



PLANT AND FLEET ASSET MANAGEMENT PLAN

City of Adelaide | AMP V4



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The structure and content of this template is aligned to the International Infrastructure Management Manual and the ISO 550xx and 31000 series of standards. In some instances, the asset owner may choose to reformat/restructure content or only use the Executive Summary. IPWEA takes no responsibility for the end product.

This Asset Management Plan should be prepared considering the AM Strategy and AM Policy and used to inform the Long-Term Financial Plan.

DISCLAIMER: This template has been prepared for educational purposes as part of the Professional Certificate in Asset Management Planning course. The data and conclusions have not been reviewed for accuracy nor endorsed or adopted by the asset owner.

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Contents

1.0	EXECUTIVE SUMMARY	5
1.1	The Purpose of the Plan	5
1.2	Our Plant and Fleet Assets	5
1.3	Levels of Service	5
1.4	Current and Future Demands	6
1.5	Lifecycle Management	6
1.6	Risk Management	8
1.7	Financial Summary	8
1.8	Monitoring and Improvement Program	8
2.0	INTRODUCTION	10
2.1	Background	10
2.2	Goals and Objectives of Asset Ownership	10
2.3	Key Stakeholders & Organisational Responsibilities	13
3.0	LEVELS OF SERVICE	15
3.1	Strategic Planning	15
3.2	Legislative Requirements	18
3.3	Technical Levels of Service	18
4.0	FUTURE DEMAND	22
4.1	Demand Drivers	22
4.2	Demand Forecasts	22
4.3	Demand Impact and Demand Management Plan	22
4.4	Asset Programs to meet Demand	23
5.0	LIFECYCLE MANAGEMENT PLAN	24
5.1	Background Data	25
5.2	Operations and Maintenance Plan	26
5.3	Renewal Plan	27
5.4	Summary of asset forecast costs	29
6.0	RISK MANAGEMENT PLANNING	31
6.1	Critical Assets	31
6.2	Risk Assessment	31
7.0	FINANCIAL SUMMARY	38
7.1	Financial Sustainability and Projections	38
7.2	Valuation Forecasts	39
8.0	ASSUMPTIONS AND IMPROVEMENT PLANNING	40
8.1	Data and Information Sources	40

8.2	Key Assumptions	40
8.3	Forecast Reliability and Confidence	40
8.4	Improvement Plan.....	42
8.5	Monitoring and Review Procedures.....	42
8.6	Performance Measures	43
9.0	REFERENCES	44
Appendix A	Renewal Forecast Summary.....	45
Appendix C	Maintenance Forecast	46

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1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

The City of Adelaide is responsible for an extensive and diverse asset portfolio valued at more than \$2 billion, which represents a significant investment made over multiple generations. These assets play a vital role in providing essential services to our community and it is critical to ensure these assets continue to be effectively managed to enable ongoing service provision and benefits for both current and future generations.

To meet the requirements of an Asset Management Plan (AMP), it will include information and expenditure about the operation, maintenance, renewal, acquisition, expansion, upgrade and disposal for each asset class under our care and control over a period of at least 10 years.

The fundamental purpose of this Plant and Fleet AMP is to outline Council's high level asset management priorities for the operation, maintenance and renewal of our assets over the 10 years. Additionally, it aims to improve the long-term strategic management of our Plant and Fleet assets, to cater for required levels of service for both now and the future.

Council's Plant and Fleet assets include Light and Heavy Fleet, Major and Minor Plant and Equipment, which was valued at \$21.3 million as at 1 July 2025.

1.2 Our Plant and Fleet Assets

The City of Adelaide's Plant and Fleet assets have a replacement value estimated at \$23.3 million at 30 June 2026 and provides vital support to delivering services for the community. These assets include light and heavy fleet, major and minor plant and miscellaneous assets. As follows:

- 116 Light Fleet Assets
- 54 Heavy Fleet Assets
- 127 Major Plant Assets
- 837 Minor Plant Assets
- 69 Small Tools and Miscellaneous Assets which includes attachments, leveling equipment and non-mobile workshops plant and equipment.

Review and refinement of asset class definitions and hierarchy is identified as both an action within the City of Adelaide Fleet Strategy 2026-2028 and within the Improvement Plan in Section 8.4.

1.3 Levels of Service

Levels of service define the standards and performance targets that infrastructure assets are expected to meet to ensure they provide reliable, safe, and efficient services to the community. Council's Plant and Fleet Assets are used primarily by internal operations to support the delivery of community services. For these assets the Level of Service is primarily a Technical Service Level, which is an operational or technical measure of performance. These include measures to the allocation of resources to best achieve the desired customer outcomes and to demonstrate effective performance.

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

- **Acquisition** – the activities to provide a higher level of service (e.g. larger size Plant) or a new service that did not exist previously or experiencing growth demand (e.g. a new Park to mow) Upgrade/new Council assets are aligned to Strategic Plan objectives and are initiated through the Business Plan and Budget process on an annual basis, where assets are subject to a business case assessment which sets out capital requirements, whole of life costs, predicted utilisation and internal hire rates.
- **Operation** – the regular activities to provide services (e.g. Plant and Fleet to support cleansing, mowing grass, etc.). Council's outdoor teams are equipped with plant and fleet assets that allow their teams to achieve desired results and adhere to Safe Work SA's Code of Practice for Fleet. The required training for operators, risk assessments including daily inspections and the reporting of defects to workshop staff and compliance

- **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 servicing of Plant and Fleet). Council maintenance works are delivered based on service schedules with consideration of available budget and keeping detailed records of reasons for failures.
- **Renewal** – the replacement of an asset that continues the service capability to which it had originally provided. Council's current performance has been below Council's target of 90-110% awaiting the updating and approval of this Plant and Fleet Asset Management Plan.
- **Disposal** – the activities to remove and/or dispose of an asset that may be considered as underperforming, underutilised or obsolete. Council assets are recommended for disposal in line with Asset Disposal Policy, with financial requirements identified and incorporated through the Business Plan and Budget.

1.4 Current and Future Demands

It is anticipated that the City of Adelaide will be subject to considerable change over the next 10 years. This will result in our Plant and Fleet assets being subject to new demands that have the potential to impact future service delivery and the requirements of our assets.

Key demand drivers and future challenges will include:

- City Growth and Changing Demographic
- Environmental Sustainability & Carbon Neutrality
- Emerging Technology
- Service Level changes
- Legislation and Regulation

Demand for new services will be managed through a combination of managing existing assets, upgrading existing assets, providing new assets and demand management. Demand management practices can include non-asset solutions, such as educating the community around alternate options, which facilitate service provision without the need to invest in new or upgraded assets.

Demand management will include:

- Delivery of the outcomes within the Fleet Strategy
- Delivering priority upgrade/new assets to support the delivery of the Strategic Plan and Integrated Climate Strategy
- Advancements in technology and environmentally conscious alternative Fleet Assets will be monitored and assessed to assist with the decision making for acquisitions.
- Service level changes as an outcome of the operational review and any impacts incorporated into the Asset Management plan
- Continue to monitor changes to legislation and ensure appropriate adaptation into asset management practices.

1.5 Lifecycle Management

How we plan to manage and operate the assets at the agreed levels of service throughout their lifecycle is contingent on the 10-year LTFP.

Furthermore, when City of Adelaide commits to the upgrade of existing and acquisition of new assets, future operations, maintenance and renewal costs including depreciation will increase.

1.5.1 What does it Cost?

The lifecycle costs necessary to provide the services covered by this AMP include operations, maintenance, renewal and upgrade of existing assets, and the acquisition of new assets to meet demand. Disposal of assets is also considered.

When lifecycle costs are prepared for a minimum 10-year planning period, they can be used to inform the 10-year LTFP. The first 10-year lifecycle forecast is estimated to cost \$61.099 million or \$6.101 million on average per year.

Depreciation is excluded from these cost estimates.

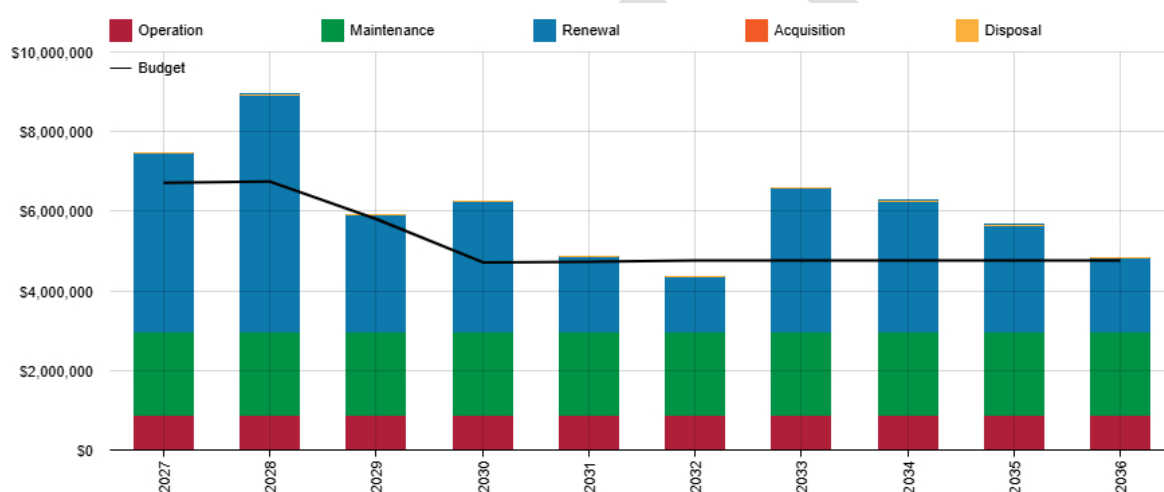
1.5.2 What we will do

The funding made available in the first 10 years' of the LTFP is \$52.552 million or \$5.255 million on average per year which is approximately 86% of the cost to undertake the lifecycle activities and an Asset Renewal Funding Ratio of approximately 72.8%.

The 10-year LTFP results in a shortfall of \$858,000 on average per year of the forecast lifecycle costs required to provide services. This is shown in the figure below.

The reality is, only what is funded in the LTFP can be provided. Informed decision making depends on the AMP emphasising the consequences of planned budgets on the service levels provided and communicating the residual risks. It is important to ensure the organisation is delivering the services in a financially sustainable manner.

The LTFP, on average, for the first 10-years is not sufficient to provide services. This is shown in the figure below.



Forecast Lifecycle Costs and Current Unindexed LTFP

Amounts are shown in real values (i.e., current values, net of inflation).

1.5.3 What we cannot do

We currently do not allocate enough budget to sustain services over and above these planned lifecycle costs, at the proposed standard including the provision of new assets. Works and services that cannot be provided under present funding levels are:

- Replacement / renewal of fleet assets at the optimal level to maximize operational and financial efficiency.
- Full transition and upgrade of our fleet portfolio to Electric Vehicles in line with the Integrated Climate Strategies Objectives (where there are associated increased vehicle costs, supporting new/upgrade funding will be required)

1.6 Risk Management

The main risk consequences are:

- Increased safety risks associated with assets deteriorating beyond recommended life

- Increased financial risks associated with additional maintenance requirements that cannot be accommodated within existing budgets
- Increased financial risks associated with higher renewal costs as assets are not funded at the optimal point in time
- Increased financial risks associated with the outcomes of the Fleet Strategy
- Increased reputational risk due to the failure to deliver on environmental actions and objectives
- Increased service risk due to the absence of a single integrated asset data source for asset management
- Increased service risk due to less reliability and more frequent breakdowns
- Increased service risk due to disruption to operations

If the forecast activities outlined within this Asset Management Plan are unable to be accommodated into the Long Term Financial Plan, we will endeavour to manage these risks within available funding by:

- Continuing to undertake regular asset condition and scheduled maintenance activities
- Prioritising all asset renewal and maintenance activities with respect to available budget
- Revising our service levels to establish an acceptable balance between cost, level of service and risk
- Reviewing the priority to deliver key actions from the Fleet Strategy and Improvement Plan

1.7 Financial Summary

Providing financially sustainable and affordable services from infrastructure requires the careful management of service levels, costs and risks.

The current 10-year LTFP is \$52.552 million or \$5.255 million on average per year when compared to the required renewal budget this represents a funding shortfall of \$858,000 per year across the 10 year period.

The current 10-year LTFP does not provide affordable and sustainable services for the foreseeable future. This indicates that 86% of the forecast costs needed to provide the services documented in this AMP are accommodated in the LTFP, and represents an Asset Renewal Funding Ratio of approximately 72.8%.

1.8 Monitoring and Improvement Program

In compiling this AMP, it was necessary to make some assumptions that provide an understanding of the level of confidence in the data behind the forecasts.

Key assumptions made in this AMP are:

- The City of Adelaide Fleet Strategy 2026 - 2028 is implemented in its entirety and forecast for EV transition is possible from a technology perspective.
- Fit for purpose Electric HCV options are available, aligning to the Fleet Strategy replacement timelines.
- Electric Passenger and LCV options are fit for purpose and available at a net replacement cost to the vehicle being replaced.
- Assets requiring renewal are identified from either the asset register or an alternative method;
- Renewal forecasts have been escalated into FY 2027 dollars, consider condition and functionality and are based on costs associated with like for like or modern equivalent replacement and any legislated requirements. They do not account for additional costs to upgrade assets or install new ancillary assets;
- Asset useful lives align with current levels of service and are based on the judgment and experience of internal staff and provider recommendations for optimal replacement cycle and resale;
- Asset useful life and remaining useful life estimates assume existing maintenance resourcing levels are continued;

- Acquisition (upgrade/new) costs are not recognised within this Asset Management Plan. These costs will be recognised in the Annual Business Plan and Budget considerations and incorporated into Long-Term Financial Plan separately;
- Operations and maintenance forecasts do not currently account for the future acquisition of new assets (to be considered through the annual business plan and budget and incorporated into future revisions of this Asset Management Plan)
- The Asset Register was used to forecast the renewal lifecycle costs for this AMP.
- This AMP is based on a reliable level of confident information.

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

Improvement Plan Actions	
1	Execution of the City of Adelaide Fleet Strategy Action Plan, including the future planning needs for Electric Vehicle transition and related feasibility studies.
2	Upskilling of workshops to be able to maintain Electric Assets
3	Including asset condition, criticality, capacity and function for all assets to be used in future AMPs
4	Review this AMP every 12 months to ensure that any changes resulting in the execution of the City of Adelaide Fleet Strategy Action Plan are captured.
5	Continue to review our technical standards and their application across the Plant and Fleet assets with respect to climate resilience, performance and whole-of-life cost requirements. This review will also refine asset criticality definitions and assessments.
6	Review and update operations and maintenance standards, to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and user expectations. Include changes into future revisions of this Asset Management Plan and Long-Term Financial Plan.
7	Review and standardise asset hierarchies for Plant and Fleet asset classes.
8	Further develop processes to ensure asset data is updated following the completion of scheduled maintenance work and emergency asset replacement resulting from vandalism or accidents.

This AMP will be reviewed and updated during the annual business plan and budget process to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The effectiveness of this AMP can be measured in the following ways:

- The degree to which the required forecast costs identified in this AMP are incorporated into the long-term financial plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (90 – 110%).
- Achieving Technical Level of Service objectives
- Reviewing changes to user service request numbers and user satisfactory surveys
- Progressing with the implementation of Improvement Actions identified in Table 8.4
- Reviewing and update of the Plan at minimum every four years

2.0 INTRODUCTION

2.1 Background

First shaped by the Kaurna People of the Adelaide Plains, then by Colonel William Light, Adelaide is a dynamic, accessible and safe city, that offers an enviable quality of life. The physical layout of the city enhances the attributes that make Adelaide unique. From the Nationally Heritage Listed Park Lands that surround our city, to the compact layout that makes the city walkable and cyclable, to our unique neighbourhoods and precincts, all these factors place Adelaide on the path to being one of the most liveable cities in the world. Despite our small footprint, the City of Adelaide is home to over 26,000 residents, 12,000 businesses and accommodates over 300,000 visitors daily, contributing close to 18% of the State's economic value.

The City of Adelaide's Plant and Fleet assets are currently valued at approximately \$21.3 million and are used to deliver and support services around the City and Park Lands.

With projected City and metropolitan growth, a changing climate, and advancements in technology, it is anticipated that higher demand will be placed on our existing assets and there will be increasing requirements for new and upgraded infrastructure.

With Council's strategic objectives to create a City that is welcoming, inclusive, and accessible to all, it is critical to ensure that our plant and fleet assets continue to be appropriately managed, ensuring we provide appropriate services and benefits for both current and future generations.

The Plant and Fleet assets covered by this AMP are categorised as Heavy Fleet, Light Fleet, Major Plant, Minor Plant and Equipment, and Miscellaneous items. These assets include trucks, mowers, trailers, utilities, light vehicles, earthmoving equipment, mobile/fixed plant, minor plant and equipment. For a detailed summary of the assets covered in this AMP refer to Table in Section 5.

This Plant and Fleet AMP communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the planning period.

The AMP is to be considered in conjunction with the following key Corporate planning documents:

- City of Adelaide Strategic Plan (2024-2028)
- Integrated Climate Strategy
- City of Adelaide Fleet Strategy 2026 – 2028
- Asset Management Policy

As existing planning documents are updated and new planning documents are approved by Council, Asset Management Plans will be reviewed and updated as required.

2.2 Goals and Objectives of Asset Ownership

The principles of asset management as per the International Standards for asset management are:

- **Value:** asset management focuses on the value assets provide to the organisation over time.
- **Alignment:** asset management aligns financial, technical and operational decisions with the organisational objectives, promoting vertical and horizontal coordination.
- **Leadership:** leadership and sustained commitment at all levels are crucial for successful asset management.¹

Our goal for managing infrastructure assets is to deliver the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers.

The key objectives of infrastructure asset management as defined by the International Infrastructure Management Manual are:

- Defining levels of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,

¹ ISO 55000:2024 Asset Management – Vocabulary, overview, and principles

- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan which accommodates the required expenditure and how it will be funded.²

Key elements of the planning framework are:

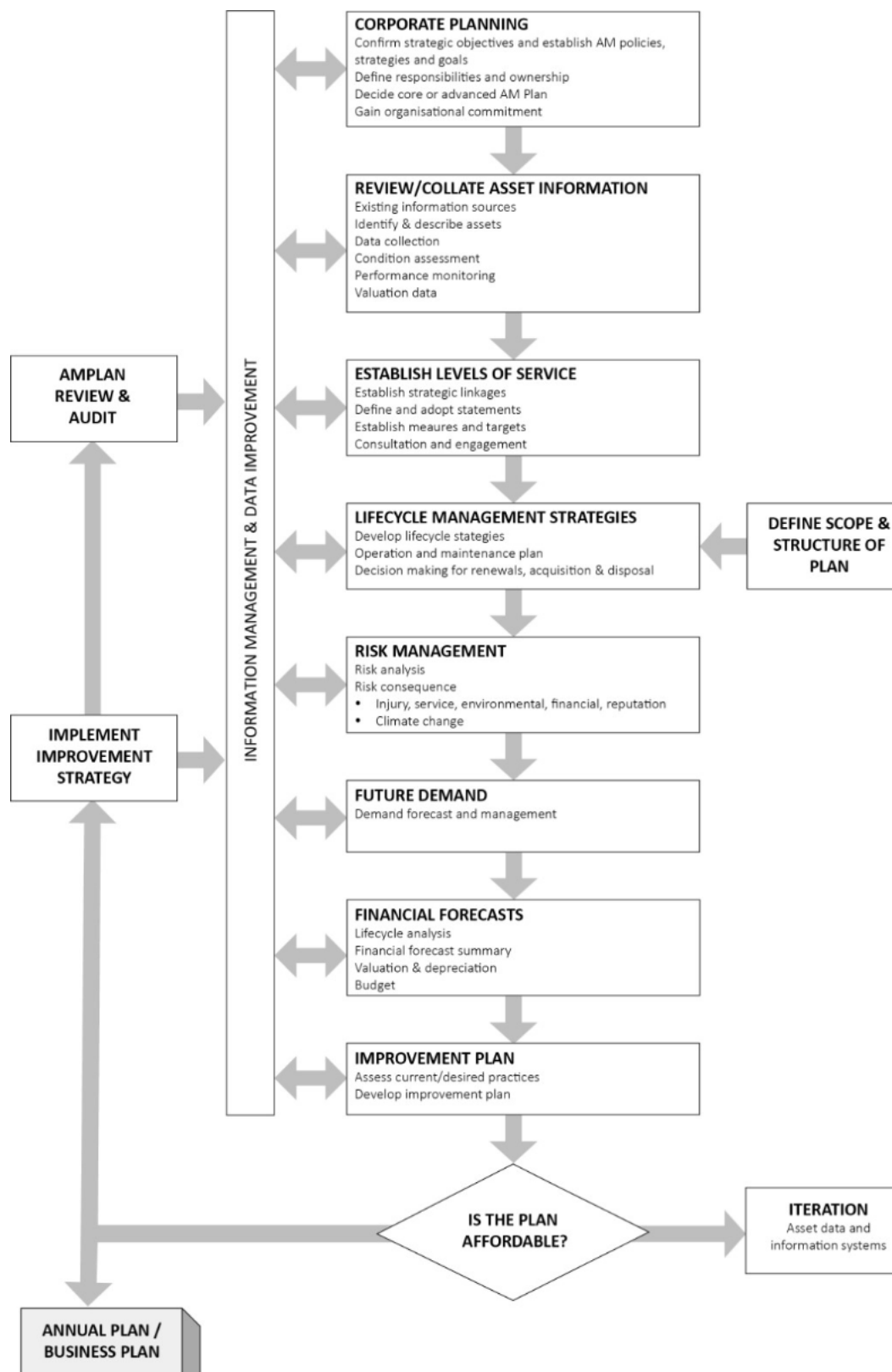
- Levels of service – specifies the services and levels of service to be provided,
- Risk Management, • Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

² IPWEA International Infrastructure Management Manual (IIMM), Sec 1.2.1

A road map for preparing an Asset Management Plan is shown below:

Figure 2.2: Road Map for preparing an Asset Management Plan

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



2.3 Key Stakeholders & Organisational Responsibilities

Key stakeholders in the preparation and implementation of this AMP are shown in Table 2.3.

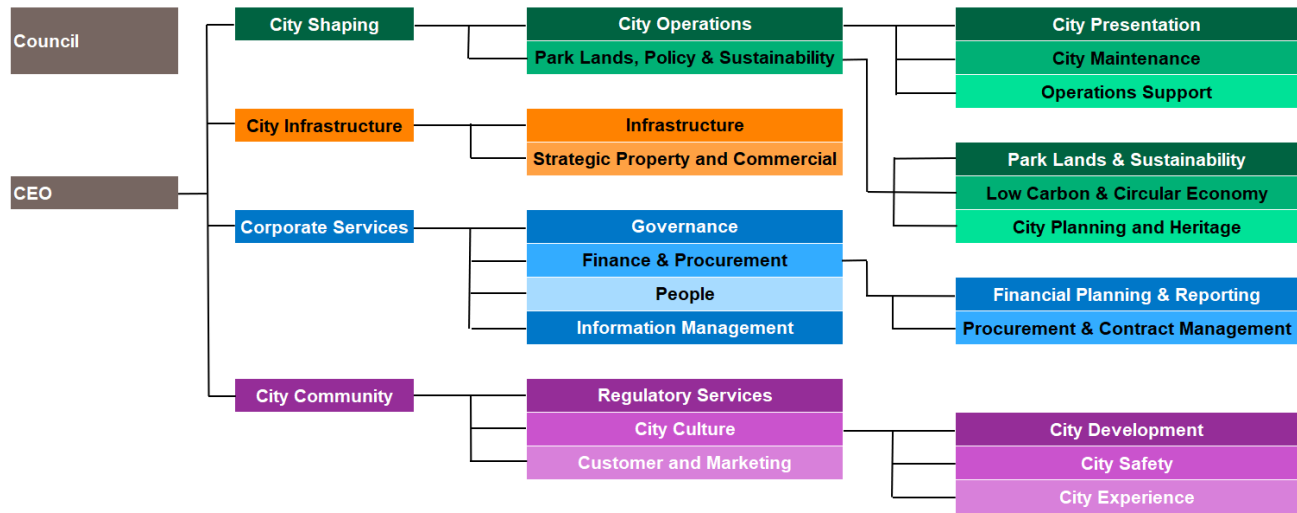
Table 2.3: Key Stakeholders in the Asset Management Plan

Key Stakeholders	Connection to Asset Management Plan
Residents, Ratepayers & Businesses	Provide feedback on current and desired levels of service, which is considered in the development of Asset Management Plans.
Workers, Visitors, Tourists and Students	
Lord Mayor & Elected Members	- Represent and advocate for the needs of the community and set high level direction through the development of asset management principles in the Strategic Plan. - Approve the Asset Management Plan and Long-Term Financial Plan, to ensure the organisation maintains financial sustainability over the short, medium, and long terms, with consideration of community needs/expectations and corporate risk management requirements.
Chief Executive Officer & Executive Leadership Team	- Responsible for the allocation of resources and development of sound asset management practice across the organisation as well as ensuring that all asset management activities are consistent with the objectives of Council's Strategic Plan, the Business Plan and Budget process and the Long-Term Financial Plan. - Responsible for ensuring the financial projections in the adopted Asset Management Plans are reflected in the Long-Term Financial Planning and include sustainable maintenance, operations, renewal, and upgrade costs of current and future assets.
Associate Director Operations	Responsible for providing leadership and direction for Council's Plant and Fleet Asset Management Plan and Delivery.
City Operations Operations Support	Responsible for the lifecycle management of Council's Plant and Fleet Assets and the development of Asset Management Plans, ensuring alignment with the Strategic Management Framework and principles and objectives outlined in the Strategic Plan and other relevant corporate planning documents.
City Operations Trades, Workshop and Facilities Services	- Provide knowledge and data to form the AMP - Assistance with Lifecycle replacement schedules - Responsible for coordination of asset maintenance, both preventative and reactive - Ensure service sustainable.
Low Carbon & Circular Economy	Responsible for facilitating the identification of opportunities to improve circular economy outcomes within infrastructure standards and specifications.
Strategy & Insights	Responsible for the Strategic Management Framework, including the development of the Strategic Plan in consultation with the Executive Leadership Team, Elected Members, and key strategic stakeholders.
Financial Planning & Reporting	Responsible for the development and currency of the Asset Accounting Policy, Fixed Asset Guideline, as well as the preparation of asset sustainability and financial reports, which incorporate depreciation and asset revaluations in compliance with Australian accounting standards.

Procurement & Contract Management	Responsible for ensuring appropriate procedures are in place to enable efficient and effective procurement and contract management that demonstrates value for money and ensure public money is appropriately spent in accordance with the <i>Local Government Act 1999</i> (SA).
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Our organisational structure for service delivery associated with infrastructure assets is shown in Figure 2.3.

Figure 2.3: Organisational Structure



3.0 LEVELS OF SERVICE

Levels of service define the standards and performance targets that infrastructure assets are expected to meet to ensure they provide reliable, safe, and efficient services to the community. Council's Plant and Fleet Assets are used primarily by internal operations to support the delivery of community services. For these assets the Level of Service is primarily a Technical Service Level, which is an operational or technical measure of performance. These include measures to the allocation of resources to best achieve the desired customer outcomes and to demonstrate effective performance.

3.1 Strategic Planning

Under the *Local Government Act 1999* (SA), we are legislatively required to establish a suite of Strategic Management Plans, which guide Council's future planning, asset management and financial sustainability. An overview of these strategic management plans are shown below in Table 3.1.1:

Table 3.1.1: Strategic Management Documents

Strategic Plan Community	Long term with a four year delivery focus. Planning for the vision and aspirations of the Adelaide Capital City.
Long-Term Financial Plan Financial	Ten year Plan, revised annually to ensure a ten year view is maintained. Planning for the long-term financial sustainability of the City of Adelaide.
Asset Management Plans Infrastructure	Suite of ten year Plans. Planning for the sustainable renewal and maintenance of Council assets.
City Plan Development / Built Form	Ten year Spatial Plan. Planning for the future land uses and built form of the Adelaide Capital City.

Through the City of Adelaide Strategic Plan 2024-2028, Council's vision is:

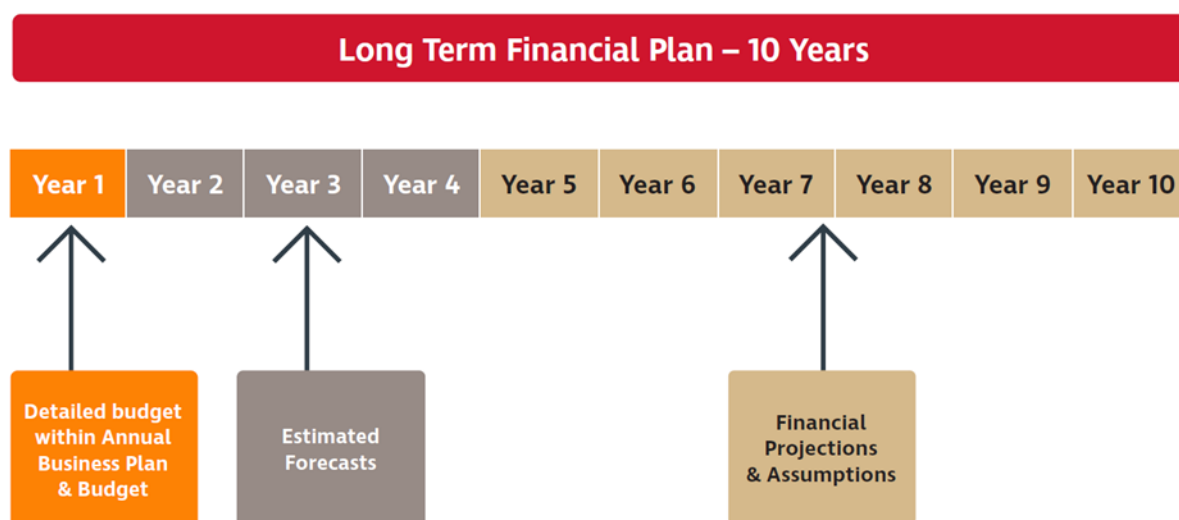
Our Adelaide. Bold. Aspirational. Innovative.

To ensure we can build on this vision for the future, our aspirations will guide our focus and delivery:

Our Community:	Vibrant, connected and inclusive
Our Environment:	Resilient, protected and sustainable
Our Economy:	Growing, innovative and responsive
Our Places:	Interesting, purposeful and safe
Our Corporation:	High performing, customer-centric and bold

Each year our annual business plan and budget formalises funding allocations to continue providing services and progress new projects as well as consider emerging risks and opportunities that may result from Council decisions, community requests or other external factors.

Figure 3.1.2: Long-Term Financial Plan



Our vision is:

An Optimised, Intelligent, and Resilient Plant and Fleet Program.

Our mission is:

To Protect our Plant and Fleet Assets, and Deliver Service Excellence to our Communities.

Strategic goals have been set by the City of Adelaide within the broader City of Adelaide Fleet Strategy 2026 - 2028. The relevant organisational goals and objectives and how these are addressed in this AMP are summarised in Table 3.1.3, also incorporating Fleet Strategy-specific goals and phases:

Table 3.1.3: Goals and how these are addressed in this Plan

Aspirations	Objectives	Outcomes	Asset Management Alignment
Our Environment <i>Resilient, protected and sustainable</i>	Be climate conscious and resilient Prioritise sustainability in our decisions for the future	Lead as a Low Carbon Emissions City A sustainable city where climate resilience is embedded in all that we do	• Increase the use of recycled or sustainable materials • Implement sustainable, renewable and green systems, infrastructure, practices and materials in our Plant and Fleet assets. • Adapt to climate change and enhancing our climate resilience through upgrading our existing assets and purchasing new assets • Ensure all asset investment considers and embeds appropriate climate resilience measures

Our Economy <i>Growing, innovative and responsive</i>	Continue to grow our economy in alignment with the Community Support existing businesses to be agile and responsive to change Create strong skilled workforces	Council is driving development opportunities for our community via diverse commercial activities	Explore partnership opportunities with State Government and other third-parties
Our Places <i>Interesting, purposeful and safe</i>	Manage assets to meet the needs of our community	Community assets are adaptable and responsibly maintained	- Deliver asset renewal and asset maintenance programs to ensure our assets are safe for users and the community.
Our Corporation <i>High performing, customer-centric and bold</i>	Effective Leadership and Governance Exceptional Customer Experience Financial Sustainability People Engagement Strategy, Value and Efficiency Technology and Information	Effective Leadership and Governance Financial Sustainability People Engagement Strategy, Value and Efficiency Technology and Information	- Implement the three (3) phases of the Fleet Strategy Phase 1 – Strengthen Foundations - Strengthen the core infrastructure and processes that will underpin the entire strategy. The focus is on ensuring that the city's operational systems, data management, and governance are robust and ready to handle the significant changes ahead. Phase 2 – Build Resilience - Deliver a more intelligent and high-performing fleet through strategic optimisation. The core focus will be on improving fleet composition, enhancing utilisation rates, and minimising the total cost of ownership. Phase 3 – Sustainable Future - Build a sustainable future by prioritising the expansion of its fleet capabilities and the futureproofing of its enterprise operations. This principle guides a proactive approach to researching, piloting, and integrating emerging technologies and sustainable solutions. - Ongoing review of asset management strategies and technical standards to optimise whole-of-life costs - Continue to undertake regular inspections and revaluation of all our Plant and Fleet assets within the nominated 4-year cycles, including regular review of asset useful lives.

3.2 Legislative Requirements

There are many legislative requirements relating to the management of assets including Australian Legislation, State Legislation and State Regulations. Legislative requirements relevant to the Plant and Fleet AMP are outlined in Table 3.3.

Table 3.2: Legislative Requirements

Legislation	Requirement
Australian Accounting Standards	Prescribes requirements for recognition and depreciation of property, plant and equipment assets.
Australian Design Rules	Requirement for all new vehicles sold in Australia to meet standards relating to anti-theft, safety and emissions.
City of Adelaide Act 1998	An Act to establish mechanisms to enhance the role of the city of Adelaide as the capital city of South Australia; to make special provision in relation to the local governance of the city of Adelaide; and for other purposes
Commonwealth Disability Discrimination Act, 1992	An Act to provide protection for everyone in Australia against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and the economy that flow from participation by the widest range of people
Environmental Protection Act 1993	An Act to provide for the protection of the environment: to establish the Environmental Protection Authority and define functions and powers and for other purposes. Specifically the supporting legislation that requires monitoring and control of emissions from diesel vehicles.
Local Government Act 1999	An Act to set out the role, purpose, responsibilities, and powers of local governments including the preparation of a Long-Term Financial Plan supported by asset management plans for sustainable service delivery
Road Vehicle Standards Act 2018	Requirement to register and assign identification to each vehicle imported to or manufactured in Australia
National Environment Protection (Diesel Vehicle Emissions) Measure	Supporting legislation to the National Environment Protection Council Act 1994 that requires monitoring and control of emissions from diesel vehicles.
Road Traffic Act, 1974	An Act to prescribe the duties of road users; to provide for nationally consistent road rules; to provide for vehicle standards, mass, and loading requirements; to provide for the installation, use, and maintenance of traffic control devices; to provide for the closing of roads for traffic management and other purposes
Road Traffic Amendment Act, 2000	Requirement for the owner of the vehicle to be liable for drivers' compliance with the regulations
State Records Act 1997	An Act to ensure Local Government's record and store all relevant information as set out by the State Government of South Australia
Work Health and Safety Act, 2012 Work Health and Safety Regulations, 2012	The responsibility of the Council to provide safe work practices and work site.

3.3 Technical Levels of Service

To deliver the customer values and impact the achieved User Levels of Service, there are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

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

- **Acquisition** – the activities to provide a higher level of service (e.g. larger size Plant) or a new service that did not exist previously or experiencing growth demand (e.g. a new Park to mow)
- **Operation** – the regular activities to provide services (e.g. Plant and Fleet to support cleansing, mowing grass, etc.
- **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 servicing of Plant and Fleet)
- **Renewal** – the replacement of an asset that continues the service capability to which it had originally provided
- **Disposal** – the activities to remove and/or dispose of an asset that may be considered as underperforming, underutilised or obsolete

Plant and Fleet staff plan, implement and control technical service levels to support the service outcomes.^[1]

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and organisational priorities will change over time

^[1] IPWEA, 2015, IIMM, p 2 | 28.

Lifecycle Category	Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
Acquisition (upgrade/new)	Upgrade / New	To upgrade and further develop the Plant and Fleet assets to ensure it safe, fit-for-purpose and meets the needs of the user	Delivery of key upgrade/new assets Specifications for Fleet, Plant and equipment assets meet operator requirements.	Upgrade/new assets aligned to Strategic Plan objectives are initiated through the Business Plan and Budget process on an annual basis, where assets are subject to a business case assessment which sets out capital requirements, whole of life costs, predicted utilisation and internal hire rates	Upgrade/new assets aligned to Strategic Plan objectives are informed by Fleet Strategy with financial requirements accommodated into the Long-Term Financial Plan. Initiatives are confirmed to proceed annually through the Business Plan and budget process.
			Budget	As adopted annually in BP&B	To be developed
Operation	Usage	Provide assets that contribute towards meeting services safely, efficiently and effectively. Provide sufficient and appropriate assets to undertake council works to meet Levels of Service.	High utilisation of assets and desired results achieved. Low running costs. Hire rates cover operational cost of assets. Compliance with emission noise levels	Council's outdoor teams are equipped with plant and fleet assets that allow their teams to achieve desired results. Safe Work SA's Code of Practice for Fleet is followed. Training Database is maintained, including checks for Heavy Vehicle and High Risk Licencing. Training provided to operators as part of the asset commissioning process, and on an as-required basis. Daily pre-start inspections by drivers/operators with defects reported to workshop staff and compliance Fleet, Plant and equipment assets are risk assessed to ensure they are used safely. Operational costs within budget. Effective hire rates.	To be reviewed with planned updates to operations and maintenance standards and implementation of the Fleet Strategy.
			Budget	As adopted annually through operating budget review	To be reviewed with planned updates to operations and maintenance

Lifecycle Category	Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
					standards and implementation of the Fleet Strategy.
Maintenance	Maintenance Activities in line with manufacturer's requirements	To ensure maintenance is compliant with industry standards and manufacturers specification.	Completion of planned maintenance	Maintenance works are delivered based on service schedules with consideration of available budget and keeping detailed records of reasons for failures	To be reviewed with planned updates to operations and maintenance standards
			Budget	As adopted annually through operating budget review	To be reviewed with planned updates to operations and maintenance standards
Renewal	Renewal of Assets	To ensure assets are renewed, in accordance with optimum replacement timing principles based on whole of life costs	Asset renewal funding ratio	Current performance has been below Council's target of 90-110% awaiting the updating and approval of this Plant and Fleet Asset Management Plan.	100% (assuming budget is adopted)
			Budget	As adopted annually through BP&B	As adopted annually in BP&B in line with the P&F AMP.
Disposal	Disposal of Assets	To ensure assets that may be underperforming, underutilised or obsolete are removed from service.	Disposal of assets	Assets are recommended for disposal in line with Asset Disposal Policy, with financial requirements identified and incorporated through the Business Plan and Budget.	Assets are recommended for disposal in line with Asset Disposal Policy, with financial requirements identified and incorporated through the Business Plan and Budget
			Budget	As adopted annually in BP&B	As adopted annually in BP&B

Note: * Current activities related to planned budget.
 ** Expected performance related to forecast lifecycle costs.

4.0 FUTURE DEMAND

4.1 Demand Drivers

A demand driver refers to the factors or trends that influence the need for infrastructure services and capacity. More specifically, the drivers affecting demand on assets include population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, and environmental impacts.

Demand drivers help predict future infrastructure needs and guide planning and investment decisions.

4.2 Demand Forecasts

The current position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

4.3 Demand Impact and Demand Management Plan

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

The impact on service delivery will be managed through a combination of managing and upgrading existing assets and the provision of new assets to meet demand. Demand management practices can also include non-asset solutions with a focus on providing the required service without the need for the organisation to invest in new or upgraded infrastructure. Management actions could include reducing the demand for the service or educating users around alternative options. It is important to ensure that these strategies consider the associated risks and consequences.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this Asset Management Plan.

Demand Driver	Current Position	Projection	Impact on Services	Demand Management Plan
City Growth and Changing Demographic	2021 Statistics Residents - 25,551 Businesses – 11,519 Daily Visitors – 321,500	2041 Forecast: 46,000 residents 2036 Target: 50,000 residents Anticipated ongoing business growth in line with residential city growth and South Australian State growth projections Anticipated daily visitor growth in line with South Australian State growth projections	City growth will place increasing demands on Plant and Fleet assets to support services, with growing volumes of pedestrians, motorists, cyclists, and public transport users. Changing expectations from a culturally and demographically diverse customer base may result in our Plant and Fleet assets being subject to new demands.	Delivery of prioritised upgrade/new assets to enhance and/or increase Plant and Fleet assets to support city growth and align service provision with the evolving needs of the community. This Asset Management Plan will ensure asset renewals will consider and align where practical with these key upgrade/new initiatives including funding. Delivery of the outcomes within the Fleet Strategy.
Environmental Sustainability & Carbon Neutrality	City of Adelaide's 2020-2024 Strategic Plan has an objective to become one of the world's first carbon neutral cities by 2025. Additionally, a Climate Action Plan (2022-2025) has been developed to ensure we continue to drive down our carbon footprint and mitigate	Within the City of Adelaide Fleet Strategy, a roadmap towards a Sustainable Future has been planned, with an Action Plan in place.	The acquisition of vehicles, plant and equipment which produce fewer greenhouse gas emissions (e.g., electric vehicles and plant, use of battery units instead of petrol in minor equipment) than traditional assets will potentially come at a higher purchase price.	Advancements in environmentally conscious alternative Fleet Assets will be monitored and assessed to assist with the decision making for acquisitions. This Asset Management Plan will ensure asset renewals will consider and align and/or consider where practical these key upgrade/new initiatives including funding.

Demand Driver	Current Position	Projection	Impact on Services	Demand Management Plan
	climate impacts for our residents and visitors. Council is beginning to consider alternative environmentally friendly vehicle selections.			
Emerging Technology	Council has an emerging level of awareness of technological changes. Council's fleet of vehicles, plant and equipment generally suits the expectations of the drivers/ operators of the assets.	Within the City of Adelaide Fleet Strategy 2026 – 2028, lies key strategies to introduce a connected and centralised Fleet Management System, to digitise and centralise asset and fleet management. As technological advancements are made, this will have the potential to make some roles easier and/or more productive.	The implementation of this technology will come at an additional cost, however efficiencies in fleet utilisation will likely negate this. The change in expectation from drivers/ operators may lead to increases in demand for upgrades and increases in the purchasing of vehicles, plant, and equipment. The improved technology will also have the potential to provide improved productivity and safety in operation.	Following the implementation of the City of Adelaide Fleet Strategy 2026 – 2028 Action Plan there will be a mature understanding of asset and fleet requirements. The acquisition of new vehicle, plant and equipment will need to be assessed to determine whether the improved capacity and safety is greater than the increase in the whole of life cycle cost from the existing assets available.
Service Level changes	Current review on Operational Service Standards, and aligning assets to new Service Standard Requirements	The review will align service requirements with asset numbers.	Following the review, there may be an impact to fleet requirements, though this impact is not yet known.	Following the review, this AMP will be reviewed and any impact incorporated into future plans.
Legislation & Regulation	Legislation exists which outlines requirements for how Council's must manage Fleet and Plant assets.	There is potential for future changes to legislation will influence how Council's infrastructure is managed.	New legislation may impose or require changes to asset management planning principles and activities. They may include requirements that have a financial and/or service level impact that must be met.	Continue to monitor changes to legislation and ensure appropriate adaptation into asset management practices. Any material impacts would be considered as part of the Annual Business Plan and Budget process and included in the next revision of the Asset Management Plan.

4.4 Asset Programs to meet Demand

Any new assets required to meet demand will commit City of Adelaide to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs.

All upgrade/new projects responding to demand will involve developing business cases, cost estimates and facilitating decision making to integrate upgrade/new project initiatives with operational asset management planning and the LTTP. This process will be facilitated with Council and the Community through the Annual Business Plan & Budget Process

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the City of Adelaide plans to manage and operate the assets at the agreed levels of service (Refer to Section 3) throughout their entire lifecycle, from acquisition or creation to disposal. The goal is to maximise the value of the assets while minimising costs and risks, ensuring they continue to meet performance requirements over time.

From a financial perspective, Plant and Fleet related activities tend to be classified as being either Operating or Capital. The lifecycle activities used in the asset management and financial planning and reporting process cover:

Capital

- **Acquisition** – the activities to provide a higher level of service (e.g., new major plant such as a sweeper to deliver additional services or growth).
- **Renewal** – the activities that replace or restore assets to the standard it had originally provided (e.g., replace trucks or minor equipment)).

Operating

- **Operations** - fixed and variable cost elements required for Total Cost of Ownership calculations (e.g. fuel, registration, insurance) not including repairs and maintenance costs associated with Workshops. In the context of this AMP, these are 'Fleet Management' costs.
- **Maintenance** – the preventative and corrective actions to sustain asset functionality and minimise unexpected failures. Maintenance activities enable an asset to provide service for its planned life (e.g. scheduled servicing). In the context of this AMP, these are 'Workshop' costs.
- **Disposal** – the sale, removing, or repurposing of assets that are no longer cost-effective, safe, or necessary (e.g. shutting down an old water treatment plant, demolishing unsafe buildings, dismantling old bridges, etc.).

A pictorial representation of the asset lifecycle activities is shown below in Figure 5.0.



Figure 5.0: Asset Lifecycle Activities

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this AMP are shown in Table 5.1.1.

Table 5.1.1: Assets covered by this Plan

Asset Category	Dimension	Replacement Value (\$'000s)
Heavy Fleet	54 Assets	\$9,487
Light Fleet	116 Assets	\$4,585
Major Plant	127 Assets	\$6,619
Minor Plant	837 Assets	\$1,518
Small Tools	39 Assets	\$260
Miscellaneous	30 Assets	\$874
TOTAL	1203 Assets	\$23,343

The replacement value of these assets is forecast at 30 June 2026. The LTFP will then escalate these costs to the forecast replacement cost at the forecast renewal year.

Note, there are assets within the 10-year LTFP horizon which will require renewing twice, these are represented as second-generations replacement assets, and have not been reflected in the table above.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies.

At the time of this AMP creation, there was limited knowledge around Asset capacity, performance and criticality. This has been identified as an Area of Improvement for future AMPs.

5.1.3 Asset condition

At the time of this AMP creation, there was limited knowledge around Asset Condition. This has been identified as an Area of Improvement for future AMPs.

The age profile of the assets included in this AMP are shown in Figure 5.1.1.

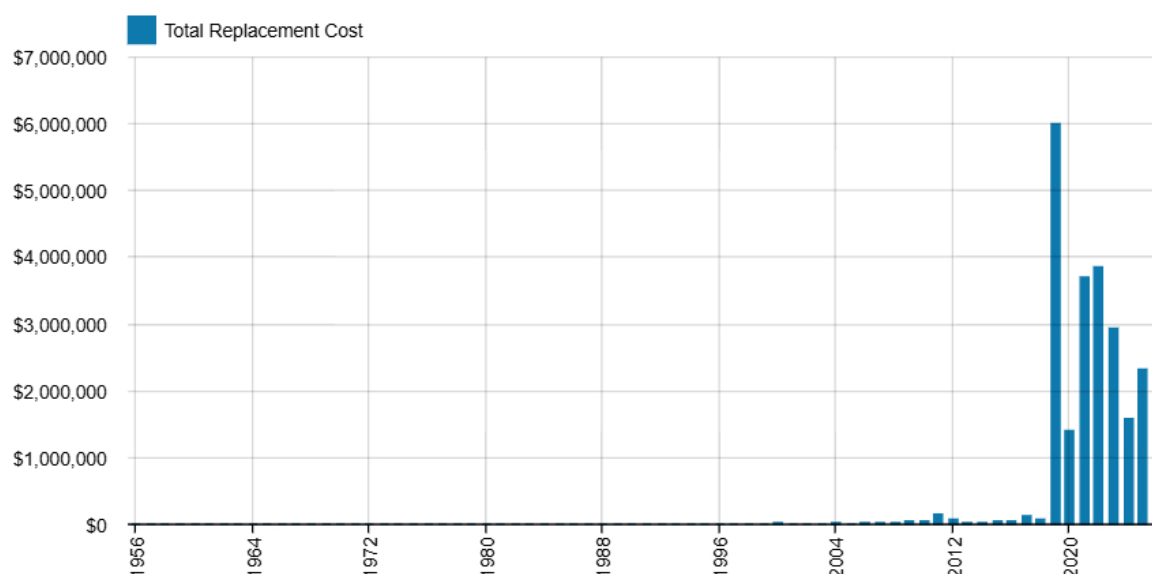


Figure 5.1.1: Asset Age Profile

Amounts are shown in real values (i.e., current values, net of inflation).

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Maintenance in the context of this AMP has been excluded to focus on renewal.

5.2.1 Workshop Upskilling

With the introduction of Electric Vehicles, provision must be made within the workshop to upskill workshop team members to be able to safely and effectively service electric assets.

This initiative has been included in the Improvement Plan.

5.2.2 Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

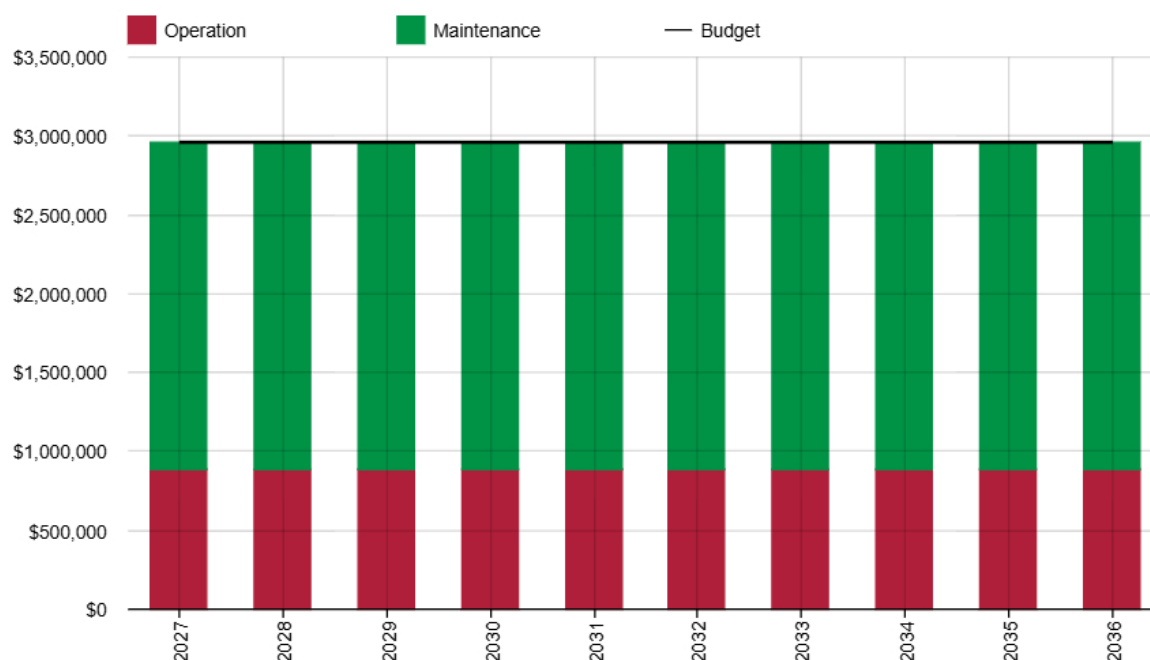


Figure 5.2: Operations and Maintenance Summary

5.3 Renewal Plan

Renewal is major capital work which does not significantly alter the original service provided by the asset, 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 considered to be an acquisition resulting in additional future operations and maintenance costs.

Assets requiring renewal for City of Adelaide Plant and Fleet AMP adopts the below approach in the Lifecycle Model.

Asset Register data is used to project the renewal costs (replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year). Asset useful lives were last reviewed on **7th November 2025**.

It is important to note, that the below Assets have had their lifecycle extended past the preferred cycle to align them with the City of Adelaide Fleet Strategy 2026 – 2028, as they are Heavy Fleet Assets that will be decided upon following the EV Infrastructure Feasibility Assessment. The lifecycle extension for these particular assets is unrelated to the approval of this AMP and refers to the Fleet Strategy action of awaiting market availability for EV options in this asset class. This is also identified as both an action within the City of Adelaide Fleet Strategy 2026-2028 and within the Improvement Plan in Section 8.4.

Asset ID	Subcategory	Asset Name	Description	Current Useful Life	Acquisition Cost	Renewal Cost
PC2147	Heavy Fleet	Truck - Crane	PC2147 Isuzu 4 Ton Truck Npr400 Tipper	9	104663	136567
PC2154	Heavy Fleet	Truck	PC2154 Isuzu FRR 600 Crew cab Premium Auto Tipper	9	134872	175984
PC2150	Heavy Fleet	Truck	PC2150 Isuzu NNR 900 Tipper	9	145034	189244
PC2153	Heavy Fleet	Truck	PC2153 Isuzu FVZ 1400 Auto Tandem Tipper 15T	9	174051	227106
PC1921	Heavy Fleet	Truck	PC1921 Isuzu FTR 1000 Tipper With Roll On/Off Hook Lift	8	199140	252765
PC1813	Heavy Fleet	Truck	PC1813 Isuzu 2 Tonne Truck-Single Cab With Tieman Tailgate Lifter	9	62778	81914
PC1816	Heavy Fleet	Truck	PC1816 Isuzu 5 Tonne Truck FRR 500 Single Cab	9	81344	106139
PC1835	Heavy Fleet	Truck	PC1835 Isuzu FTR 900 Tipper	9	130408	170160
PC2370	Heavy Fleet	Truck - Compactor	PC2370 Bucher Compactor Garbage Rear Loader	9	228515	298173
PC2321	Heavy Fleet	Truck - EWP	PC2321 Isuzu FFR 110-260 MWB Auto With A GMI LLF 12-250 EWP (12M)	9	263148	343362
PC2310	Heavy Fleet	Truck	PC2310 Hino Hybrid Truck Water Truck (Small Size)	9	81315	106101
PC2286	Heavy Fleet	Truck	PC2286 Isuzu NNR 45-150 Truck-Single Cab MWB With Aluminium Tray	9	62389	81407
PC2376	Heavy Fleet	Truck	PC2376 Isuzu Nqr-87-190 Amt MWB Water Truck	9	117446	153247
PC2375	Heavy Fleet	Truck	PC2375 Isuzu Nqr-87-190 Amt MWB Water Truck	9	117446	153247
PC2365	Heavy Fleet	Truck - Crane	PC2365 Isuzu NPR 75-190 LWB Tipper With Ferrari 350 Am Crane	9	120740	157544
PC2364	Heavy Fleet	Truck - Crane	PC2364 Isuzu FVY 240-300 Auto With Nee Tilt Slider And Ferrari 7153C Crane	9	308675	402767

5.3.1 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.3.2. A detailed summary of the forecast renewal costs is shown in Appendix A.

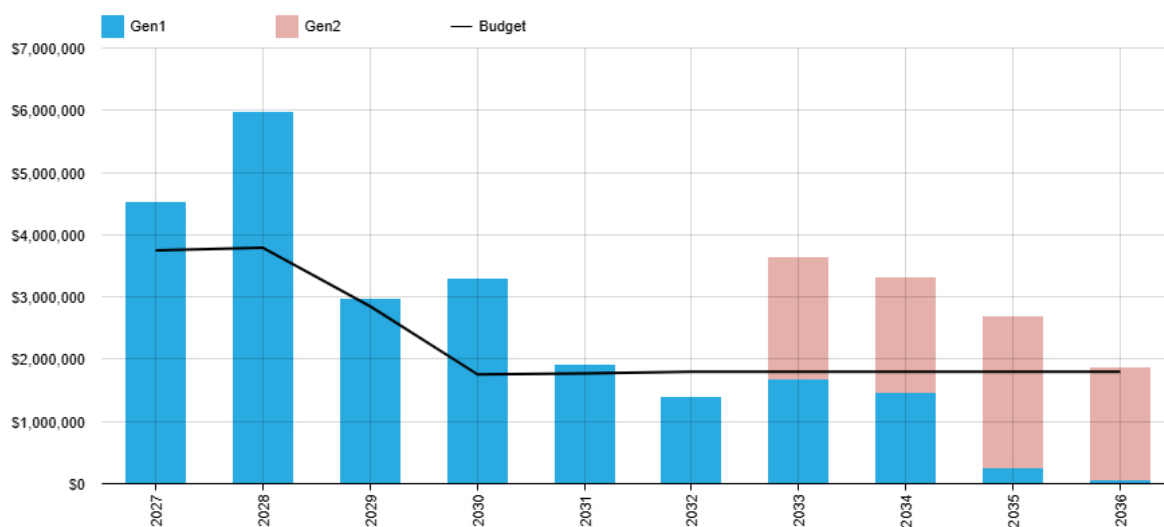


Figure 5.3.2: Forecast Renewal Costs

Amounts are shown in real values (i.e., current values, net of inflation).

Replacement costs were calculated through CPI escalations applied to original purchase value of assets. Asset useful life parameters have been determined through IPWEA industry benchmark and optimal replacement asset lifecycle.³

5.4 Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.6. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

³IPWEA Plant and Vehicle Management Manual – Fourth Edition, s 3.5

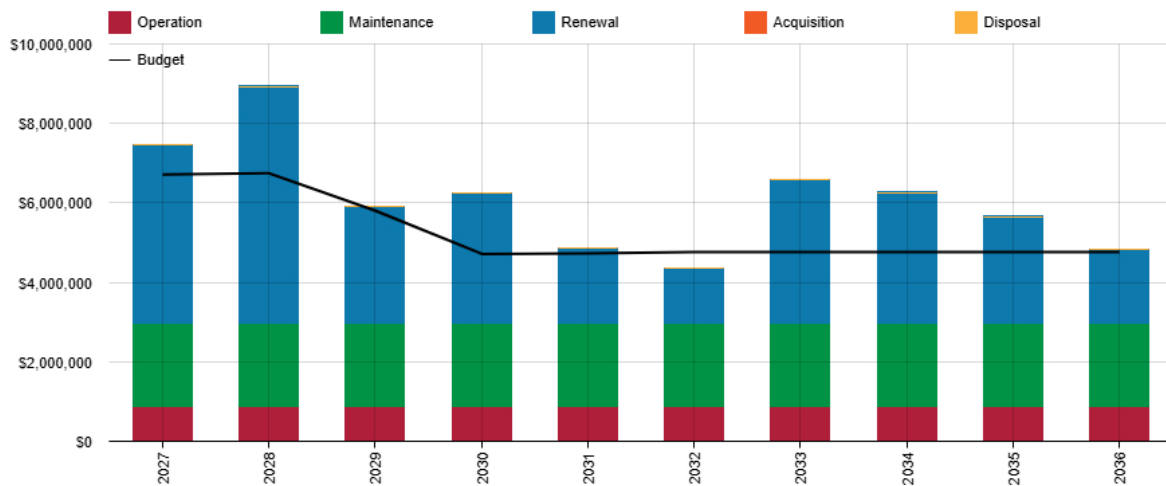


Figure 5.6: Lifecycle Summary

Amounts are shown in real values (i.e., current values, net of inflation).

- **Budget requirement has been set based on asset requirement in that given year. 2027 has a slightly elevated requirement due to the expiry of the previous AMP and a hold on replacement assets being ordered.**
- **2028 is also elevated aligning to the delay in HCV replacement as stated in the City of Adelaide Fleet Strategy 2026 – 2028.**

6.0 RISK MANAGEMENT PLANNING

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'⁴.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1.

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Major Plant associated with Waste	Mechanical failure or unexpected damage.	Public health and safety risks association with higher levels of road litter due to reduced capacity.
Major Plant associated with Street Sweeping	Mechanical failure or unexpected damage	Public safety risks association with higher levels of road litter due to reduced capacity.

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

Further assessments will be undertaken as part of the Fleet Strategy implementation. This has been identified and noted within the Improvement Plan in section 8.4.

6.2 Risk Assessment

The risk management process used 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 International Standard ISO 31000:2018.

⁴ ISO 31000:2009, p 2

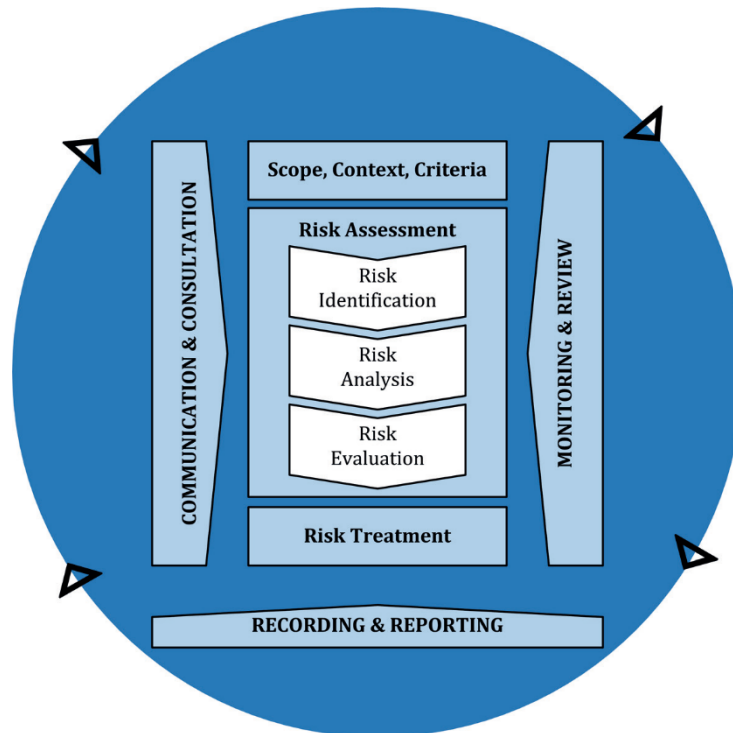


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

This Risk Assessment was conducted during the development of the City of Adelaide Fleet Strategy 2026 – 2028. A detailed Action Plan has been developed to address the risks identified below.

Risk	Existing Controls	Consequence	Likelihood Rating	Consequence Rating	Risk Rating	Mitigation Focus
Absence of a "Single Source of Truth" for Fleet Data	Data residing in disparate systems (Assetic, Excel, Outlook, other programs) leading to inaccurate reporting, difficulty in consolidating costs, and unreliable information for decision-making.	Poor financial control, inability to conduct accurate TCO analysis, suboptimal asset replacement decisions, lack of performance insights, manual effort overheads.	Likely (4)	Major (4)	16	Implementation of a dedicated Fleet Management Information System (FMIS) or upgrading existing systems to integrate and centralise all fleet-related data.
Lack of Overall Fleet Performance Management	Without centralised data and clear performance indicators, the Council cannot effectively measure key metrics like cost per kilometre/hour, utilisation rates, accident frequency, or environmental impact.	Inability to identify areas for improvement, difficulty in demonstrating value for money, uninformed strategic decisions, missed opportunities for optimisation.	Likely (4)	Major (4)	16	Define key performance indicators (KPIs) for the fleet, implement systems to capture and report on these KPIs regularly, establish performance review processes.
Overall Organisational Decentralisation Model for Fleet	Fleet management responsibilities are spread across various departments or individuals without central oversight or clear lines of authority, leading to inconsistent practices, inefficiencies, and a lack of accountability for overall fleet performance. This encompasses the previously identified issues of fragmented roles and data silos.	Suboptimal fleet performance, difficulty in achieving economies of scale, missed cost-saving opportunities, inconsistent WHS practices, inability to implement strategic fleet initiatives.	Almost Certain (5)	Major (4)	20	Implement a centralised fleet management model with clear roles, responsibilities, and a single point of accountability. Develop a comprehensive fleet strategy that cascades from the Council's overall strategic plan.
Lack of Centralised Fleet Management Accountability: Fleet Team	Fragmentation, miscommunication, and working in silos due to the Fleet Coordinator and Leading Hand (and potentially other roles) not reporting to a unified authority. This prevents holistic strategic planning and operational oversight.	Inefficient resource allocation, higher operational costs, inconsistent service delivery, inability to implement unified strategies.	Almost Certain (5)	Major (4)	20	Lack of Centralised Fleet Management Accountability: Fleet Team

Risk	Existing Controls	Consequence	Likelihood Rating	Consequence Rating	Risk Rating	Mitigation Focus
Driver Safety due to Decentralisation	The decentralised fleet management model leads to inconsistent application of safety policies, varied training standards across departments, lack of consolidated incident data analysis, and fragmented oversight of driver behaviour, directly compromising overall driver and public safety.	Increased incidence of preventable accidents, higher WHS claims, inconsistent safety culture, difficulty in identifying systemic safety issues, potential for regulatory breaches.	Possible (3)	Moderate (3)	9	Centralise WHS oversight for fleet; implement unified safety policies and training programs across all departments; centralise incident reporting and analysis; use telematics for consistent driver behaviour monitoring and feedback, managed by a central fleet safety function.
Asset Under-utilisation / Over-utilisation	Lack of systematic vehicle utilisation management leading to an under-utilised fleet, unnecessary capital expenditure on redundant assets, or conversely, over-reliance/over-utilisation of specific assets leading to accelerated wear.	Potential increased capital, increased depreciation costs, higher maintenance costs (for over-utilised assets), inefficient service delivery.	Almost Certain (5)	Major (4)	20	Implementation and management of telematics/GPS tracking for real-time utilisation data, regular utilisation reviews, establishment of pool vehicle systems, and "right-sizing" the fleet based on empirical data.
Inaccurate Total Cost of Ownership (TCO) Calculation	Inability to accurately capture and consolidate all lifecycle costs (acquisition, fuel, maintenance, insurance, depreciation, FBT, disposal) due to fragmented systems.	Uninformed replacement decisions, inaccurate budgeting, over/under-expenditure, missed opportunities for cost savings.	Almost Certain (5)	Major (4)	20	Integrated FMIS, consistent cost coding, regular TCO reporting.
Inadequate Policy Coverage & Enforcement	Policy gaps, unclear vehicle use and eligibility for commuter use) leading to inconsistent application, potential misuse, and difficulty in ensuring compliance.	Increased costs (fuel, FBT), reputational damage, inequitable allocation of resources, legal/HR issues.	Almost Certain (5)	Major (4)	20	Policy review and update to include clear guidelines for all use cases, defined consequence management, and robust communication/training.

Grey Fleet Management	Employees using their privately owned vehicles for Council business without adequate oversight or policy, leading to unknown risks regarding vehicle roadworthiness, insurance coverage (for business use), driver competency, and WHS duty of care. This is often called the "invisible fleet" and carries significant employer responsibility under WHS law.	Council legal liability in case of an accident involving an employee's private vehicle on Council business, uninsured losses, reputational damage, safety risks to employees and public.	Almost Certain (5)	Major (4)	20	Develop and implement a comprehensive Grey Fleet Policy covering vehicle age/condition standards, insurance requirements (including business use), driver licensing checks, and incident reporting for private vehicles used for Council business. Consider alternative mobility options.
High Personal / Unauthorised Use	Lack of controls and monitoring over vehicle use, potentially leading to high personal use without proper authorisation or reimbursement.	Increased fuel costs, accelerated wear and tear, higher FBT liability, reputational issues, inequitable staff benefits.	Likely (4)	Major (4)	16	Clear policies on personal use (including commuter use), implementation of robust booking systems (not Outlook), telematics for monitoring, and regular audits.
Fuel Management & Fraud	Inaccurate fuel consumption tracking, potential for fuel theft or misuse if systems are not integrated and reconciled.	Increased operational costs, financial loss.	Likely (4)	Moderate (3)	12	Integration of fuel card data with telematics, automated reporting, and regular reconciliation/audits.
Inadequate Driver/Operator Competency & Behaviour Management	Lack of comprehensive training, ongoing assessment, and monitoring of driver/operator behaviour (speeding, harsh braking, distracted driving, improper plant operation)	Potential of accident rates, injuries/fatalities, damage to assets/property, higher insurance premiums, legal liability.	Possible (3)	Moderate (3)	9	Comprehensive training programs (defensive driving, specific plant ops), use of telematics for driver behaviour monitoring and feedback, incident analysis.

Risk	Existing Controls	Consequence	Likelihood Rating	Consequence Rating	Risk Rating	Mitigation Focus
Not achieving the City of Adelaide Carbon Neutral Goal by 2030	The City of Adelaide has a stated ambition to be carbon neutral by 2030 (or a significant reduction by 2030, with net zero later). Without a clear, funded, implemented fleet decarbonisation strategy (e.g., transition to Electric Vehicles/Zero Emission Vehicles), the fleet's emissions will significantly impede the Council's ability to meet its strategic environmental goals. This includes issues like insufficient charging infrastructure, limited availability of suitable EV models for heavy plant, and high upfront costs.	Failure to meet Council-wide strategic targets, reputational damage (especially for a capital city aiming for leadership in sustainability), potential for financial penalties or public scrutiny, missed opportunities for long-term operational savings associated with EVs.	Likely (4)	Moderate (3)	12	Develop a detailed Fleet Decarbonisation Roadmap with clear milestones and funding; prioritise procurement of Zero Emission Vehicles (ZEVs) where fit-for-purpose models exist; invest in charging/fuelling infrastructure; explore alternative low-carbon fuels for heavy plant; conduct robust TCO analysis factoring in environmental benefits and potential future carbon costs.
Prioritising meeting the Carbon Neutral goal by 2030	The current market offers limited full EV options for specialized fleet vehicles and heavy plant, making a complete EV transition cost-prohibitive and operationally unfeasible in the short-to-medium term. A focus on meeting the carbon neutral goal by 2030, without first addressing foundational challenges like centralised data, performance management, and appropriate policy frameworks, will lead to significant unfunded costs, operational disruption, and sub-optimal outcomes.	Significant unfunded capital expenditure and operational costs; inability to achieve the carbon neutral goal due to practical limitations; procurement of unsuitable vehicles leading to operational inefficiencies and safety concerns; reputational damage from failing to meet public commitments despite high investment; diversion of resources from more impactful foundational fleet improvements; increased maintenance costs for prematurely deployed or unsuitable EV assets.	Likely (4)	Major (4)	16	Develop a pragmatic, phased Fleet Decarbonisation Roadmap that acknowledges current market limitations for certain vehicle types. Integrate this roadmap with the implementation of a centralised FMIS, TCO analysis, and overall fleet strategy to ensure cost-effectiveness and operational viability. Prioritise decarbonisation where EV options are mature and cost-effective (e.g., light vehicles) while exploring alternative low-carbon solutions and future-proofing infrastructure.

Risk	Existing Controls	Consequence	Likelihood Rating	Consequence Rating	Risk Rating	Mitigation Focus
Lack of Vehicle Inspections and Condition Monitoring	Infrequent or inadequate formal inspections of vehicle and plant condition beyond routine maintenance checks, leading to unidentified defects, accelerated wear, and potential safety hazards.	Increased risk of breakdowns, higher repair costs, compromised safety for operators and public, non-compliance with duty of care.	Possible (3)	Moderate (3)	9	Implement a robust internal vehicle and plant inspection program (e.g., daily pre-start checks, regular documented safety/condition audits), integrate condition data into maintenance planning and replacement decisions.
Renewal, maintenance, and operational budgets are not adopted as recommended in Asset Management Plan.	Lack of current Asset Management Plan, best practice renewal principles not able to be followed with capital budget constraints, budgets managed across multiple work areas with fragmented collaboration	Increased asset risk, reduced levels of service and increased whole of life costs	Possible (3)	Major (4)	12	Reduce levels of service, to better align asset management activities with financial constraints. This will result in renewal and maintenance activities being prioritised, with respect to available budgets.
CoA do not have the financial capacity to undertake all recommended upgrades in conjunction with asset renewal	Operational criticality as it pertains to each asset is informally assessed through operator and work area engagement, maintenance reporting and replacement recommendations through Workshops. This assessment is triaged alongside budget availability to determine immediate replacement focus areas.	Asset functionality will be deficient and strategic objectives not met. Current practice of replacement assessment triaging is not strategically sustainable.	Likely (4)	Major (4)	16	Upgrade opportunities associated with significant renewal are discussed with Council on an annual basis through the Business Plan and Budget Process. Prior to allocating resources to detailed design and construction activities, concept design options are developed with cost estimates and presented to CoA's Senior Leadership Team, to confirm project priority in conjunction with the recommended scope and timing of works.

7.0 FINANCIAL SUMMARY

This section contains the financial and valuation forecasts resulting from the information presented in the previous sections of this plan. Forecasts will be improved as the discussion on sustainable levels of service, risk and cost matures in line with the financial strategy.

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the AMP for this service area. The two indicators are the:

- Asset Renewal Funding Ratio (planned renewal budget for the next 10 years / forecast renewal outlays for the next 10 years identified as warranted in the AMP), and
- Lifecycle Funding Ratio (planned lifecycle budget for the next 10 years / forecast lifecycle outlays for the next 10 years identified as warranted in the AMP).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio⁵ 72.8%

The Asset Renewal Funding Ratio illustrates that over the next 10 years we expect to have 72.8% of the funds required for the optimal renewal of assets.

The forecast renewal works along with the planned renewal budget, and the cumulative shortfall where one exists, is illustrated in Appendix A.

Lifecycle Funding Ratio – 10-year financial planning period

This AMP identifies the forecast renewal costs required to provide the levels of service to the community over a 10-year period. This provides input into 10-year LTFP aimed at providing the required services in a sustainable manner.

Per the AMP, the current 10-year projection is \$6.101 million on average per year, when comparing to the required renewal budget this represents a funding shortfall of \$858,000 on average per year, across the 10-year period for the renewal and replacement of assets.

7.1.2 Forecast Costs (outlays) for the long-term financial plan

Table 7.1.2 shows the forecast costs (outlays) required for consideration in the 10 year long-term financial plan.

Table 7.1.2: Forecast Costs (Outlays) for the Long-Term Financial Plan

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2026-27	-	881,540	2,078,893	4,506,198	-
2027-28	-	881,540	2,078,893	5,968,588	-
2028-29	-	881,540	2,078,893	2,953,546	-
2029-30	-	881,540	2,078,893	3,273,851	-
2030-31	-	881,540	2,078,893	1,907,907	-
2031-32	-	881,540	2,078,893	1,392,127	-
2032-33	-	881,540	2,078,893	3,631,794	-
2033-34	-	881,540	2,078,893	3,519,750	-
2034-35	-	881,540	2,078,893	2,470,605	-

⁵ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2035-36	-	881,540	2,078,893	1,870,841	-

7.2 Valuation Forecasts

The best available estimate of the value of assets included in this AMP are shown below. The assets are valued at fair value at cost to replace service capacity estimated at 30 June 2026.

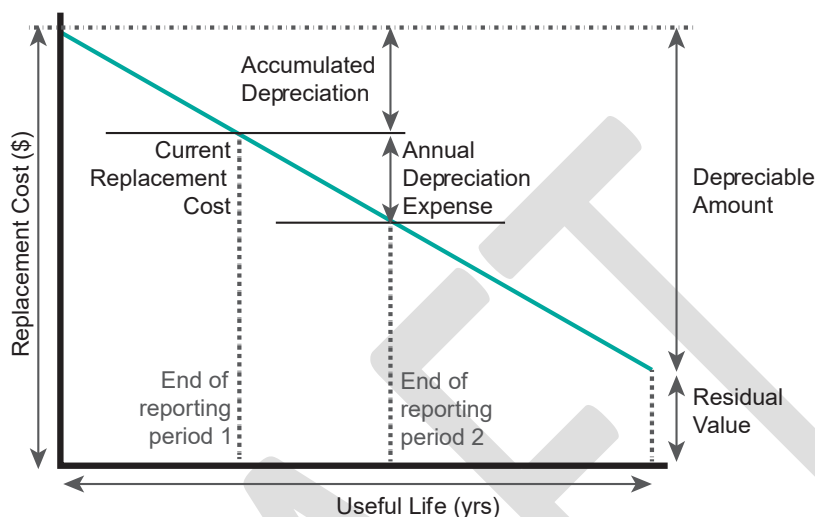


Figure 7.2.1: Valuation Terminology

- Replacement Cost (Gross) \$24,041,258
- Depreciable Amount \$24,041,258
- Current Replacement Cost⁶ \$7,307,726
- Annual Depreciation Expense \$3,086,169

Asset values are forecast to remain neutral; this is due to the efficiencies expected within the execution of the Fleet Strategy 2026 – 2028.

Acquiring new assets will add to existing operations, maintenance, future renewal, and depreciation expenses.

⁶ Also reported as Written Down Value, Carrying or Net Book Value.

8.0 ASSUMPTIONS AND IMPROVEMENT PLANNING

8.1 Data and Information Sources

8.1.1 Accounting and financial data sources

This AMP utilises accounting and financial data sourced from Assetic and TechOne.

8.1.2 Asset management data sources

This AMP also utilises asset management data sourced from Assetic and TechOne.

8.2 Key Assumptions

In compiling this AMP, it was necessary to make some assumptions. This section details the key assumptions made in the development of this AMP and should provide readers with an understanding of the level of confidence in the data behind the forecasts.

Key assumptions made in this AMP are:

- The execution of the City of Adelaide Fleet Strategy 2026 – 2028;
- Assets requiring renewal are identified from either the asset register or an alternative method;
- Renewal forecasts are based on costs associated with like for like or modern equivalent replacement and any legislated requirements. They do not account for additional costs to upgrade assets or install new ancillary assets;
- Renewal forecasts have been escalated into FY2027 dollars (based on historic and forecast inflation);
- Renewal forecasts consider asset condition and asset functionality;
- Asset useful lives align with current levels of service and are based on the judgment and experience of internal staff and provider recommendations for optimal replacement cycle and resale;
- Asset useful life and remaining useful life estimates assume existing maintenance resourcing levels are continued;
- Acquisition (upgrade/new) costs are not recognised within this Asset Management Plan. These costs will be recognised in the Annual Business Plan and Budget considerations and incorporated into Long-Term Financial Plan separately;
- Operations and maintenance forecasts do not currently account for the future acquisition of new assets (to be considered through the annual business plan and budget and incorporated into future revisions of this Asset Management Plan)
- The Long-Term Financial Plan will appropriately escalate financial outlays communicated within this Asset Management Plan;
- The timing of capital renewals based on the asset register is applied by adding the useful life to the year of acquisition or year of last renewal;
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems and may be supplemented with, or based on, expert knowledge. When doing so, the forecast remaining useful life in the asset register should be adjusted where necessary.

The Asset Register was used to forecast the renewal lifecycle costs for this AMP.

8.3 Forecast Reliability and Confidence

The forecast demands, costs, planned budgets, and valuation projections in this AMP are based on the best available data. For effective asset management and financial planning and reporting, it is critical that the information is reliable and up to date. Data confidence is classified on an A to E level scale in accordance with the guidance provided in the International Infrastructure Management Manual.⁷

Table 8.3.1: Data Confidence Grading System

⁷ IPWEA, IIMM, Table 4.2.7.2

Confidence Grade	Description
A. Very High	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. High	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. Medium	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. Low	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. Very Low	None or very little data held.

The estimated confidence level for and reliability of data used in this AMP is shown in Table 8.3.2.

Table 8.3.2: Data Confidence Assessment for Data used in AMP

Data	Confidence Assessment	Comment
Demand drivers	High	Consulted directly with City of Adelaide Stakeholder team
Growth projections	N/A	N/A
Acquisition forecast	N/A	N/A
Operation forecast	Medium	Budget numbers for FY24/25 used
Maintenance forecast	Low	Budget numbers for FY24/25 used
Renewal forecast - Asset values	High	Assets captured in central system
- Asset useful lives	High	Assets captured in central system and consulted with Maintenance Team
- Condition modelling	Very Low	No data available
Disposal forecast	N/A	N/A

8.4 Improvement Plan

It is important that we recognise gaps in the planning process that require improvement to ensure effective asset management and informed decision making. The improvement plan generated from this AMP is shown in Table 8.4.

Table 8.4: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Execution of the City of Adelaide Fleet Strategy Action Plan, including the future planning needs for Electric Vehicle transition and related feasibility studies.	Asset and Fleet Team	Within existing resource allocation, with support from external consultants. Additional funding and resourcing to be considered for each strategic action, to identify appropriate allocation	2026-27 2027-28 2028-29
2	Upskilling of workshops to be able to maintain Electric Assets	Workshop Team	Within existing resource allocations	2026-27
3	Including asset condition, criticality, capacity and function for all assets to be used in future AMPs	Asset and Fleet Team	Within existing resource allocations	2026-27
4	Review this AMP every 12 months to ensure that any changes resulting in the execution of the City of Adelaide Fleet Strategy Action Plan are captured.	Asset and Fleet Team	Within existing resource allocations	2026-27
5	Continue to review our technical standards and their application across the Plant and Fleet assets with respect to climate resilience, performance and whole-of-life cost requirements. This review will also refine asset criticality definitions and assessments.	Asset and Fleet Team	Within existing resource allocations	2026-27 2027-28 2028-29
6	Review and update operations and maintenance standards, to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and user expectations. Include changes into future revisions of this AMP and LTFP.	Workshop Team	Within existing resource allocation	2026-27
7	Review and standardise asset hierarchies for Plant and Fleet asset classes.	Asset and Fleet Team	Within existing resource allocations	2026-27
8	Further develop processes to ensure asset data is updated following the completion of scheduled maintenance work and emergency asset replacement resulting from vandalism or accidents.	Workshop Team	Within existing resource allocation	2026-27

8.5 Monitoring and Review Procedures

This AMP will be reviewed and updated during the annual business plan and budget process to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The Asset Management Plan has a maximum life of 4 years and is due for complete revision and updating within two years of a general Council election, pursuant to section 122 of the *Local Government Act 1999* (SA).

8.6 Performance Measures

The effectiveness of this AMP can be measured in the following ways:

- The degree to which the required forecast costs identified in this AMP are incorporated into the long-term financial plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (90 – 110%).
- Achieving Technical Level of Service objectives
- Reviewing changes to user service request numbers and user satisfactory surveys
- Progressing with the implementation of Improvement Actions identified in Table 8.4
- Reviewing and update of the Plan at minimum every four years

9.0 REFERENCES

- IPWEA, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/resourcesnew/bookshop/iimm>
- IPWEA, 'Plant and Vehicle Management Manual – Fourth Edition', Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/resourcesnew/bookshop/pvmm4>
- IPWEA, 'NAMS+ - A Toolkit for Asset Management Planning', Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/resourcesnew/namsplus>
- IPWEA, 2024 'International Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/resourcesnew/bookshop/iifmm>
- IPWEA, 2018, Practice Note 12.1, 'Climate Change Impacts on the Useful Life of Assets', Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/resourcesnew/bookshop/pn12-1>
- IPWEA, 2012, Practice Note 6 Long-Term Financial Planning, Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn6>
- IPWEA, 2014, Practice Note 8 – Levels of Service & Community Engagement, Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn8>
- ISO, 2024, ISO 55000:2024 Asset Management – Vocabulary, overview, and principles
- ISO, 2018, ISO 31000:2018 Risk management – Guidelines
- 'Strategic Plan 20XX – 20XX',
- 'Annual Plan and Budget'.

Appendix A Renewal Forecast Summary

Table D3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2026-27	\$4,506,198	\$3,750,000
2027-28	\$5,968,588	\$3,790,000
2028-29	\$2,953,546	\$2,852,000
2029-30	\$3,273,851	\$1,755,000
2030-31	\$1,907,907	\$1,773,000
2031-32	\$1,392,127	\$1,800,000
2032-33	\$3,631,794	\$1,800,000
2033-34	\$3,519,750	\$1,800,000
2034-35	\$2,470,605	\$1,800,000
2035-36	\$1,870,841	\$1,800,000

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Appendix B Operation Forecast

Table B2 - Operation Forecast Summary

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2026-27	\$881,540	0	\$881,540
2027-28	\$881,540	0	\$881,540
2028-29	\$881,540	0	\$881,540
2029-30	\$881,540	0	\$881,540
2030-31	\$881,540	0	\$881,540
2031-32	\$881,540	0	\$881,540
2032-33	\$881,540	0	\$881,540
2033-34	\$881,540	0	\$881,540
2034-35	\$881,540	0	\$881,540
2035-36	\$881,540	0	\$881,540

Appendix C Maintenance Forecast

Table C2 - Maintenance Forecast Summary

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2026-27	\$2,078,893	0	\$2,078,893
2027-28	\$2,078,893	0	\$2,078,893
2028-29	\$2,078,893	0	\$2,078,893
2029-30	\$2,078,893	0	\$2,078,893
2030-31	\$2,078,893	0	\$2,078,893
2031-32	\$2,078,893	0	\$2,078,893
2032-33	\$2,078,893	0	\$2,078,893
2033-34	\$2,078,893	0	\$2,078,893
2034-35	\$2,078,893	0	\$2,078,893
2035-36	\$2,078,893	0	\$2,078,893