



**Shire of Toodyay**

## **PLANT & EQUIPMENT**

### **Asset Management Plan (Comprehensive)**





Document Control		 <b>Shire of Toodyay Asset Management Plan</b>			
Document ID : Plant & Equipment Asset Management Plan					
Rev No	Date	Revision Details	Author	Reviewer	Approver
	July 2018		Manager Corporate Services & Manager Works and Services	CEO	
	September 2018		Manager Corporate Services & Manager Works and Services	CEO	

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# 1. EXECUTIVE SUMMARY

## 1.1 The Purpose of the Plan

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

The Plant & Equipment Asset Management Plan details information about Plant & Equipment 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.

The Plant & Equipment Asset Management Plan is the link between the Council's corporate, strategic and operational objectives, interpreted as the provision of specific Plant & Equipment to the community for their enjoyment of agreed Levels of Service for various community and lifestyle activities.

This plan combines the strategic planning, continuous improvement and operational management factors to provide Levels of Service associated with community needs and to a certain degree, community expectations, (although it is fully acknowledged that community expectations may never be fully realised).

The plan provides the guidelines for management of the Plant & Equipment to ensure:

- Best appropriate practice asset and services management for Shire of Toodyay;
- Competent decision-making based on quality information and contemporary management techniques;
- Consistent service provision according to needs based criteria.

The plan relates all relevant regulatory, legislative and reasonable practices against the Levels of Service and risk management framework.

- This plan also acknowledges that:
- Determining the sustainability of existing programs may involve the review of all current assets against the Levels of Service to identify and address any 'gaps';
- From time to time there will be external strategies, e.g. new Government policy or climate change

- initiatives which may materially impact on the Plant & Equipment Asset Management Plan;
- Technology changes may also impact on the asset management regime; and
- There will be concerted effort to improve the energy efficiency of all Council plant & equipment.

## 1.2 Asset Description

These assets include:

The Plant & Equipment network comprises:

- Bushfire Vehicles
- Equipment
- Heavy Fleet
- Light Fleet
- Heavy & Light Plant

These assets have a replacement value of \$3,706,677.

## 1.3 Levels of Service

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

The main services from Plant & Equipment include:

- Civil and earthworks
- Transportation
- Rapid services, infrastructure services, repairs and maintenance,
- Works associated with parks, gardens and rangers.

## 1.4 Future Demand

The main demands for new services are created by:

- Strategic and Corporate Goals
- Demographic changes and consumer preferences
- Regulations
- Technological changes
- Environmental awareness

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.

## 1.5 Lifecycle Management Plan

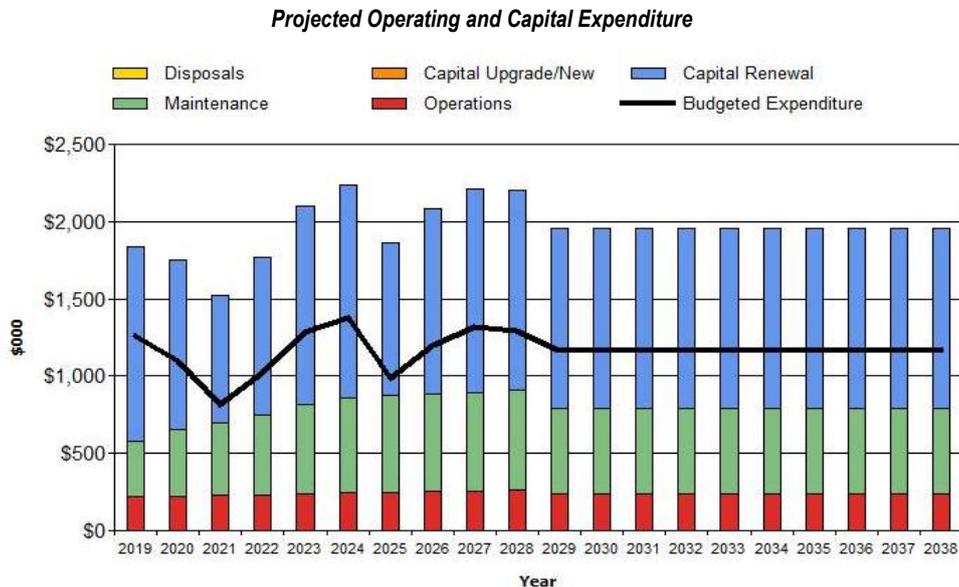
### What Does it Cost?

The projected outlays necessary to provide the services covered by this Plant & Equipment Asset Management Plan includes operations, maintenance, renewal and upgrade of existing assets over the 10-year planning period is \$11,658,000 or \$1,165,800 on average per year.

## 1.6 Financial Summary

### What We Will Do

Estimated available funding for this period is \$11,381,928 or \$1,138,193 on average per year which is 98% of the cost to provide the service. This is a funding shortfall of \$27,607 on average per year. Projected expenditure required to provide services in the Plant & Equipment Asset Management Plan compared with planned expenditure currently included in the Long Term Financial Plan are shown in the figure below.



This Plan provides for operation, maintenance, renewal and upgrade expenditure for light fleet, heavy fleet, heavy plant, minor plant and equipment to meet service levels set by in annual budgets within the 10 year planning period.

### What We Cannot Do

Council do not have enough funding to provide all services at the desired service levels or provide new services.

### 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:

- Insufficient resources including funding to replace/ renew plant & equipment in accordance with renewal forecasts,
- Insufficient funding to increasing asset stocks.

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

- Request funding for renewals as required and monitor trends of maintenance.

## 1.7 Asset Management Practices

Our systems to manage assets include:

- Synergy Soft
- Microsoft Excel

## 1.8 Monitoring and Improvement Program

The next steps resulting from Plant & Equipment Asset Management Plan to improve asset management practices are:

- Define the delivered customer service levels and develop performance measures;
- Continue to monitor plant & equipment condition and make service level based decisions;
- Review annual budget preparation to recognise target levels of service vs condition assessments;
- Review the Shire's current Plant & Equipment Asset Management staffing structure against work requirements;
- Monitor performance of the Plant & Equipment Asset Management Plan service levels.

## 2. INTRODUCTION

### 2.1 Background

The Plant & Equipment Asset Management Plan communicates the actions required for the management of plant and equipment (and services provided from plant & equipment), compliance with regulatory requirements, and funding needed to provide the required levels of service over a 10-year planning period.

The Plant & Equipment Asset Management Plan is to be read with the Shire of Toodyay planning documents. This includes the following associated planning documents:

- Strategic Community Plan
- Corporate Business Plan
- Long Term Financial Plan
- Annual Budget
- 2018 Works & Services Review

The Plant & Equipment covered by Plant & Equipment Asset Management Plan are shown in Table 2.1.

*Table 2.1: Assets covered by this Plan*

ASSET CATEGORY	QUANTITY	REPLACEMENT VALUE
Bushfire Vehicles and equipment	19	\$1,495,765
Equipment	2	\$112,320
Heavy Fleet	5	\$407,087
Light Fleet	25	\$477,800
Heavy & Light Plant	26	\$1,213,705
<b>TOTAL</b>		<b>\$3,706,677</b>

Key stakeholders in the preparation and implementation of Plant & Equipment Asset Management Plan are shown in Table 2.1.1.

**Table 2.1.1: Key Stakeholders in the AM Plan**

KEY STAKEHOLDER	ROLE IN ASSET MANAGEMENT PLAN
Councillors	<ul style="list-style-type: none"> <li>• Represent needs of community,</li> <li>• Allocate resources to meet planning objectives in providing services while managing risks,</li> <li>• Ensure services are sustainable</li> </ul>
Executive Team	<ul style="list-style-type: none"> <li>• To ensure that Asset Management policy and strategy is being implemented as adopted,</li> <li>• To ensure that long-term financial needs to sustain the assets for the services they deliver are advised to Council for its strategic and financial planning processes</li> </ul>
Community User Groups	<ul style="list-style-type: none"> <li>• Users of services from plant &amp; equipment assets,</li> <li>• Consultation on key issues</li> </ul>
Council Staff	<ul style="list-style-type: none"> <li>• As the designated strategic custodian of Plant &amp; Equipment, responsible for the overall management of the assets,</li> <li>• To ensure provision of the required/agreed level of maintenance services for asset components,</li> <li>• To ensure design and construction of assets meets required/agreed standards,</li> <li>• To ensure that risk management practices are conducted as per Council policy,</li> <li>• To ensure that adequate financial information is provided to Council to the relevant asset managers to facilitate sound management of the assets</li> </ul>
Insurance Provider	<ul style="list-style-type: none"> <li>• Partner in insurance and risk management issues</li> </ul>
State and Federal Government Departments	<ul style="list-style-type: none"> <li>• Periodic provision of advice, instruction, grants funding to assist with the provision of community assets.</li> </ul>

## 2.2 Goals and Objectives of Asset Ownership

Shire of Toodyay exists to provide services. Some of these services are provided by Plant & Equipment.

The framework of the Plant & Equipment Asset Management Plan is based on the following principles:

- Accountability for Assets – refers to strengthening of the ‘ownership’ of the assets and services to increase performance and accountability;
- Planning and Budgeting – the current and future financial needs, specifically the Renewal Profile for plant & equipment and alignment with the respective depreciation calculations;
- Acquiring Assets – the processes of increasing asset stocks, including assets described in the Council’s Capital Works Program;
- Operating and Maintaining Assets – maintenance and operation of assets is the primary activity;
- Disposing of Assets; and
- Asset Recording, Valuing and Reporting – including statutory recording and valuing, and performance reporting.

Our goal in managing Plant & Equipment 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 Plant & Equipment management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and investment in Plant & Equipment,
- 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.

Key elements of the planning framework are

- 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 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 to manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how to increase asset management maturity.

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

- International Infrastructure Management Manual 2015
- ISO 55000

The primary issues for the Plant & Equipment assets are:

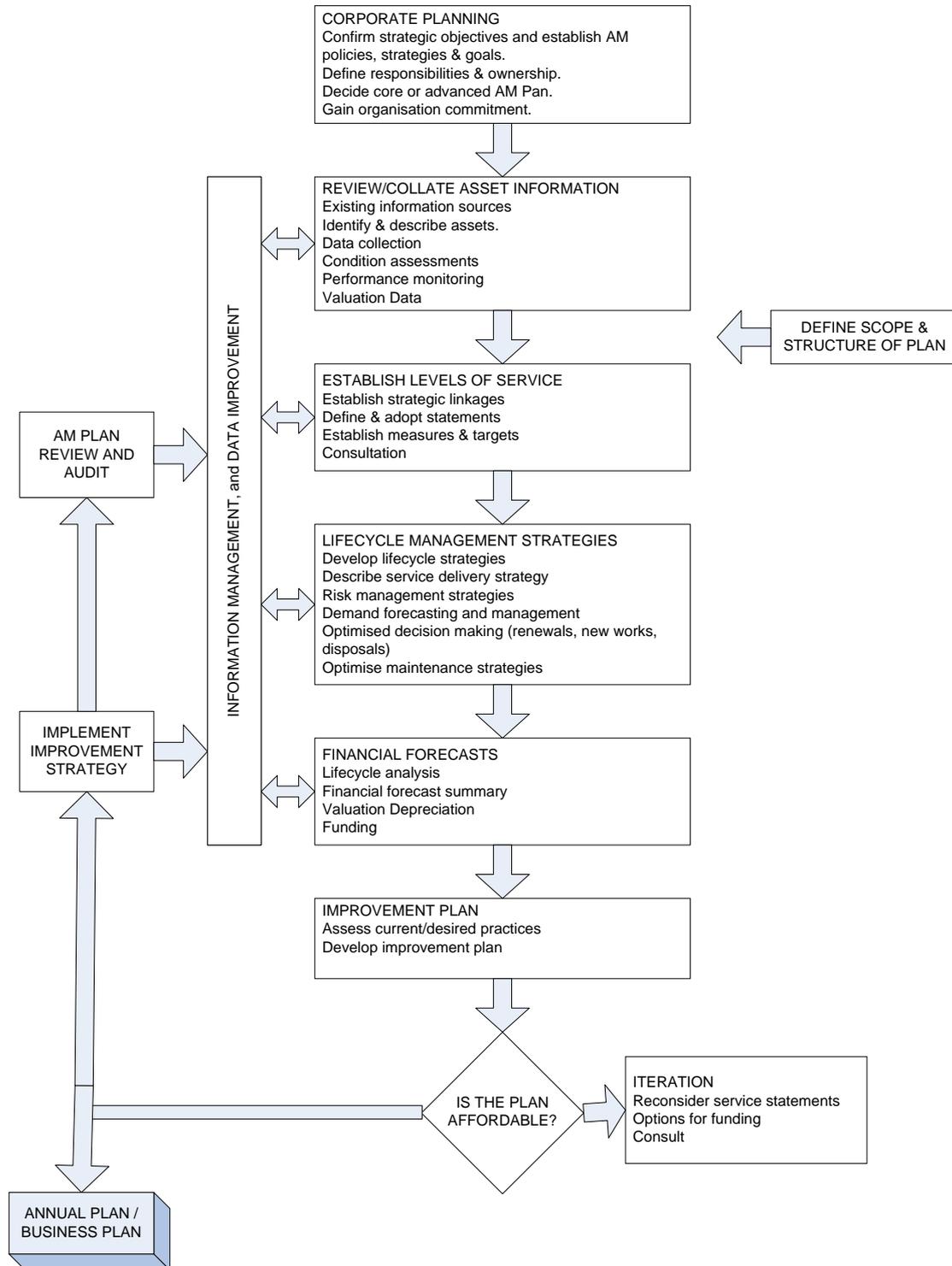
- Recording asset data – dimensional and condition data stored in an Asset Inventory that can be uploaded to the Asset Register;
- Increasing the strategic and tactical management of the assets and services – understanding the renewal and maintenance needs for the network and actively managing those needs, both operationally and financially;
- Documentation of the Levels of Service for the Plant & Equipment, expressed as Service Standards and Service Targets;
- An appreciation of the cost of provision of the services;
- The future demand for the assets and services, understanding the growth and change factors that influence the management regime;
- Forecasting the renewal and maintenance costs for the next 10+ years, and understanding the affordability and sustainability of the assets and services to the current levels.

The purpose of this Plant & Equipment Asset Management Plan is to:

- Improve understanding of the Plant & Equipment assets and associated services;
- Improve budgeting and forecasting of asset related management options and costs, particularly in understanding the long term investment in capital renewal;
- Afford a level of confidence in forward works programs, maintenance and provide support for any business cases associated with securing the necessary funding requirements; and
- Provide the guidance for elected members and the organisation in taking positive steps toward advanced asset management planning.

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

**Road Map for preparing an Asset Management Plan**  
 Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



## 2.3 Core and Advanced Asset Management

This Plant & Equipment Asset Management Plan is prepared as a 'core' asset management plan over a 10 year planning period. 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 the Plant & Equipment 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.

## 3. LEVELS OF SERVICE

### 3.1 Customer Research and Expectations

This section of the Plant & Equipment Asset Management Plan describes the Levels of Service framework development process for Plant & Equipment for the Shire of Toodyay. The framework recorded is derived from interpretation of Council's corporate objectives and strategies, perceived customer 'needs' and relevant statutory requirements.

To both fully understand and deliver on desired Levels of Service requires suitable asset and services management policies, guidelines, inspection regimes, condition assessment programs, customer inquiry systems and asset and services management practices and processes, plus the development and implementation of various audits to validate the outputs.

Statistical indicators show that over the past four years, the Shire of Toodyay has had a static population base. There has been a significant change in age structure with less young people, less mid lifers and significantly more aged people. This confirms the need to now specify the Levels of Service for defined service programs on behalf of the community. Likewise the need to understand the affordability of the programs becomes an imperative for the organisation and the community.

Levels of Service represent a balance between funding, physical resources and customer needs. The Levels of Service framework includes the following elements, (defined as):

**Levels of Service:** the service quality for a particular activity against which service performance may be measured - a high level statement linking strategic objectives with service delivery;

**Service Standards:** the manner of provision of the services, (in quantitative terms, e.g. function, design and amenity / presentation).

**Service Targets:** the targets for the services required to achieve and maintain the Service Standards, measured as intervention criteria and response times. The Service Targets are used to calculate the level of resources, costs and performance required to achieve against the needs.

This Plant & Equipment Asset Management Plan introduces the framework concept to account for Levels of Service according to whole of life programs for the assets.

The Levels of Service defined in this Plan will be used to:

- inform stakeholders of the proposed type and Levels of Service to be offered;
- identify the costs and benefits of the services offered;
- enable stakeholders to assess suitability, affordability and equity of the services offered;
- measure the effectiveness of the Plant & Equipment Asset Management Plan, and;
- focus the asset and services management strategies required and developed to deliver the required Levels of Service.

The Levels of Service framework is to be based on:

- **Research and needs:** predominantly historical information;
- **Strategic and Corporate Goals:** identifying the specific objectives which the organisation wishes to achieve from the Levels of Service, together with guidance to define the scope of current and future services offered and the manner of the service delivery;
- **Legislative requirements:** the legislation, regulations, environmental standards and industry and Australian Standards that impact on the way assets are managed; and
- **Design Standards and Codes of Practice:** Australian Design Standards provide a set of design parameters for the delivery of Plant & Equipment.

## 3.2 Strategic and Corporate Goals

This Plant & Equipment Asset Management Plan is prepared under the direction of the Shire of Toodyay vision, mission, goals and objectives.

**Our vision is:** “We are a vibrant rural community that celebrates our past and embraces a sustainable future.”

**Our mission is:** “Local Government and community working together to obtain the best possible social, economic and environmental outcomes for the Toodyay Shire.”

Relevant goals and objectives and how these are addressed in Plant & Equipment Asset Management Plan are:

**Table 3.2: Goals and how these are addressed in this Plan**

GOAL	OBJECTIVE	HOW GOAL AND OBJECTIVES ARE ADDRESSED IN AM PLAN
<b>Social:</b> Our community wellbeing and connection	<b>Objective 2:</b> Facilitate community safety and wellbeing. <i>S 2.3: Collaborate with fire and emergency services, law and order programs and other volunteer services.</i>	Provide fit-for-purpose plant & equipment for emergency services, and law and order programs.
<b>Built Environment:</b> Our buildings, roads and transport	<b>Objective 3:</b> Improve processes to support the built environment. <i>S 3.2: Implement asset rationalisation and consolidation.</i>	Optimisation of Asset condition – maintaining the asset condition equitably throughout the network of plant and equipment assets.
<b>Governance:</b> The way the Shire leads and operates	<b>Objective 3:</b> Ensure rigorous organisational systems. <i>S 3.1: Maintain long term financial and resourcing plans.</i>	Review plant and equipment requirements for roads and other infrastructure programs.  Provide fit-for-purpose plant & equipment for Council municipal and regulatory services.

### 3.3 Legislative Requirements

There are many legislative requirements relating to the management of Plant & Equipment. These include:

**Table 3.3: Legislative Requirements**

LEGISLATION	REQUIREMENT
<i>Local Government Act 1995</i>	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a Long Term Financial Plan supported by Asset Management Plans for sustainable service delivery. The Act also provides guidance on the rules around local governments who derive revenue from operations such as non-core business.
<i>Road Traffic Act 1974</i>	Requirement to licence vehicles to be driven on the road, and all driving regulations.
<i>Road Traffic Amendment Act 2000</i>	Requirement for the owner of the vehicle to be liable for drivers' compliance with the regulations.
<i>Motor Vehicle Standards Act 1989</i>	Requirement to register and assign identification to each vehicle imported to or manufactured in Australia.
<i>Disability Services Act 1993 (WA)</i>	To ensure that services are provided and funded in conformity with the Act.
<i>Emergency Management Act 2004 (WA)</i>	Requires lifeline utilities to function at the fullest possible extent during and after an emergency and to have business continuity plans.
<i>Work Health and Safety Act 2011</i>	Requirement for organisations and individuals to apply a duty of care to others. Includes requirements for undertaking to ensure, so far as is reasonably practicable the provision and maintenance of safe plant and the safe use, handling and storage of plant.
Accounting Standards	AASB 5 Non-Current Assets Held for Sale and Discontinued Operations AASB 13 Fair Value Measurement 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
Other Standards and Regulations	Other relevant documents include, but are not limited to: AS/NZS 4360: 1995 Risk Management, all other relevant State and Federal Acts & Regulations, all Local Laws and relevant policies of the organisation

### 3.4 Levels of Service

Service levels are defined service levels 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 terms of safety, quality, quantity, reliability, responsiveness, cost/efficiency and legislative compliance and whether value to the customer is provided.

**Technical Levels of Service** supporting the community service levels to ensure that the minimum community levels of service are met. These technical measures relate to service criteria such as:

- Quality – plant & equipment is operational, reliable, comfortable for operators and easy to maintain,
- Quantity – number of assets is sufficient for Council operations and service delivery,
- Availability – plant & equipment is fit for purpose, efficient and adaptable for other jobs,
- Safety – plant & equipment is maintained, services and repaired to industry standards.

### 3.4.1 Customer Levels of Service

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

**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?*

Table 3.5 shows the expected levels of service based on resource levels in the current long-term financial plan.

### 3.4.2 Technical Levels of Service

**Technical Levels of Service:** Supporting the customer service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

- Operations – the regular activities to provide services,
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. regular inspection and repair of components),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. replacement of plant & equipment),
- Upgrade/New – the activities to provide a higher level of service (e.g. replacing major components) or a new service that did not exist previously (e.g. a new plant & equipment).

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

Table 3.5 shows the customer levels of service and technical levels of service expected to be provided under the Plant & Equipment Asset Management Plan.

<b>SERVICE STATEMENT</b>	Plant and equipment items meet demands for performance, reliability, affordability, environmental outputs and safety for the operator/driver and community.	
<b>SERVICE FACTORS</b>	<b>CUSTOMER LEVELS OF SERVICE</b>	<b>TECHNICAL LEVELS OF SERVICE</b>
<b>QUALITY</b>		
<b>Council Needs</b>	Plant and equipment item matches needs at an affordable cost.	Regular liaison with Council staff to ascertain and confirm plant and equipment needs. Quality plant and equipment to specifications and available funding/ agreed lease cost. Plant and equipment items replacement/ renewal cycle aligned with good industry standards and affordability.
<b>Available Resources / Funding</b>	Only essential plant and equipment is purchased.	Non capital solutions such as operating leases may be proposed for programmed plant and equipment upgrades – decreasing capital costs.
<b>Organisational Profile and Policies</b>	Plant and equipment are safe to use.	Plant and equipment items match Council policies for performance, safety and equipment levels.

SERVICE FACTORS	CUSTOMER LEVELS OF SERVICE	TECHNICAL LEVELS OF SERVICE
<b>Commercial Realities</b>	Keep plant and equipment management and operational costs as low as possible	Plant and equipment item maintained by preventative maintenance/routine servicing and good operational standards. Comparison of Council ownership vs lease option for plant and equipment items. Hire rates and arrangements are consistent with private market forces for equivalent plant and equipment items.
<b>Function</b>		
<b>Design Standards</b>	Plant and equipment items meets the needs of council staff and have reasonable operating costs.	Plant and Equipment meets or exceeds Council's functional specification and remains within cost parameters for purchase and operations.
<b>Safety</b>	Plant and equipment item provides the required degree of safety for operator and public.	Plant and equipment item conforms to manufacturer's specifications – no unauthorised modifications. Plant and equipment item serviced and maintained according to manufacturer's specifications. Plant and equipment item designed and maintained to relevant Workplace Health & Safety provisions. Operators maintain licences and skills through ongoing training.
<b>Availability / Reliability</b>	Plant and equipment item is reliable and available for use.	Capacity of plant and equipment item matches or exceeds requirement for specified operating demands. Plant and equipment item quality matches capacity and operating needs and affordability. Operator is trained and experienced to optimise the performance and output from the plant and equipment item. Routine maintenance/servicing/repair programs and times optimise availability and output.
<b>Environmental Standards</b>	Plant and equipment items match or exceeds Council's current environmental standards.	Plant and equipment items design alternatives favour high environmental outcomes. Operator/driver training matches preferred environmental outcomes.
<b>Economy</b>	Plant and equipment item offers good operating economy, both from an ownership and an operational perspective.	Operators and drivers trained to operate/drive to optimise fuel economy, tyre and general wear and tear on plant and equipment items. Regular inspections of plant and equipment items to confirm care and attention by operators/drivers for presentation and operation.

SERVICE FACTORS	CUSTOMER LEVELS OF SERVICE	TECHNICAL LEVELS OF SERVICE
<b>Comfort</b>	Plant and equipment item provides good driver/operator comfort consistent with plant and equipment item tasks, including long duration operational activities.	Plant and equipment items have proper air-conditioning/ventilation systems to provide good operator comfort in typical operational circumstances. Seating meets high standard/ design criteria for operator/driver and passenger comfort and support. Operator cabin/driving space properly insulated from operating/ engine noises. Industrial plant located clear of obstacles and near materials supply.
<b>Maintenance and Operational Activities</b>	All servicing can be done on site.	Majority of services able to be undertaken in Council workshop.
<b>Capacity / Use</b>		
<b>Presentation / Amenity</b>	Plant and equipment items maintained in clean and tidy condition – presentation to community at appropriate standards.	Plant and equipment maintenance, operation and presentation actions contribute to higher resale values and lower operating costs – responsible manager to ensure high standards are maintained.
<b>Utilisation</b>	Utilisation of plant & equipment meets required need or demand	Utilisation is maximised, minimum idle hours

The current levels of service have been developed through internal consultation. 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 an agreed position which achieves the best balance between service, risk and cost is essential. As such, continuous monitoring and review of levels of service will form part of the continuous improvement plan.

## 4. FUTURE DEMAND

### 4.1 Demand Drivers

Drivers affecting demand include Strategic and Corporate goals, population change, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, regulatory changes, environmental awareness, etc.

### 4.2 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.

### 4.3 Demand Impact on Assets

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 4.3.

*Table 4.3: Demand Drivers, Projections and Impact on Services*

DEMAND DRIVERS	PRESENT POSITION	PROJECTION	IMPACT ON SERVICES
Economic Demand	The withdrawal of fleet vehicle licence fee and stamp duty concessions will increase the cost of operating and renewing the portfolio. Increasing energy costs: It is likely that prices for basic commodities will continue to rise above normal inflation levels over the life of this AMP.	Anticipated to continue	Increasingly difficult to maintain the current level of service. A review of the current costs of individual assets compared to their level of usage in order to identify opportunities for efficiency gains.
Social Demand	Shire of Toodyay has had a static population base over the last four years. Analysis of demographics shows an ageing population and less young people in the Shire.	Increase in demand for all services Increased maintenance and renewal costs	Review and document levels of demand. Encourage sharing of existing plant and equipment to maximise utilisation.
Technology	Condition monitoring and Asset Management systems – the need to manage data in the form of inventories, condition ratings, financial performance etc.	Anticipated to continue to change	Change in technology may provide increased fuel efficiency, operator comfort and safety. Review of Council's long term ability to maintain increasingly sophisticated assets. Multi- function/ multi-purpose plant and equipment improves operational efficiency.
Environment	Preference for the acquisition of environmentally friendly assets with lower whole of life costs.	Anticipated to continue	A review of the asset management resources required to effectively manage the portfolio.

### 4.4 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. Examples of non-asset solutions include providing services from existing plant and equipment such as hiring of plant and equipment instead of purchasing outright, and sharing plant and equipment with other Councils where practical. Further opportunities will be developed in future revisions of Plant & Equipment Asset Management Plan.

## 5. LIFECYCLE MANAGEMENT PLAN

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

Life Cycle Management is recognised by the Shire of Toodyay as an essential component of the provision and management of assets and services. Life Cycle Management is primarily about using the data and processes to effectively provide, manage, maintain, renew, (and upgrade), existing plant and equipment.

Lifecycle asset management means considering all management options and strategies as part of the asset lifecycle, from planning to disposal, (whole of life analysis). The objective of managing the assets in this manner is to look at long-term cost impacts, (or savings), when making asset and services management decisions.

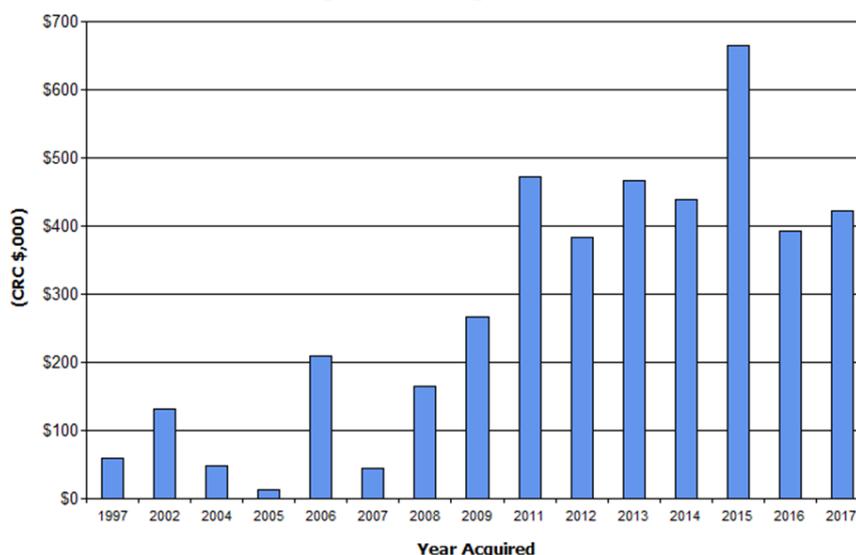
### 5.1 Background Data

#### 5.1.1 Physical parameters

The assets covered by this Plant & Equipment Asset Management Plan are shown in Table 2.1.

The age profile of the assets included in the Plant & Equipment Asset Management Plan are shown in Figure 2.

**Figure 2: Asset Age Profile**



#### 5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available.

Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

**Table 5.1.2: Known Service Performance Deficiencies**

LOCATION	SERVICE DEFICIENCY
Fleet Maintenance	Review Workshop facilities, capacity to meet current and future fleet maintenance requirements (computer scanning machine, improved layout of workshop, upgrade of tools)
Utilisation	Underutilised plant that are a result of staffing, seasonal works and demand for use of equipment

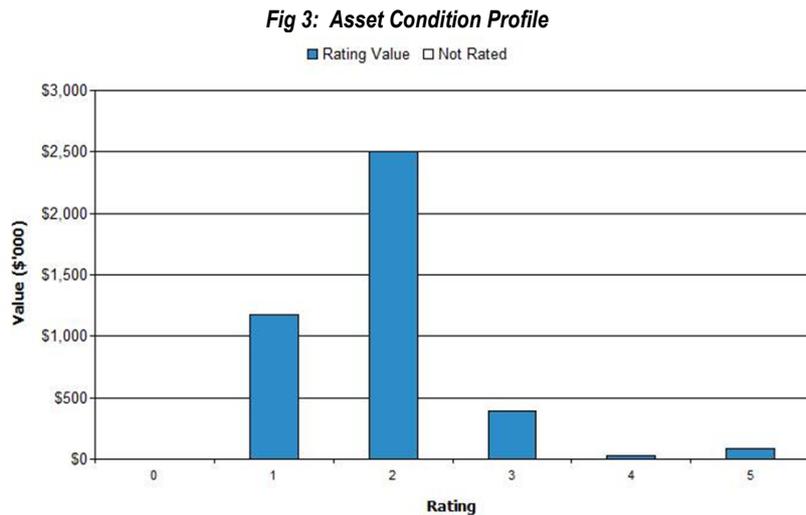
### 5.1.3 Asset condition

Current plant and equipment conditions were last assessed in 2017. With the condition rating of each of the plant and equipment elements having been established, it is possible to attribute a whole of asset condition rating.

Following the adoption of this Plan, condition audits of plant and equipment will be undertaken over a three year cycle. This is to help even out inspections, budgets and workloads. This has been identified as an improvement action.

Condition of assets are rated using a 1-5 rating system with 1 being new or near-new and 5 representing an asset that has failed completely and cannot be used for the purpose it was in service for.

The condition profile of our assets is shown in Figure 3.



The majority of Council plant and equipment is in either “Very Good” or “Good” condition.

Condition is measured using a 1 – 5 grading system as detailed in Table 5.1.3.

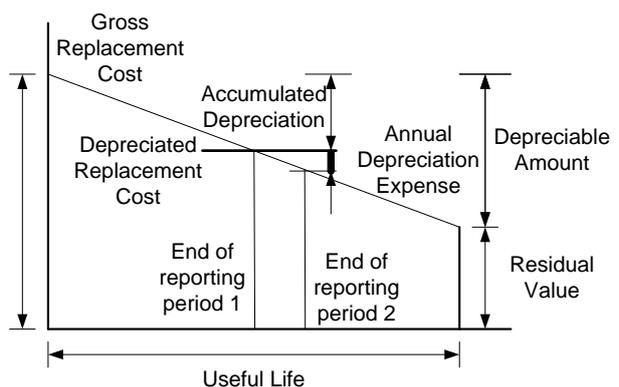
**Table 5.1.3: Simple Condition Grading Model**

CONDITION GRADING	DESCRIPTION OF CONDITION
1	<b>Very Good:</b> only planned maintenance required
2	<b>Good:</b> minor maintenance required plus planned maintenance
3	<b>Fair:</b> significant maintenance required
4	<b>Poor:</b> significant renewal/rehabilitation required
5	<b>Very Poor:</b> physically unsound and/or beyond rehabilitation

### 5.1.4 Asset valuations

The value of assets recorded in the asset register as at 30 June 2017 covered by the Plant & Equipment Asset Management Plan is shown below. Assets were last revalued at 30 June 2016. Assets are valued at Fair Value.

Gross Replacement Cost	\$4,179,242
Depreciable Amount	\$4,179,242
Depreciated Replacement Cost	\$3,706,677
Annual Average Asset Consumption	\$459,837



## 5.2 Operations and Maintenance Plan

Operations include regular activities to provide services such as road grading and tree pruning.

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

### 5.2.1 Operations and Maintenance Plan

Operations activities affect service levels including quality and function through the types and timing of activities, and the design of the plant and equipment.

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

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions.

Planned maintenance is repair work that is identified and managed through a servicing schedule. Servicing activities include inspection, assessing the condition against failure/breakdown experience, priority of works, scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

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

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

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

### 5.2.2 Operations and Maintenance Strategies

The Shire of Toodyay 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 risk register for assets and present service risks associated with providing services from Plant & Equipment 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.

### 5.2.3 Asset Hierarchy

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

Council has not yet developed an asset service hierarchy, this will be developed for future plans.

## 5.2.4 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.

Council has not yet developed a list of the critical assets, this will be developed for future plans.

## 5.2.5 Standards and Specifications

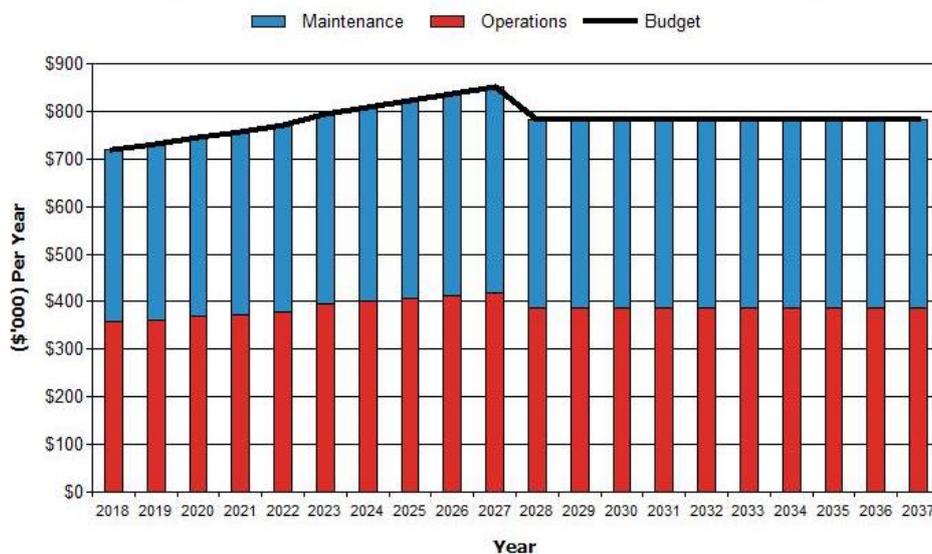
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Australian Standards relevant to the works being undertaken
- Occupational Health and Safety Standards
- Motor Vehicle Standards
- Manuals provided by manufacturer

## 5.2.6 Summary of Future Operations and Maintenance Expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2017/18 dollar values (i.e. real values).

**Figure 4: Projected Operations and Maintenance Expenditure**



Maintenance is funded from the operating budget where available.

## 5.3 Renewal/Replacement Plan

Renewal and replacement 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.

Replacement and rehabilitation of existing plant and equipment is based on the following considerations:

- a condition rating applied to each asset;
- an assumed economic life applied to each asset group;
- a replacement date for each asset;
- asset replacement cost.

### 5.3.1 Renewal plan

There are a number of methods to identify the renewal/replacement requirements for plant and equipment. This plan uses a combination of the following methods:

- Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, and
- Capital renewal expenditure projections from external condition modelling systems.

### 5.3.2 Renewal and Replacement Strategies

Council will plan capital renewal and replacement projects to meet level of service objectives and minimize plant and equipment 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 options 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 risk register for assets and service risks associated with providing services from Plant & Equipment 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 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.

### 5.3.3 Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing assets to deliver the service it was constructed to facilitate, or
- To ensure the assets are of sufficient quality to meet the service requirements.

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,
- Have high operational or maintenance costs, and
- Have replacement with a modern equivalent asset that would provide the equivalent service at a savings.

The ranking criteria used to determine priority of identified renewal and replacement proposals will be incorporated into future plans.

### 5.3.4 Renewal and replacement standards

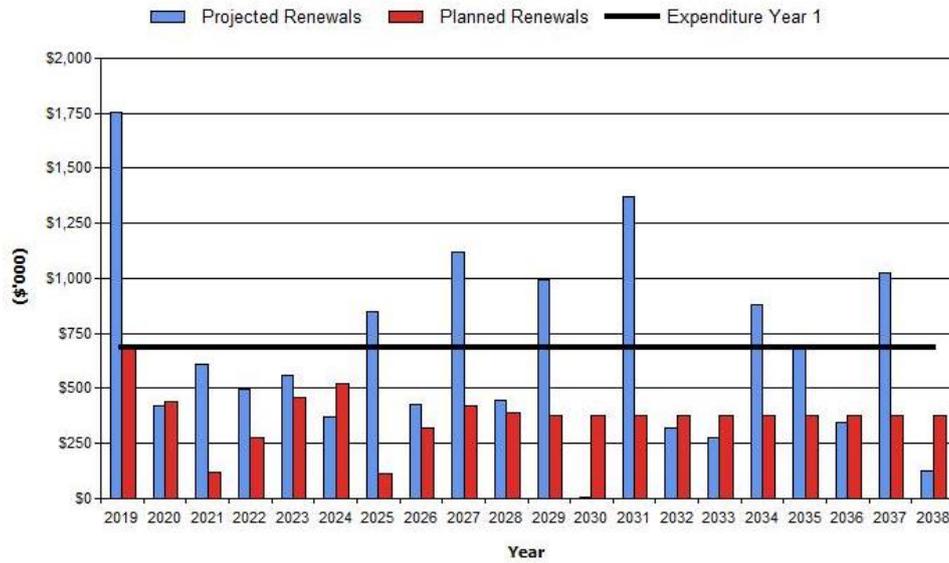
Renewal work is carried out in accordance with the following standards and specifications.

- Council Policies
- Compliance with current regulations, laws and statutes
- Industry best practice

### 5.3.5 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 expenditure is required is shown in Fig 5. Note that all amounts are shown in real values.

The projected capital renewal and replacement program is shown in Appendix B.



Renewals and replacement expenditure in the capital works program will be accommodated in the Long Term Financial Plan. This is further discussed in Section 7.

## 5.4 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.

### 5.4.1 Selection criteria

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.

### 5.4.2 Capital Investment 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 options 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 5.3.2.

## 5.5 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 Appendix C, 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 is accommodated in the Long Term Financial Plan.

Where cash flow projections from asset disposals are not available, these will be developed in future revisions of the Plant & Equipment Asset Management Plan.

## 6. RISK MANAGEMENT PLAN

The purpose of risk management is to document the results and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from plant and equipment, 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”.

An assessment of risks associated with service delivery from plant and equipment has identified critical risks that will result in loss or reduction in service from Plant & Equipment 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.

Risk management is one of the fundamentals of asset and services management, and is observed to the highest possible level using industry standard practices. It is appropriate that formal risk management processes be applied to support decision making in all areas and at all levels of the organisation. The processes need to be ingrained in the daily activities for the organisation.

Risks can typically be categorised as:

**Natural Events:** *Council has virtually no control over the timing or extent of the event, however, the probabilities may be understood;*

**External Impacts:** *Council has some control over these risks, associated with other organisations providing goods and services to Council;*

**Physical Failure Risk:** *Where conditions or performance of an asset could lead to failure. Council can control these risks through maintenance and renewal funding levels;*

**Operational Risk:** *Where management of the asset or asset management activities might impact on an asset. Council can control these risks through maintenance and renewal funding levels.*

Through risk management, the Shire of Toodyay aims to:

- Protect the quality of the property portfolio,
- Protect users of property assets,
- 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 commercial objectives and practices,
- Applying risk based practices to the management of property assets and associated decision making,
- Maintaining safe and reliable plant and equipment,
- Preparing appropriate contingencies,
- Reviewing the risk profile of the property portfolio at appropriate intervals and when circumstances dictate,
- Maintaining an up to date Plant & Equipment Asset Management Plan.

### 6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Similarly, critical failure modes are those which have the highest consequences. By identifying critical assets and failure modes investigative activities, condition inspection programs, maintenance and capital expenditure plans can be targeted at the critical areas.

Research on critical assets has not yet been undertaken. This will be investigated in future updates of the asset management plan.

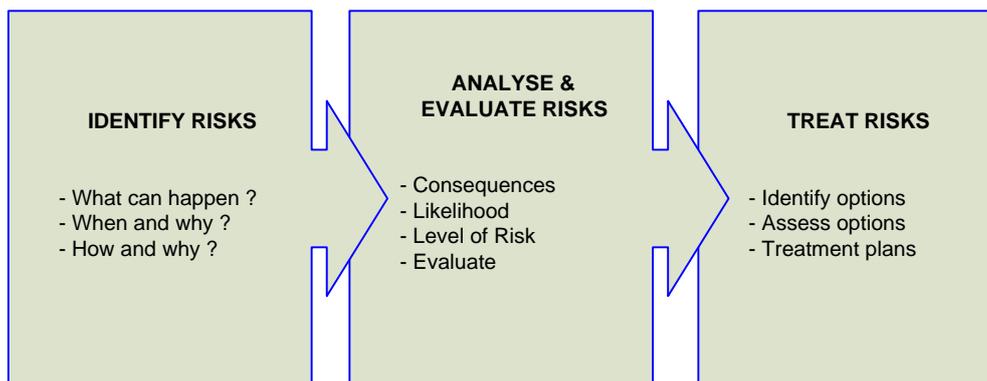
## 6.2 Risk Assessment

The risk management process used in this project is shown in Figure 6.2 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.

**Fig 6.2 Risk Management Process – Abridged**



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 Plant & Equipment identifies the critical risks that can result in significant loss, 'financial shock' or a reduction in service.

Critical risks will be identified and Treatment Plans formulated and documented as part of future AMPs.

The resilience of our critical plant and equipment is vital to our customers and the services we provide. To adapt to changing conditions and grow over time we need to understand our capacity 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 capacity to manage unforeseen or unexpected risk to the continuity of operations we plan to take a plant and equipment resilience approach using an 'all hazards' methodology.

The 'all-hazards' approach will involve:

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

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

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 6.3.

**Table 6.3: Risk Rating Matrix**

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

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

ASSET AT RISK	WHAT IS THE POSSIBLE PROBLEM?	WHAT IS THE CAUSE?	WHAT WOULD HAPPEN AS A RESULT	LIKELIHOOD	CONSEQUENCES	RISK RATING	RISK TREATMENT PLAN	RISK AFTER TREATMENT	RESPONSIBLE	BY WHEN
<b>All Plant &amp; Equipment</b>	Premature Failure	Lack of Maintenance and upgrades	Equipment failure and possible safety concerns to staff and the community	4	4	H	Ensure that maintenance schedules and activities are followed in accordance with manufacturer's recommendations. Renewals Programs	M	Manager Works & Services	Ongoing
<b>All Plant &amp; Equipment</b>	Breakdowns due to unreliable equipment	Inappropriate repairs or maintenance Inappropriate equipment	Equipment failure and possible safety concerns to staff and the community	3	4	H	Ensure only qualified staff or authorised contractors repair or maintain equipment. Purchase only suitable equipment in good condition.	M	Manager Works & Services	Ongoing
<b>All Plant &amp; Equipment</b>	Use of faulty plant & equipment	Operator does not check before use	Equipment failure. Police infringement and fine. Injury or death to staff or bystanders.	2	4	M	Ensure all staff carry out pre-start check of heavy vehicles and plant.	L	Manager Works & Services	Ongoing
<b>All Plant &amp; Equipment</b>	PPE not worn	Lack of education and/or training	Injury to operator/driver	2	4	M	Provide Safe Work Instructions to all operators of heavy plant. Ensure all operators of heavy plant are properly trained and certified where required. All Operators will be competent and licensed in safe operations of all plant and equipment.	L	Manager Works & Services	Ongoing
<b>Trucks</b>	Loss of load	Load not adequately secured. Overloading of bulk materials.	Loss of load. Injury or death to staff or bystander.	2	5	H	Ensure all operators are properly trained. Ensure load restraints are in good condition. All Operators will be competent and licensed in safe operations of all plant and equipment.	M	Manager Works & Services	Ongoing

ASSET AT RISK	WHAT IS THE POSSIBLE PROBLEM?	WHAT IS THE CAUSE?	WHAT WOULD HAPPEN AS A RESULT	LIKELIHOOD	CONSEQUENCES	RISK RATING	RISK TREATMENT PLAN	RISK AFTER TREATMENT	RESPONSIBLE	BY WHEN
Equipment	Guards or safety devices removed	Poor staff training or attitudes	Death or injury to staff or bystanders.	2	5	H	Ensure all operators are properly trained. Conduct regular checks of equipment.	M	Manager Works & Services	Ongoing
Vehicles	Accident	Animal strike Over speeding Fatigue	Death or injury to driver and passengers.	2	5	H	Ensure drivers are trained for anticipated conditions. Implement fatigue management policies. Implement check-out/check-in procedures.	M	Manager Works & Services	Ongoing
Vehicles	Vehicle unregistered and/or uninsured	Poor administration procedures and practice	Costs awarded against Council rather than insurer.	2	2	L	Ensure administration procedures are efficient and effective. Asset Register kept up to date.	L	Manager Works & Services	Ongoing
All Plant & Equipment	Damaged or stolen whilst parked	Vandalism Theft	The vehicle is not available for use Vehicle is damaged or written-off.	2	3	M	Ensure vehicles are locked when parked. Ensure vehicles are parked in secure locations.	L	Manager Works & Services	Ongoing
All Plant & Equipment	Inappropriate plant & equipment purchased	Lack of adequate specifications	Equipment is expensive to operate. Equipment is not able to perform specified tasks.	2	3	M	Review past purchases. Seek external/independent assistance where appropriate. Seek feedback from operators.	L	Manager Works & Services	Ongoing
All Plant & Equipment	Major plant & equipment failure	Manufacturer's fault or defect	Crew downtime and delayed works, increased costs	3	4	H	Consider short term lease or hire of major plant and equipment to align with warranty periods. Identifying back up sources for major plant and equipment.	M	Manager Works & Services	Ongoing
All Plant & Equipment	Fuel shortage	Market conditions	Increased costs Crew downtime and delayed works,	3	3	H	Identifying back up suppliers for fuel Consider other fuel efficiency options for light fleet.	M	Manager Works & Services	Ongoing

## 6.4 Service and Risk Trade-Offs

The decisions made in adopting this Plant & Equipment Asset Management Plan are based on the objective to achieve the optimum benefits from the available resources.

This Plant & Equipment Asset Management Plan has been developed by taking into consideration:

- What we would like to do based on asset register data;
- What we should do with existing budgets and identifying level of service and risk consequences (i.e. what are the operations and maintenance and capital projects we are unable to do, what is the service and risk consequences associated with this position). This may require several versions of the AM Plan; and
- What we can do and be financially sustainable with AM Plans matching long-term financial plans.

The Plant & Equipment 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.

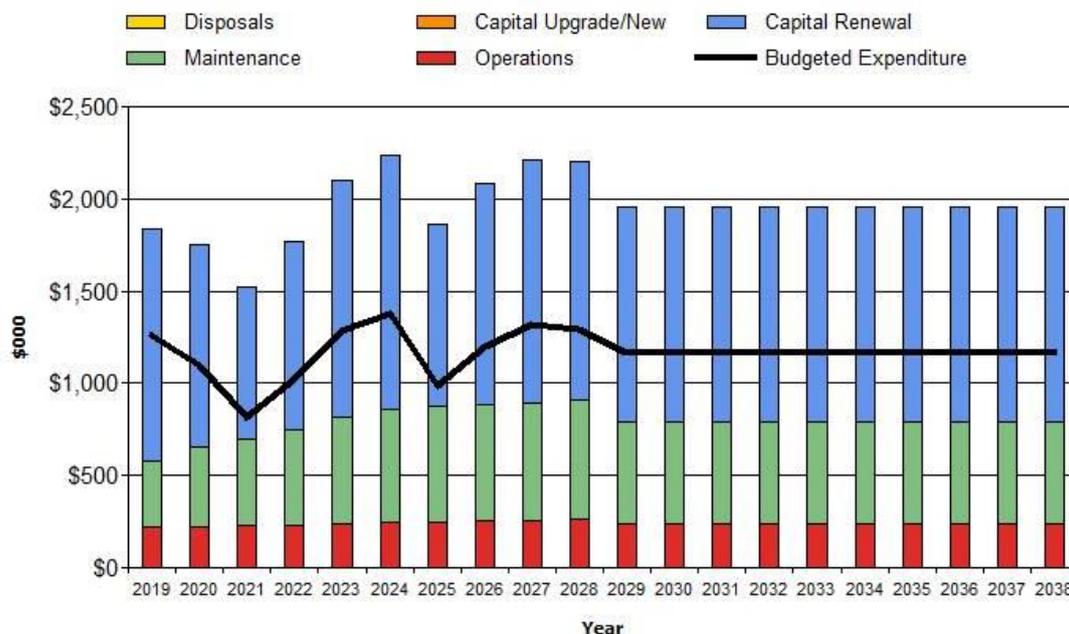
## 7. FINANCIAL SUMMARY

This section contains the financial requirements resulting from all the information presented in the previous sections of this Plant & Equipment 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.

### 7.1 Financial Statements and Projections

The financial projections are shown in Fig 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in real values.

**Fig 7: Projected Operating and Capital Expenditure**



### 7.1.1 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 covering 10 years of the planning period.

### 4.1.2 Long term - Life Cycle Cost

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the asset life cycle. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense).

Life cycle costs can be compared to life cycle expenditure to give an initial indicator of affordability of projected service levels when considered with age profiles. Life cycle expenditure includes operations, maintenance and capital renewal expenditure. Life cycle expenditure will vary depending on the timing of asset renewals.

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

Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and Long Term Financial Plan.

### 4.1.3 Medium term – 10 Year Financial Planning Period

The Plant & Equipment Asset Management Plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is \$1,165,800 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$1,138,192 on average per year giving a 10 year funding shortfall of \$27,607 per year. This indicates 98% of the projected expenditures needed to provide the services documented in the asset management plan.

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.

## 7.2 Funding Strategy

After reviewing service levels, as appropriate to ensure ongoing financial sustainability projected expenditures identified in Section 7.1 will be accommodated in the 10 year Long Term Financial Plan.

### 7.3 Key Assumptions Made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in Plant & Equipment 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 Plant & Equipment Asset Management Plan and risks that these may change are shown in Table 7.3.

**Table 7.3: Key Assumptions made in Plant & Equipment Asset Management Plan and Risks of Change**

KEY ASSUMPTIONS	RISKS OF CHANGE TO ASSUMPTIONS
That all component types have the same useful life.	minimal
All plant and equipment assets deteriorate uniformly.	minimal
Standards, Acts and Regulations associated with plant and equipment assets will remain essentially the same over the AMP life.	minimal
Renewal programs are based on intervening at Condition 4.	significant
All predicted financial figures are based on 2017/18 rates and are not adjusted by inflation for the particular year.	significant
Current levels of service remain unchanged.	significant

### 7.4 Forecast Reliability and Confidence

The expenditure and valuations projections in this Plant & Equipment Asset Management 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 in accordance with Table 7.4.

**Table 7.4: 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 $\pm 2\%$
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 $\pm 10\%$
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 $\pm 25\%$
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 $\pm 40\%$
E Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this Plant & Equipment Asset Management Plan is shown in Table 7.4.1.

**Table 7.4.1: Data Confidence Assessment for Data used in the Plant & Equipment Asset Management Plan**

DATA	CONFIDENCE ASSESSMENT	COMMENT
Demand drivers	B Reliable	Population change is measured and updated, changes in numbers are monitored, consumer preferences and demands are discussed with relevant Managers
Growth projections	B Reliable	Based on historical records of growth
Operations expenditures	B Reliable	Based on historical records however not always separated from maintenance expenditure
Maintenance expenditures	B Reliable	Based on historical records however not always separated from operational expenditure
Projected Renewal expenditures.		
- Asset values	B Reliable	Renewal expenditure is based on inspection of plant and equipment
- Asset useful lives	B Reliable	Matches generally accepted industry standards.
- Condition modelling	B Reliable	Carried out using condition assessments.
- Network renewals	B Reliable	Carried out using condition assessments and age profile of assets.
- Defect repairs	B Reliable	Defects identified during condition assessments. Repairs are programmed.
Upgrade/New expenditures	B Reliable	Council has identified these in its Long Term Financial Plan.
Disposal expenditures	B Reliable	Based on condition assessments and age profile of assets.

Over all data sources the data confidence is assessed as High confidence level for data used in the preparation of this Plant & Equipment Asset Management Plan.

## 8. PLAN IMPROVEMENT AND MONITORING

### 8.1 Status of Asset Management Practices

#### 8.1.1 Accounting and Financial Data Sources

The Council's Plant & Equipment assets database utilises Microsoft Excel and the Council's financial system is Synergy.

Council's Corporate Services Department is responsible for the valuation of all plant and equipment and ensuring that depreciation is updated on an annual basis.

The Council must comply with AAS 116 Property, Plant and Equipment.

That all items, purchased or constructed by Council, with a value greater than \$5,000.00 (five thousand dollars) be capitalised and placed on Council's asset register. Such assets are to be depreciated at a rate determined with regard to the remaining useful life of the asset and its residual value. Any items with a value of less than \$5,000.00 (five thousand dollars) are to be expensed in the year of purchase.

## 8.1.2 Asset Management Data Sources

Combination of Synergy Soft and Microsoft Excel spreadsheets.

**Asset Registers:** All plant & Equipment asset register data is held in Synergy Soft and Microsoft Excel Spreadsheets.

**Linkage from Asset Management to Financial System:** Currently all asset management data is held in Synergy Soft.

**Accountabilities for Asset Management System and Data Maintenance:** All Council Staff.

**Required Changes to Asset Management System Arising from this AM Plan:** To be considered in future revisions of this plan.

## 8.2 Improvement Plan

The asset management improvement plan generated from the Plant & Equipment Asset Management Plan is shown in Table 8.2.

**Table 8.2: Improvement Plan**

TASK NO	TASK	RESPONSIBILITY	TIMELINE
1	Ensure that where relevant, that all plant and equipment assets are valued.	Manager Works and Services	Ongoing
2	Align the Plant & Equipment Asset Management Plan with the Workforce Management Plan once it has been completed	Manager Works and Services	
3	Review the sustainably ratios to identify appropriate target bands/the reason for above target performance.	Manager Works and Services	
4	Define and Monitor the Plant & Equipment Asset Management Plan's levels of service	Manager Works and Services	Ongoing
5	Identify critical assets to mitigate the risk of critical assets failure; develop risk treatment plan	Manager Works and Services	
6	Monitor and record plant and equipment condition assessments as part of scheduled maintenance program	Manager Works and Services	
7	Specify and define target levels of service for plant and equipment to be determined through user consultation (to inform Renewals Program)	Manager Works and Services	
8	Look into installing GPS to flag plant and equipment usage and inform maintenance program (assist with scheduled maintenance)	Manager Works and Services	
9	Develop plant and equipment Renewal and Replacement Priority Evaluation Criteria that will take into consideration Council Strategic Plan objectives, Risk Management and estimated whole of life costs.	Manager Works and Services	
10	Develop New Assets Priority Criteria: defining, documenting and recording plant and equipment specifications that are matched to work requirements (fit for purpose with adequate accessories such as ramps, storage for tools, etc.); defining New Assets Priority Evaluation Criteria to guide budget priorities.	Manager Works and Services	

## 8.3 Monitoring and Review Procedures

This Plant & Equipment 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.

The Plant & Equipment Asset Management Plan will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the Long Term Financial Plan.

The Plant & Equipment Asset Management Plan has a life of 4 years and is due for complete revision and will be updated at that time.

## 8.4 Performance Measures

The effectiveness of the Plant & Equipment Asset Management Plan can be measured in the following ways:

- The degree to which the required projected expenditures identified in Plant & Equipment Asset Management Plan are incorporated into the Long Term Financial 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, and
- The Asset Renewal Funding Ratio achieving the target of 1.0.

## 9. REFERENCES

- IPWEA, 2006, 'International Plant & Equipment Management Manual', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/IIMM](http://www.ipwea.org/IIMM)
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/namsplus](http://www.ipwea.org/namsplus).
- IPWEA, 2015, 2nd edn., 'Australian Plant & Equipment Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/AIFMM](http://www.ipwea.org/AIFMM).
- IPWEA, 2015, 3rd edn., 'International Plant & Equipment Management Manual', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/IIMM](http://www.ipwea.org/IIMM)

## 10. APPENDICES

Appendix A	Plant and Equipment – Fair Value
Appendix B	Projected 10-year Capital Renewal and Replacement Works Program
Appendix C	Projected Plant Replacement Schedule
Appendix D	Projected Maintenance Schedule
Appendix E	Budgeted Expenditures accommodated in LTFP
Appendix F	Abbreviations
Appendix G	Glossary

## Appendix A: Plant and Equipment – Fair Value

Shire of Toodyay Fair Value - Plant & Equipment As At 30 June 2016							
Plant #	Asset #	Rego #	Description	Date of Purchase	Purchase Cost	WDV	FVA
P278	278	T4087	Cusbm Pig Trailer	30.11.97	12,750.00	8,981.25	55,000.00
P422	693	1TPH749	8 x 5 Trailer with water tank and blaster - Graffiti Removal	11.06.14	15,750.00	9,708.99	6,000.00
	831		Perkins Diesel Generator 30KVA	02.07.12	16,564.00	13,771.00	13,000.00
P251	BF018	T5491	Isuzu FSS550 Fire Tender	18.02.02	35,000.00	30,623.49	120,000.00
P263	BF020	T0021	Mitsubishi Canter	12.03.04	85,000.00	68,698.73	44,000.00
P270	BF022	T4533	Cusbm Flat Top Trailer		0.00	0.00	1,000.00
P214	BF026	T5779	Toyota Landcruiser 90 Series	29.05.05	20,000.00	12,770.76	34,545.00
P302	BF028	T7124	Isuzu F3 FSS550 Crew Cab Tender	27.01.06	200,000.00	140,558.79	155,700.00
P375	BF034	T7093	Isuzu FSS550 Crew Cab Fire	19.10.09	260,000.00	183,637.28	170,000.00
P376	BF035	1DBE116	Mitsubishi Canter 600 Fire Tender	19.10.09	100,000.00	69,687.19	81,000.00
P397	BF037	1DTG102	Isuzu Cusbm Water Tank	02.11.11	390,000.00	276,733.73	304,000.00
P412	BF038	1DZD973	Isuzu Fire Tender	28.11.12	234,571.04	167,262.15	115,000.00
P511	BF039	T7168	Toyota Hilux Ute	01.01.11	30,000.00	12,493.34	18,000.00
P424	BF040	1EGD070	ISUZU NPS300 SES TRUCK - MORANGUP	18.12.14	175,578.22	149,265.60	110,000.00
P513	BF041	1EQJ494	Isuzu Fire Truck 4.4 - Toodyay Central Fire Brigade	23.04.15	352,863.84	305,529.94	200,000.00
	FWT01		Fire Water Tanks	30.06.11	52,500.00	52,500.00	40,000.00
P266	MV053	1BG1519	Toyota Coaster Bus	1993	27,290.00	15,837.83	20,500.00
P391	MV124	T7168	Toyota Hilux 4x4 T/D - July 2010	16.09.10	44,318.10	34,497.46	30,000.00
P398	MV128	T7030	Toyota Hilux 4 x 2 Single Cab Workmate Utility	31.03.12	20,000.00	8,991.80	18,000.00
P417	MV138	T0026	Mitsubishi Triton Ute Dual Cab	11.02.14	30,765.36	16,436.47	27,545.00
P418	MV139	T1184	Mitsubishi MN Triton 4x4 GLX D 2.5 Ltr 4 Cylinder	19.02.14	28,264.45	21,697.89	27,545.00
P420	MV140	T0014	Mitsubishi Triton Tray Top GL	02.04.14	24,782.02	14,041.01	27,545.00
P419	MV141	T0016	Mitsubishi Triton Tray Top	02.04.14	24,782.02	14,041.01	27,545.00
P423	MV142	T0000	Nissan Pathfinder Wagon	10.10.14	30,490.15	23,784.86	41,318.00
P425	MV143	1EPF060	Ford PX Ranger Double Cab	29.10.14	39,642.27	27,108.84	37,645.00
P427	MV144	T000	MY14 Subaru Forester	19.11.14	30,211.14	18,656.49	34,891.00
P428	MV145	T020	Holden Colorado Ute	09.01.15	36,359.09	26,079.00	29,382.00
P429	MV146	T000	Holden Commodore Sedan	09.01.15	32,342.73	23,198.20	27,545.00
P430	MV147	T0003	Mitsubishi Triton Ute	09.01.15	31,165.46	22,353.83	26,627.00
P431	MV148	T0023	Mitsubishi Triton Ute	09.01.15	32,529.10	23,331.93	27,545.00
P432	MV149	T0024	Mitsubishi Triton Ute	09.01.15	19,529.09	14,007.52	16,527.00
P433	MV150	T0022	Mitsubishi Triton Ute	19.01.15	19,670.32	14,442.94	16,527.00
P434	MV151	T6177	Holden Commodore Evoke Sedan	30.03.15	28,991.82	21,732.02	27,545.00
P438	MV152	T0002	Mitsubishi Triton Super Cab	10.08.15	34,703.64	31,813.28	35,000.00
P440	MV153	T6480	Mitsubishi Triton Ute	02.10.15	22,093.64	20,810.42	21,000.00
P441	MV154	T0013	Mitsubishi Triton Ute	13.10.15	25,730.00	23,595.97	21,000.00
P442	MV155	T0015	Mitsubishi Triton Ute	15.10.15	22,366.36	20,511.29	21,000.00
P515	MV156	1EWM806	Mitsubishi Triton Ute Tray Top	13.01.16	35,408.83	32,479.14	21,118.00
P516	MV157	T0001	Mitsubishi Triton Ute	15.01.16	38,177.27	35,018.50	27,086.00
P446	MV158	T0	Ford Ranger WildTrak	08.01.16	46,466.79	42,622.18	58,359.00
	PE1		Waste Press	31.12.11	15,000.00	10,539.79	10,000.00
P510	PL0050	T4623	Karcher Road Broom - Model TB2000E Sewell - 2013	18.10.13	47,750.00	35,426.78	31,000.00
P290	PL020	T4573	Cusbm Traffic Signals	08.07.05	15,000.00	1,275.32	12,900.00
P311	PL024	T6098	Dynapaci CA302D Vibe Roller	17.08.06	86,000.00	67,201.77	45,000.00
P340	PL033	1TIL296	Roadwest Tri Axel Side Tipper Trailer	12.11.07	53,680.00	40,000.00	43,000.00
P349	PL036	1CSR493	Bomag MW24R Multi Tyred Roller	24.01.08	80,000.00	74,133.69	63,000.00
P351	PL037	1TIU352	Bobcat Tri Axle Trailer	11.02.08	5,000.00	3,355.96	5,000.00
P358	PL038	T0017	John Deere 670D Grader	01.10.10	264,000.00	185,677.46	120,000.00
P369	PL042	1TJR284	Roadwest Tri Axel Side Tipper Trailer	08.12.08	68,180.00	44,987.03	43,000.00
P386	PL044	T0005	John Deere 315SJ Backhoe	29.01.10	73,000.00	62,398.29	61,000.00
P400	PL046	T0006	JCB 436 ZX Front End Loader	30.03.12	195,000.00	156,603.53	145,000.00
P401	PL047	1TMX602	Bandit 990XP Mulcher/Chipper	03.04.12	35,000.00	25,248.30	52,000.00
	PL048		Generatr - Administration Office	30.06.12	14,000.00	9,245.77	13,000.00
P409	PL049	T0007	John Deere 670GP Grader	24.01.13	339,931.51	286,464.45	250,000.00
P407	PL050		167217 - Auto Lift Hydraulic Hoists	10.05.11	50,000.00	35,411.19	50,000.00
	PL054	1EQC583	Mustang 1900R Skid Steer Loader	05.11.14	65,500.00	59,097.73	53,000.00
	PL055	1EUJ568	2015 Kubota Ride on Mower	26.06.15	20,000.00	18,000.04	22,300.00
	PL056	T6475	2015 Kubota Tractor	17.07.15	39,500.00	35,874.70	30,000.00
	PL059	T6435	Kubota Front Deck Mower	24.09.15	27,700.00	26,091.13	27,700.00
	PL060	1TQV289	Coastmar Car Trailer	04.11.15	6,472.73	6,096.80	6,000.00
	PL061	1TRA386	Xplorer Oxley Float	25.11.15	9,092.00	8,638.70	10,500.00
	PL062	1EXQ260	Green Machine 636 Street Sweeper	18.12.15	127,452.01	121,096.89	122,000.00
P387	TR008	T6782	2009 Fuso Canter Tipper	10.02.10	65,000.00	36,360.69	32,000.00
P396	TR009	T0012	Nissan UD GW470 Prime Mover	24.06.11	126,900.00	107,465.31	117,000.00
P405	TR010	T0009	Mitsubishi Dual Cab Canter	15.08.12	70,000.00	40,862.96	36,000.00
	TR011	T0011	Mitsubishi Canter	30.06.13	169,600.00	129,336.04	112,000.00
	TR012	T0010	Hino 700 Series	30.06.14	207,840.00	172,384.94	135,000.00
					<b>4,983,255.00</b>	<b>3,848,587.38</b>	<b>3,783,440.00</b>

## Appendix B: Projected 10-year Capital Renewal and Replacement Works Program

<b>P&amp;E Forecast Renewal Plan</b>		
year	Network Renewal Projects	Estimate (\$'000)
2019	Boya Finishing Mower	\$11
2019	Light vehicle replacement (T0024, T0022, T0026, T1184, T0023, T020, T000,	\$387
2019	PL054 2014 MUSTANG 1900R SKID STEER LOADER	\$120
2019	Pig Trailer (Low Loader)	\$50
2019	Aerator (tow behind)	\$10
2019	PL055 2015 KUBOTA RIDE ON MOWER (TRACTOR)	\$25
2019	HINO 300 SERIES 717 XLONG CREW TRAY TOP (T6782)	\$80
		<b>\$683</b>
	<b>Network Renewal Projects</b>	<b>Estimate</b>
2020	PL059 KUBOTA FRONT DECK MOWER	\$35
2020	Light fleet replacement (T0015, T0013, T6480, T0, 1EWM806, T0002)	\$264
2020	GREEN MACHINE 636 AIR SWEEPER	\$140
		<b>\$439</b>
	<b>Network Renewal Projects</b>	<b>Estimate</b>
2021	Light fleet replacement (T7030, T6177, T7168)	\$119
		<b>\$119</b>
	<b>Network Renewal Projects</b>	<b>Estimate</b>
2022	Karcher Road Broom - Model TB2000E Sewell - 2013	\$50
2022	2015 L4240HDA KUBOTA TRACTOR MOWER	\$43
2022	Light fleet replacement (T0014, T0016, T0003, T00, T6177, T0000, T000)	\$184
		<b>\$277</b>
	<b>Network Renewal Projects</b>	<b>Estimate</b>
2023	TRI AXLE SIDE TIPPING TRAILER	\$100
2023	Light vehicle replacement (T0024, T0022, T0026, T1184, T0023, T020, CESM,	\$362
		<b>\$462</b>
	<b>Network Renewal Projects</b>	<b>Estimate</b>
2024	2008 TRI AXLE SIDE TIPPING TRAILER	\$100
2024	Light fleet replacement (T0015, T0013, T6480, T0, 1EWM806, T0002, T6177)	\$249
2024	New P&G Truck (Tipper) - Mechanics Truck	\$70
2024	PL055 2015 KUBOTA RIDE ON MOWER (TRACTOR)	\$25
2024	PL054 2014 MUSTANG 1900R SKID STEER LOADER	\$80
		<b>\$524</b>
	<b>Network Renewal Projects</b>	<b>Estimate</b>
2025	PL059 KUBOTA FRONT DECK MOWER	\$37
2025	Light fleet replacement (T7030, T000, T0000, T00)	\$79
		<b>\$116</b>
	<b>Network Renewal Projects</b>	<b>Estimate</b>
2026	2HSL Xplorer Oxley Float (Basic) - Stock Control	\$10
2026	Light fleet replacement (T0014, T0016, T0003)	\$218
2026	T0009 Maintenance truck	\$90
		<b>\$318</b>
	<b>Network Renewal Projects</b>	<b>Estimate</b>
2027	Light vehicle replacement (T0024, T0022, T0026, T1184, T0023, T020, CESM,	\$329
2027	T6782 2009 Fuso Canter (Gardeners)	\$90
		<b>\$419</b>
	<b>Network Renewal Projects</b>	<b>Estimate</b>
2028	Light fleet replacement (T0015, T0013, T6480, T0, 1EWM806, T0002, T000,	\$249
2028	T6818 Ride on Vacuum Sweeper	\$140
		<b>\$389</b>
	<b>TOTAL</b>	<b>\$3,746</b>

# Appendix C: Projected Plant Replacement Schedule

## SHIRE OF TOODYAY - PLANT REPLACEMENT SCHEDULE

Reg No.	ITEM	Purchase Date	IPWEA Recommended Terms		Current Kms / Hrs	2018/19	2018/19	2019/20	2019/20	2020/21	2020/21	2021/22	2021/22	2022/23	2022/23	2023/24	2023/24	2024/25	2024/25	2025/26	2025/26	2026/27	2026/27	2027/28	2027/28
			Yrs	Kms / Hrs			Trade		Trade		Trade		Trade		Trade		Trade		Trade		Trade		Trade		Trade
<b>Backhoes / Loaders / Tractors</b>																									
T0005	JCB 3CX Backhoe	2016/17	7	5,000 hr	106																				
T0006	JCB 436ZX FE Loader	2011/12	8	8,000 hr	3,582																				
T6344	Mustang Skid Steer Loader	2014/15	5	5,000 hr	1,182	120,000	25,000									80,000	25,000								
<b>Graders</b>																									
T0007	John Deere 670GP	2012/13	10	8,000 hr	4,767																				
T0017	John Deere 670D	2008/09	10	8,000 hr	9,740																				
<b>Trucks</b>																									
T0009	2011 Mitsubishi Canter Dual Cab	2012/13	8	200,000 km	93,829																				
T0010	2014 Hino FS2844 Tipper	2013/14	8	500,000 km	37,517																				
T0011	2012 Hino FS2844 Diesel Truck	2012/13	8	500,000 km	89,837																				
T0012	2010 UD Nissan GW470 Truck	2010/11	8	500,000 km	155,310																				
T6782	2009 Fuso Canter (Gardeners)	2015/16	6	150,000 km	10,521	80,000	30,000																		
	Mechanics Truck		6	150,000 km																					
<b>Trailers &amp; Dollies</b>																									
1TIL296	Side Tip Trailer - 1	2007/08	15																						
1TR183	Side Tip Trailer - 2	2008/09	15																						
T4133	Stock Float	2015/16	10																						
<b>Rollers &amp; Brooms</b>																									
1GEE285	Ammann Multi Tyred Roller	2016/17	10	5,000 hr	189																				
T6098	Dynapac Vibrating Roller	2006/07	8	5,000 hr	3,532																				
T4623	Tow Behind Sweeper	2013/14	8	8,000 hr	811																				
T6818	Ride on Vacuum Sweeper	2015/16	8	5,000 hr	502																				
<b>Ride On Mowers/Mulchers</b>																									
T6435	Kubota F2890 Front Deck Mower	2014/15	5	2,000 hr	493																				
T6361	Kubota BX2370 Tractor Mower	2014/15	5	2,000 hr	566	25,000	4,000																		
1TMX602	Bandit 990XP Chipper	2011/12	8	5,000 hr	403																				
T6475	Kubota Tractor	2014/15	7	5,000 hr	332																				
N/A	Boya Finishing Mower	2008/09	10			11,000	2,000																		
	Skid Steer Slasher attachment																								
	Skid Steer Profiler attachment																								
	Skid Steer Rake bucket																								
	Aerator (tow behind)					10,000	1,000																		
<b>Auto Traffic Signals</b>																									
T4573	One Set Solar Powered.	2005/06																							
<b>Trailers</b>																									
T-4087	Pig Trailer (Low Loader)	1996/97				50,000	5,000																		
1TIU352	Bobcat Tri Axle Trailer	2007/08																							
	Mower trailer	2015/16																							
<b>Compressors</b>																									
T-1851	Large Trailer Compressor	1989/90	20		738																				
<b>GROSS PURCHASE / TRADE</b>						296,000	107,000	175,000	108,000	0	85,000	93,000	106,500	100,000	165,000	275,000	141,000	37,000	8,000	100,000	23,000	90,000	40,000	140,000	30,000
<b>Nett Plant Replacement Program</b>						189,000		67,000		(85,000)		(13,500)		(65,000)		134,000		29,000		77,000					

**SHIRE OF TOODYAY - LIGHT VEHICLE REPLACEMENT SCHEDULE**

Reg No.	ITEM	Purchase Date	IPWEA Recommended Terms		Current Kms / Hrs	2018/19	2018/19	2019/20	2019/20	2020/21	2020/21	2021/22	2021/22	2022/23	2022/23	2023/24	2023/24	2024/25	2024/25	2025/26	2025/26	2026/27	2026/27	2027/28	2027/28
			Yrs	Kms / Hrs			Trade		Trade		Trade		Trade		Trade		Trade		Trade		Trade		Trade		Trade
T0	Ford Ranger Wildtrak (CEO)	Jan-16	4	120,000 km	46,240			60,000	30,000							60,000	30,000							60,000	30,000
T00	Subaru Forester (MCD)	Oct-17	4	120,000 km	17,055						42,000	20,000							42,000	20,000					
T000	Holden Commodore SV6 (MFA)	Jan-15	4	120,000 km	97,334	42,000	18,000							42,000	20,000						42,000	20,000			
T0000	Mitsubishi Pajero (MPD)	Dec-16	4	120,000 km	75,788					42,000	17,000						42,000	17,000							
T0001	Mitsubishi Triton Cab Chassis (R2)	Aug-15	4	120,000 km	115,352	50,000	10,000							35,000	12,000							35,000	12,000		
T0002	Mitsubishi Triton Dual Cab (R1)	Jan-16	4	120,000 km	52,865			50,000	12,000							35,000	12,000						35,000	12,000	
T0003	Mitsubishi Triton 4x4 Dual Cab (WS)	Jan-18	4	120,000 km	2,795						36,000	17,000							36,000	17,000					
T0013	Mitsubishi Triton GL Utility (P&G)	Oct-15	4	120,000 km	61,949			40,000	12,000							40,000	12,000						40,000	12,000	
T0014	Mitsubishi Triton GL Utility	Mar-18	4	120,000 km	0						35,000	10,000							35,000	10,000					
T0015	Mitsubishi Triton Utility	Oct-15	4	120,000 km	23,218			37,000	8,000							37,000	12,000						37,000	12,000	
T0016	Mitsubishi Triton GL Utility (P&G)	Feb-18	4	120,000 km	2,889						41,000	15,000						41,000	15,000						
T0022	Mitsubishi Triton GL Utility (Grader)	Jan-15	4	120,000 km	70,190	37,000	7,000							37,000	10,000						37,000	10,000			
T0023	Mitsubishi Triton 4x4 D/Cab (Constr)	Jan-15	4	120,000 km	58,028	35,000	12,000							35,000	15,000						35,000	15,000			
T0024	Mitsubishi Triton GL Utility (Grader)	Jan-15	4	120,000 km	47,541	37,000	8,000							37,000	12,000						37,000	12,000			
T0026	Mitsubishi Triton 4x4 Dual Cab (WC)	Feb-14	4	120,000 km	82,821	36,000	17,000							36,000	17,000						36,000	17,000			
T020	Holden Colorado Dual Cab (MWS)	Jan-15	4	120,000 km	114,292	42,000	20,000							42,000	20,000						42,000	20,000			
T1184	Mitsubishi Triton 4x4 Dual Cab (BS)	Mar-14	4	120,000 km	66,365	33,000	16,000							33,000	16,000										
T6177	Toyota Camry (PO)	Apr-18	4	120,000 km	72						30,000	15,000							34,000	18,000					
T6480	Mitsubishi Triton GL Utility	Oct-15	4	120,000 km	18,448			37,000	8,000							37,000	18,000			30,000	15,000			37,000	18,000
1EPP060	Ford Ranger Utility (CESM)	Oct-14	4	120,000 km	90,237	75,000	20,000							65,000	18,000							65,000	20,000		
1EWM806	Mitsubishi Triton Utility (RMO)	Jan-16	4	120,000 km	41,299			40,000	18,000							40,000	16,000						40,000	16,000	
T7168	* Toyota Hilux Utility (Fire Support)	Sep-10	4	120,000 km						40,000	18,000														
T7030	Toyota Hilux 4x2 Cab Chassis (BMO)	Dec-16	4	120,000 km	27,088					37,000	15,000						37,000	15,000							
	<b>GROSS PURCHASE / TRADE</b>					<b>387,000</b>	<b>128,000</b>	<b>264,000</b>	<b>88,000</b>	<b>119,000</b>	<b>50,000</b>	<b>184,000</b>	<b>77,000</b>	<b>362,000</b>	<b>140,000</b>	<b>249,000</b>	<b>100,000</b>	<b>79,000</b>	<b>32,000</b>	<b>218,000</b>	<b>95,000</b>	<b>329,000</b>	<b>126,000</b>	<b>249,000</b>	<b>100,000</b>
	<b>Nett Vehicle Replace. Program</b>					<b>259,000</b>		<b>176,000</b>		<b>69,000</b>		<b>107,000</b>		<b>222,000</b>		<b>149,000</b>		<b>47,000</b>		<b>123,000</b>					



## Appendix D: Projected Maintenance Schedule

Forecast Maintenance Plan				
Year	Item No.	Projects	Budget \$'000	
2019	1	Fuel		\$190
2019	2	Parts/repairs		\$220
2019	3	Insurance & licensing		\$80
2019	4	other leases plant & equipment	▼	\$86
2019		<b>Total</b>		<b>\$576</b>
Forecast Maintenance Plan				
Year	Item No.	Projects	Budget \$'000	
2020	1	Fuel	▼	\$194
2020	2	Parts/repairs	▼	\$224
2020	3	Insurance & licensing	▼	\$82
2020	4	other leases plant & equipment	▼	\$157
2020		<b>Total</b>		<b>\$656</b>
Forecast Maintenance Plan				
Year	Item No.	Projects	Budget \$'000	
2021	1	Fuel	▼	\$198
2021	2	Parts/repairs	▼	\$229
2021	3	Insurance & licensing	▼	\$83
2021	4	other leases plant & equipment	▼	\$191
2021		<b>Total</b>		<b>\$700</b>
Forecast Maintenance Plan				
Year	Item No.	Projects	Budget \$'000	
2022	1	Fuel	▼	\$202
2022	2	Parts/repairs	▼	\$233
2022	3	Insurance & licensing	▼	\$85
2022	4	other leases plant & equipment	▼	\$227
2022		<b>Total</b>		<b>\$746</b>
Forecast Maintenance Plan				
Year	Item No.	Projects	Budget \$'000	
2023	1	Fuel	▼	\$206
2023	2	Parts/repairs	▼	\$238
2023	3	Insurance & licensing		\$87
2023	4	other leases plant & equipment		\$290
2023		<b>Total</b>		<b>\$820</b>
Forecast Maintenance Plan				
Year	Item No.	Projects	Budget \$'000	
2024	1	Fuel		\$210
2024	2	Parts/repairs		\$243
2024	3	Insurance & licensing		\$88
2024	4	other leases plant & equipment		\$315
2024		<b>Total</b>		<b>\$855</b>
Forecast Maintenance Plan				
Year	Item No.	Projects	Budget \$'000	
2025	1	Fuel		\$214
2025	2	Parts/repairs		\$248
2025	3	Insurance & licensing		\$90
2025	4	other leases plant & equipment		\$320
2025		<b>Total</b>		<b>\$871</b>
Forecast Maintenance Plan				
Year	Item No.	Projects	Budget \$'000	
2026	1	Fuel		\$218
2026	2	Parts/repairs		\$253
2026	3	Insurance & licensing		\$92
2026	4	other leases plant & equipment		\$322
2026		<b>Total</b>		<b>\$884</b>
Forecast Maintenance Plan				
Year	Item No.	Projects	Budget \$'000	
2027	1	Fuel		\$223
2027	2	Parts/repairs		\$258
2027	3	Insurance & licensing		\$94
2027	4	other leases plant & equipment		\$322
2027		<b>Total</b>		<b>\$896</b>
Forecast Maintenance Plan				
Year	Item No.	Projects	Budget \$'000	
2028	1	Fuel		\$227
2028	2	Parts/repairs		\$263
2028	3	Insurance & licensing		\$96
2028	4	other leases plant & equipment		\$322
2028		<b>Total</b>		<b>\$907</b>
		<b>Total</b>		<b>\$7,912</b>

## Appendix E: Budgeted Expenditures accommodated in LTFP

Reg No.	ITEM	2019/20	2019/20 Trade	2020/21	2020/21 Trade	2021/22	2021/22 Trade	2022/23	2022/23 Trade	2023/24	2023/24 Trade	2024/25	2024/25 Trade	2025/26	2025/26 Trade	2026/27	2026/27 Trade	2027/28	2027/28 Trade
	<b>Backhoes / Loaders / Tractors</b>																		
T0005	JCB 3CX Backhoe									33,000	50,000	33,000		33,000		33,000		33,000	
T0006	JCB 436ZX FE Loader	45,800	70,000	45,800		45,800		45,800		45,800		50,400		50,400		50,400		50,400	
T6344	Mustang Skid Steer Loader									80,000	25,000								
	<b>Graders</b>																		
T0007	John Deere 670GP							59,000	125,000	59,000		59,000		59,000		59,000		65,000	
T0017	Komatsu GD655-5	53,500		53,500		53,500		59,000		59,000		59,000		59,000		59,000		65,000	
	<b>Trucks</b>																		
T0009	2017 Isuzu NQR 87/190 Crew Cab													90,000	20,000				
T0010	2014 Hino FS2844 Tipper					43,000	85,000	43,000		43,000		43,000		43,000		47,300		47,300	
T0011	2012 Hino FS2844 Diesel Truck			35,700	85,000	35,700		35,700		35,700		35,700		39,300		39,300		39,300	
T0012	2010 UD Nissan GW470 Truck	35,000		35,000		35,000		38,500		38,500		38,500		38,500		38,500		42,500	
T6782	2016 Hino															90,000	40,000		
	Mechanics Truck									70,000	20,000								
	<b>Trailers &amp; Dollys</b>																		
1TIL296	Side Tip Trailer - 1							100,000	40,000										
1TJR183	Side Tip Trailer - 2									100,000	40,000								
T4133	Stock Float													10,000	3,000				
	<b>Rollers &amp; Brooms</b>																		
1GEE285	Ammann Multi Tyred Roller															27,400	30,000	27,400	
T6098	Dynapac Vibrating Roller	29,000	30,000	29,000		29,000		29,000		29,000		31,900		31,900		31,900		31,900	
T4623	Tow Behind Sweeper					50,000	10,000												
T6818	Ride on Vacuum Sweeper			140,000	30,000													140,000	30,000
	Grader Compaction Roller																		
	<b>Ride On Mowers/Mulchers</b>																		
T6435	Kubota F2890 Front Deck Mower	35,000	8,000									37,000	8,000						
T6361	Kubota BX2370 Tractor Mower									23,000	6,000								
1TMX602	Bandit 990XP Chipper																		
T6475	Kubota Tractor					43,000	11,500												
N/A	Boya Finishing Mower																		
	Skid Steer Slasher attachment																		
	Skid Steer Profiler attachment																		
	Skid Steer Rake bucket																		
	Aerator																		
	<b>Auto Traffic Signals</b>																		
T4573	One Set Solar Powered.																		
	<b>Trailers</b>																		
T-4087	Pig Trailer (Low Loader)																		
	Skid Steer Trailer																		
	Mower trailer																		
	<b>Compressors</b>																		
T-1851	Large Trailer Compressor																		
	<b>GROSS PURCHASE / TRADE</b>	35,000	108,000	140,000	115,000	93,000	106,500	100,000	165,000	273,000	141,000	37,000	8,000	100,000	23,000	90,000	70,000	140,000	30,000
	<b>Nett Plant Replacement Program</b>	(73,000)		25,000		(13,500)		(65,000)		132,000		29,000		77,000		20,000		110,000	
	<b>Operational Costs / Leasing</b>	163,300		199,000		242,000		310,000		343,000		350,500		354,100		385,800		401,800	

SHIRE OF TOODYAY - LIGHT VEHICLE REPLACEMENT SCHEDULE																			
Reg No.	ITEM	2019/20	2019/20 Trade	2020/21	2020/21 Trade	2021/22	2021/22 Trade	2022/23	2022/23 Trade	2023/24	2023/24 Trade	2024/25	2024/25 Trade	2025/26	2025/26 Trade	2026/27	2026/27 Trade	2027/28	2027/28 Trade
T0	Ford Ranger Wildtrak (CEO)	60,000	30,000							60,000	30,000							60,000	30,000
T00	Subaru Forester (MCD)					42,000	20,000							42,000	20,000				
T000	Holden Commodore SV6 (MFA)							42,000	20,000							42,000	20,000		
T0000	Mitsubishi Pajero (MPD)			42,000	17,000							42,000	17,000						
T0001	Mitsubishi Triton Cab Chassis (R2)							35,000	12,000							35,000	12,000		
T0002	Mitsubishi Triton Dual Cab (R1)	50,000	12,000							35,000	12,000							35,000	12,000
T0003	Mitsubishi Triton 4x4 Dual Cab (WS)					36,000	17,000							36,000	17,000				
T0013	Mitsubishi Triton GL Utility (P&G)	37,000	10,000							37,000	12,000							37,000	12,000
T0014	Mitsubishi Triton GL Utility					35,000	10,000							35,000	10,000				
T0015	Mitsubishi Triton Utility	37,000	8,000							37,000	12,000							37,000	12,000
T0016	Mitsubishi Triton GL Utility (P&G)					41,000	15,000							41,000	15,000				
T0022	Mitsubishi Triton GL Utility (Grader)																		
T0023	Mitsubishi Triton 4x4 D/Cab (Constr)							35,000	15,000							35,000	15,000		
T0024	Mitsubishi Triton GL Utility (Grader)	37,000	8,000							37,000	12,000							37,000	12,000
T0026	Mitsubishi Triton 4x4 Dual Cab (WC)							36,000	17,000							36,000	17,000		
T020	Holden Colorado Dual Cab (MWS)							42,000	20,000							42,000	20,000		
T1184	Mitsubishi Triton 4x4 Dual Cab (BS)							33,000	16,000					34,000	18,000				
T6177	Toyota Camry (PO)					30,000	15,000							30,000	15,000				
T6480	Mitsubishi Triton GL Utility	37,000	8,000							37,000	18,000							37,000	18,000
1EPF060	Ford Ranger Utility (CESM)							65,000	18,000							65,000	20,000		
1EWM806	Mitsubishi Triton Utility (RMO)	40,000	18,000							40,000	16,000							40,000	16,000
T7168	Toyota Hilux Utility (Fire Support)			40,000	18,000														
T7030	Toyota Hilux 4x2 Cab Chassis (BMO)			37,000	15,000							37,000	15,000						
	<b>GROSS PURCHASE / TRADE</b>	<b>298,000</b>	<b>94,000</b>	<b>119,000</b>	<b>50,000</b>	<b>184,000</b>	<b>77,000</b>	<b>288,000</b>	<b>118,000</b>	<b>283,000</b>	<b>112,000</b>	<b>79,000</b>	<b>32,000</b>	<b>218,000</b>	<b>95,000</b>	<b>255,000</b>	<b>104,000</b>	<b>283,000</b>	<b>112,000</b>
	<b>Nett Vehicle Replace. Program</b>	<b>204,000</b>		<b>69,000</b>		<b>107,000</b>		<b>170,000</b>		<b>171,000</b>		<b>47,000</b>		<b>123,000</b>		<b>151,000</b>		<b>171,000</b>	
	<b>TOTAL GROSS PURCHASE</b>	<b>333,000</b>		<b>259,000</b>		<b>277,000</b>		<b>388,000</b>		<b>556,000</b>		<b>116,000</b>		<b>318,000</b>		<b>345,000</b>		<b>423,000</b>	
	<b>TOTAL GROSS PROCEEDS</b>		<b>202,000</b>		<b>165,000</b>		<b>183,500</b>		<b>283,000</b>		<b>253,000</b>		<b>40,000</b>		<b>118,000</b>		<b>174,000</b>		<b>142,000</b>

## Appendix F: 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
RV	Residual value

## Appendix G: 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, and 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. Plant & Equipment 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.

### **Plant & Equipment 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 a Plant & Equipment 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 \*