



Port Augusta

CITY COUNCIL



PORT AUGUSTA CITY COUNCIL
**BUILDING & LAND
IMPROVEMENTS
ASSET MANAGEMENT PLAN**



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1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

This Asset Management Plan (AM Plan) details information about infrastructure assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 20 year planning period. The AM Plan will link to a Long-Term Financial Plan which typically considers a 10 year planning period.

1.2 Asset Description

This plan covers the infrastructure assets that provide functional buildings spaces and land improvement/open space facilities.

The Building and Land Improvement assets comprises:

- Public and Community facilities
- Council Operational Facilities
- Land Improvements
- Playground and Open Space

The above infrastructure assets have replacement value estimated at \$96,015,000

1.3 Levels of Service

The allocation in the planned budget is insufficient to continue providing existing services at current levels for the planning period.

The main service consequences of the Planned Budget are:

- Insufficient funds to undertaken renewal of existing facilities
- Inability to meet asset ratio and sustainability requirements of Strategic Directions and Council Policy
- Deterioration and reduction in level of service

1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery are created by:

- Population, demographics and its impact on demand for specific services
- Tourism
- Climate Change
- Changes in regulations, codes and best practice

These demands will be approached using a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures.

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years. Therefore, a summary output from the AM Plan is the forecast of 10 year total outlays, which for Building and Land Improvement assets is estimated as \$52,886,400 or \$5,288,640 on average per year.

1.6 Financial Summary

1.6.1 What we will do

Estimated available funding for the 10 year period is \$35,770,000 or \$3,577,000 on average per year as per the Long-Term Financial plan or Planned Budget. This is 67.64% of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The Informed decision making depends on the AM Plan emphasising the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for Buildings and Land Improvements leaves a shortfall of \$-1,711,640 on average per year of the forecast lifecycle costs required to provide services in the AM Plan compared with the Planned Budget currently included in the Long-Term Financial Plan. This is shown in the figure below.

Forecast Lifecycle Costs and Planned Budgets

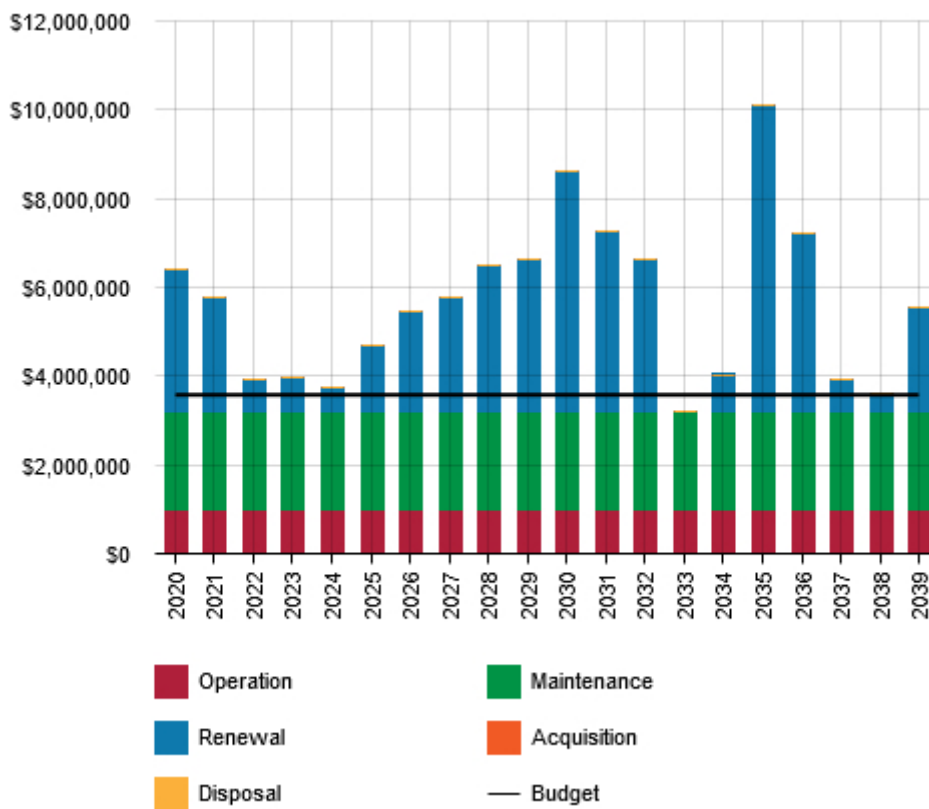


Figure Values are in current dollars.

We plan to provide Building and Land Improvement services for operational, maintenance and limited renewal and acquisition of Buildings and Land Improvements to meet service levels set by Port Augusta City Council in annual budgets.

1.6.2 What we cannot do

We currently do **not** allocate enough budget to sustain these services at the proposed standard or to provide all new services being sought. A significant majority of planned renewals based on the current renewal schedules cannot be achieved with the current funding model.

1.6.3 Managing the Risks

Our present budget levels are insufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Aging asset that are not funded for replacement and increased maintenance costs as a result of asset condition.
- A reduction in the level of service as multiple assets reach the end of their useful life
- Loss of reputation as Council asset are placed out of service

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

- Undertake an building and land improvement asset utilisation study and community engagement process to identify service level standards and strategies and recommendation to optimise asset delivery with limited resources.
- Seek opportunities to disposal of assets where appropriate and in line with Council Disposal Policy.

1.7 Asset Management Planning Practices

Key assumptions made in this AM Plan are:

- It is assumed that the data available is accurate and complete. Validation of data is necessary to progress to a point where strategies can be put in place to management and reduce the funding shortfall.

Assets requiring renewal are identified from either the asset register or an alternative method.

- 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.

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

This AM Plan is based on an uncertain level of confidence information.

1.8 Monitoring and Improvement Program

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

- Validate data utilising the latest valuation data which is currently being compiled with an expected delivery target date of Dec 2020.
- Commence utilisation investigations and community engagement

2.0 Introduction

2.1 Background

This AM Plan 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 AM Plan is to be read with the Port Augusta City Council planning documents. This should include the Asset Management Policy and Asset Management Strategy, where developed, along with other key planning documents:

- Strategic Directions Plan 2019-2029
- Four-Year Priority Action Plan
- Long Term Financial Plan (LTFP)

The infrastructure assets included in this plan have a total replacement value of \$96,941,158.

Key stakeholders in the preparation and implementation of this AM Plan are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Mayor and Elected Members	<ul style="list-style-type: none">■ Represent needs of community/shareholders,■ Ensure service sustainable.
Chief Executive Officer	<ul style="list-style-type: none">■ Allocate resources to meet planning objectives in providing services while managing risks■ Ensure service sustainable.
Director Infrastructure	<ul style="list-style-type: none">■ Overall responsibility for Infrastructure Department.■ Ensuring compliance with Strategic Plans and Objectives.
Manager Regulatory Services	<ul style="list-style-type: none">■ Ensuring development approval meets required compliance standards where impacts on infrastructure are likely or works will result in contributed assets.
Manager Infrastructure	<ul style="list-style-type: none">■ Ensuring compliance of Strategic Plan Objectives.■ Guidance and leadership to Asset Team
Asset Management Officer	<ul style="list-style-type: none">■ Responsibility to ensure asset management tasks and improvement plan are undertaken in line with objectives within AM Plan.■ Drafting of Asset Management Plans for approval.
Technical Officers/Contract Administrator and Property Officer	<ul style="list-style-type: none">■ Capital works projects and contractor engagement■ Report of any asset defects or deficiencies noted during inspections.

Key Stakeholder	Role in Asset Management Plan
Manager Operations	<ul style="list-style-type: none"> ■ Capital works projects ■ Reactive and planned maintenance schedules ■ Completion of CRM and Skytrust Actions ■ Report of any asset defects or deficiencies noted during inspections
Community (residents, businesses, property owners)	<ul style="list-style-type: none"> ■ Provide feedback on level of service and the implications on revenue and budget expenditure ■ Reporting of any asset defects or deficiencies through Council CRM system
Federal and State Governments	<ul style="list-style-type: none"> ■ Liaise for funding opportunities through various Government Agencies ■ Reporting body for any issues or service deficiencies for DIT infrastructure

2.2 Goals and Objectives of Asset Ownership

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

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

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.

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

- International Infrastructure Management Manual 2015 ¹
- ISO 55000²

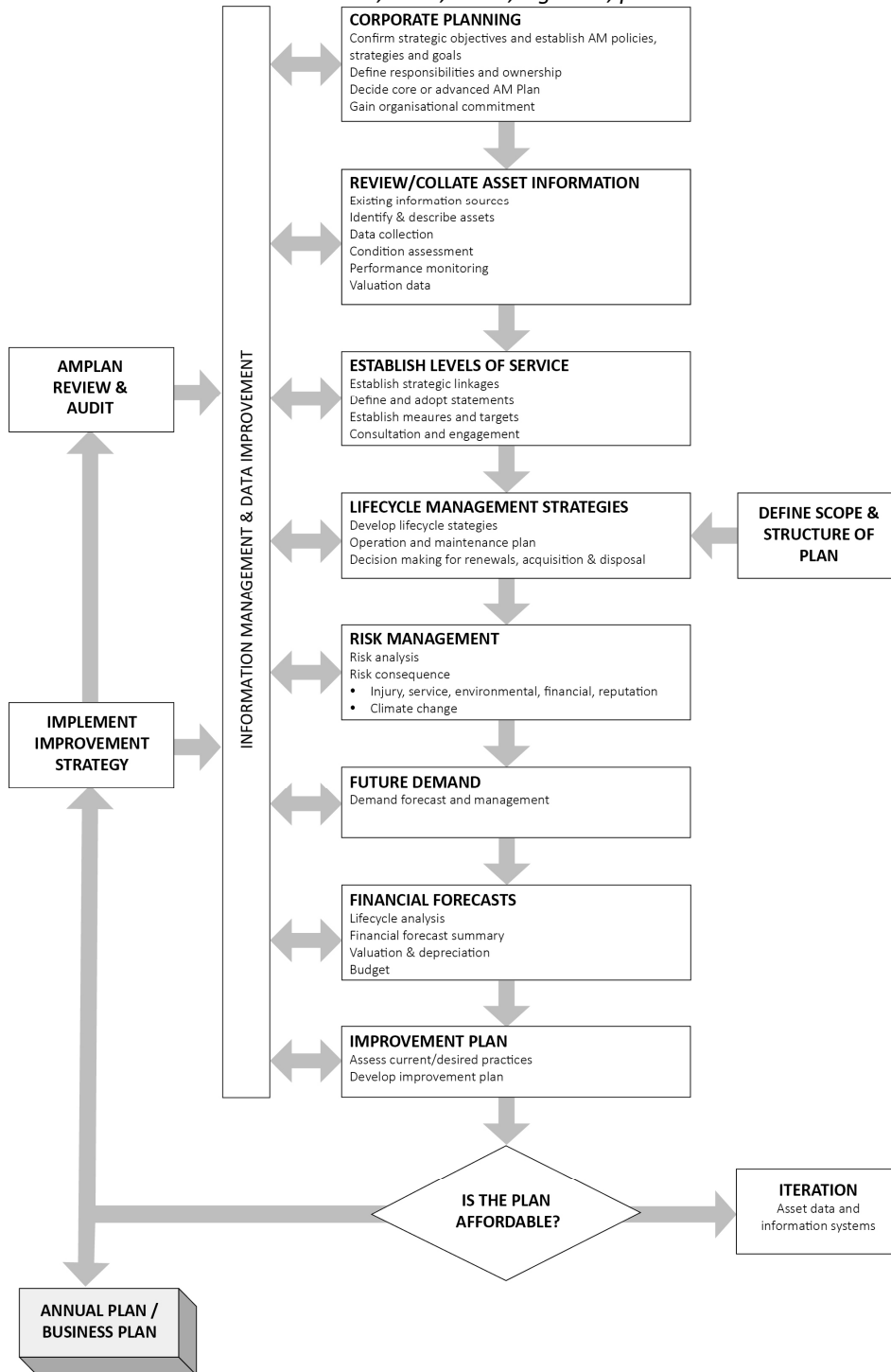
A road map for preparing an AM Plan is shown overpage.

¹ Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2 | 13

² ISO 55000 Overview, principles and terminology

Road Map for preparing an Asset Management Plan

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



3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

This AM Plan is prepared to facilitate consultation prior to adoption of levels of service by the Port Augusta City Council. Future revisions of the AM Plan will incorporate customer consultation on service levels and costs of providing the service. This will assist the Port Augusta City Council and stakeholders in matching the level of service required, service risks and consequences with the customer’s ability and willingness to pay for the service.

3.2 Strategic and Corporate Goals

This AM Plan is prepared under the direction of the Port Augusta City Council Strategic Directions goals and objectives.

Strategic goals have been set by the Port Augusta City Council. The relevant goals and objectives and how these are addressed in this AM Plan are summarised in Table 3.2.

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

Goal	Objective	How Goal and Objectives are addressed in the AM Plan
We provide and advocate for fit for purpose infrastructure that improves the economic, environmental and social wellbeing of our City.	<ul style="list-style-type: none"> • Our physical infrastructure meets our community needs. • We have safe, accessible and well-utilised CBD, public spaces and built environments that reflect the priorities of our community. • Our City develops and evolves in a planned way, improving the appearance of our City and making efficient use of infrastructure. 	<ul style="list-style-type: none"> • Continuous improvement in asset management practices • Determining a defined level of service and monitoring performance using a lifecycle approach.
We conduct our Council business ethically and transparently and seek financial sustainability and legislative compliance to allow the Council to provide the infrastructure and services required to achieve our 2029 aspirations.	<ul style="list-style-type: none"> • Investigate and implement a contingency approach for planning for growth or decline. 	<ul style="list-style-type: none"> • Managing the impact of growth through demand management and infrastructure investment • Having a long-term financial plan which identifies required, affordable expenditure and how it will be financed (Based on IPWEA, 2011, IIMM, Sec 1.2 p1/7)

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the Building and Land Improvement service are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act 1999	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.
Work Health and Safety Act 2012 & Regulations	Set out roles and responsibilities to secure the health, safety and welfare of persons at work.
Native Vegetation Act 1991 (SA)	Sets out the requirements under the Act to protect and preserve native vegetation.
AS/NZS 2890 Parking Facilities	Sets out parking requirements in various forms (Off-street parking, on-street parking, etc)
AS1428 Design for access and mobility	Reference for access requirements relating to transport(ie ramps, parking, pedestrian ways, etc)
Development Act 1993	Sets out parameters for Developments, including what developments required Development Approval (Planning Consent/Building Rules Consent) and the process required to obtain such consents.
Building Codes Australia	Sets out Technical requirements relating to building works
Disability Discrimination Act 1993	Set outs requirements for equality of access to services and facilities

3.4 Customer Values

Service levels are defined in three ways, customer values, customer levels of service and technical levels of service.

Customer Values indicate:

- what aspects of the service is important to the customer,
- whether they see value in what is currently provided and
- the likely trend over time based on the current budget provision

Future revisions of the AM Plan will incorporate customer values once fully researched through community engagement and satisfaction surveys

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Condition How good is the service ... what is the condition or quality of the service?

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

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

In Table 3.5 under each of the service measures types (Condition, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available or proportion of replacement value by condition %'s) to provide a balance in comparison to the customer perception that may be more subjective.

Table 3.5: Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Service Target
Condition	Buildings and Land Improvements are maintained in a serviceable condition	Customer feedback and community satisfaction.	Zero complaints per year
Function/Capacity	Meet user requirements (fit for purpose).	Customer feedback and requests.	Assess and respond to requests within 30 days.
Safety	Provide safe spaces for community members including public facilities and recreational and open spaces.	Customer feedback and requests.	Zero claims against Council.

3.6 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, 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. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).
- **Operation** – the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, inspections, 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. 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 provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.³

Table 3.6 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the Forecast activity requirements being recommended in this AM Plan.

Table 3.6: Technical Levels of Service

³ IPWEA, 2015, IIMM, p 2|28.

Lifecycle Activity	Level of Service Objective	Performance Measure Process	Service Target
TECHNICAL LEVELS OF SERVICE			
Operation	Efficiently utilise assets which will consume resources such as manpower, energy and materials (IIMM).	Regular condition assessments (every 3-5 years). Improvement of current standards of construction.	Reinspection program linked to maintenance/renewal programs and registered customer complaints. Standards of construction linked to lower lifecycle costs.
Maintenance	Retain assets as near as practicable to its original condition, but excluding rehabilitation or renewal (IIMM).	Proactive approach to maintenance and development of contracts and maintenance scheduled to support cyclic maintenance functions	Maintenance schedule and service contracts complete and operational
Renewal	Replace existing assets with assets of equivalent capacity or performance capability (IIMM).	Renewal program developed and validated to ensure optimal service from assets	Increase of the sustainability ratio and development and implementation of strategies to manage funding shortfall.
Disposal	Seek opportunities to disposal of assets	Disposal of surplus assets in line with Council Policy	Identification of surplus assets through asset utilisation study.

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 customer priorities will change over time.

4.0 FUTURE DEMAND

4.1 Demand Drivers

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

4.2 Demand Forecasts

The present 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.

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 can include non-asset solutions, insuring against risks and managing failures.

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

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population	13,474 (2001 Census) 13,874 (2006 Census) 13,985 (2011 Census) 14,102 (2018 ABS) Population continuing to grow, albeit slowing.	An increase in working age population however, young people remaining in the city is at risk	Limited impact based on current trends	Undertake utilisation study to quantify current service provision. Familiarisation with current and changing regulations as they relate to the provision of building and land improvement assets.
Changing demographics	Mix of assets that provide services suitable for current service demand	Dissatisfaction with current level of service	Service demand for youth activities and or request for higher level of DDA compliance	
Tourism	Facilities provided to encourage visitation	Tourism movement to increase	Additional demand for facilities to visitor and RV vehicles	
Regulations, codes and best practice	Buildings and structures meet current requirements	Changes in regulation	Increased demand to retrofit assets to meet current day standards and increase service level	

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit the Port Augusta City Council 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 for inclusion in the long-term financial plan (Refer to Section 5).

4.5 Climate Change Adaptation

The impacts of climate change may have a significant impact on the assets we manage and the services they provide. In the context of the Asset Management Planning process climate change can be considered as both a future demand and a risk.

How climate change impacts on assets will vary depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.⁴

As a minimum we consider how to manage our existing assets given potential climate change impacts for our region.

Risk and opportunities identified to date are shown in Table 4.5.1

Table 4.5.1 Managing the Impact of Climate Change on Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Utilisation of renewable forms of energy	Integration of solar and LED technologies for lighting	Reduction in operational expenditure	Cost benefit to off-set initial capital outlay
Warmer Climate	Open-spaces to consider protection for UV rays	Planting and shelters to provide protection	Development of a streetscape and open space strategy.

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Building resilience can have the following benefits:

- Assets will withstand the impacts of climate change;
- Services can be sustained; and
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

The impact of climate change resilience on assets is a new and complex discussion and further opportunities will be developed in future revisions of this AM Plan.

⁴ IPWEA Practice Note 12.1 Climate Change Impacts on the Useful Life of Infrastructure

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Port Augusta City Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 3) while managing life cycle costs.

5.1 Background Data

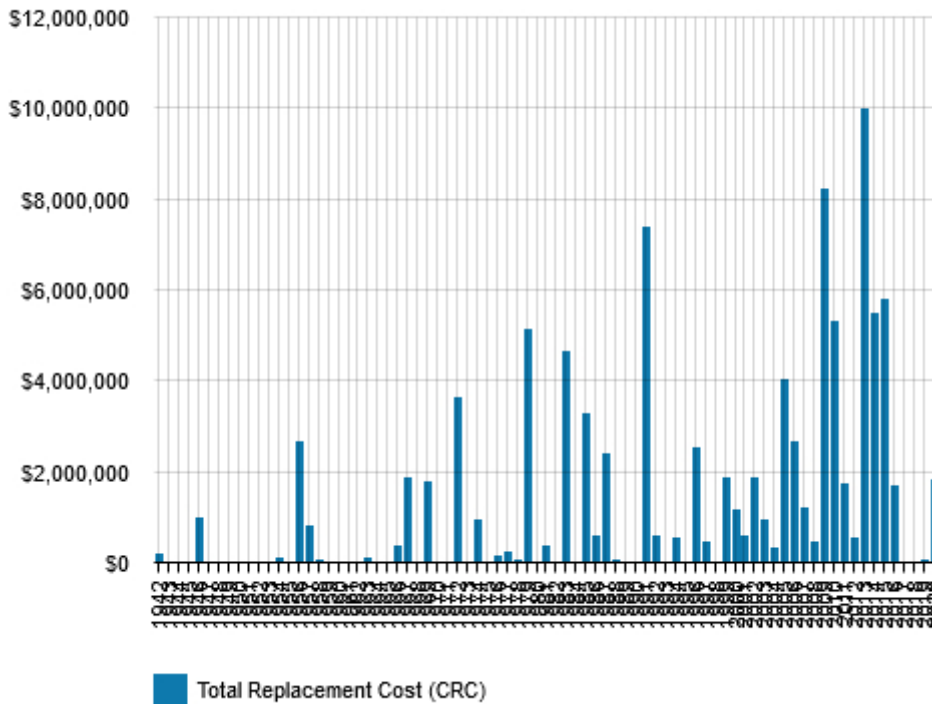
5.1.1 Physical parameters

The assets covered by this AM Plan are shown in Table 5.1.1.

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

Table 5.1.1: Assets covered by this Plan

Asset Category	Replacement Value
Building	2,467,471
Building Component	51,535,324
Structure	9,318,896
Site Improvement	17,909,710
Site Improvement Component	14,784,000
TOTAL	96,015,401



All figure values are shown in current day dollars.

Add discussion about the age asset profile. Outline how past peaks of investment that may require peaks in renewals in the future. Comment on the overall age versus useful lives of the assets.

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. 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
Across Asset Class	Aged infrastructure unable to be funded and reducing level of service
Westside Jetty	Structural elements dilapidated and Jetty placed out of service, asset renewal unfunded and not projected in AM Plan
Great Western Bridge	Structure elements dilapidated and Bridge placed out of service, asset renewal unfunded and not projected in AM Plan
Commonwealth Wharf	Maintenance required to address structural integrity of Wharf. Structure is a DIT Asset and has been removed from current register. Subsequently renewal/major refurbishment unfunded. Segments are out of service.

The above service deficiencies were identified from asset register data and the previous IAMP

5.1.3 Asset condition

Building and Land Improvements Assets are condition assessed on a five (5) year cyclic inspection program. Data is currently being compiled from the most recent inspection undertaken during 2020 and will be included within a future review of this AM Plan.

Condition is measured using a 1 – 5 grading system⁵ as detailed in Table 5.1.3. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the AM plan results are translated to a 1 – 5 grading scale for ease of communication.

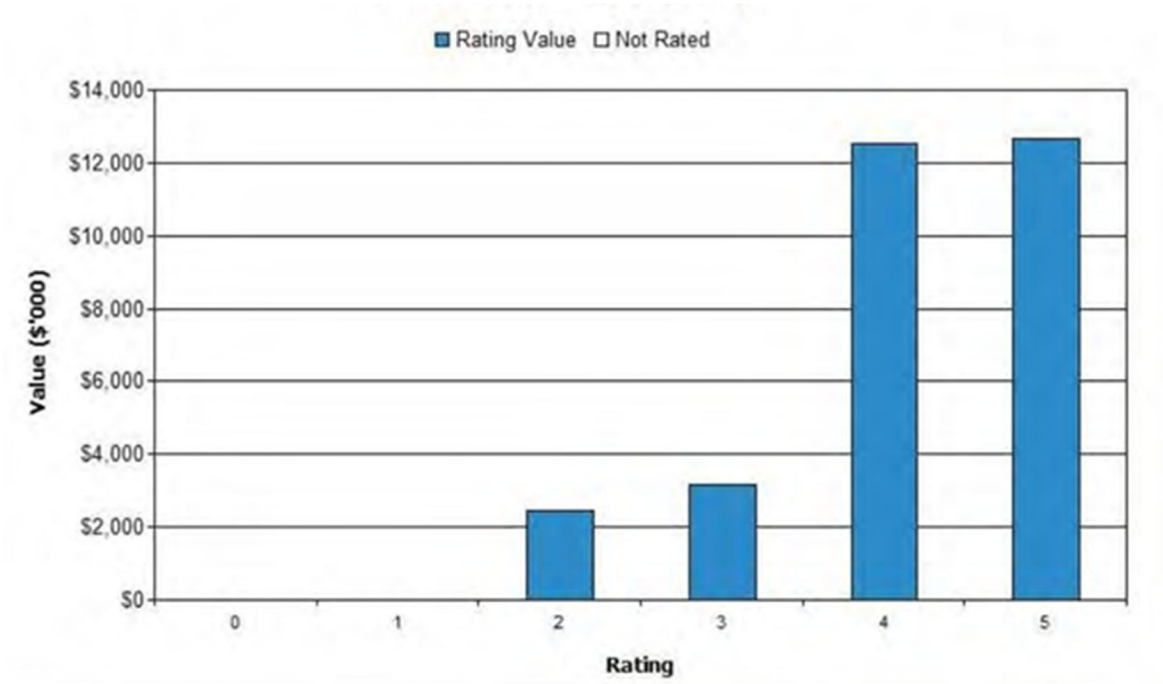
Table 5.1.3: Condition Grading System

Condition Grading	Description of Condition
1	Very Good: free of defects, only planned and/or routine maintenance required
2	Good: minor defects, increasing maintenance required plus planned maintenance
3	Fair: defects requiring regular and/or significant maintenance to reinstate service
4	Poor: significant defects, higher order cost intervention likely
5	Very Poor: physically unsound and/or beyond rehabilitation, immediate action required

Condition profiling from the 2015 condition inspection is provided for Marine and Bridge Assets only.

⁵ IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

Figure 5.1.3: Asset Condition Profile – Marine and Bridge Structures



All figure values are shown at the time of inspection (2015 dollars) and include replacement value of \$13.5M for the Commonwealth Wharf and Eastside Jetty which are now written off and the Eastside Jetty disposed.

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, asset inspection, and utility costs.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include pipe repairs, asphalt patching, and equipment repairs.

The trend in maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

Year	Maintenance Budget \$
2019/2020	1,072,639
2018/2019	1,073,582
2017/2018	848,342

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

Assessment and priority of reactive maintenance is undertaken by staff using experience and judgement. It should be noted that a decrease in asset condition due to limited renewal funding will increase maintenance expenditure over time.

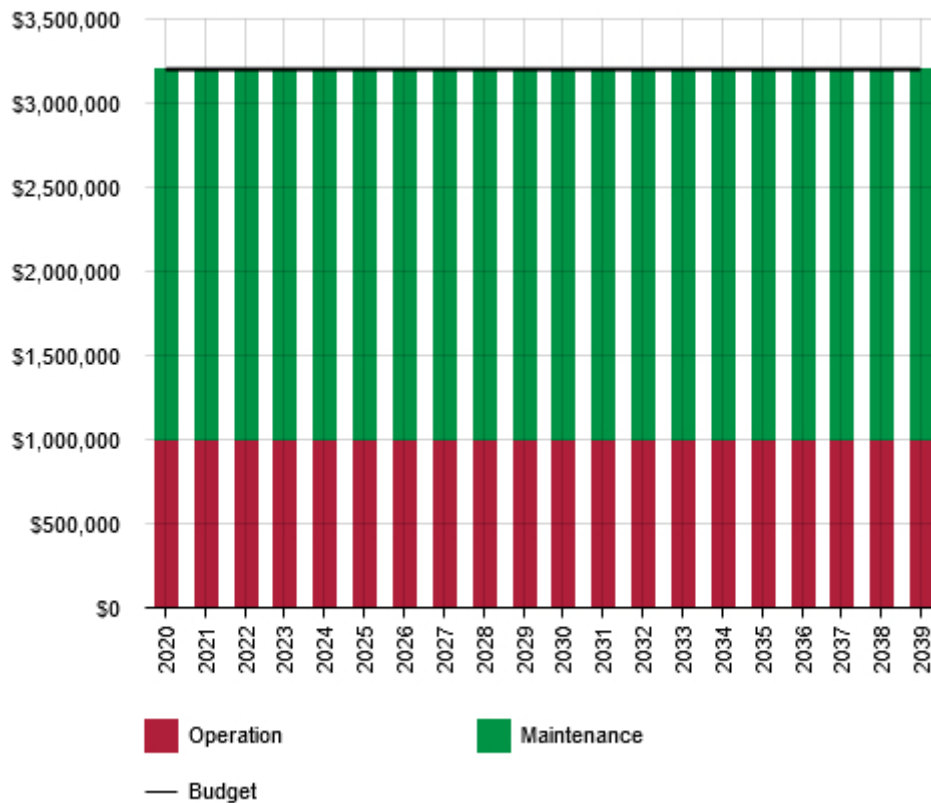
Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy is to be formally documented and will be provided in future revision of the AM Plan.

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



All figure values are shown in current day dollars.

Deferred maintenance (i.e. works that are identified for maintenance activities but unable to be completed due to available resources) should be included in an infrastructure risk management plan.

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 are identified from one of two approaches in the Lifecycle Model.

- The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or
- The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives are currently being validated, this AM Plan is based on useful life assumptions from the 2016 valuation.⁶

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Outdoor furniture and signage	7 – 25 Years
Lighting	25 - Years
Playgrounds	20 Years
Various Building Components	15 – 40 Years
Structures	20 – 100 Years
Buildings, Monuments, Marine and Bridge Structures	80 – 200 Years

The estimates for renewals in this AM Plan were based on the asset register.

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).⁷

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.⁸

⁶ Enter Reference to Report documenting Review of Useful Life of Assets

⁷ IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

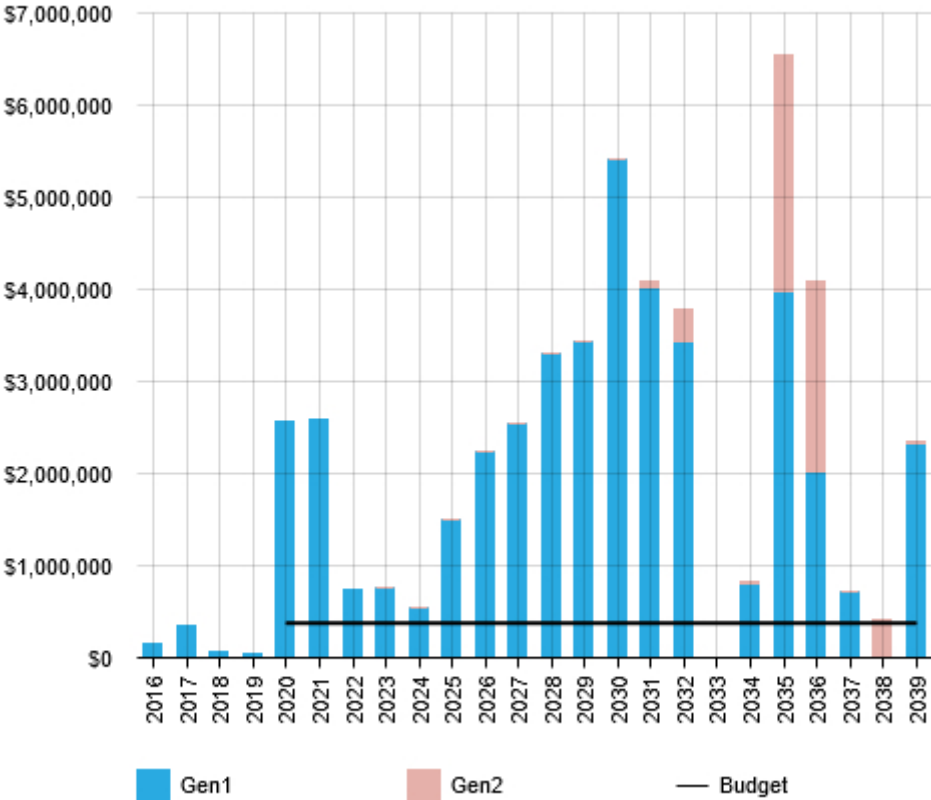
⁸ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

The ranking criteria used to determine priority of identified renewal proposals is to be formally developed.

5.4 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 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix D.

Figure 5.4.1: Forecast Renewal Costs



All figure values are shown in current day dollars.

Forecast renewal costs are substantially in excess of the proposed renewal budget. This scenario will place considerable downward pressure and condition and upward pressure on maintenance costs in an attempt to manage ageing assets. A clear strategy to address this is required and included within the improvement plan.

Deferred renewal (assets identified for renewal and not scheduled in capital works programs) present significant risk for Council and should be included in a risk analysis process in the risk management plan.

5.5 Acquisition Plan

Acquisition reflects are new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to the Port Augusta City Council.

5.5.1 Selection criteria

Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. There are however no identified acquisitions during the AM Plan period. Any proposed, potential upgrade and new works should be reviewed to verify that they are essential to the Entities needs.

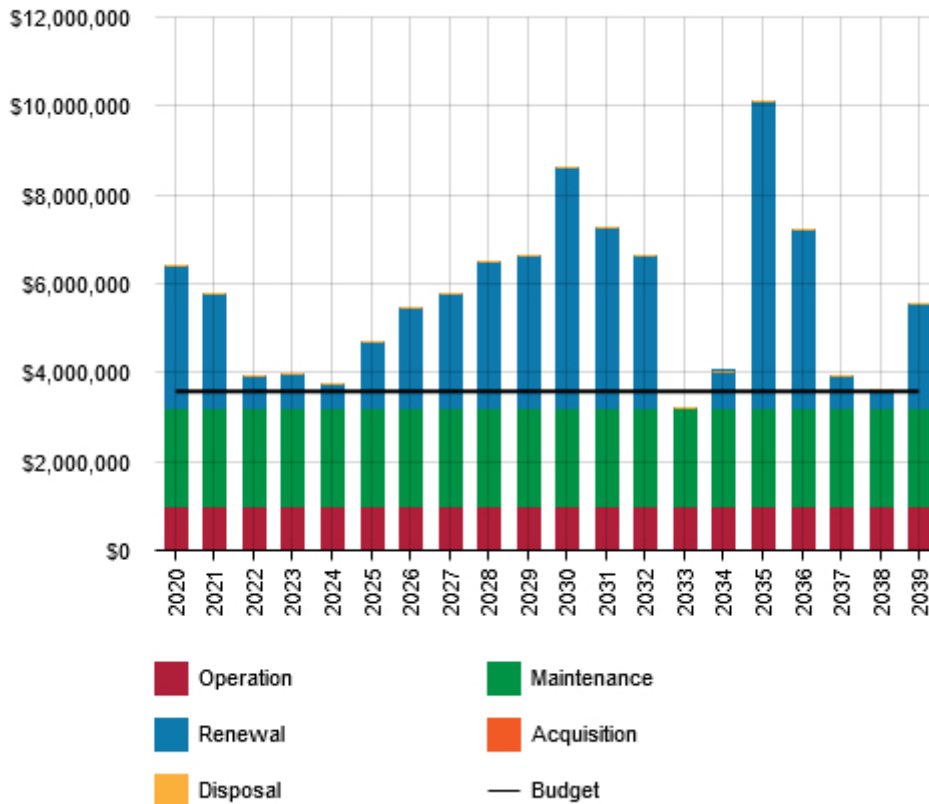
Acquiring new assets will commit the funding of ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. This should inform asset acquisition decisions, and given current funding limitations, demonstrate that extending the asset base should be avoided.

Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.4.3. 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.

Figure 5.5.3: Lifecycle Summary



All figure values are shown in current day dollars.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 5.6. Any costs or revenue gained from asset disposals is included in the long-term financial plan.

Table 5.6: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
Julia Lodge	Surplus to needs	2020/21	\$2,000	\$46,025 (2019/20)

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’⁹.

An assessment of risks¹⁰ 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. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Flinders Terrace Bridge		Scheduled inspections and repairs
Operations Buildings	Impact due to floor or other unforeseen events	Relocation of Services as per Business Continuity Plan
Community and Visitor Facilities	Unfunded renewals or impact for unforeseen events	Business Continuity measures to restore public perception
Playgrounds and Open Spaces	Equipment failure due to unfunded renewals	Reduction in service and potential to create hazards for community members

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.

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.

⁹ ISO 31000:2009, p 2

¹⁰ REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

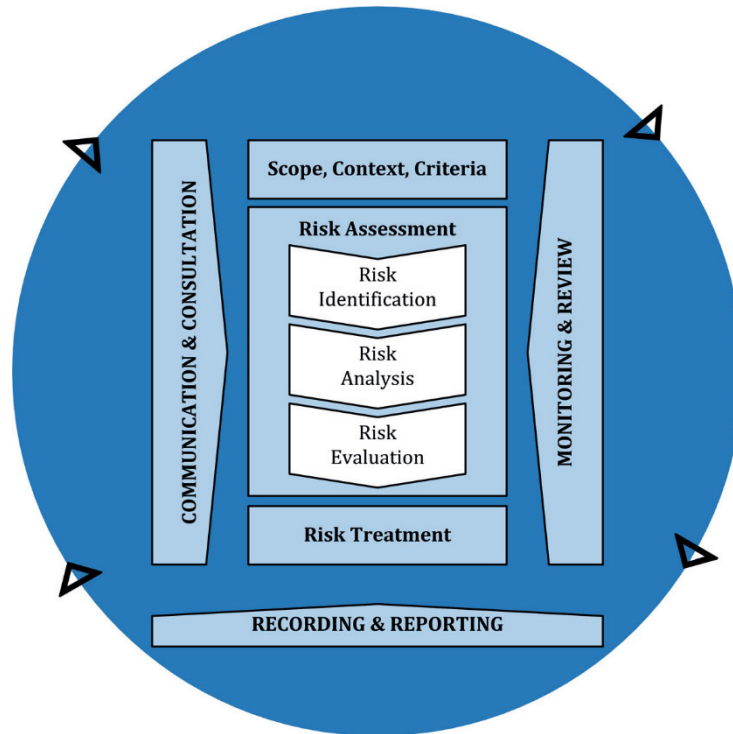


Fig 6.2 Risk Management Process – Abridged
 Source: ISO 31000:2018, Figure 1, p9

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 risks¹¹ 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.

Critical risks are those assessed with ‘Very High’ (requiring immediate corrective action) and ‘High’ (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and the Council.

Table 6.2: Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Great Western Bridge	Some structural elements can collapse	H	Restrict public access and monitor and inspect regularly	H	\$20,000

¹¹ REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

Great Western Bridge	Some structural elements can collapse	H	Replacement or major refurbishment of structure	VL	\$5.5M (unfunded)
Jervois Street Bridge	Structure reaching end of useful life, barricades along a section to prevent public access	H	Maintenance works or decommissioning of bridge asset	L-VL	\$TBA
Marine Assets	Further deterioration of ageing assets and decommissioning	VH	Development of a Marine Master Plan (residual risk will reduce upon implementation)	VH	\$TBA
Playground Assets	Ageing infrastructure and potential for hazard creation	H	Inspections in line with legislation and Council policy and the creation of a Playspace Strategy as an extension of the AM Plan	L	\$TBA

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

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to ‘withstand a given level of stress or demand’, and to respond to possible disruptions to ensure continuity of service.

Resilience recovery planning, financial capacity, climate change risk assessment and crisis leadership and measurement tools for resilience in service delivery are to be identified and included within future revisions of this AM Plan.

6.4 Service and Risk Trade-Offs

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

These actions and expenditures are considered and included in the forecast costs, and where developed, the Risk Management Plan.

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this AM Plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

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 AM Plan for this service area. The two indicators are the:

- asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years), and
- medium term forecast costs/proposed budget (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹² 18.01%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 18.01% of the funds required for the optimal renewal of assets.

The forecast renewal work along with the proposed renewal budget, and the cumulative shortfall, is illustrated in Appendix D.

Medium term – 10 year financial planning period

This AM Plan identifies the forecast operations, maintenance and renewal costs 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.

This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the 10 year planning period is \$5,288,640 average per year.

The proposed (budget) operations, maintenance and renewal funding is \$3577000 on average per year giving a 10 year funding shortfall of \$-1,711,640 per year. This indicates that 67.64% of the forecast costs needed to provide the services documented in this AM Plan are accommodated in the proposed budget. Note, these calculations exclude acquired assets.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 1.0 for the first years of the AM Plan and ideally over the 10 year life of the Long-Term Financial Plan.

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

Table 7.1.3 shows the forecast costs (outlays) required for consideration in the 10 year long-term financial plan.

Providing services in a financially sustainable manner requires a balance between the forecast outlays required to deliver the agreed service levels with the planned budget allocations in the long-term financial plan.

A gap between the forecast outlays and the amounts allocated in the financial plan indicates further work is required on reviewing service levels in the AM Plan (including possibly revising the long-term financial plan).

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

We will manage the ‘gap’ by developing this AM Plan to provide guidance on future service levels and resources required to provide these services in consultation with the community.

Forecast costs are shown in 2020 dollar values.

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

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2020	0	998000	2203000	3190680	0
2021	0	998000	2203000	2577659	2000
2022	0	998000	2203000	732622	0
2023	0	998000	2203000	757996	0
2024	0	998000	2203000	538474	0
2025	0	998000	2203000	1508382	0
2026	0	998000	2203000	2240586	0
2027	0	998000	2203000	2585257	0
2028	0	998000	2203000	3298923	0
2029	0	998000	2203000	3445820	0
2030	0	998000	2203000	5424800	0
2031	0	998000	2203000	4072394	0
2032	0	998000	2203000	3443531	0
2033	0	998000	2203000	0	0
2034	0	998000	2203000	835408	0
2035	0	998000	2203000	6885016	0
2036	0	998000	2203000	4021960	0
2037	0	998000	2203000	712412	0
2038	0	998000	2203000	397000	0
2039	0	998000	2203000	2338766	0

7.2 Funding Strategy

The proposed funding for assets is outlined in the Entity’s budget and Long-Term financial plan.

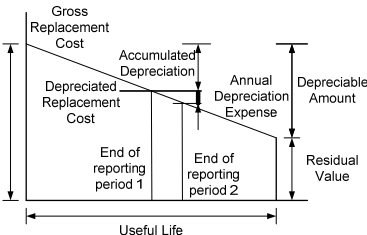
The financial strategy of the entity determines how funding will be provided, whereas the AM Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of assets included in this AM Plan are shown below. The assets are valued at The assets are valued at fair value at cost to replace service capacity:

Replacement Cost (Current/Gross) \$96,941,158
 Depreciable Amount \$96,941,158



Depreciated Replacement Cost ¹³	\$52,887,646
Depreciation	\$2,683,871

7.3.2 Valuation forecast

Asset values are forecast to decrease as additional assets are removed from service.

7.4 Key Assumptions Made in Financial Forecasts

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

Key assumptions made in this AM Plan are:

- All financial information for the whole of the 20 year plan is presented in present day values
- Information is based on available asset data
- Asset useful life assumptions are correct
- Unexpected changes in asset condition may result in unplanned and unbudgeted maintenance and renewal requirements.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AM Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale¹⁴ in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

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.

¹³ Also reported as Written Down Value, Carrying or Net Book Value.

¹⁴ IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	B	Demand drivers are based on historic trends
Growth projections	N/a	All figures are based on present day values
Acquisition forecast	B	Nil acquisitions expected
Operation forecast	C	Data requires validation and assessment for priority
Maintenance forecast	C	Data requires validation and assessment for priority
Renewal forecast - Asset values	B	Renewal forecast values are informed from the current valuation data
- Asset useful lives	C	There are some concerns around useful life of unsealed roads and kerbing infrastructure. These figures are to be validated.
- Condition modelling	C	Data requires validation and assessment for priority
Disposal forecast	C	Useful lives impact accumulated depreciation and therefore may be under or overstated if useful lives are not reflective of actual asset performance.

The estimated confidence level for and reliability of data used in this AM Plan is considered to be Medium Confidence Level.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices¹⁵

8.1.1 Accounting and financial data sources

This AM Plan utilises accounting and financial data. Financial records are maintained within Authority Finance System.

Asset management data sources

This AM Plan also utilises asset management data. The source of the data is held within a combination of the Buildings.Plus system (asset data collection tool) and spreadsheet documents. It is planned to migrate asset data into Council's Asset Management System, Conquest.

8.2 Improvement Plan

It is important that an entity recognise areas of their AM Plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this AM Plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
	BUILDINGS			
	Development of Asset Improvement plan timeline to address 12 tasks below	MI/AMO		Dec 20
1	Development of Marine Master Plan to inform asset provision	DI	Internal/Contract	
2	Further Development Asset Management System (for modelling purposes)	MI/AMO	Internal/Contract	
3	Validation of data collected on Buildings Plus	AMO	Internal	
4	Update of Asset Registers and upload into Conquest	AMO/AOP	Internal/Contract	
5	Community Satisfaction Survey and desired level of service identification	AMO/AOP	Internal/Contract	
6	Identification of gaps within data and sourcing of required data	AMO/AOP	Internal	
7	Enhance the existing Renewal/Replacement Plans and annual review of 10 year capital programs	AMO/AOP	Internal	
8	Asset maturity Assessment	AMO	Internal	
9	Operational Plan and development of Asset Hierarchy	MI/MO	Internal	

¹⁵ ISO 55000 Refers to this as the Asset Management System

10	Conduct Utilisation and fit for purpose/functionality study	DI/MI/AMO	Internal/Contract	
11	Update of data on GIS and investigate in-field usage of data retrieval and update systems	AMO	Internal/Contract	
12	Development of Playspace Strategy to manage demand drivers and asset optimisation	PM/MI	Internal	

8.3 Monitoring and Review Procedures

This AM Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The AM Plan will be reviewed and updated annually 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 AM Plan has a maximum life of 4 years and is due for complete revision and updating within 2 years of each Council election.

8.4 Performance Measures

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

- The degree to which the required forecast costs identified in this AM Plan are incorporated into the long-term financial plan,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the 'global' works program trends provided by the AM 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 (this target is often 90 – 100%).

9.0 REFERENCES

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- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Strategic Directions 2019 - 2029,
- Four Year Priority Action Plan
- 'Annual Plan and Budget'.
- Infrastructure Asset Management Plan, Transport, Stormwater, CWMS and Bridge & Marine Structures, Port Augusta City Council, October 2016 Ref No. 201060472DR2A – Tonkin Consulting, Adelaide

10.0 APPENDICES

Appendix A Acquisition Forecast

Nil

Table A3 - Acquisition Forecast Summary

Year	Constructed	Donated	Growth
2020	0	0	0
2021	0	0	0
2022	0	0	0
2023	0	0	0
2024	0	0	0
2025	0	0	0
2026	0	0	0
2027	0	0	0
2028	0	0	0
2029	0	0	0
2030	0	0	0
2031	0	0	0
2032	0	0	0
2033	0	0	0
2034	0	0	0
2035	0	0	0
2036	0	0	0
2037	0	0	0
2038	0	0	0
2039	0	0	0

Appendix B Operation Forecast

Table B2 - Operation Forecast Summary

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2020	998000	0	998000
2021	998000	0	998000
2022	998000	0	998000
2023	998000	0	998000
2024	998000	0	998000
2025	998000	0	998000
2026	998000	0	998000
2027	998000	0	998000
2028	998000	0	998000
2029	998000	0	998000
2030	998000	0	998000
2031	998000	0	998000
2032	998000	0	998000
2033	998000	0	998000
2034	998000	0	998000
2035	998000	0	998000
2036	998000	0	998000
2037	998000	0	998000
2038	998000	0	998000
2039	998000	0	998000

Appendix C Maintenance Forecast

Table C2 - Maintenance Forecast Summary

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2020	2203000	0	2203000
2021	2203000	0	2203000
2022	2203000	0	2203000
2023	2203000	0	2203000
2024	2203000	0	2203000
2025	2203000	0	2203000
2026	2203000	0	2203000
2027	2203000	0	2203000
2028	2203000	0	2203000
2029	2203000	0	2203000
2030	2203000	0	2203000
2031	2203000	0	2203000
2032	2203000	0	2203000
2033	2203000	0	2203000
2034	2203000	0	2203000
2035	2203000	0	2203000
2036	2203000	0	2203000
2037	2203000	0	2203000
2038	2203000	0	2203000
2039	2203000	0	2203000

Appendix D Renewal Forecast Summary

Table D3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2020	3190680	376000
2021	2577659	376000
2022	732622	376000
2023	757996	376000
2024	538474	376000
2025	1508382	376000
2026	2240586	376000
2027	2585257	376000
2028	3298923	376000
2029	3445820	376000
2030	5424800	376000
2031	4072394	376000
2032	3443531	376000
2033	0	376000
2034	835408	376000
2035	6885016	376000
2036	4021960	376000
2037	712412	376000
2038	397000	376000
2039	2338766	376000

Appendix E Disposal Summary

E.1 – Disposal Project Summary

The project titles included in the lifecycle forecast are listed below.

- Julia Lodge – Planned disposal 2020/21

Table E3 – Disposal Activity Summary

Year	Disposal Forecast	Disposal Budget
2020	0	0
2021	2000	0
2022	0	0
2023	0	0
2024	0	0
2025	0	0
2026	0	0
2027	0	0
2028	0	0
2029	0	0
2030	0	0
2031	0	0
2032	0	0
2033	0	0
2034	0	0
2035	0	0
2036	0	0
2037	0	0
2038	0	0
2039	0	0

Appendix F Budget Summary by Lifecycle Activity

Table F1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2020	0	998000	2203000	376000	0	3577000
2021	0	998000	2203000	376000	0	3577000
2022	0	998000	2203000	376000	0	3577000
2023	0	998000	2203000	376000	0	3577000
2024	0	998000	2203000	376000	0	3577000
2025	0	998000	2203000	376000	0	3577000
2026	0	998000	2203000	376000	0	3577000
2027	0	998000	2203000	376000	0	3577000
2028	0	998000	2203000	376000	0	3577000
2029	0	998000	2203000	376000	0	3577000
2030	0	998000	2203000	376000	0	3577000
2031	0	998000	2203000	376000	0	3577000
2032	0	998000	2203000	376000	0	3577000
2033	0	998000	2203000	376000	0	3577000
2034	0	998000	2203000	376000	0	3577000
2035	0	998000	2203000	376000	0	3577000
2036	0	998000	2203000	376000	0	3577000
2037	0	998000	2203000	376000	0	3577000
2038	0	998000	2203000	376000	0	3577000
2039	0	998000	2203000	376000	0	3577000