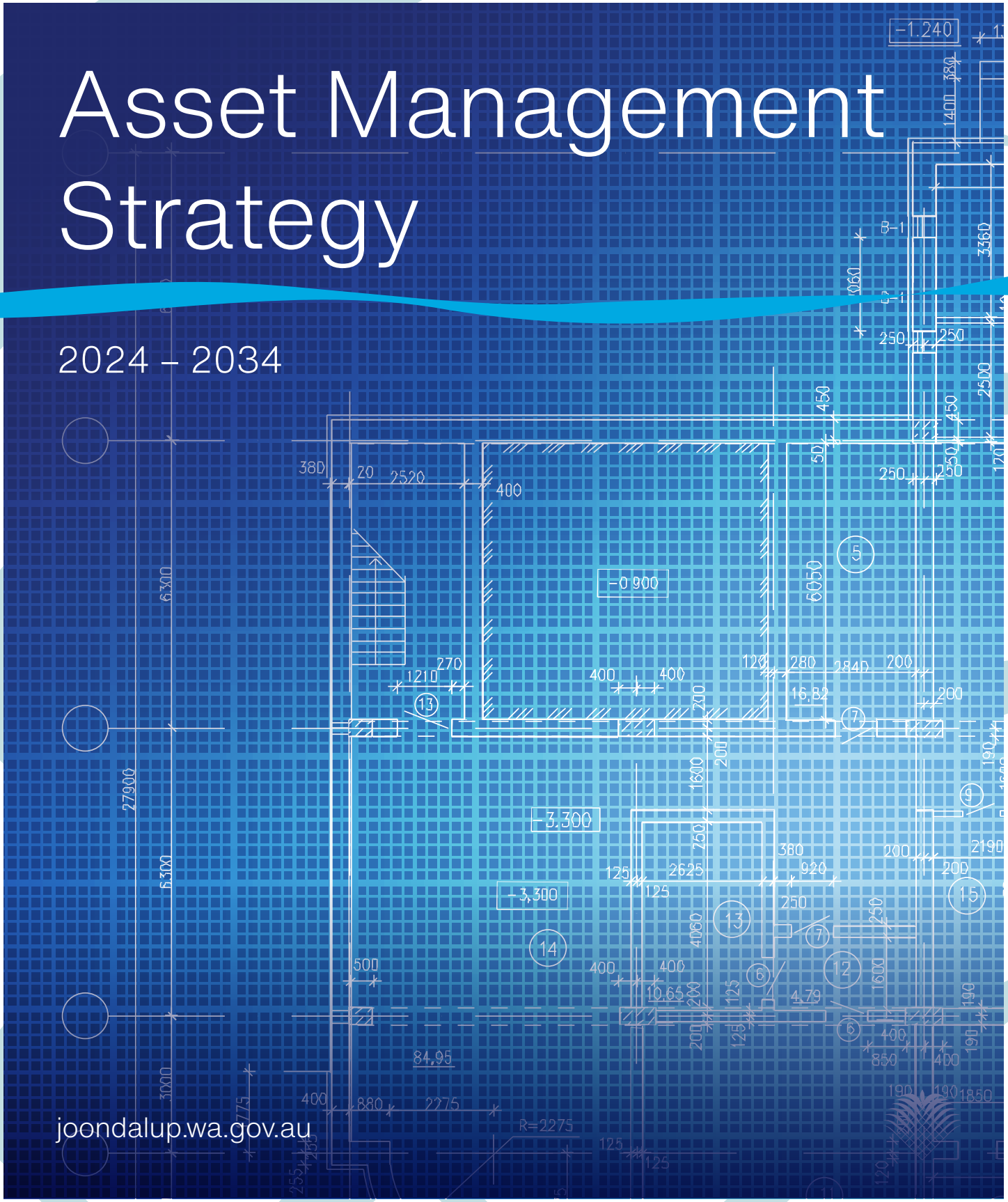
City of Joondalup

Asset Management Strategy

2024 – 2034



joondalup.wa.gov.au


CURRAMBINE
COMMUNITY
CENTRE

Contents

1. Introduction

The City of Joondalup (the City) is the custodian of an extensive portfolio of infrastructure, community and operational assets support the delivery of services to the community. The Asset Management Strategy 2024-2034 is a major informing strategy within the City's Integrated Planning Framework.

This Strategy:

- Defines and profiles the City's major infrastructure asset classes (including the asset classification hierarchy).
- Forecasts future demands (at a high-level).
- Defines governance structures and management arrangements.
- Outlines short/medium/long-term objectives for asset management improvement.

Managing our assets in a sustainable way throughout their lifecycle is recognised by all levels of government as one of the most significant issues facing local governments throughout Australia today. This Asset Management Strategy details how the City intends to manage City-owned and managed assets in a service centric, community focused and sustainable manner both now and into the future.

The objectives, strategies and initiatives outlined in this document will help shape the decisions made by the City for the short, medium, and long terms, in order to ensure sustainable service delivery for both current and future generations in the City of Joondalup.

1.1 Purpose of this Strategy

The purpose of this Asset Management Strategy is to provide context from which to guide a whole-of-organisation approach to asset management and assist in the achievement of the City's strategic goals and outcomes contained within *Joondalup 2032*.

To manage its assets sustainably, the City must have a clear and detailed understanding of them within the context of their projected financial, environmental, and social impacts. This enables the City to make effective decisions to optimise the overall net benefit to the community, by providing appropriate levels of assets at acceptable standards.

» If our infrastructure assets were built today the overall cost would be $1.9 billion. «

The number and diversity of assets managed by local governments is extensive, with each asset experiencing a varying lifespan and containing components that deteriorate at different rates. Assets represent a significant level of investment over generations and contribute greatly to a community's sense of safety and liveability.

This complexity poses a challenge to local governments, in trying to balance the expectations of the community against a sustainable and affordable management model. The *Asset Management Strategy 2024-2034* aims to provide a framework from which to respond to this challenge, by building organisational capacity in the following key areas of Asset Management:

- Maintaining reliable asset data allowing proactive decision making to occur.
- Developing appropriate asset systems.
- Implementing effective asset management processes.
- Developing people within asset management roles.

Improving these areas will support the City's journey to becoming a strategically focussed and capable asset manager, with a sustainable asset base that reflects the needs and objectives of its community. The content and structure of the Strategy is designed to meet the requirements of the Local Government Act 1995, pertaining to future planning, and to be consistent with leading practice as set out in the ISO 55000 series of asset management standards.

The structure of the Asset Management Framework, and the hierarchy of elements within it, is shown in Figure 1.1.

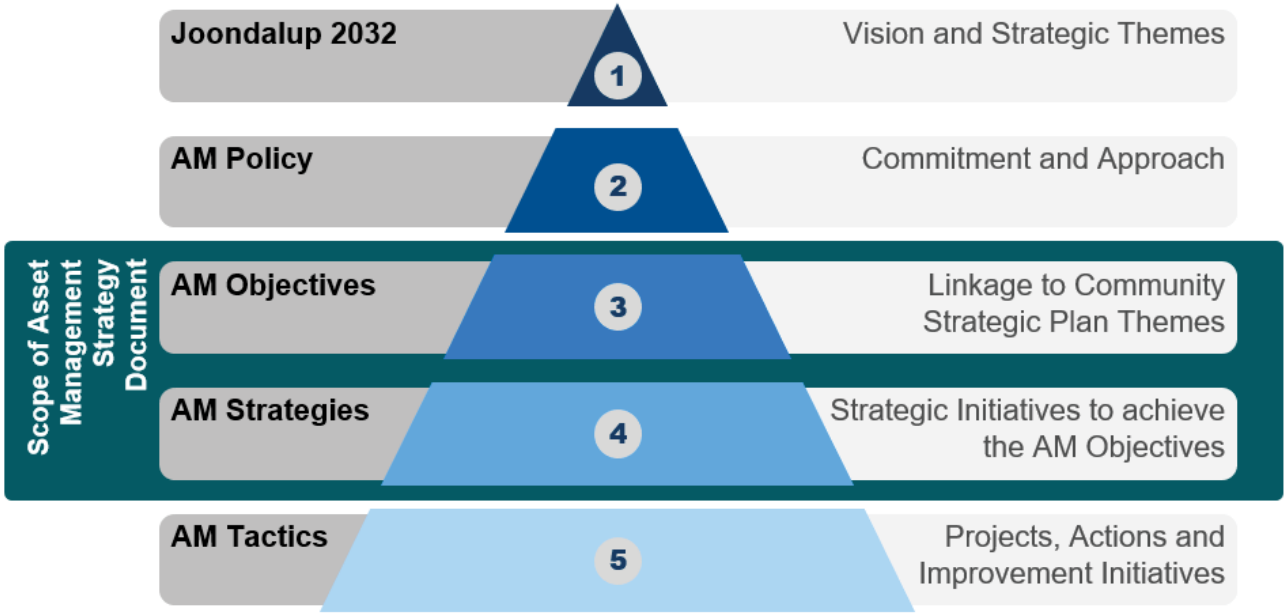
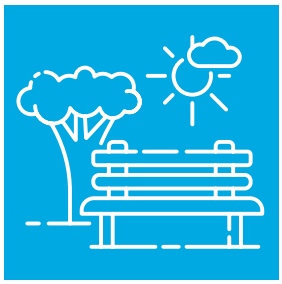


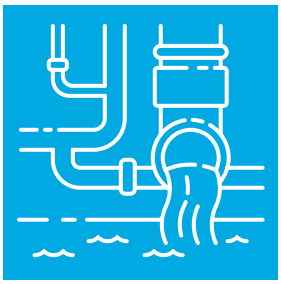
Figure 1.1 Structure of the City's Asset Management Strategy

The Asset Management Strategy has a 10-year time horizon, and currently covers the following six City-owned or managed infrastructure asset classes, with a view to extending this approach to include all other City assets during the life of this Strategy.

Buildings

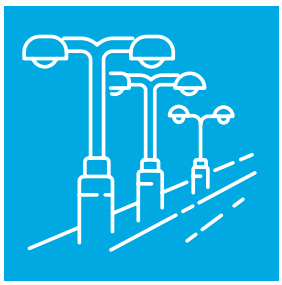


Parks and Public Open Spaces



Drainage

Transport



Lighting

Fleet

1.2 Aim of the Asset Management Strategy 2024-2034

It is the City's aim to better understand its assets and to develop the organisational capacity necessary to deliver sound and compliant asset management practices.

The City's asset management journey is driven by a desire to demonstrate sound asset management practices to support the City's overarching community strategy and vision. This will allow the City to implement an integrated and reliable approach to asset management that is delivered at a whole-of-organisation level.

In developing this capability, the City aims to manage its assets affordably and sustainably in consultation with its community; ensuring that appropriate and acceptable levels of service are maintained.

1.3 Definitions and acronyms

As far as practicable, this Strategy has adopted terminologies and definitions consistent with both the Western Australia Integrated Planning and Reporting (IPR) Framework, ISO 55000 and International Infrastructure Management Manual (IIMM) 2020. In the event of conflicting terminologies, those of the IPR have taken precedence.

Term	Description
The Act	Government of Western Australia, Local Government Act 1995
Asset Management (AM)	ISO 55001 – "Coordinated activity of an organisation to realise value from assets".
Asset Management Objective (AMO)	A set of asset management-specific objectives through which the asset management system contributes to and achieves the overarching organisational objectives.
Asset Management System (AMS)	Management system to establish, plan and deliver the asset management objectives. A framework for the Asset Management Policy, Strategy and Objectives, Plans, Processes and Procedures.
Asset Management Information System (AMIS)	The data, information, computer and communications, hardware and software comprising the system that supports asset management decision making.
Asset Management Plan (AMP)	ISO 55001 – "Documented information that specifies the activities, resources and timescales required for an individual asset, or grouping of assets, to achieve the organisation's asset management objectives".
Levels of Service (LoS)	Levels of Service are the measurable customer service outcomes or technical standards.
ISO 55000/1/2	The Suite of Asset Management standards issued by ISO: • ISO 55000:2014 – Asset Management – Overview, Principles and Terminology • ISO 55001:2014 – Asset Management – Management System – Requirements • ISO 55002:2018 – Asset Management – Management System – Guidelines for application of ISO 55001
Asset Management Strategy	Also often referred to as a 'Strategic Asset Management Plan' or 'SAMP' ISO 55000 – "Documented information that specifies how organisational objectives are to be converted into asset management objectives, the approach for developing asset management plans, and the role of the asset management system in supporting achievement of the asset management objectives".
Stakeholder	ISO 55000 – "Person or organisation than can affect, be affected by, or perceive themselves to be affected by a decision or activity" – (with respect to Asset Management).

Table 1.1 Definitions and acronyms


City of Joondalup
JOONDALUP
2032
Strategic Community Plan
2022-2032

2. Strategic context

2.1 Strategic Community Plan

Under section 5.56 of the *Local Government Act*, each local government area is to have a Strategic Community Plan that has been developed and endorsed by the City on behalf of its community. The Strategic Community Plan is the highest-level plan that a local government is required to prepare. The purpose of the Strategic Community Plan is to identify the community's main priorities and aspirations for the future and to plan strategies for achieving these goals.

The City's current Strategic Community Plan is entitled *Joondalup 2032* and covers the 10-year period from 2022 to 2032.

Importantly for this Asset Management Strategy, the Plan sets out the vision for the City, and five strategic themes (Refer Section 2.1.2) – several of which are heavily underpinned by infrastructure assets and their sound and responsible management.

2.1.1 Community vision

The City in 2032 has a strong focus on sustainability, liveability, active lifestyles, and friendly social interactions. We have a healthy environment, with protected bushland, marine ecosystems and accessible parks and green spaces. We are an environmentally aware and socially responsible City. We are a vibrant place where people want to live, work and play, and where people can find everything they need locally.

The City in 2032 caters for every stage of life. People feel welcome here and have a clear sense of belonging. We live in high-quality housing in attractive neighbourhoods which have excellent transport linkages and connectivity. We are multi-generational and multicultural; a place where everyone feels connected and safe.

We celebrate and adopt technology and innovation. We are a hub for education and state-of-the-art health facilities, and we are an active advocate for health and other community services. The City in 2032 is internationally connected – we are a global-facing city, with local amenity, and a powerful sense of community.

2.1.2 Strategic Themes

The City's five strategic themes and associated strategies have guided this Asset Management Strategy. The strategic themes are summarised below.

2.1.2.1 Community

We have a vibrant cultural scene, and our community is friendly, welcoming, caring, and supportive. We are prepared for emergencies and feel strong and resilient. We encourage and support local organisations and community-led activities and feel connected and safe in our neighbourhoods.

2.1.2.2 Environment

We have a beautiful natural environment which we care for and protect. We demonstrate best practice in sustainability and environmental management. Our community is actively involved n conservation and sustainability initiatives, and we share responsibility for preserving our natural assets for future generations.

2.1.2.3 Place

We have well-planned and attractive suburbs and streetscapes, supported by a range of integrated transport options. Our urban landscapes are connected, useable and accessible. A high standard of liveability is enjoyed by our community who can access quality facilities and public open spaces.

2.1.2.4 Economy

We are a global facing City with a prosperous and resilient economy. Our City is home to diverse industries that generate a wide range of local job opportunities. We encourage creativity and innovation, and we support opportunities to build the City's brand as a popular business and tourism destination.

2.1.2.5 Leadership

We have a diverse elected body that represents, promotes, and reflects the composition of our community. Our Council and workforce are accountable and transparent and make balanced decisions based on sound, professional advice. Quality services are delivered by our highly skilled and effective workforce.

2.2 Challenges and opportunities

The City is facing a series of asset management challenges that are outlined below.

2.2.1 Maintenance and management of data

The City has identified a need to further develop the capture and management of asset data across the organisation. This is due to the City focussing on project delivery over the period of the previous Asset Management Strategy, resulting in resources being diverted from activities associated with data documentation, to project and contract management tasks. This has impacted the overall visibility and accuracy of asset information that is used in works planning across all asset classes and is important to reestablish to a level commensurate with the City's AM objectives.

Addressing this issue is critical, as the City's asset base continues to expand with the completion of a significant annual capital works program that requires new asset data to be updated and maintained more efficiently to avoid a lag in data accuracy. Focussing on this objective will result in improved City decision-making and provide a clear linkage between agreed levels of service and works delivered. This will be assisted through the implementation of "Project Axiom", which aims to replace the City's core IT systems onto a Microsoft Dynamics platform, providing the opportunity to standardise the City's asset data management practices throughout the organisation.

2.2.2 Changing demographic

Over the next 10 years, the City's population is expected to remain relatively steady, with an annual growth rate of 0.4 per cent. By the conclusion of this plan in 2034, it is projected that the largest group will be 45 to 49 years, with the largest population increase in persons anticipated to be aged 85 and over. Further, the age structure forecasts indicate a 32.6 per cent. increase in people over retirement age living in the City of Joondalup.

The City is currently self-sustaining with 13,790 local businesses providing 57,292 local jobs (Annual Report 2022-23), resulting in a Gross Regional Product of $7.3 billion (Annual Report 2022-23). Transitioning from an economy supported by population growth to one that is driven by business investment, innovation, and entrepreneurship, the challenge is to grow the local economy across a range of sectors. Continued development of the City Centre will support Joondalup to emerge as the strategic economic centre of the growing northern metropolitan corridor of Perth.

Providing vibrant neighbourhoods that offer high liveability, community connection and recreational facilities, complemented by protected natural areas, marine eco-systems and accessible parks and public open spaces will support the City's residential and business communities to prosper.

2.2.3 New complex assets

With a strong focus on development, investment attraction, advocacy, and place activation, the City Centre and other key tourism and activity locations throughout the City will drive significant growth and transformation over the next decade. To continue to grow the local economy, the City must provide a range of new and high-quality community assets, as well as maintain and enhance existing assets across these sites, in particular, within the City Centre.

Due to the changing requirements of the City, there are and will continue to be a range of new complex assets which are being planned for and constructed that will require new levels of experience and knowledge within the organisation that is yet to be fully resourced. Planning for these resources and/or knowledge gaps will support the City's economic development and community objectives.

2.2.4 Ageing infrastructure

The age profile of the City's assets differs across its suburbs, as development occurred throughout the decades with varying construction practices and standards applied. Whilst development expansion across the City extends from the 1960s through to today, the assets constructed have demonstrated an inconsistent level of performance as material types and construction methodologies have varied over time.

For the City's future management practices, this requires planning for the maintenance and renewal of both ageing assets that are coming to the end of their service life, and younger assets that are performing below expectations for their age profile. To manage this effectively, in accordance with the community's expected levels of service, the City must consider:

- the ongoing need for these assets
- opportunities for rationalisation
- replacement versus upgrade options
- development of work programs that balance cost, risk, and service performance against community needs.

Overall, the City is expecting an increase in maintenance in the future, particularly across its road network, drainage network and building portfolio, where the management requirements are more complex than other asset classes and are ageing at different rates.

2.2.5 Climate change

Climate change is an important issue for local governments and affects several areas of responsibility including the management of infrastructure and assets, health services, water utilities, emergency responses and the natural environment.

The City's future climate will be affected by more frequent and higher temperatures, reduced rainfall, increased intensity of weather and fire events, increased evaporation rates and higher sea levels. Our asset management decision making must incorporate adaptation and mitigation practices in response to these impacts.

2.2.6 Training and knowledge transfer

The City's current workforce profile highlights an increase in its ageing demographic. With more employees approaching an age where retirement will be a strong consideration, the City is at risk of losing critical knowledge and experience that has built up over decades.

A focus for the City going forward will involve the development and implementation of a training and development framework to support the transfer of knowledge on the City's systems, processes, and standards. This will include a focus on aligning job descriptions and inductions specific to position responsibilities, to ensure the continuity and consistency of asset management practices throughout the organisation.

3. Our planning framework

3.1 Integrated Planning and Reporting Framework

Within the City's broader Integrated Planning Framework sits the Asset Management Framework, consisting of an Asset Management Policy, Asset Management Strategy and Asset Management Plans. The Asset Management Policy supports a whole-of-life and whole-of-organisation approach to asset management which provides guidance to the Strategy. The Strategy outlines the organisational approach to asset management and the strategic goals required to achieve the outcomes as outlined in *Joondalup 2032*. The Strategy will inform other asset-related planning strategies, frameworks, and documents.

The key elements of the City's Integrated Planning Framework, and their inter-relationships, are shown below in Figure 3.1.

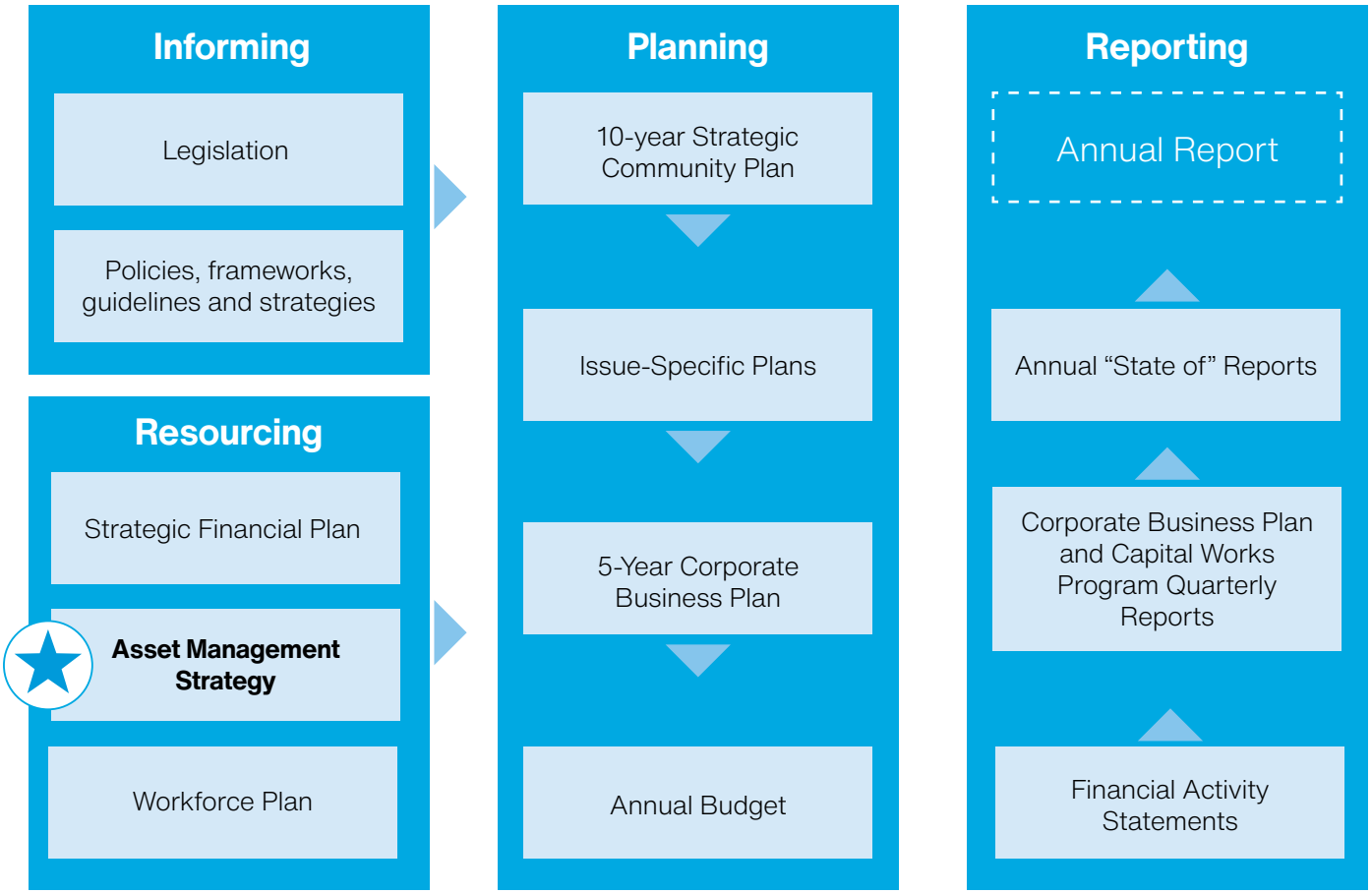
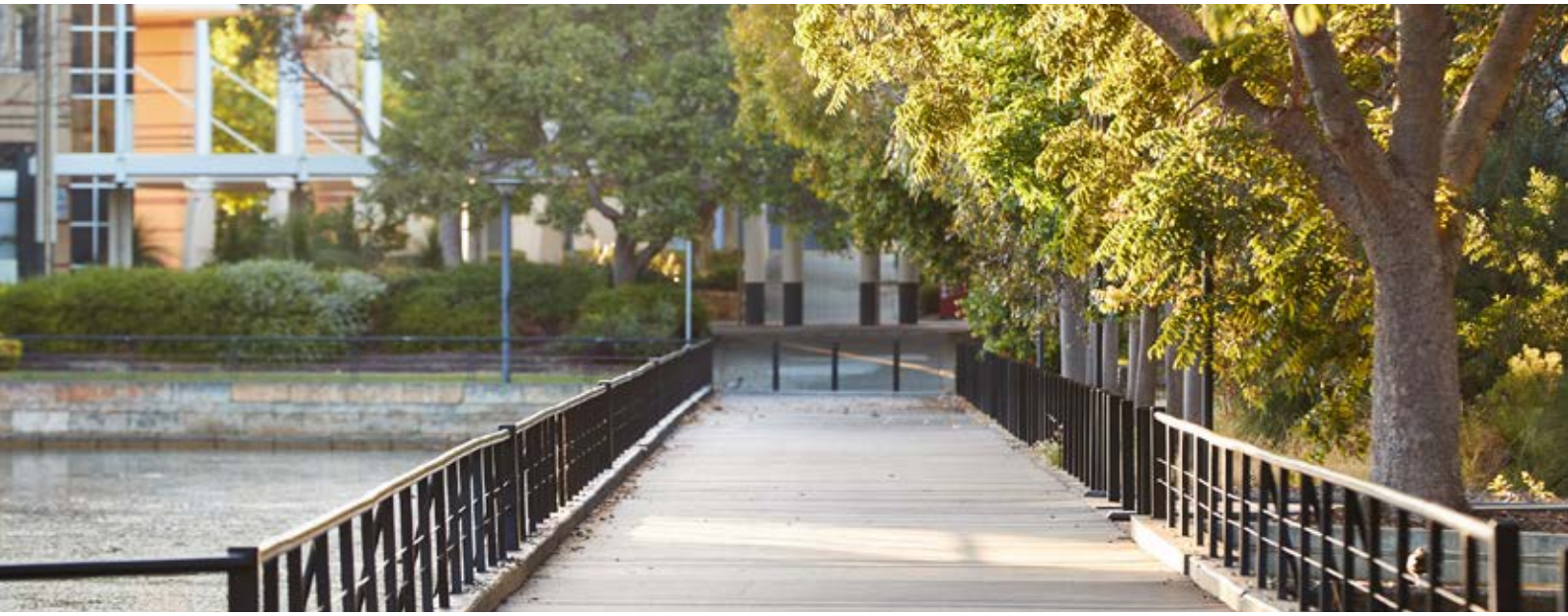


Figure 3.1 City of Joondalup's Integrated Planning Framework



3.2 Asset management policy

The City has an Asset Management Policy that was originally adopted in March 2007 and revised in November 2012 and December 2022 to align with international standards for asset management practices. The policy affirms the City's recognition of the critical role of asset management in the sustainable provision of services in delivering upon the Strategic Community Plan. It also sets out the key principles that underpin how the City: executes the performance of its asset management functions; integrates asset management with other strategic documents; and provides direction and guidance for this Asset Management Strategy. The City's Asset Management Policy is reproduced in full in Appendix A to this document.

The City's policy principles are set out below:

1. Defining technical and community levels of service and monitoring their performance to ensure continued relevance.
2. Forecasting and managing impacts on demand, including demographic changes and advancements in technology.
3. Ongoing testing of the long-term affordability and practicality of defined levels of service, and the way they will be sustainably financed.
4. Implementing a structured framework for the planning and delivery of asset management practice across the organisation that considers stakeholder inputs.
5. Maintaining accurate and reliable asset data to effectively inform decision-making.
6. Ensuring that defined technical and community levels of service for each infrastructure asset are compiled and made available to Elected Members.

3.3 Asset Management Objectives

Asset Management Objectives (AMOs) are how all asset management strategies and initiatives are linked back to the City's corporate objectives and policy. They describe the key outcomes through which the asset management framework contributes to the overarching organisational objectives set out in the Strategic Community Plan. The City's four AMOs are shown below. They have been derived from, and are aligned to *Joondalup 2032*. They are the focus of all the City's asset management activities.

The City's four Asset Management Objectives, and their associated themes are:

AMO 1

Assets support ongoing financial sustainability: To provide a range of City services, through the provision of assets, in a financially responsible and sustainable manner.

AMO 2

Asset based decisions are planned and optimised across the asset lifecycle: To effectively plan for the funding, project delivery, maintenance, renewal, upgrade expansion and rationalisation of assets.

AMO 3

Assets support a community focused and vibrant City: To ensure assets are fit for purpose, well-utilised, safe and reflect the services required by the community now and into the future.

AMO 4

Assets are environmentally resilient: To continually adapt to changing local environmental conditions and utilise technology opportunities.

The AMO's closely align with, and are linked to, the five Strategic Themes of *Joondalup 2032*, as shown below in Table 3.1.

Strategic Theme/AM	AMO 1 Financial Stability	AMO 2 Optimised Asset Lifecycle	AMO 3 Community Focussed/Fit-for-Purpose Asset	AMO 4 Environmental Resilience
Community			✓	
Environment			✓	✓
Place			✓	✓
Economy	✓	✓		
Leadership	✓	✓	✓	✓

Table 3.1 Mapping of AMOs to strategic themes

3.4 Asset Management Plans

The translation of Asset Management Strategies and Objectives into actions, outcomes and programs of work is achieved through the development and implementation of a suite of Asset Management Plans (AMPs). These documents have traditionally been static documents and while they can serve as "point in time" references, there are limitations in terms of their flexibility, accessibility, and real time relevance in a dynamic work environment.

With advancements in technology and the increasing complexity of asset management requirements, there has been a shift towards adopting digital, dynamic AMPs. As part of the City's 10-year Asset Management Strategy, the City aims to develop live, digital AMPs which will significantly improve the City's ability to utilise this information. These digital versions offer several advantages over their static counterparts, including:

- **Interactivity and Visualisation:** Digital AMPs are presented as concise, visual dashboards that provide key insights at a glance. Visual elements such as charts, graphs, and maps are utilised to effectively communicate complex information in an easily digestible format. Typical information includes a view of the asset portfolio, current valuations and replacement costs, work, condition and performance data, locations, key risks, levels of service, performance measures and lifecycle projections from a total portfolio overview to the asset level.
- **Drill-Down and Roll-Up Capability:** Users can drill down into specific details or roll up to view high-level summaries, allowing for a comprehensive understanding of asset data at various levels of granularity.
- **Dynamic Data Updates:** Key data can be dynamically updated in real-time or at scheduled intervals through linkage into the City's asset management system. This ensures that stakeholders have access to the most current information available and can compare full datasets from different points of time.
- **Multiple Sources of Truth, One Source per Dataset:** While there may be multiple sources of truth for different datasets within the AMP, each dataset can be sourced from a single authoritative system or database. This ensures data integrity and consistency while allowing for integration of diverse data sources.
- **Version Control Features:** Keeping static AMPs up-to-date poses challenges in terms of version control. As changes occurred in asset management strategies or operational practices, updating, and distributing revised versions across multiple documents proved time-consuming and prone to errors. Digital AMPs circumvent this challenge by referring to a single source, that is managed and updated, reducing the risk of inconsistencies and errors.

3.5 Key roles and responsibilities

Many individuals contribute to the management and maintenance of an asset throughout its lifecycle. As such, it is important to understand the roles and responsibilities of these individuals to allow for both continuity of service in the short term and planning for the delivery of services over the long term. By defining the roles and responsibilities it is possible to identify gaps in the asset lifecycle decision-making process and introduce improvements or training required to fill these gaps.

The City has a top-down asset management organisational model. The key asset management roles and their responsibilities are summarised in the table below. This structure also provides the framework for decision-making and reporting.

In addition to identifying the roles and responsibilities, it is useful to clarify the participation of each role at each stage of the asset management lifecycle. This is done using an ARCI matrix, which is used to define who is:

Accountable: authority and accountability for the task/work in the AM lifecycle

Responsible: who does the work, and reports to the Accountable role

Consulted: is kept in the loop for approvals, sign-off, advice or potential impact

Informed: kept in the picture but not actively involved or impacted

Opportunities have been identified to enhance the alignment between AM roles and responsibilities and the necessary training and organisational structure required to sustain good AM practices at the City. These opportunities are reflected within the Asset Management Improvement section of the strategy.

AM Role	Key Responsibilities	Responsibility
Business Owner	• Sets the strategic direction, business goals and policies. • Sets corporate risk appetite. • Oversees financial performance and regulatory compliance of the business.	Council (Elected Members)
Asset Owner	• Sets the investment objectives for the asset base considering financial aspirations, risk appetite and legal obligations. • Oversees management of regulatory compliance and political, corporate and social obligations. • Establishes the customers' service expectations and defines the expected return, risk and service standards. • Approves major decisions or expenditures.	Executive Leadership Team (ELT)
Asset Manager	• Develops strategies and plans to satisfy the objectives set by the Asset Owner. • Undertakes decisions and develops programs of works to meet customer and shareholder needs while balancing cost, risk and performance.	Business Unit Managers
Asset Service Provider (Constructor, Operator, Maintainer and Support roles)	• Delivers services to satisfy the decisions made by the Asset Manager. • Reports on the progress of these services against time, budget and standards. • Provides an interface to the customer for delivery of services and capture of feedback.	City Officers

Table 3.2 Asset management roles and responsibilities


JCP
Joondalup City Parking

4. Overview of the Asset Portfolio

The City's asset portfolio included in the aforementioned asset class Asset Management Plans are illustrated in Figure 4.1.

The estimated approximate financial value of the City's current asset portfolio is $2.02 billion (Figures as of 30th June 2023). The largest asset class in both quantity and financial value is Transport, making up 44 per cent of the asset portfolio's financial value, as it contains the key asset groups of the road and path networks, carparks, bridges and underpasses. Drainage (18 per cent) and buildings (16 per cent) have the second and third largest asset class values respectively.

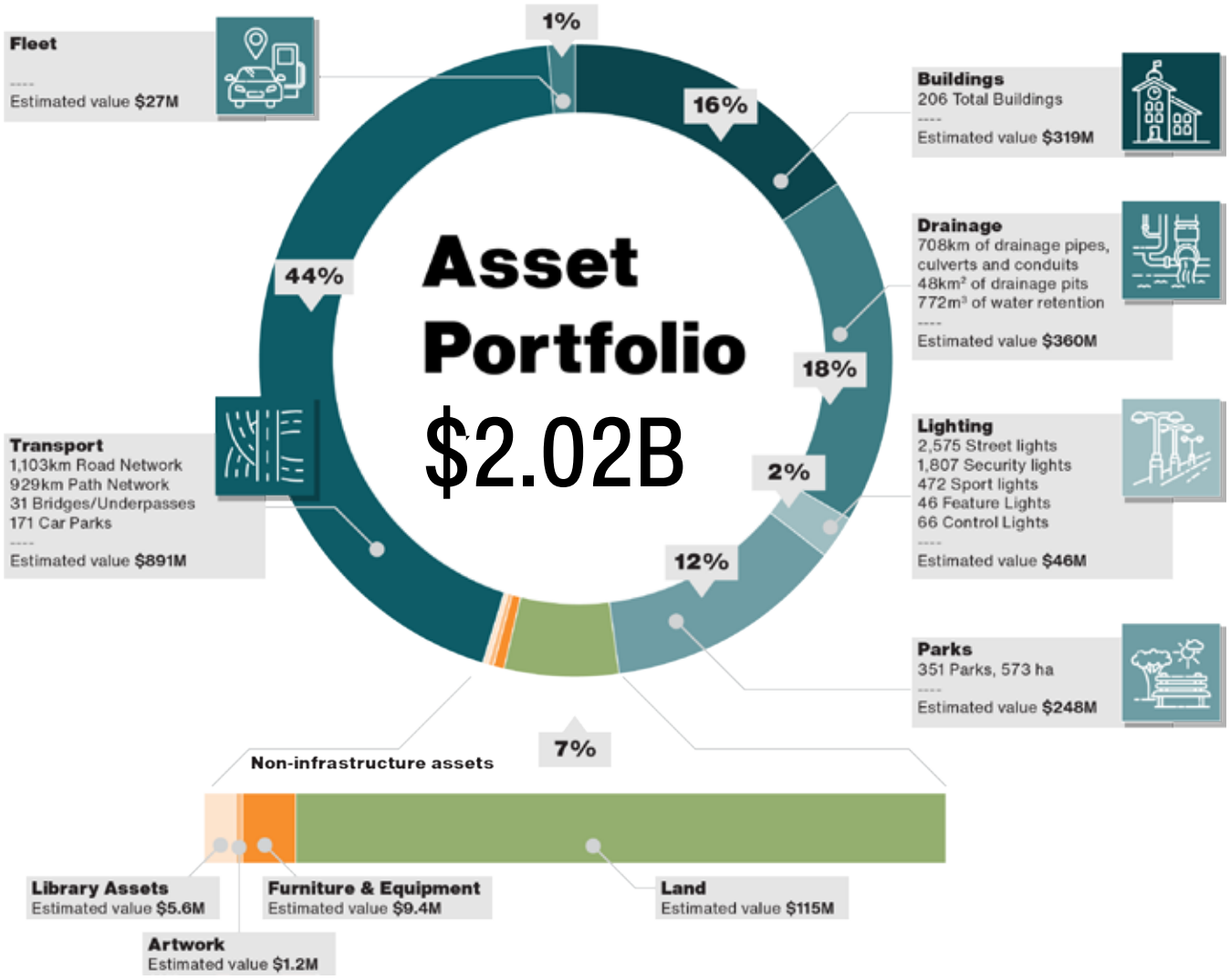


Figure 4.1 City of Joondalup's Asset Portfolio as of FY24

5. Asset performance and risk

5.1 Levels of service

Levels of service represent the defined quality for a particular activity that an asset delivers. They are a fundamental part of the process for whole-of-life asset management and ensure an appropriate level of service delivery is provided to the community. There are two distinct categories for service levels, those being:

- Community levels of service – based on customer expectations highlighted as part of community engagement processes and strategic outcomes that are planned to meet these expectations.
- Technical levels of service – operational and technical measures of performance to ensure minimum community levels of service are met. They may also be dictated by statutory requirements and industry standards.

Community and technical levels of service have been developed for each infrastructure asset class based on the following key performance measures, which are aligned to the AM Objectives outlined within this strategy:

AM Objective	LoS Type	Key Performance Measure	Level of Service (Generic)
AMO 1 – Assets support ongoing financial sustainability: To provide a range of city services, through the provision of assets, in a financially responsible and sustainable manner.	Customer	**Value for Money**	The City's asset network provides value for money and is consistently maintained throughout the City.
	Technical	**Cost Effectiveness Affordability**	Management of asset works, acquisition and purchasing provide the best-value, lifecycle costs for the City.
AMO 2 – Asset based decisions are planned and optimised across the asset lifecycle: To effectively plan for the funding, project delivery, maintenance, renewal, upgrade expansion and rationalisation of assets.	Customer	**Future Planning**	Provision of assets to ensure required services are available now and into the future.
	Technical	**Asset Condition/ Performance**	Provision of asset in functional or higher condition.
	Technical	**Efficient Operations and Maintenance**	Undertake maintenance and management practices to minimise asset failures and ensure service life is maximised.
	Technical	**Forward Works Programs/ Demand Management**	Develop and implement planning processes to ensure the service needs are understood and are routinely assessed to effectively resource management requirements.
AMO 3 – Assets support a community focussed, vibrant city: To ensure assets are fit for purpose, well-utilised, safe and reflect the services required by the community now and into the future.	Customer	**Functionality/ Accessibility**	Assets meet user requirements and expectations and are maintained to a functional and accessible standard
	Customer	**Safety**	Assets are maintained to a safe standard to operate and use, and issues are identified and rectified.
	Technical	**Service Provision/ Fit for Purpose**	Develop long term strategies to ensure the services required are delivered and that assets are fit for purpose and available when required.
	Technical	**Compliance**	Assets comply to all required standards and regulations, are maintained accordingly, pose no threat to the community, and are safe to operate and maintain.
AMO 4 – Assets are environmentally resilient: To continually adapt to changing local environmental conditions and utilise technology opportunities.	Customer	**Environmental Impact**	Planning and implementation of works consider long-term environmental impacts.
	Technical	**Environmental Impact**	City works and decision making incorporate environmentally sustainable practices

Both the community and technical levels of service should be reviewed and updated in alignment with the scheduled review cycles for the Strategic Community Plan, and as required following decisions of Council that impact performance measures.

5.1.1 Factors affecting Levels of Service

Community demand for new asset infrastructure and changes in levels of service for existing assets are driven by many competing factors. Customer and community feedback, budgetary constraints and legislative requirements are just some examples of factors that may influence the City's decision-making processes about the determination of service provision annually.

In addition to these short-term demand factors, longer-term demographic trends may also provide context to the future planning of asset provision by predicting demands before they become reactive requests from the community. This is often addressed in consultation with Council through the development and adoption of associated strategic documents and the annual planning and budgetary processes.

5.2 Management of risk

Not all assets represent the same level of risk to the City and the community should they fail or under-perform. A key means of tailoring maintenance and planning strategies and prioritising effort and expenditure is through the classification of assets by their 'criticality'. For example, major drainage infrastructure across the City would have significant impacts if they were to fail and may therefore require greater maintenance effort against more stringent condition standards to mitigate this risk.

The City will be putting in place improved asset information and decision-making processes to leverage risk and criticality-based asset management more fully. The City will allocate criticality with the view of maintaining visibility on assets and services, while also tracking risk mitigation performance.

6. Asset management strategies and initiatives

6.1 2024 Asset Management Maturity Results

Asset Management Maturity for the Infrastructure Asset Class was assessed across 31 elements as shown in Figure 6.1 below and fully detailed in Appendix B, all of which are a requirement of ISO 55000, utilising 159 individual questions within the Gap:id interview process.

500 Asset Monitoring 540 Asset Condition Monitoring 520 Asset Performance Monitoring 530 Incident Investigation	**100 Setting Direction** 110 AM Policy Development 120 AM Strategy 130 Demand Forecasting 140 AM Objectives **200 Programming** 210 Accounting and Costing 220 Strategic Planning 230 CAPEX Evaluation **300 Preparation** 310 Maintenance Decision Making 320 AM Plans 330 Implementation of AM Plans **400 Implementation** 410 Operations 420 Creation and Acquisition 430 Maintenance 440 Work and Resource Management 450 Rationalisation and Disposal	**600 Management Systems** 610 Management System 620 Business Risk Management 630 Asset Risk Management 640 Continuous Improvement 650 Legal and Other Requirements	**700 People and Organisation** 710 Organisational Issues 720 People Issues 730 Commercial 740 Communication **800 Data and Information** 810 Process for Managing Asset Knowledge 820 Asset Data and Knowledge 830 Activity Data and Knowledge **900 Technology** 910 Information System Issues 920 Financial and HR Information Systems 930 Asset and Work Management Systems 940 Supply and Logistics Information Systems 950 Advanced Information Systems

Figure 6.1 Asset Management Categories and Elements

Figure 6.2 below indicates the element scores as determined by GHD and the target levels for improvement following workshops with City management.

The City's overall maturity level was assessed as being "highly competent", representing generally appropriate practices in all elements, and a well-developed understanding of AM fundamentals across staff involved in the process. There is, in some areas, a discrepancy in the implementation/maturity of AM practices between asset classes.

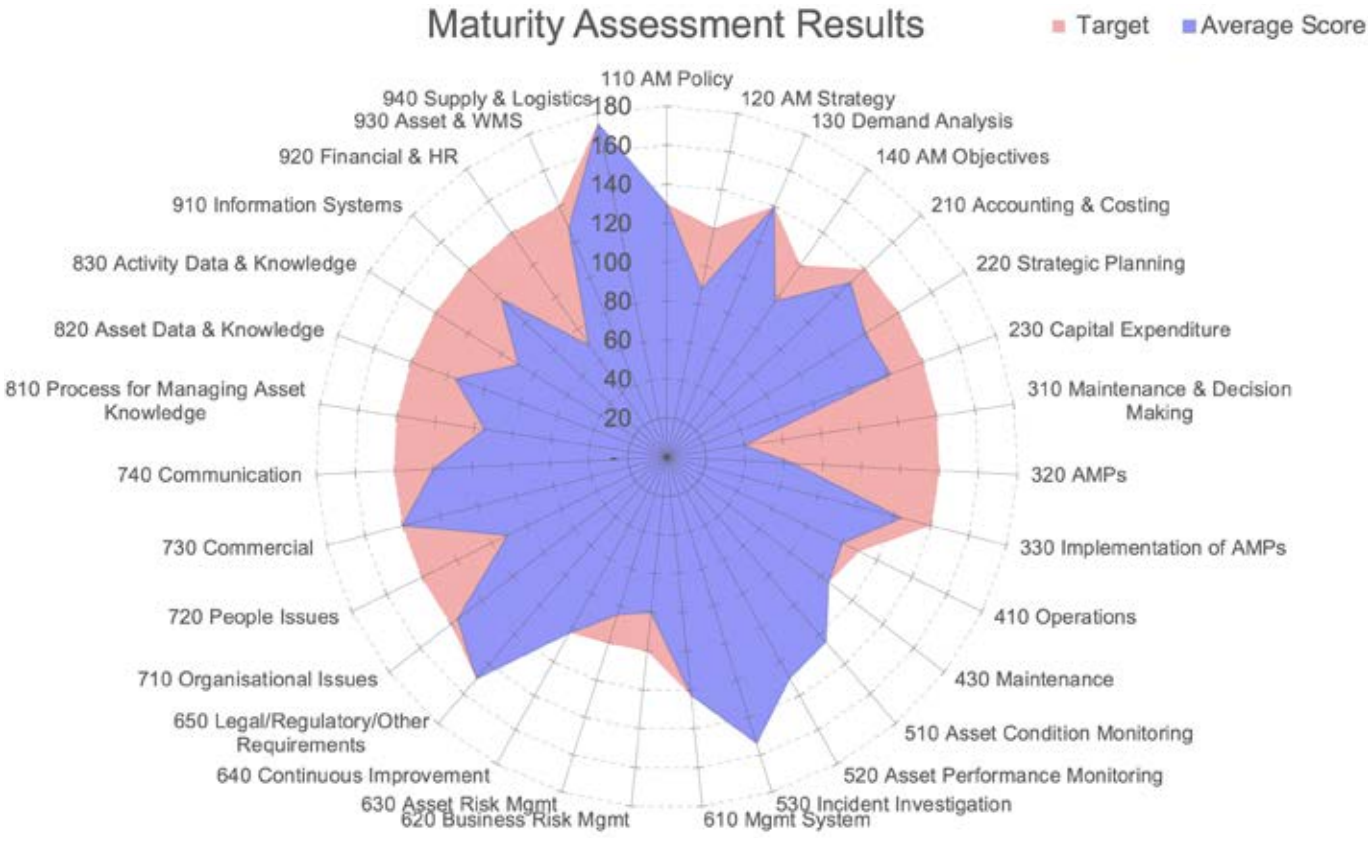


Figure 6.2 Maturity Assessment Results – Radar Graph

6.2 Strategy overview

The City has developed a suite of five AM strategies aimed at addressing challenges and issues identified from their AM Maturity Assessment conducted in 2023, and to achieve their AMOs. The strategies are shown and described below, and aligned with the relevant AM elements examined during the Maturity Assessment.

Strategy 1: Reliable Asset Data

Ensure asset data across all asset groups is visible, accurate and up to date.

Efficient asset management processes and systems with regards to maintenance, operating, capital works and associated asset data collection will allow clear visibility into future resourcing and funding projections, further allowing the City to make prudent financial asset management decisions. This will allow the City to prioritise renewal and maintenance work and accurately plan for upgrade and expansion of services in accordance with documented levels of service and annual budgets allocated.

This strategy aligns with the following AM elements:

- 310 Maintenance Decision Making
- 320 Asset Management Plans
- 330 Implementation of Asset Management Plans
- 820 Asset Data and Knowledge
- 830 Activity Data and Knowledge
- 930 Asset and Work Management Systems

Strategy 2: Lifecycle Management

Incorporate lifecycle cost principles into all aspects of our asset management decision making.

Consideration of the costs associated with assets throughout their entire lives, not just the initial construction or purchase cost, is a fundamental principle of good asset management. The costs of ongoing operation and maintenance can often far exceed the initial capital costs and are therefore critical to the City's funding and resource requirements. Through the implementation of digital asset management plans, the City can enable transparency, visibility and accessibility into the lifecycle costs of their assets, and provide clear documentation on the City's expectations, standards and requirements across all asset management responsibilities.

This strategy aligns with the following AM elements:

- 310 Maintenance Decision Making
- 320 Asset Management Plans
- 330 Implementation of Asset Management Plans

Strategy 3: Customer Outcomes

Effectively translate community requirements into affordable levels of service and works programs.

The agreement and definition of clear Levels of Service with our community, and the translation of these requirements into effective decisions, actions, and expenditure and works programs, is one of the primary objectives of asset management. Drawing on digital tools, improved business processes and an appropriately skilled workforce will enable the City to have a clearer line of sight between its actions and service outcomes and achieve a more customer-centric approach to asset management.

This strategy aligns with the following AM elements:

- 130 Demand Forecasting
- 320 Asset Management Plans
- 330 Implementation of Asset Management Plans

Strategy 4: Asset Resilience

Manage Risks in terms of supporting future Asset Resilience.

The assessment of the resilience and vulnerability of the City's assets to the impacts of climate changes, natural disasters and human-related threats allows the City to identify proposed mitigation and interventions to manage risks while addressing demand now and into the future. Identifying these risks and incorporating them within the asset lifecycle decision making process will be key to managing ongoing asset risks.

This strategy aligns with the following AM elements:

- 620 Business Risk Management
- 630 Asset Risk Management

Strategy 5: Developing People

Developing our People and Organisation through training and knowledge transfer.

Effective and efficient asset management is not achievable without suitable, competent personnel who have been actively trained to follow the organisational processes and to access the technological solutions in place. Giving clear and concise roles and responsibilities will allow people to excel in their given jobs and allow those roles with responsibility for asset management processes and tasks to perform them more effectively.

Resources and funding for training and development is integrated into the City's budgeting process, allocating specific funds earmarked for staff education related to asset management. This demonstrates a commitment to professional growth and ensures that adequate resources are available to support ongoing training initiatives.

This strategy aligns with the following AM elements:

- 710 Organisational Issues
- 720 People Issues

6.3 Alignment of AM Strategies with AM Objectives

The contribution that our strategies play in achieving our AMOs and addressing the key challenges are illustrated below in Table 6.1 and Table 6.2

AMO/Strategy	S1 Reliable Asset Data	S2 Lifecycle Management	S3 Customer Outcomes	S4 Asset Resilience	S5 Developing People
AMO 1 Financial sustainability	✓	✓		✓	✓
AMO 2 Optimised asset lifecycle	✓	✓			✓
AMO 3 Community focussed, vibrant city	✓	✓	✓		✓
AMO 4 Environmental Resilience		✓	✓	✓	✓

Table 6.1 Mapping of AM Strategies to AM Objectives

Challenges / Strategy	S1 Reliable Asset Data	S2 Lifecycle Management	S3 Customer Outcomes	S4 Asset Resilience	S5 Developing People
Challenge 1 Management of Data	✓	✓	✓		✓
Challenge 2 Changing Demographic			✓		✓
Challenge 3 New, Complex Assets	✓	✓	✓		✓
Challenge 4 Ageing Infrastructure	✓	✓	✓		
Challenge 5 Climate Change		✓		✓	✓
Challenge 6 Training of Staff	✓	✓		✓	✓

Table 6.2 Mapping of AM Strategies to Challenges Faced

6.4 Asset management initiatives

Each asset management strategy is underpinned by set of initiatives that enable delivery of the strategy. Some of these initiatives can be considered 'business as usual' or routine, whereas others represent specific improvement initiatives and form part of the City's Asset Management Improvement Plan. The suite of initiatives can be expected to change over time, with the initial set of initiatives for each asset management strategy is shown in Table 6.3.

Strategies	Initiatives
S 1 **Reliable Asset Data:** Develop processes and systems to ensure asset condition and performance information is visible and accessible for the decision-making process.	• Generate improved and consistent data collection from maintenance, operating and capital works that can inform current and future resourcing requirements and feed into the long-term financial plan assumptions. • Implement documented and consistent processes for the handover (works) and transfer (people) of asset information and knowledge. • Continued development of digital asset management solutions to improve asset data analytics and support annual and long-term decision-making processes, prioritising the implementation of digital AMP structures, framework, and interfaces, to ensure agility to the changing needs and requirements of the community, Council and City.
S 2 **Lifecycle Management:** Incorporate life cycle "first date to grave" principles into all aspects of our asset and financial management decision making.	• Develop and maintain a strategic maintenance framework that incorporates classification/categorisation approaches and considers risk and criticality which informs both LoS and funding decisions. • Formalise risk exposure due to ageing and accelerated consumption of assets and incorporate into budget processes. • Develop processes across the lifecycle and review processes to ensure that the digital AMPs are being implemented as planned. This will include the creation of new assets (through the upgrade or expansion of services), operating and maintenance management and disposals as set out in the AMP. For each of these lifecycle phases there should be a process identified in the AMP that sets out steps to meet the strategies of the AMP and the process to ensuring those steps are undertaken.

Strategies	Initiatives


S 3
Customer Outcomes:
Develop clear levels of service and affordable works programs to deliver community-based outcomes.
	• AM Objectives are linked to the corporate vision, key themes, strategies, and stakeholder expectations. These are to be addressed for all Infrastructure Services managed asset portfolios (As shown in Figure 4.1) at a strategic level, and for each asset group in the AMPs.
	• Translate AM Objectives into a criteria/procedure for determining AM priorities.
	• This then leads to the development of LoS, documented in managed datasets feeding into digital AMPs.
	• Build LoS into contracts and position responsibilities affecting delivery of services to provide alignment between stakeholder requirements and the organisational objectives and ensure useable feedback of required information.
	• Develop SMART (Specific, Measurable, Assignable, Realistic, Time-focused) objectives, and review performance.
	• Discuss methods of communication to internal and external stakeholders promoting AM, informing proposed changes, engaging consultation, reporting on performance, and celebrating achievements. Staff newsletters, noticeboard pin ups and an AM intranet portal could be considered. A weekly update email or intranet new post is recommended and could include one-page 'cheat-sheets'/ information and performance dashboards.
	  ○ How should stakeholders be engaged, at all levels in the organisation, to ensure appropriate consultation in the development of the Policy, Strategy and plans? How do staff at all levels provide input on identified asset risks, strategy issues? A forum may be appropriate, open and communicated to all staff, similar to an incident reporting system, for the identification of AM issues.
	  ○ Incorporate AM communication into Strategy and Policy documentation.
	• Include communication requirements in continuous improvement planning.

 **S 4** **Asset Resilience:** Manage Risks in terms of supporting future Asset Resilience	• Formalise asset risk assessment data. Formalise risk exposure due to ageing and accelerated consumption of assets. • Develop or review assessments regarding the resilience and vulnerability of the City's assets to the impacts of climate changes, natural disasters and human-related threats.
 **S 5** **Developing People:** Develop training and knowledge transfer frameworks to ensure continuation of asset management and City processes and procedures	A revised AM Roles and Responsibilities matrix is being developed in conjunction with this AM Maturity Assessment and scheduled for completion in March 2024. The revised AM Roles and Responsibilities matrix should consider the following points: • Review of the knowledge gaps from the roles and responsibilities review undertaken in February 2024. • A review of the organisational structure within AM based on current required roles and responsibilities. • Establish an AM Responsibilities Matrix. This should include all activities involved in the AM System from system establishment and monitoring, AMP development, approvals, maintenance scheduling, planning, strategies, delivery, documentation, etc. The matrix may take the form of an RACI (a matrix identifying the items and the personnel who are; Responsible, Accountable, Consulted, Informed) or similar structure. • Establish an AM Skills and Knowledge Matrix. Identify the tasks required for effective asset management, and the skills training that are applicable to each. For each, identify the staff who possess those skills and knowledge. Ensure the outcomes of this assessment are not in conflict with the assignment of responsible in the Responsibility Matrix. Identify gaps and identify required training, new staff to fill them. • Reimplement reporting of the performance of the AM System and key deliverables, through existing Corporate processes, i.e. Monthly Income Statement meetings, Monthly Capital Works meetings and Corporate dashboards.

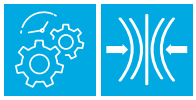
Table 6.3 Asset management initiatives


New Releases
Guide to Investing in Gold and Silver
96 GREAT INTERVIEW QUESTIONS
DRINKING WATER QUALITY
ABOUT

7. Performance measurement and reporting

The City is committed to ongoing monitoring, refinement, and improvement of its performance across all asset management responsibilities and processes.

The asset management performance measures detailed in Table 7.1 have been identified which will measure our desired future capability and provide the reporting items within the CBP to ensure that they are achieved.

Aspect Performance	Intended future capability	Performance measure
Asset Management Maturity	Clear visibility into the Asset Management maturity across the organisation.	5-yearly asset management maturity assessment, aligned with Strategy review and update milestones.
 **S 1 Reliable Asset Data:** Asset Data Management Plan	Updated and documented asset and performance data through the completion of annual asset class inventory audits and condition assessments aligned with the 5-year asset class revaluation cycle.	Within 5 Years develop and implement an asset data management plan.
 **S 2 Lifecycle Management and S 4 Asset Resilience:** AM Decision Making Frameworks	Clear asset management decision making frameworks.	Within 5 Years develop and implement a strategic maintenance framework.
 **S 3 Customer Outcomes:** Levels of Service Framework	Clearly defined Levels of Service for various asset classes and types with objective targets and measures. Levels of Service linked to work programs to ensure prudent levels of funding.	5-yearly Levels of Service framework review, aligned with Strategy review and update milestones.
 **S 5 Developing People:** Training and Development Framework	Strong induction training for new team members and ongoing knowledge transfer of the City's systems, processes, and standards.	Within 5 Years develop and implement a training and development framework.

8. Asset management improvement roadmap

To achieve continued improvement and growth in the City's asset management people, systems, processes and practices, we have identified initiatives which could be implemented to ensure this occurs.

The initiatives identified in the roadmap figure on the following page have been taken from the strategies and actions identified in this document, the AM Maturity Assessment, the Roles and Responsibility review and the Levels of Service workshops. The roadmap provides a concise visual representation of the short-term initiatives proposed and estimated timeline for their implementation.

City of Joondalup

Asset Management Improvement Roadmap 2024-2029

Completed initiatives

1. Define AM Roles and Responsibilities and develop ARCI matrix *(320/330)*
2. Develop AM Objectives *(140)*
3. Develop Levels of Service Framework *(320/330)*
4. Develop new AM Strategy *(120)*

S3 S5

Future initiatives

5. Review organisational structure, pertaining to AM *(710/720)*
6. Identify and capture gaps or limitations to develop targeted staff training *(710/720)*
7. Establish AM skills and knowledge matrix *(710/720)*
8. Develop training and development program, considering current and future systems *(920)*

S5

9. Develop a strategic maintenance framework *(310)*
10. Develop a standardised asset risk assessment matrix for each asset grouping *(620/630)*
11. Develop processes to provide consistent data collection for asset, risk, condition/performance and work information *(310)*
12. Establish schedules for all operational activities across all assets *(310)*

S1 S2 S3 S4

13. Develop standardised reporting for the tracking of operational and capital expenditure *(310)*
14. Document processes for the translation of asset data into forward capital and operational works planning processes *(210)*

S2 S4

15. Develop AM communication and education plan including internal and external stakeholder management *(740)*
16. Prepare Digital AM Plan structures for standardised reporting and processing of levels of service data *(710/720)*
17. Establish levels of service datasets for all asset types across all asset classes *(320/330)*

S3 S5

18. Prepare standardised procedures for reporting on AM system performance *(710/720)*
19. Implement corporate reporting of Digital AM Plans, in-conjunction with Project Axiom *(320/330)*
20. Incorporate AM communication and education plan into Policy and Strategy documentation *(740)*

S1 S2 S3 S4 S5

8.1 Asset management improvement roadmap legend

Table 8.1 below refers to the roadmap visual on the previous page, providing greater detail on the initiatives. Grey cells indicate completed initiatives, with white cells detailing those initiatives to be undertaken.

#	Initiative Description	Element
1	**COMPLETED:** Define the AM Roles and Responsibilities applicable to the lifecycle management requirements across all City assets, through the: • Completion of a Roles and Responsibilities review across the infrastructure asset classes, for the entire asset lifecycle. • Development and incorporation of an RACI (responsible, accountable, consulted and informed) matrix.	320/330
2	**COMPLETED:** Develop Corporate AM Objectives applicable to all City assets, to inform AM strategies, improvement initiatives and the LoS framework. The corporate vision, key themes, strategies and stakeholder expectations from Joondalup 2023 is used to derive the AM Objectives, which are applied to AM practices at a strategic level for each City asset class.	140
3	**COMPLETED:** Development of a LoS Framework, aligned with the AM Maturity Assessment outcomes. The framework will provide a standardised approach to the definition of LoS, performance measurement and targets, and underpin reporting structures for the City. The framework translates AM Objectives into key performance measures which inform the development of LoS dataset used in the Digital AMPs.	320/330
4	**COMPLETED:** Development of a revised AM Strategy, aligned with the AM Maturity Assessment outcomes.	120
5	Undertake an organisation-wide Roles and Responsibilities assessment, pertaining to AM, to assess: • All activities involved in the AM practices from system establishment and management, approvals, maintenance scheduling, forward work planning, funding plans and strategies etc. • The organisational structure across the AM practices, based on current roles and responsibilities.	710 720
6	Undertake an organisation-wide AM Maturity Assessment to: • Identify and capture gaps or limitations in skills and knowledge in key staffs' understanding of 'what' and 'how' asset management activities are applied across the organisation and across the asset lifecycle phases. • Support development of an organisation-wide AM Skills and Knowledge Matrix.	710/720
7	Establish an AM Skills and Knowledge Matrix to: • Identify tasks required for effective asset management. • Establish the skills training that are applicable to each task. • Identify the staff who possess those skills and knowledge. • Ensure the outcomes of this assessment are not in conflict with the Roles and Responsibility Matrix. • Support improvements to staff induction, training and development programs.	710/720

#	Initiative Description	Element
8	Develop a Training and Development framework for AM practices and incorporate into the Workforce Plan, which: • Covers induction through knowledge transfer and end-of-employment milestones. • Considers a range of AM training (different levels for different roles) to improve awareness, competency, and coverage opportunities. • Considers the current processes and systems (TechOne), and the future corporate systems (Project Axiom). • Incorporates additional contractual management knowledge sharing/training, would be beneficial for those staff with less contractual management experience.	710/720 and 920
9	Develop a Strategic Maintenance Framework which: • Defines how the organisation undertakes lifecycle operational actions on all City assets. • Incorporates applicable hierarchy, classification, categorisation and grouping approaches. • Aligns with LoS, funding and budget datasets. • Considers risk and criticality, and reactive maintenance trends. • Considers work prioritisation, evaluation and decision-making processes. • Supports the development and reporting of annual scheduled maintenance and planned maintenance programs.	310
10	Develop a standardised Asset Risk Assessment Matrix covering each asset class, to: • Improve those with immature risk assessment/management documentation. • Formalise asset risk assessment datasets, incorporating risk exposure due to ageing and accelerated consumption of assets. • Develop or review assessments regarding the resilience and vulnerability to the impacts of climate changes, natural disasters and human-related threats.	620/630
11	Improve existing, and develop new, processes to provide consistent data collection across all asset, risk, condition/performance and work information, to: • Generate consistent and timely data collection of operational and capital works planning and delivery information. • Support current and long-term operational and capital forward works programming. • Support current and long-term operational and capital financial planning. • Align with performance reporting against the relevant LoS measures. • Allow improve data auditing to ensure accuracy and currency of reporting and analysis.	310
12	Establish schedules for all operational activities across the lifecycle management requirements of all City assets, including: • Operating activities such as inspections, audits and condition assessments, and • Maintenance activities such as cleaning, sweeping, servicing and preventative repairs. • Schedules are to be setup within the Corporate systems and aligned with the relevant LoS measures.	310
13	Develop standardised reporting for the tracking of annual and historical operational and capital expenditure which considers: • Corporate, statutory and regulatory reporting requirements across all City directorates. • Alignment with risk management and LoS performance requirements. • The current processes and systems (TechOne), and the future corporate systems (Project Axiom).	210

#	Initiative Description	Element
14	Document processes for the translation of asset data and business processes into current and long-term operational and capital forward works plans, including: • Analysis undertaken to support work decision-making i.e. prioritisation/evaluation methods, resource management, request handling practices and funding management. • Clearly detailed cross-linkages between project planning and delivery allocations and operational budgeting. • Clearly detailed whole-of-life costs and LoS impact modelling. • Improved capture of decisions and actioning of outcomes.	320/330 and 810/ 820/830
15	Develop AM communication and education plan including internal and external stakeholder management to promote and embed the value of AM activities and the achievement of the AM Objectives within the organisation. Incorporate communication requirements into continuous improvement planning processes.	740
16	Prepare Digital AM Plan structures for standardised reporting and processing of LoS data to support transparent and effective decision-making through: • A standardised format/document library that enables consistent reporting and analysis, and maintains alignment between the Strategic Community Plan, Corporate Business Plan, AM Policy and Strategy and the Digital AMP. • Consistent and timely tracking of new assets and asset disposals to enable reporting of their impact on operational resources, budgets and impacts on LoS. • Clear performance measurement of asset classes against LoS. • Defined linkages between LoS performance measures, lifecycle cost and risk. • Processes for the reporting of the Digital AMP implementation process.	320 / 330
17	Establish LoS datasets for all asset types across all asset classes, considering the current processes and systems (TechOne), and the future corporate systems (Project Axiom).	320 / 330
18	Prepare standardised procedures for reporting on AM system performance, considering the current processes and systems (TechOne), and the future corporate systems (Project Axiom).	710 / 720
19	Implement corporate reporting of Digital AM Plans, in-conjunction with Project Axiom, within a dynamic digital environment.	320 / 330
20	Incorporate and embed AM communication, training and development frameworks into relevant Corporate strategies, plans and documentation.	740

Table 8.1 Asset management performance measures

Appendices

Appendix A

Asset Management Policy

Responsible directorate: Infrastructure Services

Objective: To outline a framework for the long-term management of City infrastructure assets that is aligned to the City's broader strategic objectives and reflects the public purpose intent of asset provision by the City.

1. Statement:

The City recognises its role in providing and maintaining infrastructure assets over their required lifespan, to meet the agreed needs of the community and the operational requirements to sustain their effective use.

Achieving this objective in an affordable and sustainable manner requires a strategic and long-term approach to asset planning and management. The City aims to deliver this through defined levels of service that are cost effective, cognisant of current and emerging risks and meet appropriate performance requirements.

Effective stakeholder engagement, appropriate governance structures and resource allocations will support the City's coordinated and integrated approach to asset management. Decision- makers will act under the concept of stewardship, ensuring asset management practices benefit present and future generations.

Delivering on this commitment will aid in the provision of infrastructure assets that are well- designed, functional, adaptable, of a quality standard and able to be sustainably financed over their life.

2. Details:

The City's approach to asset management shall include:

a. Defining technical and community levels of service and monitoring their performance to ensure continued relevance.

b. Forecasting and managing impacts on demand, including demographic changes and advancements in technology.

c. Ongoing testing of the long-term affordability and practicality of defined levels of service, and the manner in which they will be sustainably financed.

d. Implementing a structured framework for the planning and delivery of asset management practice across the organisation that considers stakeholder inputs.

e. Maintaining accurate and reliable asset data to effectively inform decision-making.

f. Ensuring that defined technical and community levels of service for each infrastructure asset are compiled and made available to Elected Members.

Creation date:	March 2007 (CJ048-03/07)
Formerly:	
Amendments:	CJ261-11/12, CJ227-12/22
Last reviewed:	December 2022 (CJ227-12/22)
Related documentation:	• Asset Management Strategy • Strategic Community Plan 2022-2032 • ISO 55000, 55001: 2014 • International Infrastructure Management & Financial Management Manuals (IPWEA Australasia)
File reference:	101257

Appendix B

Maturity Assessent Elements

Maturity Assessment Elements

A description of the 31 elements within Gap:id is presented in Table B below, all of which are a requirement of ISO 55000.

Category	Element	Description
Setting Direction	110 Asset Management Policy	The establishment of core business objectives allows an organisation to define the nature of its business and activities. There is also the need to demonstrate commitment to the establishment of an integrated AM system, including the alignment with other policies, plans and requirements. As part of that commitment is an ongoing review process for the AM Policy.
	120 Asset Management Strategy	This function includes the alignment of the AM Strategy to the AM Policy and other policies and the degree to which the AM Strategy fulfils the requirements of the internal and external stakeholders. It considers the completeness of the AM Strategy in terms of lifecycle, risks and criticality, function, performance, and approach and considers the AM Strategy's and management's review to ensure efficiency and effectiveness of planning. It considers how the AM system supports AM objectives.
	130 Demand Analysis	Demand Analysis includes the management of historic records of customer and stakeholder demands on the asset system. Does the organisation understand the impacts on demand for services into key drivers and understand their influences on future demand? The awareness of stakeholder expectations and evaluating stakeholder impact is also considered. Are surveys conducted and used to set Levels of Services (LoS)? It includes the predicting of future trends in demand for services based on historic and external influences and evaluating and addressing external and internal factors influencing the realisation of AM objectives.
	140 Setting Asset Management Objectives	The AM Objectives are required to align with the City's organisational objectives through the corporate plan and business plan. Risk, criticality, performance, legal, regulatory, statutory and stakeholder requirements are considered as key objectives for an effective AM System. Communication and review of asset management objectives should be communicated across all teams to demonstrate the organisation's commitment to continuous improvement to promote integration and consistency.

Category	Element	Description
200 Programming	210 Accounting and Costings	The accounting and costing function refers to the processes for undertaking asset valuations, determination of effective lives and remaining useful lives of all assets in the register. This includes the processes for tracking and reporting operational and maintenance costs, future renewal liabilities and residual risk exposure. Processes for determining what historical cost data should be collected on individual assets and how should this be archived is also considered.
	220 Strategic Planning	Processes for making optimised asset renewal decisions by identifying the most economical renewal solution and point in time to renew an asset. This includes processes for assessing the lifecycle cost of new assets, identify cost reduction or service level improvement opportunities, working with customers, regulators, and other stakeholders during and long-term strategic planning. Strategic planning provides the linkages for capital, operations, and maintenance expenditure, with overall business goals and processes for budget rationalisation, reconciling expectations with constraints and evaluation of available resource capacity.
	230 Capital Expenditure Evaluation	The Capital Expenditure Evaluation considers the need to have policies and processes regarding the evaluation and categorisation of capital expenditure projects. As part of the evaluation, the categorising of strategic drivers and the risk are considered, to assess if they reflect the sophistication and level of expenditure and the risk posed to the organisation. Processes for linking demand, delivery options and the quality of the operation and maintenance expenditure costs to budget are part of this function. In addition, processes for investigating and recording alternative options to the lowest lifecycle cost option for capital expenditure projects and the economic evaluation of all capital and recurrent investment projects are considered.

Category	Element	Description
300 Preparation	310 Maintenance and Decision Making	Maintenance Decision Making includes processes around the setting of a strategic level maintenance framework (such as Reliability Centred Maintenance, Zero Breakdown Maintenance, Six Sigma, etc.) that defines how the organisation undertakes maintenance of its assets. It also includes the ability to determine which assets warrant the tracking of performance and control of the system through the use of a suitable SCADA system. Another consideration is the need to have clear processes to determine maintenance schedules etc., such as through a Policy, and the ability to review and analyse performance against maintenance programs. Do processes for developing maintenance strategies incorporate the overall business drivers for maintenance, capital investment, and system performance (e.g., do strategic LoS link directly to required asset performance levels and subsequently to maintenance planning and scheduling).
	320 Asset Management Plans	Asset Management Plans (AMPs) exist to support achievement of AM Objectives and are produced from a strategic perspective captured in the Strategic Asset Management Plan (SAMP). They should include a record of current and future LoS, contain knowledge of the assets, including predictions of major failure modes and risk exposure. The evaluation of reliability in relation to operational planning and optimisation of renewal strategies extend the life of individual assets, facilities, and systems. AMPs include the capital projects necessary to service new customers or requirements and should include the most cost-effective option for asset improvements. Linkage to businesses goals should be related to customer and stakeholder expectations clearly showing future sustainable costs and LoS.
	330 Implementation of Asset Management Plans	The implementation of AMPs begins with the clear definition of roles and responsibilities around operations and maintenance, benefits analysis, decision making and prioritisation. AMPs should include documented processes for implementation across the lifecycle as well as ensuring activities are carried out and the asset is operated in accordance with the AMP. In addition, processes to ensure the organisation can deliver the work programmes should be set out in the AMP. Means of measuring the performance of outsourced activities and contractors and the responsibility and authority for managing the outsourced activities should be captured and adequately managed.
400 Implementation	410 Operations	Operating procedures covering all aspects should exist and be supported. Processes include developing and maintaining operating procedures for both normal and emergency operations, developing and maintaining of operations manuals (including for new assets), processes related to complaints system and the tracking of those through to resolution and processes for the development and maintenance of Emergency Response Plans and Business continuity planning including continuity and recovery in major events.
	430 Maintenance	The monitoring and controlling of the maintenance program along with recording and reporting of maintenance costs to the item level, support the management of the maintenance function. Does an organisation identify and manage the maintenance manuals and instructions and consider the tools, facilities, and equipment requirements, in addition to they are maintained and calibrated as required?

Category	Element	Description
500 Asset Monitoring	510 Asset Condition Monitoring	This function considers asset performance monitoring including how it is monitored in terms of the policy, strategy and objectives, the controls in place around monitoring and the analysis and corrective action processes.
	520 Asset Performance Monitoring	This function considers how an assets' performance is monitored including processes for establishing, what, how and when. Are controls in place for asset performance monitoring and does the organisation undertake analysis and corrective action following poor performance?
	530 Incident Investigation	Incident Investigation includes the responsibility for handling investigation and mitigation of asset-related failures, incidents and emergency situations. Steps to address incident management and processes for carrying out incident investigation in a timely and appropriate manner. It includes processes for determining preventative actions following an incident, failure or non-conformance and investigation of asset-related failures, incidents and nonconformities.
600 Management Systems	610 Management Systems	AM System includes considering what the organisation has done around establishing the AM System including defining scope, structure, operation, and interfaces. It includes the documentation, performance and condition monitoring and review processes in place as well as considering steps taken by top management to effect integration.
	620 Business Risk Management	Risk management processes are consistently applied and the identification and assessment criteria for operational planning is developed to address risks. A Risk Management Framework is to be established and rolled out quantifying probability and consequences of failure. Processes are required for analysing risks, including the understanding of its make-up and the ranking of the risks including managing risk reduction, and the assessment of mitigation options. Steps are required to assess and address significant change including weather and climate change risk and the impacts of climate change on the organisation.
	630 Asset Risk Management	Risk management processes encompass assets and asset systems which need to be documented. Processes for predicting expected failure modes for all assets and processes for undertaking risk assessments of asset failure for inclusion within the planning process is considered in this function. In addition, how asset risk information is applied across organisation and the control of asset risks is also considered.
	640 Continuous Improvement	Continuous improvement includes the establishment of an AM audit programme, addressing any actions identified and their implementation as part of Continual Improvement. It considers systems in place to capture and address Corrective and Preventative action, the detection of non-conformities and measures in place to manage and monitor actions. It further considers AM reviews and benchmarking, the identification of cost reduction opportunities, the improvement program, and the management of risk associated with change and raising performance awareness.
	650 Legal, Regulatory and Other Requirements	This function addresses how an organisation identifies, understands, and communicates legal and other requirements, as well as demonstrable compliance with any requirements. Are steps in place to determine and fulfil identified obligations?

Category	Element	Description
700 People and Organisations	710 Organisational Issues	This function considers how the organisations top management demonstrate ownership of the AM system. Are AM roles and responsibilities defined including the roles of an AM Coordinating Group or Steering Committee? Are responsibilities for maintaining the AM System conformity, effectiveness, and adequacy in place, as well as responsibilities around AM System assessment, review, and reporting? Is there a manager or coordinator whose major role it is to build the organisational AM Capabilities?
	720 People Issues	Management of the organisation's staff AM skills and knowledge, the culture, and the processes to implement change through the business all support an organisation's ability to embed AM practices. This includes managing AM human resources across the business and providing necessary AM System resources. It considers processes around AM awareness and training, as well as the existence of measures for validating competence and performance.
	730 Commercial	The Commercial Tactics function considers if the core and non-core business processes have been identified and the steps taken to identify any potential benefits and arrangements. Are processes in place to optimise contracts and do contracts deliver the full requirements of the organisation? Are service providers regularly provided feedback and are processes in place for monitoring the performance of sub-contractors and for assessing and selecting contractors? Do the organisation's information and communication systems support the administration of contracts?
	740 Communication	Communication related to AM includes measures to promote communication and stakeholder engagement (both internal and external). It considers communication of the AM Policy, Strategy, Processes and Practices and role and responsibilities and the dissemination and feedback of AM performance. It considers consultation around asset related risk, corrective actions and continual improvement as well as measures in place to raise awareness of AM Policy and System externally to contractors and suppliers.
800 Data and Information	810 Process for Managing Asset Knowledge	This function considers the existence of an effective hierarchical level structure and the consistency of AM across the organisation. It includes meta data, the collection and management of asset attribute information, asset performance protocols, and performance and utilisation data. Does the organisation operate a management control system, control external information, and ensure data security of its asset management related information?
	820 Asset Data and Knowledge	The Asset Data and Knowledge function considers the ability for assets to be categorised with appropriate attributes, the existence of an asset hierarchical structure and the ability for spatial data to be stored. It includes drawing/plans, basic physical and detailed attributes and the capture of asset condition data, performance, and probability of failure data.
	830 Activity Data and Knowledge	The Activity Data and Knowledge function considers the effective use of data across decision making. This includes the use and maintenance of asset risk information, maintenance, and operations data, works and/or resource management data, the appropriate detail and scope of asset valuation data, cost history data, data for costing of options and lifecycle cost histories.

Category	Element	Description
900 Technology	910 Information Systems Issues	This function considers the relevance of information systems and the quality and their accuracy. Does the coverage of the information cover all aspects of the business operation, the integration across the systems and the ability of staff to access required information systems? Does a corporate strategy exist and are their issues regarding the use of Mobile computing facilities?
	920 Financial & HR Information	Financial and HR Information Systems includes the consideration of whether a suitable financial system in place and the areas that it covers. This may include customer and/or property records, a data warehouse system, general ledger codes (cost centres), cost categorisation and links to asset management systems. Workforce planning and technical competence management and the financial reporting in terms of the AM System information.
	930 Asset and Work Management	Asset and Work Management System function considers the appropriateness of multiple systems. It includes the comprehensive capture of complaints or enquiries, the appropriateness of the asset register, the Geographic information system, maintenance management system and the Emergency Response Plans. Is there a job resource management system in place and are condition assessment records maintained? Is there a risk assessment information system and project management support tools?
	940 Supply and Logistics Management Information Systems	This function includes consideration of the inventory spares and purchasing system, store/stock optimisation systems, supplier information records and the appropriateness of inventory tracking.

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This document is available in alternative formats upon request.