Plant & Machinery

Asset Management Plan

Final Version 1.6

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Asset Management for Small, Rural or Remote Communities Practice Note

The Institute of Public Works Engineering Australia.

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TABLE OF CONTENTS

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1. EXECUTIVE SUMMARY

Context

The Mid Murray Council is situated along the River Murray, from Cadell to Wall Flat and including 25km of the Eastern aspect of the Mount Lofty Ranges.

Council operates its own day labour crews from three depots located at Mannum, Cambrai and Morgan. Councils crews undertake a wide variety of civil construction and maintenance activities. To undertake these activities effectively, a large fleet of plant and machinery is required. An asset management plan needs to be implemented in order for costs, risks and life cycles are managed properly.

The Councils plant and machinery assets have a replacement value of $12,454,000.

What does it Cost?

The projected cost to provide the services covered by this Asset Management Plan includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is $36,970,000 or $3,369,300 per year.

Council's estimated available funding for this period is $36,970,000 or $3,697,000 per year which is 100% of the cost to provide the service. This is no funding shortfall. The asset consumption is inclusive of the residual (trade-in).

Plant & Machinery

Executive Summary - What does it cost?	($000)
Projected - 10 year total cost [10 yr Ops, Maint, Renewal & Upgrade Proj Exp]	**$36,970**
10 year average cost	**$3,697**
Planned - 10 year total LTFP budget [10 yr Ops, Maint, Renewal & Upgrade LTFP Budget]	**$36,970**
10 year average LTFP budget	**$3,697**
10 year AM financial indicator	**100%**
10 year average funding shortfall	**$0**

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

What we will do

Council plans to provide Plant & Machinery services for the following:

- Operation, maintenance, renewal and upgrade of sealed & unsealed roads, kerbing, footpaths, marine facilities, open space and buildings to meet service levels set by council in annual budgets.
- Council plans to continue to maintain the majority of its plant & machinery assets by implementing a renewal and maintenance program to ensure service levels are met and risks are mitigated within the 10 year planning period.
- Reduce any financial impacts of peak renewals by monitoring medium to long term financial obligations.

Questions you may have

What is this plan about?

This asset management plan covers the infrastructure assets that serve the Mid Murray Councils Plant & Machinery needs. These assets include road construction machinery, earthmoving equipment, trailers, mowers and road vehicles.

What is an Asset Management Plan?

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

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

What can we do?

Council can develop options and priorities for future plant and machinery services with costs of providing the services, consult with the community to plan future services to match the community services needs with ability to pay for services and maximise benefit to the community for costs to the community.

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2. INTRODUCTION

2.1 Background

This asset management plan is to demonstrate responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed to provide the required levels of service.

The asset management plan is to be read with Council's Asset Management Policy, Asset Management Strategy and the following associated planning documents:

- Asset Accounting Policy (2016)
- Strategic Management Plan
- Long Term Financial Plan

The assets covered by this asset management plan are shown in Table 2.1.1 & 2.1.2.

Table 2.1.1: Assets covered by this Plan (grouped by Budget categories)

Asset category	Quantity	Replacement Value	Residual Value
ADMINISTRATION VEHICLES	16	$602,200	$116,875
DEPOT VEHICLES	17	$674,350	$128,720
MAJOR PLANT	84	$11,125,068	$1,889,535
MINOR PLANT	3	$52,500	$7,875
TOTAL	**120**	**$12,454,118**	**$2,143,005**

Table 2.1.2: Assets covered by this Plan (grouped by Asset Classes)

Asset category	Quantity	Replacement Value	Residual Value
Backhoe	2	$240,000	$48,000
Excavator < 7T	1	$70,000	$14,000
Excavator > 7T	1	$271,000	$54,200
Front End Loader > 7T	6	$1,514,000	$201,250
Grader	6	$2,250,000	$562,500
Landfill Compactor	1	$545,568	$81,835
Light Commercial Vehicle	21	$843,350	$163,270
Miscellaneous	9	$272,500	$30,975

Non Commercial Vehicle	18	$688,200	$133,700
Ride-on Mower	4	$210,000	$21,000
Self Propelled Roller < 3T	1	$40,000	$6,000
Self Propelled Roller > 3T	2	$280,000	$56,000
Semi Primemover	5	$1,050,000	$210,000
Semi Trailer Other	4	$400,000	$40,000
Semi Trailer Tipping Body	6	$1,260,000	$252,000
Single Axle Truck	13	$1,520,500	$196,925
Skid Steer Loader	2	$140,000	$28,000
Small Bus	1	$57,000	$8,550
Static Roller	10	$300,000	$0
Street Sweeper	1	$110,000	$16,500
Tandem Truck	2	$473,000	$94,600
Tractor < 100Hp	2	$117,0000	$21,300
Twin Steer Hooklift Truck	1	$260,000	$65,000
TOTAL	**120**	**$12,454,118**	**$2,143,005**

**** It should be noted based on the Asset Accounting Policy, the capitalisation threshold excludes some minor plant and equipment and the renewal for these items will be costed within the maintenance budget.***

2.2 Goals and Objectives of Asset Management

The Council exists to provide services to its community. Some of these services are provided by infrastructure assets. Council has acquired infrastructure assets by 'purchase', by contract, construction by council staff and by donation of assets constructed by developers and others to meet increased levels of service.

Council's goal in managing infrastructure assets is to meet the required level of service in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Taking a life cycle approach,
- Developing cost-effective management strategies for the long term,
- Providing a defined level of service and monitoring performance,
- Understanding and meeting the demands of growth through demand management and infrastructure investment,
- Managing risks associated with asset failures,
- Sustainable use of physical resources,

- Continuous improvement in asset management practices.[1]

The goal of this asset management plan is to:

- Document the services/service levels to be provided and the costs of providing the service,
- Communicate the consequences for service levels and risk, where desired funding is not available, and
- Provide information to assist decision makers in trading off service levels, costs and risks to provide services in a financially sustainable manner.

[1] IPWEA, 2006, *IIMM* Sec 1.1.3, p 1.3.

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

Council's vision is:

We celebrate our rich and diverse country lifestyle built on a strong economy. Our aim is to encourage a continuing vibrant community, family spirit, the ongoing protection of the River Murray and maintain our precious national, cultural and built heritage.

Council's mission is:

- ***Proactive in planning for and facilitating business and industry investment and economic growth***
- ***Committed to the protection of our natural and built environment***
- ***Open and inclusive in encouraging community involvement and partnership in Council plans and policies***
- ***Advocates for and providers of services and facilities that support community wellbeing***
- ***An efficient and responsible manager of Council assets, infrastructure and resources in partnership with the community***
- ***A professional organisation that attracts and retains high quality staff and Elected Members***

Relevant goals and objectives and how these are addressed in this asset management plan are shown in Table 2.2.

Table 2.2: Organisation Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in AMP
Maintain, renew and upgrade the Mid Murray Councils plant and machinery assets to meet the needs of the services required by the community	Plan to deliver infrastructure suitable for the communities needs	The plant and machinery asset management plan will document all strategies and funding to provide renewal and upgrade requirements and ensure financial sustainability

2.3 Plan Framework

Key elements of the plan are

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

2.4 Core and Advanced Asset Management

This asset management plan is prepared as a first cut 'core' asset management plan in accordance with the International Infrastructure Management Manual[2]. It is prepared to meet minimum legislative and organisational

[2] IPWEA, 2006.

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.

2.5 Community Consultation

This 'core' asset management plan is prepared to facilitate community consultation initially through feedback on public display of draft asset management plans prior to adoption by Council. Future revisions of the asset management plan will incorporate community consultation on service levels and costs of providing the service. This will assist Council and the community in matching the level of service needed by the community, service risks and consequences with the community's ability to pay for the service.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

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

3.2 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations. Relevant legislation is shown in Table 3.2.

Table 3.2: Legislative Requirements

Legislation	Requirement
Local Government Act	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Development Act 1993	Identifies the laws and regulations that must be considered when undertaking planning for building and construction development.
Local Government (Financial Management and Rating Amendment Act 2005)	The driver for development of a strategic management plan which comprises of asset management plans and long-term financial plan
Occupational Health and Safety and Welfare Act 1986	The act provides the framework for the welfare, health and safety of persons at work
Australian Accounting Standards	Establishes the financial reporting standards for the valuation, revaluation and depreciation of assets
National Asset Management Framework Legislation 2010	Focuses on long term financial sustainability and provides a mandate to have long term strategy, financial statements and annual reporting mechanisms. AM plans are likely to be audited

3.3 Current Levels of Service

Council has defined service levels in two terms.

Community Levels of Service relate to the service outcomes that the community wants in terms of safety, quality, quantity, reliability, responsiveness, cost effectiveness and legislative compliance.

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

Function	Does it meet users' needs?
Safety	Is the service safe?

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the council undertakes to best achieve the desired community outcomes.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleansing frequency, mowing frequency, etc.
- Maintenance – the activities necessary to retain an assets as near as practicable to its original condition (eg road patching, unsealed road grading, building and structure repairs),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (eg frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade – the activities to provide an higher level of service (eg widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (eg a new library).

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

Table 3.3: Current Service Levels

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
COMMUNITY LEVELS OF SERVICE				
Quality	Ensure plant & machinery is operational and fit for purpose to meet service levels expected by the public	Monitor maintenance failures and reactive maintenance	Ensure plant or machinery is available when required	Sufficiently managed if not monitored
Function	Ensure machinery is available to meet maintenance and construction operations as required	Machinery use to be monitored	Machinery is always available when required	Machinery is shared between works when individual units are not available
Safety	Assets are operated, maintained and services to industry standards	Regular audits and inspections conducted	No injuries or deaths	To be identified
TECHNICAL LEVELS OF SERVICE				
Operations	Plant performs at the level expected	Feedback from operators	Performance exceeded expectations	Performance meets expectation
Maintenance	Asset maintained sufficiently to fulfil and possibly exceed useful life	Monitor maintenance failures and reactive maintenance	As per manufacturers specifications	As per manufacturers specifications
Renewal	Replace asset once it has reached its useful life or failed to meet purpose	Meeting programmed renewal program	Maximum useful life is reached without compromise in safety and performance	To be identified
Upgrade/New	Improvements in value and/or performance reviewed at every renewal	Continually seek industry information regarding plant products, costs & standards	Improve upon the cost, efficiency and/or performance at the renewal of each asset	To be identified

3.4 Desired Levels of Service

Plant items are programmed to be renewed only. Any proposed upgrades, are to be approved by Council.

4. FUTURE DEMAND

4.1 Demand Forecast

Factors affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership, consumer preferences and expectations, economic factors, agricultural practices, environmental awareness, etc.

For the lifetime of this plan Council believes these factors will remain relatively stable.

4.2 Changes in Technology

Technology changes forecast to affect the delivery of services covered by this plan are detailed in Table 4.2.

Table 4.2: Changes in Technology and Forecast effect on Service Delivery

Technology Change	Effect on Service Delivery
Mobile Workforce Manager	Plant and machinery use and maintenance will be managed more efficiently
Hybrid (combustion/electric)	Short term cost to offset longer term environmental benefits

4.3 Demand Management Plan

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

Non-asset solutions focus on providing the required service without the need for the council to own the assets. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another council area or public toilets provided in commercial premises.

Further opportunities will be developed in future revisions of this asset management plan.

5. LIFECYCLE MANAGEMENT PLAN

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

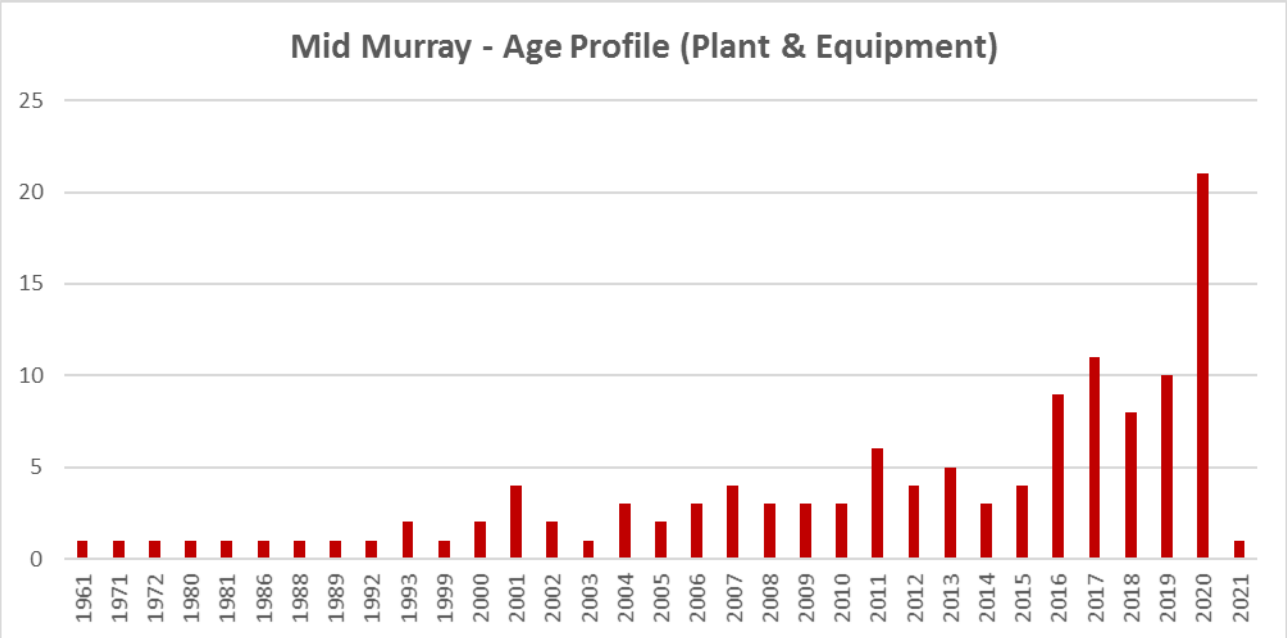
5.1 Background Data

5.1.1 Physical parameters

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

The age profile of the assets include in this AM Plan is shown in Figure 2. The age for each asset is determined by the manufactured year not the acquisition date. Any reference to asset age or acquisition date can be assumed to be manufactured year. Many plant items manufactured prior to 1993 have been refurbished and consist primarily of Static Rollers and Semi Trailers.

Figure 2: Asset Age Profile



5.1.2 Asset capacity and performance

Council's services are generally provided to meet design standards where these are available.

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

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Utilisation	Under-utilisation of plant and machinery as a result of staffing, seasonal weather and conditions and work flow management
Maintenance Facilities	Review maintenance facilities to ensure they meet current and future requirements

5.1.3 Asset condition

Asset condition information is not currently available.

5.1.4 Asset valuations

The value of assets recorded in the asset register as at 30th January 2017 covered by this asset management plan is shown below.

Current Replacement Cost	$12,454,118
Depreciable Amount	$6,944,405
Depreciated Replacement Cost	$5,509,713
Annual Depreciation Expense	$1,077,825

Council is currently renewing assets at 100% of the rate they are being consumed. To provide services in a financially sustainable manner, Council will need to ensure that it is renewing assets at the rate they are being consumed over the medium-long term and funding the life cycle costs for all new assets and services in its long term financial plan.

5.2 Risk Management Plan

An assessment of risks[3] associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock' to the organisation. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

Critical risks, being those assessed as 'Extreme' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified in the Infrastructure Risk Management Plan are summarised in Table 5.2. The ratings are based on Council's Risk Management Framework Risk Matrix.

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating	Risk Treatment Plan
Entire Register	Increase in renewal cost or maintenance cost exceeds budgeted/expected values	Medium	Monitor costs throughout the assets life and explore purchasing alternatives to remain within budget
Entire Register	Injury to operators	High	Maintain training and certificate registers as per OH&S practices

5.3 Routine Maintenance Plan

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

5.3.1 Maintenance plan

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

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

Actual past maintenance expenditure is shown in Table 5.3.1.

Table 5.3.1: Maintenance Expenditure Trends

Year	Maintenance Expenditure (not inc depreciation)
2018/2019	$2,284,111
2019/2020	$2,430,184
2020/2021(YTD – Apr 2021)	$1,678,196

Current maintenance expenditure levels are considered to be adequate to meet required service levels. Future revision of this asset management plan will include linking required maintenance expenditures with required service levels. Future maintenance budgets have been formed by taking the historic average annual cost for maintenance per plant category per item. Assessment and prioritisation of reactive maintenance is undertaken by operational staff using experience and judgement.

5.3.2 Standards and specifications

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

- Manufacturers specification
- Relevant standards and codes of practice

5.3.3 Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in 2021 dollar values.

Deferred maintenance, ie works that are identified for maintenance and unable to be funded are to be included in the risk assessment process in the infrastructure risk management plan.

Maintenance is funded from the operating budget and grants where available. This is further discussed in Section 6.2.

5.4 Renewal/Replacement Plan

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

5.4.1 Renewal plan

Assets requiring renewal are identified from one of three methods provided in the 'Expenditure Template".

- Method 1 uses Asset Register data to project the renewal costs for renewal years using acquisition year and useful life, or

- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as Pavement Management Systems), or
- Method 3 uses a combination of average *network renewals* plus *defect repairs* in the *Renewal Plan* and *Defect Repair Plan* worksheets on the *'Expenditure template'*.

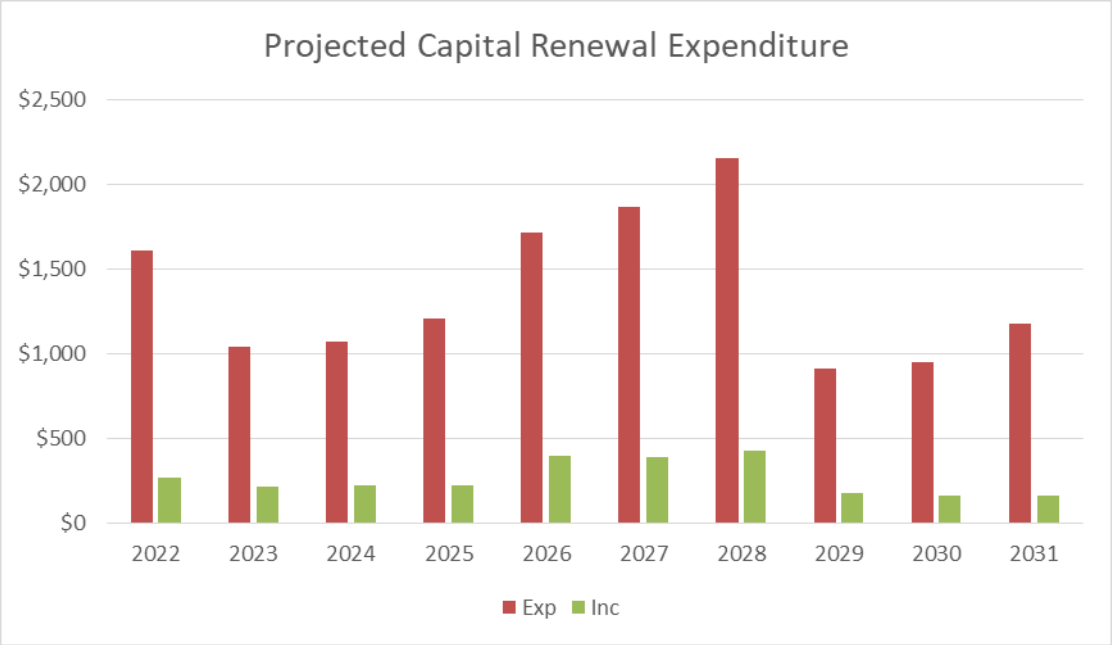
Method One was used for this asset management plan.

5.4.3 Summary of projected renewal expenditure

Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs are summarised in Figure 5. Note that all costs are shown in 2021 dollar values.

The projected capital renewal program is shown in Appendix B.

Figure 5: Projected Capital Renewal Expenditure



Deferred renewal, ie those assets identified for renewal and not scheduled for renewal in capital works programs are to be included in the risk assessment process in the risk management plan.

Renewals are to be funded from capital works programs and grants where available. This is further discussed in Section 6.2.

5.5 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to the Council from land development. These assets from growth are considered in Section 4.4.

5.5.2 Standards and specifications

Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.4.2.

5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6, together with estimated annual savings from not having to fund operations and maintenance of the assets. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any.

Where cashflow projections from asset disposals are not available, these will be developed in future revisions of this asset management plan.

6. FINANCIAL SUMMARY

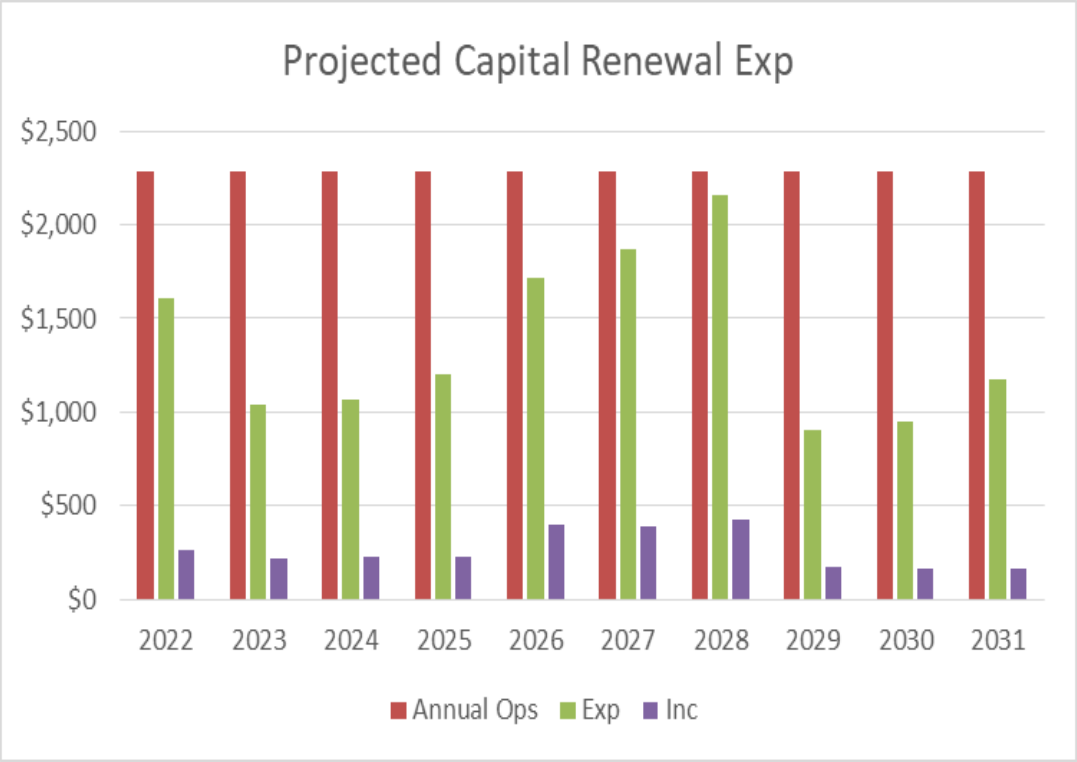
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

6.1 Financial Statements and Projections

The financial projections are shown in Figure 7a for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets), net disposal expenditure and estimated budget funding.

Note that all costs are shown in 2021 dollar values.

Figure 7a: Projected Operating and Capital Expenditure



6.1.1 Financial sustainability in service delivery

There are key indicators for financial sustainability that have been considered in the analysis of the services provided by this asset category, these being long term life cycle costs/expenditures over 5 and 10 years of the planning period.

10 year financial planning period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 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 $3,369,000 per year.

Estimated (budget) operations, maintenance and capital renewal funding is $3,369,000 per year giving a 10 year sustainability indicator of 1.0. This indicates that Council has 100% of the projected expenditures needed to provide the services documented in the asset management plan.

6.1.2 Expenditure projections for long term financial plan

Table 6.1.2 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in current (non-inflated) values. Disposals are shown as net expenditures (revenues are negative).

Table 6.1.2: Expenditure Projections for Long Term Financial Plan ($000)

Year	Maintenance & Operations ($000)	Projected Capital Renewals ($000)	Residual Income ($000)
2022	$2,287	$1,609	$265
2023	$2,287	$1,041	$217
2024	$2,287	$1,070	$222
2025	$2,287	$1,205	$223
2026	$2,287	$1,713	$395
2027	$2,287	$1,868	$388
2028	$2,287	$2,155	$422
2029	$2,287	$908	$172
2030	$2,287	$946	$161
2031	$2,287	$1,175	$161

Note: All projected expenditures are in 2022 values

6.2 Key Assumptions made in Financial Forecasts

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

Key assumptions made in this asset management plan are:

- Current operations/maintenance budgets meet needs
- No upgrades are required
- Trade in values remain consistent with projected figures

7. ASSET MANAGEMENT PRACTICES

7.1 Accounting/Financial Systems

7.1.1 Accounting and financial systems

Synergysoft

7.1.2 Accountabilities for financial systems

Director Corporate & Financial Sevices

7.1.3 Accounting standards and regulations

ISO 55000

7.1.4 Capital/maintenance threshold

$15,000 – Major Plant $5,000 – Minor Plant

7.2 Asset Management Systems

7.2.1 Asset management system

Synergysoft

7.2.2 Asset registers

Plant & Equipment Asset Register

7.2.3 Linkage from asset management to financial system

Synergysoft modules are linked for reporting

7.2.4 Accountabilities for asset management system and data

Asset Management Coordinator

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

None

7.3 Information Flow Requirements and Processes

The key information flows *into* this asset management plan are:

- Council strategic and operational plans,
- Service requests from the community,
- Network assets information,
- The unit rates for categories of work/materials,
- Current levels of service, expenditures, service deficiencies and service risks,
- Projections of various factors affecting future demand for services and new assets acquired by Council,
- Future capital works programs,
- Financial asset values.

The key information flows *from* this asset management plan are:

- The projected Works Program and trends,
- The resulting budget and long term financial plan expenditure projections,
- Financial sustainability indicators.

These will impact the Long Term Financial Plan, Strategic Longer-Term Plan, annual budget and departmental business plans and budgets.

7.4 Standards and Guidelines

Standards, guidelines and policy documents referenced in this asset management plan are:

- IPWEA best practice Plant & Vehicle Management Manual 3rd Edition 2012
- Historic financial information for plant & equipment
- Asset Accounting Policy

8. PLAN IMPROVEMENT AND MONITORING

8.1 Performance Measures

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

- The degree to which the required cashflows identified in this asset management plan are incorporated into the organisation's long term financial plan and Community/Strategic Planning processes and documents,
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the asset management plan;

8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Review plant utilisation to identify under-utilised plant to be disposed or maintained for longer than the industry standard useful life	Asset Management Coordinator	Usage data for annual period	Ongoing
2	Review currency and accuracy of asset register	Russell Pilbeam	Staff and allocation time	Ongoing

8.3 Monitoring and Review Procedures

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

The Plan has a life of 2 years and is due for revision in 2024.

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APPENDICES

Appendix A Maintenance Response Levels of Service

To be developed.

Appendix B Projected 10 year Capital Renewal Works Program

Plant No	Plant Description	Description	Exp	Inc	Renewal Yr
P281	2016 Isuzu D-Max SX Crew Cab Ute Hi Ride 4x4 3.0L (S574BLP)	Light Commercial Vehicle	$43,350	$8,670.00	2022
P317	2019 Isuzu 4x4 Crew Cab SX IOR9020 Ute (S170CAN)	Light Commercial Vehicle	$50,000	$12,500.00	2022
P318	2019 Isuzu 4x4 Crew Cab SX IOR9018 Ute (S172CAN)	Light Commercial Vehicle	$50,000	$12,500.00	2022
P002	2001 Maxi 540 Hydralada & Trailer (EPS278)	Miscellaneous	$100,000	$10,000.00	2022
P055	2006 Caterpillar 324D Hydraulic Excavator (LVP399)	Excavator > 7T	$271,000	$54,200.00	2022
P041	2002 Caterpillar 950G Wheel Loader (KPS533)	Front End Loader > 7T	$265,000	$26,500.00	2022
P251	2015 Komatsu Motor Grader (S18SBE)	Grader	$375,000	$93,750.00	2022
P051	2006 Mitsubishi Fuso Fighter 10.0 Truck (XML177)	Single Axle Truck	$185,000	$23,125.00	2022
P104	2005 Caterpillar 248B Skid Steer Loader (FVP922)	Skid Steer Loader	$70,000	$14,000.00	2022
P019	2007 Nissan Scarab Merlin Suction Street Sweeper MK240 (SB37FU)	Street Sweeper	$200,000	$10,000.00	2022
P329	2020 Isuzu DMAX 4x4 Crew Cab SX Auto (S842CDN)	Light Commercial Vehicle	$48,000	$9,600.00	2023
P330	2020 Isuzu DMAX 4x4 Crew Cab SX Auto (S843CDN)	Light Commercial Vehicle	$50,000	$12,500.00	2023
P337	2020 Mitsubishi Triton GLX ADAS (S531CBD)	Light Commercial Vehicle	$42,000	$10,500.00	2023
P063	2007 Ingersoll-Rand 7/41E Portable Air Compressor (YHP272)	Miscellaneous	$25,000	$2,500.00	2023
P327	2020 Mazda CX8-C Diesel (S630CCR)	Non Commercial Vehicle	$50,000	$12,500.00	2023
P320	2019 Subaru Outback MY19 AWD Turbo Diesel (S819CBS)	Non Commercial Vehicle	$42,500	$10,625.00	2023
P323	2019 Mazda CX-8 Sport Diesel AWD (S473CBN)	Non Commercial Vehicle	$42,500	$10,625.00	2023
P018	2011 Caterpillar 12M Motor Grader (S48SVZ)	Grader	$375,000	$93,750.00	2023
P309	2018 Suburu Outback 2.0 Diesel Premium Auto MY18 (S865BVF)	Non Commercial Vehicle	$50,000	$10,000.00	2023
P334	2019 Hyundai Elantra Active Smart Sense (S197CEB)	Non Commercial Vehicle	$30,000	$7,500.00	2023
P254	2015 Toyota Camry Altise 2.5 Litre Sedan (S642BIR)	Non Commercial Vehicle	$30,000	$6,000.00	2023
P060	2006 Mitsubishi Fuso 4.0 T Canter Truck (XML176)	Single Axle Truck	$92,500	$9,250.00	2023
P064	2007 Mitsubishi Fuso 4.0 T Canter Truck (XOA868)	Single Axle Truck	$92,500	$11,562.50	2023
P142	1993 Broons BH-1830 Combination Roller Mono-Drum (TDR783)	Static Roller	$30,000	$0.00	2023
P335	2020 Mazda CX-5 Maxx Sport AWD (S629CCR)	Non Commercial Vehicle	$40,950	$10,237.50	2023
P312	2018 Isuzu D-Max SX Crew Cab 4x2 IOR7036 (S229BVM) (2nd Gen)	Light Commercial Vehicle	$37,000	$9,250.00	2024
P280	2016 Hilux SCC 4x2 2.4 Litre Workmate Utility (S449BKX)	Light Commercial Vehicle	$38,000	$5,700.00	2024
P292	2017 Isuzu Ute 4x2 Single Cab (S481BRF)	Light Commercial Vehicle	$38,000	$5,700.00	2024
P349	2020 Mitsubishi Triton GLX D6 M/T 4x4 S145CGH	Light Commercial Vehicle	$38,000	$9,500.00	2024
P338	2020 Mitsubishi Triton DLX ADAS (S532CDB)	Light Commercial Vehicle	$42,000	$10,500.00	2024
P293	2017 Isuzu Ute 4x4 Space Cab C/C SX (S479BRF)	Light Commercial Vehicle	$38,000	$5,700.00	2024
P307	2018 Hyundai Santa Fe DM5 7S (S417BTH) (2nd Gen)	Non Commercial Vehicle	$42,500	$10,625.00	2024
P308	2018 Suburu Outback 2.0 Diesel Auto MY18 (S861BVF) (2nd Gen)	Non Commercial Vehicle	$42,500	$10,625.00	2024
P017	2011 Caterpillar 12M Motor Grader (S47STX)	Grader	$375,000	$93,750.00	2024
P061	2014 Volvo FM L1EH1 Day Cab Truck (SB15JA)	Semi Primemover	$210,000	$42,000.00	2024
P193TR	2004 Barry Stoodley 3882 2 Axle Semi Side Tipping Trailer (YFA322)	Semi Trailer Tipping Body	$120,000	$12,000.00	2024
P043	2002 John Deere 5220 Tractor (KPS196)	Tractor < 100Hp	$42,000	$6,300.00	2024

P001TR	2009 Mars Bogie Side Tandem Axle Tipper Trailer (SY45AV)	Semi Trailer Tipping Body	$7,000	$0.00	2024
P311	2018 Isuzu D-Max SX Extra Cab 4x2 IOR7037 (S675BVT)	Light Commercial Vehicle	$38,000	$5,700.00	2025
P324	2013 Nissan Navara RX (S104BZJ)	Light Commercial Vehicle	$38,000	$5,700.00	2025
P321	2019 Isuzu 4x4 Crew Cab SX Auto (S988CCA)	Light Commercial Vehicle	$50,000	$10,000.00	2025
P336	2020 Mitsubishi Triton GLS (S257CEB)	Light Commercial Vehicle	$42,000	$8,400.00	2025
P317	2019 Isuzu 4x4 Crew Cab SX IOR9020 Ute (S170CAN) (2nd Gen)	Light Commercial Vehicle	$50,000	$12,500.00	2025
P318	2019 Isuzu 4x4 Crew Cab SX IOR9018 Ute (S172CAN) (2nd Gen)	Light Commercial Vehicle	$50,000	$12,500.00	2025
P310	2018 Isuzu D-Max SX Space Cab 4x4 IOR7014 (S956BVP)	Light Commercial Vehicle	$38,000	$5,700.00	2025
P022	2011 JCB 4x4x4 Sitemaster Loader Backhoe (S72SWE)	Backhoe	$120,000	$24,000.00	2025
P025	2011 JCB Eco 4x4x4 Loader Backhoe (S00SWY)	Backhoe	$120,000	$24,000.00	2025
P203	1999 Toyota 02-7FD25 H368S Forklift (KVP839)	Miscellaneous	$40,000	$4,000.00	2025
P332	2020 Hyundai Elantra Active Smart Sense (S198CEB)	Non Commercial Vehicle	$30,000	$6,000.00	2025
P333	2020 Hyundai Elantra Active Smart Sense (S196CEB)	Non Commercial Vehicle	$30,000	$6,000.00	2025
P156	2004 Ingersoll-Rand Vibratory Compactor Roller (BVP331)	Self Propelled Roller < 3T	$40,000	$6,000.00	2025
P027	2012 Isuzu NPR 400 Tipper (SB83GC)	Single Axle Truck	$92,500	$13,875.00	2025
P032	2013 Toyota Hiace Bus 3 Litre Diesel Auto (S953AXC)	Small Bus	$57,000	$8,550.00	2025
P289	2017 Hyundai iMax TQ3 2.5D E5 Auto (S685BPL)	Non Commercial Vehicle	$40,950	$6,142.50	2025
P290	2017 Hyundai iMax TQ3 2.5D E5 Auto (S686BPL)	Non Commercial Vehicle	$40,950	$6,142.50	2025
P040	2015 Isuzu Giga CXZ 415 Premium with Water Tank / Turntable (SB58KK)	Tandem Truck	$288,000	$57,600.00	2025
P319	2019 Isuzu 4x2 Space Cab SX IOR9037 Ute (S171CAN)	Light Commercial Vehicle	$38,000	$5,700.00	2026
P276	2016 Isuzu D-Max Space Cab Utility Hi-Ride 4x2 3.0 Litre Auto (S749BJP) (Gen 2)	Light Commercial Vehicle	$38,000	$7,600.00	2026
P351	2021 Mitsubishi Triton GLX 2.4L D 6A/T 4x4 DC CC (S531CHX)	Light Commercial Vehicle	$38,000	$7,600.00	2026
P329	2020 Isuzu DMAX 4x4 Crew Cab SX Auto (S842CDN)(2nd Gen)	Light Commercial Vehicle	$48,000	$12,000.00	2026
P330	2020 Isuzu DMAX 4x4 Crew Cab SX Auto (S843CDN)(2nd Gen)	Light Commercial Vehicle	$50,000	$12,500.00	2026
P337	2020 Mitsubishi Triton GLX ADAS (S531CBD)(2nd Gen)	Light Commercial Vehicle	$42,000	$10,500.00	2026
P327	2020 Mazda CX8-C Diesel (S630CCR)(2nd Gen)	Non Commercial Vehicle	$50,000	$12,500.00	2026
P320	2019 Subaru Outback MY19 AWD Turbo Diesel (S819CBS)(2nd Gen)	Non Commercial Vehicle	$42,500	$10,625.00	2026
P323	2019 Mazda CX-8 Sport Diesel AWD (S473CBN)(2nd Gen)	Non Commercial Vehicle	$42,500	$10,625.00	2026
P058	2014 John Deere Grader 670G (S07SYY) (2nd Gen)	Grader	$375,000	$93,750.00	2026
P342	2020 John Deere 620G Grader (S63SHS)	Grader	$375,000	$93,750.00	2026
P334	2019 Hyundai Elantra Active Smart Sense (S197CEB)(2nd Gen)	Non Commercial Vehicle	$30,000	$7,500.00	2026
P352	2020 Hyundai Elantra Active Smart Sense (S530CHX)	Non Commercial Vehicle	$30,000	$6,000.00	2026
P260	2016 Bomag Roller (S95SBJ)	Self Propelled Roller > 3T	$140,000	$28,000.00	2026
P256	2015 Isuzu Giga CXZ 415 Premium Prime Mover (SB15LD)	Semi Primemover	$210,000	$42,000.00	2026
P335	2020 Mazda CX-5 Maxx Sport AWD (S629CCR)(2nd Gen)	Non Commercial Vehicle	$40,950	$10,237.50	2026
P346	2020 Nissan X-Trail DSL TS Series 3 Diesel (S043CGF)	Non Commercial Vehicle	$40,950	$8,190.00	2026
P347	2020 Nissan X-Trail DSL TS Series 3 Diesel (S044CGF)	Non Commercial Vehicle	$40,950	$8,190.00	2026
P348	2020 Nissan X-Trail DSL TS Series 3 Diesel (S045CGF)	Non Commercial Vehicle	$40,950	$8,190.00	2026
P312	2018 Isuzu D-Max SX Crew Cab 4x2 IOR7036 (S229BVM) (3rd Gen)	Light Commercial Vehicle	$37,000	$9,250.00	2027
P349	2020 Mitsubishi Triton GLX D6 M/T 4x4 S145CGH(2nd Gen)	Light Commercial Vehicle	$38,000	$9,500.00	2027

P338	2020 Mitsubishi Triton DLX ADAS (S532CDB)(2nd Gen)	Light Commercial Vehicle	$42,000	$10,500.00	2027
P281	2016 Isuzu D-Max SX Crew Cab Ute Hi Ride 4x4 3.0L (S574BLP) (2nd Gen)	Light Commercial Vehicle	$43,350	$8,670.00	2027
P307	2018 Hyundai Santa Fe DM5 7S (S417BTH) (3rd Gen)	Non Commercial Vehicle	$42,500	$10,625.00	2027
P308	2018 Suburu Outback 2.0 Diesel Auto MY18 (S861BVF) (3rd Gen)	Non Commercial Vehicle	$42,500	$10,625.00	2027
P007	2009 Caterpillar 930H Wheel Loader (S37STX)	Front End Loader > 7T	$252,000	$37,800.00	2027
P056	2015 John Deere 624K Wheel Loader (S00SAI)	Front End Loader > 7T	$265,000	$39,750.00	2027
P286	2016 Caterpillar 12M Motor Grader (S23SDE)	Grader	$375,000	$93,750.00	2027
P284	2016 Isuzu Giga CXZ 455 Premium Cab Chassis with Prime Mover (SB15ML)	Semi Primemover	$210,000	$42,000.00	2027
P302	2017 Isuzu MU-X Station Wagon (S676BSA)	Non Commercial Vehicle	$40,950	$8,190.00	2027
P282	2016 Isuzu Giga CXZ 415 AMT Cab Chassis with Tandem Tipper (SB86LW)	Tandem Truck	$185,000	$37,000.00	2027
P108	2002 Toyota Troup Carrier 11 Seater 4.2 Litre Diesel (S111ACA)	Light Commercial Vehicle	$35,000	$5,250.00	2027
P013	2011 Scania Cab Chassis Hooklift (SB40FC)	Twin Steer Hooklift Truck	$260,000	$65,000.00	2027
P317	2019 Isuzu 4x4 Crew Cab SX IOR9020 Ute (S170CAN) (3rd Gen)	Light Commercial Vehicle	$50,000	$12,500.00	2028
P318	2019 Isuzu 4x4 Crew Cab SX IOR9018 Ute (S172CAN) (3rd Gen)	Light Commercial Vehicle	$50,000	$12,500.00	2028
P251	2015 Komatsu Motor Grader (S18SBE) (2nd Gen)	Grader	$375,000	$93,750.00	2028
P305	2017 John Deere 6790GP Motor Grader (S45SEM)	Grader	$375,000	$93,750.00	2028
P030	2013 Tana GX260 Landfill Compactor (Engine 22048474)	Landfill Compactor	$545,568	$81,835.20	2028
P309	2018 Suburu Outback 2.0 Diesel Premium Auto MY18 (S865BVF) (2nd Gen)	Non Commercial Vehicle	$50,000	$10,000.00	2028
P314	2018 Bomag BW213D-5 Roller (S01SFC)	Self Propelled Roller > 3T	$140,000	$28,000.00	2028
P306	2017 Hino FS 2848 Prime Mover (SB93NT)	Semi Primemover	$210,000	$42,000.00	2028
P316	2007 Hino GD Tipper Truck (XS39BK)	Single Axle Truck	$137,000	$23,975.00	2028
P278	2016 Isuzu FRR 600 Medium Cab Chassis with Tipper Body (SB61LN)	Single Axle Truck	$92,500	$13,875.00	2028
P052	2013 Broons eCombi Roller (S75SXF)	Static Roller	$30,000	$0.00	2028
P087	2008 Barry Stoodley Tri Axle Machinery Float (SY01AZ)	Semi Trailer Other	$100,000	$10,000.00	2028
P329	2020 Isuzu DMAX 4x4 Crew Cab SX Auto (S842CDN)(3rd Gen)	Light Commercial Vehicle	$48,000	$12,000.00	2029
P330	2020 Isuzu DMAX 4x4 Crew Cab SX Auto (S843CDN)(3rd Gen)	Light Commercial Vehicle	$50,000	$12,500.00	2029
P337	2020 Mitsubishi Triton GLX ADAS (S531CBD)(3rd Gen)	Light Commercial Vehicle	$42,000	$10,500.00	2029
P327	2020 Mazda CX8-C Diesel (S630CCR)(3rd Gen)	Non Commercial Vehicle	$50,000	$12,500.00	2029
P320	2019 Subaru Outback MY19 AWD Turbo Diesel (S819CBS)(3rd Gen)	Non Commercial Vehicle	$42,500	$10,625.00	2029
P323	2019 Mazda CX-8 Sport Diesel AWD (S473CBN)(3rd Gen)	Non Commercial Vehicle	$42,500	$10,625.00	2029
P137	2008 Caterpillar IT14G Integrated Tool Carrier (S16SPS)	Front End Loader > 7T	$240,000	$36,000.00	2029
P285	Genelite GP45S Diesel Generator (Natural Disaster Resilience Program)	Miscellaneous	$22,000	$3,300.00	2029
P334	2019 Hyundai Elantra Active Smart Sense (S197CEB)(3rd Gen)	Non Commercial Vehicle	$30,000	$7,500.00	2029
P020	2009 Mars Bogie Sider Tipper Tandem Axle Trailer (SY46AV)	Semi Trailer Tipping Body	$120,000	$12,000.00	2029
P054	2013 Caterpillar 226B3 Skid Steer Loader (S46SYT)	Skid Steer Loader	$70,000	$14,000.00	2029
P335	2020 Mazda CX-5 Maxx Sport AWD (S629CCR)(3rd Gen)	Non Commercial Vehicle	$40,950	$10,237.50	2029
P049	2014 New Holland T4.75 PowerstarTractor (S21SYM)	Tractor < 100Hp	$75,000	$15,000.00	2029
P295	2017 VMS Amber LED-VM2650X1720 Trailer (S27SDA)	Miscellaneous	$17,500	$2,625.00	2029
P296	2017 VMS Amber LED-VM2650X1720 (S28SDA)	Miscellaneous	$17,500	$2,625.00	2029
P312	2018 Isuzu D-Max SX Crew Cab 4x2 IOR7036 (S229BVM) (4th Gen)	Light Commercial Vehicle	$37,000	$9,250.00	2030

P349	2020 Mitsubishi Triton GLX D6 M/T 4x4 S145CGH(3rd Gen)	Light Commercial Vehicle	$38,000	$9,500.00	2030
P321	2019 Isuzu 4x4 Crew Cab SX Auto (S988CCA) (2nd Gen)	Light Commercial Vehicle	$50,000	$10,000.00	2030
P336	2020 Mitsubishi Triton GLS (S257CEB)(2nd Gen)	Light Commercial Vehicle	$42,000	$8,400.00	2030
P338	2020 Mitsubishi Triton DLX ADAS (S532CDB)(3rd Gen)	Light Commercial Vehicle	$42,000	$10,500.00	2030
P322	2019 Vermeer BC1000XL Wood Chipper (S58SGY)	Chipper	$70,000	$14,000.00	2030
P307	2018 Hyundai Santa Fe DM5 7S (S417BTH) (4th Gen)	Non Commercial Vehicle	$42,500	$10,625.00	2030
P308	2018 Suburu Outback 2.0 Diesel Auto MY18 (S861BVF) (4th Gen)	Non Commercial Vehicle	$42,500	$10,625.00	2030
P254	2015 Toyota Camry Altise 2.5 Litre Sedan (S642BIR) (2nd Gen)	Non Commercial Vehicle	$30,000	$6,000.00	2030
P332	2020 Hyundai Elantra Active Smart Sense (S198CEB)(2nd Gen)	Non Commercial Vehicle	$30,000	$6,000.00	2030
P333	2020 Hyundai Elantra Active Smart Sense (S196CEB)(2nd Gen)	Non Commercial Vehicle	$30,000	$6,000.00	2030
P343	2020 Isuzu NQR 87-190 Auto MLWB Tipper Truck (XS98CR)	Single Axle Truck	$137,000	$20,550.00	2030
P325	2019 Isuzu NPR 75-190 Crew Cab Truck (XS95CK)	Single Axle Truck	$92,500	$9,250.00	2030
P326	2019 Isuzu NPR 75-190 Crew Cab Truck (XS96CK)	Single Axle Truck	$92,500	$16,187.50	2030
P185	1980 Ahrens Stone Roller (TUV297)	Static Roller	$30,000	$0.00	2030
P328	2020 Isuzu FRR 110-260 Auto MWB Chipper Truck (XS13CN)	Single Axle Truck	$140,000	$14,000.00	2030
P276	2016 Isuzu D-Max Space Cab Utility Hi-Ride 4x2 3.0 Litre Auto (S749BJP) (Gen 3)	Light Commercial Vehicle	$38,000	$7,600.00	2031
P351	2021 Mitsubishi Triton GLX 2.4L D 6A/T 4x4 DC CC (S531CHX)(2nd Gen)	Light Commercial Vehicle	$38,000	$7,600.00	2031
P011	2014 Iseki SF370 Front Deck Mower & SSM72-E40 Mower Deck(2nd Gen)	Ride-on Mower	$52,500	$5,250.00	2031
P074	John Deere F1145 Front Deck Ride-On Mower(2nd Gen)	Ride-on Mower	$52,500	$5,250.00	2031
P122	John Deere 1445 Ride-on Mower(2nd Gen)	Ride-on Mower	$52,500	$5,250.00	2031
P268	Simplicity Broadmoor Ride On Mower(2nd Gen)	Ride-on Mower	$52,500	$5,250.00	2031
P352	2020 Hyundai Elantra Active Smart Sense (S530CHX)(2nd Gen)	Non Commercial Vehicle	$30,000	$6,000.00	2031
P341	2020 Quon UD 6x4 D11L460 Semi Prime Mover (XS85CS)	Semi Primemover	$210,000	$42,000.00	2031
P045	2004 Mitsubishi Fighter 5.0 Litre MWB Truck (XEY737) (2nd Gen)	Single Axle Truck	$137,000	$13,700.00	2031
P344	2020 Isuzu FSR 120-240 AMT LWB Cab Chassis (XS41DA)	Single Axle Truck	$137,000	$13,700.00	2031
P346	2020 Nissan X-Trail DSL TS Series 3 Diesel (S043CGF)(2nd Gen)	Non Commercial Vehicle	$40,950	$8,190.00	2031
P347	2020 Nissan X-Trail DSL TS Series 3 Diesel (S044CGF)(2nd Gen)	Non Commercial Vehicle	$40,950	$8,190.00	2031
P348	2020 Nissan X-Trail DSL TS Series 3 Diesel (S045CGF)(2nd Gen)	Non Commercial Vehicle	$40,950	$8,190.00	2031
P288	2016 Caterpillar 924K Wheel Loader (S03SDF)	Front End Loader > 7T	$252,000	$25,200.00	2031

Appendix C Abbreviations

AAAC Average annual asset consumption

AMP Asset management plan

ARI Average recurrence interval

BOD Biochemical (biological) oxygen demand

CRC Current replacement cost

CWMS Community wastewater management systems

DA Depreciable amount

EF Earthworks/formation

IRMP Infrastructure risk management plan

LCC Life Cycle cost

LCE Life cycle expenditure

MMS Maintenance management system

PCI Pavement condition index

RV Residual value

SS Suspended solids

vph Vehicles per hour

Appendix D Glossary

Annual service cost (ASC)

1) Reporting actual cost
   The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.
2) For investment analysis and budgeting
   An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance/ opportunity and disposal costs, less revenue.

Asset

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

Asset class

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

Asset condition assessment

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

Asset management (AM)

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

Average annual asset consumption (AAAC)*

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

Borrowings

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

Capital expenditure

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

Capital expenditure - expansion

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

Capital expenditure - new

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

Capital expenditure - renewal

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

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

Capital funding
Funding to pay for capital expenditure.

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

Capital investment expenditure
See capital expenditure definition

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

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

Class of assets
See asset class definition

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

Cost of an asset
The amount of cash or cash equivalents paid or the fair value of the consideration given to 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.

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

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

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

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

Economic life
See useful life definition.

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

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

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

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

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

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

Investment property
Property held to earn rentals or for capital appreciation or both, rather than for:
(a) use in the production or supply of goods or services or for administrative purposes; or
(b) sale in the ordinary course of business.

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

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

Life Cycle Cost
1. **Total LCC** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
2. **Average LCC** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises annual operations, maintenance and asset consumption expense, represented by depreciation expense. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure
The Life Cycle Expenditure (LCE) is the actual or planned annual operations, maintenance and capital renewal expenditure incurred in providing the service in a particular year. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of life cycle sustainability.

Loans / borrowings
See borrowings.

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

- **Planned maintenance**
  Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.
- **Reactive maintenance**
  Unplanned repair work that is carried out in response to service requests and management/supervisory directions.
- **Significant maintenance**
  Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.
- **Unplanned maintenance**
  Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

Maintenance and renewal gap
Difference between estimated budgets and projected required expenditures for maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Maintenance and renewal sustainability index

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

Maintenance expenditure

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

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

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

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

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

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

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

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

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

Rate of annual asset consumption
A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA). Depreciation may be used for AAAC.

Rate of annual asset renewal
A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

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

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

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

Recurrent funding
Funding to pay for recurrent expenditure.

Rehabilitation
See capital renewal expenditure definition above.

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

Renewal
See capital renewal expenditure definition above.

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

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

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

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

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

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

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

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

Sub-component
Smaller individual parts that make up a component part.

Useful life
Either:
(a) the period over which an asset is expected to be available for use by an entity, or
(b) the number of production or similar units expected to be obtained from the asset by the entity.

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

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

Source: IPWEA, 2009, Glossary