Strategic Asset Management Framework: Public Sector

CPA AUSTRALIA

AUSTRALASIAN PROCUREMENT AND CONSTRUCTION COUNCIL

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Acknowledgement

This framework is based on the Australian Asset Management Collaborative Group's (AAMCoG) Guide to Integrated Strategic Asset Management, published in 2012 by the Cooperative Research Centre on Infrastructure and Engineering Asset Management (CIEAM). It reflects advances in asset management since the previous guide was developed and aims to bring it in line with the contemporary asset management landscape, including alignment with the ISO 55000 suite of asset management standards.

The overall objective of this framework is to enable those without a technical background or extensive exposure to asset management concepts to quickly gain a high-level understanding of strategic asset management. One of the key messages for asset-intensive entities is that the asset management framework is effectively the same as the corporate governance framework, with both requiring consideration, assessment, analysis and management of the same issues. Both are aimed at delivering services to the community and ensuring those services are delivered at an acceptable level of service and cost effectiveness over the long-term. As such, entities should consider asset management and their overall corporate governance responsibilities as complementary.

The Australian Procurement and Construction Council's (APCC) and Certified Practicing Accountant's (CPA) role in developing the initial guide and contribution to this update is greatly appreciated. The Asset Institute's Public Assets Collaborative Group's (PACoG) contribution to this updated framework is also appreciated.

The main aim of PACoG is to collaborate nationally on asset management strategies between all asset management groups.

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PACoG acknowledges the additional financial support of CPA Australia, APCC and the Asset Institute in publishing this framework.

PACoG Members

- Asset Institute
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- Australian Water Association (AWA)
- CPA Australia
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Designed by Hannah Murphy
ISBN: 978-0-646-81653-1
Date: 2 April 2020
Place: Brisbane, Australia

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Introduction

Government and community assets are crucial for the nation to function. Maintaining, operating and replacing these built assets is an expensive and major undertaking and is not often widely considered, planned or budgeted for; as a result, their strategic management is critical.

These assets may be above or below ground, and range from buildings, roads, bridges, stormwater, electrical and lighting, and waterways, to name a few. While the needs of each of these assets are unique, an integrated approach to managing these assets is required to ensure they can provide the maximum value to the community.

Ineffective asset management has huge implications for the cost of maintaining assets as well as the quality of services delivered to our community. Through improved asset management, governments can provide enhanced quality of assets and the services they provide while doing so in a more cost effective and sustainable way.

There are concerns that ineffective asset management is costing the Australian community billions of dollars. Government assets only exist to support service delivery, and neglecting the asset exponentially drives up the cost of service delivery.

Context

Public sector organisations are subject to both internal and external influences. Factors that impact on the ability for organisations to deliver services at an appropriate quality include taking account of broader government policy and legislative context, stakeholder influences and environment imperatives.

The development of a strategic framework provides the mechanism to manage these broader aspects together with a focused intent on organisational elements.

Scope of Guide

This guide to *Strategic Asset Management Framework: Public Sector* (the Guide) provides a contemporary outline to assist those responsible for delivering and managing built assets to meet community and service delivery needs. It is designed to assist effective and accountable service delivery across all levels of government as well as within the private and community sectors.

This Guide focuses on a strategic and integrated approach to managing built assets across all levels of government. It takes into account the built form and considers human and ecological elements. It also highlights that organisations can work together to deliver maximum outcomes, recognising that every asset has a range of implications—not just financial.

What is Asset Management?

Definition

Asset management is defined according to AS ISO 55000 Asset Management as "*The coordinated activity of an organisation to realise value from assets.*" It is the process of organising, planning, designing and controlling the acquisition, care, refurbishment and disposal of infrastructure and engineering assets to support the delivery of services. It is a systematic, structured process covering the whole life of physical assets.

The objective of asset management is to optimise the service delivery potential of assets, to minimise related risks and costs, and ensure positive enhancement of natural and social capital over an asset's life cycle. Good governance and the intelligent deployment of business systems, processes and human resources are key aspects of this endeavour.

Strategic Asset Management Framework: Public Sector (the Guide) brings together finance, economics, engineering, information technology, sustainability and human elements to form a holistic approach to the delivery of built assets. This approach recognises the combination of these elements into a greater whole as well as their interrelationships and interdependencies. It focuses on the long-term direction for the overall management of infrastructure and engineering assets while considering immediate operational matters. The Guide provides a basis for decision-making, implementation and ongoing evaluation of asset management.

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The Strategic Asset Management Framework: Public Sector Approach

Context

A more integrated approach to asset management has come to the fore in response to complex operating environments and multiple service delivery models. There has been a shift from a reliance on individual agencies/organisations as the sole provider of built assets to a more centralised approach. The complexity of the current operating environment means that people and agencies are no longer able to work in isolation. Instead, a more integrated or collective approach to asset development and management has come to the fore. Such an approach allows organisations to access additional knowledge, expertise and resources to create a collaborative advantage in the development, delivery and management of projects.

Asset Management International and Australian Standards

This Guide is a reflection of four International Standards Organisation (ISO) Standards and the associated Australian Standards relating to asset management:

- ISO 55000:2014 Asset management – Overview, principles and terminology
- ISO 55001:2014 Asset management – Management systems – requirements
- ISO 55002:2018 Asset management – Management systems – guidelines for the application of ISO 55001
- ISO 55010:2019 Asset management – Guidance on the alignment of financial and non-financial functions in asset management

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Principles

Principles of Strategic Asset Management

Echoing the asset management fundamentals of ISO 55000, this Guide describes how strategic asset management integrates with broader government and organisational planning.

Value

Assets exist to support service delivery and provide value to the organisation and its stakeholders.

Alignment

Agencies should manage assets consistent with whole-of-government policy frameworks and take into account whole-of-life costing, current and future service demands, and a balance between capital expenditure and maintenance requirements.

Asset management should be integrated with agency strategic and corporate planning and may involve the use of private and community sectors to support or provide assets and asset management.

Leadership

Asset management decisions should holistically consider sustainability outcomes: environmental, social, economic and governance.

Assurance

Governance arrangements should clearly establish responsibility for functional performance of, and accountability for, the asset and service delivery.

Overview of the Strategic Asset Management Framework: Public Sector

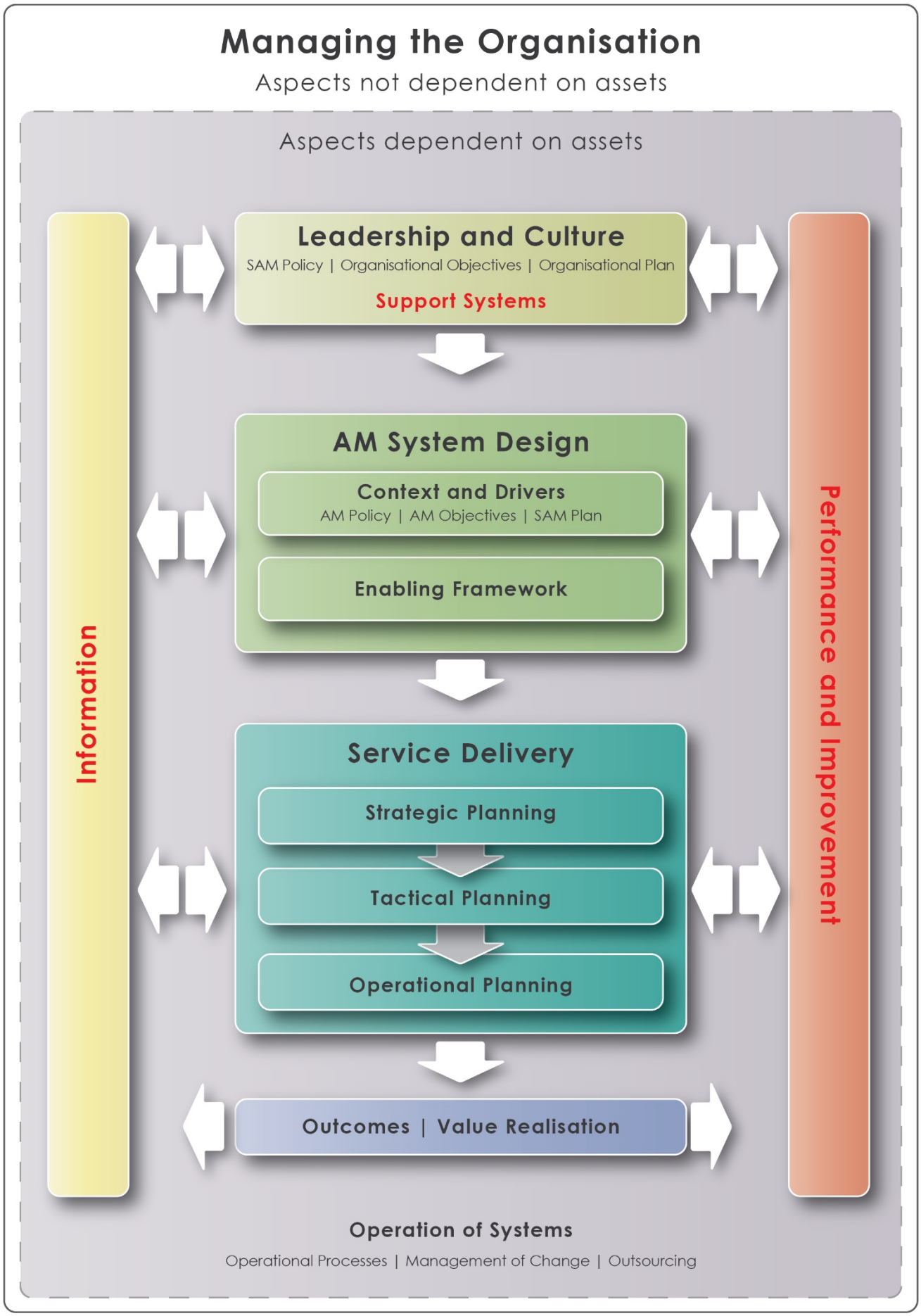
The following framework reflects the increasingly complex and interconnected processes which government and its agencies need to take into account when delivering services. The framework demonstrates that the framework is cumulative, and each component is interdependent.

Sector Scope

While this Guide focuses on the public sector, it is equally applicable to any organisation or sector.

Structure of the Framework

The following diagram is aimed to ensure the overall framework and its interrelationships are easily understood (please see Appendix A for a more detailed view).


Managing the Organisation
Aspects not dependent on assets
Aspects dependent on assets
Leadership and Culture
SAM Policy | Organisational Objectives | Organisational Plan
Support Systems
AM System Design
Context and Drivers
AM Policy | AM Objectives | SAM Plan
Enabling Framework
Service Delivery
Strategic Planning
Tactical Planning
Operational Planning
Outcomes | Value Realisation
Information
Performance and Improvement
Operation of Systems
Operational Processes | Management of Change | Outsourcing

Managing the Organisation

The asset management system operates within the wider organisational structure.

Corporate governance is the system of rules, practices and processes by which an entity is directed and controlled. Corporate governance essentially involves balancing the interests of all the stakeholders, such as the government, management, customers, suppliers, financiers and the community. Assets may be tangible or non-tangible and include physical assets such as land, buildings, roads and water infrastructure but also include computer systems and information systems. Asset management is a critical component of the overall corporate governance framework.

Leadership and Culture

Irrespective of the quality of information and outputs from technical aspects of the framework, if the leadership and culture of the organisation do not support effective asset management, the likelihood of positive outcomes will be very low. The strategic asset management policy must align with the organisational objectives and plan, and reflect the intent and commitment from senior leadership to support and resource asset management activities throughout the organisation.

Organisational Management and Leadership

Managers at all levels need to be proactive in their support for strategic asset management to enable its effective integration into organisational structures, and to optimise service and asset management outcomes. A challenge for strategic asset managers is to motivate employees to align their individual goals with organisational and asset management objectives. They, therefore, need the personal and social competence to lead successfully, as well as the professional and technical skills needed for effective decision-making.

Asset Management Culture

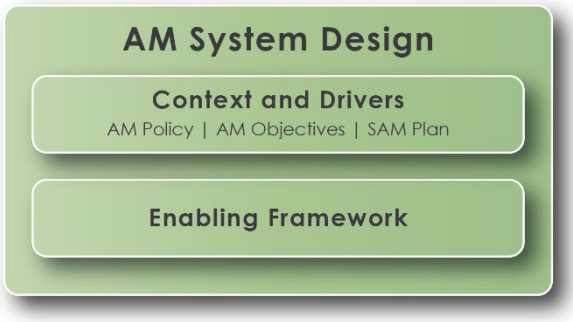
An organisational ethos that promotes optimal asset management outcomes often requires significant and deliberate cultural change. Shifting cultural boundaries may be necessary to embed a sustainable asset management culture and should be enabled through a change management plan led from the top of an organisation.

Organisational Competencies and Skills

An integrated approach to asset management requires the ability to layer traditional management and leadership skills on top of emergent and necessary cross-boundary capacities and capabilities. To achieve this balance, organisations will need to audit their current skill sets to identify any gaps and the resources required. These include technical skills relating to asset management and data analysis, as well as leadership and interpersonal skills. Continual improvement is vital to the evolution of successful asset management practices and performance and is built into the ethos of the framework through performance evaluation and improvement. Support mechanisms need to be accessible to sustain the framework, such as appropriate resources, training and skills development, and communication channels and documentation, to ensure an efficient and effective system.

It is important to consider how to facilitate greater integration across asset classes rather than create hierarchical silos.

Asset Management System Design



As identified in ISO 55000, an asset management system is a set of interrelated and interacting elements of an organisation that contribute to the planning and delivery of asset management activities. The standard does not define the system but does identify over 70 requirements that an asset management system should meet.

The design of the asset management system is critical to achieving the fundamental factors of value, alignment, leadership and assurance. Before developing any strategy around the management of assets, it is important to understand the broad range of factors that should be taken into account and used to drive the asset management decisions. These include:

- stakeholder needs and expectations
- legislative imperatives
- organisational drivers
- environmental factors
- risk management
- financial limitations.

Context and Drivers

Stakeholder Needs and Expectations

Appropriate solutions for service delivery depend on a range of stakeholders, which may include, for example, other government agencies, asset users and the broader community. Stakeholders exhibit a range of levels of interest, criticality, salience and influence, and some stakeholder requirements and needs cannot be addressed in the same way as for other stakeholder groups. This situation means different approaches may be required for key stakeholders to properly consider the impact of assets on the community, the environment and society at large.

Risk Management

Risk management provides a systematic way of identifying and analysing potential risks and helps to create and implement adequate responses to threat and uncertainty. It is expected that risk identification and planning is undertaken in accordance with the organisation's policies, identifying asset-related risks which may potentially affect service delivery.

Environmental Factors

The environment affects assets, their functions and their safety. Environmental changes have created the need for organisations to apply sound environmentally and ecologically sustainable management practices to reduce the ecological footprint.

The desired outcome is to achieve an optimum compromise between performance, costs and risks over the asset's life cycle while avoiding the adverse impacts of short-term decision-making.

Business continuity impacts also need to be considered as the impact of the asset's loss of service due to failure or denial of service may be far greater than originally planned.

Financial Limitations

Asset management aims to balance cost, risk and performance; as such, asset and financial management are inextricably linked.

Limited resources mean governments need to exercise sound financial, social and environmental management and make prudent decisions to best prioritise services to meet community needs and expectations. The demands of the community are the driving force of service delivery. Through fiscal policy (government expenditure and taxation) government determines the funding of services, including assets, but these expenditures on services are limited. To ensure that the community's overall demands will be satisfied, to influence the demand for services, and to decide what (highest priority) services will be delivered, it is necessary to analyse the current and future needs of the community.

Enabling Framework

This service delivery approach is achieved through a whole-of-government model comprising:

- legislation
- policies
- plans, service delivery strategies and standards
- capital and recurrent budgets
- government institutions; and
- partnerships, including with cross-sector or stakeholder working groups, community-based organisations and private providers.

Organisational strategic management gives effect to whole-of-government policy through service delivery. The organisation is responsible for delivering the service; therefore, it needs to determine how this service delivery should occur and what is required. This situation involves informed decision-making, considering the following components:

- service delivery strategy and planning, including identification of risks, whole-of-life operation and maintenance of the assets
- the need for new or reused built assets
- requisite budgetary allocation and monitoring
- organisational capability including skills, expertise and knowledge
- the ability to access and leverage existing social and organisational relationships; and
- the local environmental context (physical, social and political).

Service Delivery

Service delivery is fundamental in defining each aspect of the service to be provided, their boundaries, and development of the required strategies to deliver the outcomes. This planning should facilitate service delivery options within prevailing resource constraints while also exploring new and creative service delivery solutions.

Service delivery translates the broad aims of an organisation into specific service outcomes. It clearly outlines the plans to deliver services and the overall strategy that will be adopted to satisfy community needs and obtain value for money. There are multiple vehicles to deliver a service, ranging from non-asset solutions, including contracted services supplied by external parties, the re-use of existing assets to the provision of a new asset.

Service delivery acknowledges the high level of inter-connection between both the core stages of the service delivery process and the various provider components.

Service delivery rarely occurs through a single-agency or 'siloed' approach. The increasingly complex nature of services required and inter-dependencies between providers calls for more cooperative and innovative planning both within and among organisations.

To assist the achievement of high-value service delivery outcomes, several aspects need to be considered, including:

- intra- and inter-agency planning to facilitate seamless and complementary delivery of all government services
- alignment of policies, budgetary priorities and resource allocation with the overall strategic direction of service delivery
- challenging accepted assumptions and practices
- considering organisational capability including skills, expertise and knowledge
- examining new ways of thinking and creative responses provided by integrated information systems; and
- utilising business processes and knowledge-based decision-making in the evaluation of service delivery options.

For most agencies, the aspect of the framework that takes up the most energy is that related to service delivery planning. This involves the development of a range of formal planning documents and other decision tools and processes. Depending on the nature of the activity these are categorised into:

- strategic planning
- tactical planning
- operational planning.

Strategic Planning

Asset Management Policy

An asset management policy is the translation of the corporate strategy for the process area of asset management; as such, it is based on the corporate policy and corporate objectives. It has to be consistent with the government's policy framework and the government's objectives and has to help to satisfy the community's needs and expectations.

An asset management policy is the overall basis of all asset management decisions and activities and, like the corporate policy, it includes a vision and a vision statement, a mission and a mission statement, and principles for the area of asset management.

Importantly, the policy should state the intent and commitment from senior leadership to support and resource asset management activities throughout the organisation.

Asset Management Objectives

Asset management objectives are indicators for the implementation of the asset management policy and the achievement of the asset management strategy. They are derived from the government objectives and corporate objectives and, on a functional level, they describe the desired balance of cost, risk and performance and/or condition of an asset.

Asset management objectives should detail how each objective is measured over time to evaluate the organisation's performance. Objectives should include:[1]

- the attribute to be measured (e.g. customers/clients serviced)
- the scale on which the attribute is to be measured (e.g. increase in utilisation)
- a goal (level of the attribute desired)
- a specified period of time to achieve the goal.

Asset Management Strategy

The asset management strategy follows the specifications of the asset management policy and sets out activities that help to achieve the asset management objectives. In essence, it defines the elements of the asset management system and supports the corporate strategy and the achievement of the corporate objectives.

[1] Viljoen J, Dann S (2000): Strategic Management: planning and implementing successful corporate strategies, 3rd Edition, Pearson Education Australia

Tactical Planning

The tactical asset management elements include aspects relating to more defined plans and proposed actions to deliver the asset management objectives. They include the development of life cycle plans and asset management plans and form an organisation's asset management strategy.

Asset management plans define the activities, resources and timescales required to achieve the asset management objectives. An asset management plan incorporates acquisition, operations, maintenance and disposal. Specific activities include:

- **Acquisition**: decisions to acquire assets are based on consideration of options, including non-asset alternatives, risks and life-cycle costs, and are demonstrably linked to an organisation's service delivery requirements, budgeting processes and work schedules.
- **Operations**: asset condition and performance is actively monitored and managed, and operational costs are accounted for in line with clearly defined responsibilities and standards.
- **Maintenance**: planned and unplanned maintenance occurs and optimises the useful life of assets and the achievement of service delivery needs and performance standards established within the operations plan.
- **Disposal**: Appropriate disposal strategies are developed and implemented for surplus assets based on a consideration of alternatives, including non-disposal options. Where appropriate, disposal activities focus on optimising the financial return on functionally inadequate or under-utilised assets, including funds available for subsequent capital reinvestment.

Operational Planning

Operational planning deals with the implementation of strategic and tactical asset management and activities around the asset life cycle. Examples of activities and elements of operational asset management are:

- maintenance management
- facilities management
- inventory management
- performance and condition monitoring
- incident management
- continuous improvement
- stakeholder relationship maintenance
- asset register updating.

Other elements that must be considered as part of operational planning include:

- risks and opportunities
- non-conformity
- performance monitoring
- corrective and preventative action
- procurement
- contingency planning
- continual improvement
- resource and financial planning.

Outcomes and Value Realisation

Outcomes | Value Realisation

This is one of the most important aspects and focal points of the asset management system.

The aim of asset management is to provide an appropriate or adequate level of service to the community in the most cost-effective way. As such, it involves optimisation of the cost of delivering a service (including the cost of acquisition, maintenance, operation, renewal and disposal) with the quality and extent of services provided. It is critical that the focus be maintained on the actual outputs or services delivered, ensuring that they continue to meet the needs of the community and the life cycle cost of delivering the services is optimised.

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Information

In the current knowledge-rich environment, the management of information and information systems is a central task. Integrated information systems and effective knowledge management processes underpin the capacity to develop new ways of thinking and the creative responses necessary to track asset performance and optimisation, improve decision-making and increase productivity.

Information comprises the systematic collection and analysis of asset-related data (data management), the listing of this analysed data in the form of viable information (asset register), and the combination of this data and information with hardware and software (information systems). Furthermore, information management includes policies and procedures for the connection of these factors and the interaction with people.

Digital Technologies

The advancements in asset management digital technology have the potential to significantly transform how government designs, constructs and manages its considerable asset portfolios. An asset that has digital data at the core of operations should reduce the cost of management, improve asset life, deliver more strategic and proactive maintenance regimes, and make overall improvements to facilities and asset management.

Contributors and Users of Asset Data

Current and emerging technologies promote project collaboration through clearer, more accurate, up-to-date communication by consolidating currently disparate project information, allowing all team members (including asset and facility managers) to contribute to the establishment and population of the databases underpinning the planning, design, construction and operation of the asset.

Information and its management is critical to improving decision-making, increasing work productivity and innovations. It is based on the underlying idea that ‘good decision-making is based on good data’.

Quality

It is critical that efforts are made to ensure information is accurate, of quality, complete and easily accessible across the organisation. The information gathered should feed into all elements of the asset management framework.

Systems add value by carefully assessing the information needs of staff, the way staff access and use information, and how the integrity of shared data can be maintained.

Performance Evaluation and Improvement

Evaluation

Evaluation is the measuring, reporting and reviewing of asset performance against asset management, organisational and government objectives. Contemporary evaluation now incorporates not only the evaluation of the asset but also the evaluation of the impact of the asset on the environment and society.

Performance Measurement

Assets deliver services to the community to meet demand. By measuring asset performance, agencies can determine how effectively assets support services. Agencies can measure costs, use, value, condition and objectives. An evidence-based assessment provides the tool to affirm and assure quality service delivery and to support internal and external reporting. Performance also includes instances of non-conformity and corrective action. Continual improvement should be at the heart of strategic asset management.

Management Reporting (Review)

Organisations need to regularly review the performance of their assets and their management to ensure these align with asset management service delivery objectives and that outputs meet service delivery requirements. The review typically involves processes such as strategic analysis, gap analysis, demand management and risk management.

Audit

Audits can lead to improvements in asset management. Auditors assess whether or not the organisation is complying with regulatory frameworks and whether services are being delivered efficiently and effectively.

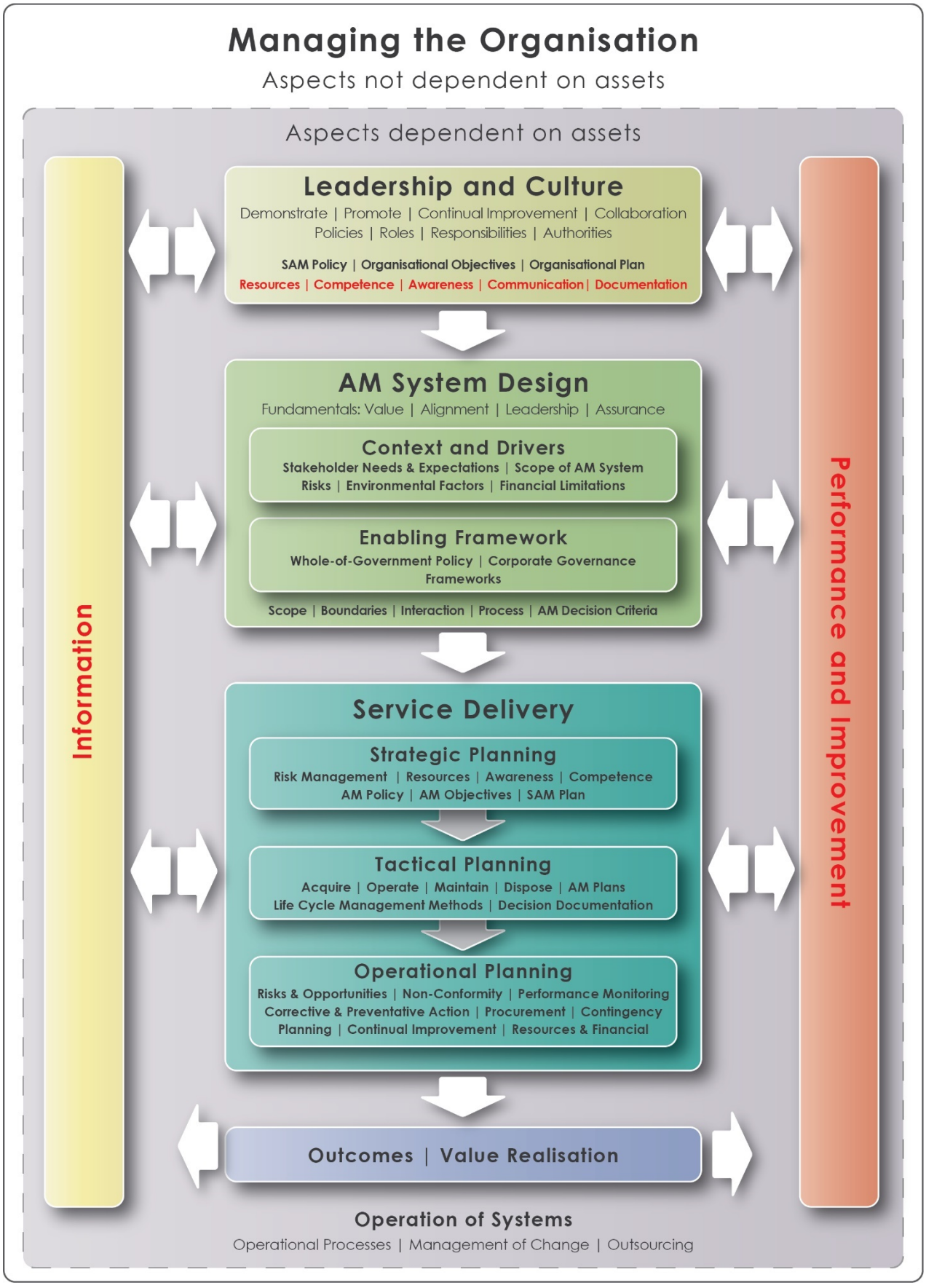
Conclusion

The strategic asset management of community assets has never been more crucial or challenging. Modern societies rely on a well-connected system of purposeful and functional assets to maximise their wellbeing. Economic modelling demonstrates that developing and replacing existing—and often aging—public assets is an increasingly expensive process, drawing on already constrained budgets. Coupled with this economic imperative is a growing appreciation of the importance of embedding consideration of the sustainability of the environment in which assets are located. Together these elements call for a more holistic conceptualisation of public assets and how they combine to provide a comprehensive system of service outcomes.

This Guide contains a contemporary set of practices to assist those responsible for the delivery and management of assets. Rapid advances in knowledge and technologies mean that asset management practice will be subject to continued evolution and change.

Good asset management systems and understanding assets will improve the capability of the organisation to adequately plan for and understand the funding requirements to provide assets throughout their asset life cycle.

Appendix A: Detailed View of the Framework



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