Asset Management Plan

2012/13 – 2031/32

Adopted by an absolute majority of Council on the 21st June 2013

Part of the Shire of Murchison's Resourcing Strategy

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Local Government**

Department of **Regional Development and Lands**

ROYALTIES FOR REGIONS

Development of this plan has been supported by the Department of Local Government and funding from the Royalties for Regions Country Local Government Fund, which is administered by the Department of Regional Development and Lands.

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Reliance and Disclaimer

Scope

RSM Bird Cameron was engaged solely to prepare the Asset Management Plan for the Shire of Murchison in accordance with Integrated Planning and Reporting Framework and Guidelines.

Our engagement was not an audit in accordance with Australian Auditing Standards or a review in accordance with Australian Auditing Standards applicable to review engagements. Had we undertaken such an audit or review, other matters might have come to our attention that would have been reported to you. Our report is solely for the Shire's information and is not to be used for any other purpose. We do not express any assurance on the balances stated in this report.

Reliance

The professional advice and opinion in this report has been prepared for the exclusive use of the Shire of Murchison and for the purposes specified above. This report is supplied in good faith and reflects the knowledge, expertise and experience of the engagement consultant and is based on the information and representations provided by the Shire of Murchison. We accept no responsibility for any loss occasioned by any person acting or refraining from action as a result of reliance on the report, other than the Shire of Murchison.

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This is the first Asset Management Plan for the Shire of Murchison, prepared in accordance with Integrated Planning and Reporting (IPR) Framework requirements.

The new Asset Management Plan was prepared by Consultants RSM Bird Cameron in conjunction with Shire staff. This Plan has been prepared as per the standard DLG template. The following resources have been referenced in the development of this plan:

- Shire of Murchison Strategic Community Plan 2013 – 2023;
- Shire of Murchison Corporate Business Plan 2013 – 2023;
- Shire of Murchison Long Term Financial Plan 2013 – 2023;
- Shire of Murchison Asset Management Improvement Strategy;
- Shire of Murchison Workforce Plan 2013 – 2023;
- International Infrastructure Management Manual, Institute of Public Works Engineers Australia (IPWEA); and
- Australian Accounting Standard AASB116.

This program reflects our intentions at the time of publication. As with any plan or budget, the actual results may vary from that forecast.

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Contents

1.0 Executive Summary

Asset Management Plans are long-term plans outlining the asset activities for each service. The International Infrastructure Manual (IMM) defines an Asset Management Plan (AMP) as "a written representation of the intended asset management programs for one or more infrastructure networks based on the controlling organisation's understanding of customer requirements, existing and projected networks, and asset conditions and performance".

The Shire of Murchison's (the Shire) AMP outlines actions and resources to provide a defined Level of Service in the most cost-effective way; the plan includes:

- The best available information on asset condition;
- A risk assessment to identify critical assets and strategies to manage those at risk;
- A description of existing service levels;
- Long-term cash flow predictions for asset operation, maintenance and renewals based on local knowledge of assets and options for meeting current Levels of Service and servicing the projected population; and
- Financial and critical service performance measures against which trends and AMP implementation and improvement can be monitored.

1.1 The Shire's Asset Portfolio

The Shire has a significant portfolio of community assets under its care and control. These assets form an integral part of providing services to the community of the Murchison.

A significant proportion of the Shire's assets have been in existence for many years. The majority of these assets originated from Shire construction. The bulk of these assets are in moderate condition.

Asset Category	Dimension
Roads	
Sealed Roads	75 Km's
Unsealed Roads	1,887.7 Km's
Buildings	No. of Properties
Council Premises	11
Community Facilities	5
Staff Housing	7
Airport	• Sealed Runway and taxi way; • Fencing; • Runway and Taxi Lighting; • Wind Directional Sock; and • Pilot Activated Landing System.

Asset Category	Dimension
Parks & Gardens and Sporting Facilities	• Active Recreation Areas; • Passive Recreation Areas; • Fencing; and • Lighting.
Other Infrastructure	• Tourist Information Bays; • Fencing; • Lighting; and • Water Tanks and Reticulation.

1.2 Levels of Service

The AMP has been prepared with reference to the National Asset Management Strategy (NAMS).

Condition has for most categories been measured using a 1 – 5 Asset Condition Assessment Rating System as applied by AVP Valuers in undertaking their valuation of Land and Buildings in February 2013.

The system used in this plan is a standard scale of 1 -5 where 1 = new and 5 = total deterioration:

The Level of Service provided by the Shire's assets is primarily governed by the condition of these assets.

The modelling within this AMP provides estimates regarding the amount of funds needed over the next 20 years for maintenance and Capital Renewal for each class of asset to maintain the infrastructure in its current condition (maintain current service levels). These funding requirements have been incorporated into the Shire's Long Term Financial Plan (LTFP).

1.3 Future Demand

The population of the Shire is estimated to have decreased by 20% from 153 in 2003 to 123 in 2011

Much of this population decline has been from the Pia Wadjari Community which has a highly transient population. Municipal services and infrastructure management at Pia Wadjari is primarily administered by the Pia Wadjari Aboriginal Corporation. The population throughout the remainder of the Shire has remained fairly stable.

The Shire is currently expanding accommodation facilities at the Caravan Park in the Murchison Settlement and looking to expand its workforce. These developments have the potential to increase the Shire's population base.

On this basis, the demand for services has been modelled on a stable population base of 123 as per the 2011 level.

1.4 Risk Management

Risk Management (RM) is used as a decision making tool to help assign Levels of Service to different levels of the asset network. This Shire is yet to apply the RM Framework to its specific assets.

1.5 Lifecycle Management

The Shire has a good understanding of the composition, location and extent of the asset portfolio, however the road asset database needs updating to include signs, grids and floodways and meaningful asset condition data.

1.5.1 Operation and Maintenance Strategy

The Shire does not have a current documented Operation and Maintenance Strategy. This Strategy will be developed as part of future revisions of the Plan.

1.5.2 Renewal and Replacement Strategy

One of the reasons that AMP's are needed is to enable the Shire to undertake Long Term Financial Planning and to understand the extent to which it is sustainably maintaining infrastructure assets. A key component of understanding the Shire's sustainability is modelling the Shire's long term renewal demand, that is, the cost to refurbish or replace an asset at some point in its life, bringing its condition back to new.

The Shire has commenced developing a LTFP linked to asset renewal.

1.5.3 New, Upgrade and Disposal Strategy (Capital Investment)

The Shire's Capital Investment Strategy is documented in the Forward Capital Works Plan 2010/11 – 2014/15. This Strategy will be further developed as part of future revisions of the plan.

1.6 Financial Projections

The Shire has forecast to spend an average of $703,263 p.a. over the next 20 years on asset renewal and is currently spending $1,222,840 p.a. on maintenance to look after a **$72,100,000** asset portfolio.

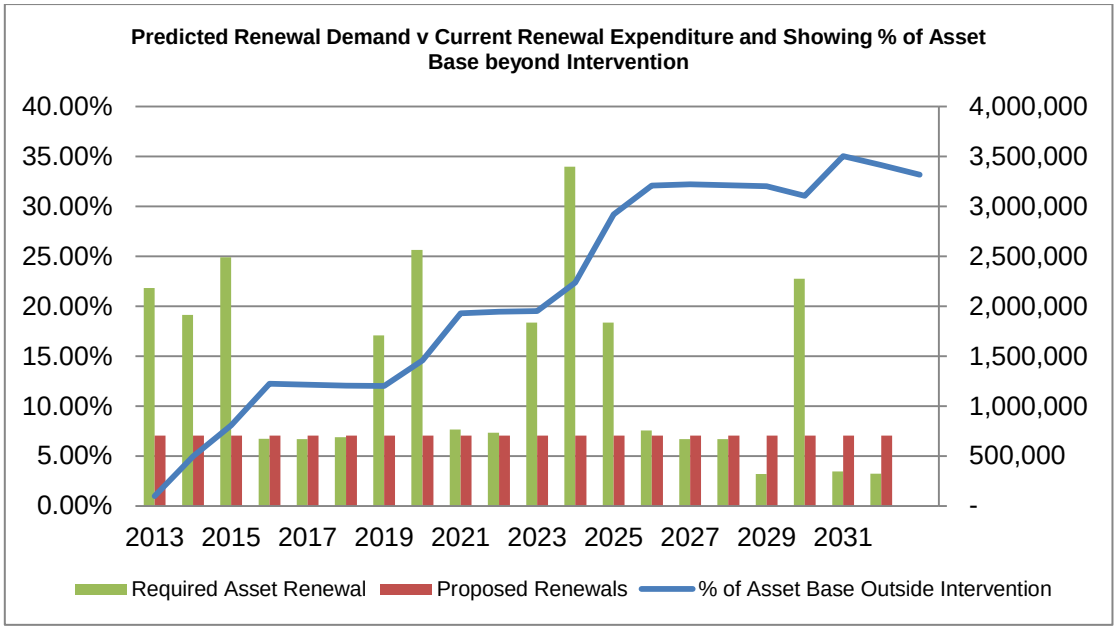
		Expenditure P.A ($)	
Infrastructure Summary	**Renewal Estimate ($)**	**Renewal**	**Maintenance**
Roads	59,014,170	673,791	999,398
Buildings	11,048,244	21,795	211,781
Airport	1,560,000	-	2,621
Parks & Gardens and Sporting Facilities	309,000	4,277	6,180
Other Infrastructure	143,000	3,400	2,860
Total Infrastructure (Inc. Formation)	**72,074,414**	**703,263**	**1,222,840**
Total Infrastructure (Ex Formation)	**35,454,534**		

It is generally accepted that 2 – 4% of infrastructure value is need for asset maintenance. The more prescriptive renewal that can be funded, the lower the maintenance cost. Based on an asset portfolio of $72,100,000 (excluding road formation costs which are not modelled or depreciated), the Shire would need to be spending $784,000 (2%) - $1,564,000 (4%) on maintenance depending upon age and condition.

The modelling predicts a 20 year average renewal demand of $1,340,488 and if it were fully funded, consequential maintenance demand of $783,525 p.a. (combined maintenance and renewal of $2,124,013 p.a.).

However, Greenfield Technical Services (Greenfield) noted it is apparent that the current ROMAN database for the Shire does not include all of the signs, grids and floodways in the Shire. This is a significant omission and may result in the valuation and estimated renewals being understated. The Shire intends to capture this information for inclusion in future revisions of the plan.

Subject to the above limitation, the Shire is currently forecasting $703,263 p.a. expenditure on asset renewal, leaving a renewal funding gap of $637,225.



Calculated ratios based on the planned and calculated renewals and maintenance expenditure are illustrated as follows:

Asset Sustainability Ratio

Target between 90% to 100%

$$\frac{\text{Capital Renewal Expenditure}}{\text{Depreciation Expense}}$$

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Capital Renewal ($000)	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703
Depreciation Expense ($000)	1,480	1,446	1,495	1,418	1,347	1,281	1,219	1,161	1,107	1,056	997	950	910	871	836	802	693	664	637	689
Forecast	**48%**	**49%**	**47%**	**50%**	**52%**	**55%**	**58%**	**61%**	**64%**	**67%**	**71%**	**74%**	**77%**	**81%**	**84%**	**88%**	**101%**	**106%**	**110%**	**102%**

Asset Consumption Ratio

Target 50% - 75%

$$\frac{\text{Depreciated Replacement Cost of Assets (Written-Down Value)}}{\text{Current Replacement Cost}}$$

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Depreciated Replacement Cost ($000)	25,123	24,650	23,830	23,085	22,412	21,805	21,260	20,773	20,340	19,958	19,635	19,358	19,122	18,924	18,762	18,633	18,614	18,624	18,661	18,723
Current Replacement Cost ($000)	36,913	37,714	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495
Forecast	**68%**	**65%**	**60%**	**58%**	**57%**	**55%**	**54%**	**53%**	**52%**	**51%**	**50%**	**49%**	**48%**	**48%**	**48%**	**47%**	**47%**	**47%**	**47%**	**47%**

Asset Renewal Funding Ratio

Target 95% - 105%

$$\frac{\text{Net Present Value of Planned Renewal Expenditure}}{\text{Net Present Value of Asset Management Plan Projections (Required Renewals)}}$$

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Planned Renewals ($000)	14,065	13,362	12,659	11,955	11,252	10,549	9,846	9,142	8,439	7,736	7,033	6,329	5,626	4,923	4,220	3,516	2,813	2,110	1,407	703
Required Renewals ($000)	26,810	26,106	25,403	24,700	23,997	23,293	22,590	21,887	21,184	20,480	19,777	19,074	18,371	17,667	16,964	16,261	15,558	14,854	14,151	13,448
Forecast	**52%**	**51%**	**50%**	**48%**	**47%**	**45%**	**44%**	**42%**	**40%**	**38%**	**36%**	**33%**	**31%**	**28%**	**25%**	**22%**	**18%**	**14%**	**10%**	**5%**

Options to close the funding gap may include:

- Rationalising assets where possible;
- Setting hierarchies across all asset groups and defining levels of services across each level of the hierarchy; and
- Targeting funding opportunities and developing a long term funding strategy to fund the remaining renewal gap.

1.7 Summary of Required Future Actions

The following actions need to be undertaken in order to improve the reliability of future revisions of the AMP:

- Update the ROMAN database to include all signs, grids and floodways' in the Shire;
- Develop Stakeholder Engagement methodology;
- Determine and document current Technical and Customer Levels of Service;
- Develop targeted criteria to consult the community on in relation to each asset group;
- Develop demand forecasts and detail their implications for each major asset group;
- Develop a formalised maintenance strategy;
- Develop a Roles and Responsibilities Matrix, document in the AMP and cross reference to position descriptions; and
- Develop monitoring criteria against which the effectiveness of the AMP can be measured and reported.

2. Introduction

The Strategic Community Plan (SCP) is the Shire's most important strategic document. The SCP will guide and inform planning and decision making for the next 10 years.

The Shire is the key driver of the SCP, but implementation is the shared responsibility of all community stakeholders.

The AMP demonstrates responsive management of assets (and services provided from assets), compliance with regulatory requirements, and outlines the funding required to provide these assets at the required Levels of Service. The AMP covers the following infrastructure assets:

Asset Category	Dimension
Roads	
Sealed Roads	75 Km's
Unsealed Roads	1,887.7 Km's
Buildings	No. of Properties
Council Premises	11
Community Facilities	5
Staff Housing	7
Airport	• Sealed Runway and taxi way; • Fencing; • Runway and Taxi Lighting; • Wind Directional Sock; and • Pilot Activated Landing System.
Parks & Gardens and Sporting Facilities	• Active Recreation Areas; • Passive Recreation Areas; • Fencing; and • Lighting.
Other Infrastructure	• Tourist Information Bays; • Fencing; • Lighting; and • Water Tanks and Reticulation.

It may not be possible to maintain the current Level of Service in the long term with the Shire's available resources.

2.1 The Need for Infrastructure Planning

As custodian, the Shire is responsible for effectively accounting for and managing these assets and having regard to long term and cumulative effects on assets of the decisions made by the Shire. The Shire has acquired assets by purchase, by contract and construction by Shire staff to meet required Levels of Service.

AMPs provide a long-term assessment of the asset activities and actions required to deliver services related to infrastructure. The objective of an AMP is to outline the actions and resources required to provide a defined Level of Service in the most cost effective manner.

Development of an AMP is a staged process.

The AMP has been developed with reference to the National Asset Management Strategy (NAMS). The AMP will need to be regularly updated to ensure it meets IPR Framework requirements and knowledge improvement.

In accordance with IPR requirements, the Shire prepared and adopted an Asset Management Policy (AMP) and Asset Management Strategy (AMS), as components of its Resourcing Strategy. The AMP sets the broad framework for undertaking asset management in a structured and coordinated way. It outlines why and how asset management will be undertaken.

The AMP and AMS will be periodically reviewed to ensure they:

- Encompass all physical assets under Shire control;
- Identify service standards;
- Identify assets critical to operations, outline RM strategies for these assets and include specific actions required to improve asset management capability;
- Meet IPR requirements; and
- Include long term projections of asset maintenance, rehabilitation and replacement costs.

The Shire's objective in managing assets is to meet the required Level of Service in the most cost effective manner for present and future customers. The key elements of asset management are:

- Taking a life cycle approach;
- Developing long term, cost-effective management strategies;
- Providing a defined Level of Service and monitor performance;
- Understanding and meeting the demands of the forecast population level through demand management and infrastructure investment;
- Managing risks associated with asset failures;
- Sustainable use of physical resources; and
- Continuous improvement in asset management practices.[1]

The AMS provides a current status of asset management practices, where we want to be, and how we will get there (gap analysis). In support, the AMP has been developed to determine the long term projections of asset maintenance, rehabilitation and replacement costs that meet our community expectations.

This AMP provides direction and guidance for effective short and long term management of assets under the Shire's control. In preparing the Plan, as well as comprehensive investigations and data concerning condition of assets, the Shire has taken into consideration community feedback and desired service levels.

2.1.1 Core and Advanced Asset Management

Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

This plan has been prepared as a 'core' AMP in accordance with the IIMM. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting.

[1] IIMM 2006 Sec 1.1.3, p 1.3

3. Community Consultation and User Satisfaction

A key aspect of the IPR Framework is community engagement to develop the SCP. The aim of the AMP is to set out the Level of Service that the Shire proposes to deliver assets to in order to achieve the community's service delivery aspirations.

The ultimate aim of the AMP is to document current Levels of Service and the costs to deliver it.

This will form the basis of discussion with key stakeholders identified in this plan when the SCP is next revised.

This plan covers all infrastructure asset groups and there will be different stakeholders for each asset group. There will also be common stakeholders across all asset groups.

Stakeholders have been divided into four key stakeholder categories – Internal / External and Primary / Secondary.

Each category will be engaged in a different way. The Shire is yet to identify how each category will be engaged; this will be a task for a future revision of the AMP.

3.1 Identified Key Stakeholders

The following stakeholders have been identified for each Asset Group:

Road Asset Group Key Stakeholders		
	Internal	**External**
Primary	• Elected Members; and • Works Department	• Heavy Vehicle Operators; and • Motor Vehicle Drivers.
Secondary	• Other Shire Departments.	• Wider Community; • Main Roads Western Australia; • CSIRO; • Regional Road Group; • Shire of Upper Gascoyne; • Shire of Meekatharra • Shire of Cue; • Shire of Shark Bay; • Shire of Northampton • Shire of Yalgoo; • City of Greater Geraldton; • Department of Planning; • Department of Transport; • WA Police; • St John Ambulance; • Fire and Emergency Services; • Department of Regional Development and Lands; and • Department of Environment and Conservation.

Building Asset Group Key Stakeholders		
	Internal	**External**
Primary	• Elected Members; and • Works Department.	• Community Groups; and • Sporting Clubs.
Secondary	• Other Shire Departments.	• Wider Community; • State Sporting Associations; • State Associations of Community Groups; • Department of Planning; • Department of Sport and Recreation; and • Department of Regional Development and Lands.

Airport Asset Group Key Stakeholders		
	Internal	**External**
Primary	• Elected Members; and • Works Department.	• RFDS; • Private Plane Operators; and • Charter Plane Operators.
Secondary	• Other Shire Departments.	• Wider Community; • Department of Transport; and • Civil Aviation Safety Authority.

Parks & Gardens and Sporting Facilities Asset Group Key Stakeholders		
	Internal	**External**
Primary	• Elected Members; and • Works Department.	• Community Groups; and • Sporting Clubs.
Secondary	• Other Shire Departments.	• Wider Community; • State Sporting Associations; • State Associations of Community Groups; • Department of Planning; and • Department of Regional Development and Lands.

Other Infrastructure Asset Group Key Stakeholders		
	Internal	**External**
Primary	• Elected Members; and • Works Department.	• Community Groups.
Secondary	• Other Shire Departments.	• Wider Community; and • Department of Water.

4.0 Level of Service

4.1 Introduction

Level of Service provides the basis for life cycle management strategies and works programs identified in the AMP. The Level of Service supports strategic goals and is based on customer expectations, statutory requirements, standards and financial capacity to deliver those Levels of Service.

Levels of Service will be refined over time to match customer expectations.

This requires a clear understanding of customer needs, expectations, preferences and willingness to pay for any increase in the Level of Service.

Levels of Service are used to:

- Inform customers of the proposed type and quality/quantity of service to be offered;
- Identify the cost and benefits of the services offered; and
- Enable customers to assess suitability, affordability and equity of the services offered.

Levels of Service are based on:

- Community Expectations;
- Strategic and Corporate Goals;
- Legislation, Regulations, Environmental Standards and Industry and Australian Standards that impact on the way assets are managed; and
- Design Standards and Codes of Practice.

The current service levels for renewal, expansion, maintenance and operational works involving infrastructure assets are the outcome of some feedback from the community, tradition and the balancing act undertaken in matching activities to budget.

The development of Levels of Service is a major task. The IIMM provides a systematic process to achieve this (see IIMM section 3). This involves a sequence of:

- Understanding your customers;
- Developing Levels of Service;
- Developing performance measures;
- Consulting with customers; and
- Communicating the outcomes.

A relevant comment in the Manual for the Shire is that:

Levels of Service need to be manageable by current staff and appropriate to the quality of existing, available financial and service level data.

It may not be possible to maintain the current Level of Service in the long term with the Shire's available resources.

4.2 Customer and Technical Service Standards

There are two types of Levels of Service:

Customer – how the customer relates to the service provided:

Includes things such as style, appearance, level of cleanliness, maintenance responsiveness, quality and type of consumables, safety and accessibility.

Technical – how the service is provided.

Customer and Technical Level of Service can often mean the same thing but can also be interpreted differently. E.g. a stormwater pipe network can be designed to meet identified technical requirements and in so doing protect the property. However if the design results in an ugly addition to the streetscape it wouldn't meet Customer (i.e. community) criteria in terms of appearance.

Service Standards Categorisation	
Service Standards	**Description**
Function	The purpose of the asset / service.
Design	The requirements / provisions of the assets / services.
Performance / Amenity	The effectiveness of the provision of the service. The efficiency of service delivery. The presentation of the asset / program / activity.

Service Standards may contain both strategic and operational objectives based on:

- Historical information gathered from customers on expected quality and cost of services;
- Strategic and corporate goals;
- Legislative requirements, Regulations, Environmental Standards and Industry and Australian Standards that impact the way assets are managed; and
- Design Standards and Codes of Practice.

Service Standards provide guidance on the scope of current and future services and the manner of service delivery to be applied across the network to achieve consistency. Customer Service Standards need to have regard to:

- Community views and values;
- Best appropriate practice industry standards;
- The need to provide a building network that is safe for all users; and
- Ability to fund maintenance and operational activities.

It is recommended that a hierarchy is used as the basis for determining the various standards across the asset portfolio in line with relevant risk factors, while having regard to the significance of the asset to the community.

Technical Service Standards are aligned with:

- Quality;
- Quantity;
- Safety;
- Capacity;
- Fitness for Purpose;
- Aesthetics;
- Reliability;
- Responsiveness;
- Environmental Acceptability; and
- Costs.

The Technical Service Standards describe asset usage, renewal, maintenance and operational criteria under the categories of function, design and presentation/amenity.

Asset design criteria is addressed on an individual basis dependent upon the intended use of the asset and surrounding planning requirements, utilising relevant engineering design guidelines. It is recommended that the Shire develop minimum design criteria. An example for buildings is as follows:

- All buildings to have inbuilt energy efficiency;
- All buildings to incorporate solar design principles; and
- All buildings to have disabled access.

The intention is that building assets not currently meeting the target specification will be reconstructed to the target level where practicable.

Where there are specific needs or funding opportunities, the Shire may deem it important to exceed the standard specifications to improve such things as functionality, safety, accessibility, providing that funding can be sourced for that change.

It is important to understand that there may be differences between the specified Service Standards and the Service Standards delivered. There are many reasons for the difference, and until that factor is quantified, it will be impossible to determine the affordability factor. This plan begins the quest to determine those matters cognisant of the fact that it will take some time to gather the financial information to support the calculations.

It is also important for the Shire to achieve an understanding of the current liabilities for asset and service management within the specified levels of Service framework. From that point, it will be possible to project the financial and operational requirements.

The Levels of Service information will also provide an important demonstration of the degree of Shire control and influence over the factors which will help determine outcomes.

It is fair to conclude that the evolution of the asset network and current Levels of Service are closely aligned and consistent with community needs (albeit they are not recorded and have not been recently tested with the community). It is also fair to conclude that in the absence of major community requests for new and upgraded assets, that the current and desired Levels of Service are also relatively closely aligned.

Before setting Levels of Service, the Shire will need to determine and document the current levels provided and document these in the AMP. As further information on customer expectations becomes available, the AMP should be updated to reflect those findings.

As noted above, Levels of Service have yet to be formally defined for the Shire's asset portfolio. The service provided to date has largely been determined by the funds available (based on historical cost) and not necessarily by need.

This has meant that maintenance and renewal activities in any given financial year have traditionally been limited to the amount spent in previous years. This is not the most desirable situation. Rather expenditure should be set on an "as-needs" basis to guarantee a minimum Level of Service and optimum performance of each asset and ensure a maintenance backlog and renewal gap is not created in the long term.

4.3 Strategic Levels of Service

This section covers the provision of services in terms of key customer outcomes including:

- Appropriateness of service;
- Accessibility of service – within reasonable hours;
- Affordability – acknowledging that assets and services may need to perform to different levels across the community to accord with demographic profiles;
- Relevance of the services provided – in terms of demand characteristics, future demographics and renewal profiles; and
- Ensuring that quality processes and RM principles are appropriate and applied as required.

Typical standards are recorded in the table below:

Service Criteria	**Council Action**	**Performance Measure**
Legislative Compliance	To ensure that all buildings comply with all relevant legislative compliance provisions.	Annual audit based on periodical inspections / records. 100% compliance with all Legislative Acts, Regulations and Codes.
Cost Effectiveness	To provide the Levels of Service in the most cost effective manner.	Actual v Budget This information will be used to support the development of 'productivity ratios' for various activities.
Customer Satisfaction	To ensure that levels of service align with customer needs.	Customer surveys indicating community perceptions of Levels of Service.
Asset Conditions	Monitoring asset condition profiles to ensure that assets do not degrade unmanageably during the reporting period.	Set standards for average asset condition profiles based on Levels of Service (not budget).
Maintenance and Operational / Risk Responsiveness	Maintain Risk Register for all maintenance and operational activities and monitor effectiveness of risk treatments.	Risk will be managed by maintenance and operational activities – success indicators are aligned with effectiveness of the treatments.

4.4 Function and Hierarchy

Asset function decides its strategic importance within the network.

The Shire does not have the resources to maintain every asset to the same Level of Service. Placing the asset within a hierarchy and assigning different Levels of Service to each level of the hierarchy (based upon importance in terms of such things as risk, social benefit, function etc.) will enable the Shire to optimise resource allocation.

Higher order assets attract greater resources because they carry greater risk and are of greater importance to the community. They may have shorter lead times to intervention to repair, maintain or renew the asset. Assets further down the hierarchy do not carry the same level of importance and thus the lead time to intervention may be greater.

4.5 Customer Research

Specific community consultation is required to understand what the community values in terms of service delivery from assets.

Historically, interpretation of community need with respect to assets has been based on community comment and knowledge of key staff members who manage the asset on a day to day basis. Community consultation has also occurred on a project specific basis.

In the past, customer feedback has predominantly determined the ongoing Level of Service delivered on a particular asset, but not through any quantified and formalised process.

As target Levels of Service provide the basis for lifecycle management strategies and capital programs, community consultation specific to the Shire's assets needs to be undertaken to determine community expectations and set Levels of Service for each asset classification.

The current Level of Service strives to provide, but is not limited to the following:

- Assets that provide adequate services; and
- All assets are to be maintained in a clean, safe, workable condition.

More targeted customer research will be required in order to determine "Customer" Level of Service. For example Zincalume Roof Cladding is cheaper than Colourbond Roof Cladding which is cheaper than clay tiles. However the community may demand that building roofs are clad in clay tiles rather than Colourbond or Zincalume to ensure they are in keeping with buildings of the surrounding district. From a "Technical" Level of Service point of view, all three perform the same task, i.e. keep the building weather proof.

4.6 Strategic and Corporate Goals

The Shire has recently adopted a new SCP that includes an objective to meet the required Level of Service in the most cost effective manner for present and future residents, for public infrastructure. Like many local government authorities, the Shire has historically managed its assets on a day to day basis utilising the in-house technical knowledge retained by key staff members.

Whilst this approach has served the Shire and community to date, the Shire recognises the need to take a more businesslike and organisation wide approach to asset management and one which involves the community on a wider basis.

Essentially the corporate goal is to have a "whole of life cost" approach to the provision and maintenance of assets and to consider the ongoing costs of existing assets when making decisions on the renewal/replacement of existing assets or acquisition of new assets.

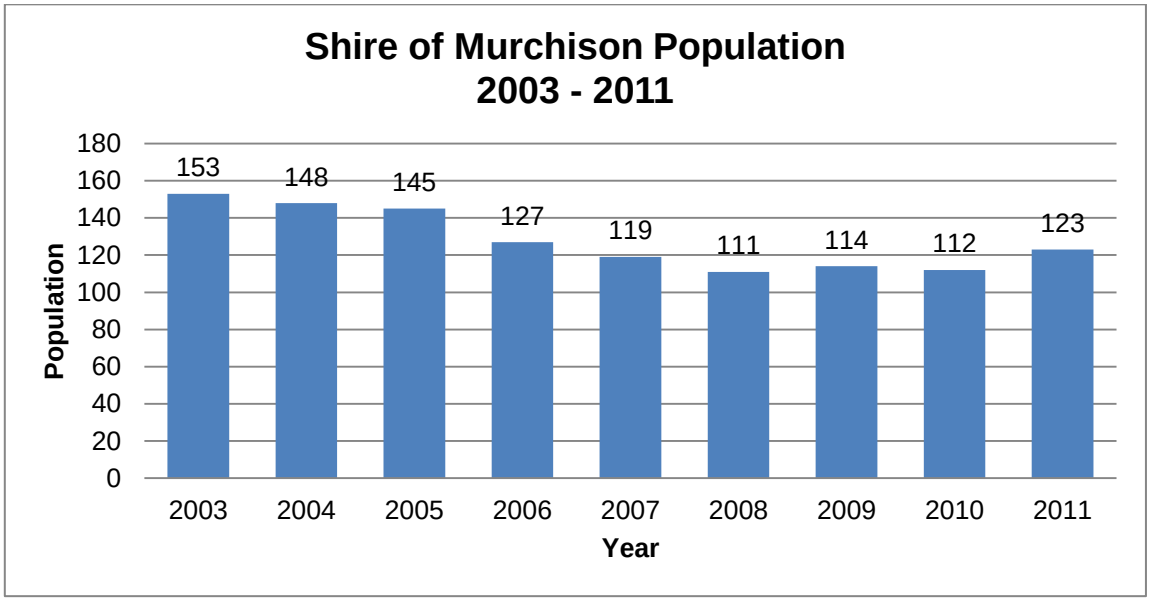
4.7 Legislative Requirements

Key legislation relating to the management of assets includes:

- Road Traffic Act 1974;
- Main Roads Act 1930;
- Environmental Protection Act 1986;
- Occupational Safety and Health Act 1984;
- Local Government Act 1995;
- Native Title Act 1999;
- Planning and Development Act 2005;
- Heritage of Western Australia Act 1990;
- Conservation and Land Management Act 1984;
- Land Administration Act 1997;
- Aboriginal Heritage Act 1972; and
- Building Code of Australia.

5.0 Future Demand

The population of the Shire is estimated to have decreased by 20% from 153 in 2003 to 123 in 2011



Much of this population decline has been from the Pia Wadjari Community which has a highly transient population. Municipal services and infrastructure management at Pia Wadjari is primarily administered by the Pia Wadjari Aboriginal Corporation. The population throughout the remainder of the Shire has remained fairly stable.

The Shire is currently expanding accommodation facilities at the Caravan Park in the Murchison Settlement and looking to expand its workforce. These developments have the potential to increase the Shire's population base.

On this basis, the demand for services has been modelled on a stable population base of 123 as per the 2011 level.

5.1 Demand Forecast

Factors affecting demand include, but are not limited to:

- population change;
- changes in demographics;
- seasonal factors;
- vehicle ownership;
- consumer preferences and expectations;
- economic factors;
- agricultural practices; and
- environmental awareness.

As this is a Core AMP, demand forecasting has not been completed. This will be carried out as part of future reviews of the AMP.

5.2 Demand Planning

The objective of demand management is to actively seek to modify customer demands for services in order to:

- Optimise the utilisation / performance of existing assets;
- Reduce or defer the need for new assets;
- Meet the Shire's strategic objectives;
- Deliver a more sustainable service; and
- Respond to customer needs.

It is vital to the success of the AMP that demand factors be analysed comprehensively, and their impact quantified in terms of:

- The effect of the growth of the asset network;
- Any possible future need to increase or decrease infrastructure; and
- The implementation of non-asset solutions, such as managing demand.

In addition to the factors mentioned above, risk affects demand for services and consequently the following must be taken into account:

- The methodology and accuracy of forecasts;
- The currency of forecasts;
- The uncertainty of forecasts; and
- Any unforeseen natural factors.

As this is a "1st Cut" AMP, Demand Planning cannot be addressed at this stage without the gathering of the above information.

5.3 Management Strategy

Demand management strategies provide an alternative to the creation of new assets through modifying customer demands. A key long term strategy is to manage demand so that future services can be provided at a reasonable cost without negative impact on delivery. It is expected that proper demand management strategies will allow for the deferral of the construction of key infrastructure.

Effective strategies maximise the utilisation of existing assets through consolidating services or disposing of assets that are surplus to requirements, and are based on the following principles:

- Assets should be retained where they support the delivery of core services. If an asset is more aligned to the responsibility of another tier of government, the private sector, or a particular community group, opportunities to transfer the responsibility to the relevant entity should be considered;
- The use of existing assets should be optimised to provide ratepayers with a value for money service; and
- Demolition or disposal should be considered for assets that have no demonstrated ongoing need and that are in poor condition and/or are unsafe.

The following table outlines the process of developing a demand management strategy for buildings:

Scope • Define scope of services to be assessed; • Specify the objectives of demand analysis; and • Identify criteria for selecting demand management strategy.
Research • Identify current demand for service; • Identify current service delivery potential of the asset; • Assess future trends in demand for service; • Identify the corporate strategies relevant to the service; and • Identify actual customer demands (rather than wants).

Analyse

- Assess the ability of the asset to provide the required level of short and long term service;
- Explore all demand management options which avoid investing in new assets;
- Evaluate options against selection criteria;
- Test the acceptability of the proposal with customers; and
- Adopt chosen demand management strategy.

Action

- Implement demand management program;
- Put in place measures to monitor demand and asset performance;
- Assess effectiveness of the demand management strategy; and
- Undertake an ongoing review of the strategy and modify as necessary.

The challenge will be to now tie this information to demand for existing and future services which in turn will drive the demand for specific assets.

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 management. Demand management practices include non-asset solutions, insuring against risks and managing failures. Opportunities for demand management will be developed in future revisions of this Plan.

6.0 Risk Management

Asset Management involves making decisions regarding the future of assets in all aspects:

- Operations;
- Maintenance;
- Renewal;
- Replacement; and
- New Capital Works.

These decisions are rarely risk free.

The AMP would ideally be supported by a RM Plan with a specific risk focus applied to asset management. RM is an integral part of good business practice and works in tandem with strategic and financial planning. Developing and maintaining a RM Framework is an effective way to identify, manage and respond to risks within the Shire.

A RM Framework should consider all facets of the Shire's activities and aim to identify and deal with risks the Shire faces strategically and operationally. RM is the process of thinking about possible risks the Shire faces either before they happen or as a result of an incident or outcome and setting up treatments to avoid or minimise the impact of the risk.

A RM Framework should be developed in accordance with the International Standard for Risk Management – ISO 31000:2009.

RM allows for systemic change and continuous improvement in planning, resource allocation, decision making and processes and would deliver outcomes such as:

- Improved asset management;
- Improved planning, performance and effectiveness;
- Accountability and sound governance;
- Protecting the Shire from legal liability;
- Reducing insurance premiums;
- Improved community perception of the Shire;
- Capacity to respond to new opportunities;
- Improved prioritisation of activities and projects; and
- Improved project outcomes and reporting.

Like most local authorities, the Shire doesn't have unlimited resources to manage its assets. Therefore the Shire must develop systems that ensure its resources are directed to the areas of most need and with the greatest benefit in order to ensure that resources are allocated wisely. Adverse consequences of poor management practices in relation to the infrastructure network can range from insignificant to catastrophic.

6.1 Current Risk Management Practices

The Shire does not currently have a RM Framework in place. Such a framework should be developed in accordance with the process outlined at Appendix 1.

7.0 Lifecycle Management Plan

The lifecycle management plan details plans to manage and operate the assets at the agreed Levels of Service while optimising life cycle costs.

One of the goals of Asset Management is to predict the whole-of-life costs of assets over a long term period (20 years), so that renewal demand can be incorporated into the Shire's long term financial planning.

Costs are incurred from the inception to disposal of an asset. These costs include construction, operations, maintenance, renewal, capital upgrades and finally disposal.

Long term asset renewal and maintenance costs are determined by modelling the lifecycle of the asset, using a predictive model such as that utilised for this plan.

Assets are modelled at network level (i.e. analysis is performed on groups of like assets, not on an individual basis).

Assets are modelled on the assumption they have finite lifespans. For modelling purposes, the asset is broken down into two or more components according to the lifespan of the component. The overall asset lifespan is taken to be the lifespan of the most durable component. Each component has a different lifespan.

The modelling inputs are a range of variables that influence the predicted renewal and maintenance costs. These include: quantities, asset component lifespan, component condition, component deterioration curves, component replacement cost, current maintenance costs and intervention condition rating.

The output from the model is a predicted cashflow of costs to renew and maintain the asset class to a desired Level of Service.

A range of strategies can be applied to the management of the operations, maintenance and capital expenditure. Where available these are included in this plan.

All figures used in this plan are in 2013 dollars. There is no allowance for inflation.

Details of the five main asset classes – Roads, Buildings, Airport, Parks & Gardens and Sporting Facilities and Other Infrastructure are examined in this section.

7.1 Background Data

The assets covered by this AMP are shown below:

Infrastructure Summary	Renewal Estimate ($)	%
Roads	59,014,170	81.88%
Buildings	11,048,244	15.33%
Airport	1,560,000	2.16%
Parks & Gardens and Sporting Facilities	309,000	0.43%
Other Infrastructure	143,000	0.20%
Total Infrastructure (Inc. Formation)	**72,074,414**	**100.00%**

The Inventory covered by this AMP includes all infrastructure assets. However, Greenfield noted it is apparent that the current ROMAN database for the Shire does not include all of the signs, grids and floodways in the Shire. This is a significant omission and may result in the valuation and estimated renewals being understated. The Shire intends to capture this information for inclusion in future revisions of the plan.

7.2 Economic Life

The level of analysis behind the adopted economic life is a critical indicator of how accurately the lifecycle model will reflect the true position.

Lack of knowledge about economic life creates variation and potential error. The issue to address is not that there is variability, rather the lack of supporting statistical data and analysis to demonstrate the actual economic life.

Depreciation is the measure of the consumption of service potential (the rate at which an asset is “used up”). The two primary variables in the calculation of depreciation are:

- The age of the asset (service potential consumed to date); and
- The remaining life of the asset (how much service potential remains).

Economic life is the sum of these two variables per asset. Average depreciation over the life of the asset is current replacement value per asset divided by economic life. Current depreciation is written down current replacement cost divided by remaining life.

Progressive failure and renewal of assets means renewal expenditure and economic life are distributions and not a single value. Simplicity of reporting means the use of a single value such as the median for economic life, but actual asset behaviour needs to be understood and interpreted for useful asset management and financial reporting.

For infrastructure assets such as roads a number of factors require application of more sophisticated methods to determine annual depreciation and written down value.

Errors likely to materially affect financial reports are caused by:

- Over / underestimating economic life;
- Limits of using condition based analysis to predict future remaining life where there is no statistical basis to determine the relationship between condition and remaining life; and
- Over / understating current replacement cost.

The analysis most likely to reduce these gross errors is breaking assets into components so that assessment of economic life, remaining life and asset depreciation is made at the level where the variation can be analysed and reported.

The lives of each asset element/component utilised in the financial modelling undertaken in developing this AMP are:

Asset Category	Sub Category	Life (Years)
Roads	Signs	20
	Base Course – Unsealed	10
	Base Course – Sealed	40
	Reseal	15
	Asphalt	20
	Culverts – RCP/RCB	80
	Culverts – Helicores	30
	Stock Grids	80
	Footpaths – Concrete	40
	Footpaths – Brick	30
	Footpaths – Asphalt	40
	Footpaths – Slabs	30
	Footpaths – Gravel	20
	Floodways – Concrete	80
	Floodways – Gravel	10
	Floodways – Bitumen	40
	Kerbs	40
Buildings		20 – 50
Airport		20
Parks & Gardens and Sporting Facilities		20 – 30
Other Infrastructure		40

7.3 Asset Condition Assessment Rating

Assets have a range of factors that influence their usability. From an asset management perspective, the various factors fall into one of the following groups:

- Fitness for Use; and/or
- Fitness for Purpose.

Fitness for Use is a measure of the asset's physical condition relative to its condition when first constructed or refurbished. This measurement takes into account the current condition of the physical integrity of the asset.

Common to all assets is the condition rating system used. The system used in this plan is a standard scale of 1 -5 where 1 = new and 5 = total deterioration:

Asset Condition Assessment Rating	Definition	% of Estimated Economic Working Life (EEWL) Remaining
1. Very Good Condition	Building is new or has been extensively remodelled and modernised.	100% - 91%
2. Good Condition	Building has been well maintained and has been possibly refurbished.	90% - 71%
3. Moderate Condition	Building has been regularly maintained throughout.	70% - 21%
4. Poor Condition	Building in need of overall maintenance no obvious structural defects.	20% - 6%
5. Very Poor Condition	Building in disrepair or uninhabitable with possible structural problems.	5% - 0%

The above table represents the approach applied by AVP Valuers in determining the Asset Condition Assessment Rating based on the Estimated Economic Working Life (EEWL) and the Estimated Remaining Life Years (ERLY) of an asset in undertaking their valuation of Land and Buildings in March 2013.

Fitness for Purpose measures an assets match to its current or intended use. It considers the minimum feature set required and additional features desirable to enhance the usability of an asset. Fitness for Purpose is tied to the use of the asset, rather than the asset itself and takes account of changing requirements for different features over time.

An asset initially fit for its intended purpose may cease to be so as standards and expectations change. Determination of an asset's fitness for purpose has not currently been considered but will be developed in future revisions of this plan.

7.3.1 Current Condition

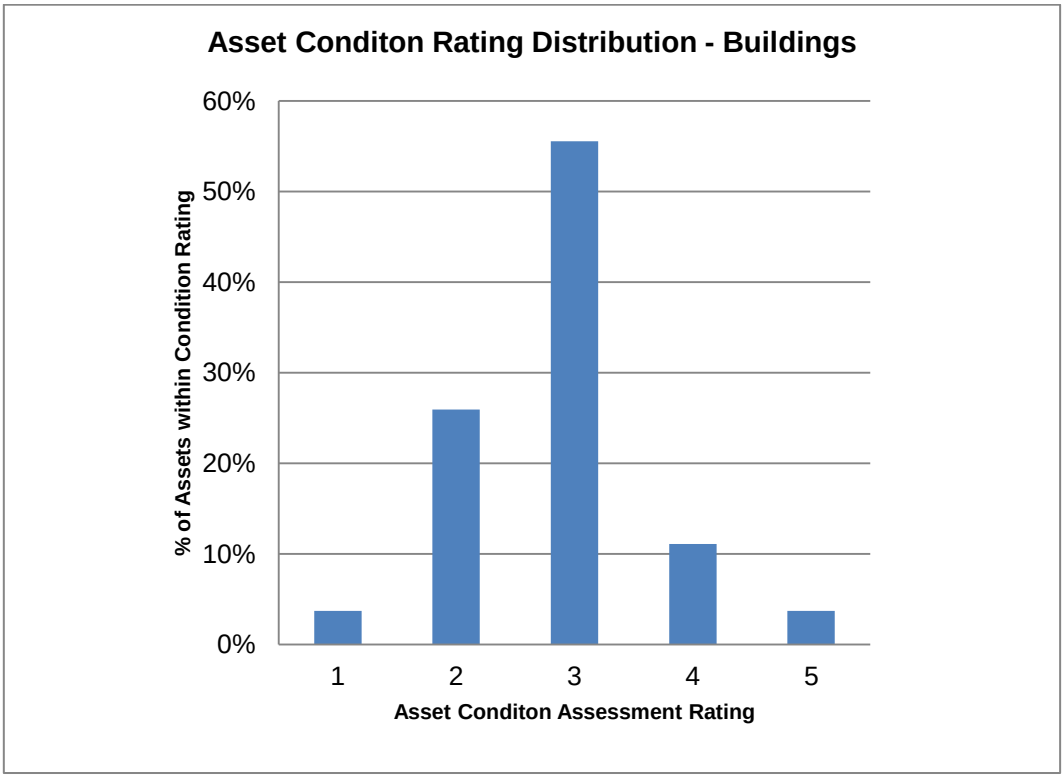
Current condition information for the purposes of this 1st Cut plan has been determined by reference to Greenfield (Roads) and AVP Valuer's (all other infrastructure classes) assessment performed in March 2013.

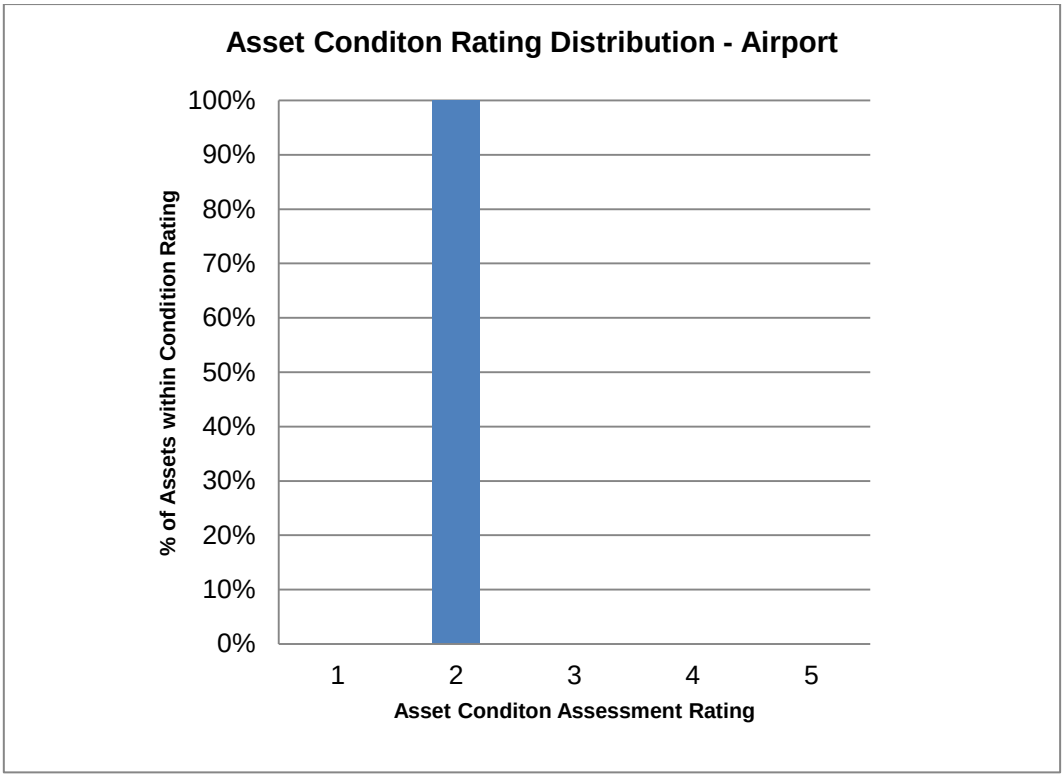
Greenfield have noted the current ROMAN database for the Shire does not include any useful asset condition data which could be used for prioritising renewal works. As such, renewals have been calculated by Greenfield based on generic useful lives.

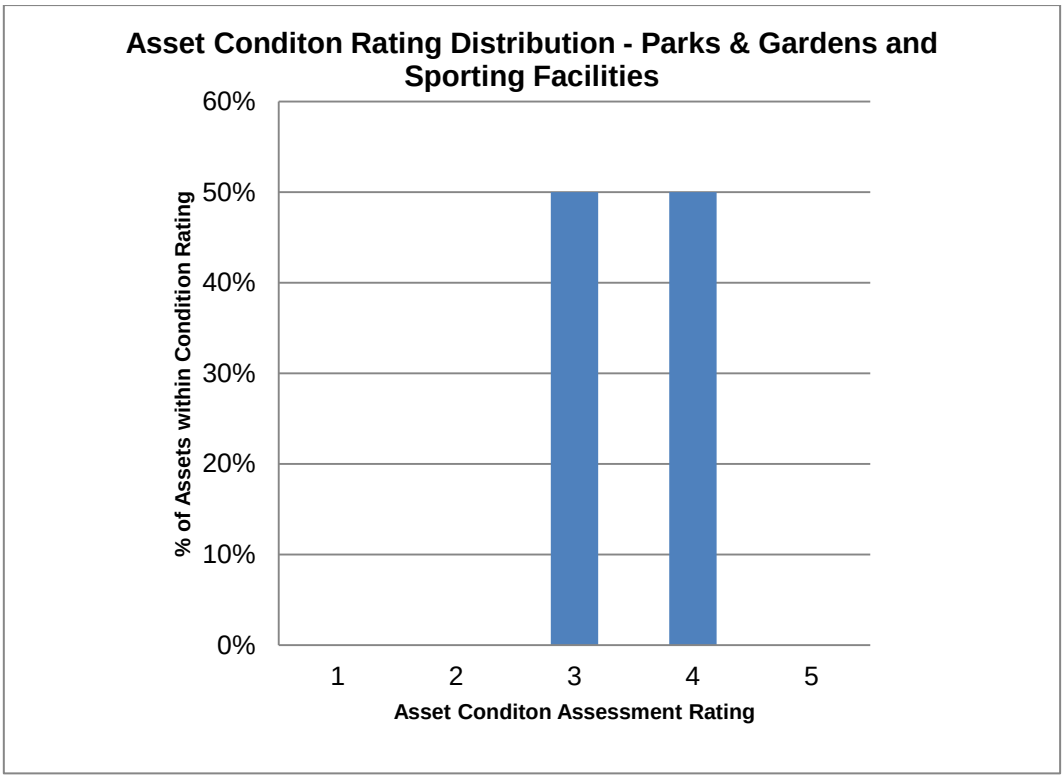
AVP Valuers have completed their Condition Assessment based on a "Walk Through" basis and not on a "Crawl Through" basis. This means they have only undertaken a low level brief physical inspection of the external and internal condition of each building or improvement asset. This assessment in no way constitutes a detailed condition based report and is only intended to provide their opinion on the external and internal condition to provide an indication to the Shire as to the possible physical condition of the asset, in order for them to undertake their own assessment for asset management purposes.

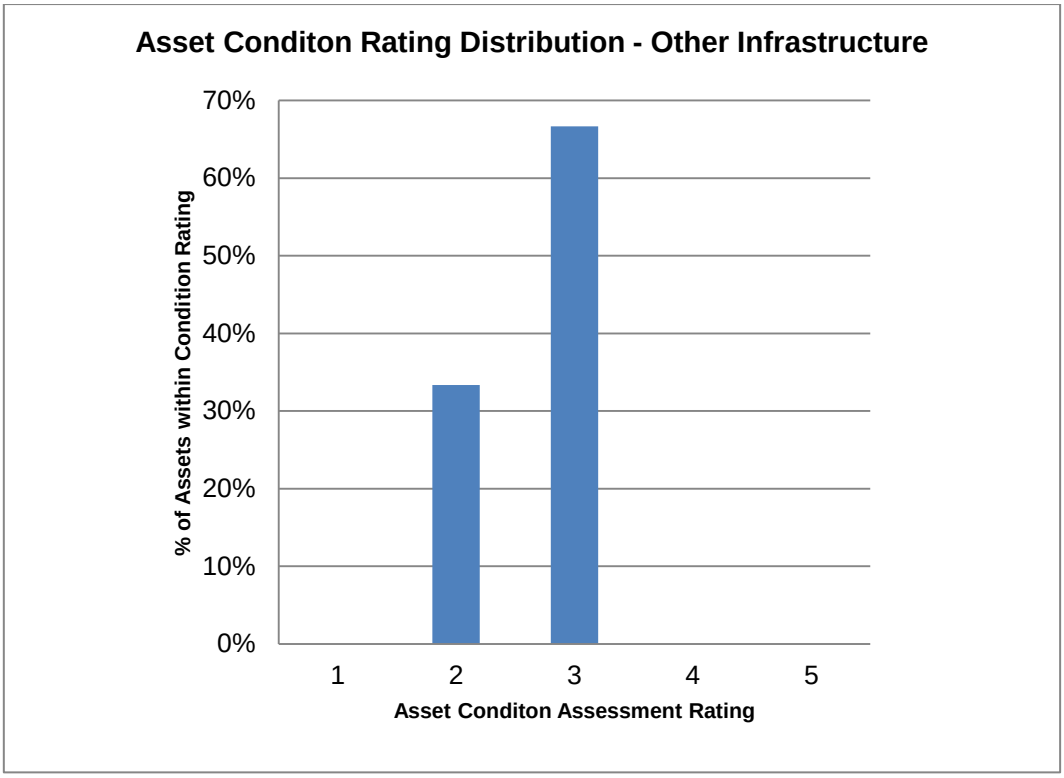
Future versions of the AMP will include the results of actual condition surveys.

The condition distribution profiles based on AVP Valuer's assessment are illustrated as follows:




Asset Conditon Rating Distribution - Airport
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% of Assets within Condition Rating
1
2
3
4
5
Asset Conditon Assessment Rating


Asset Conditon Rating Distribution - Parks & Gardens and Sporting Facilities
60%
50%
40%
30%
20%
10%
0%
% of Assets within Condition Rating
1
2
3
4
5
Asset Conditon Assessment Rating



7.3.2 Asset Valuations

The value of assets as at March 2013 covered by this AMP is summarised below.

Current Renewal Cost	$72,074,414
Annual Average Asset Consumption (AAAC)	$1,411,647
Life Cycle Sustainability Ratio	48%

The Shire's sustainability reporting reports the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion. A Sustainability Ratio of 100% indicates that the current funding provided is equal to the required lifecycle funding estimate. A sustainability ratio of less than 100% indicates a funding gap.

7.4 Routine Maintenance Plan

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

7.4.1 Maintenance Plan

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

Cyclic maintenance is replacement of higher value components/sub-components of assets undertaken on a regular cycle including repainting, building roof replacement etc. This work generally falls below the capital/maintenance threshold.

Reactive maintenance is carried out in accordance with response levels of service detailed in specific maintenance management strategies for each infrastructure category and that undertaken by Shire staff using experience and judgement. For many local governments, reactive work accounts for around 70% of the annual maintenance budget. By its nature, reactive work must be carried out as the need arises and cannot be scheduled in advance, however, a significant portion can be reduced by regular inspection and forward planning for replacement ahead of failure.

Predicated average annual maintenance requirement and forecast average maintenance expenditure is shown in the following table:

	Predicted Average Maintenance Requirement ($ P.A.)*	**Forecast Average Maintenance Expenditure ($ P.A.)**	**Maintenance Expenditure Gap**
Roads	506,906	999,398	(492,492)
Buildings	236,379	211,781	24,598
Airport	31,200	2,621	28,579
Parks & Gardens and Sporting Facilities	6,180	6,180	-
Other Improvements	2,860	2,860	-
Total	**783,525**	**1,222,840**	**(439,315)**
***Calculated as 2% of Gross Current Replacement Cost for Life of Plan.			

Whilst the above table indicates forecast maintenance expenditure in excess of the minimum predicted requirement, the minimum predicted requirement may be understated due to the omission of any useful asset condition data which could be used for prioritising renewal works and signs, grids and floodways' from the ROMAN database as noted by Greenfield.

The Shire is yet to develop a formal maintenance strategy.

7.4.2 Summary of Future Costs

Future maintenance costs are forecast to trend in line with the value of the asset stock.

Deferred maintenance, i.e. those works identified for maintenance and unable to be funded is to be included in the risk assessment process in the infrastructure RM plan.

Maintenance is funded from the Shire's operating budget and grants where available.

7.5 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 capacity. Work over and above restoring an asset to original capacity is upgrade/expansion or new works expenditure.

7.5.1 Renewal Plan

Assets requiring renewal are identified from estimates of remaining life obtained from the asset register. Candidate proposals should be inspected to verify accuracy of the remaining life estimate and to develop a preliminary renewal estimate. Verified proposals should then be ranked by priority and available funds and scheduled in future work programs. The priority ranking criteria depends on the Asset Class. For example the priority for Road Pavements should take into account road surface condition (roughness rutting cracking etc.), road structural condition, road class, traffic volumes, and percentages of heavy vehicles.

Renewal will be undertaken using 'low life cycle cost' 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.

7.5.2 Renewal Standards

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

- Relevant Australian Standards; and
- Main Roads Guidelines.

7.5.3 Summary of Future Costs

Future renewal costs are forecast to increase over time as the asset stock ages. The costs are based on the remaining life of current infrastructure. Remaining life has been based on the assessments provided by AVP Valuers for Buildings, Airport, Parks & Gardens and Sporting Facilities and Other Infrastructure. Road renewals have been based on estimates provided by Greenfield. Consequently large cost spikes occur in particular years and much lower levels are forecast in other years. In reality, as works programs are developed, the remaining life of assets will be reassessed and this will smooth the distribution more evenly over a number of years.

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 RM plan. Renewals are to be funded from the Shire's capital works program and grants where available.

7.6 Creation/Acquisition/Upgrade/Disposal Plan

New works are works that create a new asset, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs.

7.6.1 Selection Criteria

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

7.6.2 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 7.5.2.

7.6.3 Summary of Future Costs

Future new/upgrade/expansion of infrastructure will contribute to the overall infrastructure inventory and will require ongoing maintenance and renewal. Recognition of the impact that asset creation has on the future sustainability of infrastructure should be considered for all new projects. The initial capital cost of construction may well be exceeded by ongoing maintenance and renewal costs.

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

7.7 Disposal Plan

Disposal is any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. No assets have been identified for possible decommissioning and disposal in this AMP. Where cash flow projections from asset disposals are available, these will be considered in future revisions of this AMP.

8.0 Financial Summary

Financial models assist in predicting future financial requirements. The forecasts are based upon the presumption that assets continue to be utilised indefinitely and so will be replaced when its condition reaches the intervention condition.

Preceding the use of such a model for accurate future forecasting, discussion needs to be held about what conditions will be acceptable, and for what classes or uses of assets will the condition ratings, and intervention levels differ. Also, decisions will need to be made about affordable levels of service in order to use the predictive model of financial requirements with a better degree of accuracy.

This section presents a forecast financial summary for the next 20 years based on identified assumptions and trends, planned capital expenditure and actual maintenance expenditure averaged over the financial years 2007/08 to 2011/12. It is anticipated the financial summary will be reviewed annually and continue to be refined as planning studies, strategies and increased financial analysis are completed.

The AMP considers current maintenance and capital expenditures, and existing levels of service, and using simple straight line asset deterioration, models consumption or deterioration of assets. A desired minimum asset condition level has been established and the model determines the required annual expenditure to achieve the pre-determined asset condition level.

This plan makes a comparison between the budget based expenditure approach (i.e. here is $100,000 – do what you can) and the asset-based approach (i.e. the resources that are needed to replace the consumed or ageing asset).

In order to determine how much needs to be spent on an asset to keep it in functional order, a decision is required in regard to when to intervene to undertake works to renew the asset. Ideally this indicator will be derived from the community consultation carried out in Section 3 when determining Levels of Service. However in the absence of that information, this plan has utilised the Officer's knowledge and current practice to determine 1st Cut intervention levels.

8.1 Intervention Point

The Intervention Point is the point at which the asset component has deteriorated to such a condition that it is economically prudent to initiate restoration works to bring the condition of that component back to new (condition 1).

With the exception of roads, the Intervention range in this model is 1 to 5, in line with the Asset Condition Assessment Rating as outlined at section 7.3. The initial Intervention Points used for each asset group in this Plan are shown below.

8.1.1 Intervention Levels for Roads

Required Road renewals have been modelled as advised in the Greenfield Report dated 4th June 2013 as follows:

Intervention Levels for Roads		
Component	**Renewal Period**	**Total ($)**
Roads		
Surfacings	2013 – 2028	5,600,000
Sealed Pavements	2013 – 2053	12,800,000
Unsealed Roads	2013 – 2015	3,500,000
Stock Grids	2060	350,000
Floodways	2015 – 2040	180,000
Total		**22,430,000**

Where the Renewal period falls outside the timeframe of this plan (i.e. after 2032), renewal costs have not been modelled. This applies to Stock Grids. Where the Renewal period falls partially within the plan, costs have been apportioned and modelled for the portion which falls within the timeframe of the plan. This applies to Sealed Pavements and Floodways. Furthermore, based on the 10 year expected useful life of unsealed basecourse per the Greenfield report, further renewal of unsealed roads has been scheduled for the period 2023 – 2025 at the same cost as specified for the period 2013 - 2015.

Greenfield noted it is apparent that the current ROMAN database for the Shire does not include all of the signs, grids and floodways' in the Shire. This is a significant omission and may result in the valuation and estimated renewals being understated. The Shire intends to capture this information for inclusion in future revisions of the plan.

Furthermore, Greenfield have noted the current ROMAN database for the Shire does not include any useful asset condition data which could be used for prioritising renewal works. As such, renewals have been calculated by Greenfield based on generic useful lives.

8.1.2 Intervention Levels for Buildings

Building Element	Intervention Level
Structure Long Life	4
Structure Short Life	4
Roof	4
Mechanical Services	4
Fit Out	4

It should be noted that based on the age and condition profile of the Building Infrastructure, 47 per cent of buildings (based on March 2013 Gross Current Replacement Value) will not fall due for renewal within the 20 year period modelled in this plan.

8.1.3 Intervention Levels for Airport

Airport	Intervention Level
Bitumen sealed runway and taxi way with solar lighting, fencing and wind sox	4

8.1.4 Intervention Levels for Parks & Gardens and Sporting Facilities

Parks & Gardens and Sporting Facilities	Intervention Level
Polo Stables	4
Tennis Court	4
Cricket Practice Net	4
Tennis Court Light Towers	4
Tennis Court Fencing	4
Tennis Court Hit-up Wall	4
Cricket Pitch	4
Polo Goalpost	4
Viewing Platform	4
Shade Cloth	4

8.1.5 Intervention Levels for Other Infrastructure

Other Infrastructure	Intervention Level
Water Supply Distribution System	4
Gazebo	4
Caravan Bays	4

8.2 Current and Projected Maintenance Expenditure

Maintenance expenditure over the life of the AMP has been modelled based on an analysis of the Shire's expenditure history. This is summarised in the following table:

Infrastructure Category	Source	Average Maintenance Expenditure P.A. ($)
Roads	1	999,398
Buildings	2	211,781
Airport	3	2,621
Parks & Gardens and Sporting Facilities	4	6,180
Other Infrastructure	4	2,860
Total		**1,222,840**

[1]Average Road Maintenance 2007/2008 – 2011/2012 Financial Years.

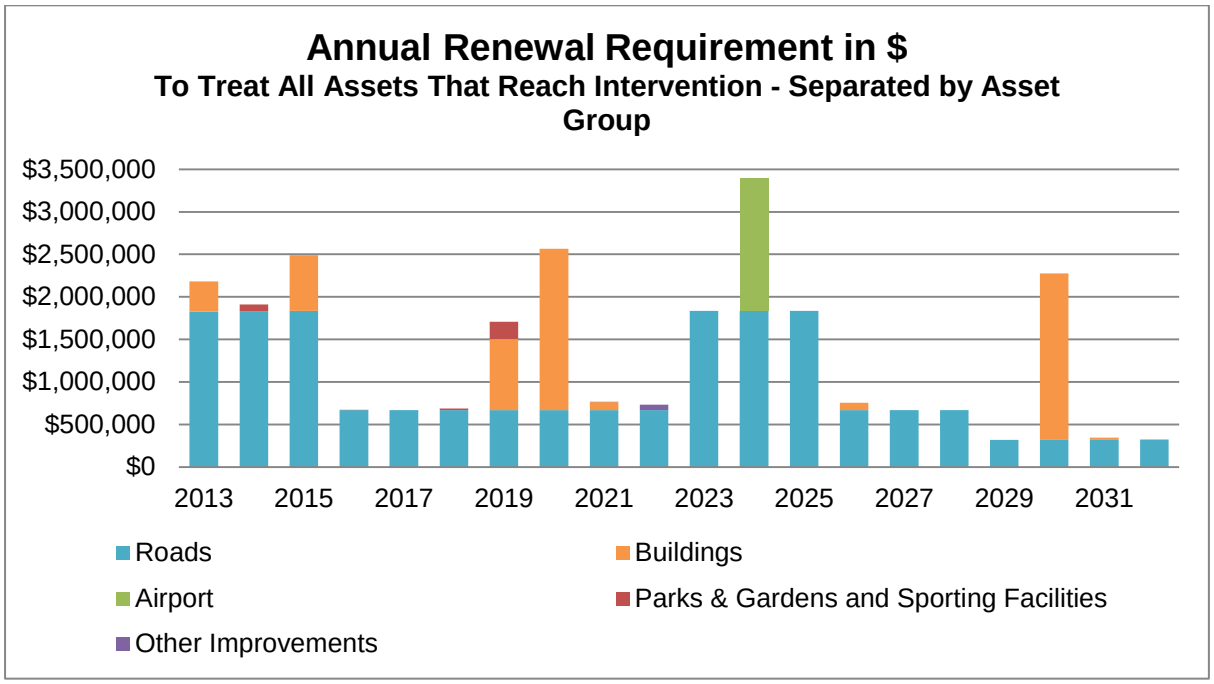
[2]Average Building Maintenance, Sporting Facilities and Other Infrastructure 2011/2012 – 2011/2012 Financial Years less Parks & Gardens and Sporting Facilities and Other Infrastructure as below.

[3]Average 2007/2008 – 2011/2012 Financial Years.

[4]Equal to 2 per cent of Gross Replacement Cost March 2013. Deducted from Average Building Maintenance costs per general ledger.

8.3 Renewal Demand

Renewal Demand based on the asset life, condition and nominated intervention are modelled as follows:



The above graph represents the renewal funding requirements for the retention of assets at current Levels of Service for the next 20 years and demonstrates the high demand for funds to renew existing assets if they are to be retained in the long term within the nominated modelling parameters detailed in this report. The average Renewal demand over 20 years is $1,340,488 p.a.

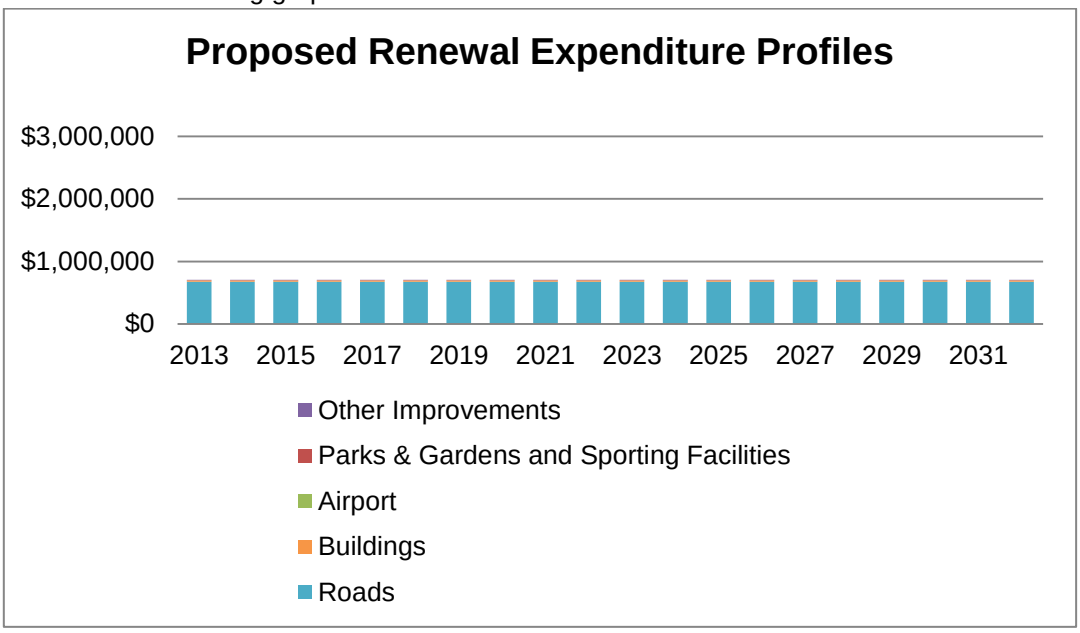
8.4 Forecast Renewal Expenditure

Projected New and Renewal Capital Expenditure has been based on average capital renewals for the period 2007/2008 – 2011/12[2].

Total New and Renewal Capital Expenditure over the life of this plan is summarised in the following table:

Infrastructure Category	New Capital Expenditure	Renewal Capital Expenditure
Roads	3,235,053	13,475,820
Buildings	805,851	435,900
Airport	-	-
Parks & Gardens and Sporting Facilities	-	85540
Other Infrastructure	-	68000
Total	**4,040,904**	**14,065,260**

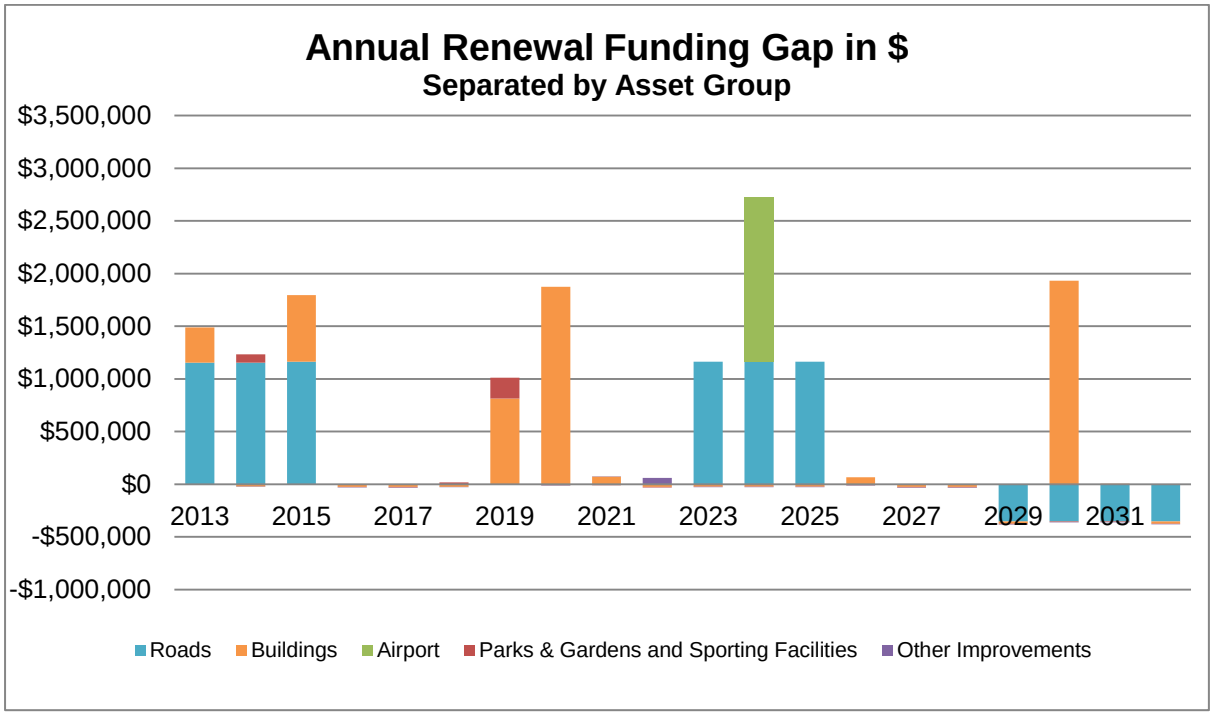
Forecast renewal expenditure over the life of the plan is $703,263 p.a. The pattern of this expenditure is illustrated in the following graph:



[2] The Forward Capital Works Plan identifies $3,500,000 in 2013-2014 and $1,500,000 in 2014-2015 for Ballinyoo Bridge project. This has been excluded from the forecast renewals as renewal requirement for Ballinyoo Bridge has been omitted from Greenfield forecast renewals. Assuming the renewal requirement is equal to the forecast renewals for Ballinyoo Bridge, there will be no impact on the modeled renewal gap as a result of this omission.

8.5 Renewal Funding Gap

The annual funding gap is calculated by subtracting Forecast Renewal Expenditure from Renewal Demand. The overall average annual funding gap (shortfall in renewal expenditure) is $637,225 p.a. and is illustrated as follows:



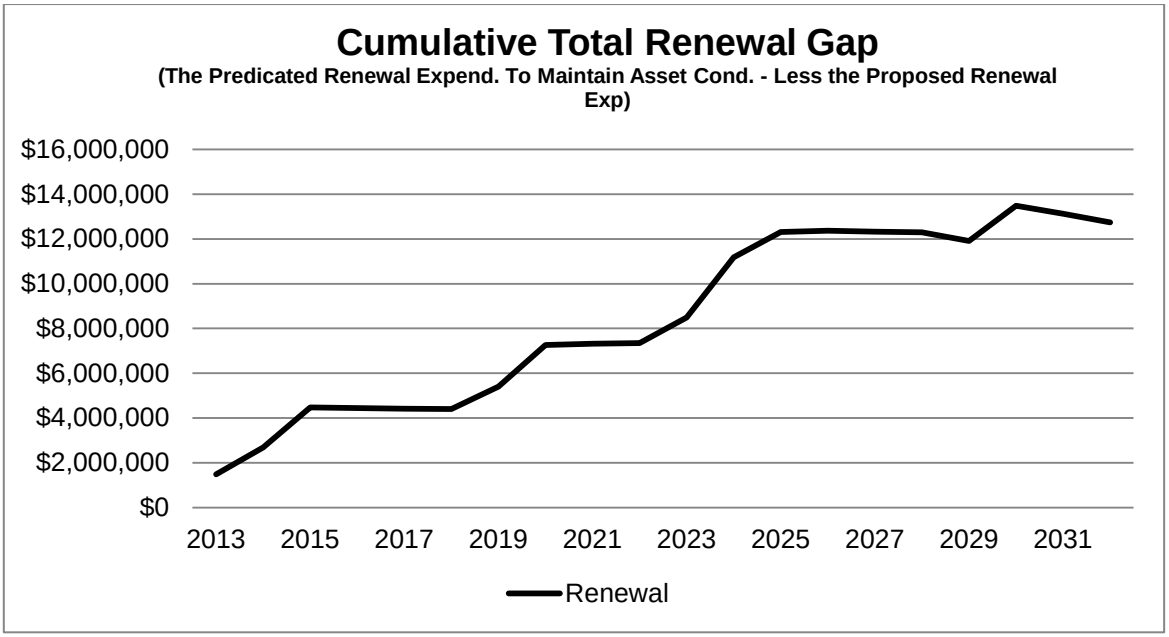
Planned Renewal expenditure in the periods 2016 – 2018, 2027 – 2029 and 2031 - 2032 exceed the required renewals as per the Greenfield Report. This reduces the overall Renewal Gap at 2032 from its peak in 2030.

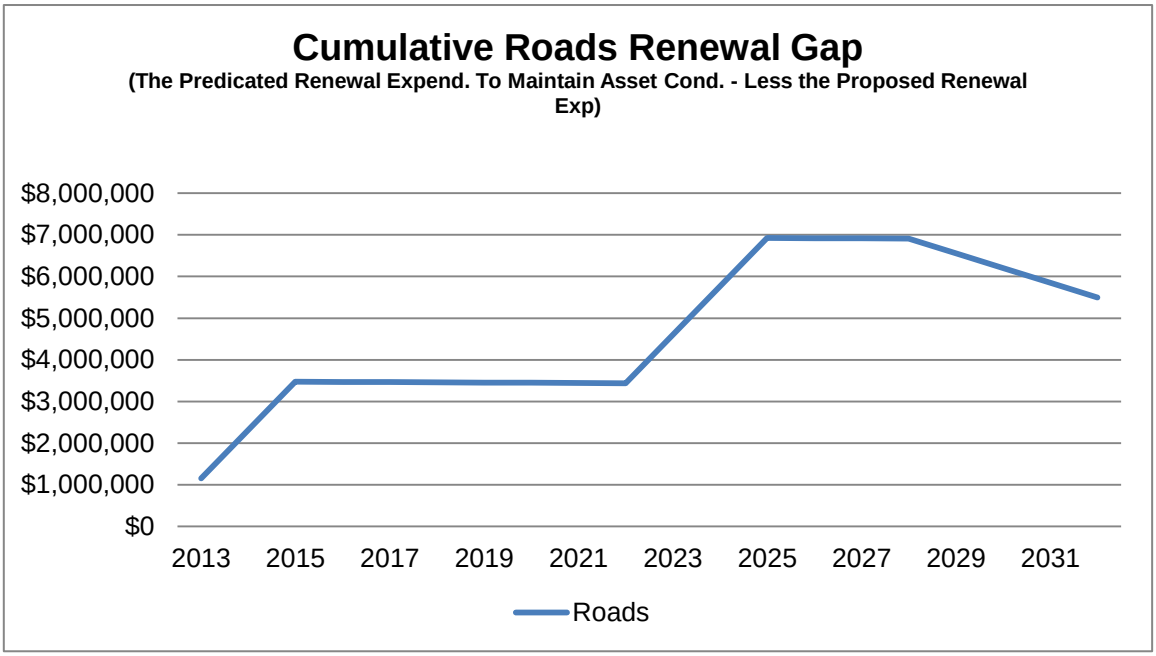
8.6 Cumulative Renewal Gap

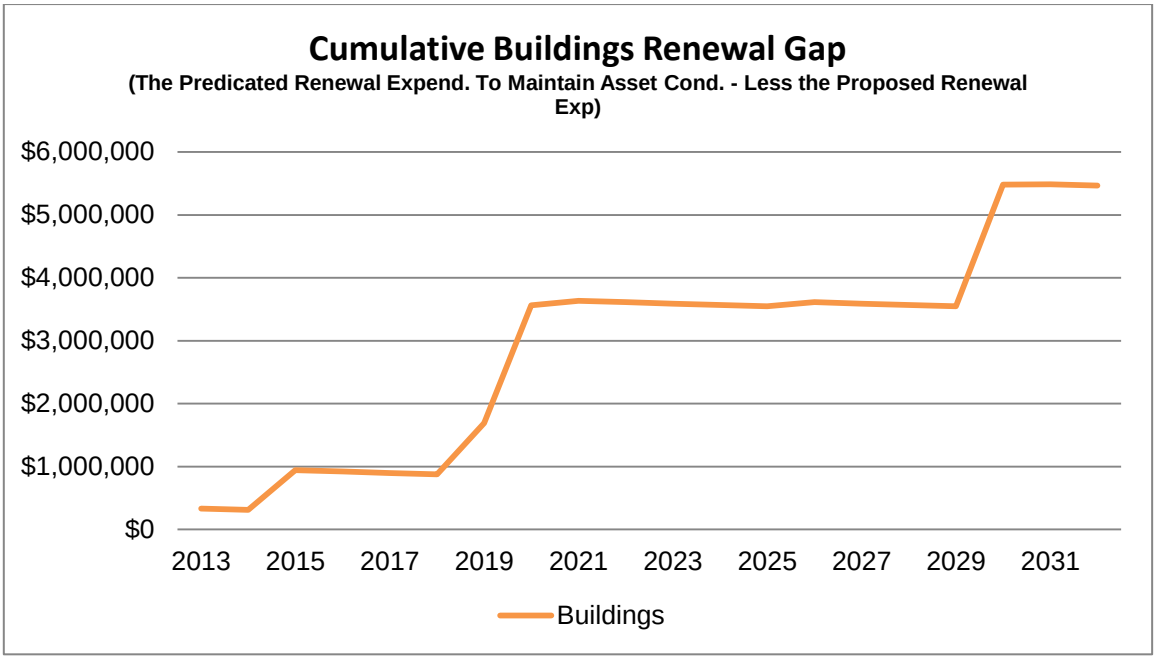
The following Graphs demonstrate the long term cumulative funding impact if the Shire continues to fund asset renewal at current levels. The Renewal Gap peaks at approximately $13,500,000 in 2030 before reducing to $12,740,000 over the 20 year modelling period. The reduction between 2030 and 2032 is a result of planned Road Renewal expenditure for this period exceeding the required level forecast by Greenfield. Although not illustrated, the reduction between 2030 and 2032 would be expected to reverse outside the life of this plan as further road components and buildings fall due for renewal.

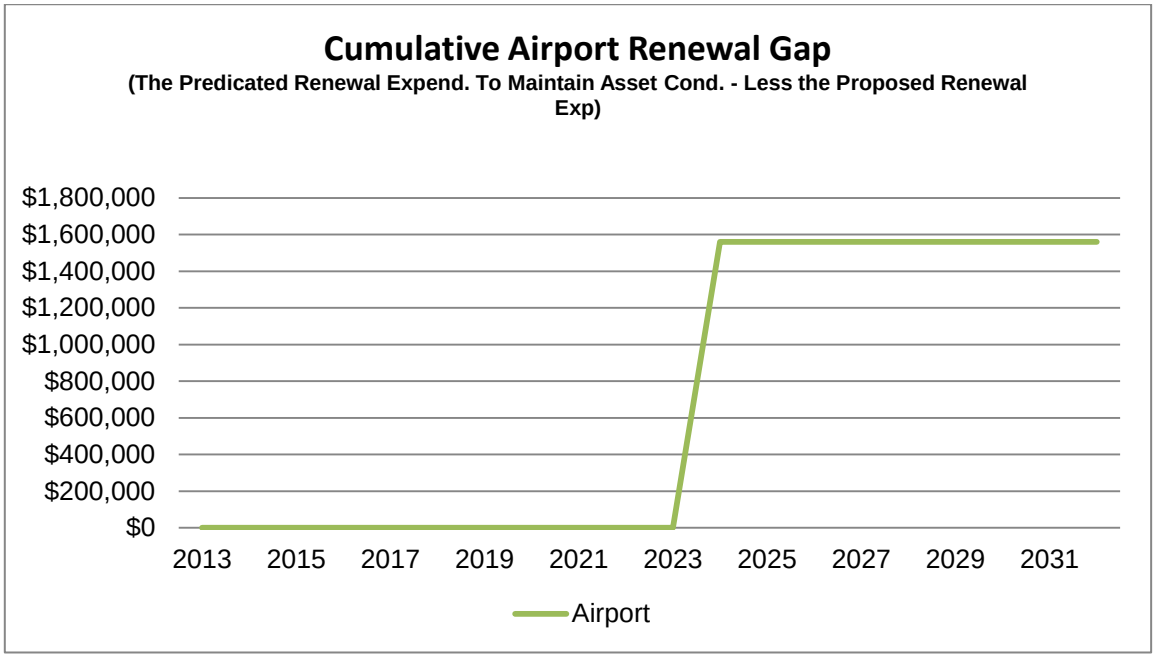
The average Renewal Gap over the life of this plan is $637,255 p.a.

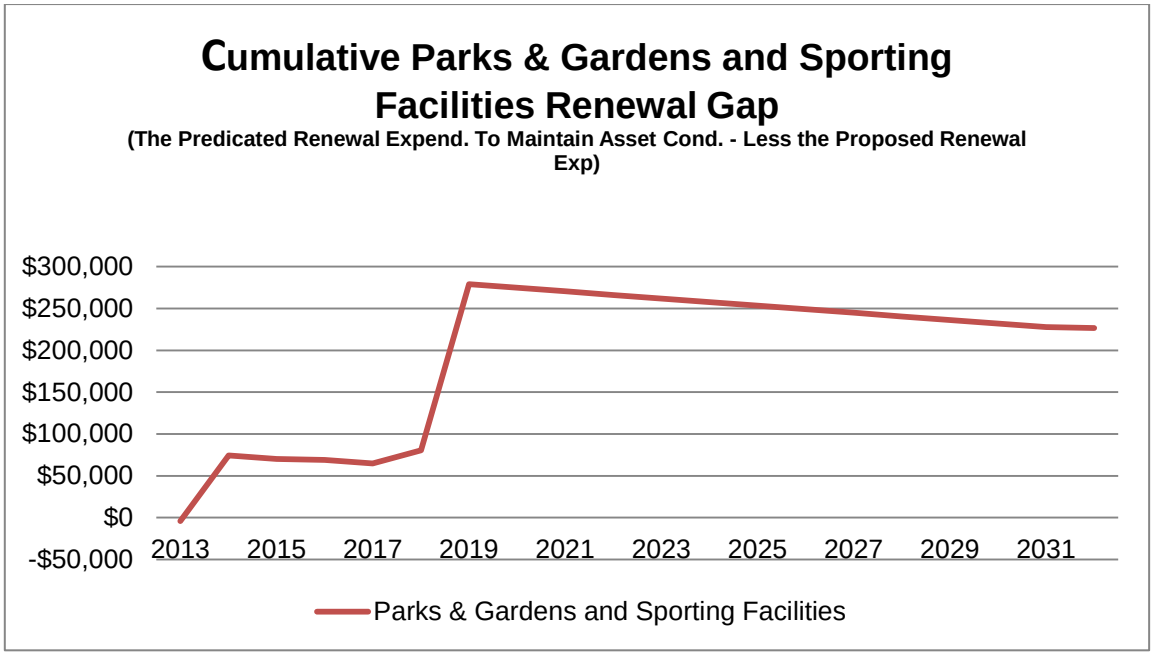
However, Greenfield noted it is apparent that the current ROMAN database for the Shire does not include all of the signs, grids and floodways' in the Shire. This is a significant omission and may result in the valuation and estimated renewals being understated. The Shire intends to capture this information for inclusion in future revisions of the plan.

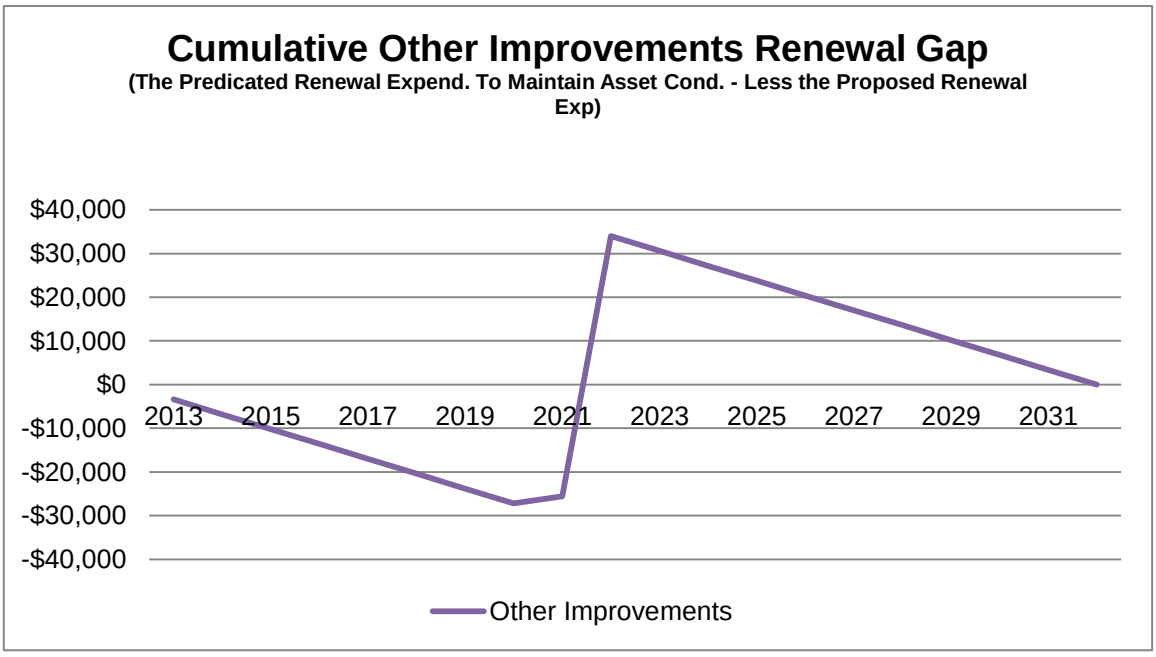

Cumulative Total Renewal Gap
(The Predicated Renewal Expend. To Maintain Asset Cond. - Less the Proposed Renewal Exp)
$16,000,000
$14,000,000
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$0
2013
2015
2017
2019
2021
2023
2025
2027
2029
2031
Renewal


Cumulative Roads Renewal Gap
(The Predicated Renewal Expend. To Maintain Asset Cond. - Less the Proposed Renewal Exp)
$8,000,000
$7,000,000
$6,000,000
$5,000,000
$4,000,000
$3,000,000
$2,000,000
$1,000,000
$0
2013
2015
2017
2019
2021
2023
2025
2027
2029
2031
Roads


Cumulative Buildings Renewal Gap
(The Predicated Renewal Expend. To Maintain Asset Cond. - Less the Proposed Renewal Exp)
$6,000,000
$5,000,000
$4,000,000
$3,000,000
$2,000,000
$1,000,000
$0
2013
2015
2017
2019
2021
2023
2025
2027
2029
2031
Buildings

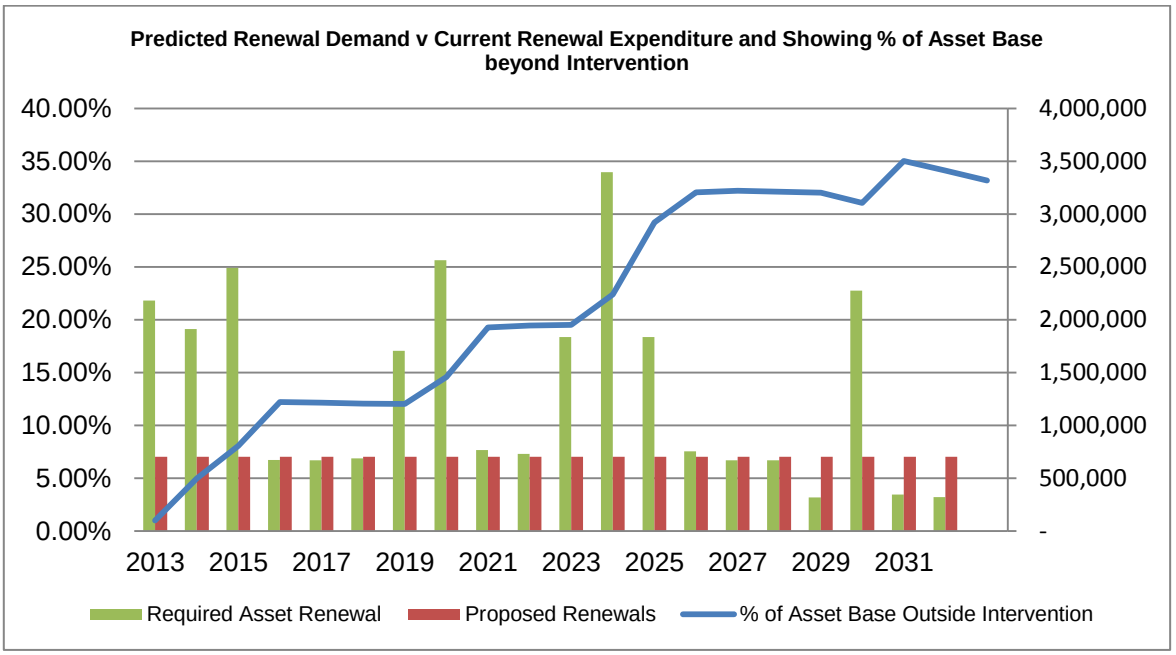

Cumulative Airport Renewal Gap
(The Predicated Renewal Expend. To Maintain Asset Cond. - Less the Proposed Renewal Exp)
$1,800,000
$1,600,000
$1,400,000
$1,200,000
$1,000,000
$800,000
$600,000
$400,000
$200,000
$0
2013
2015
2017
2019
2021
2023
2025
2027
2029
2031
Airport


Cumulative Parks & Gardens and Sporting Facilities Renewal Gap
(The Predicated Renewal Expend. To Maintain Asset Cond. - Less the Proposed Renewal Exp)
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
-$50,000
2013
2015
2017
2019
2021
2023
2025
2027
2029
2031
Parks & Gardens and Sporting Facilities


Cumulative Other Improvements Renewal Gap
(The Predicated Renewal Expend. To Maintain Asset Cond. - Less the Proposed Renewal Exp)
$40,000
$30,000
$20,000
$10,000
$0
-$10,000
-$20,000
-$30,000
-$40,000
2013
2015
2017
2019
2021
2023
2025
2027
2029
2031
Other Improvements

8.7 Asset Base Outside of Intervention

Excluding roads, there is currently 1.00% of assets outside of intervention, however if renewal funding continues in the long term at the forecast level, a peak of 35.03% of assets will be exceeding intervention by 2030 before steadily reducing to 33.16% by 2032. Although not illustrated, the reduction between 2030 and 2032 would be expected to reverse outside the life of this plan as further road components and buildings fall due for renewal. This would no doubt be unacceptable to the Community.



8.8 Predicted Consequential Maintenance Based on Renewal Demand

If the Shire funded the predicted renewal demand of $1,340,488 p.a., the predicted consequential maintenance would be in the order of $783,525 p.a. The Shire is currently spending $1,222,840 p.a. on maintenance.

This is illustrated in the following table:

	Predicted Average Maintenance Requirement ($ P.A.)*	Forecast Average Maintenance Expenditure ($ P.A.)	Maintenance Expenditure Gap
Roads	506,906	999,398	(492,492)
Buildings	236,379	211,781	24,598
Airport	31,200	2,621	28,579
Parks & Gardens and Sporting Facilities	6,180	6,180	-
Other Improvements	2,860	2,860	-
Total	**783,525**	**1,222,840**	**(439,315)**
***Calculated as 2% of Gross Current Replacement Cost for Life of Plan.			

Whilst the above table indicates forecast maintenance expenditure in excess of the minimum predicted requirement, the minimum predicted requirement may be understated due to the omission of any useful asset condition data which could be used for prioritising renewal works and signs, grids and floodways from the ROMAN database as noted by Greenfield.

8.9 Predicted Consequential Maintenance Based on Current Renewal Expenditure

Until the ROMAN database is updated to contain more complete information in relation to signs, grids and floodways and useful asset condition data, it is not possible to accurately predict the required maintenance. If maintenance requirements exceed the Shire's current $999,398 p.a. on roads, consequential maintenance required to maintain assets at current condition levels will increase. The increase has not been quantified in this plan.

8.10 Implications of the Renewal Model

If the Shire continues to underfund renewal, the combined current renewal expenditure and predicted consequential maintenance will begin to escalate and eventually outstrip the combined predicted renewal and consequential maintenance expenditure. This has not been modelled within this plan. Nonetheless, because of the under investment in asset renewals, assets that are beyond intervention will continue to increase from the present 1.00% (excluding roads) to a peak of 35.03% by 2030 before steadily reducing to 33.16% by 2032. Although not illustrated, the reduction between 2030 and 2032 would be expected to reverse outside the life of this plan as further road components and buildings fall due for renewal.

Failure to review the current Renewal and Maintenance expenditure levels of funding or rationalisation of asset ownership will result in a progressive significant deterioration of asset condition and consequently Level of Service.

Subsequently, the Shire's capacity to provide and ensure an acceptable functional Level of Service of all its assets will be restricted by a shortfall of funds.

8.11 Capacity

Funding for creating, renewing or maintaining assets may be obtained by the Shire from a number of sources. The annual budget is set and prioritised based on a process of consultation that enables the Shire to assess needs and develop business cases for all projects and programs.

8.11.1 Funding Solution (Based on Current Renewal Expenditure)

The modelling in section 8.5 indicates that the Shire currently has a $637,225 p.a. funding gap based on the current asset portfolio and the selected modelling parameters.

The Shire's 2012/13 adopted budget indicates that the current rate income is budgeted to be $300,233. Based on this figure, a projected rate increase of 9.93% cumulative for 20 years would be required to close the finding gap from rates alone. This is illustrated in the following table:

Year	Rate Increase	Annual Renewal Funding Above the Current Level	Cumulative Renewal Funding above the Current Level
2013	9.93%	29,813	29,813
2014	9.93%	62,587	92,400
2015	9.93%	98,615	191,015
2016	9.93%	138,220	329,235
2017	9.93%	181,759	510,994
2018	9.93%	229,620	740,614
2019	9.93%	282,235	1,022,849
2020	9.93%	340,074	1,362,923
2021	9.93%	403,656	1,766,579
2022	9.93%	473,553	2,240,132
2023	9.93%	550,390	2,790,522
2024	9.93%	634,856	3,425,378
2025	9.93%	727,711	4,153,089
2026	9.93%	829,786	4,982,875
2027	9.93%	941,997	5,924,871
2028	9.93%	1,065,350	6,990,221
2029	9.93%	1,200,952	8,191,174
2030	9.93%	1,350,020	9,541,194
2031	9.93%	1,513,890	11,055,084
2032	9.93%	1,694,033	12,749,116

As it is unlikely rate increases could be sustained at such a level for the life of the plan, alternative funding sources will need to be identified if the Shire is to close the funding gap to maintain current levels of service.

8.12 Funding Strategy

The traditional local government method for determining annual recurrent budget allocations is to take last year's actual expenditure and add a small percentage to cover inflation and scope expansion with the aim of maintaining the same Level of Service. There was no recognition that recurrent expenditure includes both discretionary and non-discretionary activities (maintenance) and discretionary activities (operations).

Capital expenditure was generally treated as 'discretionary' expenditure, with little or no distinction between renewal, replacement and new projects, or the whole of life consequences of the types of projects or programs.

This traditional methodology did nothing to recognise the level of expenditure actually required to renew, maintain and operate assets and services over the whole of life of the assets and services – these costs were included in broader activity statements and not discernible for the asset owner and service provider without considerable additional work.

If asset and services management practices are to ensure the ability to sustain the Shire's infrastructure assets and services into the future, which is the basis of strategic financial planning, then a new perspective and strategy must be applied.

The first phase of a revised budget structure strategy which should apply to all future budgets utilises four, rather than the traditional two key funding areas.

The revised structure recommends that capital expenditure is separated into two components:

- Non-Discretionary – to fund the ongoing asset refurbishment and renewal requirements to ensure sustainability of the Shire's assets; and
- Discretionary – to undertake new projects and programs (again, based on whole of life costing).

Expenditure on infrastructure works can be split into two groups:

- Operations and Maintenance; and
- Capital

These can be further classified as shown below:

Maintenance	Expenditure on an asset which maintains the asset in use but does not increase its service potential or life, e.g. repairing a pothole in a road.
Capital Renewal	Expenditure on renewing an existing asset or a portion or an infrastructure network which increases the service potential or extends the life, e.g. resheeting part of a road.
Capital Expansion	Expenditure on extending an infrastructure network, at the same standard currently enjoyed by existing residents, to a new group of users, e.g. extending a road network.
Capital Upgrade	Expenditure on upgrading the standard of an existing asset or infrastructure network to provide a higher Level of Service to users, e.g. widening the pavement and sealed area of an existing road.

Capital upgrade and expansion expenditure adds to future liabilities. These works commit the Shire to fund ongoing budget liabilities for operations, maintenance, depreciation and finance costs (where applicable) for the life of the asset.

Capital renewal works restore existing service levels and do not add to budget liabilities. Well-planned capital renewal works can reduce operating and maintenance costs by reviewing service levels, use of automation and more energy efficient equipment. To determine how the existing expenditure is contributing to the renewal of infrastructure, previous and current budget allocations are assessed.

This structure better represents the distribution of recurrent costs as maintenance and operational costs, recognising the importance of separately identifying expenditure on maintenance of assets for whole of life costing, and the cost of provision of operations or services.

This revised structure suggests that maintenance expenditure remains non-discretionary. Operational expenditure can be related to the quality of services, but remains non-discretionary (unless the quality of services is changed).

The introduction of this budget structure uniformly to all asset classes provides a greater appreciation of the whole of life costs and 'operating' costs for service provision as well as total asset management. This exercise will need to be planned so that financial data complements the implementation of asset and services management improvements.

This AMP considers current expenditures, both maintenance and capital, and existing levels of service and using generic straight line asset degradation, models the consumption or degradation of the asset.

In order to determine how much money needs to be spent on an asset to maintain it, a decision is required in regard to when to intervene to undertake works to rehabilitate the asset.

Useful lives for assets should be tested according to local criteria and industry standards. Regional uniformity would be desirable but will be dependent upon specifications and other local factors. The current depreciation standards are valid according to industry standards and should remain in place until a more detailed review can be completed.

The modelling parameters used in this AMP are very much preliminary. Ideally, the Shire will now critically review the inputs and where necessary, refine and validate the model. Once this has been done, the Shire will then be in a strong position to review Levels of Service and refine in order to implement options and strategies to close the funding gap and put the Shire on a long term sustainable footing.

The Shire will manage the life cycle 'gap' by developing this AMP to provide guidance on future service levels and resources required to provide these services.

A funding gap may be managed by many techniques including:

- Improving asset knowledge (performance, condition and remaining life);
- Improving maintenance to extend asset lives and defer project renewal;
- Improving efficiency in delivery of maintenance and renewal;
- Developing and using low cost renewal methods;
- Rationalising (disposing) of unnecessary and low-use assets;

- Lowering service levels;
- Increasing renewal funding; and
- Combinations of all options.

8.13 Key Ratios

Based on forecast renewal requirements and current proposed renewal expenditure, without employing strategies to manage the funding gap, key ratios over the life of this plan are illustrated as follows:

9 Asset Sustainability Ratio

Target between 90% to 100%

$$\frac{\text{Capital Renewal Expenditure}}{\text{Depreciation Expense}}$$

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Capital Renewal ($000)	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703
Depreciation Expense ($000)	1,480	1,446	1,495	1,418	1,347	1,281	1,219	1,161	1,107	1,056	997	950	910	871	836	802	693	664	637	689
Forecast	**48%**	**49%**	**47%**	**50%**	**52%**	**55%**	**58%**	**61%**	**64%**	**67%**	**71%**	**74%**	**77%**	**81%**	**84%**	**88%**	**101%**	**106%**	**110%**	**102%**

Asset Consumption Ratio

Target 50% - 75%

$$\frac{\text{Depreciated Replacement Cost of Assets (Written-Down Value)}}{\text{Current Replacement Cost}}$$

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Depreciated Replacement Cost ($000)	25,123	24,650	23,830	23,085	22,412	21,805	21,260	20,773	20,340	19,958	19,635	19,358	19,122	18,924	18,762	18,633	18,614	18,624	18,661	18,723
Current Replacement Cost ($000)	36,913	37,714	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495	39,495
Forecast	**68%**	**65%**	**60%**	**58%**	**57%**	**55%**	**54%**	**53%**	**52%**	**51%**	**50%**	**49%**	**48%**	**48%**	**48%**	**47%**	**47%**	**47%**	**47%**	**47%**

Asset Renewal Funding Ratio

Target 95% - 105%

$$\frac{\text{Net Present Value of Planned Renewal Expenditure}}{\text{Net Present Value of Asset Management Plan Projections (Required Renewals)}}$$

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Planned Renewals ($000)	14,065	13,362	12,659	11,955	11,252	10,549	9,846	9,142	8,439	7,736	7,033	6,329	5,626	4,923	4,220	3,516	2,813	2,110	1,407	703
Required Renewals ($000)	26,810	26,106	25,403	24,700	23,997	23,293	22,590	21,887	21,184	20,480	19,777	19,074	18,371	17,667	16,964	16,261	15,558	14,854	14,151	13,448
Forecast	**52%**	**51%**	**50%**	**48%**	**47%**	**45%**	**44%**	**42%**	**40%**	**38%**	**36%**	**33%**	**31%**	**28%**	**25%**	**22%**	**18%**	**14%**	**10%**	**5%**

9.11 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this AMP 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 include:

- Annual Asset Maintenance expenditure continues at the current rate;
- Renewal Capital Expenditure has been based on average expenditure for the period 2007/2008 to 2011/2012 in the absence of better information; and
- Future infrastructure assets created through Capital Upgrade and Capital Expansion are factored into this financial forecast based on projections.

Accuracy of future financial forecasts may be improved in future revisions of this AMP by the following actions:

- Updating the ROMAN database to include useful asset condition assessments;
- Updating the ROMAN database to include all signs, grids and floodways;
- A more detailed component level analysis of future renewal requirements;
- Continuation of the analysis of upgrade work needed to bring all assets to an agreed service level;
- A review of assets that are under performing or nearing the end of their useful life; and
- Continued breakdown of asset expenditure and future projections for Maintenance and Capital Renewal.

9.0 Asset Management Practices

9.1 Accounting/Financial Systems

The Shire's Financial System is QuickBooks. The financial system is managed by Shire staff with an Accounting firm engaged to perform financial reporting and high level finance tasks. Financial reporting is prepared in accordance with the requirements of the *Local Government Act 1995* and relevant Australian Accounting Standards.

9.2 Asset Management Systems

Asset management data is defined as appropriate, accessible and reliable data that can be used with information systems to enable enhanced asset management. This includes the following data on asset characteristics and topics:

- Condition monitoring;
- Classification and identification;
- Condition;
- Benchmark data;

- Lifecycle costings;
- Risk information;
- Future demand analysis;
- Capital works programing;
- Physical attributes;
- Cost and maintenance histories;
- Valuation;
- Data quality;
- As constructed plans; and
- Advanced applications such as deterioration modelling.

The Shire uses the following software in relation to asset management:

- ROMAN;
- Microsoft Office Software (Excel etc.); and
- Fixed Assets Online Accounting Asset Register Software.

9.3 Information Flow Requirements and Processes

The key information that flows into this Plan includes:

- The technical asset register data on size, age, value, condition and remaining life of the network;
- The unit rates for categories of work/material;
- The adopted service levels;
- Projections of various factors affecting future demand for services;
- Correlations between maintenance and renewal, including decay models; and
- Data on new assets acquired by the Shire.

The key information flowing *from* this Plan is:

- The assumed works program and trends;
- The resulting budget requirements for renewal; and
- The useful life analysis.

These will impact the Shire's LTFP. Delivery Program, annual Operational Plan and budget.

10.0 Asset Management Improvement Plan

The following information has been extracted from the Shire's Asset Management Improvement Plan (AMIP). To ensure the AMS and AMP are implemented effectively and efficiently, an Improvement Plan has been prepared identifying key areas for improvement. The actions required to undertake improvement of the Shire's asset management capabilities are impacted by both internal and external influences and require resources or enablers. These enablers can be in the areas of people, processes, technology and information and data.

The Improvement Plan prioritises the specific capability areas identified through the Gap Analysis, where action is required to raise the Shire's asset management capacity to the desired level of maturity. Implementation of these improvements will require resourcing and monitoring. The actions have been integrated into the Shire's Delivery Program to ensure resourcing, implementation and performance monitoring.

Asset Management Plan Action Plan					
Task	Sub-Task	Responsibility	Officer	Timeline	Cost
Develop and adopt an Asset Management Policy		CEO	Consultant	Completed	Nil
Hold a briefing session for Council on Asset Management Policy and Long Term Financial Plan		CEO	Consultant	Completed Dec 2012	
Consider accuracy of fixed asset register		CEO	Contract Accountants	Underway May 13	
Develop an Asset Management Improvement Strategy		CEO	Consultant	Completed Jun 13	
Develop Asset Management Plans	Asset data collected	CEO	DCEO	Completed Mar 13	
	Manipulate data for NAMS	CEO	Consultant	Underway May 13	
	Determine levels of service	CEO	Consultant	Underway May 13	
	Consider useful life	CEO	Consultant	Underway May13	
	Determine funding gap	CEO	Consultant	Underway May 13	
	Prepare AMP	CEO	Consultant	Underway May 13	
Long Term Financial Plan	Software Purchase	CEO	CEO	Jun 13	Unknown
	Presentation to Council of AMP for prioritisation of funding the renewal gap.	CEO	Consultant	Jun 13	
	Draft Long Term Financial Plan – requires completion of AMP	CEO	Consultant	Jun 13	
Structure reporting systems to enable easy separation of operating, maintenance and renewal costs		CEO	Contract Accountants	Jun 13	
Separate capital expenditure into renewal, upgrade, and maintenance within financial reporting and budgeting processes		CEO	Contract Accountants	Jun 13	

Please refer to the Asset Management Improvement Strategy for further detail.

11.0 Governance Arrangements, Monitoring and Reporting

Asset Management processes are defined as the processes, analysis and evaluation techniques needed to support lifecycle asset management. This includes the following asset management functions:

- Management Reviews;
- Asset Planning Strategies;
- Asset Creation and Acquisition;
- Asset Accounting and Economics;
- Asset Operations;
- Asset Maintenance;
- Asset Condition Performance and Monitoring;
- Asset Rehabilitation and Renewal;
- Asset Replacement;
- Asset Disposal and Rationalisation; and
- Asset Audits.

The manner in which the internal implementation of asset management is organised holds considerable potential to effect major improvements, often at no additional cost to the Shire.

The Shire has made considerable progress recently having adopted an AM Policy, developed an Asset Improvement Strategy, collected data and commenced AM Plans.

The challenge in adjusting the organisation status quo to implement asset management cannot be overstated.

Asset management is a long term organisational improvement process which requires committed staff to energise the process, which can easily stall in the event of staff turnover.

All the common techniques and aims of management apply in progressing asset management and implementation, for example:

- a stable workforce;
- a working environment that engenders staff motivation;
- support from the Council;
- a clear reporting structure;
- clear individual roles and responsibilities; and
- individual accountabilities.

11.1 Roles and Responsibilities in Asset Management

Effective asset management requires coordination within the Shire on a scale not generally experienced in a typical local government.

Asset management tasks can be divided into four highly interactive roles:

- The Service (or facility) Manager;
- The Asset Manager;
- The Maintenance Provider; and
- The Operations Provider.

Depending upon the asset type/size, quantity and Shire resources, the positions can be filled by staff members or external parties such as consultants and contractors. Subject to workload considerations, more than one of the roles can be undertaken by the same staff member.

These staff members will need to meet and coordinate on a regular basis to ensure that the optimum management outcome for each asset is being achieved.

The responsibilities of each role are defined in Appendix 2.

11.2 Monitoring

In order for the AMP to remain relevant, it is important that what is set out in the plan is monitored and reported so that Council and the Community have confidence the plan is being delivered. This is particularly important when the AMP sets out the community's needs in terms of Level of Service (Section 4) and the financial projections (Section 8) of how it will be funded. Hence the importance of having the more complete versions of the AMP adopted by Council.

Some of the aspects that could be monitored include:

- The degree to which the required 20 year cashflows identified in the AMP are incorporated into the Shire's LTFP;
- Quantity of assets classified as being below nominated intervention level;
- The level of user satisfaction based on comparative surveys from year to year; and
- The trend in overall condition of assets from one survey period to the next, i.e. are assets getting worse or better based on the funding being injected to renewal.

11.3 Review

The AMP should be a "living" document that is regularly updated and used by staff at all levels to manage Shire's assets. Ultimately, it will assist Councillors to make informed decisions in relation to assets and by the community to understand the issues and constraints relating to the assets.

The AMP should be updated at least annually to include all of the changes to assets that have occurred in the past 12 months, update the condition ratings, redo the financial modelling and update any assumptions and strategies.

The update should be completed in the first half of the financial year to tie the AMP into the annual business planning cycle so that sufficient funds end up being allocated in the budget in order to implement the identified improvement tasks as follows:

- Update the SCP;
- Update the AMP;
- Update the LTFP; and
- Prepare the Annual Budget.

Appendix1: Risk Principles and Process

Risk assessment must be one of the key drivers important to managing the infrastructure network. Ideally the greater the risk of a detrimental occurrence, the greater proportion of resources that will be directed to addressing that issue. Implementation of RM will also help reduce the incidence of knock-on effects and therefore spread the Shire's limited resources further.

An example could be ensuring a building roof is repaired at the appropriate time, as to do too soon will divert resources from other assets that need attention. Repairing the damaged roof too late may mean other components of the asset network start to deteriorate (internal plaster, carpet, wiring etc.) and leads to more work and thus cost required to rectify the situation.

Importantly, the community consultation that forms part of the AMP process will help set the framework to determine what issues are important to the community and what are less important. Physical factors associated with risk such as the potential for asset failure leading to cost, inconvenience, property damage and even risk to life in the case of catastrophic failure will also be considered.

The major elements of the risk process are:

- Risk context – establishes the criteria to assess risk;
- Risk identification – identifies the risks the Shire may face and helps explain the impacts of the risk on the Shire;
- Risk analysis/evaluation – establishes a risk rating for all assets or asset groups, and identifies the assets that constitute the greatest business risk;
- Risk treatment – identifies which actions are available to reduce risk to an acceptable level, and identifies the most cost effective treatment option; and
- Monitor and review – the ongoing process to ensure risk levels remain at an acceptable level.

Risk Management Framework

Within the RM Plan, the Shire needs to consider developing an organisation wide approach to RM. The Plan usually consists of:

- A RM Framework;
- A RM Committee responsible for the ongoing progression and implementation of the agreed program;
- A Schedule of Identified Priority Risk Exposures; and
- A Risk Register and is supported by an Action Plan.

This framework is designed to ensure that:

- All significant operational and organisational risks are understood and identified;
- The highest risks are identified and addressed;
- Risk reduction treatments are implemented which best meet business needs; and
- Responsibilities for implementing, evaluating and managing risks are allocated to specific staff and reporting regimes adopted.

Risk Assessment

The RM Plan needs to consider a diverse range of potential risks faced by the Shire, all of which may have some impact on the Shire's asset portfolio in some way including:

- Financial Risk (lack of funding or fraudulent application of funds);
- Policy Risk (inadequate policy formulation);
- Legislative Risk (failure to comply with relevant legislative requirements);
- Regulatory Change (dynamic nature of the legislative environment);
- Physical Risk (damage to or loss of Shire assets including building infrastructure);
- Insurance Risk (failure to hold adequate and appropriate insurances);
- Environmental Risk (risk of damage to the Shire's natural environment);
- Planning Risk (inappropriate or indefensible Planning decisions);
- Personnel Risk (injury risk to employees, contractors or visitors);
- Business Interruption (inability to continue to deliver expected services);
- Technology Risk (loss of corporate knowledge and systems failure);
- Events Risk (risk associated with holding events);
- Public Liability (risk of litigation for public liability matters);
- Professional Risk (litigation risk arising from the action/statements of professional officers and Councillors); and
- Infrastructure Risk (risk of major infrastructure failing due to insufficient maintenance).

There are five generic steps to be undertaken in RM:

1. Risk Context – Risk Criteria and Consequence of Risk;
2. Risk Identification;
3. Risk Analysis;
4. Risk Evaluation; and
5. Risk Treatment.

Acknowledging that the Shire has yet to formalise this requirement, typical steps are quoted below for further consideration by the Shire.

Step 1: Context – Risk Criteria and Consequences of Risk

Across most local governments within Western Australia, several "key" risk criteria have been identified as being relevant to the management of asset networks.

Criteria	Criteria Name	Criteria Definition
C1	Personal Injury	Refers to injurious effect upon a person as a consequence of a risk event occurring – ranging from minor (requiring no first aid treatment) through to loss of life at its most extreme.
C2	Financial Loss	Relates to an adverse monetary impact on the Shire as a consequence of a risk event occurring. A grading is assigned to different levels of potential loss relative to the significance of the impact on the Shire's ongoing operations and its ability to deliver expected services.
C3	Environmental Damage	Includes any detrimental impact upon the natural environment within the Shire. This includes pollutant spillage and leakages, failure to maintain or enhance the natural environment within the Shire or its connections with its natural or municipal neighbours.
C4	Legislative Breach	Refers to failure to comply with statutory obligations in the manner in which the Shire, its officers and elected Members conduct its business and make its decisions and determinations. This embraces the full gamut of legal, ethical and social obligations and responsibilities across all service areas and decision making bodies within the collective organisation.
C5	Business Interruption	Incorporates the impact of events which impinge upon the Shire's capacity to deliver expected services to the community. These interruptions can range from minor inconveniences requiring an alternative method of service delivery being employed through to forced loss of ability to provide multiple services to all or some of the community. Knowledge loss, technological failure and property damage will also contribute to this outcome.
C6	Damage to Reputation	Deals with adverse impact upon the professional reputation and integrity of the Shire and its representatives whether those persons be appointed or elected to represent the Shire. The outcome can range from a letter of complaint through to a sustained and coordinated representation against the Shire and or sustained adverse comment in the media.

The establishment of RM criteria is one of the most important steps in the RM process as it sets the framework for consistent risk decision-making. The above criteria are to be used to determine the "consequence" of the risk in the "Risk Consequence Ratings Table".

Step 2: Risk Identification

To establish organisational buy-in prior to the first Committee meeting, a list of unique identified risks should be developed to advise of potential consequences of each risk, in conjunction with the nominated Risk Coordinator. This identification will assist the Shire in determining existing controls and provide comment as to their effectiveness (i.e. Effective or Ineffective).

It is not expected that all risks to the Shire will be identified as part of this process, but it is considered that it would provide the Committee with a catalogue of risks from which to structure a viable and 'user friendly' framework for RM, now and in the future.

The initial framework for identifying risks should highlight the need to address risks other than those relating to incidents of emergency or disaster. This is specifically emphasised to ensure that the focus of the Committee is to be based more on strategic issues with an organisational impact such as knowledge risk, business risk, planning risks, environmental risks, technological risks, etc.

Consistently recurring themes of 'Risk Event Outcomes' are to be established and it is considered that these could be utilised as an easy means of grouping, as part of the Analysis and Evaluation process. The 'Risk Event Outcomes' generically identified within local government are:

- Business Interruption;
- Personal Injury;
- Fatality;
- Financial Loss;
- Reputation;
- Social Loss;
- Property Damage;
- Knowledge Loss; and
- Legislative Risk.

Step 3: Risk Analysis

Once a draft list of Identified Risks has been established, the Committee is required to develop a structure by which each identified risk could be assessed, based on the consequences (impact) to the organisation 'should' an incident occur and the 'likelihood' of that incident occurring.

The criteria chosen needs to be relevant to the Shire, cover a variety of key issues, be easily measurable and easily comparable to each other. The wording of the criteria also has to be sufficient to allow all levels of the organisation to relate to each of these aspects.

The Committee is required to draft a set of criteria based on the model identified in the RM Standard. The established criteria below focuses on six (indicative) event outcomes which may potentially be experienced across the organisation:

- Personal Injury;
- Financial Loss;
- Environmental Impact;

- Legislative Breach;
- Business Interruption; and
- Reputation.

Further consideration must be given to the likelihood of these events occurring within the Shire's working environment.

The final stage of this process is to develop a matrix with which to determine the level of each risk occurring. The level of risk is calculated by cross-referencing the most relevant consequence and likelihood of a risk and assessing whether a risk exposure is Extreme, High, Medium or Low. The Committee is to consider if the Risk Matrix shown in the Standard requires customisation to reflect the needs of the Shire in assessing risks as demonstrated below:

Risk #	Risk Name	Risk Definition
R1	Asset Identification	This is the risk associated with failing to identify infrastructure assets under the care, control and management of the Shire.
R2	Financial Management	This is the risk associated with failing to accurately identify the financial resources required to manage the infrastructure network.
R3	Achievement	This is the risk of failing to achieve the objectives of the LTFP and annual plans aimed at managing infrastructure.
R4	Loss of Service	This is the risk associated with loss of service to the community through the failure of any link in the infrastructure network.
R5	Legislative Compliance	This is the risk associated with failure to meet minimum standards of legislative compliance in relation to the provision of infrastructure.
R6	Grant Qualification	This is the risk associated with failure to be in a position to best make use of available State and Federal Government grants associated with the provision and maintenance of infrastructure.
R7	Design and Construct Criteria	This is the risk associated with a failure to design and/or construct infrastructure (or components) to meet the required Level of Service objectives for that infrastructure.

Step 4: Risk Evaluation

The risk analysis considers both the likelihood and consequence of events and asset risks. The probability that a risk could occur can be considered using the "Risk Likelihood Ratings Table":

Code	Likelihood of Occurrence	Current Probability of Condition Based on Occurrence	Equivalent Statistical Probability
A	Almost Certain	Within 1 Year	0.9
B	Likely	Within 2 Years	0.7
C	Moderate	Within 3 – 10 Years	0.2
D	Unlikely	Within 10 – 20 Years	0.05
E	Rare	> 20 Years	0.02

	C1 Direct Repair Cost	C2 Environmental Impact	C3 Safety & Health	C4 Public Standing	C5 Property Damage	C6 Third Party Service Provision	C7 Loss of Service
1. Insignificant	< $5,000	Small reversible environmental harm, permitted by development approval.	No safety or health impact. Injury managed by first aid.	No media attention or damage to reputation.	< $5,000	< 20 Customer hours. Very localised. Little disruptive effect.	< 20 Customer hours. Very localised. Little disruptive effect.
1. Minor	$5,000 - $20,000	Localised, non-persistent damage.	Minor safety or health impact on small number of people. Injury dealt with by Doctor, no hospitalisation	Minimal media attention but minor damage to image in the eyes of a small group of people. May be some local coverage but not front page.	$5,000 - $20,000	20 – 500 customer hours. Inconvenience to a small group of residents.	20 – 500 customer hours. Inconvenience to a small group of residents.
2. Moderate	$20,000 - $50,000	Serious damage. Loss of assets.	Serious safety or health impact on small number of people. Injuries require hospitalisation. Minor impact on large number of people.	Negative local media coverage. Community concerned about Shire performance.	$20,000 - $50,000	500 to 20,000 customer hours. Small disruption to a wider group.	500 to 20,000 customer hours. Small disruption to a wider group.
3. Major	$50,000 - $100,000	Damage to or loss of a regionally or nationally important asset. Large scale local loss of assets.	Extensive injuries or significant health or safety impacts, single fatality.	Negative national media coverage. Major decrease in community support. Loss of key staff.	$50,000 - $100,000	20,000 to 50,000 customer hours. Significant effect on large group. Political involvement.	20,000 to 50,000 customer hours. Significant effect on large group. Political involvement.
4. Catastrophic	> $100,000	Loss of a nationally significant asset.	Widespread safety or health impacts, multiple fatalities.	Negative international media coverage, loss of community support, External inquiry. Appointment of Commissioner.	> $100,000	More than 50,000 customer hours. Significant effect to community at large. Community alienation.	More than 50,000 customer hours. Significant effect to community at large. Community alienation.

The results of considering the probability and consequence of the risk provide a risk rating of low, moderate, high or extreme as a result occurring are shown in the table below.

Risk Rating					
Likelihood	Consequences				
	Insignificant	Minor	Moderate	Major	Catastrophic
Rare	L	L	M	M	H
Unlikely	L	L	M	M	H
Possible	L	M	H	H	H
Likely	M	M	H	H	VH
Almost Certain	M	H	H	VH	VH

In completing an initial evaluation of the identified risks, it should be recognised that each risk could have more than one outcome and that each outcome could generate a different level of risk. This highlights the need to evaluate each event outcome separately.

The Committee is required to draft a set of event outcomes that are to be aligned with the established criteria as part of the analytical process. The indicative established criteria below focus on six (indicative) event outcomes which may potentially be experienced across the Shire:

- Personal Injury (Personal Injury / Fatality);
- Financial Loss (Financial Loss / Property Damage);
- Environmental Impact (Environmental);
- Legislative Breach (Failure to comply with relevant legislation);
- Business Interruption (Business Interruption / Knowledge Loss); and
- Reputation (Damage to the Shire's reputation).

The only outcome which does not comfortably slot into this consolidation listing is Social Loss. Although a valid risk event outcome, it applies only to a very small number of risks and it has proven very difficult to objectively quantify. Accordingly the Committee may consider that it still has to be further analysed to determine its merits within the framework.

This phase of the project requires the Committee to re-evaluate the identified risks in this context and complete a review of the level of risk assigned to each event, to determine whether appropriate.

Following this review, the data is to be compiled onto a Draft Risk Register aligned to the Strategic Plan. The highest ranked risk exposures can then be identified using the following classifications:

- Controls identified as ineffective;
- Extreme or High Level of Risk;
- Major Level of Consequence; and
- At least 'Possible Level of Event Likelihood'.

Using this hierarchy, the highest ranked items are determined to be the risks to be recommended for resourcing in the short term. Recognising the limitations of finite resources and the effectiveness of the existing practices and controls, it is considered that other levels of risk are acceptable to the organisation in the present term. Regular re-assessment of the risks needs to be conducted to ensure the suitability of existing controls.

Step 5: Risk Treatment

Once the risks have been assessed and rated, the most significant risks (e.g. those of extreme or high risk) are to be isolated for treatment or control.

The Shire should consider the following requirements within the context of RM Planning:

1. That a Risk Register be developed and endorsed;
2. That a Schedule of Identified Priority Risk Exposures be developed and endorsed;
3. That Identified Risks be assigned to the responsible Officers; and
4. That appropriate resourcing to permit the successful implementation of the suggested Risk Treatments be developed and included in budgets.

Appendix 2 Roles and Responsibilities in Asset Management Position Descriptions

Service/Facility Manager

Role Description:

- Liaises with customers and facility users;
- Managers user demands;
- Manages operational issues;
- Plans for future expansions; and
- Liaises with the Asset Manager.

Generic duties:
The aim of this role is to ensure that a realistic match exists between the services provided by the asset and the demands of users by:

- Compliance with the Shire's AMP;
- Keeping in touch with users and monitoring demand;
- Responding to user demands by adjusting operations expenditure;
- Promoting the facility;
- Facilitating community engagement;
- Setting user charges in accordance with Shire policies;
- Look at the long term – use whole of life costings;
- Establish user agreements;
- Initiate and sponsor capital upgrade proposals;
- Prepare capital works budgets and seek sources of funding;
- Initiate rationalisation of assets;
- Liaise with project managers on update/new works;
- Prepare and monitor operational budgets with the Operations Provider; and
- Liaise with the Asset Manager regarding maintenance and renewal.

Asset Manager

Role Description:

- Liaises with Service Managers and Maintenance Providers; and
- Focuses on Asset Preservation.

Generic duties:
The aim of this role is to keep assets functioning in a cost effective manner by:

- Compliance with the Shire's AMP;
- Establishing an inspection regime;
- Maintaining the Asset Register;
- Developing renewal plans and budgets;
- Implementing renewal plans;
- Manages the maintenance; and
- Liaises with the Service Manager over maintenance and associated budgets.

Maintenance Provider

Description:

- Manages the delivery of proactive and reactive maintenance requirements;
- Develops and implements maintenance schedules in liaison with the Asset Manager; and
- Focuses on the efficient delivery of maintenance activities

Generic duties:

- Undertakes the non-discretionary type activities required to keep asset functional to the agreed Level of Service;
- Provides a reliable, defined, maintenance service in a cost effective manner;
- Liaises with the Asset Manager to determine the agreed Level of Service; and
- Liaises with the Operations Providers to coordinate activities.

Operations Providers

Description:

- Undertakes the operational tasks associated with the asset, i.e. regular discretionary activities to provide public health, safety and amenity; and
- Focuses on the efficient delivery of services and efficient use of utilities (water, power, gas, telecommunications);

Generic duties:

- Provides efficient delivery of operational activities such as operational staff, cleaning and utilities (e.g. water, power, gas, telecommunications);
- Liaises with the service manager regarding the Level of Service and associated costs; and
- Develops and implements operational schedules in liaison with the Service Manager.

The first step in implementing this organisational approach to Asset Management is to develop a "Roles and Responsibilities" Matrix, in which the individual officer or contractor responsible for each of the four roles for each of the asset groups identified. Once the match between personnel and roles is approved, the roles need to be locked in place by inclusion in position descriptions.

Appendix 3: Terms Used in this Plan

In the context of this Asset Management Plan the following definitions apply:

Average Annual Asset Consumption (AAAC)	Average Annual Asset Consumption is the amount of a local government's asset base consumed during a year. It is the sum of the current replacement cost divided by the economic life for all assets in an asset category or class.
Annual Service Cost (ASC)	Annual Service Cost is an estimate of the cost that would be tendered for the supply of a service to a performance specification for a fixed term. The ASC includes operating, maintenance, depreciation, finance/opportunity and disposal costs, less revenue.
Assets	"An asset of the local government shall be recognised in the statement of financial position when and only when: • It is probable that the future economic benefits embodied in the asset will eventuate; and • The asset possesses a cost or other value that can be measured reliably" Most road infrastructure assets satisfy both criteria. Exceptions are land under roads and bulk earthworks. For network assets such as roads, the combined application of the concept of materiality and high variability of the road attributes across the network has resulted in the almost universal and correct practice that assets be broken into segments. Each asset has a current replacement value, written down current replacement value, annual depreciation amount, and economic and remaining life.
Asset Category	Grouping of like assets, e.g. all unsealed roads.
Asset Class	Grouping of like asset categories, e.g. pavement, seal, kerb and gutter are all part of the asset class of roads.
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	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.
Capital Expansion Expenditure	Capital expansion is expenditure on extending an existing asset network, at the same standard currently enjoyed by residents, to a new group of users. It is discretional expenditure, which increases future operating, and maintenance costs, because it increases the Shire's asset base but may be associated with additional revenue from the new user group (e.g. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents).

Capital Expenditure	Expenditure which is relatively large (i.e. material) and has benefits expected to last for more than 12 months. Capital expenditure can be split into three areas, renewal, upgrade and expansion.
Capital Renewal Expenditure	Capital renewal expenditure on an existing asset, which increases service potential of an existing asset. This may be to the same or a lower level than initially provided (partial renewal). It is periodically required expenditure, relatively large (i.e. material) in value compared with the value of the asset or asset component being renewed. As it reinstates existing service potential, it has no impact on revenue but may reduce future operating and maintenance expenditure if completed at the optimum time (e.g. resurfacing a sealed road, resheeting an unsealed road, replacing a drainage pipeline with pipes of the same capacity, relining of an existing drainage pipeline, replacing bridge decking or resurfacing an oval). Where renewal works include a significant upgrade, the renewal and upgrade components should be separately identified (e.g. if a swimming pool with a replacement cost of $3m is replaced with a $15m leisure centre, then $3m is identified as renewal and $12m as upgrade).
Capital Upgrade Expenditure	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 discretional and often does not result in additional revenue unless direct user charges apply. It will increase operating and maintenance expenditure in the future because of the increase in the Shire's asset base (e.g. widening the pavement and sealed area of an existing road, replacing drainage pipes with pipes of greater capacity, enlarging a grandstand at a sporting facility, replacing an existing bridge with one having a greater carrying capacity, replacing a chain link fence with a wrought iron fence).
Confidence Level	A measure of the certainty, reliability and trust in information that lies behind a decision.
Cost	Cost is the resources sacrificed or foregone to achieve a specific objective. Costs are measured in monetary units that must be paid for goods and services.
Current Replacement Cost	The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.
Depreciation	Depreciation is a measure of the average annual consumption of service potential over the life of the asset. Depreciation is not a measure of required expenditure in any given year.
Economic Life	The period from the acquisition of an asset to the time when the asset, while physically able to provide a service, ceases to be the lowest cost alternative to satisfy a particular Level of Service. The economic life is at the maximum when equal to the physical life; however obsolescence will often ensure that the economic life is less that the physical life.

Estimated Maintenance and Renewal Budget	The amount that a Shire anticipates that it will actually be spending and will be able to afford to spend as outlined in its long term financial plan for maintenance and renewal works in a future time period.
Expenditure	Expenditure is the spending of money on goods and services. Expenditure falls into two basic categories, recurrent and capital.
Fair Value	The amount for which an asset could be exchanged or liability settled, between knowledgeable, willing parties, in an arm's length transaction, normally determined by reference to market or comparable prices. Generally, there is no market for the Shire's infrastructure assets and Fair Value is current replacement cost less accumulated depreciation.
Funding Model	A Funding Strategy which addresses: • The need for funds; • The peaks and troughs in this need; and • How the funds will be sourced. • Life cycle analysis should be the basis of the funding model. The funding model adopted by the Shire decides how it determines: o The level of funds year by year; o The source of those funds; and o The use or allocation of those funds to recurrent/capital, to infrastructure and to other assets and other services.
Infrastructure Assets	These are typically large, interconnected networks of or portfolios of composite assets such as roads, drainage and recreational facilities. They are generally comprised of components and sub-components that are usually renewed or replaced individually to continue to provide the required Level of Service from the network. These assets are generally long lived, are fixed in place and often have no market value.
Level of Service	Level of Service is the defined service quality for a particular Primary Service (e.g. roads) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental, acceptability and cost (e.g. the number of accidents on local roads).
Maintenance Expenditure	Maintenance is expenditure on an existing asset which is periodically or regularly required as part of the anticipated schedule of works required ensuring that the asset achieves its economic life. It is expenditure which was anticipated in determining the assets economic life. Maintenance may be planned or unplanned (e.g. repairing a pothole in a road, repairing the decking on a timber bridge, repairing a drainage pipe or repairing the fencing in a park).
Maintenance and Renewal Gap	Difference between estimated budgets and projected expenditures for maintenance and renewal of assets.

Maintenance and Renewal Sustainability Index	Ratio of estimated budget to projected expenditure for maintenance and renewal of assets.
Materiality	The concept of materiality referred to in accounting standards has been amplified in these guidelines. An asset is material if its omission would result in misleading the reader of the financial report. The convention of an asset being material if greater than 10-15% of asset value is only partly useful for road assets because of historic variability in practice in measuring value. The overriding principle is that financial reports present a true and fair picture of the financial position of the Shire.
Operating Expenditure	Expenditure on providing a service, which is continuously required including staff salaries and wages, plant hire, materials, power, fuel, accommodation and equipment rental, oncosts and overheads. Operating expenditure excludes maintenance and depreciation.
Pavement Management System	A PMS is a systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.
Planned Maintenance	Planned maintenance is anticipated maintenance due to expected normal usage, which can be scheduled in advance. (e.g. routine grading of unsealed roads, clearing of drainage pipelines, painting of recreation facilities). Planned maintenance falls into three categories: • Periodic – necessary to ensure the reliability or to sustain the design life of an asset; • Predictive – condition monitoring activities used to predict failure; • Preventative – maintenance that can be initiated without routine or continuous checking (e.g. using information contained in maintenance manuals or manufacturers recommendations) and is not condition based.
PMS Score	A measure of condition of a road segment determined from a Pavement Management System.
Primary Service	The services provided by Shires to their communities, e.g. local roads, libraries, child care services.
Owner/Custodian	Collaborator or associate engaged in the delivery of strategies.
Projected Maintenance and Renewal Expenditure	The sum of projected maintenance and capital renewal expenditure required in a future time period. Projected maintenance expenditure is that required to provide the target Level of Service allowing for changes in the asset inventory from donated and constructed assets. Projected renewal expenditure is the sum of the current replacement cost for all assets with a remaining life equal to or less than defined future time periods.
Rate of Annual Asset Consumption	A measure of average annual asset consumption (AAAC) expressed as a percentage of the current replacement cost.

Rate of Annual Asset Renewal	A measure of the rate at which assets are being renewed p.a. expressed as a percentage of current replacement cost.
Rate of Annual Asset Upgrade	A measure of the rate at which assets are being upgraded and expanded expressed as a percentage of current replacement cost.
Recurrent Expenditure	Recurrent expenditure relates to providing a service, which has benefits, expected to last less than 12 months. Recurrent expenditure includes operating expenditure and maintenance.
Remaining Life	The time remaining until an asset ceases to provide the required service level or economic usefulness. Remaining life is economic life minus age.
Risk Management	The allocation of probability and consequence to an undesirable event and subsequent actions taken to control or mitigate that probability and/or consequence.
Sustainability Factor	The ratio between the average annual asset consumption and average actual renewal expenditure.
Service Level Target	Target set for Level of Service to be achieved in the next reporting period (e.g. to retain, increase or reduce the number of accidents on local roads).
Service Potential Consumed	A measure of the percentage of the asset's potential to provide services that have been used up in providing the services. It also expresses the age of assets as a percentage of their economic life. In financial reports it is expressed as accumulated depreciation.
Transparency	A measure of the accuracy and confidence levels in the Shire's reporting of asset consumption as depreciation in financial reports.
Unplanned Maintenance	Unanticipated maintenance due to abnormal usage, faults, accidents and natural disasters (e.g. additional grading of roads, and cleaning of drainage pipes due to floods, repairs to recreation facilities due to storm damage or vandalism).
Useful Life	See Economic Life.

List of Acronyms

AAAC	Average Annual Asset Consumption
AMP	Asset Management Plan
AMS	Asset Management Strategy
ERP	Estimate Residential Population
IIMM	International Infrastructure Management Manual
IPR	Integrated Planning and Reporting Framework
IPWEA	Institute of Public Works Engineers Australia
KPI	Key Performance Indicator
LTFP	Long Term Financial Plan
NAMS	National Asset Management Strategy
RM	Risk Management
SCP	Strategic Community Plan