Shire of YILGARN

"good country for hardy people"

Infrastructure Asset Management Plan

October 2018

Document Control	 

Document ID: shire of yilgarn ciamp draft version 3

Rev No	Date	Revision Details	Author	Reviewer	Approver
1a	12/07/2018	Draft	DH	BH	
1b	14/8/2018	Revised Draft	DH	BH	
1c	10/10/2018	Revised Draft	DH	NK	

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EXECUTIVE SUMMARY

Context

The Shire of Yilgarn (the Shire) owns and maintains a significant portfolio of infrastructure assets. In order to achieve an acceptable and sustainable level of service to the community and ensure best value is achieved, it is critical that a whole of organisational approach is taken to asset management.

The Shire's infrastructure assets exist for the sole purpose of providing a service to the community. The assets will facilitate the delivery of that service and be both fit for purpose and sustainable.

Infrastructure assets are comprised of the following classes:

- Transport – roads, paths and the aerodrome
- Buildings – facilities and structures
- Parks and Ovals – parks and reserves
- Drainage – open and underground stormwater drainage
- Refuse – landfill sites
- Sewerage – treatment infrastructure
- Other – miscellaneous assets inc. communications

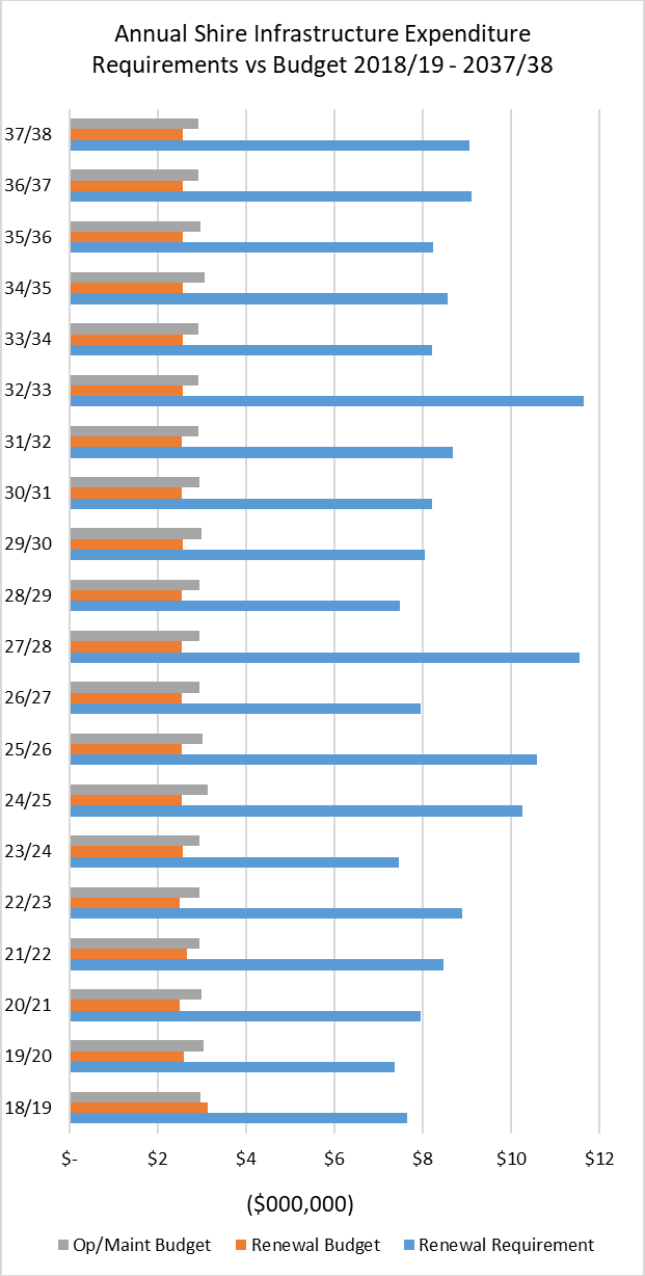
These infrastructure assets have a replacement value of $445,476,726.

What does it Cost?

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is $11,798,188 on average per year.

Estimated available funding for this period is $5,559,973 on average per year which is 47% of the cost to provide the service. This is a funding shortfall of -$6,238,214 on average per year.

Projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan is shown in the graph above.



What does this Mean?

The Shire will face a significantly increasing renewal backlog if the intention is to maintain the status quo in terms of service delivery. It is acknowledged that the road network represents by far the highest cost to the Shire and is maintained at a high level in terms of both service and condition.

Reviewing and refining the level of service provided by the unsealed road network represents the most significant opportunity for the Shire to manage the renewal gap over the longer term. The unsealed road network provides a critical service however the Shire's challenge to sustainably fund such a high level of service suggests a reduction in service levels, particularly with respect to the provision of significant

lengths of gravel sheeted roads. An initial hierarchy has been developed to define the minimum service requirements of each road classification and subsequent maintenance and renewal strategies. It is the intention of the Shire to implement this hierarchy and further refine as required.

Other opportunities will be identified through periodic review of the Shire's service delivery requirements and the assets required to facilitate their delivery.

Thoroughly quantifying the whole of life costs associated with any potential asset additions will also inform Council before committing to a potentially unsustainable asset liability.

What we will do

We plan to provide, operate, maintain, renew and upgrade assets to meet service levels set by Council in annual budgets. A balance between providing services aimed at local resident requirements and those that encourage tourism growth will need to be established.

Managing the Risks

There are risks associated with providing the service and not being able to complete all identified activities and projects. Renewal programs must be effective to prevent serious deterioration of assets that could result in reduced functionality. Periodic inspections of assets will improve the speed of defect identification and rectification to minimise safety hazards.

Confidence Levels

This AM Plan is based on Medium level of confidence information due to the reliability of data used to produce the figures.

The Next Steps

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

- Update inventory with revised asset hierarchies and continue to collect condition data
- Measure current levels of service performance
- Develop asset disposal plan and cost accordingly

Questions you may have

What is this plan about?

This asset management plan covers the infrastructure assets that serve the Shire of Yilgarn community's needs. A range of assets are covered by this plan, including some critical services such as roads, stormwater drainage, sewerage and key facilities.

What is an Asset Management Plan?

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

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

Why is there a funding shortfall?

Most of the Shire's infrastructure was constructed from government grants, often provided and accepted without consideration of ongoing operations, maintenance and replacement needs.

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

Our present funding levels are insufficient to continue to provide existing services at current levels in the medium term.

What options do we have?

Resolving the funding shortfall involves several steps:

1. Improving asset knowledge so that data accurately records the asset inventory, how assets are performing and when assets are not able to provide the required service levels
2. Improving our efficiency in operating, maintaining, renewing and replacing existing assets to optimise life cycle costs
3. Identifying and managing risks associated with providing services from infrastructure
4. Making trade-offs between service levels and costs to ensure that the community receives the best return from infrastructure
5. Identifying assets surplus to needs for disposal to make saving in future operations and maintenance costs

6. Consulting with the community to ensure that services and costs meet community needs and are affordable

7. Developing partnerships with other bodies, where available, to provide services

8. Seeking additional funding from governments and other bodies to better reflect a 'whole of government' funding approach to infrastructure services

What can we do?

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

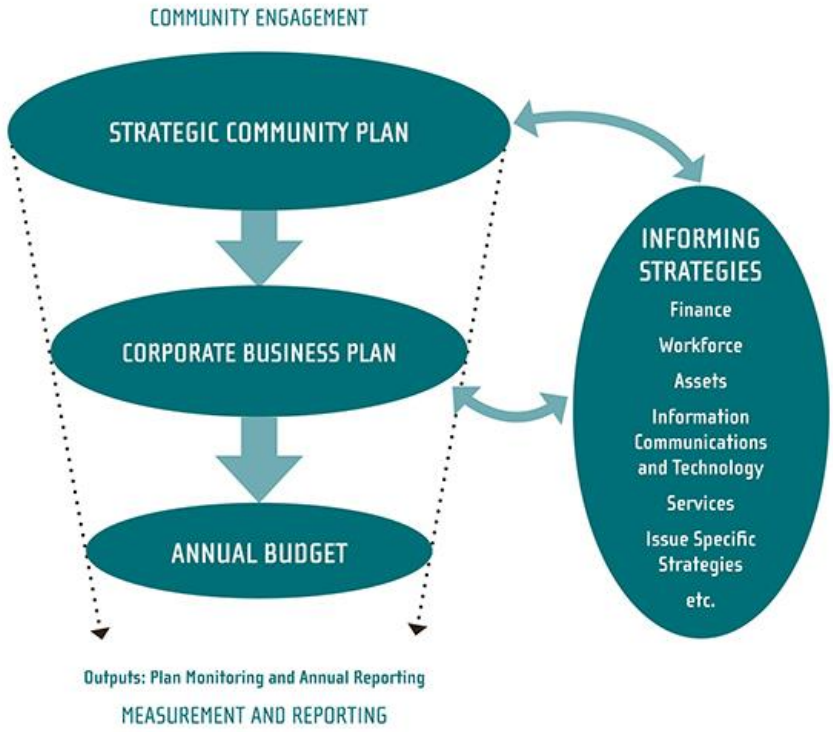
What can you do?

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

1. INTRODUCTION

1.1. Background

Asset management is ideally a whole of organisational activity which results in the most cost-effective delivery of services through physical assets. Since 2010, WA local Government has been required by the Department of Local Government Sport and Cultural Industries (DLGSC) to have in place a series of integrated strategic, tactical and operational documents to ensure efficient and sustainable delivery of services. This is referred to as the Integrated Planning and Reporting Framework (IPRF). The IPRF is intended to introduce cohesion between the strategic visions of the Council based on consultation with the community with the tactical delivery of services to achieve this vision. Figure 1 shows the components of the IPRF and how they relate to each other.



The intention is for the Council vision for the community being reflected throughout all aspects of the service delivery planning process. An asset management system is not software and data alone, but rather a documented strategic direction driven by policy and delivered at the tactical level by informing processes and plans with support of information based on reliable data. Any individual component delivered in isolation may not deliver on the vision of the Council.

The Infrastructure Asset Management Plan (IAMP) details the management strategy at the tactical level over a 5, 10 and 20 year period in terms of demand, levels of service, maintenance requirements, risk management and subsequent funding requirements. This will then inform the Long Term Financial Plan (LTFP). Whilst the asset management plan will quantify the funding requirements to achieve a desired level of service, the LTFP plans for the achievable funding for the Shire as a whole. Any constraints in planned funding when considering all requirements must in turn be reflected in the asset management plan and subsequent effects on service levels determined. The two plans should be aligned and not considered individually.

The IAMP follows the format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual[1].

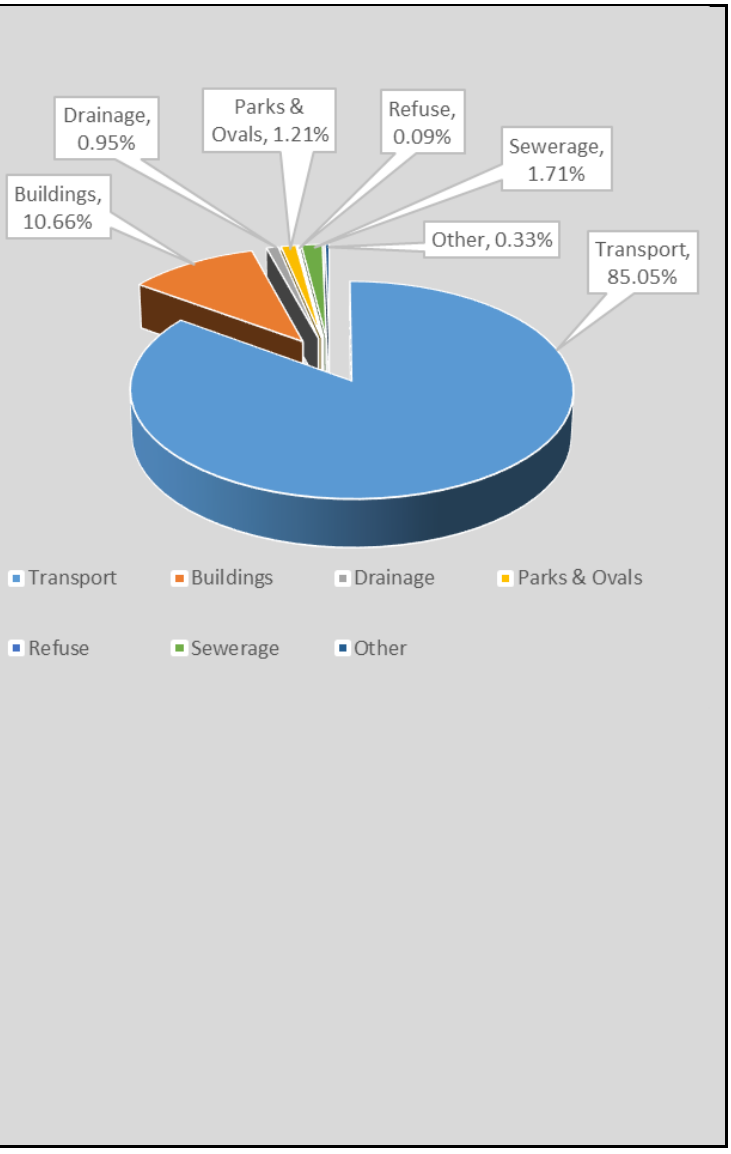
The IAMP is to be read with all integrated planning documents, policies and strategies as below:

- Strategic Community Plan (2016)
- Corporate Business Plan (2016)
- Long Term Financial Plan
- Accounting Policy
- 5 year Capital Works program

The infrastructure assets covered by this plan are shown in Table 1.1. These assets are used to provide services to the community through transport, stormwater drainage, open space and building services assets.

Table 1.1: Infrastructure Assets covered by this Plan

Asset Class	Component	Replacement
Transport	Subgrade	$171,781,519
	Table Drain	$12,357,782
	Gravel Sheet	$77,950,155
	Sealed Pavement	$86,053,010
	Surface	$24,751,579
	Kerbing	$975,466
	Aerodrome	$2,258,000
	Footpath	$2,748,916
	Total	$378,876,427
Buildings	Fitout	$1,619,225
	Mechanical	$7,903,052
	Roof Cladding	$747,530
	Structure	$37,202,965
	Total	$47,472,772
Drainage	Culverts	$2,573,818
	SW Pipes	$110,209
	SW Pits	$132,000
	Dams	$1,419,100
	Total	$4,235,127
Parks & Ovals	N/A	$5,401,350
Refuse	N/A	$402,300
Sewerage	N/A	$7,598,500
Other	N/A	$1,490,250
Grand Total All Assets		**$445,476,726**



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

Key stakeholders in the preparation and implementation of this asset management plan are shown in Table 1.2.

Table 1.2: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Councillors	• Represent needs of community/shareholders • Allocate resources to meet the Shire's objectives in providing services while managing risks • Ensure Shire is financially sustainable
CEO	• Administers service delivery • Allocate resources to meet the Shire's objectives in providing services while managing risks • Ensure service delivery is financial sustainable
Executive	• Allocate resources to meet the Shire's objectives in providing services while managing risks • Ensure service delivery is financially sustainable • Development of technical levels of service • Development of AMP • Monitoring of performance • Improvement of AMP
Service Users (community)	• Setting of community expectation • Setting of demand • Feedback to Council
Business Owners	• Setting of expectation • Setting of demand • Feedback to Council
Regulatory Bodies	• Setting of legislation • Compliance requirement

1.2. Goals and Objectives of Asset Management

The Council sets the strategic direction and vision for the community it represents with all activities undertaken having the sole objective of delivering on this vision. The vision and strategic direction will be documented within the Strategic Community Plan which will have been developed through public consultation. The Council will provide services, usually through the provision of assets, to achieve the Council vision.

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

The whole of life costs of an asset need to be considered throughout the entire process. The typical stages of an asset lifecycle are:

- Conception
- Planning
- Procurement
- Construction
- Maintenance
- Rehabilitation
- Upgrade
- Disposal

The greatest influence on the cost of an asset over its entire lifecycle is in the conception and planning stages before construction even commences. Before construction is undertaken consideration must be given to:

- Function – what service will it provide?
- Requirement – what is the current and future demand driver?
- Fit for purpose – will it suit the function, will the design/proposed materials be appropriate?
- Maintenance costs – need to be established, are they sustainable?
- Renewal demands – can the Shire fund its renewal throughout the asset's lifecycle?

Making inappropriate or uninformed decisions in the initial stages of the asset lifecycle will potentially commit the Council to the provision of a service through an asset that is not sustainable.

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

- Alignment to the strategic objectives of the Council
- Providing a defined level of service and monitoring performance
- Managing the impact of growth through demand management and infrastructure investment
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service
- Identifying, assessing and appropriately controlling risks
- Having a long-term financial plan which identifies required, affordable expenditure and how it will be financed[2]

1.3. Plan Framework

Key elements of the plan are

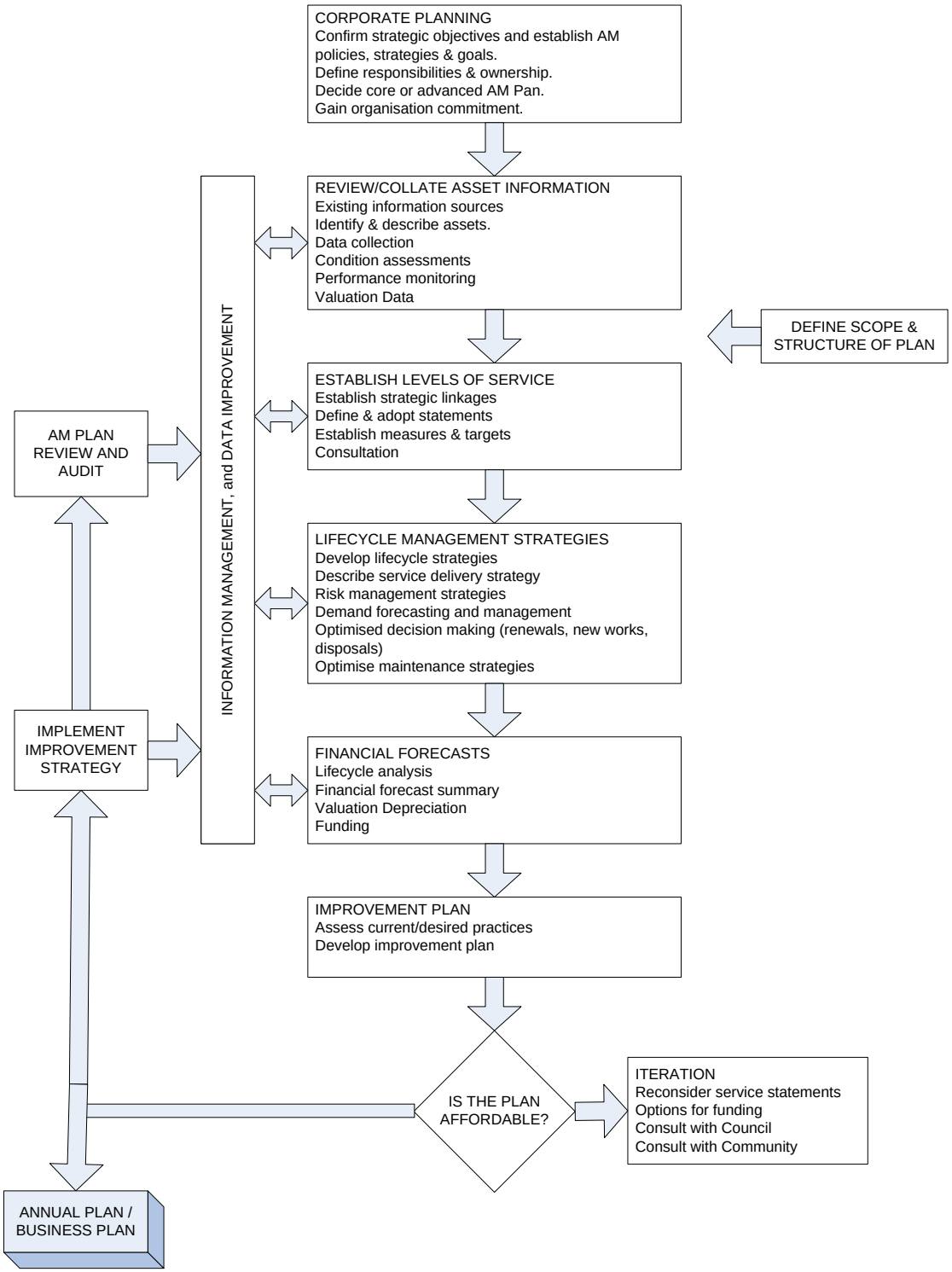
- Levels of service – specifies the services and levels of service to be provided by the Shire
- Future demand – how this will impact on future service delivery and how this is to be met
- Life cycle management – how Council will manage its existing and future assets to provide defined levels of service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

A road map for preparing an asset management plan is shown below.

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

Road Map for preparing an Asset Management Plan

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



1.4. Asset Management Maturity

The Shire is varied in terms of maturity for each of the asset classes addressed within this plan. A high-level core asset management plan was developed and adopted in 2013. It addressed all major asset classes, however it was the first iteration with the intention of satisfying compliance requirements.

This asset management plan is prepared as a 'core' asset management plan over a 10 year planning period in accordance with the International Infrastructure Management Manual[3]. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

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

1.5. Community Consultation

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

The Shire of Yilgarn community were invited to participate in the development of the Strategic Community Plan. Three workshops were open to all community members with a morning, daytime and evening option to ensure maximum attendance and participation. The workshops were promoted by:

- Direct mail invitations sent to all farmers
- Direct mail invitations sent to all sporting clubs
- Direct mail invitations sent to all community groups
- Direct mail invitations sent to all businesses
- An advertisement placed on the cover page of "Crosswords" - a fortnightly community magazine
- A notice placed on the Shire website

The workshops were conducted in April 2016 with a total of 12 participants. Workshop participants were engaged in a series of questions as follows:

- What are three key words to describe your vision for the Shire of Yilgarn?
- What are the key strategic issues facing this community over the next 10 years?
- What three facilities do you value the most?
- What three services do you value the most?
- What can the community do to contribute to the vision?

The input collected from these engagement activities have shaped the content of this AM Plan.

[3] IPWEA, 2011, IIMM.

2. LEVELS OF SERVICE

2.1. Strategic and Corporate Goals

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

Our vision is:

"The Shire of Yilgarn is a strong farming and mining community. We are a progressive Shire where people of all ages love to call home. Tourism is a key industry and local businesses thrive."

Our Values are:

- Yilgarn is a thriving community with a diverse community
- We are a community that invests in our people of all ages, backgrounds and skill levels, and we look for innovative ways to create opportunities for everyone
- We recognise the importance of a harmonious co-existence between our two major industries of mining and agriculture
- We value our tourism industry and acknowledge its importance to our local economy
- We are proud of our history, our natural landscape and our built environment and will promote these attributes to the rest of the world
- We are a visionary group of elected members who are focussed on achieving results and providing excellent fiscal management while being responsible to our community
- We are open, accountable, approachable and adaptable to change
- We lead by example, are professional and believe our community has a right to be heard

Our asset management strategy is:

"To implement best practice asset management plans to optimise Council's infrastructure whilst minimising lifecycle costs."

Relevant organisational goals and objectives and how these are addressed in this AM Plan are:

Table 2.1: Organisational Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in AM Plan
Environment	Protecting, utilising and enhancing our beautiful natural heritage	Management of assets in a sustainable manner
Social	An inclusive, secure and welcoming community that encourages families, youth and the aged to remain and contribute to our Shire in the long term	Identification of levels of service that demand safe management of assets
Economic	A prosperous future for our community	Plan for renewal and upgrade of assets to support growth of economy
Civic leadership	Dynamic and visionary leadership guiding our community into the future	Adequately resource new infrastructure lifecycle costs from design to disposal

The Shire will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management plan prepared in conjunction with this AM Plan. Management of infrastructure risks is covered in Section 4.3

2.2. Legislative Requirements

There are many legislative requirements that the Shire must meet including Australian and State legislation and State regulations. These include:

Table 2.2: Legislative Requirements

Legislation	Requirement
Local Government Act	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery
Road Traffic Act 1974	Law relating to Road Traffic
Main Roads Act 1930	Law relating to the construction, maintenance, and supervision of roads
Land Administration Act 1997	Main statute governing the administration of State land
Environmental Protection Act 1986	Law for protection of the natural environment
Occupational Safety & Health Act 1984	Law for providing safe work practices and safe work sites
Heritage Act of Western Australia 1990	The state register provides official recognition of a place's cultural heritage significance to WA and assists the Heritage Council to identify, provide for and encourage the conservation of heritage places
Aboriginal Heritage Act 1992	Law governing Aboriginal Heritage issues
Native Title Act 1999	Law governing Native Title issues
WA Disability Services Act 1993	Law governing principles of access and inclusion for all and requires Local Governments to create, implement and review Access and Inclusion Plans
Town Planning & Development Act 1928	Law governing planning and development of land for urban, suburban, and rural purposes
Conservation & Land Management Acts 1984	Law providing for the better use, protection and management of public lands and waters and the flora and fauna thereof
AASB108, AASB116, AASB136, AASB1031, AASB1048, AASB1051	Standards guiding Council responsibility for accounting practices and financial reporting
AS1428.1	Disability Access and Inclusion requirements
Austroads Guides	Guidelines for road design, traffic management & traffic engineering
AS1742	Guidelines for road signage

Better Urban Water Management	Storm water drainage guidelines
Liveable Neighbourhoods	State Planning guidelines for urban development requirements

2.3. Community Levels of Service

Service levels are defined in two terms, community levels of service and technical levels of service.

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

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

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

The Shire's current and expected community service levels are detailed in Tables 2.4. It shows proposed community levels of service based on resource levels in the current long-term financial plan and community consultation/engagement.

Table 2.3: Community Level of Service

ASSET CLASS	LEVEL OF SERVICE	PERFORMANCE MEASURE PROCESS	DESIRED PERFORMANCE	ACTIONS TO MEET DESIRED PERFORMANCE
Transport	Safe and reliable	Level of recorded defects and condition survey results	Minimal defects/poor condition reported	Renew assets at an appropriate interval
	Fit for intended purpose	Community and operations staff feedback and surface smoothness	Zero capacity or serviceability issues and minimal rough surfaces	Consider service deficiencies in upgrade planning
Parks and Ovals	Functional and presentable	Community feedback	Minimal community complaints	Adjust maintenance levels to respond
	Minimal risk posed to public safety	Level of recorded defects/hazards	Minimal defects reported	Appropriate renewal and planned maintenance programs
Drainage	Serviceable	Level of recorded serviceability defects	Minimal serviceability issues	Undertake drainage inspections to generate planned maintenance program
	Appropriate capacity	Level of areas serviced by inadequate drainage	Zero areas with inadequate drainage	Respond to known issues with upgrade program, adequate planning for new developments
Buildings	Clean and serviceable	Cleaning and maintenance requests from public and staff	Minimal requirement for reactive actions	Increase planned maintenance activities and monitor cleaning performance
	Functional and available	Staff requests relating to user requirements	Minimal loss of availability or function	Planned renewal/upgrades to meet user requirements
	Safe and accessible	OSH inspections and defect reports	Zero non-compliance issues or hazards reported	Undertake OSH inspections and periodic condition surveys of all sites
Refuse	Serviceable	Level of recorded serviceability defects	Minimal serviceability issues	Undertake review to generate planned maintenance program
	Appropriate capacity	Level of areas serviced by inadequate capacity	No loss of service due to capacity	Respond to known issues with upgrade program
Sewerage	Serviceable	Level of recorded serviceability defects	Minimal serviceability issues	Undertake sewerage inspections to generate planned maintenance program
	Appropriate capacity	Level of areas serviced by inadequate sewerage provision	No loss of service due to capacity	Respond to known issues with upgrade program

2.4. Technical Levels of Service

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

Technical service measures are linked to annual budgets covering:

- Operations and Maintenance – the activities necessary to provide services and retain an asset as near as practicable to an appropriate service condition (eg cleaning, road patching, unsealed road grading, building and structure repairs)

- Renewal – the activities that return the service capability of an asset up to that which it had originally (eg frequency and cost of road resurfacing and pavement reconstruction, culvert replacement and building component replacement)

- Upgrade – the activities to provide a higher level of service (eg widening a road, sealing an unsealed road, replacing a culvert with a larger size) or a new service that did not exist previously (eg a new library)

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.[4] The agreed sustainable position in the above table documents the position agreed by the Council following community consultation and trade-off of service levels performance, costs and risk within resources available in the long-term financial plan.

[4] IPWEA, 2011, IIMM, p 2.22

3. FUTURE DEMAND

3.1. Demand Drivers

Drivers affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc. These drivers are highly varied, and likely to change over time.

3.2. Demand Impact on Assets

The impact of demand drivers that may affect future service delivery and utilisation of assets are shown in Table 3.1.

Table 3.1: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Proportion of aging population	Increasing	Will increase further	More reliant on aged care facilities
General population	Declining	Will decline further	Less demand for public services

3.3. Demand Management Plan

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

Non-asset solutions focus on providing the required service without the need for the Shire to own the assets, and management actions including reducing demand for the service, reducing the level of service (allowing some assets to deteriorate beyond current service levels) or educating customers to accept appropriate asset failures[5]. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another community area or public toilets provided in commercial premises.

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

4. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Shire plans to manage and operate the assets at the agreed levels of service (defined in Section 2) while optimising life cycle costs.

4.1. Background Data

4.1.1. Asset capacity and performance

The Shire's services are generally provided to meet design standards where these are available. The unsealed road network in particular is in excellent condition and is well maintained to provide a good level of service to both the Town and rural community.

4.1.2. Asset condition

Condition is monitored ideally every 3 years; the most recent survey was undertaken in 2018.

Condition is measured using a 1 – 5 grading system[6] as detailed in Table 4.1.

Table 4.1: Simple Condition Grading Model

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

The condition profile of our road assets is shown in Figures 4.1 using available data.

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

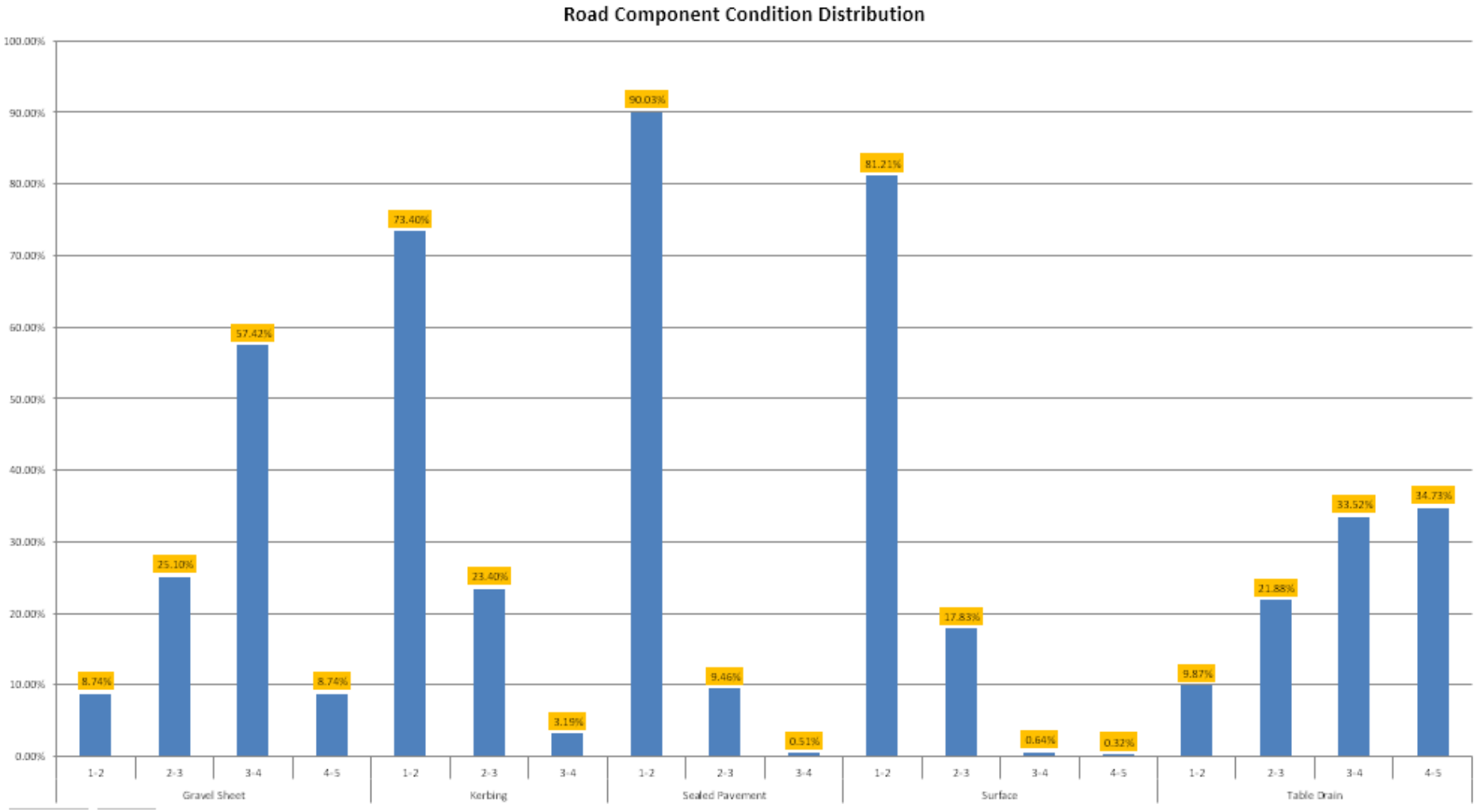


Fig 4.1: Road Condition Profiles

4.2. Asset valuations

The value of assets recorded in the asset register as at June 2018 covered by this asset management plan is shown below.

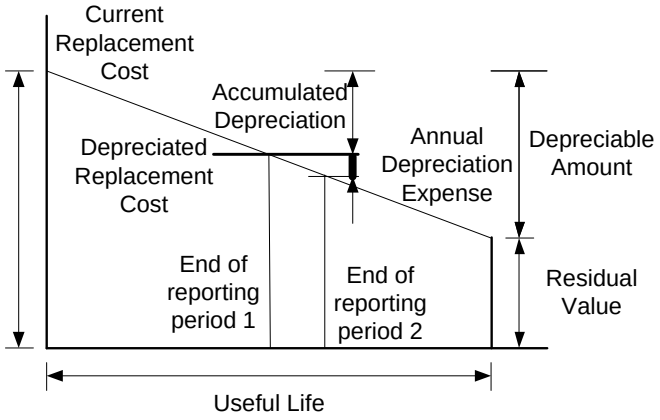


Table 4.2: Valuation Summary

Asset Class	Component	Replacement Cost	Depreciated Replacement Cost	Accumulated Depreciation	Annual Depreciation
Transport	Subgrade	$171,781,519	$171,781,519	$-	$-
	Table Drain	$12,357,782	$5,766,532	$6,591,250	$308,945
	Gravel Sheet	$77,950,155	$37,099,941	$40,850,213	$6,495,846
	Sealed Pavement	$86,053,010	$74,650,956	$11,402,053	$1,377,270
	Surface	$24,751,579	$19,575,318	$5,176,260	$1,986,545
	Kerbing	$975,466	$883,667	$91,799	$16,257
	Aerodrome	$2,258,000	$956,044	$1,301,956	$59,438
	Footpath	$2,748,916	$1,547,316	$1,201,599	$85,322
	Total	$378,876,427	$312,261,293	$66,615,130	$10,020,678
Buildings	Fitout	$1,619,225	$906,990	$712,235	$50,535
	Mechanical	$7,903,052	$4,435,752	$3,467,300	$399,478
	Roof Cladding	$747,530	$386,254	$361,276	$38,139
	Structure	$37,202,965	$20,616,750	$16,586,215	$836,133
	Total	$47,472,772	$26,345,746	$21,127,026	$1,324,285
Drainage	Culverts	$2,573,818	$1,590,292	$983,526	$49,750
	SW Pipes	$110,209	$52,805	$57,404	$1,836
	SW Pits	$132,000	$78,125	$53,875	$1,650
	Dams	$1,419,100	$304,510	$1,114,590	$29,650
	Total	$4,235,127	$2,025,732	$2,209,395	$82,886
Parks & Ovals	N/A	$5,401,350	$2,655,677	$3,402,840	$244,345
Refuse	N/A	$402,300	$3,217,887	$242,360	$15,260
Sewerage	N/A	$7,598,500	$3,918,745	$3,679,755	$130,713
Other	N/A	$1,490,250	$723,521	$766,730	$68,918
Grand Total All Assets		**$445,476,726**	**$351,148,601**	**$98,043,236**	**$12,196,030**

Key assumptions made in preparing the valuations were:

- Life expectancies are relevant to the Shire
- Unit rates were reviewed in 2018 and reflect what it costs to return the asset to its full service capacity in the current day
- Rates included all related costs such as design, project management and Shire overheads

Major changes from previous valuations are due to the revision of unit rates and life expectancies as well as a more comprehensive asset inventory.

Various ratios of asset consumption and expenditure have been prepared to help guide and gauge asset management performance and trends over time. Councils are now required to annually determine these ratios and include as part of their mandatory financial reporting:

Rate of Annual Asset Consumption - Depreciation/Depreciable Amount

Rate of Annual Asset Renewal - Capital Renewal Expenditure/Depreciable Amount

In 2018 the Shire plans to renew assets at 42% of the rate they are being consumed.

4.3. Infrastructure Risk Management Plan

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

Critical risks, being those assessed as 'Very High' (requiring immediate corrective action), 'High' (requiring prioritised corrective action) and 'Medium' (requiring corrective action) identified in the Infrastructure Risk Management Plan, together with the estimated residual risk after the selected treatment plan is operational, are summarised in Table 4.3. These risks are reported to management and Council.

Table 4.3: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH,H,M,L)	Risk Treatment Plan	Residual Risk *
Sealed Roads/ Car Parks	Accidents due to poor surface condition	H	Planned reseal program based on condition	L
Unsealed Roads		H	Annual resheeting/grading program	L
Road pavements	Water ingress leading to expensive reconstructions	H	Annual reseal program, planned maintenance and repair of surface defects	L
Footpaths	Pedestrian falling due to trip hazard	H	Condition defect surveys, defect log, planned and reactive maintenance	L
Open Drains/ Culverts	Death/injury during high rainfall	H	Annual inspection of drainage to include risk assessment of	L

			each structure	
Stormwater Pipe	Pipe failure causing road collapse	M	Manage through existing planned maintenance	L
Open space play/recreation equipment	Injury to user	H	Adequate design and installation. Regular inspections	L
Building	Major incident such as fire/flood	H	Electrical safety audits, safety equipment checks and periodic emergency drills	L
	Unavailability	M	Appropriate operational and maintenance strategy that minimises disruption	L
Sewerage	Health risk through unavailability of the treatment plant	M	Appropriate operational and maintenance strategy that minimises disruption	L

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

4.4. Routine Operations and Maintenance Plan

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

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

4.4.1. Operations and Maintenance Plan

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

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

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions. This currently accounts for approximately 50% of the Shire's maintenance budget.

Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacing air conditioning units, etc. This work falls below the capital/maintenance threshold but may require a specific budget allocation. Planned maintenance work is currently 50% of the Shire's total maintenance expenditure.

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

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

4.4.2. Operations and Maintenance Strategies

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

- Scheduling operations activities to deliver the defined level of service in the most efficient manner
- Undertaking maintenance activities through a planned maintenance system to reduce maintenance costs and improve maintenance outcomes. Undertake cost-benefit analysis to determine the most cost-effective split between planned and unplanned maintenance activities (50 – 70% planned desirable as measured by cost)
- Maintain a current infrastructure risk register for assets and present service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council
- Review current and required skills base and implement workforce training and development to meet required operations and maintenance needs
- Review asset utilisation to identify underutilised assets and appropriate remedies, and over utilised assets and customer demand management options
- Maintain a current hierarchy of critical assets and required operations and maintenance activities
- Develop and regularly review appropriate emergency response capability
- Review management of operations and maintenance activities to ensure Council is obtaining best value for resources used

4.4.3. Asset Hierarchy

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

The Shire has developed a hierarchy for its road network and is in the process of developing hierarchies for other asset classes. The road hierarchy is shown in Table 4.5 over page and refers to road cross section. Cross section type refers to the level of construction with definitions and examples as below and in Table 4.4:

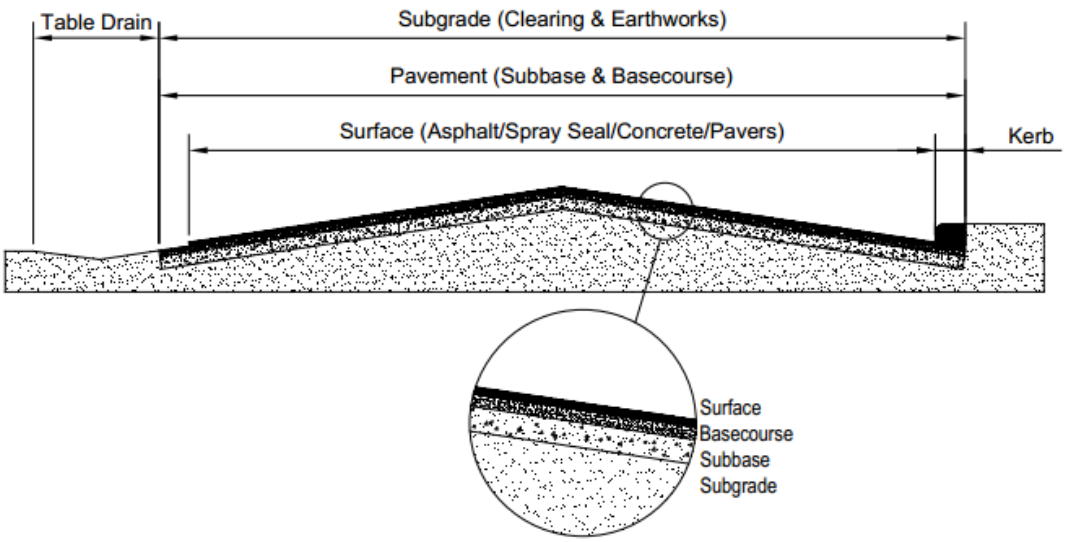


Fig 4.1: Road Construction Cross Section

Table 4.4: Road Cross Section Type

Cross Section Type	Components	Description	Example
1	• Subgrade	Cleared trafficable flat unformed track	
2	• Subgrade • Table Drain	Formed road with table drains	
3	• Subgrade • Table Drain • Pavement	Formed road with roadside drainage & unsealed pavement of imported material e.g. gravel	
4	• Subgrade • Table Drain • Pavement • Surface	Formed road with table drains, constructed pavement and surface	

5	• Subgrade • Table Drain • Kerb • Pavement • Surface	Formed road with constructed pavement, surface, roadside table drain one side and kerbing on the opposite side	
6	• Subgrade • Kerbs • Pavement • Surface	Formed road with constructed pavement, surface and kerbing both sides	

4.5. Routine Operations and Maintenance Plan

Unsealed gravel roads have a constructed pavement structure to bear traffic loading and resist losing shape as well as draining more effectively. The gravel pavement must be of imported material (transported to site from elsewhere) and not in situ-natural material.

Unsealed roads by their very nature will lose shape following rain or traffic loading. The shape can be returned by way of maintenance grading however it should be understood that this is a *maintenance* activity and does not renew or replenish the unsealed gravel pavement asset in terms of depth of material. Maintenance grading will return some pavement material from the roadside drains, however over time the traffic will disperse and break down the imported gravel material with the layer becoming thinner over time.

Eventually the pavement will be consumed altogether with the asset requiring renewal by way of importing more pavement material. The time for this to occur is variable and determined by traffic volumes, material type, road design with respect to horizontal/vertical alignment, as well as drainage and environmental factors. The lives of unsealed pavements are considerably less than sealed pavements, typically 5 to 10 years. This is an important consideration considering the significant size of the Shire's unsealed gravel road network and the costs associated

Fig 4.2: Gravel Sheeted Road

Table 4.5: Road Asset Service Hierarchy

Shire Hierarchy and Levels of Service								
Category	**MRWA Hierarchy**	**Location**	**Connectivity**	**Service**	**Sealed/Unsealed**	**Accessibility**	**Level of Construction (Cross Section)**	**Description**
1	Regional Distributor	Urban/Rural	High	Critical Connectivity	Sealed/unsealed	All weather	3,4,5,6	As per MRWA Hierarchy
2	Local Distributor	Urban/Rural	High	Critical Connectivity	Sealed/unsealed	All weather	3,4,5,6	As per MRWA Hierarchy
3	Access	Urban	Medium to Low	Residential Access	Sealed	All weather	4,5,6	Sealed low volume roads within Shire Towns to access properties
4	Access	Urban	Medium to Low	Light Industrial	Sealed	All weather	4,5,6	Sealed low volume roads within Shire Towns to service industrial activities within the Shire Towns
5	Access	Rural	Medium to Low	Residential Access	Sealed/Unsealed	Majority	3	Predominantly unsealed gravel sheeted roads to provide continual access to rural residential property access points (Property Driveways) and connectivity to Towns within the Shire
6	Access	Rural	Medium to Low	Property Access	Sealed/Unsealed	Frequent	2	Predominantly formed unsealed roads to provide access to infrequent rural properties e.g. paddocks
7	Access	Urban/Rural	Low	Access to core Shire service facilities	Sealed/Unsealed	All weather	4,5,6	Predominantly sealed roads to provide all weather access to core Shire facilities
8	Access	Urban/Rural	Low	Low grade infrequent access	Unsealed	Weather Restricted	1	Cleared flat graded track to provide access for infrequent Shire activities e.g. firebreaks

4.5.1. Critical Assets

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

Operations and maintenances activities may be targeted to mitigate critical assets failure and maintain service levels. These activities may include increased inspection frequency, higher maintenance intervention levels, etc. Critical assets failure modes and required operations and maintenance activities are detailed in Table 4.6.

Table 4.6: Critical Assets and Service Level Objectives

Critical Assets	Critical Failure Mode	Operations & Maintenance Activities
Roads/Car Parks/Footpaths	Defects that may increase likelihood of accident or asset closure	Appropriate defect inspection, reporting and reactive maintenance procedures.
Playground Equipment	Deficiencies or design issues that have potential to cause injury to users	Regular defect inspections and periodic renewal to ensure safety standards are continually improved
High Priority Buildings	Building unavailability and OHS non-compliance	Appropriate OHS inspections and renewal plan
Drainage Outfalls	Obstruction or degradation of channels	Regular slashing of vegetation and inspection of open drain walls
Sewerage	Burst pipes, failed pumps/plant, leaking pond lining	Regular inspection and planned routine maintenance

5. FINANCIAL SUMMARY

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

5.1. Future Operations, Maintenance and Renewal Expenditures Requirements vs Budget

Future operations, maintenance and renewal expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 5.1 to Figure 5.8. Note that all costs are shown in current dollar values.

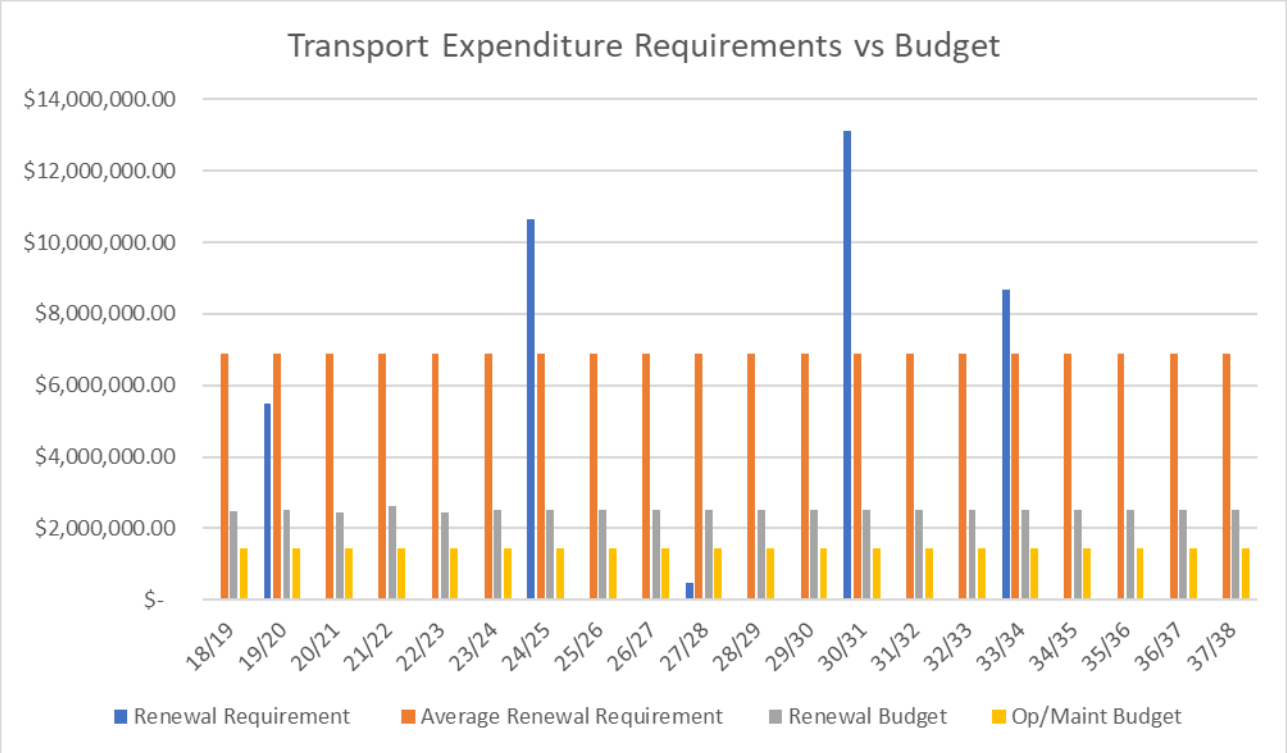


Figure 5.1: Transport Projected Operations, Maintenance Expenditure and renewal requirements vs budget

The average renewal requirement is based on the management strategy as detailed in Table 5.2 on page 35. This is in accordance with the minimum levels of service by hierarchy. The renewal requirements (blue on chart) is based on the requirement when the asset reaches the end of its life. This will typically see peaks given the similar construction dates of portions of the road network. It is not feasible to fund these peaks as they are required so the average renewal funding requirement (orange) reflects a more balanced expenditure that considers the desired levels of service and the subsequent operations, maintenance and depreciation expenditure.

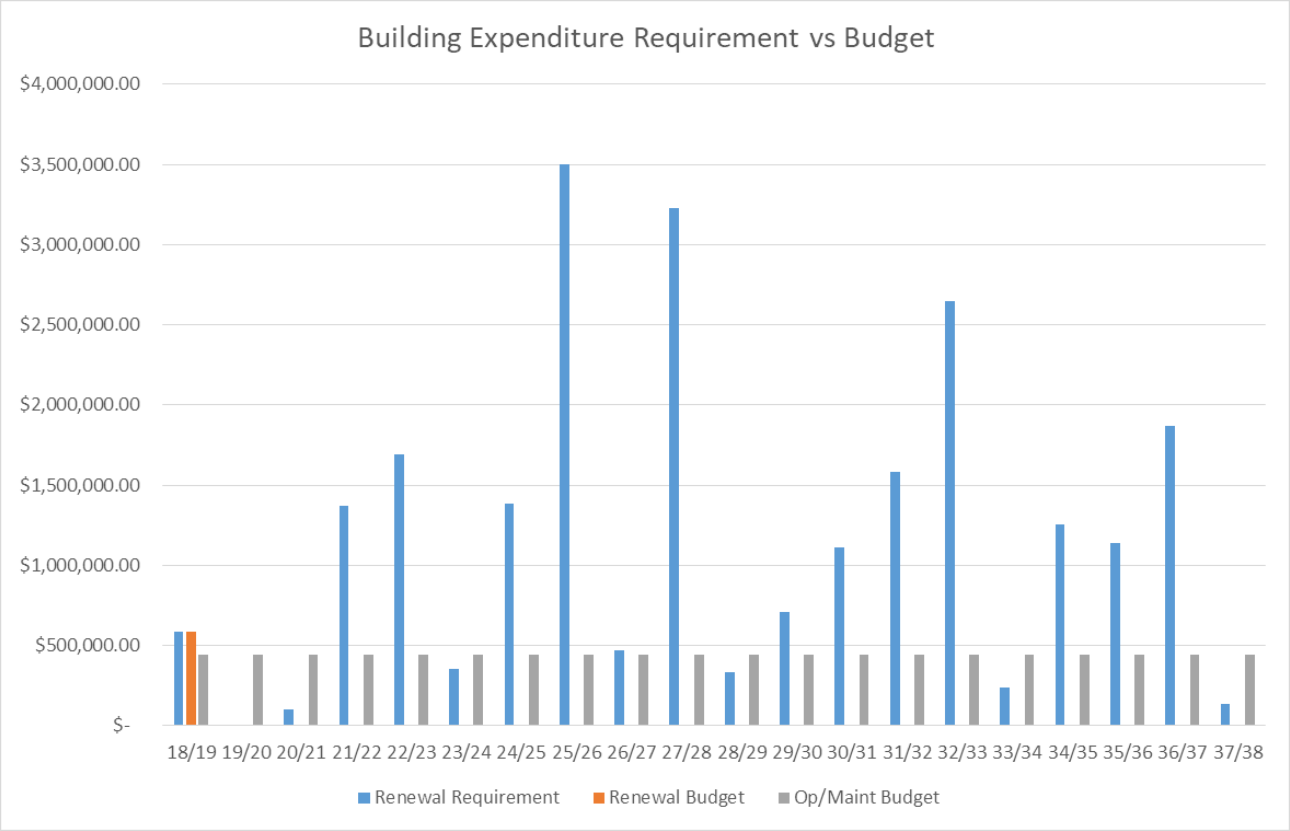


Figure 5.2: Buildings Projected Operations, Maintenance Expenditure and Renewal Requirements vs Budget

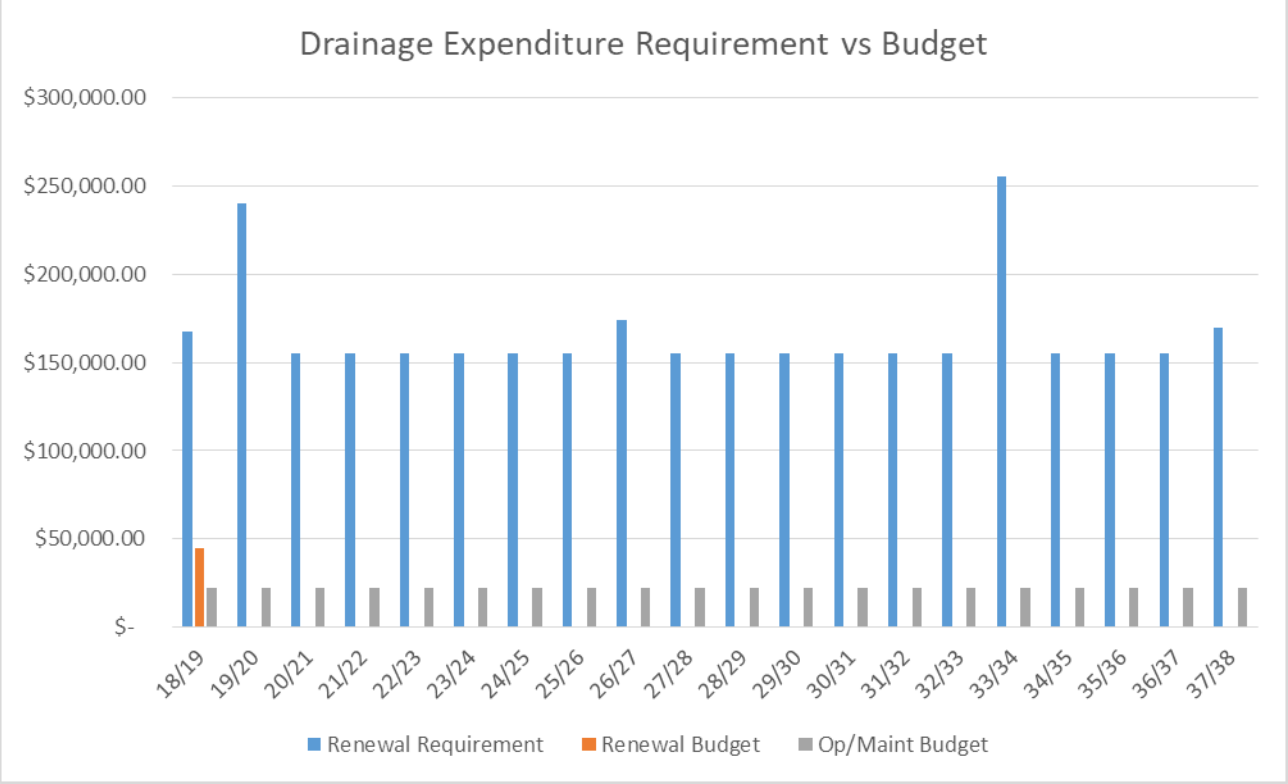


Figure 5.3: Drainage Projected Operations, Maintenance Expenditure and Renewal Requirements vs Budget

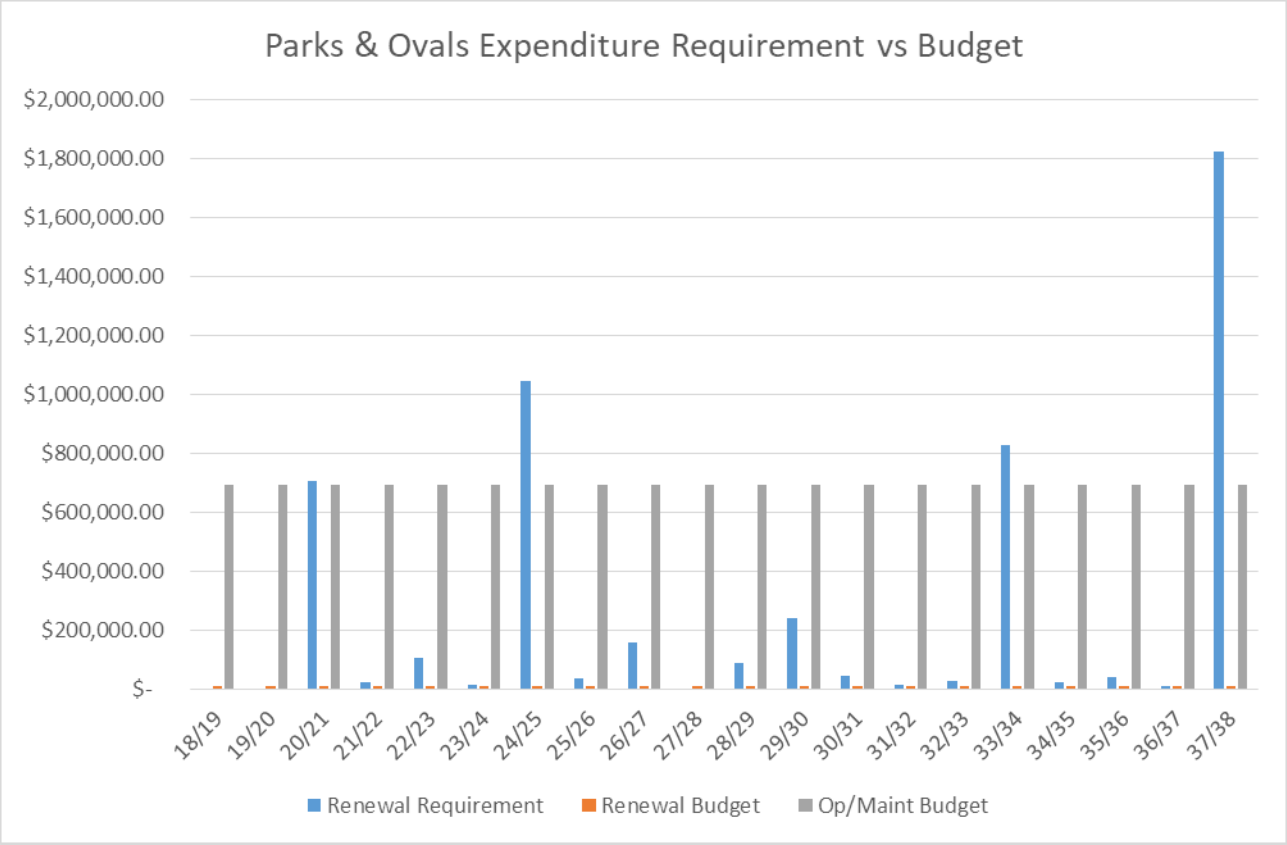


Figure 5.4: Parks and Ovals Projected Operations, Maintenance Expenditure and Renewal Requirements vs Budget

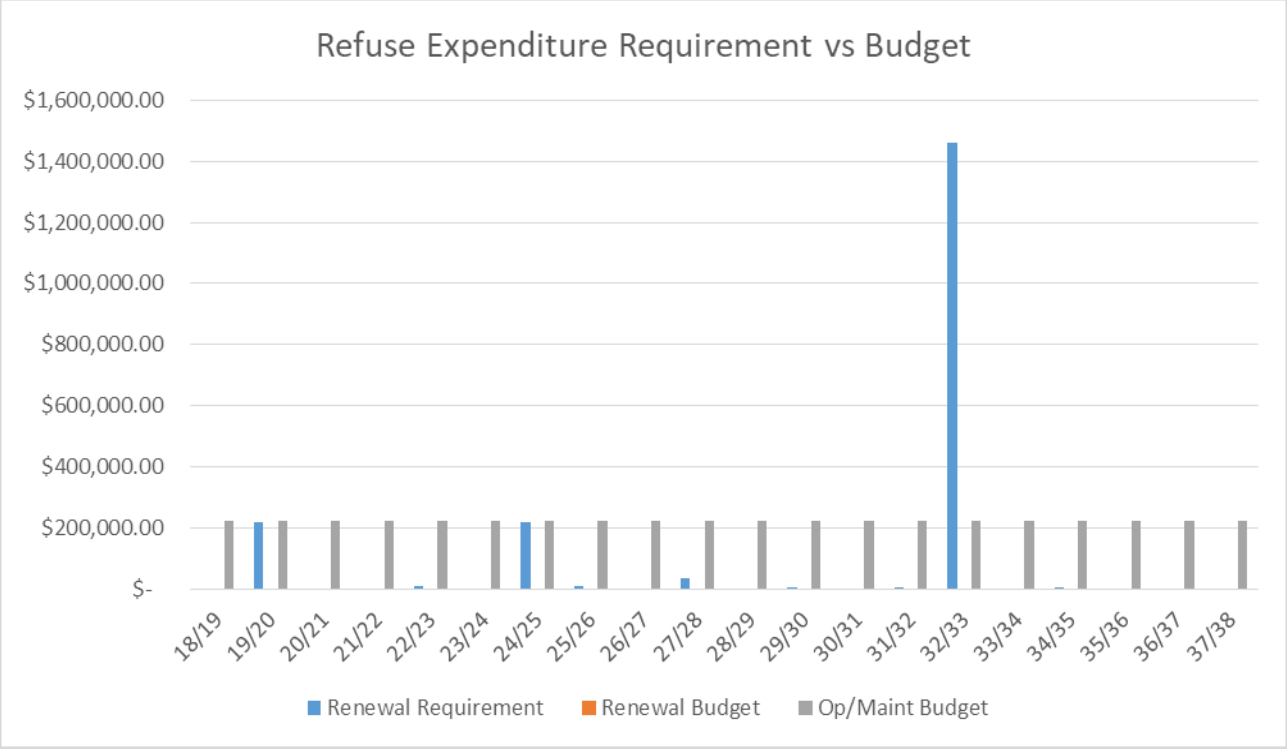


Figure 5.5: Refuse Projected Operations and Maintenance Expenditure

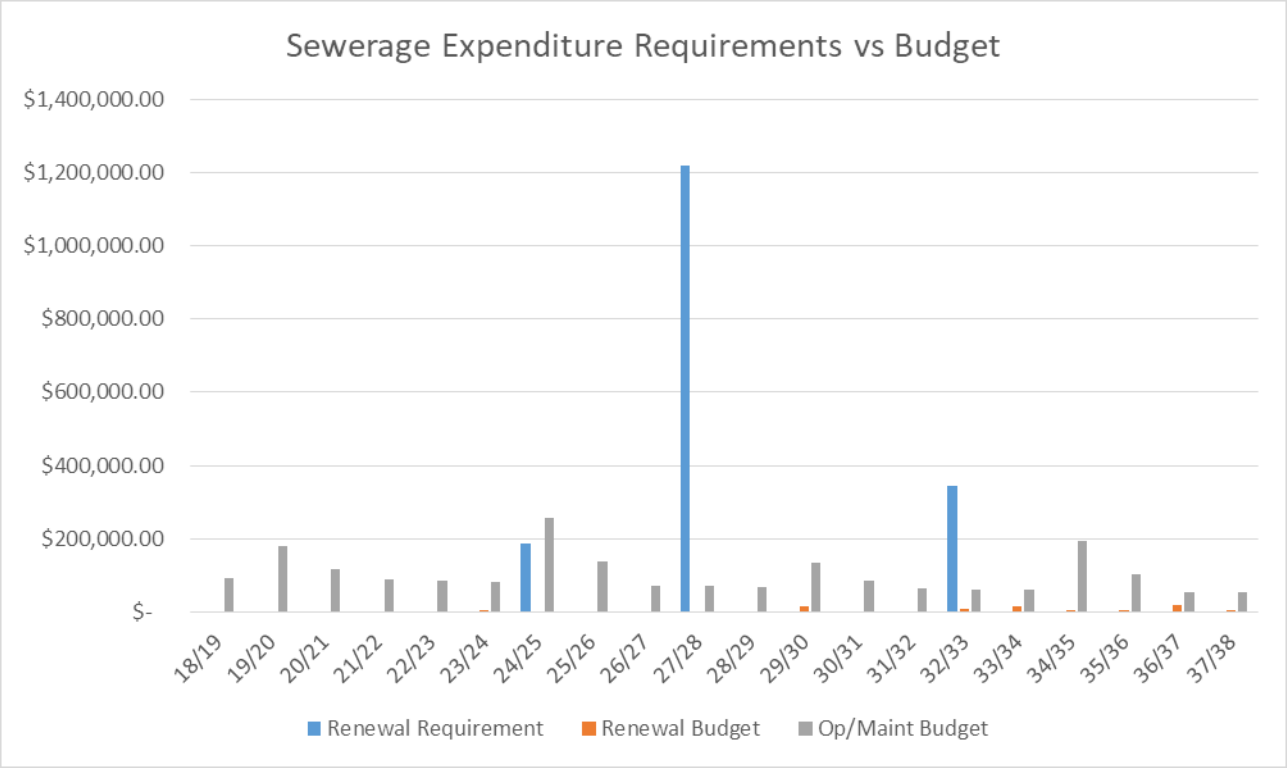


Figure 5.6: Sewerage Projected Operations and Maintenance Expenditure

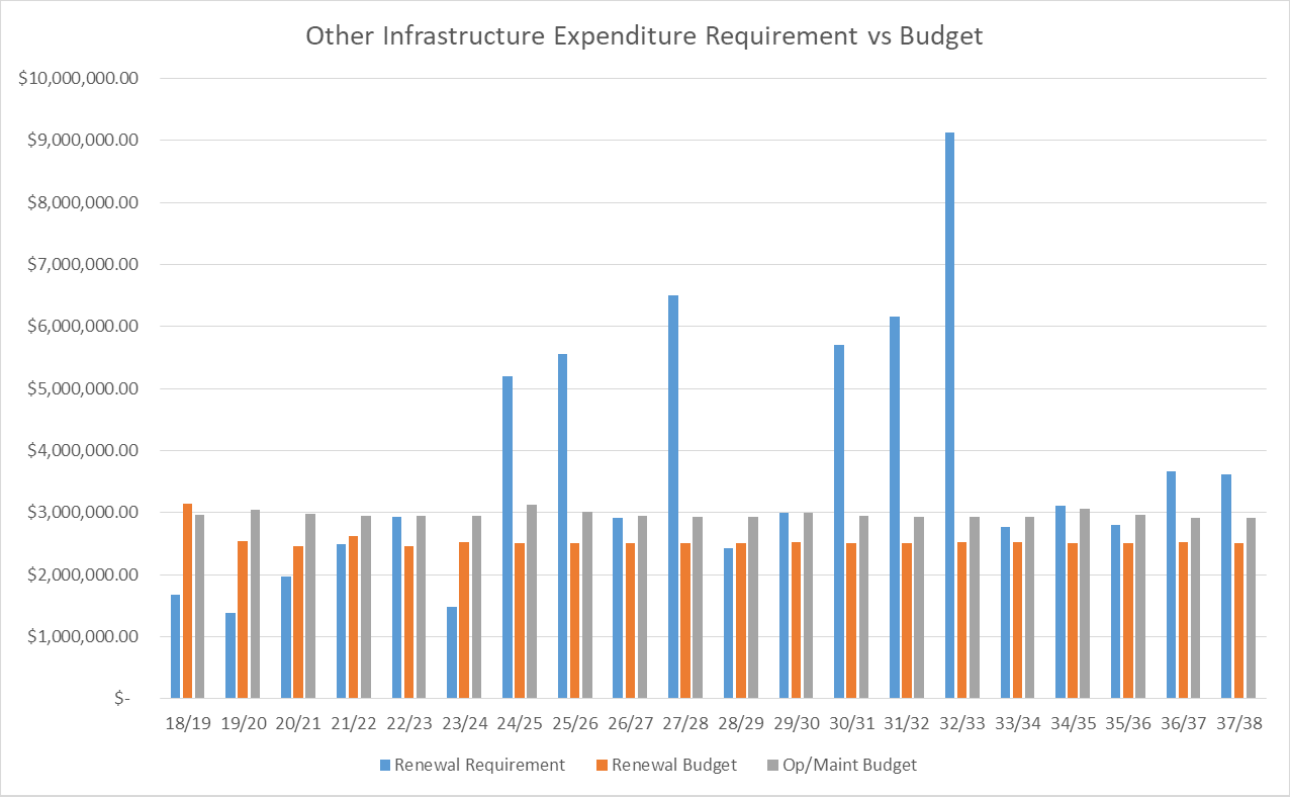


Figure 5.7: Other Infrastructure Projected Operations and Maintenance Expenditure

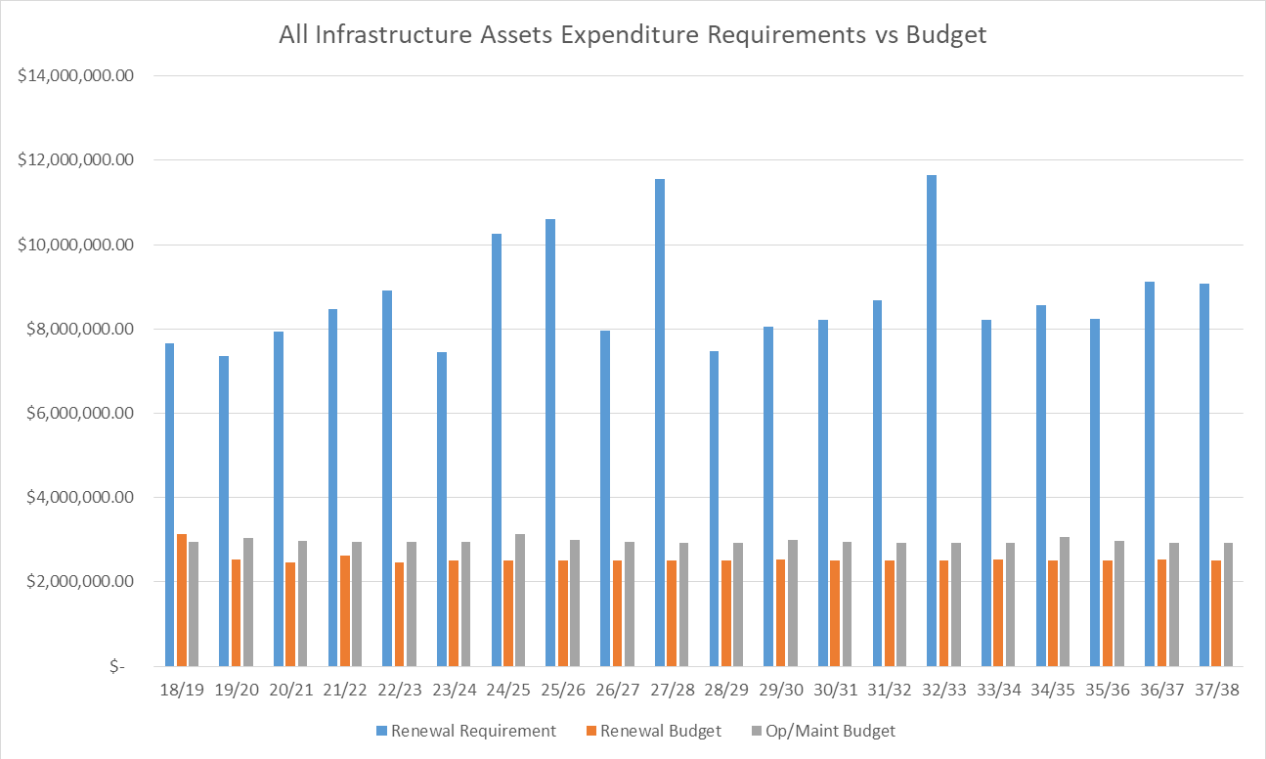


Figure 5.8: All Assets Projected Operations and Maintenance Expenditure

5.2. Sustainability of Service Delivery

There are four key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category, these being the asset renewal funding ratio, long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5, 10 and 20 years of the planning period.

Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 1.0 for the first years of the asset management plan and ideally over the 10 year life of the Long Term Financial Plan. Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist the Shire in providing services to their communities in a financially sustainable manner.

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the asset life cycle. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased, or cuts in services made in the future.

5.3. Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[7] 29%

The Asset Renewal Funding Ratio is the most important indicator and reveals that over the next 10 years, Council is forecasting that it will have 29% of the funds required for the optimal renewal and replacement of its assets. This does not consider additional funding sources that may be available at the time of renewal of key assets such as critical buildings. It is envisaged that it is likely that these funding sources would be available however cannot be considered

[7] AIFMG, 2012, Version 1.3, Financial Sustainability Indicator 4, Sec 2.6, p 2.16

within this plan. Should the Shire not secure funding at the time of asset renewal, alternate strategies would need to be considered such as asset rationalisation or disposal.

This expenditure requirement also considers the renewal of a significant length of gravel sheeted network that may be reduced over time to align expenditure to available funding.

5.4. Short Term – 5 year Financial Planning Period

The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is $11,043,257 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $5,619,188 on average per year giving a 5 year funding shortfall of $5,424,069 per year. This indicates that Council expects to have 51% of projected expenditures required to provide the services shown in this asset management plan.

5.5. Medium term – 10 year Financial Planning Period

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is $11,798,188 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $5,559,973 on average per year giving a 10 year funding shortfall of $6,238,214 per year. This indicates that Council expects to have 47% of the projected expenditures needed to provide the services documented in the asset management plan.

5.6. Long term – 20 Year Financial Planning Period

The projected operations, maintenance and capital renewal expenditure required over the 20 year planning period is $23,477,267 on average per year. Estimated (budget) operations, maintenance and capital renewal funding is $11,030,547 on average per year giving a 20 year funding shortfall of $12,446,720 per year. This indicates that Council expects to have 47% of the projected expenditures needed to provide the services documented in the asset management plan.

Table 5.1 shows the shortfall between projected renewal and replacement expenditures, and expenditure accommodated in the 20 year period.

Table 5.1: Projected and Budgeted Renewals and Financing Shortfall

Year	Renewal Requirement	Renewal Budget	Op/Maint Budget	Renewal Backlog	Sustainability Ratio
18/19	$7,651,713	$3,136,248	$2,958,443	$4,515,465	41%
19/20	$7,356,936	$2,537,024	$3,046,997	$6,227,006	34%
20/21	$7,948,519	$2,454,038	$2,984,066	$6,901,575	31%
21/22	$8,462,159	$2,619,311	$2,953,743	$7,249,942	31%
22/23	$8,903,264	$2,455,626	$2,950,448	$7,854,732	28%
23/24	$7,454,769	$2,514,509	$2,947,273	$6,347,354	34%
24/25	$10,247,679	$2,510,000	$3,124,148	$9,144,773	24%
25/26	$10,595,759	$2,510,000	$3,003,682	$9,492,853	24%
26/27	$7,960,703	$2,510,000	$2,938,451	$6,857,797	32%
27/28	$11,557,399	$2,510,000	$2,935,727	$10,454,493	22%
28/29	$7,476,304	$2,510,000	$2,933,344	$6,373,398	34%
29/30	$8,050,949	$2,525,827	$2,999,319	$6,932,216	31%
30/31	$8,216,299	$2,510,000	$2,951,764	$7,113,393	31%
31/32	$8,674,999	$2,510,000	$2,929,701	$7,572,093	29%
32/33	$11,642,161	$2,517,263	$2,927,902	$10,531,991	22%
33/34	$8,213,306	$2,526,094	$2,926,153	$7,094,306	31%
34/35	$8,554,554	$2,513,677	$3,059,662	$7,447,971	29%
35/36	$8,245,584	$2,511,867	$2,969,693	$7,140,811	30%
36/37	$9,110,609	$2,529,696	$2,921,195	$7,988,007	28%
37/38	$9,067,660	$2,512,947	$2,919,635	$7,961,807	28%
Totals	**$175,391,325**	**$50,924,127**	**$59,381,346**	**$151,201,983**	**29%**

A major influence in the funding shortfall is the amount of gravel sheeting on the Shire's unsealed road network. Although a new hierarchy has been established, there are approximately 600km of gravel sheeted roads that exceed the level of service desired by the Shire. This can be reviewed and the net result will be a significant decrease in renewal requirement. For the purposes of this plan, it has been assumed that only 20% of the 600kms of gravel sheeted road exceed the desired level of service and will be renewed at the end of its expected service life.

Table 5.2 over page details the maintenance and renewal costs to maintain the Shires sealed and unsealed road network to the desired level of service.

Table 5.2: Required Road Network Expenditure

Shire Category	Network Composition				Maintenance Expenditure Requirements					Renewal Expenditure Requirements			
	Kms Sealed	Kms Gravel	Kms Formed	Kms Unformed	Maint Grade Freq	Maint Grading $/km	Annual Maint Grading Cost	Sealed Road Maint Cost $/km	Annual Sealed Maint Cost	Replacement Cost (Dep comp only)	Annual Gravel Sheet Dep	Annual Sealed Pavement Dep	Annual Surface Dep
1	230	354	26	39	2	$560	$228,066	$247	$56,788	$110,536,571	$1,188,733	$1,245,016	$1,661,177
2	7	359			2	$560	$201,253	$247	$1,836	$16,783,718	$1,081,504	$33,977	$84,267
3	19	4			0	$560	$2,178	$247	$4,773	$7,401,870	$11,964	$67,305	$159,636
4	3	1			0	$560	$291	$247	$651	$869,351	$1,261	$7,216	$19,221
5		362	12		2	$560	$216,384	$247	$-	$6,560,694	$1,079,522	$14,587	$34,272
6	1	580	18		1	$560	$335,138	$247	$214	$19,807,196	$165,060	$2,366	$6,336
7	3	3	10		0	$560	$1,529	$247	$715	$773,986	$5,311	$6,801	$21,637
8		450		69	0	$560	$252,000	$247	$-				
							$1,236,838		$64,976	$162,733,386	$3,533,355	$1,377,270	$1,986,545
Total	**263**	**2113**	**67**	**108**	**$1,301,814.70**					**$6,897,170.57**			

5.7. Key Assumptions Made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates.

Key assumptions made in this asset management plan and risks that these may change are shown in Table 5.3.

Table 5.3: Key Assumptions made in AM Plan and Risks of Change

Key Assumptions	Risks of Change to Assumptions
Future annual budgets preserved	Decrease or increase to future annual budgets will affect identified gaps and ability to deliver identified service levels
Unit rates used in determining replacement costs are accurate and relevant to current practice	Inaccurate calculated replacement costs and depreciation figures

5.8. Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale[8] in accordance with Table 5.4.

Table 5.4: Data Confidence Grading System

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

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 5.5.

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

Table 5.5: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	C	Based on information from 2011
Growth projections		
Operations expenditures	B	Determined using budgeted expenditure sheets
Maintenance expenditures		
Asset values	B	Unit rates updated in 2018
Asset useful lives	B	Useful lives updated in 2018
Condition modelling	A	Condition data collected by a dedicated officer
Network renewals	B	Shire review and acceptance of renewal programs required
Upgrade/New expenditures	C	Based on previous trends and 1 to 5 year expenditure plan rather than long term plan

6. PLAN IMPROVEMENT AND MONITORING

6.1. Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 6.1.

Table 6.1: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Update inventory to align with defined hierarchies			
2	Review replacement cost of asset components			
3	Audit condition data to prove reliability			
4	Produce asset disposal plan and cost accordingly			
5	Measure Levels of Service to determine current performance			
6	Incorporate medium to long term proposed upgrades into AM Plan			
7	Develop appropriate componentisation model for buildings in order to generate renewal program			
8	Review demand factors and develop demand management plan			

6.2. Monitoring and Review Procedures

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

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

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

6.3. Performance Measures

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

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

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Shire of Yilgarn Strategic Community Plan 2015-2025

Sample Council, 'Annual Plan and Budget'.

APPENDICES

Appendix A Projected 5 year Capital Renewal and Replacement Works Program

Appendix B Abbreviations

Appendix C Glossary

Appendix A Projected 5 year Capital Renewal and Replacement Works Program

Project	Project Description	Asset Class	Capital Upgrade/Renewal	Forecast Budget									
				2018-19		2019-20		2020-21		2021-22		2022-23	
				LGA	Other	LGA	Other	LGA	Other	LGA	Other	LGA	Other
Koolyanobbing Rd slk 5.0 - 8.0	3km x 7m construct &prime	Roads and Bridges	Upgrade	$192,427	$384,854								
Koolyanobbing Rd 8.0 - 11.0	3km x 7m construct &prime	Roads and Bridges	Upgrade			$197,237	$394,475						
Koolyanobbing Rd slk 11.0 - 14.0	3km x 7m construct &prime	Roads and Bridges	Upgrade					$202,168	$404,336				
Koolyanobbing Rd slk 14.0 - 17.0	3km x 7m construct &prime	Roads and Bridges	Upgrade							$207,222	$414,444		
Koolyanobbing Rd slk 2 - 5	3km x 10mm bitumen reseal	Roads and Bridges	Renewal	$32,213	$64,426								
Koolyanobbing Rd slk 5.0 - 8.0	3km x 10mm bitumen reseal	Roads and Bridges	Renewal			$32,103	$64,206						
Koolyanobbing Rd slk 8.0 - 11.0	3km x 10mm bitumen reseal	Roads and Bridges	Renewal					$32,905	$65,810				
Koolyanobbing Rd slk 11.0 - 14.0	3km x 10mm bitumen reseal	Roads and Bridges	Renewal							$33,727	$67,454		
Koolyanobbing Rd slk 14.0 - 17.0	3km x 10mm bitumen reseal	Roads and Bridges	Renewal									$34,570	$69,140
Moorine South Rd slk 0.0 - 8.5	8.5km's x 10mm bitumen reseal	Roads and Bridges	Renewal	$88,740	$177,480								
Moorine	8km's x	Roads and	Renewal			$85,608	$171,216						

Project	Project Description	Asset Class	Capital Upgrade/Renewal	Forecast Budget									
				2018-19		2019-20		2020-21		2021-22		2022-23	
				LGA	Other	LGA	Other	LGA	Other	LGA	Other	LGA	Other
South Rd slk 8.5 - 16.5	10mm bitumen reseal	Bridges											
Moorine South Rd slk 16.5 - 24.5	8km's x 10mm bitumen reseal	Roads and Bridges	Renewal					$87,746	$175,493				
Moorine South Rd slk 24.5 - 35.0	10.5km's x 10mm bitumen reseal	Roads and Bridges	Renewal							$118,044	$236,089		
Moorine South Rd slk 35.0 - 48.0	13km's x 10mm bitumen reseal	Roads and Bridges	Renewal									$149,803	$299,606
Moorine South Rd slk 64.5 - 67.5	3km's Construct & Prime	Roads and Bridges	Upgrade									$212,402	$424,805
M40 - slk 15.0 - 21.0	6km's x 10mm bitumen reseal	Roads and Bridges	Renewal	$60,326	$120,652								
M40 - slk 9.0 - 15.0	6km's x 10mm bitumen reseal	Roads and Bridges	Renewal			$64,206	$128,412						
M40 - slk 3.0 - 9.0	6km's x 10mm bitumen reseal	Roads and Bridges	Renewal					$65,810	$131,620				
M40 - slk 0.0 - 3.0	3km's x 10mm bitumen reseal	Roads and Bridges	Renewal							$33,727	$67,454		
Cramphorne Rd – slk 7 - 8.5	1.5km x 7m construct & prime	Roads and Bridges	Upgrade		$248,888								

Project	Project Description	Asset Class	Capital Upgrade/Renewal	Forecast Budget									
				2018-19		2019-20		2020-21		2021-22		2022-23	
				LGA	Other	LGA	Other	LGA	Other	LGA	Other	LGA	Other
Cramphorne Rd – slk 8.5 – 10	**1.5 km x 7m construct & prime**	**Roads and Bridges**	**Upgrade**				$252,621						
Cramphorne Rd – slk 10 – 11.5	**1.5 km x 7m construct & prime**	**Roads and Bridges**	**Upgrade**						$256,400				
Cramphorne Rd – slk 11.5 – 113	**1.5 km x 7m construct & prime**	**Roads and Bridges**	**Upgrade**								$260,250		
Cramphorne Rd – slk 13 – 14.5	**1.5 km x 7m construct & prime**	**Roads and Bridges**	**Upgrade**										$264,150
Cramphorne Rd – slk 21.8 – 23.8	**2 km's x 10mm Reseal**	**Roads and Bridges**	**Renewal**		$61,054								
Cramphorne Rd – 7 - 8.5	**1.5 km's x 10mm Reseal**	**Roads and Bridges**	**Renewal**				$46,490						
Cramphorne Rd – 8.5 – 10slk	**1.5 km's x 10mm Reseal**	**Roads and Bridges**	**Renewal**						$47,650				
Cramphorne Rd – 10 – 11.5slk	**1.5 km's x 10mm Reseal**	**Roads and Bridges**	**Renewal**								$48,850		
Cramphorne Rd – 11.5 – 13slk	**1.5km's x 10mm Reseal**	**Roads and Bridges**	**Renewal**										$50,100
M40 - slk 0.0 - 1.5	**1.5 km x 7m reconstruct & prime**	**Roads and Bridges**	**Upgrade**						$256,400				
Bodallin South Rd - slk 1.2 -	**1.5 km x 7m**	**Roads and Bridges**	**Upgrade**		$241,988								

Project	Project Description	Asset Class	Capital Upgrade/Renewal	Forecast Budget									
				2018-19		2019-20		2020-21		2021-22		2022-23	
				LGA	Other	LGA	Other	LGA	Other	LGA	Other	LGA	Other
2.7	**construct & prime**												
Bodallin South Rd - slk 2.7 - 4.2	**1.5 km x 7m construct & prime**	**Roads and Bridges**	**Upgrade**				$252,650						
Bodallin South Rd - slk 4.2 - 5.7	**1.5 km x 7m construct & prime**	**Roads and Bridges**	**Upgrade**								$260,250		
Bodallin South Rd - slk 5.7 - 7.2	**1.5 km x 7m construct & prime**	**Roads and Bridges**	**Upgrade**										$264,150
Emu Fence Rd slk 133.5 - 135.5	**2km form & gravel overlay**	**Roads and Bridges**	**Renewal**	$86,000									
Emu Fence Rd slk 135.5 - 137.5	**2km form & gravel overlay**	**Roads and Bridges**	**Renewal**			$88,100							
Emu Fence Rd slk 137.5 - 139.5	**2km form & gravel overlay**	**Roads and Bridges**	**Renewal**					$90,300					
Emu Fence Rd slk 139.5 - 141.5	2km form & gravel overlay	**Roads and Bridges**	**Renewal**							$92,500			
Emu Fence Rd slk 141.5 - 143.5	**2km form & gravel overlay**	**Roads and Bridges**	**Renewal**									$94,800	
Gatley Rd slk 6.5 - 8.5	**2km form & gravel Overlay**	**Roads and Bridges**	**Renewal**	$86,100									
Gatley Rd slk 4.5 - 6.5	**2km form & gravel Overlay**	**Roads and Bridges**	**Renewal**			$88,200							
Gatley Rd slk 2.5 - 4.5	**2km form & gravel**	**Roads and Bridges**	**Renewal**					$90,400					

Project	Project Description	Asset Class	Capital Upgrade/Renewal	Forecast Budget									
				2018-19		2019-20		2020-21		2021-22		2022-23	
				LGA	Other	LGA	Other	LGA	Other	LGA	Other	LGA	Other
	Overlay												
Gatley Rd slk 0.0 - 2.5	2km form & gravel Overlay	Roads and Bridges	Renewal							$92,600			
Southern Cross Sth Rd slk 18.00 - 20.00	2km's form & gravel overlay	Roads and Bridges	Renewal	$85,600									
Southern Cross Sth Rd slk 20.00 - 22.00	2km's form & gravel overlay	Roads and Bridges	Renewal			$87,700							
Southern Cross Sth Rd slk 77.00 - 79.5	2km's form & gravel overlay	Roads and Bridges	Renewal					$89,900					
Southern Cross Sth Rd slk 81.00 - 84.00	3km's form & gravel overlay	Roads and Bridges	Renewal							$138,200			
Southern Cross Sth Rd slk 84.00 - 87.00	3km's form & gravel overlay	Roads and Bridges	Renewal									$141,600	
Nulla Nulla Sth Rd slk 37.5 - 39.5	2km's form & gravel overlay	Roads and Bridges	Renewal	$85,600									
Nulla Nulla Sth Rd slk 35.00 - 37.5	2km's form & gravel overlay	Roads and Bridges	Renewal			$87,700							
Nulla Nulla Sth Rd slk 30.5 - 32.5	2km's form & gravel overlay	Roads and Bridges	Renewal					$89,900					
Nulla Nulla Sth Rd slk 27.5 - 30.5	3km's form & gravel overlay	Roads and Bridges	Renewal							$138,200			
Nulla Nulla Sth Rd slk 24.5 -	3km's form & gravel	Roads and Bridges	Renewal									$141,600	

Project	Project Description	Asset Class	Capital Upgrade/Renewal	Forecast Budget									
				2018-19		2019-20		2020-21		2021-22		2022-23	
				LGA	Other	LGA	Other	LGA	Other	LGA	Other	LGA	Other
27.5	overlay												
Kent Rd slk 11.5 - 13.5	2 km's form & gravel overlay	Roads and Bridges	Renewal	$85,600									
Kent Rd slk 13.5 - 15.5	2 km's form & gravel overlay	Roads and Bridges	Renewal			$87,700							
Kent Rd slk 15.5 - 17.5	2 km's form & gravel overlay	Roads and Bridges	Renewal					$89,900					
Kent Rd slk 17.5 - 20.5	3 km's form & gravel overlay	Roads and Bridges	Renewal							$131,500			
Cockatoo Tank Rd slk 3.00 - 5.00	2 km's form & gravel overlay	Roads and Bridges	Renewal	$87,900									
Cockatoo Tank Rd slk 5.00 - 7.00	2 km's form & gravel overlay	Roads and Bridges	Renewal			$90,100							
Cockatoo Tank Rd slk 7.00 - 9.00	2 km's form & gravel overlay	Roads and Bridges	Renewal					$92,300					
Cockatoo Tank Rd slk 9.00 - 11.5	2.5 km's form & gravel overlay	Roads and Bridges	Renewal							$115,400			
Moorine Rocks Rd Slk 0.0 - 4.0	4 km's form & gravel overlay	Roads and Bridges	Renewal									$189,000	
Achernar St Antares to Altairs St	125 metres Asphalt Overlay	Roads and Bridges	Renewal	$161,300									
Achernar St Antares to Spica St	125 metres Asphalt Overlay	Roads and Bridges	Renewal			$161,300							
Koolyanobbing Rd slk 25 - 27	2km x 10mm	Roads and Bridges	Renewal	$50,100									

Project	Project Description	Asset Class	Capital Upgrade/Renewal	Forecast Budget									
				2018-19		2019-20		2020-21		2021-22		2022-23	
				LGA	Other	LGA	Other	LGA	Other	LGA	Other	LGA	Other
	bitumen reseal												
Koolyanobbing Rd slk 27 - 29	2km x 10mm bitumen reseal	Roads and Bridges	Renewal			$51,300							
Koolyanobbing Rd slk 29 - 33	3km x 10mm bitumen reseal	Roads and Bridges	Renewal					$76,900					
Koolyanobbing Rd slk 33 - 35	2km x 10mm bitumen reseal	Roads and Bridges	Renewal							$52,600			
Koolyanobbing Rd slk 35 - 38	3km x 10mm bitumen reseal	Roads and Bridges	Renewal									$80,900	
Altair St (Centaur St to Scorpio St)		Paths	Upgrade	$26,250		$27,000		$27,600		$28,300		$29,000	
Spica St (Canopus St to Sirius St)		Paths	Upgrade	$26,250		$27,000		$27,600		$28,300			
Town Drainage	Project 3	Drainage	Upgrade	$40,500									
Town Drainage	Project 4	Drainage	Upgrade			$41,700							
Town Drainage	Project 5	Drainage	Upgrade					$42,900					
Town Drainage	Project	Drainage	Upgrade							$44,200			

Appendix B Abbreviations

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

Appendix C Glossary

Annual service cost (ASC)

1) Reporting actual cost

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

2) For investment analysis and budgeting

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

Asset

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

Asset category

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

Asset class

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

Asset condition assessment

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

Asset hierarchy

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

Asset management (AM)

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

Asset renewal funding ratio

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

Average annual asset consumption (AAAC)*

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

Borrowings

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

Capital expenditure

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

Capital expenditure - expansion

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

Capital expenditure - new

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

Capital expenditure - renewal

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

Capital expenditure - upgrade

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

Capital funding

Funding to pay for capital expenditure.

Capital grants

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

Capital investment expenditure

See capital expenditure definition

Capitalisation threshold

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

Carrying amount

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

Class of assets

See asset class definition

Component

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

Core asset management

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

Cost of an asset

The amount of cash or cash equivalents paid or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, including any costs necessary to place the asset into service. This includes one-off design and project management costs.

Critical assets

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

Current replacement cost (CRC)

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

allowing for any differences in the quantity and quality of output and in operating costs.

Deferred maintenance

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

Depreciable amount

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

Depreciated replacement cost (DRC)

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

Depreciation / amortisation

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

Economic life

See useful life definition.

Expenditure

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

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

Fair value

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

Financing gap

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

Heritage asset

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

Impairment Loss

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

Infrastructure assets

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

Investment property

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

(a) use in the production or supply of goods or services or for administrative purposes; or

(b) sale in the ordinary course of business.

Key performance indicator

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

Level of service

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

Life Cycle Cost *

1. **Total LCC** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.

2. **Average LCC** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises average operations, maintenance expenditure plus asset consumption expense, represented by depreciation expense projected over 10 years. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure

The Life Cycle Expenditure (LCE) is the average operations, maintenance and capital renewal expenditure accommodated in the long term financial plan over 10 years. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of affordability of projected service levels when considered with asset age profiles.

Loans / borrowings

See borrowings.

Maintenance

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

- Planned maintenance

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

- Reactive maintenance

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

- Specific maintenance

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

- Unplanned maintenance

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

Maintenance expenditure *

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

Materiality

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

Modern equivalent asset

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

Net present value (NPV)

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

Non-revenue generating investments

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

Operations

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

Operating expenditure

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

Operating expense

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

Operating expenses

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

Operations, maintenance and renewal financing ratio

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

Operations, maintenance and renewal gap

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

Pavement management system (PMS)

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

PMS Score

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

Rate of annual asset consumption *

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

Rate of annual asset renewal *

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

Rate of annual asset upgrade/new *

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

Recoverable amount

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

Recurrent expenditure

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

Recurrent funding

Funding to pay for recurrent expenditure.

Rehabilitation

See capital renewal expenditure definition above.

Remaining useful life

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

Renewal

See capital renewal expenditure definition above.

Residual value

The estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

Revenue generating investments

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

Risk management

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

Section or segment

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

Service potential

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

Service potential remaining

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

Specific Maintenance

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

Strategic Longer-Term Plan

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

Sub-component

Smaller individual parts that make up a component part.

Useful life

Either:

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

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

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

Value in Use

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

Source: IPWEA, 2009, Glossary

Additional and modified glossary items shown *