Asset Management Maturity Assessment Report
January 2023

RESTORE & THRIVE

ARMIDALE
Regional Council

QUALITY CONTROL		
OUR PURPOSE	Together, proud to deliver to the highest possible standards for ARC in all we do	
KEY DIRECTION	Strong Region (Engagement and Responsibility)	
GOAL	S2 - Strong governance and leadership that supports our region to grow and prosper	
STRATEGY	S2.2 - Ensure that strategic directions are informed by, and with, the community and stakeholders and are delivered effectively, and in consideration of available resources	
RESPONSIBLE OFFICER	Coordinator Strategic Infrastructure Planning	
REVIEW DATE	2024	
DATE	ACTION	RESOLUTION No
08/08/2022	PWA – First Draft finalised	N/A
19/08/2022	PWA – Second Draft finalised	N/A
14/09/2022	PWA – Final Draft finalised	N/A
12/10/2022	ARC – Draft reviewed	N/A
21/10/2022	ARC – Documents endorsed by COAS	N/A
TBC	Council - Public Exhibition	TBC
TBC	Council - Adoption	TBC
NOTES	Nil	

Contents

1. EXECUTIVE SUMMARY

In July 2022, Armidale Regional Council (ARC) engaged the Advisory and Partnerships Group of Public Works, Department of Regional NSW to carry out an Asset Management Maturity Assessment (AMMA) of its Asset Management System. An Asset Management System is defined as:

'a set of **inter-acting elements** of an organisation to establish AM policies and objectives, and processes to achieve those objectives' **(Formal definition ISO 55000)**

or

'how we do things around here – the way people, processes, data and systems are used to manage assets and services.' **(Informal definition ISO 55000)**

1.1 Scope and Purpose

The scope of the assessment was the asset management (AM) practices within ARC's Asset Management System – particularly – the way people, processes, data and systems are used to manage assets and services' against the best practice requirements of ISO 55000 Asset Management Standards.

The purpose of the assessment was threefold:

1. To determine the appropriate level of advancement (maturity) of AM practices;
2. To identify the maturity gaps within the system that ARC would need to address to lift capability To appropriate levels of asset management maturity; and
3. To develop a list of improvement actions for ARC to undertake over a defined timeframe to achieve the appropriate level of asset management maturity.

The list of improvement actions in each AM practice area would assist in driving an improvement plan.

1.2 Assessment methodology

The International Infrastructure Management Manual (IIMM, 2020) Asset Management Maturity Assessment tool was used for this assessment. The tool uses the IIMM Asset Management Maturity Framework.

A self-assessment was first undertaken by ARC representatives, then followed by an all day workshop style interview session facilitated by Public Works expert reviewers, with ARC's asset management services representatives. Invited to the Workshop were:

- Acting Coordinator, Strategic Infrastructure Planning;

- Acting Manager, Roads & Parks;
- Manager, Plant and Facilities;
- Acting Coordinator, Town and Public Spaces;
- Manager, Utilities (Water, Sewerage and Solid Waste); and
- Relief Manager, Airport (unable to attend in person).

The assessment scope covered the portfolio of infrastructure assets owned and managed by ARC under a single governance structure. These included transport, stormwater, buildings, water & sewerage, solid waste, parks, recreation and other assets.

1.3 Key findings

The assessment covered three elements of the IIMM Asset Management Maturity Framework with each element having five to six AM practice areas, which were assessed and scored using the five point AM maturity scale (Figure 1):

Figure 1. AM Maturity Scale

Aware	Basic	Core	Intermediate	Advanced
0-20	21-40	41-60	61-80	81-100

In the self-assessment, two scores were provided. A current score which was the current (self-assessed) state of AM maturity; and, the target score which was the score considered appropriate for the organisation which the organisation is aiming to achieve. A third score, the maturity gap score, is the gap between the current and target scores which the organisation needs to address (from improvement actions) to close the gap between the current score and target score.

As this is the organisation's first maturity assessment, ARC has set as a minimum target of Core (41-60 score) AM maturity level, which they believe they can achieve within the desired timeframe of 1-2 years. The targets reflect what is realistically achievable within a reasonable timeframe as well as the importance of the assets and is set at a level where the benefits of achieving a targeted level of maturity can be justified by the costs and other resources involved. This has been taken into consideration when the minimum maturity level targets were set for each AM practice area.

In Element 1, Understanding and Defining Requirements, five AM practice areas were assessed with Levels of Service Framework given the lowest maturity level of 15 (Aware). An Aware maturity level means that the organisation is aware of the need to establish Levels of Service Framework, but has not yet implemented, the process or practice for the assets under its control and management.

The next second lowest maturity level score of 25 (Basic) is the Strategic Asset Management Plan (SAMP). The SAMP is currently a work in progress. There is still a fair bit of work to be done to bring the SAMP to the desired level of maturity. There are significant gaps in most of the AM practice areas, which need to be addressed to complete the SAMP documentation. The Basic level of maturity means that only the minimum level processes and practices are in place for the SAMP.

Figure 2 shows the resulting current and target scores for the five AM practice areas in Element 1.

Figure 1. Element 1 - Understanding and defining requirements
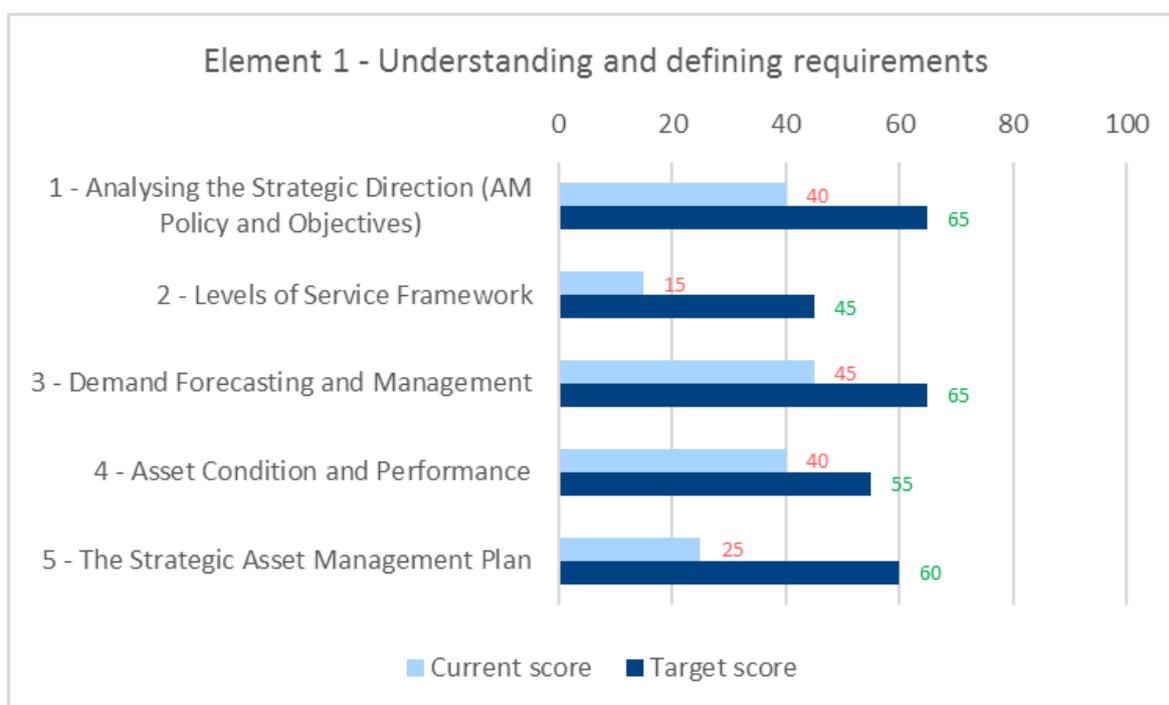
In Element 2, Lifecycle Management, five AM practice areas were assessed and both Managing Risk and Resilience and AM Plans were given the lowest maturity level score of 25 (Basic). At the Basic level of maturity, ARC has a risk management policy in place but has not fully developed nor consistently implemented risk assessment processes and methodologies for the management of its assets. Asset Management Plans for each if its asset classes are currently works in progress but like the SAMP, there is a fair bit of work to be done on the AMPs to meet the AM practice requirements.

Figure 3 shows the resulting current and target scores for the five AM practice areas in Element 2.

Figure 2. Element 2 - Lifecycle management
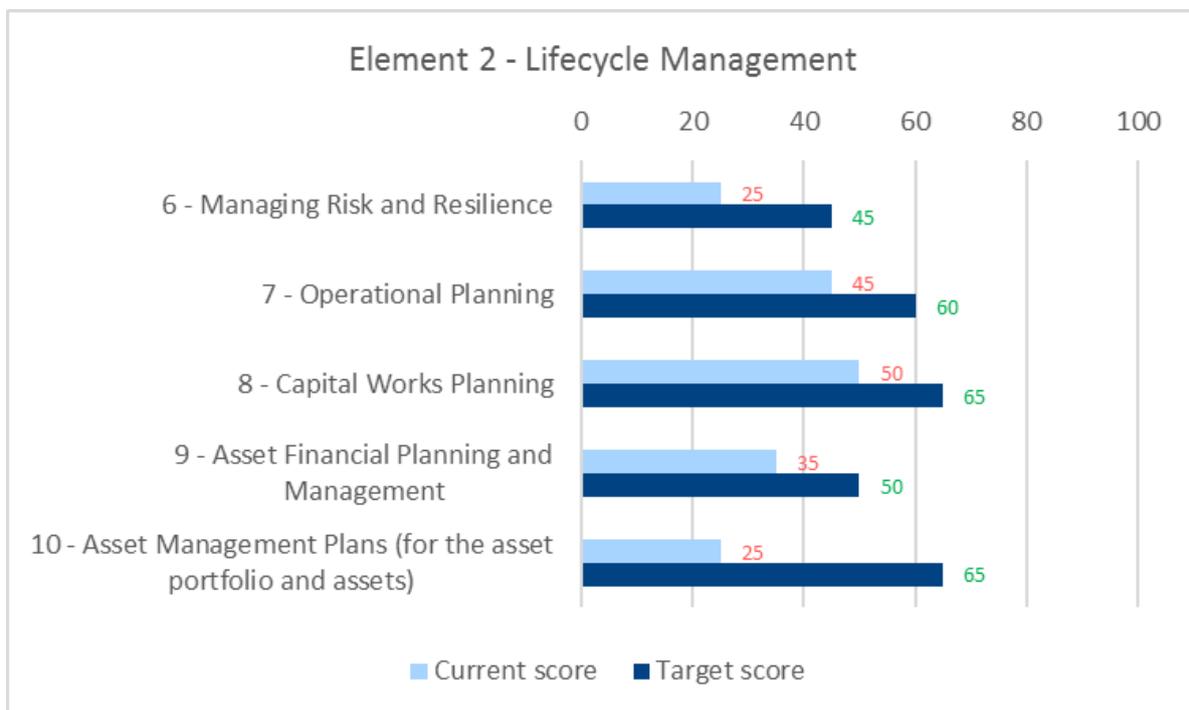
In Element 3, AM Enablers, six AM practice areas were assessed and both AM Process Management and Continual Improvement were given the lowest maturity level score of 20 (Aware). At the Aware level of maturity, ARC's AM processes and practices have not been well documented and implementation is inconsistent across the portfolio of assets. While they have acknowledged the need to improve practice, there has been no or slow progress on improvement actions.

Figure 4 shows the resulting current and target scores for the six AM practice areas in Element 3.

Figure 3. Element 3 - Asset management enablers

Element 3 - Asset Management enablers

AM practice area	Current score	Target score
11 - AM People and Leaders	30	50
12 - Asset Data and Information	30	45
13 - Asset Information Management System (AIMS)	25	50
14 - AM Process Management	20	45
15 - Outsourcing and Procurement	45	60
16 - Continual Improvement	20	50
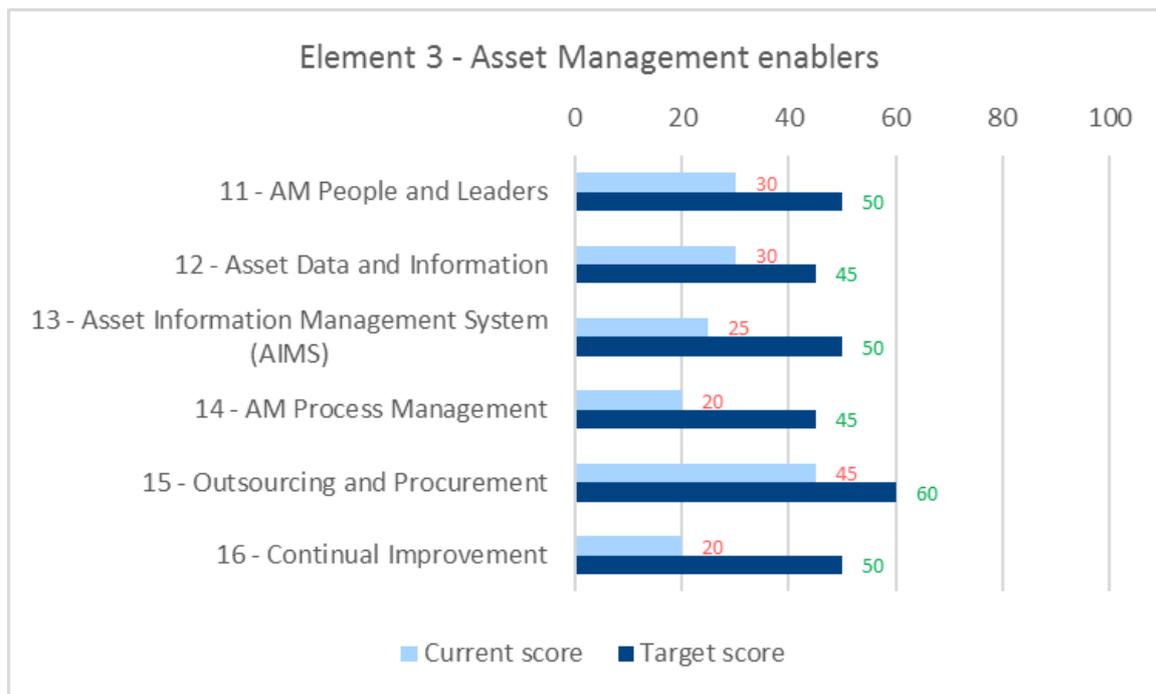
ARC's overall AM maturity score is 32 (Basic) and Maturity Gap is 23 (Basic). ARC has an overall Basic AM Maturity level – minimum level processes and practices in place. (Figure 5). The variance from the overall target score is 41%.

Figure 4. Overall results by Element

Overall results by element

Element	Current score	Target score
Element 1 - Understanding and Defining requirements	33	58
Element 2 - Lifecycle Management	39	55
Element 3 - Asset Management enablers	28	52
Average - All elements	33	55
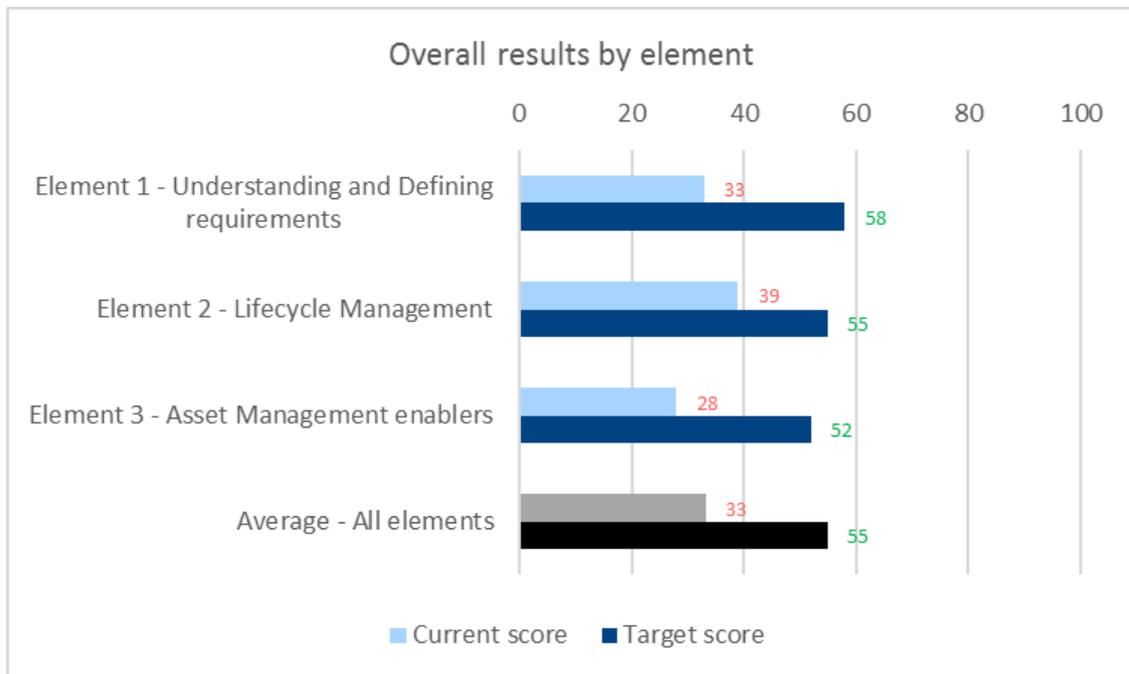
There are gaps in all the AM practice areas within each of the elements (Figure 6). Large gaps exists in AM Plans, Levels of Service Framework and Continual Improvement. ARC will need to give priority to addressing the gaps in the AM practice areas that will need to feed into the AMP and SAMP documentation.

Figure 5. Summary results by AM Area

Summary result by AM area

| AM Area	Current score	Gap	Target score
1 - Analysing the Strategic Direction (AM Policy...)	40	25	65
2 - Levels of Service Framework	15	30	45
3 - Demand Forecasting and Management	45	20	65
4 - Asset Condition and Performance	40	15	55
5 - The Strategic Asset Management Plan	25	35	60
6 - Managing Risk and Resilience	25	20	45
7 - Operational Planning	45	15	60
8 - Capital Works Planning	50	15	65
9 - Asset Financial Planning and Management	35	15	50
10 - Asset Management Plans	25	40	65
11 - AM People and Leaders	30	20	50
12 - Asset Data and Information	30	15	45
13 - Asset Information Management System...	25	25	50
14 - AM Process Management	20	25	45
15 - Outsourcing and Procurement	45	15	60
16 - Continual Improvement	20	30	50

■ Current score ■ Gap ■ Target score

ARC's AM Maturity Rating for each of the AM practice areas are shown in Figure 7.

Figure 6. Asset Management Maturity Rating
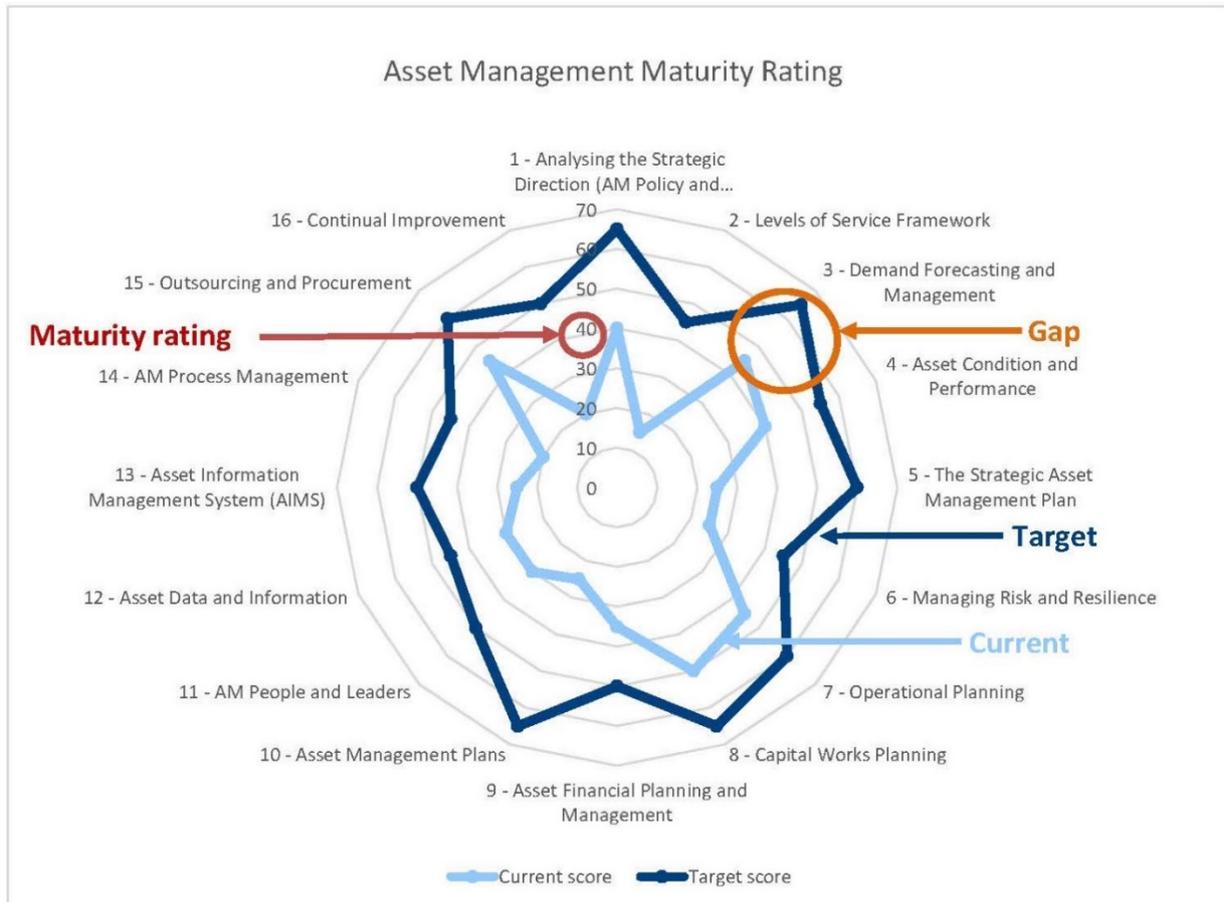
ARC should give due consideration to the costs, benefits and feasibility of closing gaps between current and target scores. Best practice asset management is about targeting a level of maturity that is appropriate for ARC. Gaps between current and target scores provide the basis for a realistic and achievable improvement plan that has been developed as part of this assessment.

Table 1 shows the five AM maturity levels. Current AM Practices within the organisation are at AWARE, BASIC and CORE maturity levels with the majority at Basic maturity level (Table 2):

Table 1. AM Maturity Levels

Aware	The organisation is aware, but has not yet implemented the process or practice
Basic	Minimum level processes and practices in place
Core	Well defined and clearly linked processes and practices in place
Intermediate	Well defined and clearly linked processes and practices are in place and well understood through the organisation
Advanced	Integrated processes and practices use advanced techniques and are being continually improved to deliver optimum performance

Table 2. The Organisation's current maturity levels in AM Areas

Aware	Basic	Core
Levels of Service Framework	Analysing the Strategic Direction (AM Policy & Objectives)	Demand Forecasting and Management
AM Process Management	Asset Condition and Performance	Operational Planning
Continual Improvement	The SAMP	Capital Works Planning
	Managing Risk and Resilience	Outsourcing and Procurement
	Asset Financial Planning and Management	
	AM Plans	
	AM People and Leaders	
	Asset Data and Information	
	Asset Management Information System (AMIS)	

To lift their capability to appropriate levels of asset management maturity, ARC has set target maturity levels for each AM practice area that are considered realistic and achievable within a 1-2 year period (Table 3):

Table 3. Target maturity levels of the organisation

AM practice areas	Current maturity level	Target maturity level (1-2 years)
Analysing the Strategic Direction (AM Policy & Objectives)	Basic	Intermediate
Levels of service framework	Aware	Core
Demand Forecasting and Management	Core	Intermediate
Asset Condition and Performance	Basic	Core
The Strategic Asset Management Plan	Basic	Core
Managing Risk and Resilience	Basic	Core
Operational Planning	Core	Core
Capital Works Planning	Core	Intermediate
Asset Financial Planning and Management	Basic	Core

AM Plans	Basic	Core
AM People and Leaders	Basic	Core
Asset Data and Information	Basic	Core
Asset Management Information System (AMIS)	Basic	Core
AM Process Management	Aware	Core
Outsourcing and Procurement	Core	Core
Continual Improvement	Aware	Core

To track and monitor progress over time, AM maturity assessments will be conducted yearly. The numeric scores resulting from the assessment are useful in monitoring progress over time. ARC will then set higher target AM Maturity scores in each of the AM practice areas once the current target maturity levels have been achieved.

1.4 Opportunities for Improvement

The Asset Management Policy, Strategic Asset Management Plan and Asset Management Plans are mandatory ISO 55001 artefacts. While these, together with the Asset Management Framework are high priority improvement actions for the organisation, there are opportunities for improvement in all AM practice areas that could lift the organisation's asset management capability to their target levels of maturity. The table (Table 4) below summarises the opportunities in each AM practice area. Further details are in the Improvement Plan on pages 36-39 of this Report.

Table 4. Opportunities for improvement

AM practice area	Opportunities for Improvement
Analysing the Strategic Direction (AM Policy & Objectives)	Update as well as consider amending the Asset Management Policy to align with the minimum requirements of ISO 55001 for an AM Policy. Provide short statements that clearly demonstrate alignment and support for the organisational objectives; the asset management principles; the organisation's commitment and expectations concerning asset management; and, commitment to continuous improvement.
Levels of Service Framework	Consider developing appropriate Levels of Service (LoS) Framework for each asset class, a decision-making framework and key performance measures for LoS for each asset class.
Demand Forecasting and Management	Include a demand management summary in SAMP and AMPs. It is important to articulate the demand drivers of change and how these were used in the expenditure planning processes.
Asset Condition and Performance	Consider establishing as standard best practice, asset inspection regime for each stage of the asset lifecycle that is specific for each asset class, and use the inspection results to inform forward works programs as well as long term financial forecasts. Establish an Asset Inspection Policy mandated by Council with accompanying implementation/procedures manual to ensure consistency in the inspection processes.
The Strategic Asset Management Plan	Update and improve SAMP by incorporating important elements as per ISO 55001 guidelines. Develop asset management objectives

AM practice area	Opportunities for Improvement
	that are aligned with organisational goals/objectives in the Community Strategic Plan. Incorporate Asset Management Framework in further updates of the SAMP.
Managing Risk and Resilience	Following the implementing of the Risk Management Framework, consider the development of risk registers and application of ISO 55001 compliant risk management approaches to assessment of risks for all asset classes. Formalise these processes and procedures for implementation in asset management planning for all asset classes.
Operational Planning	Document operational asset management activities for each asset class in AMPs.
Capital Works Planning	Establish and implement a capital works prioritisation process for capital works planning and document process in AMPs.
Asset Financial Planning and Management	Establish and implement a decision-making framework for asset related expenditure funding and use asset valuations to prioritise asset renewal investment decisions.
AM Plans	Improve AMP by including asset specific activities.
AM People and Leaders	Consider an evaluation and audit of resource capability. Where there are evident knowledge and skills gaps, implement professional development programs to upskill staff in asset management. Clarify and communicate roles and responsibilities in AM practice areas.
Asset Data and Information	Consider undertaking a region-wide inventory of all assets to fully capture asset data records as well as undertake an asset data cleansing exercise to maintain data integrity.
Asset Management Information System (AMIS)	Urgent attention should be given to improving the asset data management processes i.e. capturing, recording, maintaining, updating and handling of asset data. Establish a data management policy to ensure consistency in asset data management practices within all the asset classes. Invest in an enterprise asset management information system for all asset classes linked to the financial system so there is a single repository for asset information.
AM Process Management	Consider developing operational procedures manuals covering processes for risk management, emergency management (also resilience management) as well as business continuity plans and communication plans. Communicate and clearly articulate processes and procedures for management of assets. This should be consistent across all asset classes.
Outsourcing and Procurement	Consider developing KPIs for contractor performance evaluation and establish regular performance assessment regime for contractors. Document LoS requirements in contracts to ensure performance is aligned with AM Objectives.
Continual Improvement	Incorporate Improvement Plan in SAMP and AMP. Conduct maturity assessments annually to track and monitor progress on improvement actions and maturity level ratings.

2. IIMM ASSET MANAGEMENT MATURITY FRAMEWORK

The IIMM, 2020 edition is based on the ISO 55000 Series Asset Management Standards, which provide a set of requirements for asset management. The Asset Management Maturity (AMMA) tool was developed using the IIMM AMMA Table.

This tool can either be used by an organisation to self-assess their maturity levels or by expert reviewers to assess an organisation's maturity. Undertaking an assessment helps highlight areas where an organisation might invest, to lift asset management capability to appropriate levels of maturity and should be used by an organisation as an input into future improvement planning and monitoring work.

This assessment tool looks at the gap between current and target or appropriate levels of asset management maturity. The rationale is that sustainable, cost effective asset or investment performance is likely to be a function of the quality of underlying asset management practices, systems and culture in those organisations.

In the self-assessment, ARC representatives provided the scores (current and target scores) against each of the 16 AM practice areas within the three IIMM model elements of the tool:

- **Element 1 - Understanding and defining requirements**

Covering five AM practice areas: Strategic direction (AM Policy and Objectives), Levels of Service Framework, Demand Forecasting and Management, Asset Condition and Performance, Strategic Asset Management Plan (SAMP).

- **Element 2 - Lifecycle management**

Covering five AM practice areas: Managing Risk and Resilience, Operational Planning, Capital Planning, Asset Financial Planning and Management, Asset Management Plans (AMPs).

- **Element 3 - AM Enablers**

Covering six AM practice areas: AM People and Leaders, AM Data and Information, Asset Management Information Systems (AMIS), AM Process Management, Outsourcing and Procurement, Continual Improvements.

Under each AM practice area, questions were provided in the tool to enable people involved in the assessment to understand the intent of the maturity element; and, provide the evidence required to support the scores.

2.1 Scoring

The framework provides for a scoring system based on defined asset management maturity scales. (Table 5)

Table 4. IIMM AMMA Scoring System

Aware	Basic	Core	Intermediate	Advanced
0-20	21-40	41-60	61-80	81-100

Aware	The organisation is aware, but has not yet implemented the process or practice
Basic	Minimum level processes and practices in place
Core	Well defined and clearly linked processes and practices in place
Intermediate	Well defined and clearly linked processes and practices are in place and well understood through the organisation
Advanced	Integrated processes and practices use advanced techniques and are being continually improved to deliver optimum performance

Scoring was provided in multiples of five. Three scores were evident:

- Current Score - current state of the asset management maturity (self-assessed);
- Target Score - score that the organisation aims to achieve. Note: Targets take explicit account of the scale, type, and criticality of assets and investments that the organisation is responsible for, now and in the future; and,
- Maturity Gap – gap between the current and target score.

An upper level score for a maturity assessment (20 for Aware, 40 for Basic, 60 for Core, 80 for Intermediate and 100 for Advanced) requires that all the requirements outlined at and below the maturity level are achieved with processes being well embedded, regularly reviewed and applied in all parts of the organisation within the scope of the assessment.

3. DETAILED ASSESSMENT RESULTS

3.1 Element 1: Understanding and Defining requirements

Assessment of this element is to confirm the organisation's understanding of its important role in interpreting how the strategic organisational environment and objectives will impact infrastructure asset management and establishing the appropriate AM policy and objectives to align with the organisation's strategic goals.

Five AM practice areas were assessed in Element 1.

3.1.1   1 - Analysing the Strategic Direction (AM Policy and Objectives)

Questions	1. How well does your organisation analyse its strategic environment to understand potential AM implications and risks?
	2. How well does the organisation articulate its AM Policy objectives in alignment with the organisation's strategic direction?
Evidence	1. AM Policy
	2. AM Objectives (which should be documented in the SAMP or AMP). Corporate information such as a Strategic Plan outlining strategic goals and objectives and 'environmental scans' of external trends and influences.
Implications /risks of not achieving appropriate maturity	1. There is no clear leadership or understanding of AM expectations and unclear organisational goals, limiting AM progress and AM benefits are not achieved.

Self-assessment:

Current Score	40 (Basic)
Appropriate Target	65 (Intermediate)
Reason for Scores (Current and Target)	Current: AM Policy adopted in June 2021, with clear objectives to meet the Integrated Planning and Reporting legislation.
	Target: AM Policy aligned with AM practices and Council objectives. AM Policy to be reviewed for alignment with new Community Strategic Plan (CSP).
Evidence to support Scores	Asset Management Policy Adopted June 2021.
Improvement actions planned or underway	The AM policy and objectives are being actively applied. The AM policy to be reviewed and aligned with new Community Strategic Plan (CSP).

Expert assessment:

Identified Gaps
1. While there is an updated Community Strategic Plan, the AM Policy still refers to the old CSP so is no longer aligned with the current Community Strategic Plan 2022-2032
2. The AM policy lacks the details on the principles and commitment required in an AM Policy. It also contains a lot of information that is usually covered in the SAMP. ISO 55001 states: "The Asset management policy is a short statement that sets out the principles by which the organisation intends to apply asset management to achieve its organisational objectives.

The policy should set out the organisation's commitment and expectations for decisions, activities and behaviour concerning asset management. It should be aligned to and demonstrate support for the organisational objectives. "

Recommended improvement actions

1. In its review and update of the AM Policy, ARC should consider:

- Including a short statement of the principles by which the organisation intends to apply asset management to achieve its organisational objectives;
- Include organisation's commitment and expectations for decisions, activities and behaviour concerning asset management – organisational policies e.g. WHS and risks, stakeholder requirements, lifecycle management of assets as well as resources to support asset management processes;
- Include organisation's commitment to continuous improvement of asset management processes and performance; and
- Ensure that statements clearly demonstrate the alignment to support organisational objectives.

3.1.2   2 - Levels of Service Framework

Questions	1. How well does your organisation: - Determine the appropriate level of service for its customers? - Ensure that asset performance measures are appropriate and aligned to service levels? - Incorporate levels of service criteria into decision-making?
Evidence	1. The AMP has level of service statements and performance measures with historic results and future targets over the planning period. 2. AMP or SAMP summarises customer issues / expectations. 3. Detailed evidence of the inputs into service levels such as service planning outputs, customer engagement results. 4. AM Performance Management Database containing data on historic results and future targets for each performance measure. 5. The Communications Plan for engagement with internal and external customers.
Implications /risks of not achieving appropriate maturity	1. Increased risk of customer dissatisfaction with services provided. 2. Increased risk of failing to meet defined level of service and performance expectations. 3. Risk of delivering more than required at unnecessary cost to customers.

Self-assessment:

Current Score	15 (Aware)
Appropriate Target	45 (Core)
Reason for Scores (Current and Target)	Current: ARC tracks community needs and provides an "acceptable level of service" for its assets, but these are not defined in a clear and measurable way. Target: Establish measurable ways to determine the level of service and periodically review it.
Evidence to support Scores	ARC's strategic documents mention an "acceptable level of service" for assets, but there is no definition behind it. There is no documentation to support score, because there is no documents developed on this, it needs to be an item on the improvement plan
Improvement actions planned or underway	Together with asset owners, determine what is and how to measure the level of service for each area across the Council. To be an item included in the improvement plan, this is due for review in the near future.

Expert assessment:

Identified Gaps
1. Appropriate Levels of Service (LoS) and measurable targets have not been adequately defined for each asset class.
2. Decision making criteria incorporated in LoS has not been articulated. ISO 55001 states: *Asset management decisions are made across all levels within an organization, i.e. at strategic, tactical and operational levels. It is important for the organization to establish a decision-making framework that comprises decision-making processes and decision criteria, to ensure consistency and alignment between its decisions.*
Recommended improvement actions
3. Consider developing appropriate LoS Frameworks for each asset class – Regulatory LoS for the organisation, Customer LoS and Technical LoS.
4. Consider developing a decision-making framework and key performance measures for LoS for each asset class.

3.1.3   3 - Demand Forecasting and Management

Questions	1. How well does your organisation: • Forecast demand for its services? • Assess the possible impact on its asset portfolios? • Evaluate demand management options as part of its network and/or project analysis?
Evidence	1. The AMP: documented output of all maturity statements with links to more detailed evidence such as population /demographic analysis.
	2. Demand information databases: containing information on historic and projected demand scenarios by network and/or facility.
	3. Future demand is consistently shown in long term planning documents.
	4. Network strategies and /or project business cases demonstrate that Demand Management has been considered as an option to physical asset upgrades at a network and major project level.
Implications /risks of not achieving appropriate maturity	1. The organisation does not adequately predict and plan for demand changes, possibly resulting in service shortages, demand constraints, unexpected funding requirements, reduced levels of service.

Self-assessment:

Current Score	45 (Core)
Appropriate Target	65 (Intermediate)
Reason for Scores (Current and Target)	Current: Demand forecasts are developed using ARC's growth targets, based on historical data and staff knowledge. There is currently no AMP supporting these decision-making processes.
	Target: Develop AMPs that will provide supporting evidence to achieve ARC's growth and development targets.
Evidence to support Scores	Resourcing Strategy - June 2022
Improvement actions planned or underway	In developing AMPs, present demand forecasts with supporting assumptions, risk associated and defined strategies.

Expert assessment:

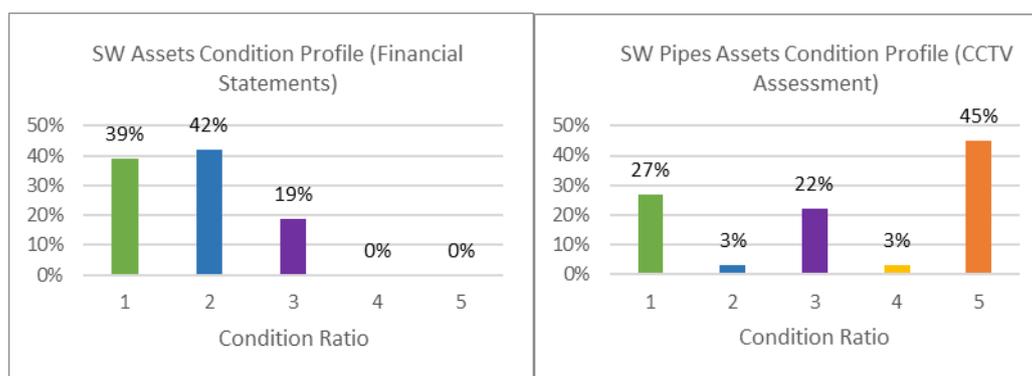| Identified Gaps |
|---|
| 1. While environmental scans appear to be used to guide development of long-term plans, it is unclear if demand management options are considered as part of its network and/or project analysis. |
| **Recommended improvement actions** |
| 2. Include demand management summary in SAMP and AMPs for each asset class. |

3.1.4   4 - Asset Condition and Performance

Questions	1. How well does your organisation:
	• Measure and report on the condition and performance of its assets?
	• Monitor the physical health of its network over time, in order to inform risk and investment decisions?
Evidence	1. An electronic asset register or registers containing the information stated for each maturity level.
	2. The condition of assets, especially critical assets, is measured and recorded against each asset.
Implications /risks of not achieving appropriate maturity	1. Data is not available to support AM Planning, resulting in:
	• Reactive and non-optimal asset treatment approaches;
	• Higher risk of unexpected asset failures; and
	• Inefficient work practices (data is hard to access).

Self-assessment:

Current Score	40 (Basic)
Appropriate Target	55 (Core)
Reason for Scores (Current and Target)	Current: The condition rating within Council's financial statements do not reflect truly the current state of Councils assets. Inspections and operations staff feedback indicate that the condition of most Council's assets are worse than indicated in the financial reports. Figure 8 shows an example of SW assets condition profile reported using financial statements data and a condition profile reported through a CCTV assessment.
	Target: Routinely capture and update the condition and performance of all asset.
Evidence to support Scores	Asset Registers, Financial Statements, Inspection Reports.
Improvement actions planned or underway	Establish a condition and performance monitoring process in all areas. Areas that do not meet targets should be prioritized for short-term maintenance and renovation plans.

Figure 8. Gap in asset condition data

Expert assessment:

Identified Gaps
1. Condition assessments of some asset classes but it not consistent practice. It is unclear if this is used to fully inform asset management planning processes. This has not been documented. It is also unclear if this will be a regular planning activity or just an ad hoc one off activity for long term planning purposes.
2. As confirmed in the workshop session, there's no centralised asset information management program and so the system varies and is not consistent across all departments. Repairs needed as informed by the condition assessments are not being completed consistently. There are several

	systems (in the past, TAMS1 for water and sewerage) being used. Technology One was introduced in 2013 but not consistently used and regularly updated. A policy needs to be established, on mandatory use of a system for all asset classes which should inform operational budgets. This needs to be a council initiative.

Recommended improvement actions	
1.	ARC should consider establishing as standard best practice - an asset inspection regime for each stage of the asset lifecycle that is specific for each asset class and use inspection results to inform forward works programs and long term financial forecasts. This would ensure that a regular asset condition assessment and monitoring regime is consistently implemented for all asset classes, forward works programs are supported by evidence and investments in asset repairs, maintenance, renewals and/or upgrades are appropriately justified.
2.	Establish an Asset Inspection Policy mandated by Council with accompanying implementation/procedures manual to ensure consistent processes and procedures are followed for each asset class.

3.1.5   5 - The Strategic Asset Management Plan

Questions	1.	How well does your organisation develop, communicate, resource and action its Strategic AM Plan?
	2.	How effectively does the SAMP define the AM System and link organisational and AM Objectives?
Evidence	1.	SAMP
	2.	SAMP review and approval sign-offs.
	3.	Where a SAMP isn't developed, the required SAMP content may be in the AMP, Infrastructure Strategy, Asset Strategy, Property Strategy, AM Systems Manual or other AM documents (as long as this is clearly defined in a documented 'scope of the AM System').
Implications /risks of not achieving appropriate maturity	1.	There is no clear framework or understanding of the AM System, limiting AM progress and achievement of AM benefits.
	2.	The organisation does not adequately predict and plan for long-term strategic changes, possible resulting in unexpected funding requirements, reduced levels of service, increased asset failures.

Self-assessment:

Current Score	25 (Basic)
Appropriate Target	60 (Core)
Reason for Scores (Current and Target)	Current: The process for the establishing the AM System has commenced.
	Target: Develop and use SAMP to support decision-making on long-term strategies.
Evidence to support Scores	SAMP is under development. AM Framework is under development.
Improvement actions planned or underway	Development of SAMP. Actively work in the AM improvement plan defined.

Expert assessment:

Identified Gaps	
1.	There is a SAMP (but is more a strategy than a plan) which needs updating and improvement. It does not document Asset Management objectives derived from organisational objectives and AM processes, the AM Framework, LoS Framework and decision-making Framework.
2.	While AM objectives have been documented in the AM Strategy, alignment with organisational objectives/priorities/goals is unclear and not sufficiently articulated. ISO 55000 states:

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[1] Transport Asset Management Software

- Asset Management objectives are the "results to be achieved" so they are the results the organisation wants the Asset Management System to achieve;
- Asset management objectives should be SMART (Specific, Measurable, Achievable, Realistic and Time-bound);
- AM objectives are Strategic (high level, long term); Tactical (mid-level, medium term); and, Operational (lower-level, short term).

3. While there is no requirement in ISO55001 to document and formalise an Asset Management Framework, ARC would benefit from having one. An AM Framework helps guide key decision points about asset management activities through various levels of the organisation – i.e. from senior executives, to business and process levels, to operations and delivery. An AM Framework is a representation of what is, essentially, the organisation's Asset Management System (AMS) comprising of the set of interacting elements that include the AM Policy, AM objectives, AM Strategy/Strategic AM Plan, AM Plans and the processes to achieve the asset management objectives. ARC has indicated that an AM Framework is currently a work in progress.

Recommended improvement actions

4. Update and improve SAMP and incorporate important elements as per ISO 55001 guidelines. Within the SAMP documentation, the 6 important elements of the organisation's Asset Management System should be described:
   - The organisational environment - governance structure, policy, stakeholders, internal and external environment, decision making criteria, scope of the asset management system and asset management objectives;
   - Planning processes;
   - Support processes;
   - Operational processes;
   - Performance evaluation processes; and,
   - On-going continuous improvement processes.

5. Consider a review of AM Objectives to ensure alignment with the organisational objectives articulated in the organisation's Community Strategic Plan.

6. Continue with development of the Asset Management Framework and incorporate framework in SAMP.

3.2 Element 2: Lifecycle Management

The assessment of this element is to confirm the organisation's current and future requirements for infrastructure assets and services (defined through Asset Management Objectives and levels of service) and its understanding of the capability of the network to meet those requirements.

Five AM practice areas were assessed in Element 2.

3.2.1   6 - Managing Risk and Resilience

Questions	1. How well is risk management and resilience planning integrated into your asset management decision making?
Evidence	1. The risk / resilience section of the AMP, SAMP and/or Asset Strategy.
	2. Organisational risk management policy and framework.
	3. Risk register/s.
	4. Asset criticality and risk information in AMIS.
	5. Risk and/or Resilience Plan.

	6. Decision/business case frameworks.
Implications /risks of not achieving appropriate maturity	1. Higher risk that AM objectives will not be achieved (through multiple failures, critical asset failures).
	2. Sub-optimal investment – e.g. too much focus on non-critical assets or vice versa.

Self-assessment:

Current Score	25 (Basic)
Appropriate Target	45 (Core)
Reason for Scores (Current and Target)	Current: Risk Management Policy updated in March 2021 to align with AS ISO 31000:2018. Risk Assessments in place for some asset classes.
	Target: The risk register is regularly updated, actions monitored and reported to management.
Evidence to support Scores	Risk Management Policy.
Improvement actions planned or underway	Governance is in the process of implementing the Risk Management Framework for Council including operational, strategic and climate change risk.

Expert assessment:

Identified Gaps
1. There is a Risk Management Policy but risk assessments or risk management processes are not in place for all asset classes and it is unclear if incorporated in asset management decision making processes and is consistently practised. ISO 55001 states: Risk management is essential in developing asset management objectives and plans, and ensuring decision making is in line with organisational objectives and stakeholder requirements. The guidelines given in ISO 31000 and IEC 31010 can be applied to defining and establishing a risk management approach that conforms to ISO 55001. Based on the risk attitude of the organisation's top management, asset managers should establish a framework, including decision-making criteria, to illustrate the relationship between this risk attitude and value creation within the risk management approach.

Recommended improvement actions:
1. Following the implementing of the Risk Management Framework, ARC should consider development of risk registers and application of ISO 55001 compliant risk management approaches to assessment of risks for all asset classes.
2. Consider development of Risk Management Procedures Manual and incorporate risk assessment processes in asset management planning for all asset classes.

3.2.2   7 - Operational Planning

Question	1. How well does the organisation plan and manage its operations and maintenance activity to keep assets in service and meet AM objectives?
Evidence	1. Operational and maintenance strategies and plans, including O&M manuals, incident / emergency / business continuity plans.
	2. Operations review reports (e.g. review of structure, logistical arrangements).
	3. Resource plans and schedules (or contract specifications relating to this where outsourced)

Implications /risks of not achieving appropriate maturity	1. Sub-optimal investment – e.g.: too much focus on non-critical assets or reactive maintenance vice versa, or on new transformational investment as the expense of maintaining existing assets.

Self-assessment:

Current Score	45 (Core)
Appropriate Target	60 (Core)
Reason for Scores (Current and Target)	Current: Operational Plan established annually, with incident and emergency management plans aligned with legislation and licensing requirements, but future planning is still an exercise that council needs to improve. Target: Decision making framework for prioritizing and optimizing expenditures in planned and unplanned maintenance and renovation programs.
Evidence to support Scores	Operational Plan and Budget 2022-2023
Improvement actions planned or underway	1. Align operational objectives with AM objectives. 2. Analyse trends in planned and unplanned maintenance and renewal activities and consider trade-offs in determining optimal maintenance and renewal frequencies.

Expert assessment:

Identified Gaps
1. Operational plan exists but what is not articulated is the operational planning processes within asset management activities. It is not clear how the budget was derived when the operational asset management activities (for each asset class) have not been quantified.
Recommended improvement actions:
1. Articulate and document operational asset management activities of each asset class in AMPs.
2. Consider documenting operational asset management activities in procedures manual relevant to each asset class to ensure consistency in processes.

3.2.3   8 - Capital Works Planning

Question	1. How well does the organisation plan and prioritise capital expenditure, including renewal programmes?
Evidence	1. Capital Renewal strategies and plans.
	2. Capital project databases / schedules (the 'pipeline').
	3. Capital Renewal projects are supported by robust Renewal models (spreadsheets or other predictive modelling software) and reports.
	4. Business cases.
	5. Capital Improvement projects to increase service levels are supported by robust evidence for service level requirements (e.g. safety or legislative change).
	6. Capital Improvement projects to increase network capacity are supported by robust evidence for increased demand (e.g. from growth).
Implications /risks of not achieving appropriate maturity	1. Risk that planned capital projects will not meet renewal, level of service or growth needs for the activity.

Self-assessment:

Current Score	50 (Core)
Appropriate Target	65 (Intermediate)
Reason for Scores (Current and Target)	Current: Long-term capital investments are conceptually identified with broad cost estimates available, but a lot of the projects are not shovel ready and cost estimates exercises needs to be improved. Capital projects with their costs are tracked in a Capital projects register. Renewals are based on resource availability (cash and staff). Assets with the highest risk of failure take priority, but due to the lack of confidence in asset register, a lot of works are undertaken reactively.
	Target: A formal prioritisation framework is routinely applied to all capital projects and programmes (utilising a multi-criteria or benefit-cost approach).
Evidence to support Scores	1. Capital Projects Register. 2. 10 Year Capital Plan 2021-2031. 3. Long-term financial plan. 4. Delivery Program 2022-2026.
Improvement actions planned or underway	1. Improve cost-estimation for Capital Projects. 2. Implement a capital delivery / options evaluation framework and a formal prioritisation framework.

Expert assessment:

Identified Gaps
1. There is a capital delivery program but the prioritisation processes for planning these projects should be articulated. While there is an acknowledgement that a formal prioritisation process is applied, it is not documented so the justification for these projects is unclear.
Recommended improvement actions:
1. Establish and implement a capital works prioritisation framework for capital works planning and document process in AMPs.
2. Consider documenting operational asset management activities relevant to each asset class to ensure consistency in processes.

3.2.4   9 - Asset Financial Planning and Management

Questions	1. How well does the organisation: • Plan for asset-related expenditure and funding? • Revalue its assets and consider depreciation in its funding strategy? • Consider the whole of life cost of asset investments?
Evidence	1. Financial forecasts and documented assumptions and confidence levels (typically in the AMP). 2. Asset revaluation reports. 3. Asset replacement costing reports. 4. Financial indicators (e.g. financial sustainability indicators). 5. Financial policies (e.g. capitalisation). 6. Expenditure forecasts are provided for all expensed and capital expenditure types (e.g. operations, maintenance, capital renewals and capital improvements)

Implications /risks of not achieving appropriate maturity	1.	The organisation retains a short-term view of financial requirements with risk of deferred backlog of works and reduced levels of service.
	2.	Risk that future customers are faced with meeting generational funding shortfalls.
	3.	Lack of understanding of loss of service potential (depreciation) leads to underfunding of renewals.

Self-assessment:

Current Score	35 (Basic)
Appropriate Target	50 (Core)
Reason for Scores (Current and Target)	Current: Financial budget separated for Operational and Capital. Depreciated replacement cost according to finance register calculations.
	Target: Asset and financial data and reporting are fully integrated or regularly reconciled. Long-term asset funding options are regularly reviewed.
Evidence to support Scores	1. Finance register.
	2. Operational Plan & Budget 2022-2023.
Improvement actions planned or underway	1. Once Council is able to have one source of truth for asset data, the planning of future works will be done proactively. Works have commenced for the improvement of data.

Expert assessment:

Identified Gaps
1. Asset related expenditure and funding has been articulated in the LTFP. However, the process for planning expenditure is unclear. Asset valuations are carried out but valuation results do not appear to be used to inform investment in asset renewals. There is an apparent disconnect between finance asset depreciation and operational leads records. Finance has stepped in over some operational departments.
Recommended improvement actions:
1. Establish and implement a decision making framework for asset related expenditure and funding and utilise asset valuations results to guide investments in asset renewals.

3.2.5   10 - Asset Management Plans

Question	1.	How well does your organisation develop, communicate, resource and action its asset management plans?
Evidence	1.	Portfolio Asset Management Plans (AMPs covering the whole network and activity).
	2.	Asset Management Plans (for specific asset types). Note: the above may be within a single document.
	3.	Information Systems Strategic Plan (ISSP).
	4.	AMP main contributors or authors shown.
	5.	Review and approval sign-offs.
	6.	Corporate long-term financial plans.
	7.	Minutes from meetings and workshops with governance and leaders.
Implications /risks of not achieving appropriate maturity	1.	Lack of documented evidence to support long term financial forecasts leading to:
		• Risk that required funding will not be provided;
		• AM needs not being adequately communicated and addressed.

Self-assessment:

Current Score	25 (Basic)
Appropriate Target	65 (Intermediate)
Reason for Scores (Current and Target)	Current: ARC only have AMPs developed by Morrison Low.
	Target: Develop AMPs that the asset owners can follow and use on a regular basis to undertaken their program of works and services.
Evidence to support Scores	1. Asset Management Plans prepared by Morrison & Low, 2020.
Improvement actions planned or underway	1. Updated Asset Management Plans currently being prepared that will address deficiencies in existing AMPs.

Expert assessment:

Identified Gaps
1. There are AMPs for all asset classes but with very limited asset specific information. The AMPs do not detail operational, maintenance, renewal and capital upgrades activities relevant to the asset classes.

Recommended improvement actions:
1. Update and improve AMP and provide asset specific information as per ISO 55001 guidelines. The AMP is as important as the SAMP. The SAMP is developed to deliver the asset management objectives and the AMPs contain activities necessary to deliver the asset management objectives.

3.3 Element 3: Asset Management Enablers

Assessment of this element confirms the organisation's capacity in implementing best practice asset management and its resource capability in asset management which includes people (internal and external), data, information systems and processes the organisation needs for effective asset management; and, its approach in ensuring asset management practices are subject continuous improvement.

Six AM practice areas were assessed in Element 3.

3.3.1   11 - AM People and Leaders

Questions	1. What is the level of organisational commitment to asset management?
	2. How is this reflected in existing organisation structure, responsibilities and resourcing of AM competencies?
Evidence	1. AM governance structure, team and role descriptions are in place.
	2. Governance and Leadership communications.
	3. Internal Communications Plan (may be part of a broader 'Communications Plan' required in Section 2).
	4. Capability and Capacity Assessment Report.
	5. Evidence that recommendations from the above have been progressed, e.g.: role revision, training.
Implications /risks of not achieving appropriate maturity	1. People will not have the authority, capability or capacity to manage and improve the AM System and achievement if AM benefits (described in Element 1) are not achieved.

| | 2. | Staff are dissatisfied through lack of role clarity, purpose and leadership support. |
| | 3. | Governance does not adequately monitor asset risks, costs or performance. The organisation lacks adequate capability, capacity and direction in AM practice. |

Self-assessment:

Current Score	30 (Basic)
Appropriate Target	50 (Core)
Reason for Scores (Current and Target)	Current: Leadership team started to be more involved in the AM coordination, but this is still a work in progress. Some employees involved in AM functions are receiving training.
	Target: Once AM Framework is implemented, promote continual improvement of AM. Awareness of AM purpose across most of the organisation. Incorporate the main AM roles in position descriptions and provide suitable training to those roles.
Evidence to support Scores	1. Under the leadership of the chief officer, Assets and Services are building the AM Framework and finding/fixing gaps in the processes currently performed in asset management.
Improvement actions planned or underway	Pending outcomes of organisational re-structure in progress.

Expert assessment:

Identified Gaps
1. As with most local government organisations, resource capability in asset management is common issue. In the self-assessment, a huge gap in score is evident. While there is an acknowledgement of recent involvement of the organisational leadership, resource capability in asset management, however, still needs some attention. Skills and resource capability needs to be evaluated to appropriately address resource needs and knowledge and skills gaps in asset management.
Recommended improvement actions:
1. Consider an evaluation and audit of resource capability and where there are evident knowledge and skills gaps, develop professional development programs to upskill staff in asset management.
2. Clarify and communicate roles and responsibilities in AM practice areas.

3.3.2   12 - Asset Data and Information

Questions	1.	How well does your organisation define its asset data requirements?
	2.	What asset information does the organisation collect?
	3.	How does our organisation ensure the information has the requisite quality (accuracy, consistency, reliability)?
Evidence	1.	An electronic asset register or registers.
	2.	Information Strategy, or other document summarizing the asset information needs analysis.
	3.	Asset data management procedures.
	4.	Asset data is used to support asset decisions such as business cases and renewal forecasts.
	5.	The hierarchy, granularity and attributes of asset data is adequate to support asset and financial planning.

	6. Asset data confidence or quality is shown in terms of data accuracy, completeness and currency.
Implications /risks of not achieving appropriate maturity	1. Data is not available to support AM Planning, resulting in: • Reactive and non-optimal asset treatment approaches. • Higher risk of unexpected asset failures. 2. Inefficient work practices (data is hard to access).

Self-assessment:

Current Score	30 (Basic)
Appropriate Target	45 (Core)
Reason for Scores (Current and Target)	Current: For most areas, the only asset register existent is the Finance register (Excel Spreadsheet). There is basic physical asset information and enough information to calculate the depreciated replacement cost. However, this information is of low accuracy as there may be assets missing from this list or missing some information (e.g. year of acquisition, remaining useful life, etc.). Target: Have of a single source of truth, with a reliable and updated register of physical, financial and risk attributes recorded. Knowledge of asset criticality and risk supports the regularity of data collection and updating.
Evidence to support Scores	1. Finance register.
Improvement actions planned or underway	1. ARC is in the process to stat investigating a platform/system to improve the process of adding, storing and managing assets.

Expert assessment:

Identified Gaps
1. Asset data are stored in excel spreadsheets, asset registers are poorly managed. Data integrity is lost when asset details are missing, are not fully captured and asset information is spread over multiple copies of excel spreadsheets. There may still be several assets that have not been tracked or recorded in asset registers.
Recommended improvement actions:
1. Consider undertaking a region-wide inventory of all assets to fully capture and update asset data records.
2. Consider investing in enterprise asset management information system.
3. Consider undertaking an asset data cleansing exercise to maintain data integrity.

3.3.3   13 - Asset Information Management System (AIMS)

Question	1. How well does your organisation ensure appropriate information systems are in place and fit-for-purpose considering complexity of assets and AM maturity level required?
Evidence	1. Information Systems Strategy. 2. Information Systems specifications and user guides. 3. Information System reports.
Implications /risks of not achieving appropriate maturity	1. Unable to support appropriate level of AM analysis, leading to non-optimal decisions, inefficient work practices.

Self-assessment:

Current Score	25 (Basic)
Appropriate Target	50 (Core)
Reason for Scores (Current and Target)	Current: For most areas, the only asset register existent is the Finance register (Excel Spreadsheet).
	Target: Asset information reports can be manually generated for AM Plan input. AMIS provides basic AM reporting capability - condition / performance, renewal forecasts, valuations.
Evidence to support Scores	1. We currently do not have an AMIS, asset registers/ data are maintained mostly in excel spreadsheets.
Improvement actions planned or underway	1. ARC is starting the process and analysing proposals from companies to implement a platform/system to improve the process of adding, storing and managing assets.

Expert assessment:

Identified Gaps
1. There appears to be no common electronic Asset Information Management System.
Recommended improvement actions:
2. Urgent attention should be given to improving the asset data management processes i.e. capturing, recording, maintaining, updating and handling of asset data.
3. Invest in an enterprise asset management information system for all asset classes linked to the financial system so there is a single repository of asset information.
4. Establish a data management policy and procedures to ensure consistency in asset data management practices within all the asset classes.
5. Other improvement actions for this are recommended in 2. Asset Data and Information.

3.3.4   14 - AM Process Management

Questions	1. How well does your organisation:
	• Define and implement appropriate AM process documentation?
	• Review and improve AM processes?
	• Align AM processes with those in other 'Management Systems'?
Evidence	1. Asset Management Plans (for some high-level AM process documentation).
	2. SAMP or AM Systems Manual, outlining integration of management systems and boundary conditions.
	3. Quality management systems (e.g. evidence of use of process mapping tools, document management systems and intranet).
Implications /risks of not achieving appropriate maturity	1. Risks that processes are not being followed leading to non-optimal decisions, higher risks of asset or operational failures, inefficient work practices.

Self-assessment:

Current Score	20 (Basic)
Appropriate Target	45 (Core)
Reason for Scores (Current and Target)	Current: AM processes are not clearly defined. Maintenance and renewals are done when necessary/requested or through the knowledge of the team.
	Target: Define and manage AM process interfaces with other teams. Identify critical AM processes documented, monitored and subject to review.
Evidence to support Scores	1. SAMP and AMPs under development.
	2. ARC is analysing AMIS available options in the market.

Improvement actions planned or underway	Pending outcomes of organisational re-structure

Expert assessment:

Identified Gaps
1. As indicated in preceding sections, there are no established or clearly defined asset management processes in place. Asset management activities are poorly documented. Inspection manuals are available in some departments. AM Planning groups planning how to create consistency across asset classes.

Recommended improvement actions:
1. Consider developing asset specific operational procedures manuals covering processes for risk management, emergency management (also resilience management) as well as business continuity plans and communication plans.
2. Processes and procedures for management of assets should be communicated and clearly articulated. This should be consistent across all asset classes.

3.3.5 15 - Outsourcing and Procurement

Questions	1. How well does your organisation:
	• Procure assets and asset-related services like maintenance and consumables for different classes of assets?
	• Exercise control over outsourced asset management services?
Evidence	1. Internal Service Level Agreements.
	2. Network management contracts, and other types of contracts.
	3. Procurement strategy.
	4. Tendering procedures.
	5. Example of evaluation of procurement options considered for recent major contracts.
	6. Contract performance monitoring reports.
	7. Levels of service are documented within contracts.
Implications /risks of not achieving appropriate maturity	1. Higher contracting costs.
	2. Balance of risk not understood, risks of unintended cost coverage.
	3. Poor contractor performance.
	4. Performance not aligned with AM objectives.

Self-assessment:

Current Score	45 (Core)
Appropriate Target	60 (Core)
Reason for Scores (Current and Target)	Current: Procurement policy in place. ARC has a procurement portal to manage all purchases.
	Target: Procurement and contract management processes are regularly audited and improvements identified.
Evidence to support Scores	1. Council Procurement Policy
Improvement actions planned or underway	Procurement and contract improvements identified form audit in progress.

Expert assessment:

Identified Gaps	
1.	There is a procurement policy. However, processes should be regularly audited, reviewed and improved to ensure value for money is achieved.
2.	Unclear how contracts are reviewed or if contractors are subject to KPIs and performance evaluated.
Recommended improvement actions:	
1.	Consider developing KPIs for contractor performance evaluation and establish regular performance assessment regime for contractors. This is to ensure performance is aligned with AM Objectives.
2.	Ensure LoS requirements are documented in contracts.

3.3.6   16 - Continual Improvement

Questions	1. How well does your organisation ensure that it continues to develop its asset management capability towards an appropriate level of maturity?
Evidence	1. A documented AM System Maturity Gap Assessment (current maturity of its AM people, processes, practices, data and technology compared to desired maturity), and associated AM processes report and recommendations.
	2. The AM Improvement Plan, which will usually be a component of a SAMP (the corporate-wide improvement plan) and AMP (the more detailed activity-specific improvement plan).
	3. A monitoring process for the Improvement Plan.
	4. Progress reports on AM Improvement Plan implementation.
Implications /risks of not achieving appropriate maturity	1. Required changes will not be implemented, none of the AM benefits will be realised.
	2. Unable to demonstrate benefits of AM improvements to governance and leaders.
	3. The organisation will not learn and adapt to changing circumstances.

Self-assessment:

Current Score	20 (Aware)
Appropriate Target	50 (Core)
Reason for Scores (Current and Target)	Current: Recognition of the need for AM improvement process, evident in responses to review questions.
	Target: Core 41-60 maturity level.
Evidence to support Scores	1. Engagement with PWA to build SAMP, AMPs and AM maturity assessment.
Improvement actions planned or underway	1. Under the leadership of the chief officer, Assets and Services are building the AM Framework and finding/fixing gaps in the processes currently performed in asset management.

Expert assessment:

Identified Gaps	
1.	This is the first AM Maturity Assessment of ARC. Gaps have been identified. An improvement plan is being developed as components of the SAMP and AMP.
Recommended improvement actions:	
1.	Ensure timeframes for implementation of improvement actions are achievable.
2.	Conduct maturity assessment annually to track and monitor progress on improvement actions and maturity level ratings.
3.	Incorporate Improvement Plan in SAMP and AMP.

4. CONCLUSIONS AND RECOMMENDATIONS

As this is their first maturity assessment, ARC has set as a minimum target of Core (41-60 score) AM maturity level, which they believe they can achieve within the desired timeframe of 1-2 years. The targets reflect what is realistically achievable within a reasonable timeframe as well as the importance of the assets and is set at a level where the benefits of achieving a targeted level of maturity can be justified by the costs and other resources involved. This has been taken into consideration when the minimum maturity level targets were set for each AM practice areas.

ARC will prioritise completion of the improvement actions within 1 to 2 years. The recommended improvement actions are intended to assist the organisation in closing the gap score to achieve the desired maturity level.

4.1 Summary findings

ARC's current overall AM maturity score is 32 (Basic) and Maturity Gap is 23 (Basic). Overall, ARC has a Basic AM Maturity level – minimum level processes and practices in place. The overall variance from the target is 41%. Table 6 shows a summary of the scores in areas assessed.

Current AM Practices within the organisation are at AWARE, BASIC and CORE maturity levels:

Aware	The organisation is aware, but has not yet implemented the process or practice
Basic	Minimum level processes and practices in place
Core	Well defined and clearly linked processes and practices in place

Aware	Basic	Core
Levels of Service Framework	Analysing the Strategic Direction (AM Policy & Objectives)	Demand Forecasting and Management
AM Process Management	Asset Condition and Performance	Operational Planning
Continual Improvement	The SAMP	Capital Works Planning
	Managing Risk and Resilience	Outsourcing and Procurement
	Asset Financial Planning and Management	
	AM Plans	
	AM People and Leaders	
	Asset Data and Information	
	Asset Management Information System (AMIS)	

Table 5. Summary of scores in areas assessed

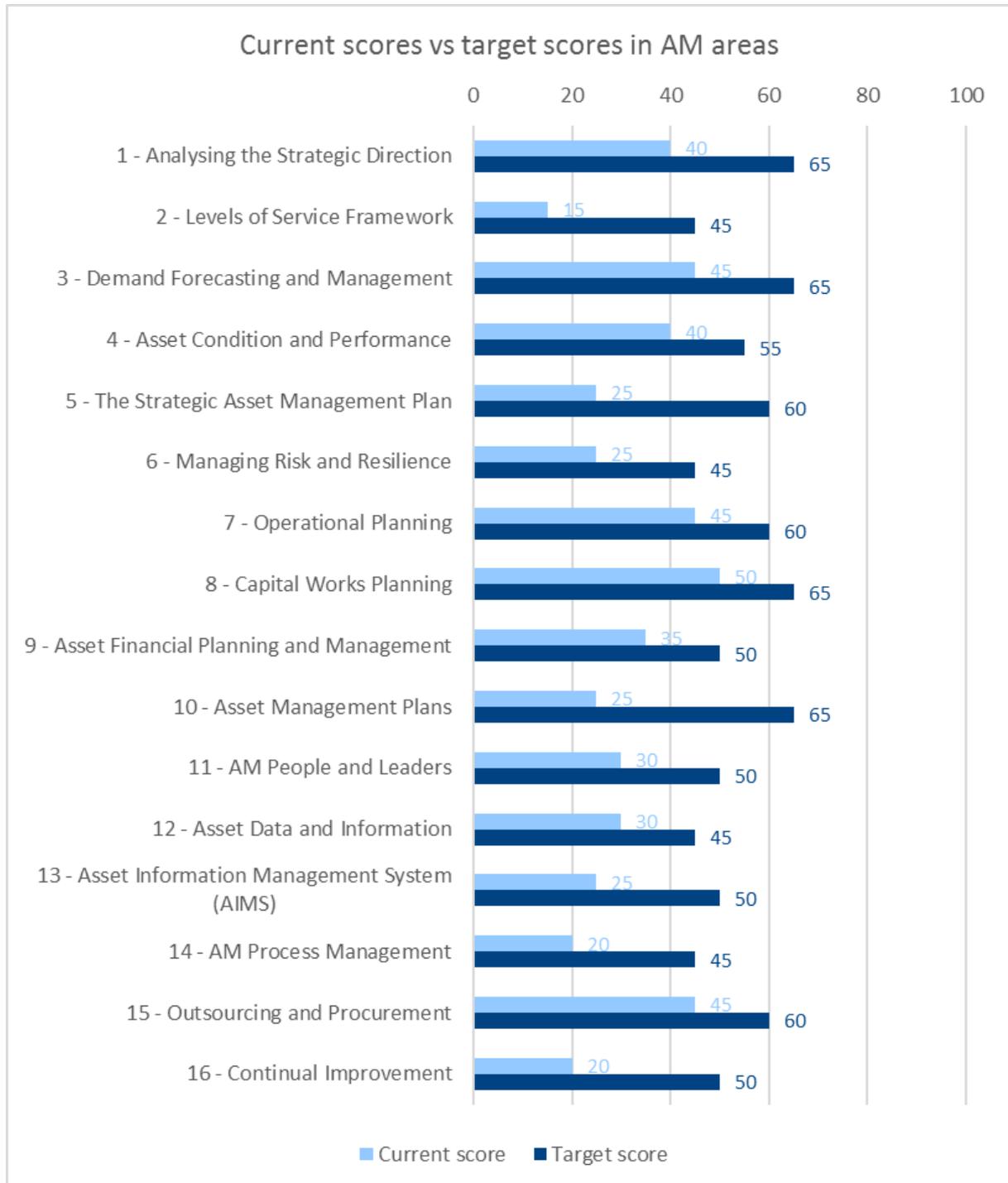| IIMM ref	Question/ Area	Current score	Target score	Maturity gap
Detailed results				
2.1	1 - Analysing the Strategic Direction	40	65	25
2.2	2 - Levels of Service Framework	15	45	30
2.3	3 - Demand Forecasting and Management	45	65	20
2.4	4 - Asset Condition and Performance	40	55	15
2.5	5 - The Strategic Asset Management Plan	25	60	35
3.2	6 - Managing Risk and Resilience	25	45	20
3.3	7 - Operational Planning	45	60	15
3.4	8 - Capital Works Planning	50	65	15
3.5	9 - Asset Financial Planning and Management	35	50	15
3.6	10 - Asset Management Plans	25	65	40
4.1	11 - AM People and Leaders	30	50	20
4.2	12 - Asset Data and Information	30	45	15
4.3	13 - Asset Information Management System (AIMS)	25	50	25
4.4	14 - AM Process Management	20	45	25
4.5	15 - Outsourcing and Procurement	45	60	15
4.6	16 - Continual Improvement	20	50	30
	OVERALL SCORE	**32**	**55**	**23**
Detailed results				
2	Understanding and defining requirements	33	58	25
3	Lifecycle Management	36	57	21
4	Asset Management enablers	28	50	22
	OVERALL SCORE	**32**	**55**	**23**

% variance from target: 42%

While the overall target score is at CORE maturity level, ARC has set specific high priority AM areas that are targeted to achieve an INTERMEDIATE (65) maturity level, such as:

- Analysing the Strategic Direction (AM Policy and Objectives);
- Demand Forecasting and Management;
- Capital Works Planning; and
- AM Plans.

The Asset Management Policy, Strategic Asset Management Plan and Asset Management Plans are mandatory ISO 55001 artefacts. These, together with the Asset Management Framework are high priority improvement actions for the organisation.
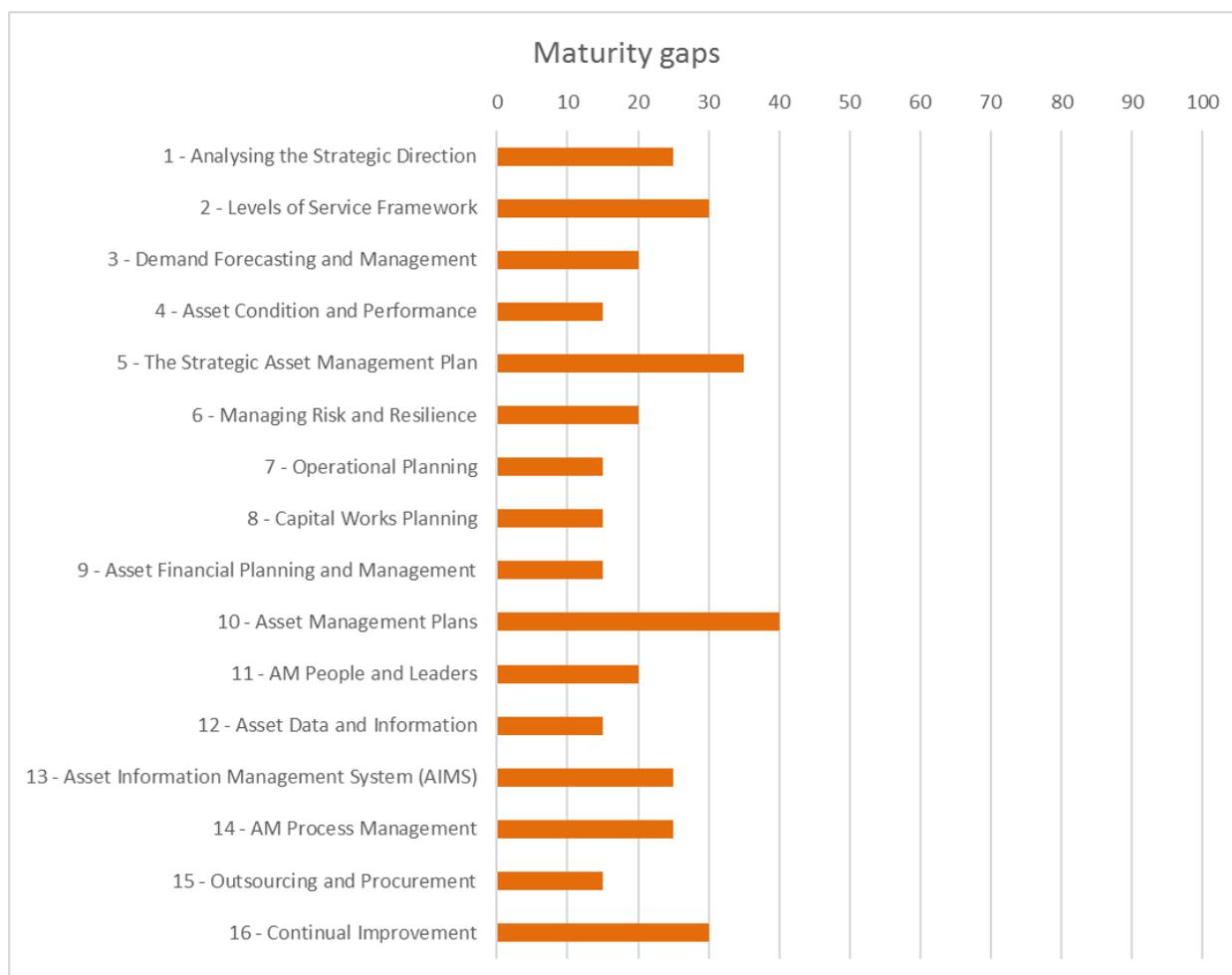
The AM Maturity Assessment can support decision making on which areas to focus on first, in line with the Council's objectives and by analysing the gaps in the AM maturity report (Figure 9).

Figure 9. Current scores vs target scores in AM areas

Current scores vs target scores in AM areas

AM Area	Current score	Target score
1 - Analysing the Strategic Direction	40	65
2 - Levels of Service Framework	15	45
3 - Demand Forecasting and Management	45	65
4 - Asset Condition and Performance	40	55
5 - The Strategic Asset Management Plan	25	60
6 - Managing Risk and Resilience	25	45
7 - Operational Planning	45	60
8 - Capital Works Planning	50	65
9 - Asset Financial Planning and Management	35	50
10 - Asset Management Plans	25	65
11 - AM People and Leaders	30	50
12 - Asset Data and Information	30	45
13 - Asset Information Management System (AIMS)	25	50
14 - AM Process Management	20	45
15 - Outsourcing and Procurement	45	60
16 - Continual Improvement	20	50

Maturity gaps in the AM areas are shown in Figure 10.

Figure 10. Maturity gaps in AM areas

ARC will need to give due consideration to the costs, benefits and achievability of closing the gaps between current and target scores. Best practice asset management is about targeting a level of maturity that is appropriate for ARC. Gaps between current and target scores provide the basis for a realistic and achievable improvement plan, which has been developed as part of this assessment exercise.

The most significant gaps are:

- AM Plans (40);
- The Strategic Asset Management Plan (35);
- Levels of Service Framework (30); and
- Continual Improvement (30).

To lift their capability to appropriate levels of asset management maturity, ARC has set target maturity levels for each AM practice area that are considered realistic and achievable within a 1-2 year period (Table 7):

Table 6. AM practice areas target maturity levels in 1-2 years

AM practice areas	Target maturity level (1-2 years)
Analysing the Strategic Direction (AM Policy & Objectives)	Intermediate
Levels of service framework	Core
Demand Forecasting and Management	Intermediate
Asset Condition and Performance	Core
The Strategic Asset Management Plan	Core
Managing Risk and Resilience	Core
Operational Planning	Core
Capital Works Planning	Intermediate
Asset Financial Planning and Management	Core
AM Plans	Intermediate
AM People and Leaders	Core
Asset Data and Information	Core
Asset Management Information System (AMIS)	Core
AM Process Management	Core
Outsourcing and Procurement	Core
Continual Improvement	Core

To track and monitor progress over time, AM maturity assessments will be conducted yearly. The numeric scores resulting from the assessment are useful in monitoring progress over time. ARC will then set higher target AM Maturity scores in each of the AM practice areas once the current target maturity levels have been achieved.

4.2 Improvement Plan

The organisation is aiming to achieve a minimum overall CORE (41-60 score) AM Maturity level within a timeframe of 1-2 years. To close the gaps in all 16 AM practice areas and lift their capability in asset management, some improvement actions have been developed as shown in Tables 8 and 9.

The Improvement Plan comprises of:

- Recommended improvement actions to close the gaps between the current and target scores; and,
- The proposed delivery timeframe for the actions.

This plan is an essential component of the SAMP and the AMP currently being prepared and improved as recommended in this assessment. This plan was developed for inclusion in the SAMP and AMP.

Table 7. Improvement Actions 2022-2023

Element	AM Practice Area	Timeframe: 1 year, FY 2022-2023
		Improvement Actions
1	1. Analysing the Strategic Direction (AM Policy & Objectives)	In its review and update of the AM Policy, ARC should consider: • Including a short statement of the principles by which the organisation intends to apply asset management to achieve its organisational objectives; • Include organisation's commitment and expectations for decisions, activities and behaviour concerning asset management – organisational policies e.g. WHS and risks, stakeholder requirements, lifecycle management of assets as well as resources to support asset management processes; • Include organisation's commitment to continuous improvement of asset management processes and performance; and • Ensure that statements clearly demonstrate the alignment to and support for the organisational objectives.
1	2. Levels of Service Framework	• Consider developing appropriate Levels of Service Framework for each asset class – Regulatory -LoS for the organisation, Customer LoS and Technical LoS. • Consider developing a decision-making framework and key performance measures for LoS for each asset class.
1	3. Demand Forecasting and Management	• Clearly articulate demand management option in SAMP and AMP for each asset class.
1	5. The Strategic Asset Management Plan	• Update and improve SAMP and incorporate important elements as per ISO 55001 guidelines. Within the SAMP documentation, the 6 important elements of the organisation's Asset Management System should be described - the organisational environment - governance structure, policy, stakeholders, internal and external environment, decision making criteria, scope of the asset management system and asset management objectives; planning processes; support processes; operational processes; performance evaluation processes; and, on-going continuous improvement processes.

		• Consider a review of AM Objectives to ensure alignment with the organisational objectives articulated in the organisation's Community Strategic Plan. • Continue with development of the Asset Management Framework and incorporate framework in future version of SAMP.
2	6. Managing Risk and Resilience	• Following the implementing of the Risk Management Framework, ARC should consider development of risk registers and application of ISO 55001 complaint risk management approaches to assessment of risks for all asset classes. • Consider development of Risk Management Procedures Manual and incorporate risk assessment processes in asset management planning for all asset classes.
2	7. Operational Planning	• Articulate and document operational asset management activities of each asset class in AMPs. • Consider documenting operational asset management activities relevant to each asset class to ensure consistency in processes.
2	8. Capital Works Planning	• Establish and implement a capital works prioritisation process for capital works planning and document process in AMPs. • Consider documenting operational asset management activities relevant to each asset class to ensure consistency in processes.
2	10. AM Plans (for the Asset Portfolio and Assets)	• Update and improve AMP and provide asset specific information as per ISO 55001 guidelines. The AMP is as important as the SAMP. The SAMP is developed to deliver the asset management objectives and the AMPs contain activities necessary to deliver the asset management objectives.
3	15. Outsourcing and Procurement	• Consider developing KPIs for contractor performance evaluation and establish regular performance assessment regime for contractors. This is to ensure performance is aligned with AM Objectives. • Ensure LoS requirements are documented in contracts.
3	16. Continual Improvement	• Incorporate Improvement Plan in SAMP and AMP. Conduct maturity assessments annually to track and monitor progress on improvement actions and maturity level ratings.

Table 8. Improvement Actions 2022-2024

Element	AM Practice Area	Timeframe: 2 years, FY 2022-2024
		Improvement Actions
1	4. Asset Condition and Performance	• ARC should consider establishing as standard best practice - asset inspection regime for each stage of the asset lifecycle that is specific for each asset class to inform forward works programs and long term financial forecasts. This would ensure that a regular asset condition assessment and monitoring regime is consistently implemented for all asset classes, forward works programs are supported by evidence and investments in asset repairs, maintenance, renewals and/or upgrades are appropriately justified. • Establish an Asset Inspection Policy mandated by Council with accompanying implementation/ procedures manual to ensure consistent processes and procedures are followed for each asset class.
2	9. Asset Financial Planning and Management	• Establish and implement a decision making framework for asset related expenditure and funding and utilise asset valuation results to guide investments in asset renewals.
3	11. AM People and Leaders	• Consider an evaluation and audit of resource capability and where there are evident knowledge and skills gaps, develop professional development programs to upskill staff in asset management. • Clarify and communicate roles and responsibilities in AM practice areas.
3	12. Asset Data & Information	• Consider undertaking a region-wide inventory of all assets to fully capture and update asset data records. • Consider investing in an enterprise asset management information system. • Consider undertaking an asset data cleansing exercise to maintain data integrity.
3	13. Asset Management Information Systems (AMIS)	• Urgent attention should be given to improving the asset data management processes i.e. capturing, recording, maintaining, updating and handling of asset data. • Invest in an enterprise asset management information system for all asset classes linked to the financial system so there is a single repository for asset information. • Establish an information management policy and procedures to ensure consistency in asset data management practices within all the asset classes.

		Timeframe: 2 years, FY 2022-2024
Element	AM Practice Area	Improvement Actions
		• Other improvement actions for this are recommended in 2. Asset Data and Information.
3	14. AM Process Management	• Consider developing asset specific operational procedures manuals covering processes for risk management, emergency management (also resilience management) as well as business continuity plans and communication plans. • Communicate and clearly articulate processes and procedures for management of assets. This should be consistent across all asset classes.