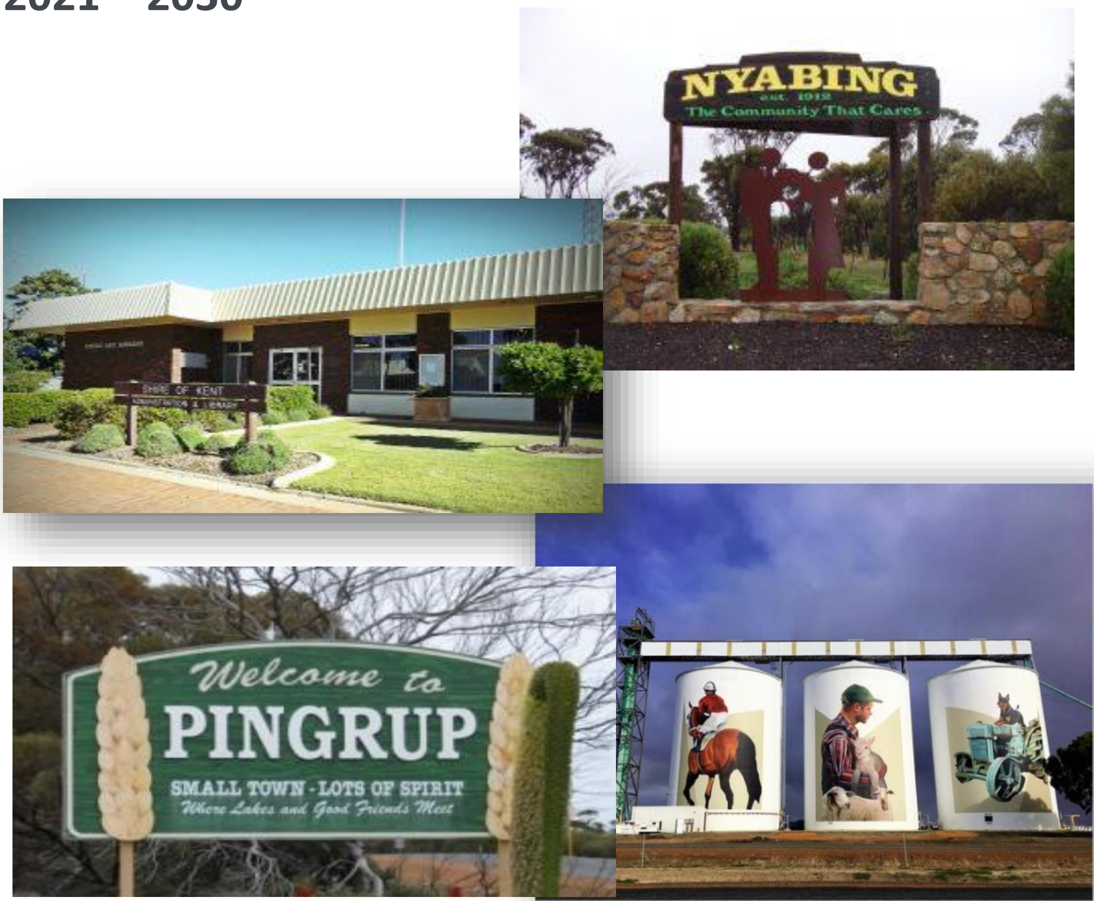
Shire of Kent Asset Management Plan
2021 – 2030



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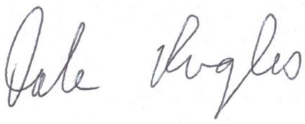

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1 Executive Summary

1.1 The Purpose of the Plan

This asset management plan details information about infrastructure assets including actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks.

The plan defines the services to be provided, how the services are provided and what funds are required to provide the services over a 10-year planning period. This plan should be comprehensively revised every four-to-five years, or when significant changes to Council activities are identified.

This plan covers those infrastructure and other assets that provide the following services:

- Transportation
- Housing
- Community Amenity
- Recreation
- Governance

1.2 Asset Description

These assets include:

Table 1.1: Assets Covered by this Plan

Asset Category	Dimension	Replacement Value
Roads	1,327 km	$120,312,928
Footpaths	1.44 km	$237,082
Signs	1,760 qty	$348,836
Drainage	9.9 km	$6,103,821
Parks	372	$5,079,747
Buildings & Other Construction	TBA	$8,785,502
Furniture & Equipment	TBA	$76,896
Plant & Equipment	54 qty	$4,022,339
	Total Replacement Value	**$144,967,151**

1.3 Levels of Service

Our present funding levels are sufficient to continue providing existing services at current levels in the short to medium term.

In the long term (10-years) the main service consequences are:

- Reduced financial capacity to fund asset renewals and maintenance
- Increased asset deterioration
- Poor asset service delivery

Our future funding levels are insufficient to continue to manage risks in the long term.

The main risk consequences for consideration in the long term are:

- User safety
- Deterioration of asset condition
- Financial liability
- Loss of amenity
- Not achieving the objectives defined in the Community Strategic Plan
- Loss of reputation

1.4 Future Demand

The main demands for new services are created by:

- Growth in sounding areas
- Increase usage of transportation networks/routes
- Change in population demographic and increase need for new services

These 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.

- Public consultation
- Measurement of current service levels

1.5 Lifecycle Management Plan

1.5.1 What we will do

We plan to provide services for the following:

- Operation, maintenance, renewal and upgrade of roads, footpaths, signs, drainage, parks, buildings, furniture, plant and other equipment to meet service levels set by in annual budgets.
- Council will be undertaking annual renewals on all assets within the 5-year planning period.

1.5.2 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 for the coming 10-year planning period is **$68,104,055 or $6,810,405** on average per year.

1.5.3 What can we afford?

Estimated available funding for the coming 10-year period is **$66,432,584 or $6,643,258** on average per year which is **97.5%** of the cost to provide the service. This equates to an initial funding surplus of **$29,674** on average per year in the short to medium term (5-years). Over the 10-year period there is a gap of **$167,147** on average per year.

Table 1.2: Expenditure Summary

Required & Planned Expense Summary	10-year Planning Period
Ave Annual Required Exp	$6,810,405
Ave Annual Planned Exp	$6,643,258
Annual Shortfall	$167,147
% of Req Exp Planned	97.5%

Projected expenditure required to provide services in the AM Plan compared with planned expenditure is shown graphically over page.

The Shire's assets are generally in good condition and even though there are funding shortfalls estimated over the ten-year period, there is no immediate funding deficit. Many long-life assets are not due for replacement in the next five years, thus allowing the Shire to develop funding strategies over the long term.

1.5.4 What we cannot do

We marginally do **not** have enough funding to provide all services at the desired service levels over the 10-year planning period with current planned expenditure being 97% of what is required. Activities that will not be sustainable include:

- Maintaining current asset condition
- Being able to renew assets as they reach the end of service life

1.5.5 Managing the Risks

There are risks associated with providing the service and not being able to complete all identified activities and projects. We have identified major risks as:

- User safety
- Financial liability
- Community dissatisfaction

We will endeavour to manage these risks within available funding by:

- Understanding services Council will deliver and what assets are required to facilitate delivery
- Understanding whole of life costs when acquiring or renewing physical assets
- Continuing with proactive maintenance and renewal programs

1.6 Asset Management Practices

Our systems to manage assets include:

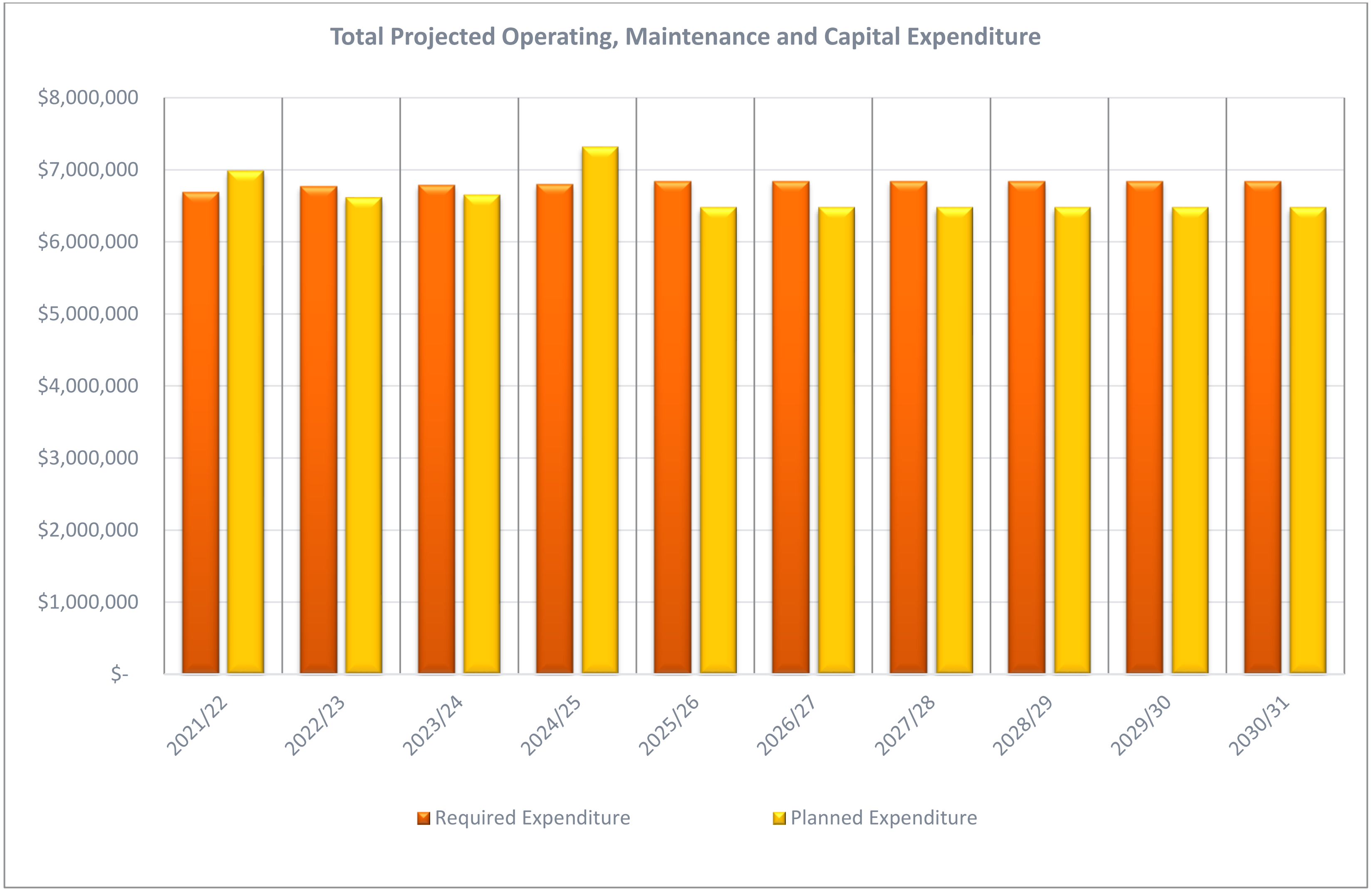
- RAMM

1.7 Monitoring and Improvement Program

The next steps resulting from this asset management plan to improve asset management practices are:

- Undertake public consultation to determine service requirements and community satisfaction
- Review service levels to ensure relevancy
- Periodically update asset inventory and condition data
- Develop service level KPIs and measurement processes
- Develop forward works program from condition data

Figure 1.1: Total Required and Planned Expenditure



2 The Shire of Kent

The Shire of Kent covers an area of 6,534km² in the Great Southern of Western Australia and has a Shire population of approximately 559 (ABS, Census, 2016). The Shire comprises of two inhabited townsites, those being Nyabing and Pingrup.

- The Shire includes 154 km of sealed roads and 1,174 km of unsealed roads
- The total number of dwellings within the Shire is 340
- Median weekly income $985
- Median age in the Shire is 39yrs
- Key industries include cereal, sheep, transport, engineering, government services and organisations as well as retail.

To achieve this vision, the Shire provides services that are delivered by a range of physical assets. This includes services such as transport, recreation and property that is delivered via assets such as roads, parks and buildings.

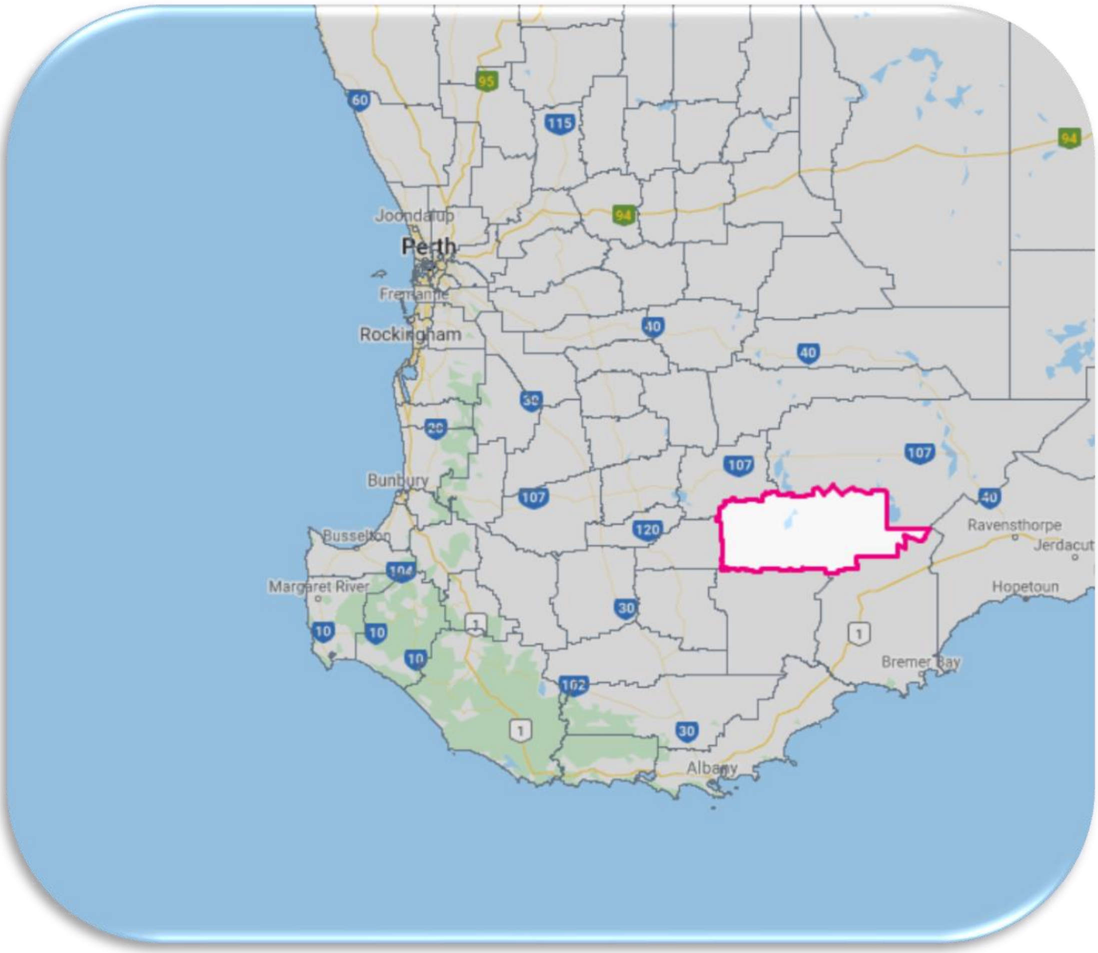


Figure 2.1: The Shire of Kent Locality

3 INTRODUCTION

3.1 Background

This asset management plan communicates the actions required for the responsive management of assets (and services provided from assets), compliance with regulatory requirements, and funding needed to provide the required levels of service over a 10-year planning period. The asset management plan follows the format for AM Plans recommended in Section 4 of the International Infrastructure Management Manual[1].

The asset management plan is to be read with the Shires' planning documents. This should include the Asset Management Policy and Asset Management Strategy where these have been developed along with the following associated planning documents:

- Strategic Community Plan 2017 - 2027;
- Corporate Business Plan 2021 - 2025;
- Annual Budget 2019/20;
- Asset Management Policy;
- Annual Report 2019/20;
- Disability Access and Inclusion Plan (DAIP) 2017 - 2022;

The infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to provide transportation services to the community.

Table 3.1: Assets Covered by this Plan

Asset Category	Dimension	Replacement Value
Roads	1,327 km	$120,312,928
Footpaths	1.44 km	$237,082
Signs	1,760 qty	$348,836
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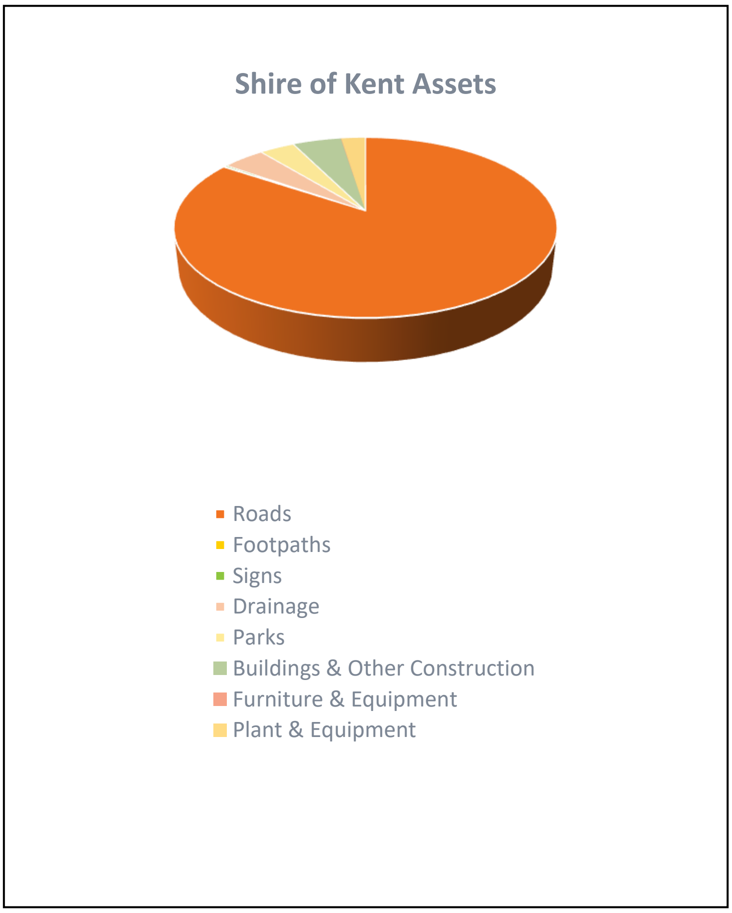


[1] IPWEA, 2015, Sec 4.2, Example of an Asset Management Plan Structure, pp 4|37 – 39.

Key stakeholders in the preparation and implementation of this asset management plan are shown in Table 3.2

Table 3.2: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan	Key in AMP Development	Key AMP Audience
Councillors	• Represent needs of community/shareholders, • Allocate resources to meet the organisation's objectives in providing services while managing risks, • Ensure organisation is financially sustainable.	N	Y
Chief Executive Officer	• Overall responsibility for developing the asset management strategy, plans and procedures and reporting on the status and effectiveness of asset management within the organisation.	Y	Y
Deputy CEO	• Managerial oversight of asset funding model and Long-Term Financial Plan. • Ensure capitalisation process is managed effectively.	Y	Y
Deputy Chief Executive Officer	• Responsible for service delivery through use of assets in accordance with community expectations for sustainable service delivery and to feed information into the Asset Management Plan where required. • Ensure that Council's responsibilities to effectively communicate, consult and engage with stakeholders are fulfilled ensuring that initiatives meet legislative and policy obligations.	Y	Y
Manager of Works	• Responsible for providing input in the asset management plan around how maintenance activities are undertaken ensuring timely and effectively as per the agreed levels of service. • Responsible for asset renewal plans and any major works to the asset to ensure continuity of service.	Y	Y
Shire Staff	• Implement the Shire's policies, decisions and local laws. • Management of transport assets.	Y	Y
Businesses (Local)	• Directly affected by the transport services provided. • Rates charges to the business. • Movement of goods, staff and customers.	N	Y
Residents	• Direct users of the services and assets	N	Y

3.2 Goals and Objectives of Asset Ownership

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

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

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

Key elements of the planning framework are

[2] Based on IPWEA 2015 IIMM, Sec 1.3, p 1| 8

- Levels of service – specifies the services and levels of service to be provided,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Life cycle management – how to 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 – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual 2015[3]
- ISO 55000[4]

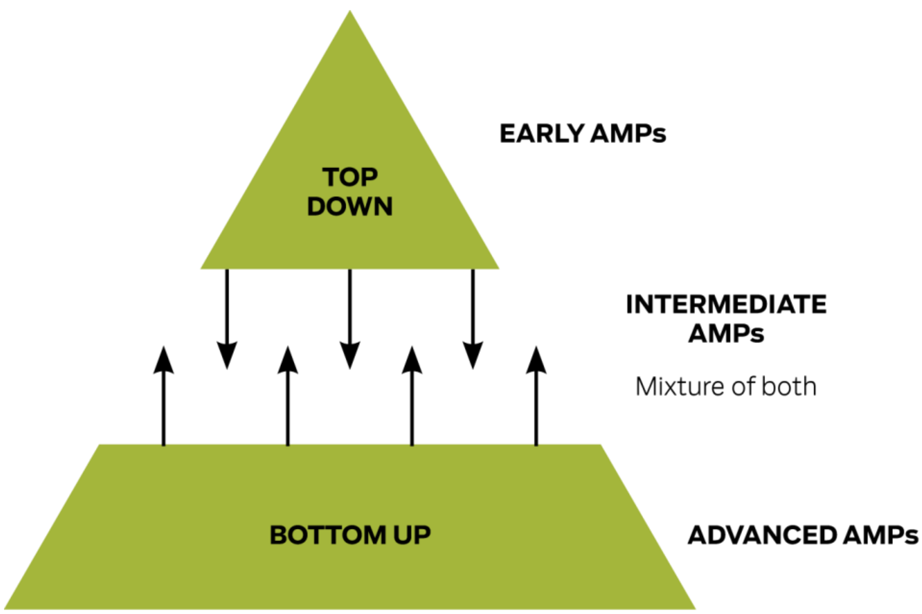
A road map for preparing an asset management plan is shown below in Figure 3.1 over page.

3.3 Core and Advanced Asset Management

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[5]. It is prepared to meet minimum legislative and user 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 detailed asset information for individual assets to support the provision of activities and programs to meet agreed service levels in a financially sustainable manner.

Source: IPWEA, 2020, IIMM, Fig 3.6.1



[3] Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13

[4] ISO 55000 Overview, principles and terminology

[5] IPWEA, 2015, IIMM.

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

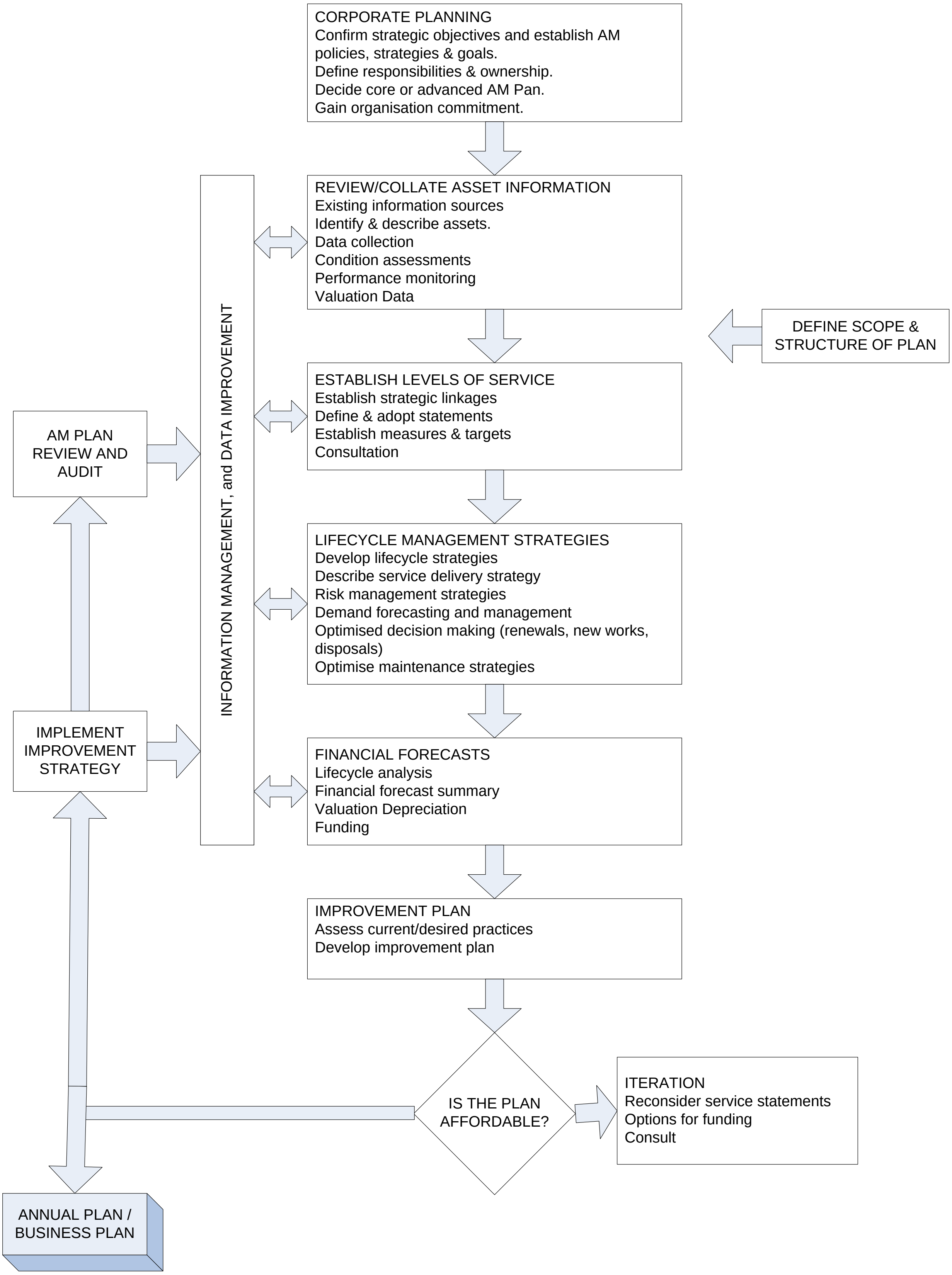


Figure 3.1: Road Map for preparing an Asset Management Plan

4 LEVELS OF SERVICE

4.1 Levels of Service Methodology

The establishment of public infrastructure is often done so without complete consideration of what service(s) it is intended to support. Whilst this section of the AMP strongly focuses on establishing and measuring the key service levels that stakeholders expect a clear understanding of the functions of our infrastructure assets is also required. By doing so, we are then able to align function and service levels to achieve the required outcomes.

Levels of service are statements which describe the outputs or objectives an organisation or activity intends to deliver to stakeholders (customers). For asset management purposes they sit between higher level corporate objectives and feed down into more objectives more directly linked to the community's expectations.

Following well established industry principles, in developing levels of service for its transport network, the Shire considered:

- Links to organisational strategic drivers;
- Stakeholder values (wants and needs); and
- Business context (e.g., legislative drivers).

The ongoing performance monitoring of the established levels of service provide a platform against which the Council and Shire staff can then measure service delivery performance. Specific strategies, tactics and practices can be developed, maintained, or adjusted to ensure that areas of under or over delivery are corrected. In time, this assists in helping to ensure that services are managed in a highly effective manner.

4.2 Customer Research and Expectations

A key element of asset management practice is to understand who the varying stakeholders of assets are and what objectives and values they seek to achieve from them. Smaller Councils often have difficulty collecting this information from stakeholder groups because of such limited resources. In the preparation of this AMP, the Shire decided that renewed consultation with community groups would not be an effective use of resources. Instead, The Council relied on information gathered through community engagements when developing the 2017 Strategic Community Plan, and the Community Scorecard consultation conducted in May-April 2019.

The Shire manages to frequently engage with its community members using other efficient methods of communication. The Shire actively calls upon its community groups, clubs and associations inviting them to make annual submissions for in following key areas:

- Capital Projects
- Grant Opportunities
- Repairs and Maintenance to public buildings
- Improvements to community facilities
- Financial and non-financial assistance to community driven projects

Budget forms are provided, and community members can email or post in submissions. Through this communication portal, the Shire acquires regular updates of the community needs, emerging objectives, and areas of key concern. Over the longer term the Shire is committed to implementing a consultative process which can be leveraged to define Customer Levels of Service.

4.2.1 Stakeholder Service Value Analysis

The 2017 Strategic Community Plan review process commenced in mid-2017 and focused on obtaining feedback in relation to Shire services and facilities.

The community engagement was promoted and advertised in the local newsletters, the Nyabing News, the Pingrup Post, on the Shire of Kent website and Facebook page with a link to the electronic survey which was also provided through community email and a mailout copy of the survey was also sent.

The Shire of Kent chose to engage with up to six community groups directly across the Shire to gain a different perspective. The survey was used to measure the satisfaction levels with Council's performance as well as seek out ideas for future projects and services, understand the aspirations of the community and to provide guidance to the Council with regard to longer term direction. The engagement with the community groups was designed to tackle different demographics to find common goals across the entire community.

The community engagement has provided valuable insight into the key issues and aspirations as identified by the residents and ratepayers. Importantly for the Council, these views helped establish clear priorities and subsequently shaped the visions, values, objectives, and strategies documented in this report. The community survey responses were from a range of age groups, as represented in the chart below. The age demographic of survey respondents is reflected in the chart below. 56% of respondents were female and 44% Male, resulting in a diverse and constructive representation of the community's views being incorporated into the Plan. From the information gathered, Council was able to develop an understanding of what the community identified as priorities for the Shire of Kent. To build upon the background information, further consultations were held with the Council. Council categorised the information into four themes; Social, Economic, Environment and Civic Leadership in line with the WA Local Government Integrated Planning guidelines.

4.3 Strategic and Corporate Goals

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

The Shire's vision is:

"A community that places a high value on essential services; communications and technology infrastructure, improved social connectedness; community involvement and participation, a need to retain and grow the population, and to strengthen economic prosperity through the diversification of the local economy."

The Shire's mission is:

"Provide leadership, direction and opportunities for the community."

4.4 Legislative Requirements

There are many legislative requirements relating to the management of assets. These include:

Table 4.1: Legislative Requirements

Type	Description
Legislation	• Legislation, Acts & Regulations • Local Government Act 1995 • Civil Liability Amendment Act 2003 • Environmental Protection Act 1986 • Environment Protection Act (unauthorised discharges) • Regulations 2004 • Aboriginal Heritage Act 1972 • Aboriginal Heritage Regulations 1974 • Native Title Act 1999 • Land Administration Act 1997 • Dangerous Goods Safety Act 2004 • Poisons Act 1964 • Health Act 1911 • Wildlife Conservation Act 1950 • Health (Pesticides) Regulations 1956 • Road Traffic Act 1974 • Main Roads Act 1930 • Dividing Fences Act • Occupational Health and Safety Act 1984 • OSH Regulations 1996 • Disability Discrimination Act 1992 • Disability Services Act 1993 • Disability Services Regulations 2004
Standards	• Disability Standards for Accessible Public Transport 2002 • AustRoads Guidelines • WA Department of Planning -Liveable Neighbourhoods Edition 2 • Institute of Public Works Engineering Australia - Local Government Guidelines for Subdivisional Development - Edition 2 • AASB 116 Property, Plant and Equipment • AASB 118 Revenue • AASB 119 Employee Benefits • AASB 136 Impairment of Assets • AASB 138 Intangible Assets • AASB 140 Investment Property • AASB 1051 Land Under Roads • Main Roads WA – Codes of practice, standard drawings etc. • AASB 5 Non-Current Assets Held for Sale and Discontinued Operations • AASB 13 Fair Value Measurement • AS/NZS 4360: 1995 Risk Management • AS/NZS 4360: 2004 – Risk Management • ISO 31000 – Risk Management • ISO 55000 – Asset Management

Further to meeting legislative requirements and standards as part of the Shire's business context, consideration must also be given to the overall function of the transport network in setting levels of service.

4.5 Customer Levels of Service

Service levels are defined in two terms, customer levels of service and technical levels of service. These are supplemented by organisational measures.

Customer Levels of Service measure how the customer receives the service and whether value to the customer is provided.

Customer levels of service are typically measured/assessed across the three categories listed below:

Quality How good is the service … *what is the condition or quality of the service?*

Function Is it suitable for its intended purpose …. *Is it the right service?*

Capacity/Use Is the service over or under used … *do we need more or less of these assets?*

The current and expected customer service levels will be developed in future iterations of this plan.

4.6 Technical Levels of Service

Technical levels of service are how the Council respond to customer (the Communities) requirements. These technical levels of service are typically measured across asset activities and the allocation of resources to service these activities to best achieve the desired outcomes. This demonstrates effective or ineffective performance.

Technical service measures are linked to the activities and annual budgets covering the activities detailed in Table 4.2.

Table 4.2: Activity Definitions

Activity	Definition
Operations	Continuously required expenditure which enables the asset to provide benefits to the community such as mowing, street sweeping and lighting power charges.
Maintenance	Regular repair works to prevent deterioration of the assets' capability, such as pothole filling, minor repairs etc
Renewal	Works to replace existing assets which are worn, poorly functioning or dated with assets of equivalent capacity or performance. For example, the renewal of an internal wall in a building, renewal of an engine in a grader, resurfacing a road (re-sheeting or resealing) or replacing girders on a bridge.
Upgrade	The significant upgrade of an asset to produce a higher level of service, such as dualling or widening of a road, extending of a building, installation of reticulation to a dry park etc.
New	The creation of a new asset, in a location where that asset type has not existed before.
Asset Disposal	The process of removing and disposing of an asset upon the end of its useful life. For the purpose of this AMP this is only when an asset is not replaced.

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.[6]

Table 4.3 describes the technical levels of service expected to be provided under this AM Plan. The "Desired" position in the table documents the position being recommended in this AM Plan.

Table 4.3: Technical Levels of Service

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **
Maintenance	• Prompt response to maintenance requests	• Work orders close out timeframes	TBD	Optimise the ratio of reactive maintenance to planned maintenance activities

[6] IPWEA, 2015, IIMM, p 2|28.

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **
Renewal	• Renewal expenditure matching depreciation expense	• Meet asset sustainability ratios	Outside of desired Desired range: 95% – 105% Actual = 76.9%	Meets Depreciation Expense
	• Maintain an appropriate network condition distribution	• 3 yearly condition inspections	TBD	3-yearly Condition Assessments with regular (annual) asset inspections
Upgrade/ New	• Provide assets to suit requirements of community	• Measurement of usage and through community consultation	TBD	Asset Upgrades meet Community Levels of Service

It is important to monitor the service levels provided regularly as these will change. The current performance is influenced by work efficiencies and technology, and customer priorities will change over time. Review and establishment of the agreed position which achieves the best balance between service, risk and cost is essential.

5 FUTURE DEMAND

5.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

5.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets were identified and are documented in Table 4.3.

5.3 Demand Impact on Assets

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 5.1.

Table 5.1: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Social	Shire population of 566	No short-term projections for increase in population	Increased demand on assets
Materials	Traditional application of materials	Increased use of alternative techniques and reduction on raw material use.	Rehabilitations will not occur as often, reducing the cost-of-service delivery.
Technology	Traditional application of technology	Technology improvements influence on quality of management, and efficiency of infrastructure. For example, facility management systems, transport modelling, automated condition monitoring, telecommunication integration, expanded use of the RAMM PMS and a strong strategy around material reuse/recycling.	Improvements in asset efficiency and management quality
Political	Current assets meeting current demand	Improving the transport network to meet economic growth within the region	Increased demand on assets. As a result, increase infrastructure upgrades and increased financial impact on capital projects
Environmental	Assets are constructed to withstand today's known environmental standards	Greater environmental sustainability requirements placed on the construction industry	Higher costs associated with construction methods that are environmentally sustainable
Economic	Insufficient funds to maintain existing assets at current service levels over medium term	Material costs and availability expected to rise above normal CPI, due to labour, material cost pressures	Increased financial impact of asset maintenance and renewal activities

5.4 Demand Management Plan

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

Non-asset solutions focus on providing the required service without the need for asset ownership 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[7]. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic facilities and libraries that may be in another community area or public toilets provided in commercial premises.

Opportunities identified to date for demand management are shown in Table 5.2. Further opportunities will be developed in future revisions of this asset management plan.

Table 5.2: Demand Management Plan Summary

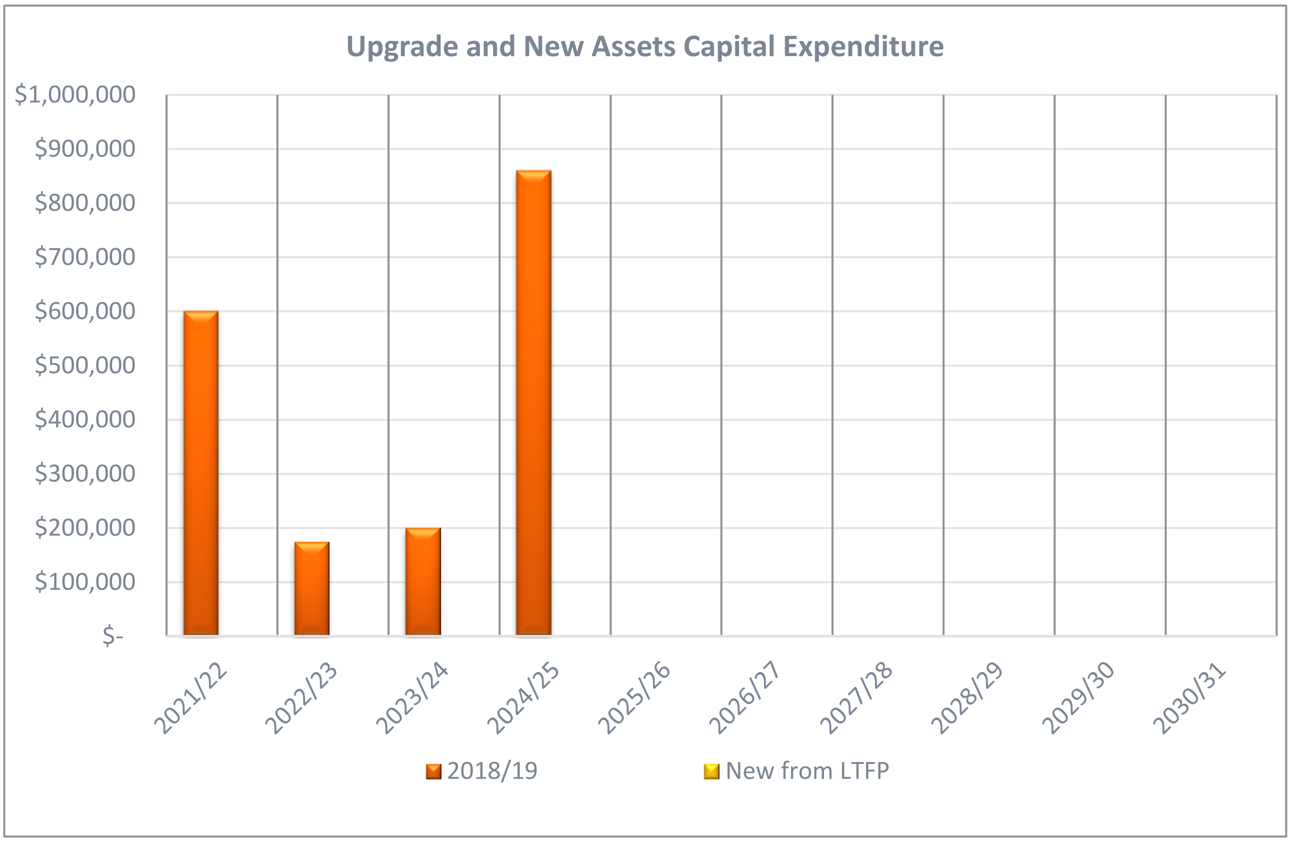
Demand Driver	Impact on Services	Demand Management Plan
Social	Increased demand on assets	Cost to be considered at budget review and renewal models
Materials	Reducing the cost-of-service delivery	Look at opportunities to reduce ongoing costs for construction and maintenance
Technology	Improvements in asset efficiency and management quality	Leverage technology improvements as opportunities arise to increase the efficiency and quality of asset management practices
Political	Increase in asset service and asset demand	Cost to be considered at budget review and also renewal models
Environmental	Higher costs associated with construction methods that are environmentally sustainable	Cost to be considered at budget review and also renewal models
Economic	Increased financial impact of asset maintenance and renewal activities	Cost to be considered at budget review and also renewal models

5.5 Asset Programs to meet Demand

If new / upgrade asset forecasts are not known they can usually be based on historical expenditure trends; however, the Shire has limited historical data to rely on. Instead, the Corporate Business Plan 2021-25 is referred to for projected growth in certain asset classes. This plan makes upgrade/new asset forecasts for the next four-years. New assets constructed/acquired are discussed in Section 5.5. The summary of the cumulative value of new contributed and constructed asset values is shown in Figure 5.1.

[7] IPWEA, 2015, IIMM, Table 3.4.1, p 3|89.

Figure 5.1: Upgrade and New Assets to meet Demand



Acquiring these new assets will commit ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs in Section 5.

6 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 3) while managing life cycle costs.

6.1 Background Data

6.1.1 Lifecycle Costing

Life Cycle Costing (LCC) is the combination of the capital cost of an asset, such as the cost to build a new road, its operation costs, planned and reactive maintenance costs, minor and major component renewal costs and, if required, its anticipated disposal value or cost. LCC is designed to demonstrate the whole of life cost associated with the ownership of an asset, that is its whole cost, from conception through to disposal.

6.1.2 Physical Parameters

The Shire's transport network is its single largest asset portfolio in terms of value and community impact. The network is also highly complex and made up of many different components. These are required to function in an integrated manner and to a high level of service and reliability. The physical parameters and values of these components currently covered by this iteration of the AMP will be updated in future iterations.

Table 6.1: Physical Parameters

Component	Quantity	Unit	Useful Life (yrs.)	Replacement Cost	Written Down Cost
Roads – Subgrade	1,327	km	0	$81,168,444	$81,168,444
Roads – Unsealed Pavement (various materials)	825	km	20	$14,951,434	$11,048,924
Roads – Sealed Pavement	154	km	70 - 110	$16,684,180	$12,793,425
Roads – Surface (various materials)	154	km	5 - 35	$5,905,489	$5,450,641
Roads – Kerb Barrier	7.76	km	60	$279,360	$265,392
Roads – Table Drain	2,648	km	0	$1,324,020	$1,324,020
Footpaths (various materials)	1.44	km	40 - 80	$237,082	$147,322
Signs – Post	1,760	Each	20	$124,678	$83,499
Signs – Sign	2,215	Each	20	$224,158	$155,630
Drainage - Culverts	9.09	km	80	$6,103,820	$ 3,298,928
Parks – Furniture (various asset types)	220	Each	5 - 20	$1,982,041	$1,509,780
Parks – Fencing (various materials)	6.02	km	10 - 45	$962,914	$613,244
Parks – Lights	43	Each	15 - 35	$398,667	$260,984
Parks – Surfacing (various materials)	11,384	m2	10 - 45	$1,736,122	$1,190,560
Buildings & Other Construction	TBA	Each	50	$8,785,502	$6,963,700
Furniture & Equipment	TBA	Each	10	$76,896	$51,759

Component	Quantity	Unit	Useful Life (yrs.)	Replacement Cost	Written Down Cost
Plant & Equipment	54	Each	12 (heavy), 7 (light)	$4,022,339	$3,487,950

6.1.3 Age Profile

Recording the age of infrastructure assets is a valuable practice that enables measurement of performance against service levels. This will facilitate a higher level of confidence in medium and long-term planning and ensure service delivery sustainability.

Average Age data has been estimated based on the Total useful life and calculated remaining useful life of assets. Age data is not available for Building and Other Construction, Furniture and Equipment, or Plant and Equipment assets.

Table 6.2.3: Physical Parameters

Asset Class	Component	Average of Asset Age (Yrs.)	Average Condition	Average Remaining Life
Drainage	Culverts	37.2	2.8	42.7
Footpath	Footpath	18.2	2.2	37.5
Parks	Fencing	9.7	2.2	22.7
	Furniture	4.9	2.0	13.7
	Lights	9.4	2.2	19.0
	Surfacing	9.2	2.2	22.4
Roads	Kerb Barrier	3.0	1.0	57.0
	Pavement Structure	7.4	1.8	35.0
	Subgrade Structure	N/A	N/A	N/A
	Surface Structure	0.8	1.0	12.5
	Table Drain	N/A	N/A	N/A
Signage	Panel	6.4	2.2	13.5
	Post	6.4	2.2	13.5
Buildings and Other Construction		TBA	TBA	TBA
Furniture & Equipment		TBA	TBA	TBA
Plant		TBA	TBA	TBA

6.2 Asset Condition

The Shire undertakes condition rating of many of its infrastructure assets in order to determine their remaining useful life and to prioritise future capital works. By undertaking regular inspections, the Shire is also able to understand at what rate assets are deteriorating and is then able to monitor the effectiveness of maintenance and renewal activities in reaching the expected useful life of assets. A visual condition assessment of the road and path network was undertaken in 2020, as such there is a high level of confidence in the condition data for these asset classes. No formal condition assessment regime exists for drainage, bridges, bus shelters or carparks.

Each asset type varies in complexity and is assessed using different parameters. Some are assessed according to multiple parameters and some less complex against a single condition score. Multiple parameters are also able to be indexed to arrive at a single score

In assessing the condition of the transport assets, the Shire has adopted a 1 (Excellent) to 5 (Very Poor) scale of rating which allows the overall condition of different asset classes to be compared. Condition information was not available for this iteration of the plan.

6.2.1 Simple Condition Grading Model

Condition is measured using a 1 – 5 grading system[8] as detailed in Table 6.3.

Table 6.3: 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

6.2.2 Known Service Deficiencies

Assets are generally provided to meet design standards where these are available. Locations where deficiencies in service performance are known are detailed in Table 6.4.

Table 6.4: Known Service Performance Deficiencies

Location	Service Deficiency
TBA	TBA

[8] IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

6.3 Asset Valuations

The Shire's infrastructure assets are revalued on a 3 yearly cycle to determine gross replacement cost and the value lost through asset deterioration through use.

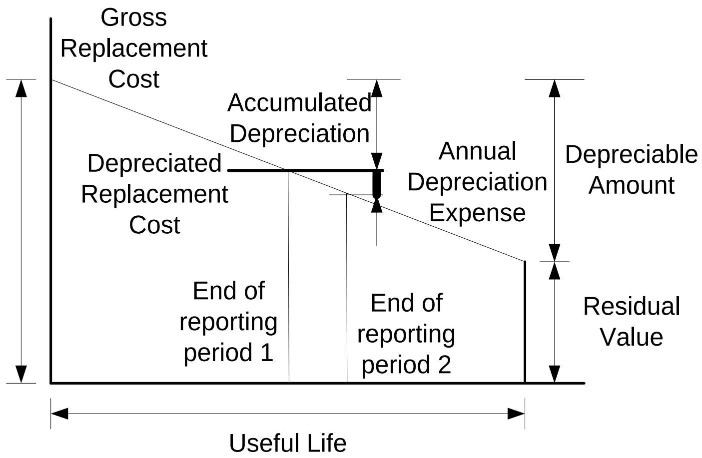


Figure 6.1: Asset Depreciation

The value of assets recorded in the asset register as at 30 June 2020 covered by this asset management plan is shown below. Assets were last revalued on 30 June 2020. Assets are valued at fair value.

Table 6.5: Asset Valuations

Category	Replacement Cost ($)	Depreciable Amount ($)	Depreciated Replacement Cost ($)	Annual Depreciation ($)
Roads	$120,312,928	$37,820,464	$29,558,384	$1,407,878
Footpaths	$237,082	$237,082	$147,322	$4,497
Signs	$348,836	$348,836	$239,130	$17,442
Drainage	$6,103,821	$6,103,821	$3,298,928	$76,298
Parks	$5,079,747	$5,079,747	$3,574,570	$210,693
Buildings & Other Construction	$8,785,502	$8,785,502	$6,963,700	$330,450
Furniture & Equipment	$76,896	$76,896	$51,759	$7,119
Plant & Equipment	$4,022,339	$4,022,339	$3,487,950	$602,436
Grand Total	**$144,967,150**	**$62,474,686**	**$50,126,635**	**$2,656,813**

Key assumptions made in preparing the valuations were:

- Inventory is accurate
- Condition is indicative of the current state of the asset
- Unit rates and TULs are accurate

[1][1] Also reported as Written Down Value, Carrying or Net Book Value.

6.3.1 Asset Consumption Ratios

Various ratios of asset consumption and expenditure have been prepared to help guide and gauge asset management performance and trends over time. Over the 10-year planning period the Shire will renew all assets at only 56.3% of the rate they are being consumed. Table 6.6 details the ratios for each asset type.

Table 6.6: Asset Consumption Ratios

Asset Class	Asset Consumption (Depreciated Replacement Value / Depreciable amount)	Asset Renewal Funding Ratio (Planned Capital Renewal 10 yrs./ Required Capital Renewal 10 Yrs.)	Sustainability Ratio (Annual Renewal Expenditure/ Annual Depreciation)
Roads	78%	103.5%	103.5%
Footpaths	62%	0.0%	0.0%
Signs	69%	0.0%	0.0%
Drainage	54%	0.0%	0.0%
Parks	70%	0.0%	0.0%
Buildings & Other Construction	79%	21.1%	22.5%
Furniture & Equipment	67%	358.1%	358.1%
Plant & Equipment	87%	131.5%	131.5%
Total	71%	**76.8%**	**76.9%**

Asset Class	Department of Local Government – Integrated Planning and Reporting Standards
Asset Consumption Ration	Standard is met if the ratio can be measured and is 50% or greater (0.50 or >). Standard is improving if the ratio is between 60% and 75% (0.60 and 0.75)
Asset Renewal Funding Ratio	Standard is met if the ratio is between 75% and 95% (or 0.75 and 0.95). Standard is improving if the ratio is between 95% and 105% (or 0.95 and 1.05), and the ASR falls within the range 90% to 110%, and ACR falls within the range 50% to 75%.
Asset Sustainability Ratio	Standard is met if the ratio can be measured and is 90% (or 0.90) Standard is improving if this ratio is between 90% and 110% (or 0.90 and 1.10).

6.4 Operations and Maintenance Strategies

Council 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 use to identify under used assets and appropriate remedies, and over used 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 best value for the resources used.

6.4.1 Operations and Maintenance Expenditure

Historical levels of maintenance expenditure have provided the "default" current level of service for roads. However, these levels of service have never been formally documented, nor reviewed for their performance. There is a desire to move away from the current reactive practices and to develop a range of planned maintenance levels of service, against which resources and timing can be determined. This has been listed as an improvement action.

Table 6.7: Operations and Maintenance and Expenditure Trends

Year	Operations Expenditure	Maintenance Expenditure
2017/18	$ 225,728	$ 3,192,792
2018/19	$ 259,346	$ 3,940,334
2019/20	$ 287,561	$ 4,192,861
AVERAGE	**$ 257,545**	**$ 3,775,450**

6.4.2 Operations and Maintenance Activities

The Shire's operational objective is to ensure that the infrastructure assets achieve the required levels of service at the lowest long-term cost. Whilst the generation of the associated budget has been based on historical cost, the Shire has identified that there is a need to link budget to defined operation levels of service. This will be done at a future date and has been listed as improvement action.

Maintenance provides for the care and attention required to maintain asset integrity and serviceability of the asset. Typical maintenance activities of assets include the following:

Table 6.8: Operations and Maintenance Activities

<table>
<tr><th>Asset Type</th><th>Operations Activities</th><th>Maintenance Activities</th></tr>
<tr><td>Roads</td><td rowspan="7">• Response system and reporting
• Periodic condition inspections and inventory data collection; and
• Data management and use of management systems.
• Emergency works (fallen trees etc.)
• Temporary traffic management
• Minor and major servicing
• Ongoing cleaning of assets</td><td>• Pothole repairs
• Localised patching
• Edge break repairs
• Minor kerb replacement
• Street sweeping</td></tr>
<tr><td>Paths</td><td>• Pothole repairs (asphalt paths)
• Localised patching
• Concrete grinding
• Edge break repairs
• Localised path replacement</td></tr>
<tr><td>Buildings & Other Construction</td><td>• Cleaning
• Graffiti removal
• Sweeping of surrounds
• Painting</td></tr>
<tr><td>Bridges</td><td>• Painting
• Clearing of any debris on the bridge deck</td></tr>
<tr><td>Drainage</td><td>• Pit educting/cleaning
• Street sweeping</td></tr>
<tr><td>Parks</td><td>• Mowing
• Fertilising
• Weed Control
• Pesticides
• Turf Renovation
• Retic Maintenance
• Watering
• Rubbish Removal
• Playgrounds
• Planting
• Mulching
• Tree Pruning
• Wicket Maintenance
• General Maintenance
• Lighting Maintenance
• Safety Inspections</td></tr>
<tr><td>Plant and Equipment</td><td>• Plant Repairs
• Tyre, tube and other part replacements</td></tr>
</table>

6.5 Asset Hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery. Aside from the road asset class, the Shire does not currently have a hierarchy for its assets. The service hierarchy for roads is shown is Table 6.9.

Table 6.9: Asset Service Hierarchy

Asset Type	Service Hierarchy	Service Level Objective
Roads	District Distributor B District Distributor A Local Distributor	• Appropriate design standard to provide adequate capacity • Ride quality ensures safe and comfortable experience for users at the intended design speed of the road • Defects and hazards are rectified within appropriate timeframe to avoid damage to vehicles or closure • Surface is routinely maintained and renewed to protect pavement structure • Perpetual accessibility to ensure network connectivity
	Access Road	• Surface is routinely maintained and renewed to protect pavement structure • Defects and hazards are rectified within appropriate timeframe to avoid damage to vehicles • Perpetual accessibility to adjacent properties
Footpaths	Paths	• Provides for a safe and connected path network to distribute pedestrians and cyclists • Not hindered by defects, trip hazards or design floors • Perpetual accessibility to ensure network connectivity • Designed to minimum standards to include all user groups (DAIP etc.)
Parks	Furniture Recreation Lighting	• Appropriately maintained to reduce impact on public safety and useability • Functioning assets, reduced downtime and optimum accessibility for park users • Soft landscaping irrigated and kept free from disease
Signage	Directional Informational	• Readable/legible signage free from graffiti and damage • Signage locations and reading levels installed according to legislative standards (accessible to all user groups)
Drainage	Stormwater Pipes Stormwater Pits	• Appropriate design standard to provide adequate stormwater capacity • Functional assets directing stormwater drainage flow to sumps / outflows • Drainage pipes and pits maintained to minimise defects, reduce asset failure and reduce impact on associated infrastructure assets
Buildings & Other Construction	Specialised Non-specialised	• Working facilities maintained in accordance with OSH regulations and standards and legislative obligations • Facilities built in safe functional manner to accommodate users and deliver required services without hazards • Designed for accessibility and to meet adequate capacity • Cleaned and maintained on a regular basis • Components renewed to ensure building meets required useful life
Furniture & Equipment	ALL	• Safe and functional equipment free from defects • Furniture & Equipment is available for use when required

Asset Type	Service Hierarchy	Service Level Objective
Plant & Equipment	Motor Vehicles	• Minimum operational downtime (optimal mean time between failure) • Plant & equipment is managed to provide a high reliability level • Plant & equipment is available for use when required • Licensed and registered for road use
	Plant Machinery	

6.5.1 Intervention levels

Intervention levels are condition thresholds after which the asset is compromised in the delivery of its intended service at an adequate level. Ideally the asset would be replaced depending on funding availability. The intervention levels may consider multiple condition variables or just a single condition score depending on the complexity of the asset. Intervention levels are detailed in Table 6.10.

Table 6.10: Asset Renewal Intervention Levels

Asset Type	Service Hierarchy	Condition	Intervention Level
Roads	District Distributor B District Distributor A Local Distributor	Pavement Rutting	>=4
		Pavement Defects	>=4
		Structural Cracking	>3
		Non-Structural Cracking	>=4
		Binder Condition	>=3
	Access Road	Pavement Rutting	>=4
		Pavement Defects	>=4
		Structural Cracking	>=4
		Non-Structural Cracking	>=4
Footpaths	TBA	TBA	TBA
Parks	TBA	TBA	TBA
Signage	TBA	TBA	TBA
Drainage	TBA	TBA	TBA
Building & Other Construction	TBA	TBA	TBA
Plant & Equipment	TBA	TBA	TBA
Furniture & Equipment	TBA	TBA	TBA

6.5.2 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, investigative activities, maintenance plans and capital expenditure plans can be targeted 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 6.11.

Table 6.11: Critical Assets and Service Level Objectives

Asset Type	Critical Assets	Critical Failure Mode	Operations & Maintenance Activities
Roads	• Distributor Roads	• Pavement failure • Surface wear • Extensive pavement defects (potholes etc)	• Surface renewal program • Defect inspection and routine maintenance
Footpaths	TBA	TBA	TBA
Parks	TBA	TBA	TBA
Signage	• Directional signage	• Structural failure • Sign panel wear and tear	• Sign defect inspection program
Drainage	• Culverts	• Structural failure	• Planned / preventative maintenance programs • Inspection regimes • Condition assessments
Building & Other Construction	• Specialised Buildings Providing Emergency Services	• Failure of utilities supporting building operations •	• Planned / preventative maintenance programs
Furniture and Equipment	TBA	TBA	TBA
Plant & Equipment	TBA	TBA	TBA

6.5.3 Maintenance Standards and Specifications

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

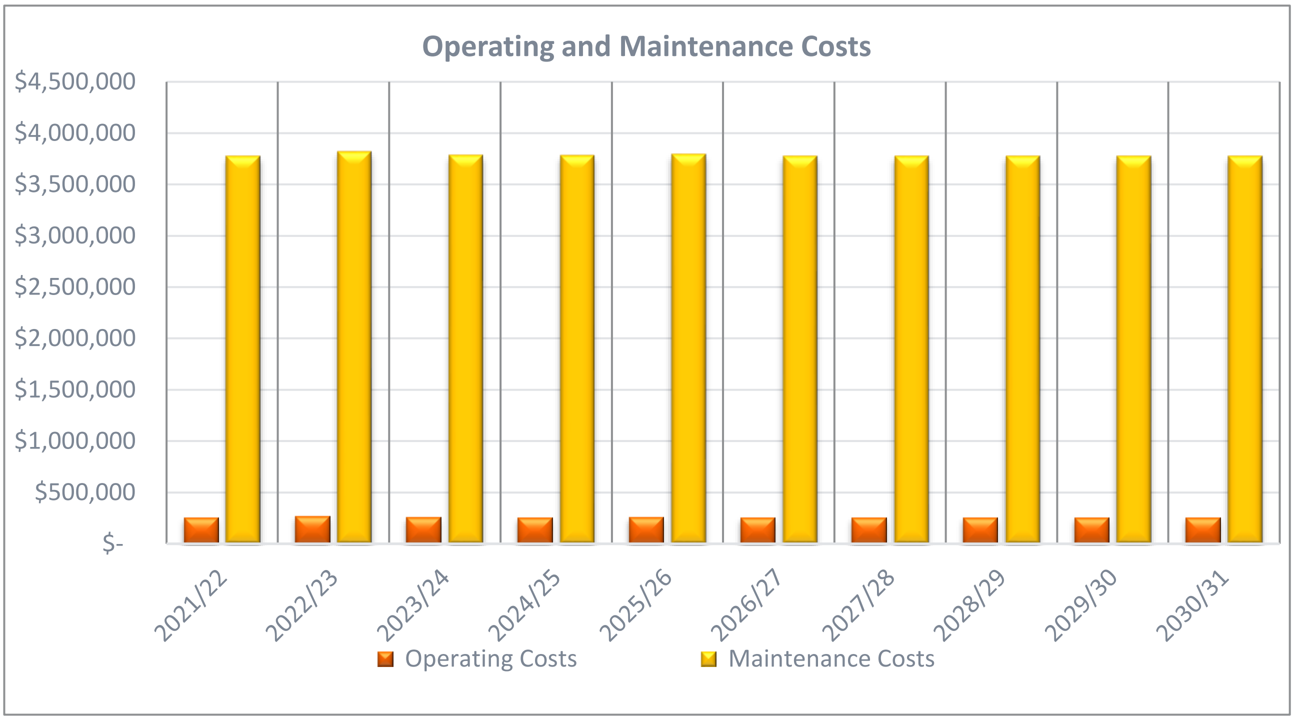
Table 6.12: Maintenance Standards and Specifications

Asset Type	Standard or Specifications
Infrastructure	Shire Specifications
Buildings & Other Construction	Shire Specifications
Furniture & Equipment	Shire Specifications
Plant & Equipment	Shire Specifications

6.5.4 Summary of Future Operations and Maintenance Expenditure

Future required operations and maintenance expenditure are forecast to trend in line with the value of the asset stock as shown in Figure 6.2. Note that all costs are shown in todays-dollar values (i.e. real values).

Figure 6.2: Projected Operations and Maintenance Expenditure



Maintenance is funded from the operating budget where available. This is further discussed in Section 7.

6.6 Renewal and Replacement Strategies

The Council will plan capital renewal and replacement projects to meet level of service objectives and minimise infrastructure service risks by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner,
- Undertaking project scoping for all capital renewal and replacement projects to identify:
    - the service delivery 'deficiency', present risk and optimum time for renewal/replacement,
    - the project objectives to rectify the deficiency,
    - the range of options, estimated capital and life cycle costs for each option that could address the service deficiency,
    - and evaluate the options against adopted evaluation criteria, and
    - select the best option to be included in capital renewal programs,
- Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible,
- Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council,
- Review current and required skills base and implement workforce training and development to meet required construction and renewal needs,
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required,
- Review management of capital renewal and replacement activities to ensure the best value for resources used is obtained.

6.6.1 Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or

- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. roughness of a road).[9]

It is possible to get some indication of capital renewal and replacement priorities by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be greatest,
- Have a total value represents the greatest net value,
- Have the highest average age relative to their expected lives,
- Are identified in the AM Plan as key cost factors,
- Have high operational or maintenance costs, and
- Have replacement with a modern equivalent asset that would provide the equivalent service at a savings.[10]

The ranking criteria will be developed in future iterations of this plan.

6.6.2 Renewal and Replacement Standards

Renewal work is carried out in accordance with the Standards and Specifications detailed in Table 6.13.

Table 6.13: Renewal and Replacement Standards

Asset Type	Standard or Specifications
Roads	• Austroads • ARRB Local Roads Manual • Shire Design Standards • MRWA Design Guidelines
Footpaths	• Shire Design Standards • DoT Shared Path Guidelines • MRWA Design Guidelines
Signage	• MRWA Design Guidelines • AUS Standards • Road Traffic Code
Drainage	• DoW Guidelines • MRWA Design Guidelines • Shire Design Standards
Parks	• AUS Standards • Shire Design Standards
Buildings & Other Construction	• Building Code of Australia
Furniture & Equipment	• Shire Design Standards • AUS Standards
Plant & Equipment	• Shire Design Standards • AUS Standards

[9] IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

[10] Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

6.7 Renewal Plans

Renewal expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure resulting in additional future operations and maintenance costs.

6.7.1 Renewal Activities

Typical renewal activities are as detailed in Table 6.14

Table 6.14: Renewal Activities

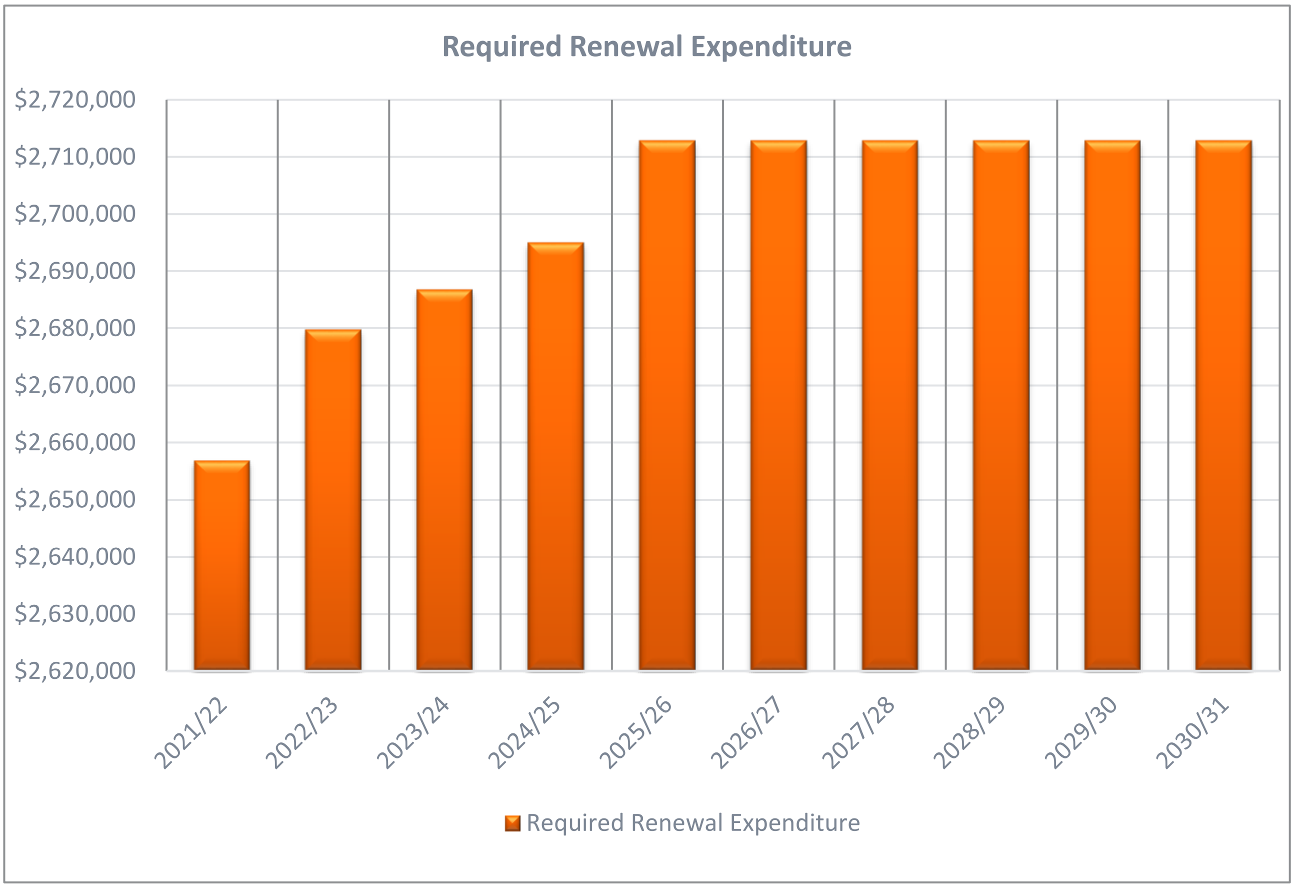
Asset Type	Renewal Activities	Comments
Roads	• Resurfacing the top surface of the road (e.g. with asphalt); • Rehabilitating or reconstructing the road pavement; and • Replacing worn, damaged or low kerbs.	The Shire utilises data stored in the RAMM Pavement Management System to determine renewal requirements for the road network. The condition data is updated annually for works undertaken with the whole network being assessed every 3 years to ensure the relevancy of the data. Intervention levels are thresholds that once exceeded will trigger a treatment to be performed on the asset. These can be a single condition criteria or combinations of multiple criteria.
Footpaths	• Replacing or patching localised path failures (e.g. individual concrete bays); • Rehabilitating or reconstructing longer lengths of path sections; and • Replacing worn or damaged associated assets such as line marking, signs and kerbs.	Renewals are identified via regular inspection of condition and planned strategies
Parks	• Replacing worn, damaged or failed lighting, Fencing or Furniture • Resurfacing hardscapes surfaces in parks	The Shire manages the renewal of its parks through the identification of assets which have either failed or are in a poor condition state. Works are then either undertaken using the immediate year's budget, or programmed for action in subsequent years.
Signage	• Replacing illegible sign panels • Replacing damaged or fallen sign posts	Signs posts and panels are replaced as and when asset failure occurs
Drainage	• Replacing worn or damaged lids to drainage pits • Replacing worn or damaged pits and pipes • Relining pipes where worn	Drainage assets that require renewal are typically identified by symptoms of failure such as localised flooding, areas of poor performance, surface deformation indicating pipe failures or through staff observation or customer requests. Assets are then inspected to determine the scope of works and preferred renewal method. Some projects then require specific designs to be prepared, others can be scheduled without. Repairs are then undertaken using internal and/or external resources

Asset Type	Renewal Activities	Comments
Buildings & Other Construction	• Replacing individual components	Renewals are identified via regular inspection of condition.
Furniture & Equipment	• Full asset replacement	Renewals are identified via inspections of condition and/or customer feedback.
Plant & Equipment	• Renewing assets on a cyclic basis whilst still in good operational condition (motor vehicles sold on the market)	Cyclic renewals to maximise return on investment and maintain a healthy portfolio of fleet

6.7.2 Summary of Future Renewal and Replacement Expenditure

Projected future renewal and replacement expenditures are forecast to increase over time when the asset stock increases. The required expenditure is shown in Figure 6.3. Required Renewals are based on annual depreciation expense which indicates average spending requirements. Note that all amounts are shown in 2020 values.

Figure 6.3: Projected Capital Renewal and Replacement Expenditure



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

Renewals and replacement expenditure in the capital works program will be accommodated in the long-term financial plan. This is further discussed in Section 8.

6.8 Creation/Acquisition/Upgrade Strategies

Capital upgrade and new projects will be planned to meet level of service objectives by:

- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner,
- Undertake project scoping for all capital upgrade/new projects to identify:
    - the service delivery 'deficiency', present risk and required timeline for delivery of the upgrade/new asset,
    - the project objectives to rectify the deficiency including value management for major projects,
    - the range of options, estimated capital and life cycle costs for each option that could address the service deficiency,
    - management of risks associated with alternative options,
    - and evaluate the options against evaluation criteria adopted by Council, and
    - select the best option to be included in capital upgrade/new programs,
- Review current and required skills base and implement training and development to meet required construction and project management needs,
- Review management of capital project management activities to ensure Council is obtaining best value for resources used.

Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 6.6.2.

6.9 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost. These additional assets are considered in Section 5.4.

New assets and upgrade/expansion of existing assets are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed below.

The Shire currently accepts community requests for new/upgrade works via the budget request forms. These are considered in the capital planning process and inform the coming years renewal activities and projected expenditure over the 10-year planning period.

Table 6.15: New Assets Priority Ranking Criteria

Criteria	Weighting
Function	TBA %
Benefit to the community	TBA %
Whole of life costs	TBA %
Total	100%

6.9.1 Current Creation/Acquisition/Upgrade Plans

Current plans to acquire or upgrade assets by type is detailed in Table 6.16.

Table 6.16: Acquisition and Upgrade Plans

Asset Type	Relevant Plan
Roads	• TBA
Footpaths	• TBA
Recreation	• TBA
Buildings	• TBA

6.10 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.5, together with estimated annual savings from not having to fund operations and maintenance of the assets. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any. Any costs or revenue gained from asset disposals will be accommodated in the long-term financial plan.

At present, there are no documented plans for the disposal of any transport assets

7 RISK MANAGEMENT PLAN

The purpose of infrastructure risk management is to document the results and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2009 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2009 as: "coordinated activities to direct and control with regard to risk"[11].

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'. 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.

7.1 Risk Context

The risk analysis will be undertaken to be compliant with AS 4360. The following statement defines what an "acceptable" level of risk is with regards to the transport network.

Through risk management, the Shire aims to:

- Protect the quality of the Shire's assets;
- Protect users of the Shire's assets;
- Protect the Shire's assets and public image;
- Reduce the Shire's exposure to risk;
- Promote effective financial and asset management practices.

This will be achieved through:

- Identifying, decreasing the likelihood, and mitigating the consequences of risk, within the constraints of sensible objectives and practices;
- Applying risk-based practices to the management of the transport network and associated decision making;
- Maintaining safe and reliable plant, equipment and infrastructure;
- Preparing appropriate contingencies;
- Reviewing the risk profile of the transport network at appropriate intervals and when circumstances dictate;
- Maintaining an up to date transport asset management plan.

7.2 Risk Criteria

7.2.1 Risk Likelihood

In performing a risk analysis of the transport network, the following likelihood criteria will be applied.

Table 7.1: Risk Likelihood

Level	Descriptor	Indicative Frequency
5	Almost Certain	The event will likely occur once a month or more frequently.
4	Likely	The event will likely occur every six months
3	Possible	The event will likely occur every year
2	Unlikely	The event will likely occur every five years
1	Rare	The event will likely occur every ten years or more

[11] ISO 31000:2009, p 2

7.2.2 Risk Consequence

In performing a risk analysis of the transport network, the following consequence criteria will be applied.

Table 7.2: Risk Consequence

Level	Political	Economic	Social	Tech	Legal	Enviro	OHS
5	n/a	Annual economic benefit or cost change of greater than +/- $1,000,000	n/a	n/a	Significant prosecution and fines. Very serious litigation including class actions	Very serious, long term environmental impairment of ecosystem functions	Multiple fatalities, or significant irreversible effects to >50 persons.
4	Serious public or media outcry (international coverage)	Annual economic benefit or cost change of between +/- $200,001 to $1,000,000	On-going serious social issues. Significant damage to structures/items of cultural significance.	Serious technological issues	Major breach of regulation. Major litigation	Very serious, long term environmental impairment of ecosystem functions	Single fatality and/or severe irreversible disability (>30%) to one or more persons.
3	Significant adverse national media/ public/ NGO attention	Annual economic benefit or cost change of between +/- $50,001 to $200,000	On-going serious social issues. Significant damage to structures/items of cultural significance	Serious technological issues	Serious breach of regulation with investigation or report to authority with prosecution and/or moderate fine possible	Serious medium-term environmental effects	Moderate irreversible disability or impairment (<30%) to one or more persons.
2	Attention from media and/or heightened concern by local community. Criticism by NGOs.	Annual economic benefit or cost change of between +/- $10,001 to $50,000	On-going social issues. Permanent damage to items of cultural significance	Ongoing technological issues	Minor legal issues, non-compliances and breaches of regulation	Moderate, short term effects but not affecting ecosystem functions.	Objective but reversible disability requiring hospitalisation
1	Minor, adverse local public or medical attention or complaints.	Annual economic benefit or cost change of up to +/- $10,000	Minor medium term social impacts on local population. Mostly repairable	Minor technological issues	Minor legal issues, non-compliances and breaches of regulation.	Minor effects on biological of physical environment.	No medical treatment required.

7.3 Risk Assessment

The risk management process used in this project is shown in Figure 7.12 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of ISO risk assessment standard ISO 31000:2009.

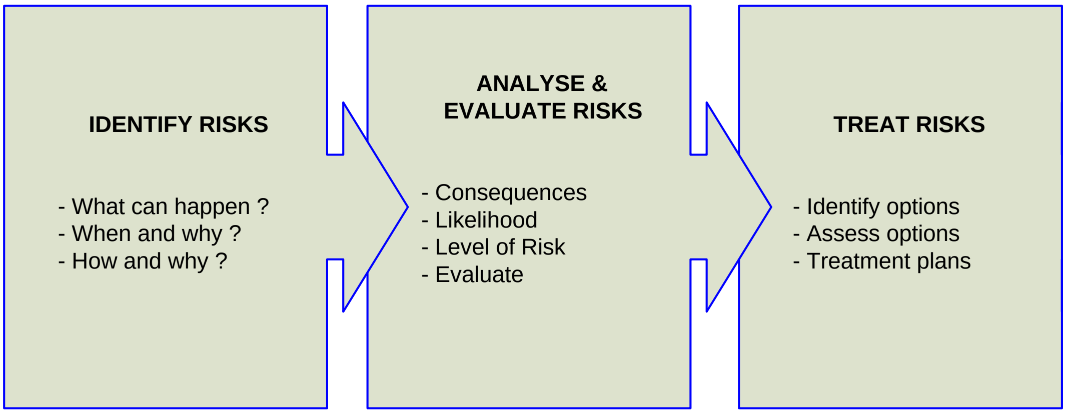


Figure 7.1: Risk Management Process – Abridged

The CEO has ultimate responsibility for managing Council's risk, however, other officers are delegated with monitoring specific risk items and implementing treatments/control measures to reduce residual risk.

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.

An assessment of risks associated with service delivery from infrastructure assets has identified the critical risks that will result in significant loss, 'financial shock' or a reduction in service.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) rating identified in the Infrastructure Risk Management Plan. The residual risk and treatment cost after the selected treatment plan is operational is shown in Table 7.3. These risks and costs are reported to management and Council.

Table 7.3: Critical Risks and Treatment Plans

Risk Details	Risk Assessment			Treatment Strategy	Responsibility
	Likelihood	Consequence	Risk Rating		
Ongoing deterioration of infrastructure assets Insufficient funding allocated to renewal	Likely	Major	High	• Regular Condition Assessments • Annual allocation of sufficient funding and resources • Development and regular update of 10 Year Roads Capital Works program	Works Manager & Finance Officer
Assets in poor condition causes series injury to staff or community member	Possible	Moderate	Moderate	• Undertake infrastructure inspections and maintenance	Works Manager
Asset design non-compliant with current legislation or regulations	Possible	Moderate	Moderate	• Non-compliance works to be given priority • Undertake regular inspection and maintenance regimes	Works Manager & Finance Officer

				• Allocate sufficient funding and resources	
Asset construction and maintenance non-compliant with current legislation or regulations	Possible	Moderate	Moderate	• Non-compliance works to be given priority • Undertake regular inspection and maintenance regimes • Allocate sufficient funding and resources	Works Manager
Maintenance practices not environmentally sustainable	Unlikely	Moderate	Moderate	• Ensure maintenance practices are carried out in accordance with environmentally sensitive procedures. • Undertake post construction inspection / assessment.	Works Manager

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

The risk assessment process compares the likelihood of a risk event occurring against the consequences of the event occurring. In the risk rating table below, a risk event with a likelihood of 'Possible' and a consequence of 'Major' has a risk rating of 'High' as shown in Table 7.4

Table 7.4: Risk Rating Matrix

Risk Rating					
Likelihood	Consequences				
	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Rare	L	L	M	M	H
Unlikely	L	L	M	M	H
Possible	L	M	H	H	H
Likely	M	M	H	H	VH
Almost Certain	M	H	H	VH	VH

Ref: HB 436:2004, Risk Management Guidelines, Table 6.6, p 55.

7.4 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to our customers and the services we provide. To adapt to changing conditions and grow over time we need to understand our Shire to respond to possible disruptions and be positioned to absorb disturbance and act effectively in a crisis to ensure continuity of service.

To enhance our Shire to manage unforeseen or unexpected risk to the continuity of operations we take an infrastructure resilience approach using an 'all hazards' methodology.

The 'all-hazards' approach involves:

- An initial assessment of critical assets;
- A resilience assessment for these assets; and
- Identification of related improvements or interventions

Resilience is built on aspects such as response and recovery planning, financial capacity and crisis leadership.

Our current measure of resilience is shown in Table 7.5 which includes the type of threats and hazards, resilience assessment and identified improvements and/or interventions.

Table 7.5: Resilience

Threat / Hazard	Resilience LMH	Improvements / Interventions
Decrease in levels of service provided by transport network	Medium	Review technical and customer levels of service and ensure appropriate funding allocation to sustain target levels

7.5 Service and Risk Trade-offs

The decisions made in adopting this AM Plan are based on the objective to achieve the optimum benefits from the available resources.

The Asset Management Plan provides the tools for discussion with the Council and customers/community on trade-offs between what we would like to do and what we should be doing with existing budgets by balancing changes in services and service levels with affordability and acceptance of the service and risk consequences of the trade-off position.

7.5.1 What We Cannot Do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- Renew all assets as they reach the end of service life
- Sustain current maintenance response service levels

7.5.2 Service Trade-Off

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

- Decrease in service standard
- Decrease in asset accessibility
- Decrease in capacity

7.5.3 Risk trade-off

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

- User safety risk
- Financial liability
- Loss of reputation
- Not delivering on vision and mission as defined in the Community Strategic Plan

These actions and expenditures are considered in the projected expenditures.

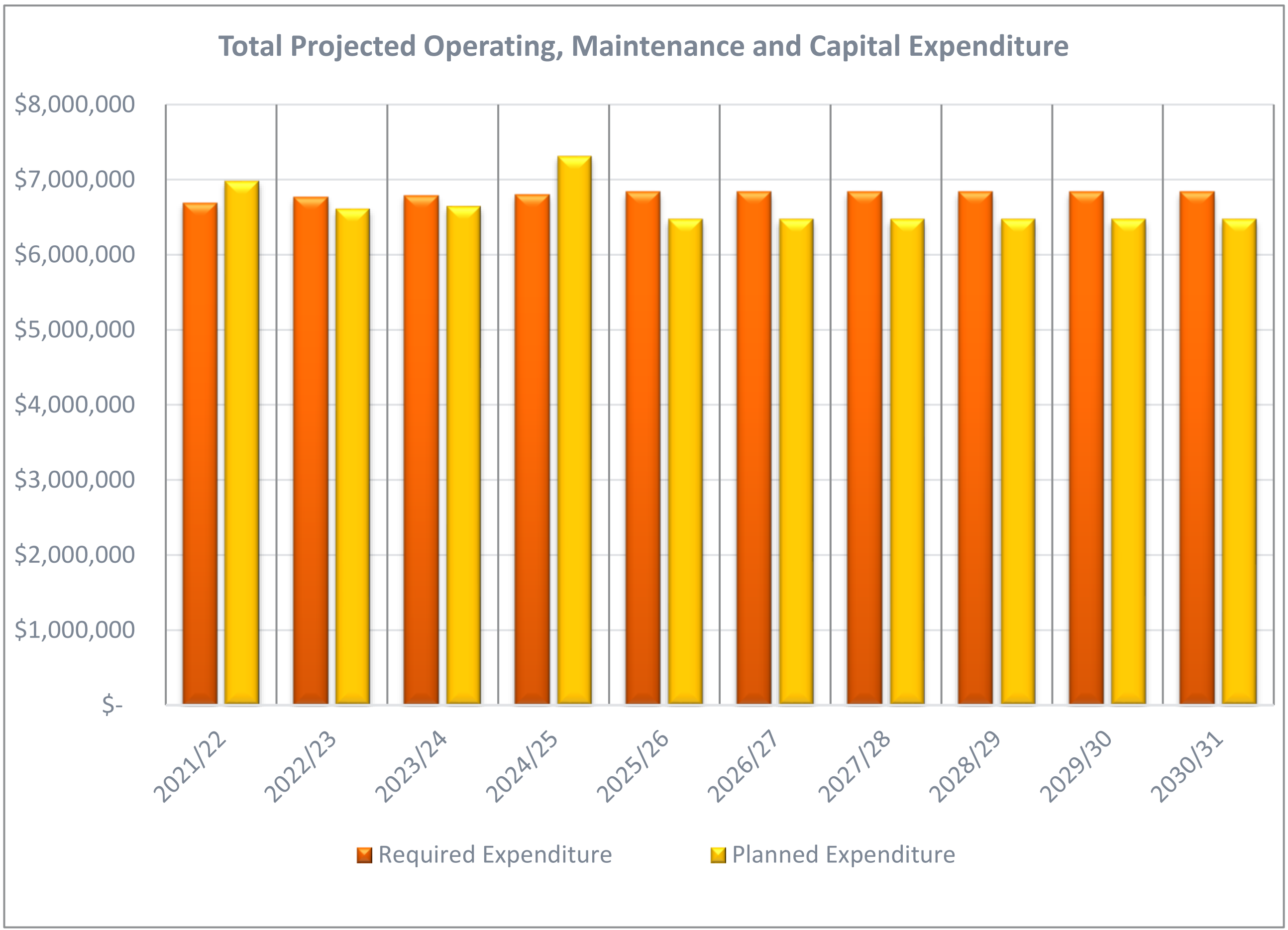
8 FINANCIAL SUMMARY

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.

8.1 Financial Statements and Projections

The financial projections are shown in Figure 8.1 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in real 2021 values.

Figure 8.1: Projected Operating and Capital Expenditure



8.1.1 Sustainability of Service Delivery

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

8.1.1.1 Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[12] 76.8%

The Asset Renewal Funding Ratio is the most important indicator and reveals that over the next ten years of the forecasting that we will have 76.8% of the funds required for the optimal renewal and replacement of assets.

8.1.1.2 5-year Financial Planning Period

The initial five-year period represents that expenditure required and planned for in the short term and can be used as context to understand if the requirements are increasing the longer the planning period. This would indicate that the funding gap is increasing as the length of planning period increases which highlights potential issues in sustainability of service delivery.

The projected operations, maintenance and capital renewal expenditure required over the first five years of the planning period is $6,401,205 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $ 6,778,486 on average per year giving a five-year funding gap of $377,281 per year. This indicates that 94% of projected expenditures required to provide the services shown in this asset management plan.

8.1.1.3 10-year Financial Planning Period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a ten-year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures may be compared to budgeted expenditures in the ten-year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

The projected operations, maintenance and capital renewal expenditure required over the 10-year planning period is $6,391,561 on average per year.

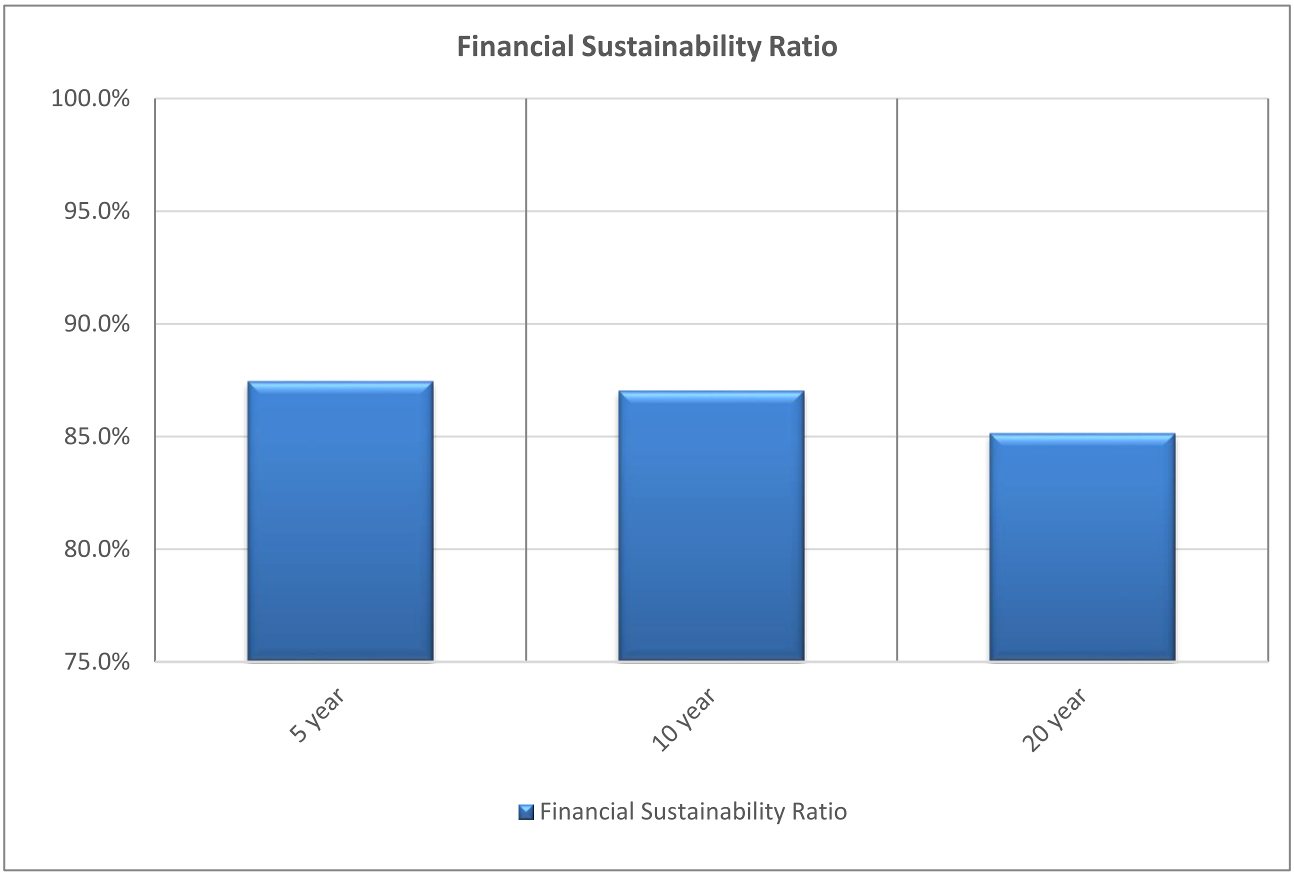
Estimated (budget) operations, maintenance and capital renewal funding is $6,810,405 on average per year giving a 10-year funding gap of $418,844 per year. This indicates 94% of the projected expenditures needed to provide the services documented in the asset management plan.

8.1.1.4 Asset management financial indicators

Figure 8.2 shows the asset management financial indicators in graphical format over the 10-year planning period.

[12] AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

Figure 8.2: Asset Management Financial Indicators



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

Figure 8 shows the projected asset renewal and replacement expenditure over the 10 years of the AM Plan. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the capital works program, which is accommodated in the long-term financial plan

Figure 8.3: Projected and LTFP Budgeted Renewal Expenditure

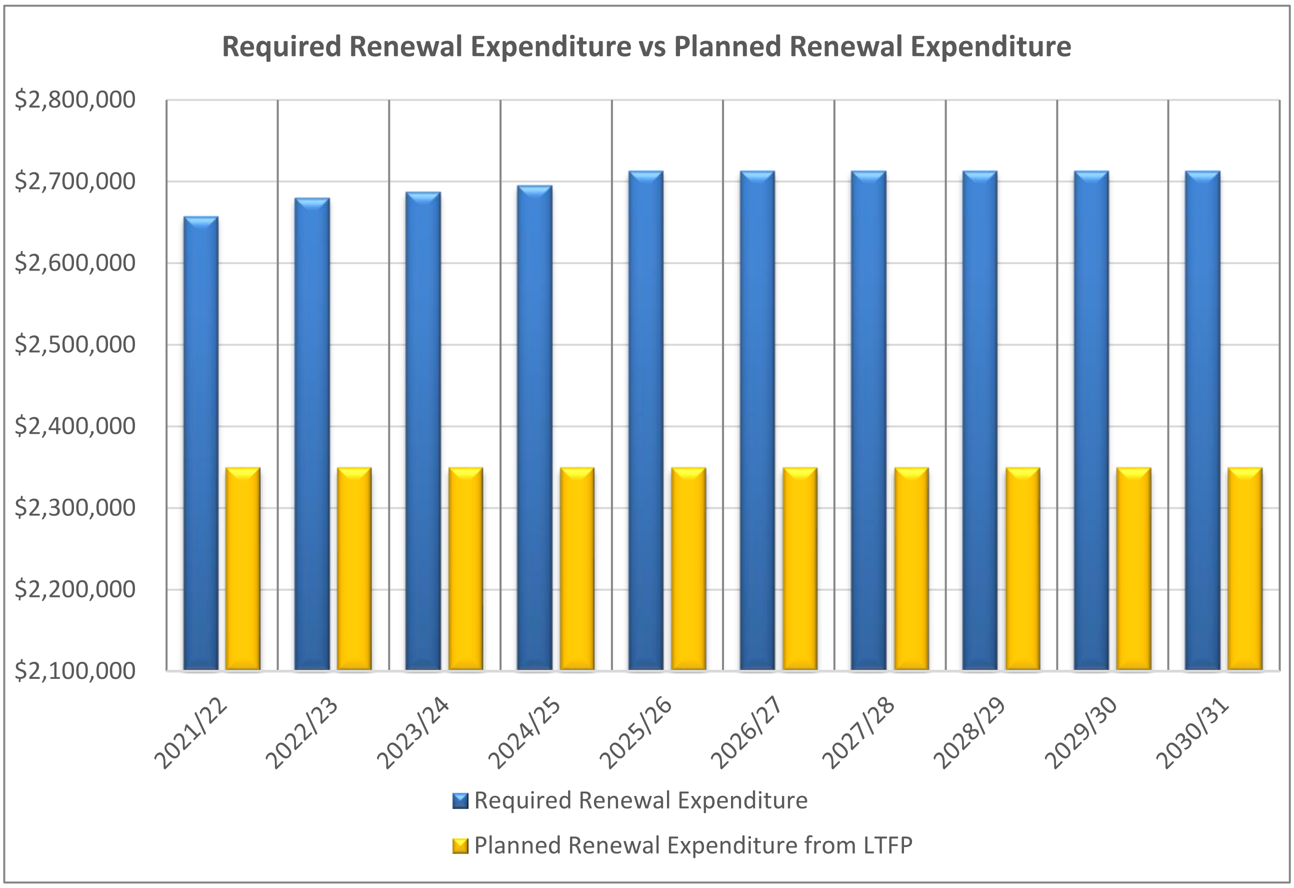


Table 8.1 shows the shortfall between projected renewal and replacement expenditures and expenditure in the long-term financial plan.

Table 8.1: Projected and LTFP Budgeted Renewals and Financing Shortfall

Year	Projected Renewals	LTFP Renewal Budget	Renewal Financing Shortfall **(-ve Gap, +ve Surplus)**	Cumulative Shortfall **(-ve Gap, +ve Surplus)**
1	$2,656,813	$2,348,922	-$307,891	-$307,891
2	$2,679,768	$2,348,922	-$330,845	-$638,736
3	$2,686,736	$2,348,922	-$337,814	-$976,551
4	$2,695,032	$2,348,922	-$346,109	-$1,322,660
5	$2,712,891	$2,348,922	-$363,968	-$1,686,629
6	$2,712,891	$2,348,922	-$363,968	-$2,050,597
7	$2,712,891	$2,348,922	-$363,968	-$2,414,565
8	$2,712,891	$2,348,922	-$363,968	-$2,778,534
9	$2,712,891	$2,348,922	-$363,968	-$3,142,502
10	$2,712,891	$2,348,922	-$363,968	-$3,506,471

Providing services in a sustainable manner will require matching of projected asset renewal and replacement expenditure to meet agreed service levels with the corresponding capital works program accommodated in the long-term financial plan.

A gap between projected asset renewal/replacement expenditure and amounts accommodated in the LTFP indicates that further work is required on reviewing service levels in the AM Plan (including possibly revising the LTFP) before adopting the asset management plan to manage required service levels and funding to manage any funding gap.

We will manage the 'gap' by developing this asset management plan to provide guidance on future service levels and resources required to provide these services, and review future services, service levels and costs with the community.

Capital renewal forecasts communicated in this Plan are derived from historical financial trends and annual depreciation expense related to each asset class. Contrary to the projected capital renewal forecasts, asset renewal requirements can vary significantly from year to year, unless renewals are carefully and regularly reviewed. The hostility of changing budgets from year to year can be mitigated by postponing asset renewals (low risk), and/or bringing renewals forward to align with similar asset types and project locations. These planning activities support more consistent budgeting trends.

Refer to Appendix A for the indicative forward works program for infrastructure assets. Asset renewals presented in Appendix A are based on asset condition and have not yet been optimised to align with the forecasted budgets.

8.1.2 Projected Expenditures for Long Term Financial Plan

Table 8.2 shows the projected expenditures for the 10-year long term financial plan. Expenditure projections are in 2020 real values.

Table 8.2: Projected Expenditures for Long Term Financial Plan

Year	Operations	Maintenance	Projected Capital Renewal	Capital Upgrade/ New	Disposals
1	$257,545	$3,775,450	$2,348,922	$600,000	$0
2	$271,022	$3,819,154	$2,348,922	$175,000	$0
3	$259,577	$3,784,327	$2,348,922	$200,000	$0
4	$257,819	$3,781,587	$2,348,922	$860,000	$0
5	$260,497	$3,794,434	$2,348,922	$0	$0
6	$257,545	$3,775,450	$2,348,922	$0	$0
7	$257,545	$3,775,450	$2,348,922	$0	$0
8	$257,545	$3,775,450	$2,348,922	$0	$0
9	$257,545	$3,775,450	$2,348,922	$0	$0
10	$257,545	$3,775,450	$2,348,922	$0	$0

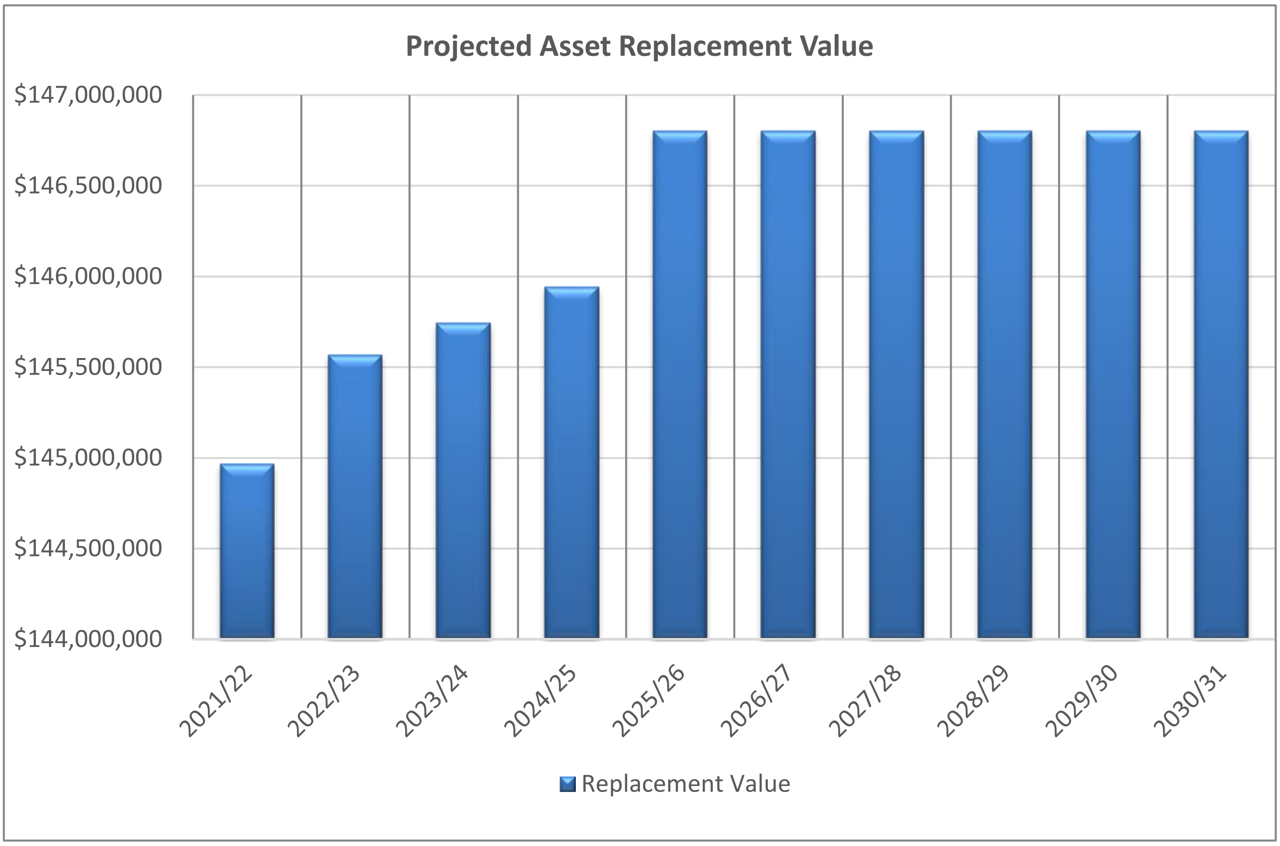
8.2 Funding Strategy

After reviewing service levels, as appropriate to ensure ongoing financial sustainability projected expenditures identified in Section 8.1.2 will be accommodated in the 10-year long term financial plan.

8.3 Valuation Forecasts

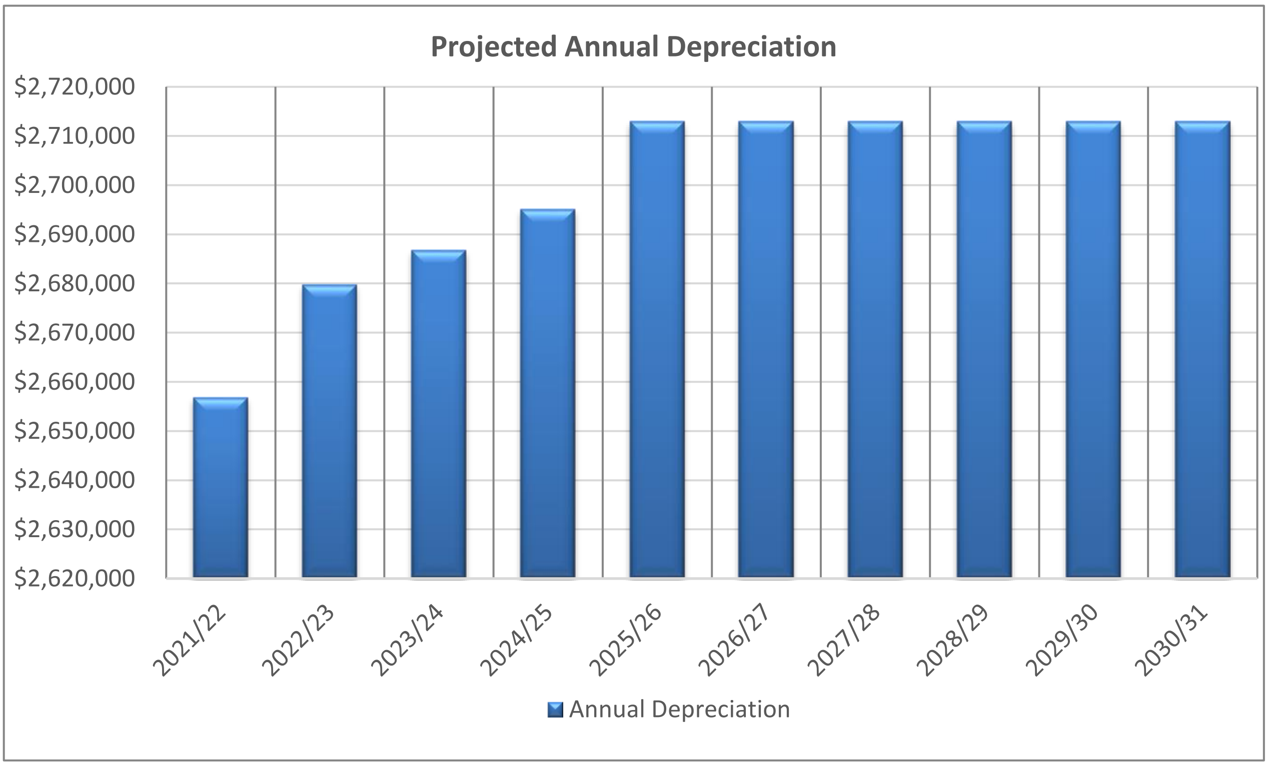
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition of assets. Figure 8.4 shows the projected gross replacement cost asset values over the planning period in real values.

Figure 8.4: Projected Asset Values



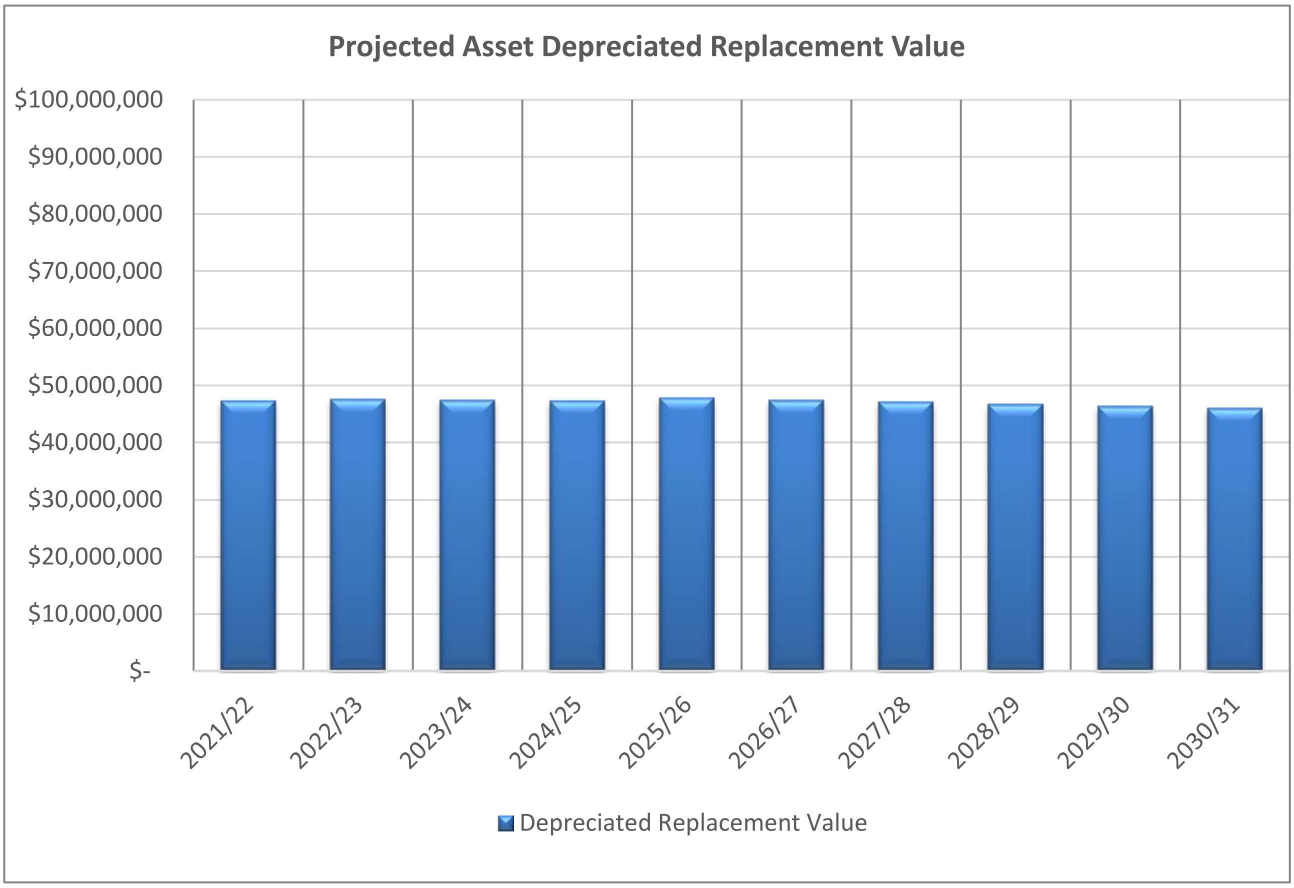
Depreciation expense values are forecast in line with asset values as shown in Figure 8.5.

Figure 8.5: Projected Depreciation Expense



The depreciated replacement cost will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Figure 8.6.

Figure 8.6: Projected Depreciated Replacement Cost



8.4 Key Assumptions Made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan and risks that these may change are shown in Table 8.3.

Table 8.3: Key Assumptions made in AM Plan and Risks of Change

AMP Category	Key Assumptions	Risks of Change to Assumptions
Asset Inventory	That assets will remain in Council's ownership throughout the planning period and that levels of service remain unchanged.	Low
Maintenance	Required maintenance is assumed to take place in accordance with relevant guidelines/standards	Low
Financial Forecasts	Natural disasters, accidents and other unplanned events are not considered in the asset lifecycles	Medium
Renewal	That assets will actually be replaced at the end of their respective useful lives	High
Renewal	Required/Budgeted Renewal expenditure is based on historical expenditure trends from the last three years and assumes there will be no significant change, aside from the introduction of new assets.	Medium
Renewal	Projected Expenditure renewal expenditure is based on annual depreciation expense	Medium

AMP Category	Key Assumptions	Risks of Change to Assumptions
Financial Forecasts	Asset Classes assigned in historical expenditure reports were revised and updated based on available information	Low
New / Upgrade	New and Upgrade expenditure was identified in the historical renewal expenditure accounts. These costs items were re-classified into their corresponding expenditure types, and presented in the relevant sections of this AMP	Low
Financial Forecasts	All expenditure is stated in 2021-dollar values.	Low
Maintenance	Required/Budgeted maintenance expenditure is based on historical expenditure trends from the last three years and assumes there will be no significant change, aside from the introduction of new assets.	Low
Maintenance	Maintenance and operations allocations are based on maintaining current service levels and utilisation.	Medium
Maintenance Ex	Maintenance expenditure related to the Cost activity *Flood Damage* and the cost account code *Floods 122441* was removed from the historical maintenance expenditure and is not reported in this AMP. This activity type (floods) is not considered a regular maintenance activity for maintaining assets. Costs related to this activity are primarily incurred in 2017/18 and 2018/19 owing to natural disasters. This equates to approx. 5.3 million over 3 years.	Medium
Maintenance Ex	Minor maintenance expenditure associated with Parks and Garden *Utilities* was removed from maintenance expenditure because it is accounted for under operating expenditure	Low
Operating Ex	Historical operating expenditure was highly scrutinised. The following expenditure types were removed: • Employee Costs, Materials and Contracts – Reallocated to maintenance as required. The Shire previously reallocated some costs. Some cost assigned to Building and Other Construction asset classes were reallocated to Maintenance by Talis • COA Schedules 4, 143 and 144 – These costs are reallocated by the Shire and removed • Various Operational Costs – removed as non-asset related costs As a result, the above-mentioned costs are not presented in the operational cost section of this AMP	Low
New / Upgrade Assets	New and Upgrade asset projections presented in this plan is taken from the 4-year projections included in the 2021-2025 Corporate Business Plan. Historical expenditure for new and upgrade assets was not used to future forecast, because of the limited data available	Medium
Regulations / Standards	It is assumed that regulations/standards relating to infrastructure will remain the same over the planning period	Low
Asset Inventory	It is assumed that the basic mix of assets will not alter significantly over the planning period.	Low

8.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5-level scale[13] in accordance with Table 8.4.

[13] IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Table 8.4: Data Confidence Grading System

Confidence Grade	Description
A Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and agreed 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 8.5.

Table 8.5: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	Uncertain	
Growth projections	Very Uncertain	
Operations expenditures	Uncertain	Classification of operating expenditure needs consistent application
Maintenance expenditures	Uncertain	Classification of maintenance expenditure needs consistent application
Projected Renewal expenditures.	Medium	
- Asset values	Very Reliable	
- Asset useful lives	Reliable	
- Condition modelling	Reliable	High level of confidence for roads condition data
- Renewals	Uncertain	
Upgrade/New expenditures	Uncertain	
Disposal expenditures	Very Uncertain	

Over all data sources the data confidence is assessed as Uncertain to Reliable confidence level for data used in the preparation of this AM Plan.

9 PLAN IMPROVEMENT AND MONITORING

9.1 8.1 Status of Asset Management Practices

9.1.1 Accounting and Financial Data Sources

- Due to the various limitations in asset based financial data, an improvement project to define and develop a better recording and reporting structure has been listed. As part of this project, the following areas will also be recorded within this AMP.
- Summary of accounting and financial systems.
- Summary of accountabilities and responsibilities for the financial system.
- An updated summary of applicable accounting standards, regulations and guidelines.
- Summary of capital and maintenance threshold policy.
- Future changes require to the Shire's accounting and financial systems resulting from this AMP.

9.1.2 Asset Management Data Sources

A summary of the AM systems currently used by the Shire is listed in the below table. This table is currently incomplete and has been listed as an improvement action

Table 9.1: Asset Management Systems

Business Activity	System	Description	Comments
Roads	RAMM	RAMM holds the Shire's road asset data	RAMM currently meets the core management needs of the Shire and has significant extra functionality which has not yet been used.
Financial Management		Authority holds all financial information	The system currently meets the needs of the Shire.

9.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 9.2.

Table 9.2: Improvement Plan

Task No	Task	Resources Required	Timeline
1	Review services to understand what services the Shire provides and what assets are needed to provide them	• CEO • Deputy CEO • Senior Finance Officer • Manager of Works • Community Development Officer	2 Weeks
2	Gap analysis of all asset datasets to ensure all inventories are quantified and their current condition is understood	• CEO • Deputy CEO • Senior Finance Officer • Manager of Works • Community Development Officer	2 days
3	Depending on the findings of the gap analysis, undertake data capture as necessary to update inventories and condition.	• CEO • Deputy CEO • Senior Finance Officer • Manager of Works • Community Development Officer	2 to 4 weeks
4	Development of hierarchies for each asset class to determine priority	• CEO • Deputy CEO • Senior Finance Officer • Manager of Works • Community Development Officer	1 Week
5	Develop minimum community levels of service for operations, maintenance and renewal for each asset class based on the hierarchy	• CEO • Deputy CEO • Senior Finance Officer • Manager of Works • Community Development Officer	2 Weeks
6	Review all cost and useful life inputs with reference to historical programs to ensure relevancy	• CEO • Deputy CEO • Senior Finance Officer • Manager of Works • Community Development Officer	2 Weeks
7	Develop 5, 10 and 20 year expenditure programs to understand the long term financial implications	• CEO • Deputy CEO • Senior Finance Officer • Manager of Works • Community Development Officer	4 Weeks
8	Model funding scenarios to understand any funding gap	• CEO • Deputy CEO • Senior Finance Officer • Manager of Works • Community Development Officer	1 Week

9	Update AMP with new inputs and desired funding strategy	• CEO • Deputy CEO • Senior Finance Officer • Manager of Works • Community Development Officer	1 Week
10	Update LTFP to ensure alignment	• CEO • Deputy CEO • Senior Finance Officer • Manager of Works • Community Development Officer	1 Week
11	Develop a review framework for the AMP and all inputs (data, costs, lives)	• CEO • Deputy CEO • Senior Finance Officer • Manager of Works • Community Development Officer	2 Days
12	Develop forward works program from the asset inventory and available condition data. Validate data projections with site inspections	• Manager of Works	2 Weeks

9.3 Improvement Plan Commentary

1. Review services to understand what services the Shire provides and what assets are needed to provide them.

The sole function of an asset is to facilitate the delivery of a service. Understanding what services, the Council intends to provide and to what level must be clearly quantified prior to deciding what physical assets are required to deliver them. The Council should undertake a review to clearly document what services are provided, the criticality of the service, the assets that facilitate service delivery and the risk/consequences should the assets fail or not perform to its intended level.

e.g. Should the Council administration building not be accessible due to being structurally unsound through neglect, could the critical service of administrative governance be delivered to a suitable level somehow else? It is unlikely which would severely impact the community and represents a high risk.

2. Development of hierarchies for each asset class to determine priority

The service delivery review will identify which services are critical, important and ancillary which will define priorities in terms of management strategies.

3. Develop minimum community levels of service for operations, maintenance and renewal for each asset class based on the hierarchy

Defined at two levels being the expectation of the community e.g. provision of roads that are safe and provide adequate connectivity and at the more technical level which will provide Shire administration tangible measurement criteria e.g. Distributor roads will be maintained so that critical condition parameters such as rutting and structural cracking do not exceed a nominated threshold.

4. Gap analysis of all asset datasets to ensure all inventories are quantified and their current condition is understood.

Having sound information such as physical dimensions and condition for infrastructure assets is critical to inform decisions on service levels that they provide. The Shire's roads/paths represent the largest asset class and was updated in 2020 to satisfy Fair Value reporting. The other infrastructure asset classes such as recreation and buildings are understood to currently require an updated assessment to confirm the inventory and determine a relevant condition status.

Understanding the level of detail to capture data is important and generally aligned to the complexity of the asset class. It needs to be at a level that reflects the management strategy but ideally kept at as simple level as possible to ensure data maintenance is sustainable with limited Shire resources.

5. Depending on the findings of the gap analysis, undertake data capture as necessary to update inventories and condition.

Ideally this will be undertaken internally however depending on available resources may have to be partially resourced externally. Efficiencies can be realised by simple processes to ensure annual works are updated in the relevant databases and asset registers.

6. Review all cost and useful life inputs with reference to historical programs to ensure relevancy.

Unit rates that represent the true cost to renew an asset to its full service potential and the likely life expectancy of the asset are important inputs to the long term planning process. It is the nature of some infrastructure assets that have long lives to require a lower level of maintenance and renewal expenditure in the first portion of the lifecycle before requiring significantly higher expenditure to maintain service level before being renewed.

Understanding that maintenance activities such as unsealed road grading does not return the asset to its full service potential. Maintenance activities ensure the asset reaches its intended design life, renewal replaces the asset and restores full service potential.

With respect to unsealed gravel roads, the asset is the gravel sheet which is imported material (i.e. gravel pit) which is placed and compacted to provide a more durable trafficable surface and greater all weather accessibility. The pavement will become corrugated through the effect of vehicle loading which will also see the gravel pavement material breaking down or dispersed to the sides of the road which will see a gradual loss of pavement depth before the pavement is completely depleted.

Cyclic maintenance grading will remove the corrugations and return a portion of the material dispersed to the sides back to the pavement however it is inevitable that the gravel sheet will lose material until requiring gravel resheeting. If depleted entirely or very thin the gravel pavement will not provide its intended function and will see a drop in the level of service.

7. Develop 5, 10 and 20 year expenditure programs to understand the long term financial implications

Short term 5 year programs are typically developed and will be reviewed annually to finalise for the coming year. This needs to be extended to the medium and long term, not to have a locked in program which is not realistic but to define the order of magnitude of expenditure to understand any potential financial liability passed to future generations.

8. Model funding scenarios to understand any funding gap

Funding gaps are typical and is not necessarily indicative of being financially unsustainable. Planning over the long term will simply represent an agreed strategy to manage the assets to a level that the community is satisfied with and able to be financially supported. This will see drops in levels of service in some areas whilst maintaining the status quo or potentially improvement in others.

An example would be over time Council may choose to decrease the length of gravel sheeted roads but still provide the community with a level of service that it is satisfied with such as access to their property and connectivity with critical facilities whilst sacrificing resheeting roads that only provide a secondary service to a very small portion of the community.

9. Update AMP with new inputs and desired funding strategy

Decide on the format of the AMP and consider the intended audience. The inputs will be updated to clearly quantify the current status of the asset base and the long term expenditure implications.

10. Update LTFP to ensure alignment

It is critical that these two documents agree with each other. The iterative process of developing long term planning strategies will involve understanding what each asset class ideally requires with compromises made in alignment with available funding. The agreed level of funding will then be incorporated into the AMP to understand the short, medium and long term implications on service delivery.

11. Develop a review framework for the AMP and all inputs (data, costs, lives)

Document the review process to involve annual activities rather than updating after than periodically after a significant period to ensure relevancy.

12. Develop forward works program and validate data projections with site inspections

Using Appendix A as a reference, review and modify the forward works program to suit the proposed budget (constraints). Ensure assets in the initial years are site-validated and budgets are levelled out over the coming years. Consider the impacts of bottle neck renewals from 2026 - 2036

9.4 Monitoring and Review Procedures

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

9.5 Performance Measures

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

- The degree to which the required projected expenditures identified in this asset management plan are incorporated into the long-term financial plan,
- The degree to which 1-5-year detailed works programs, budgets, business plans and corporate 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 Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the target of 1.0.

10 REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.
- IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- Long Term Financial Plan;
- Corporate Business Plan;
- Strategic Community Plan;
- Annual Budget 2020/21;

Appendix A: Capital – Forward Works Program

The below forward works program is developed from data produced by the 2020 infrastructure valuation. Indicative costs are forecast based on asset remaining life relative to asset condition. The 2020 infrastructure valuation excluded Buildings, Plant and Furniture and Equipment asset classes. Therefore, forward works programs for these asset classes are not included in the below table.

Although, costs presented in the FWP are not directly aligned with **Section 8. Financial Summary**, the program affirms the Shire's short, medium and long-term financial position. Whereby, further consideration (funding strategies and strategic planning) is required to address the bottle neck of asset renewals in the medium to long term.

Asset Class	Component	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	Grand Total
Drainage	Culverts	$677,996																$677,996
Footpath	Footpath															$30,042		$30,042
Parks	Fencing					$68,373				$1,579	$385,379				$20,225	$19,626		$536,898
Parks	Furniture			$4,404	$8,136	$34,671		$3,211	$105,320		$78,899	$166,137	$713		$113,066	$125,806		$675,430
Parks	Lights											$33,345				$14,168		$47,513
Parks	Surfacing				$2,145	$161,515			$64,788		$204,222	$346,913			$10,849			$837,468
Roads	Pavement Structure										$99,068	$637,163		$956,332	$2,672,953	$4,531,282	$3,679,851	$12,576,650
Roads	Surface Structure					$26,838					$605,507	$3,863,554					$256,272	$4,752,172
Signage	Panel					$15,787					$46,350					$63,756		$139,960
Signage	Post					$10,343					$28,053					$34,924		$82,316
	Grand Total	**$677,996**	**$0**	**$4,404**	**$10,282**	**$317,527**	**$0**	**$3,211**	**$170,108**	**$1,579**	**$1,447,476**	**$5,047,113**	**$713**	**$956,332**	**$2,817,093**	**$4,819,604**	**$3,936,123**	**$20,356,444**

Appendix B: Abbreviations

AAAC	Average annual asset consumption
AM	Asset management
AM Plan	Asset management plan
GRC	Gross replacement cost
DA	Depreciable amount
DRC	Depreciated replacement cost
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LTFP	Long term financial plan
MMS	Maintenance management system
RV	Residual value

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 (ARFR)

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 [AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9].

Average annual asset consumption (AAAC)*

The amount of the 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 asset base, but may be associated with additional revenue from the new user group, e.g. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

Capital expenditure - new

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

Capital expenditure - renewal

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

Capital expenditure - upgrade

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

Capital funding

Funding to pay for capital expenditure.

Capital grants

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

Capital investment expenditure

Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months (See capital expenditure definition)

Capitalisation threshold

The value of expenditure on non-current assets above which the expenditure is recorded 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 in the balance sheet after deducting any accumulated depreciation / amortisation and accumulated impairment losses.

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, top-down condition assessment, simple risk assessment and defined levels of service, in order to establish alternative treatment options and a long-term cash flow projection.

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

Those assets that are likely to result in a more significant financial, environment and social cost in terms of impact on organisational objectives.

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 gross replacement cost (GRC) 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 arm's 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.

Gross replacement cost (GRC)

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.

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 for access to major economic and social facilities and services, e.g. roads, drainage, footpaths and cycle ways. 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.

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 parameters or combination of parameters that reflect social, political, economic and environmental outcomes that the organisation delivers.

Levels of service statements describe the outputs or objectives an organisation or activity intends to deliver to customers.

Life Cycle

The cycle of activities that an asset (or facility) goes through while it remains an identity as a particular asset i.e. from planning and design to decommissioning or disposal.

Life Cycle Cost (LCC)

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

Average LCC The life cycle cost 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 (LCE)

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.

Maintenance

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

Maintenance may be classified as:

- Planned maintenance

Falls into three categories:

a) Periodic – necessary to ensure the reliability or to sustain the design life of an asset.

b) Predictive – condition monitoring activities used to predict failure.

c) Preventive – maintenance that can be initiated without routine or continuous checking and is not condition based.

- 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. The modern equivalent asset is evidenced by renewal strategies in asset management plans and financing in a long-term financial plan covering at least 10 years.

***Net present value (NPV)**

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

Non-revenue generating investments

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

Operations

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

Operating expenditure

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

Operating expense

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

Operating expenses

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

Operations, maintenance and renewal financing ratio

Ratio of estimated budget to projected expenditure for operations, maintenance and renewal of assets over a defined time (e.g. 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 expenditure - renewal.

Remaining useful life

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

Renewal

See capital expenditure - renewal.

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. Residual value reflects consideration receivable from an asset at the end of its useful life to the entity and accordingly would not include cost savings from the re-use of in-situ materials.

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, e.g. public halls and theatres, childcare facilities, sporting and recreation facilities, tourist information facilities, 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 are still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).

Strategic Asset Management Plan

A plan that documents and specifies how the organizational objectives are to be converted into AM objectives, the approach for developing AM Plans and the role of the AM system in supporting the achievement of AM objectives.

Strategic Plan

A plan containing the long-term goals and strategies of an organisation. Strategic plans have a strong external focus, cover major portions of the organisation and identify major targets, actions and resource allocations relating to the long-term survival, value and growth of the organisation.

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 entity.

Valuation

The process of determining the worth of an asset or liability. Assessed asset value which may depend on the purpose for which the valuation is required, i.e. replacement value for determining maintenance levels, market value for lifecycle costing and optimised deprival value for tariff setting.

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, IIMM & AIFMM 2015, Glossary

Additional and modified glossary items shown *