

District Council of Barunga West



Road Infrastructure

# Asset Management Plan



Version 1

June 2016



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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

The District Council of Barunga West (Council) commences 100 kilometres north of Adelaide and extends a further 70 kilometres north. The Council borders the Port Pirie Regional Council to the north, the District Council of the Copper Coast to the west, and the Wakefield Regional Council to the south and Northern Areas Council to the east.

The main focus of the local Council region is principally primary production, fishing and tourism.

Council is responsible for an extensive road asset network that provides the means for delivery of services to the community.

The major issue for Council is that the large rural road network is maintained and funded by a relatively small ratepayer base. Accordingly, the provision of road services needs to be weighed against the common community interest and a limited budget.

The **Road Infrastructure** network comprises:

Township Sealed Road	26.3KM
Rural Sealed Roads	41.2KM
Sheeted Roads	858.9Km
Kerbing & Guttering	26.3KM
Footpaths	26.3KM

These infrastructure assets have a replacement value of:

Township Sealed Roads	16.022M
Rural Sealed Roads	9.314M
Sheeted Roads	24.451M
Kerbing & Guttering	4.169M
Footpaths	0.360M

### 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.

The maintenance expenditure includes planned patrol grading by three external contractors, planned tree trimming, unplanned patching & maintenance of localised areas of sealed and unsealed roads, traffic control, and all other items of an ad hoc nature.

Over the forward 10 year period, the planned maintenance expenditure is estimated to be \$7,500,000 or \$750,000 per year.

Council's road assets were revalued by Tonkins Consulting, based on condition assessments provided by trained Council staff.

The planned capital expenditure for the ten year period, from 2014 to 2024, is \$7,005,339. Of this, \$1.6M is backlog work, which in the opinion of Tonkins was due as at July 2014.

Accordingly the average capital expenditure per year, including backlog, is \$700,540.

Council's present funding levels are sufficient to continue to provide existing services at current levels in the medium term. That is, Council will complete all required capital expenditure on road infrastructure in the next ten years.

### **What we will do**

Council plans to do the following in relation to Road Infrastructure services:

- Operation, maintenance, renewal and upgrade of sealed & unsealed roads, footpaths and kerbing to meet service levels set by council in annual budgets.
- Lobby the State Government to improve the main arterial roads in the council area, which fall under their care and control.
- Listen to the ratepayers concerns about road conditions and categorisation of roads.
- Consult with ratepayers in relation to Council footpaths, as well as any flooding issues relating to kerbing & guttering.

### **What we cannot do**

Council has enough funding to provide all services at the desired service levels.

Services that cannot be provided under present funding levels – as the plan currently stands - are:

- Conversion of existing unsealed roads to seal roads.

### **Managing the Risks**

Council staff regularly undertake inspections of road infrastructure assets as part of their daily work routine, as do council's contract Patrol Grader operators.

Council also has in place a documented Customer Service IT facility, as part of its administration function, whereby advice of potential road hazards are directed immediately to the relevant staff member for investigation.

Any road infrastructure defects are prioritised according to the assessed risk.

### **The Next Steps**

The actions resulting from this asset management plan are as follows, namely:

- Development and refinement of 10 Year Roadworks program.
- Audit and review of Council response times to Customer Service requests.
- Review and assessment of changing road traffic patterns.
- Community consultation to determine that Council's road infrastructure planning is in accordance with the expectations of the community.

## Questions you may have

### What is this plan about?

This asset management plan covers the infrastructure assets that serve the District Council of Barunga West's road infrastructure needs. These assets include transport infrastructure throughout the Council area that enable people to go about their daily business.

### 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 potential 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 sufficient to continue to provide existing services at current levels in the medium term. However, council's projected income budget for the next 10 years does not provide the necessary funding to convert unsealed roads to a sealed surface.

### What can we do?

Council can develop options and priorities for future road infrastructure 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.

## 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 the 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:

- Strategic management Plan 2013-2020 (Currently being reviewed & updated)
- Annual Budget & Business Plan 2016-17
- Long Term Financial Plan 2014-2023 (Currently being reviewed & updated)

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

**Table 2.1: Assets covered by this Plan**

Asset category	Dimension	Replacement Value
Township Sealed Road	26.3KM	\$16.022M
Rural Sealed Roads	41.2KM	\$9.314M
Sheeted Roads	858.9KM	\$24.451M
Kerbing & Guttering	26.3KM	\$4.169M
Footpaths	26.3KM	\$0.360M
<b>TOTAL</b>		<b>\$54.306M</b>

### 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.<sup>1</sup>

<sup>1</sup> IPWEA, 2006, *IIMM* Sec 1.1.3, p 1.3.

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:

**A WELCOMING, SUPPORTIVE GROWING COMMUNITY WITH A SUSTAINABLE LIFESTYLE AND ENVIRONMENT**

Council's mission is:

**THROUGH COMMUNITY ENGAGEMENT AND COLLABORATION EFFECTIVELY DELIVER THE COMMUNITY'S NEEDS IN A SUSTAINABLE MANNER**

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**

<b>Goal</b>	<b>Objective</b>	<b>How Goal and Objectives are addressed in AMP</b>
Maintenance of Existing Assets	The AMP to include measures for the effective maintenance of all Council assets.	Each annual budget funds asset maintenance at 100% of the AMP
Road Network	Provide a safe, well-maintained and cost effective road network	Conduct a biennial review of the road hierarchy; Continue to engage a roads consultant to ensure that changes to road forms are accurately recorded in council's financial records
Footpath Network	Provide an effective footpath network in urban areas of Barunga West	Develop and adopt a footpath policy, including accessibility for disabled persons.

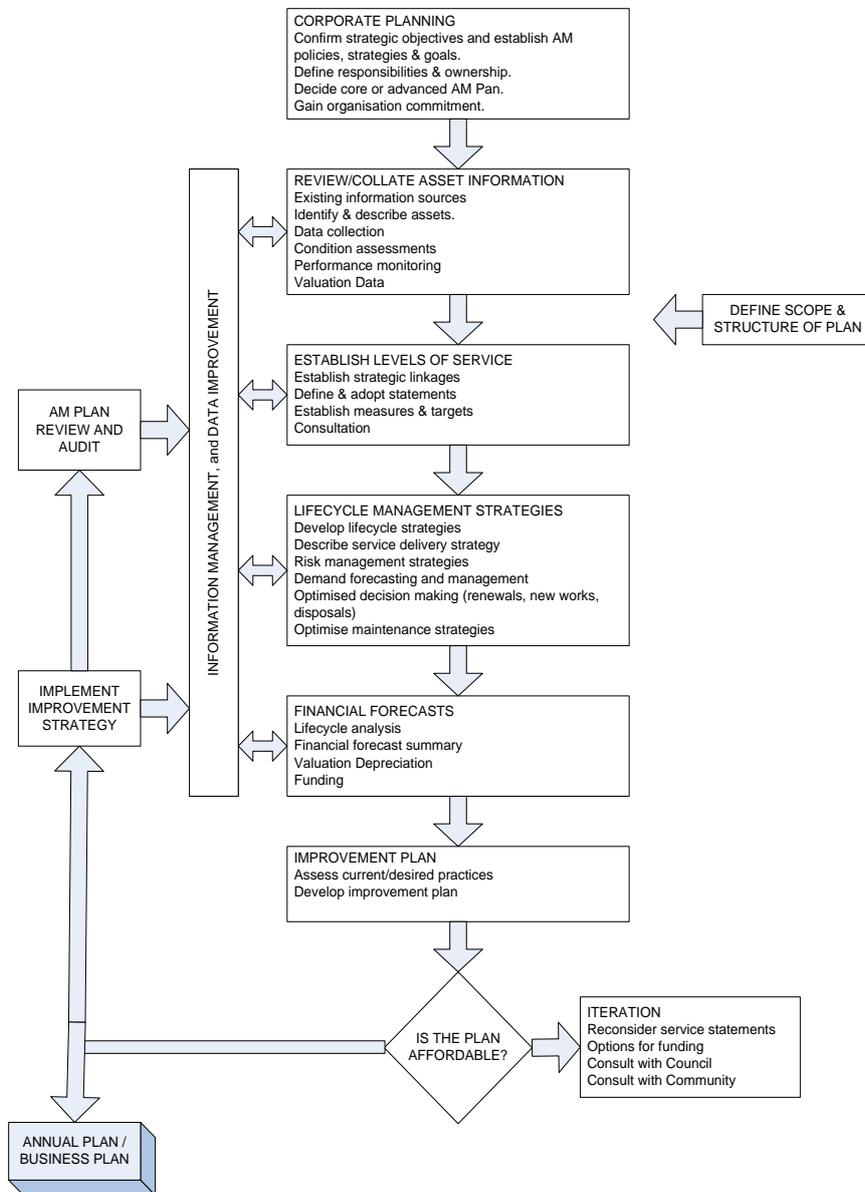
## 2.3 Plan Framework

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

### Road Map for preparing an Asset Management Plan

Source: IIMM Fig 1.5.1, p 1.11



## **2.4 Core and Advanced Asset Management**

This asset management plan is prepared in accordance with the International Infrastructure Management Manual<sup>2</sup>. It is prepared to meet legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting.

## **2.5 Community Consultation**

This asset management plan will be available for public consultation following the June 14 2016 ordinary Council meeting.

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<sup>2</sup> IPWEA, 2006.

### 3. LEVELS OF SERVICE

#### 3.1 Customer Research and Expectations

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

Council does track all Customer Service Requests, through its financial & administrative software, as follows:-

1. A Customer Service Request (CSR) is raised following advice from a ratepayer, work colleague, elected member or any member of the public;
2. The customer is advised that the CSR has been received;
3. All details of the CSR are recorded, including location, issue, time and date of CSR and the type of request;
4. The CSR is assigned to the relevant Council employee for action;
5. Upon completion of the CSR, the actions taken are recorded within council's administrative software, and a permanent record of the request and action is retained;
6. Where requested, the customer is notified of the action taken;

#### 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	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.
Road Traffic Act 1961	An Act to prescribe the duties of road users; to provide for nationally consistent road rules and other related purposes.
Native Vegetation Act 1991	An Act to provide incentives and assistance to landowners in relation to the preservation and enhancement of native vegetation; to control the clearance of native vegetation; and for other purposes.
Roads (Opening & Closing) Act 1991	An Act to provide for the formal processes around the opening and closing of gazetted roads
Australian Road Rules	The Australian Road Rules provide rules to be followed by all road users. They are part of a national scheme to provide uniform road laws throughout Australia.
Work Health and Safety Act 2012	An Act to provide for the health, safety and welfare of persons at work; and for other related purposes.

### 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.

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

Quality	How good is the service?
Function	Does it meet users' needs?
Safety	Is the service safe?

**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 (eg 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 (eg frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade – the activities to provide an higher level of service (eg widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (eg a new library).

Council's current service levels are detailed in Table 3.3.

**Table 3.3: Current Service Levels**

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
<b>COMMUNITY LEVELS OF SERVICE</b>				
Quality	Provide all weather access	Customer Service Requests	Less than 5 service requests per month	Achieved
Function	Ensure that roads are built to construction level for required traffic	Council road hierarchy, in consultation with ratepayers	Less than 5 service requests per month	Achieved
Safety	Provide safe, hazard-free roads	Number of incidents/accidents	Zero incidents/accidents as result of surface condition	Achieved
<b>TECHNICAL LEVELS OF SERVICE</b>				
Condition	Maintain roads in optimum condition	Programmed patrol grading and maintenance	Programmed patrol grading completed each year	Achieved
Access	Provide all weather access for Category 4 roads and above	Programmed patrol grading and maintenance	Programmed resheeting completed each year	Achieved
Cost Effectiveness	Provide services in cost effective manner	Budget	Roads maintained within budget allocation	Achieved
Safety	Ensure road network is safe	Number of incidents/accidents	Zero incidents/accidents as result of surface condition	Achieved

### 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	Current Population = 2,456	Projected population in 2031 = 2,803	Negligible impact on road infrastructure services
Demographics	Average growth rate	0.663%	Negligible impact on road infrastructure services. Possibility of augmentation of existing infrastructure, services and community wastewater management systems
Residential development	Fisherman Bay Freeholding Application	Significant transfer of infrastructure assets to council	Increase in annual maintenance and depreciation expenditure
Residential development	Increase in demand for aged accommodation	Aging demographic Increasing 1.21% per year till 2031	Need to improve footpath facilities to enable access for wheelchairs and motorised gophers

### 4.2 Changes in Technology

Technology changes are forecast to have little effect on the delivery of services covered by this plan.

### 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.

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**

<b>Service Activity</b>	<b>Demand Management Plan</b>
Rural Roads	Review of road heirarchy to provide optimal patrol grading and resheeting
Heavy Freight Vehicles	Prioritising of heavy freight traffic preferred routes. Council cannot fund the maintenance of all roads in the district to a level required for heavy vehicles carting primary produce.

#### **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.

Council may have a substantial transfer of assets if the Fisherman Bay Freeholding application proceeds. 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 not yet identified and considered in developing forecasts of future operations and maintenance costs.

Council is awaiting quantified estimates for new contributed and constructed asset values, and accordingly those assets do not form part of this plan.

In the event of notification of the application proceeding, Council will incorporate the ivaluations into a revised AMP.

## 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.

Age profile information is being developed for the other categories of roads. An age profile will be developed in future revisions of the asset management plan.

#### 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
Rural Formed Road Network	Sealing of further rural roads is not a consideration due to economic constraints.
Footpaths	Due to increasing age of population, council needs to ensure that town footpaths can accommodate wheelchair and goher access
Town Sealed Roads	Ensure reseal intervention is carried out at appropriate time to maintain the integrity of the road.
Rural Sealed Roads	Ensure reseal intervention is carried out at appropriate time to maintain the integrity of the road.
Kerbing and Gutter	Maintain at a level to alleviate flooding

### 5.1.3 Asset condition

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

Asset condition information will be developed in future revisions of the asset management plan

Condition is measured using a 1 – 5 rating system<sup>3</sup> as detailed in Table 5.1.3.

**Table 5.1.3: IIMM Description of Condition**

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

### 5.1.4 Asset valuations

The value of assets recorded in the asset register as at July 1 2014 covered by this asset management plan is shown below. Assets were last revalued at July 1 2014.

Current Replacement Cost	\$51,368,578
Depreciable Amount	\$51,368,578*
Depreciated Replacement Cost	\$37,530,832*
Annual Depreciation Expense	\$1,050,659*

The valuations provided by Tonkins included residual values of \$14,446,446. This valuation represented the 'base' or earthworks of the road network and pavement. This treatment is not permitted any longer under the Australian Accounting Standards. Council is currently in the process of re-classifying the residual Asset values as 'Base', and depreciating these assets over a Useful Life of 150 years.

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

Asset Consumption (Depreciation/Depreciable Amount)	2.80%
Asset renewal (Capital renewal exp/Depreciable amount)	100.00%
Annual Upgrade/New (Capital upgrade exp/Depreciable amount)	0.00%
Annual Upgrade/New (including contributed assets)	0.00%

Council is currently renewing assets at 100% of the rate they are being consumed and increasing its asset stock by 0.00% each year.

<sup>3</sup> Based on IPWEA, 2011, IIMM, Sec 2.5.4, p 2 | 79.

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 – Unsheeted Roads

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.

Council's service hierarchy for unsheeted roads is shown below:

#### **Category 1 – Rural Arterial Local Road.**

- Major unsealed sheeted roads within the Council area that operate as local arterial roads. They carry traffic through the Council area and are the higher trafficked roads. Main linkage roads with high traffic movement inclusive of freight that link to the sealed road network.
- Generally these roads have high traffic volumes as linkages between townships and outside of urban/built up areas and are used as a collector road with a higher speed environment.
- High local volume usage

#### **Category 2 – Rural Collector Road.**

- Medium use unsealed sheeted collector road carrying medium priority localised traffic.
- Medium localise traffic usage - Localised freight and social transport uses
- Moderate use sheeted road network for traffic use between townships and focal points.

#### **Category 3 – Local Access (High to Medium Use)**

- Moderate use sheeted road network for traffic use between townships and focal points.
- Localised freight and social transport uses

#### **Category 4 – Local Access (Low Use)**

- Rural residential access only (sheeted only to house gate).
- Sheeted only in one direction to gain weathered access to the remainder of Councils road network.
- Localised low traffic usage

#### **Category 5 – Formed Graded Roads (not sheeted or not to be sheeted)**

- Local tracks, paddock access only.
- Generally not all weather road for local transport, plant/machinery or paddock traffic use only.

- Coastal tracks, may be formed or unformed, access via these tracks can be seriously impaired due to soft surfaces and during or after wet weather and or high tides.
- Minimal traffic usage

**Table 5.1.5: Asset Service Hierarchy**

## 5.2 Risk Management Plan

An assessment of risks<sup>4</sup> 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**

Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan
Road Surfaces	Slippery due to weather and material used in construction	H	Respond to Complaints. Monitor number of complaints and response times – ongoing program
Road Surfaces – Roadside Vegetation	Vegetation encroaches on carriageway and traps moisture.	H	Monitor condition of roadside vegetation to enable wider clearances, if needed.
Road Signage	Inappropriate warning signage not meeting with standards	H	Implement findings of signage audit
Road Condition	Tyre blowouts in dry weather	H	Investigate options for High usage roads to be constructed with higher quality materials and better crossfall.
Road Design	Poor existing alignments and crossfalls.	H	Develop program to adjust road crossfalls and alignments where required.

## 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.

<sup>4</sup> See the current Hazard Register within Council’s Risk Management Framework

### 5.3.1 Maintenance plan

Maintenance includes reactive, planned and specific maintenance work activities. There is an inverse correlation between Council's annual capital budget and Council's annual operating budget. An increase in the former will lead to a reduction in labour and plant cost in the latter, and vice versa.

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.

Actual past maintenance expenditure is shown in Table 5.3.1.

**Table 5.3.1: Maintenance Expenditure Trends**

Year	Maintenance Expenditure
2012-13	\$584,900
2013-14	\$747,660
2014-15	\$933,750

Current maintenance expenditure levels are considered to be adequate to meet required service levels. 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

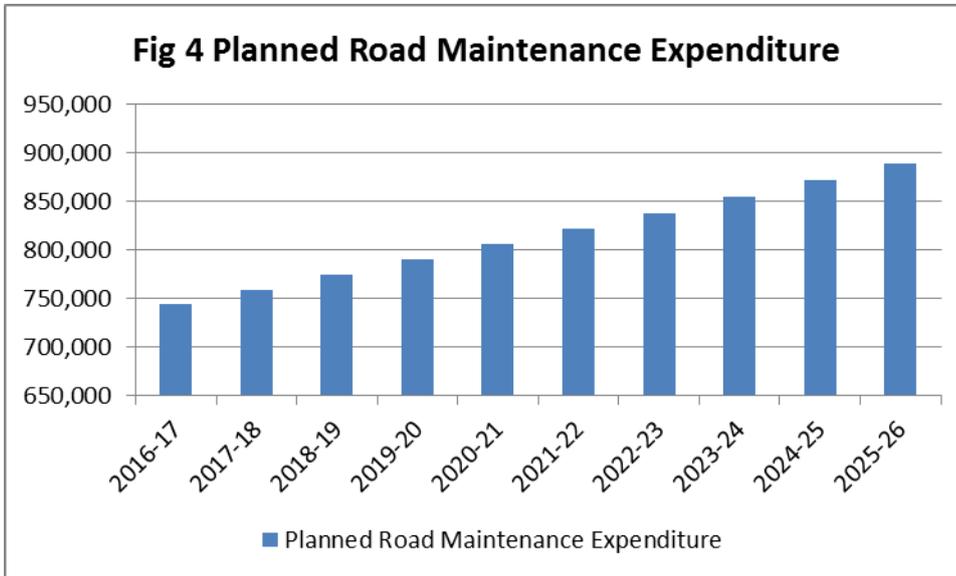
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Sealed Local Roads Manual: July 2005 by ARRB Group
- Unsealed Roads Manual: 3<sup>rd</sup> Edition March 2009 by ARRB Group
- Managing Unsealed Roads in South Australia Manual, Local Government Association Mutual Liability Scheme
- Australian Standards and Austroads publications

### 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 2016-17 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

Asset Register data 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.

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 using rubble sourced from pits in close proximity to ensure similarity of material usage.

#### 5.4.2 Renewal standards

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

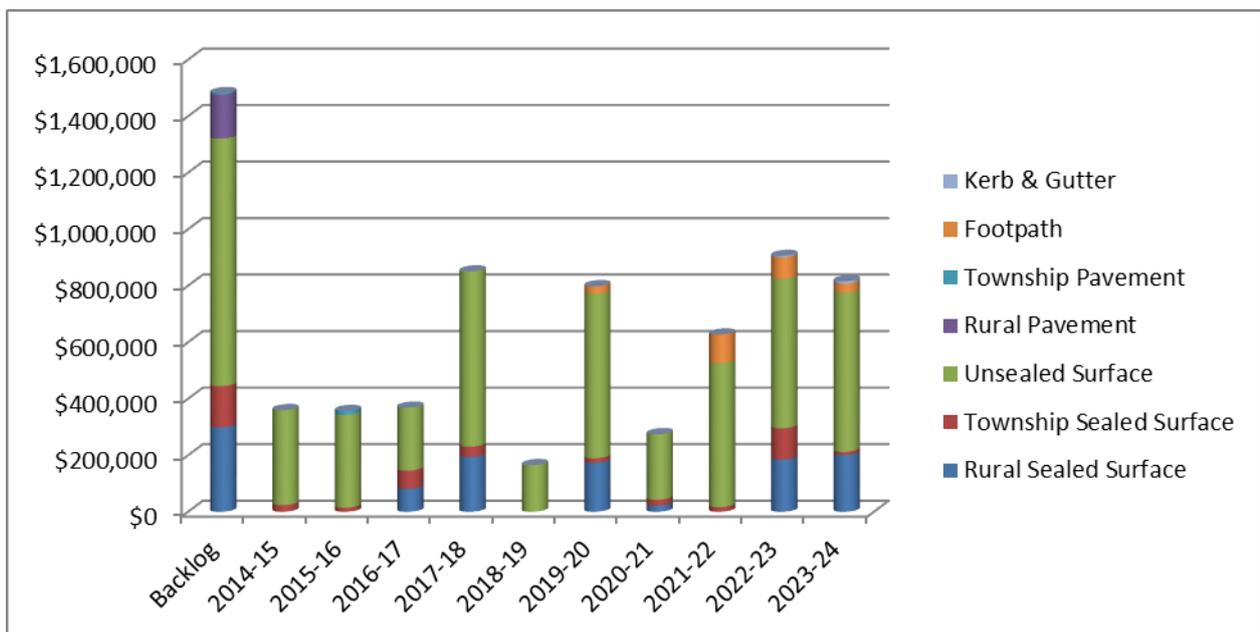
- Sealed Local Roads Manual: July 2005 by ARRB Group
- Unsealed Roads Manual: 3<sup>rd</sup> Edition March 2009 by ARRB Group
- Managing Unsealed Roads in South Australia Manual, Local Government Association Mutual Liability Scheme
- Australian Standards and Austroads publications

#### 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 2016/17 dollar values.

The projected capital renewal program is shown in Appendix B.

**Figure 5: Projected Capital Renewal Expenditure**



Deferred renewal, ie 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
Social demand for improved footpaths in townships	25%
Social demand for sealed roads in close proximity to townships	75%
<b>Total</b>	<b>100%</b>

These criteria will be reviewed in further updates of this plan.

### 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

There is no planned projected upgrade/new asset expenditures in the life of this plan.

## 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.

## 6. FINANCIAL SUMMARY

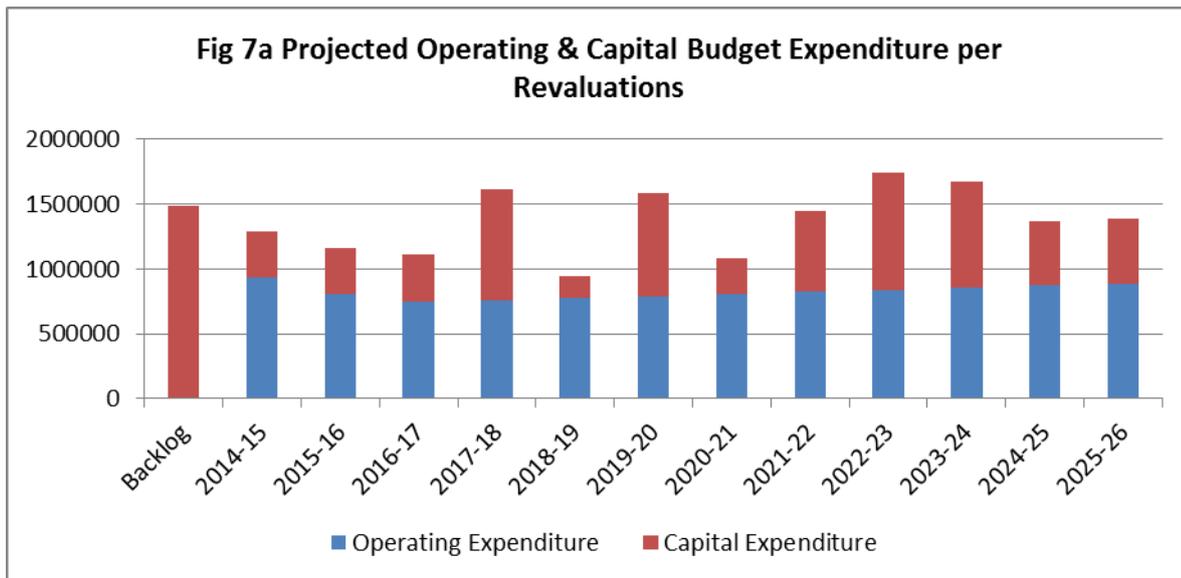
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

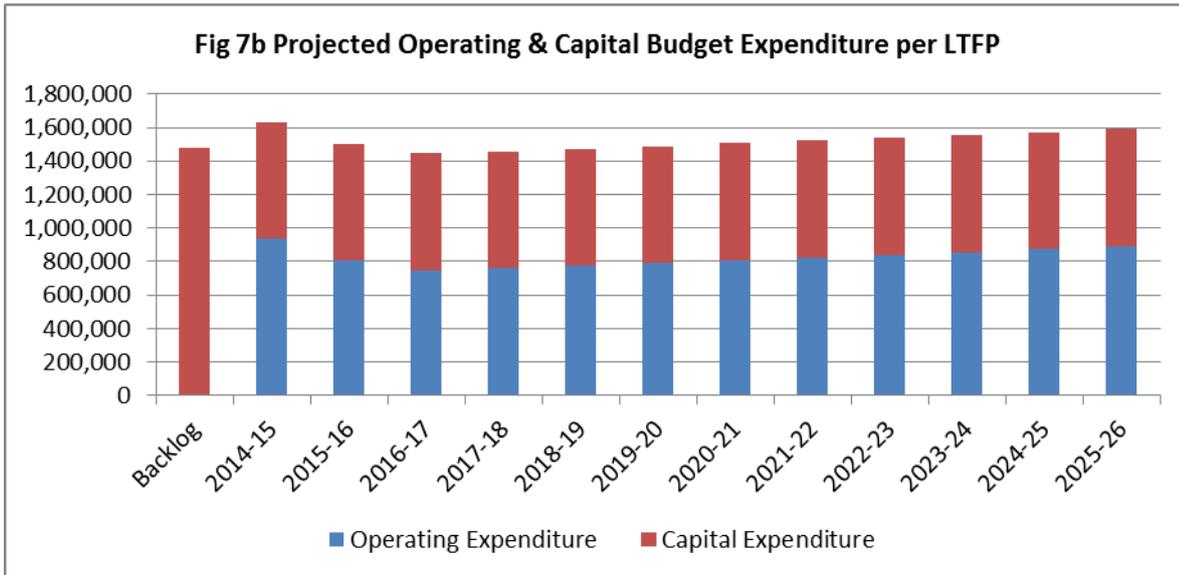
Note that all costs are shown in 2016-17 dollar values.

**Figure 7: Projected Operating and Capital Expenditure and Budget**



The above chart projects the forward estimates as per the renewal schedule, as determined by Tonkins, in consultation with Council staff.

The chart below projects the forward estimates as per the Long Term financial Plan, as determined by Council staff. The projected estimates below are designed to clear the backlog of roadworks identified by Tonkins and Council staff.



### 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.

#### **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 \$2,367,575 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 \$2,523,950 (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 +\$156,375 per year (-ve = gap, +ve = surplus).

Life cycle expenditure is 107.73% of life cycle costs.

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

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

### **Medium Term – 5 year financial planning period**

The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is \$2,570,375 per year, including backlog.

Estimated (budget) operations, maintenance and capital renewal funding is \$2,753,750 per year giving a 5 year funding shortfall of +\$183,365. This is 112.50% of projected expenditures giving a 5 year sustainability indicator of 107.00.

### **Financial Sustainability Indicators**

Financial sustainability indicators over the 10 year planning period will be developed in future revisions of the asset management plan.

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.

Table 6.1.1 shows the shortfall between projected and budgeted renewals

**Table 6.1.1: Projected and Budgeted Renewals and Expenditure Shortfall**

<b>Year</b>	<b>Projected Renewals (\$000)</b>	<b>Planned Renewal Budget (\$000)</b>	<b>Renewal Funding Shortfall (\$000) (-ve Gap, +ve Surplus)</b>	<b>Cumulative Shortfall (\$000) (-ve Gap, +ve Surplus)</b>
Backlog	1,481,811	750,000	-731,811	-731,811
2014-15	359,884	750,000	390,116	-341,695
2015-16	356,933	750,000	393,067	51,372
2016-17	368,268	750,000	381,372	432,744
2017-18	850,808	750,000	-100,808	331,936
2018-19	165,109	750,000	584,891	916,827
2019-20	798,575	750,000	-48,575	868,252
2020-21	274,658	750,000	475,342	1,343,593
2021-22	627,282	750,000	122,718	1,466,311
2022-23	905,709	750,000	-155,709	1,310,603
2023-24	815,942	750,000	-65,942	1,244,661

*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)**

Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2014-15	466,875	466,875	750,000		
2015-16	402,225	402,225	750,000		
2016-17	372,117	372,117	750,000	50,000	
2017-18	379,560	379,560	750,000		
2018-19	387,151	387,151	750,000		
2019-20	398,894	398,894	750,000		
2020-21	402,792	402,792	750,000		
2021-22	410,848	410,848	750,000		
2022-23	419,065	419,065	750,000		
2023-24	427,446	427,446	750,000		

*Note: All projected expenditures are in 2016-17 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.

No new assets are planned at beyond 2016/17 of the plan, or are very small in nature, and accordingly not significant for this procedure.

Council expects to receive a new stock of infrastructure assets once the Fisherman Bay Freeholding Development Application is successful, but with no firm date in sight, it is not included in this plan.

The Tonkins valuations are being reviewed in accordance with AAS ... and the treatment of residual values. This will alter the method in which the road base is valued, and accordingly no new projected valuations will be presented until this is clarified.

## 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:

- Average useful and remaining lives of assets was determined by Council staff in conjunction with Tonkins, and based on local knowledge and current experience and conditions. This will be reviewed for accuracy at the next revaluation planned for 2019.
- Tonkins assumed a non depreciable residual of road bases. Council staff are amending the valuations and this may impact annual depreciation expense.
- Actual road renewal unit costs are proving to be less than the unit cost used by Tonkins. This too is being reviewed.

## 7. ASSET MANAGEMENT PRACTICES

### 7.1 Accounting/Financial Systems

#### 7.1.1 Accounting and financial systems

Council uses Synergy financial software, which includes a subsidiary Asset Ledger module for recording capital purchases, disposals, revaluations and impairments. Transactions posted through the Asset Ledger are posted to the relevant associated General Ledger accounts. From there, the transactions are posted to the relevant Asset account in the Balance Sheet at the end of the financial year.

#### 7.1.2 Accountabilities for financial systems

The management of the financial system is the responsibility of the Finance Manager.

The responsible officers for the key financial areas are as follows:

General Ledger	Finance Manager
Budgeting	Finance Manager
Financial Reporting	Finance Manager
Assets Finance Manager	Finance Manager
Debtors	Debtors Officer
Creditors	Senior Administration Officer
Payroll	Senior Administration Officer
Purchasing	Senior Administration Officer
Bank Reconciliation	Senior Administration Officer

#### 7.1.3 Accounting standards and regulations

Local Government Act 1999  
Australian Accounting Standards  
Local Government (Financial Management) Regulations 2011

#### 7.1.4 Capital/maintenance threshold

Capital/Maintenance threshold is determined by the Asset Accounting Policy, last reviewed in May 2016.

Infrastructure	Roads	\$10,000	5 to 100 years	Revaluation	Replacement Cost
	Footpaths	\$10,000	5 to 100 years	Revaluation	Replacement Cost

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

The AMP has revealed that unit costs per kilometre used by Tonkins in its valuation of July 1 2014 is significantly higher than the actual unit costs being experienced in re-sheeting roads. Council has an annual comprehensive patrol grading program which is maintaining roads in an adequate condition, and if not extending the life of the roads, is certainly decreasing the amount of material needed to re-sheet roads.

### 7.2 Asset Management Systems

#### 7.2.1 Asset management system

Council is constrained in monetary terms in choice of asset management software, insofar as Council is unable to afford the systems that require an annual fee to update all road assets on an annual basis.

Council assets are revalued every 5 years by an independent consultant. Council has allocated a budget allowance for assistance in update of the road asset register within the 5 years if required.

Council does not have a very large annual capital expenditure compared to larger Council, and the number of roads being resheeted is quite small, and manageable by Council staff.

Council staff have been trained in condition assessments of roads, and this information is recorded for all road segments, typically with an average length of 2 kilometres.

#### 7.2.2 Asset registers

Assets are recorded in Synergy Asset Module, in conjunction with Tonkins revaluation of July1 2014.

#### 7.2.3 Linkage from asset management to financial system

Manual linkage from Tonkins valuation spreadsheet to Council asset management system.

#### 7.2.4 Accountabilities for asset management system and data

The Finance Manager is accountable for the integrity of the roads data contained in the Synergy Asset Register.

Council staff are responsible for the assessment of roads, categorisation and current conditions.

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

This is a matter of annual funding. Council would prefer to have an annual reassessment and recording of roads in more complete detail than we currently have. This information is recorded in Tonkins' valuation, but not all data is necessarily transferred to synergy, for want of fields.

### **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:

- LGA SA Sustainable Asset Management Practice in South Australia
- IPWEA Asset Workshop Manual

## 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				
2				
3				
4				
5				
6				
7				
8				
9				
10				

### 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.

This Plan is based on Tonkins revaluations as at July 1 2014. These revaluations included residual values in various classes of road assets. These residual values will be reviewed, as will the unit costs of roadworks, and a revised plan prepared for Council within the next 12 months.

## REFERENCES

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## **APPENDICES**

Appendix A Maintenance Response Levels of Service

Appendix B Projected 10 year Capital Renewal Works Program

Appendix C Planned Upgrade/Exp/New 10 year Capital Works Program A

Appendix D Abbreviations

Appendix E Glossary

## **Appendix A Maintenance Response Levels of Service**

To be developed.

## **Appendix B Projected 10 year Capital Renewal Works Program**

Attached

## **Appendix C Planned Upgrade/Exp/New 10 year Capital Works Program**

Edmund Street Footpath      2016-17

## Appendix D Abbreviations

<b>AAAC</b>	Average annual asset consumption
<b>AMP</b>	Asset management plan
<b>ARI</b>	Average recurrence interval
<b>BOD</b>	Biochemical (biological) oxygen demand
<b>CRC</b>	Current replacement cost
<b>CWMS</b>	Community wastewater management systems
<b>DA</b>	Depreciable amount
<b>EF</b>	Earthworks/formation
<b>IRMP</b>	Infrastructure risk management plan
<b>LCC</b>	Life Cycle cost
<b>LCE</b>	Life cycle expenditure
<b>MMS</b>	Maintenance management system
<b>PCI</b>	Pavement condition index
<b>RV</b>	Residual value
<b>SS</b>	Suspended solids
<b>vph</b>	Vehicles per hour

## Appendix E 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.

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.

### 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)\*

### **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.

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.

### **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

**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.

levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.

**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

### 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