Footpath - Life = 30	30			
Footpath - Life = 60	60			
Footpath - Life = 100	100			
Kerb and Gutter - Life = 20	20			
Kerb and Gutter - Life = 100	100			
Open Channel - Life = 60	60			
Pavement - Life = 20	20			
Pavement - Life = 30	30			
Pavement - Life = 100	100			
Pipes - Life = 80	80			
Pipes - Life = 100	100			
Pits - Life = 30	30			
Pits - Life = 80	80			
Pits - Life = 100	100			
Road Furniture - Life = 100	100			
Surface - Life = 20	20			
Surface - Life = 30	30			
Surface - Life = 31	31			
Surface - Life = 63	63			
Surface - Life = 100	100			
Traffic Devices - Life = 20	20			
Traffic Devices - Life = 80	80			
Traffic Devices - Life = 100	100			

Conclusions

The conclusions of the condition assessment and estimation of remaining life and useful life are.

1. The assessment panel concluded that the sample of assets, although small in number was generally representative of the condition of the asset network.
2. The assessment panel concluded that the estimated useful lives for assets in table G5 more accurately represent the actual performance of assets than the estimates of useful lives for these asset categories currently used by Council in financial reporting.

Recommendation

It is recommended that the useful lives in Table G5 be adopted by Council for asset as at 30 June 2012.

"Click and enter name of responsible officer"

"Click and enter title of responsible officer"

"Click and enter date of report"