IPSWICH CITY COUNCIL

STRATEGIC ASSET MANAGEMENT FRAMEWORK

Version 1.0

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3						
4						
5						
6						
7						

Table of Contents

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1 Executive summary

This Strategic Asset Management Framework (SAMF) is prepared to assist council in defining and improving the way it delivers services from infrastructure including roads, bridges, footpaths, stormwater drainage, parks, sporting and other facilities, and buildings.

The goal of the SAMF is to establish a framework of governance documents, planning documents, operational procedures and standards which will:

- enable council to show how its asset portfolio will meet the service delivery needs of its community into the future

- enable council's Infrastructure Asset Management Policy (IAM Policy) objectives to be achieved

- ensure the integration of council's Asset Management Plans (AMPs) and practices with its long term strategic visions, as adopted in the Long Term Community Plan, Advance Ipswich 2015 (The Plan).

Ipswich City Council (ICC) has a well-developed Long Term Community Plan which identifies the aspirations of the community and how council will deliver them in a series of themes, goals, strategies and actions. It is supported by a 5 year Corporate Plan, and an annual Operational Plan, budget and long term financial forecast, and annual report as part of a comprehensive suite of governance documents and processes.

This framework aligns these governance documents with the operational programs and activities and will assist council:

- in providing services needed by the community in a financially sustainable manner

- in meeting the requirements of national sustainability frameworks, *Local Government Act 2009* and the *Local Government Regulation 2012.*

The SAMF has been prepared following a review of the council's service delivery practices, asset management (AM) maturity and delivery of council's vision for the future as outlined in the Long Term Community Plan, Advance Ipswich 2015 (The Plan).

2 Introduction

Council is an asset intensive service business with over $3 billion currently invested in assets. As a result, council is exposed to considerable political, managerial and financial risk due to the magnitude of its investment in these assets (particularly long lived infrastructure assets).

Population growth, changing demographics (such as an aging population), rising customer expectations, competing demands for funding and an increasingly demanding external regulatory environment have contributed to a situation where it is essential for council to make well informed AM decisions. These decisions, which involve setting service levels, costs and priorities of asset based services will have far reaching social, environmental and financial implications for the city. Furthermore, State and Commonwealth legislative requirements such as the *Local Government Act (2009), Planning Act (2016)* and the *Disability Services Act (2006)* require council demonstrate its asset related decisions are economically, environmentally and socially sustainable in the longer term.

Council has a well-developed long term community plan which identifies the aspirations of the community and the ways council will deliver them in a series of themes, goals, strategies and actions. It is supported by a 5 year Corporate Plan, and an annual Operational Plan, budget and long term financial forecast, and annual report as part of a comprehensive suite of governance documents and processes.

One of the key challenges facing council is how to sustainably balance investment in new asset intensive services with the need to maintain existing asset intensive services at levels of cost and quality acceptable to the community. Building a sustainable community requires an effective AM regime combining management, financial, economic, and engineering and other practices to its physical assets.

The term Asset Management in this context means the process by which council manages its physical asset base (including long life infrastructure) to achieve a balance between the community's service expectations and their willingness and capacity to pay for the infrastructure and land assets underpinning these services.

Due to the magnitude of council's investment in infrastructure, a robust planning process is required to ensure these assets are maintained and renewed in the most appropriate way on behalf of the community. Given the importance of these assets to the operation of the city, it is essential they are effectively accounted for and well managed to ensure their future sustainability. Failure to adequately manage its long term infrastructure is a key corporate risk capable of compromising council's ability to successfully achieve its strategic goals as articulated in the Corporate Plan.

The Queensland State Government has developed a sustainability reporting regime for local government authorities, emphasising sustainable communities and sustainable councils. This regime is to assist council to reduce any gaps existing between current spending on physical asset maintenance/renewal and the level of expenditure required to ensure ongoing sustainability (e.g. via the development of integrated long term AM, community and financial plans).

This SAMF provides a comprehensive approach to the management of infrastructure assets by identifying and responding to internal and external business drivers facing council.

3   Strategic asset management framework

The SAMF is intended to provide a consolidated view of the most recent corporate documents, planning documents, operational procedures and standards which will:

- ensure a systematic approach to AM activities and practices
- enable council to show how its asset portfolio will meet the service delivery needs of its community into the future
- enable council's AM Policy objectives to be achieved
- ensure the integration of council's AMPs and practices with its long term strategic visions, as adopted in latest long term community plan, Advance Ipswich 2015 (The Plan).

Asset planning and management has seven elements to assist in highlighting key management issues, promotion of prudent, transparent and accountable management of local government assets and in introducing a strategic approach to meet current and emerging challenges. These elements are:

1. AM Policy
2. Strategy and planning
   a) AM Strategy
   b) AMPs
3. governance and management arrangements
4. defining levels of service
5. data and systems
6. skills and processes
7. evaluation.

These elements have been identified as essential parts of AM but are not themselves separate or independent. Many AM processes rely on associated data and systems which are integral to their successful application, and many of these data and systems have other (non-AM related) applications. Similarly, data on its own is not useful unless applied as information to guide decision making processes.

3.1   Infrastructure asset management policy

Council's IAM Policy defines council's overall intentions and guiding principles in relation to infrastructure AM. It provides a formal policy position for council to operate and manage infrastructure assets in accordance with defined levels of service, whilst minimising lifecycle costs.

The SAMF is developed to detail council's AM processes and systems used to implement the policy.

The policy is held within council's corporate records system, is viewable through its intranet site under governance documents and is reviewed in accordance with council policy review processes (currently every 2 years).

3.2 Strategy and planning

3.2.1 Asset management planning process and hierarchy

AM planning is a comprehensive process to ensure assets are managed and maintained to enable affordable services from infrastructure to be provided in an economically optimal and sustainable manner. The process incorporates a framework of documents in a hierarchy:

- linking organisational strategic objectives with the AM policies and enablers needed to deliver them

- linking organisational strategic objectives with the levels of service the assets are required to deliver

- guiding the AM priorities, the operational activities required on and by the assets to achieve those objectives, and the finances needed to support the work.

Its aims are to achieve short term and long term business and stakeholder objectives, including:

- meeting community service requirements and expectations

- minimisation of lifecycle costs

- achievement of operating strategies

- maintenance of asset value.

The diagram below illustrates council's AM planning process, including inputs, outputs, documents and interactions.

Strategic Asset Management Framework

Key Processes

Key Documents

| Statutory Requirements and Community Expectations | Local Government Act 2009 Local Government Regulations 2012 |

| Organisational Strategic Plans Vision, Mission, Goals & Objectives Business Policies, Risk | Long Term Community Plan Corporate Plan Operational Plan |

| Asset Management Policy | ICC Infrastructure Asset Management Policy |

| Asset Management Strategy | ICC Asset Management Strategy |

| Asset Management Plans (AMPs) | ICC Asset Management Plans Asset Registers |

| Operational Activities | Services Catalogue Operational Manuals Operational Activities Forms |

| Performance Reporting | |

Evaluation, Reporting and Improvement
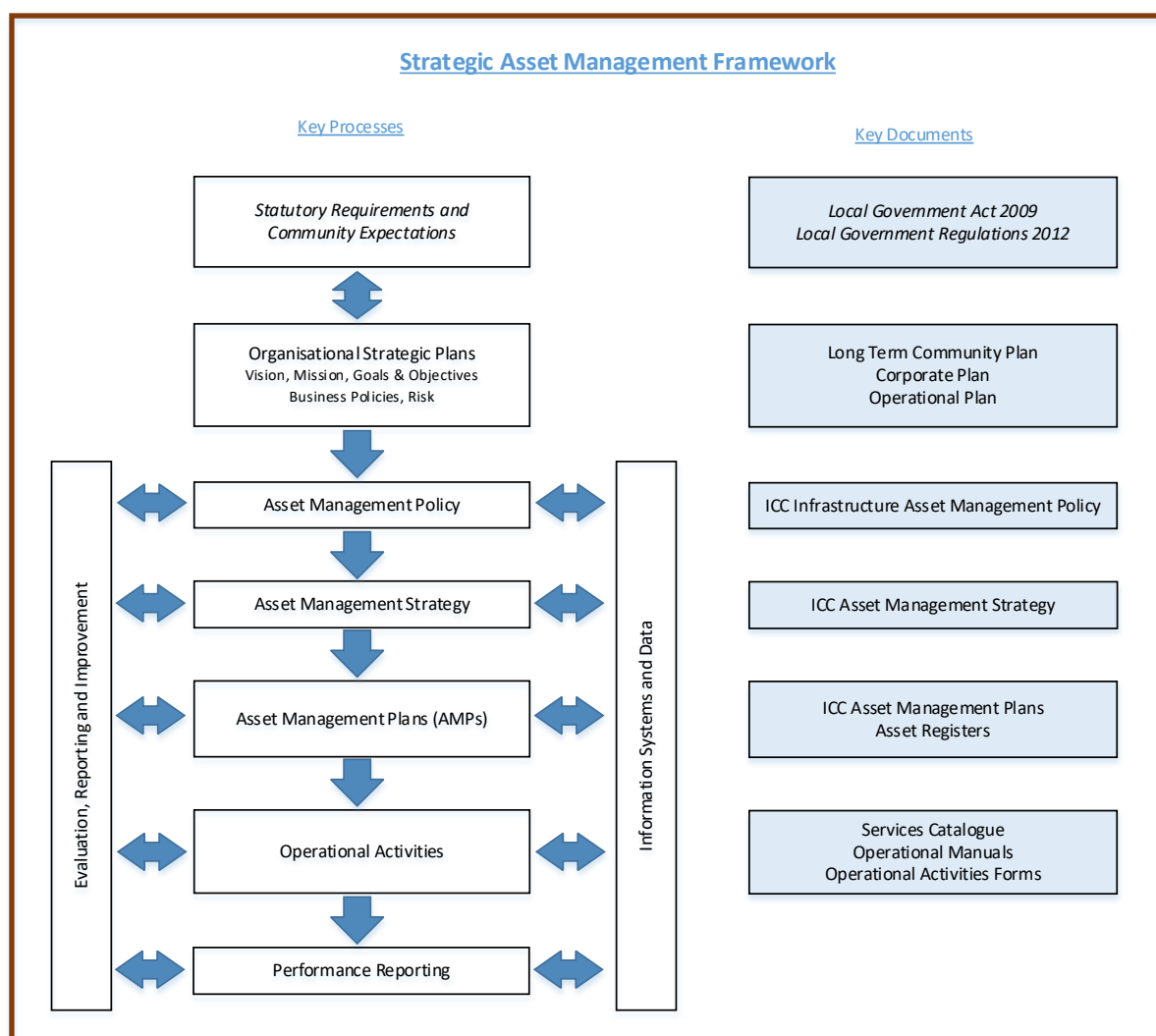
Information Systems and Data

Figure 1: Strategic AM Framework

AM planning commences with defining stakeholder and legal requirements and needs, incorporating these needs into the organisation's strategic plan, developing the levels of service, IAM policy, AM strategy, AMPs and operational plans, linked to a long term financial forecast with a funding plan.

The organisational strategic direction is provided by the Long Term Community Plan, Corporate Plan and Operational Plan.

Those elements of these strategic organisational documents which are delivered through infrastructure assets and services are managed through the processes shown in Figure 1. The service delivery part of the AM process includes a wide range of procedures and is built on a sound knowledge base which includes data registers and information systems.

3.2.2   Asset management strategy

Council's IAM Policy includes the statement:

Council will:

- establish business objectives and strategies for the management of its infrastructure assets and monitor the performance of assets against these objectives and strategies.

The objectives of the AM Strategy are to:

- develop and maintain effective AM accountability and direction across the organisation

- capture and maintain relevant and reliable asset related information for effective decision making

- effectively and efficiently manage all physical assets under council's control through each phase of their lifecycle

- engage the community in discussions on desired service levels and ensure asset investment decisions consider the whole of life cost and balance the funding for investment in new/upgraded assets with the investment in asset renewal.

The AM Strategy includes specific strategies and implantation plan to ensure the AM objectives are delivered and achieved.

3.2.3   Asset management plans (AMPs)

AMPs provide detail of the asset and service description, levels of service, demand forecasts, lifecycle activities, cashflow forecasts, refurbishment strategies, services requirements and budgets for council assets to ensure service and business objectives can be achieved.

Council's AMPs are currently held in council's corporate records system in the original form as submitted in accordance with the requirements of the Department of Local Government and Planning (DLGP) Asset Management Advancement Program 2009 and 2010 (AMAP).

 The format of the core AMPs are developed by the International Infrastructure Management Manual (IIMM), which is the basic reference for AM in Australia and is endorsed by the Institute of Public Works Engineering Australia (IPWEA).

Core AMPs were developed for council assets grouped according to the following networks:

- Roads and Transport Network

- Drainage and Flood Mitigation Network

- Buildings and Facilities Network

- Parks and Recreation Network

3.3   Asset management governance and arrangements

Council has a range of policies, procedures and guidelines which provide corporate governance over all council activities, as well as specific controls over AM data and systems.

Council currently has a dedicated AM section which enables a whole-of-organisation approach to AM, responsible for all roads, drainage, buildings, parks and open space within the city.

The role of the AM section is continuing to evolve as the organisation maturity increases over several phases. The Section roles include:

- strategy development and implementation of AM improvement program
- AMP development and implementation
- reviews of data accuracy, levels of service and systems plan development
- AMP operation
- evaluation and monitoring of AMP outputs
- ongoing AMP review and continuous improvement.

The SAMF is an essential part of council's broader corporate strategy and defines how the various elements of council's vision for the future are delivered through its infrastructure assets. There are three principal documents identified in the Local Government and Planning Minister's Council (LGPMC) and other industry sources as fundamental to responsible AM.

These key elements of the SAMF are:

- IAM Policy
- AM Strategy
- AMPs for all infrastructure assets.

These documents provide the specific asset context to the organisational strategic planning documents as shown in Figure 1.

3.4 Service delivery

Council uses infrastructure assets to provide services to the community.

There is not a simple one-to-one relationship between service and asset. Some assets provide more than one service, and some services require more than one type of asset to deliver the service. As an example, pathways, recreation facilities, and sportsfields combine to provide community recreational services. At the same time, pathways also provide an active transport service for the community.

3.4.1 Service definitions

The council's services catalogue is a living document which serves to record all services currently delivered by council. Since the catalogue includes services delivered to both internal and external customers, every activity performed by council is represented somewhere in the catalogue. The Services Catalogue is recorded in council's corporate record system, and is continually refined and updated to reflect council's changing business.

The council's services catalogue uses the following terminology:

Service   A specific consumable offering enabling council to deliver value to its customers.

Activity   The things council does in order to deliver the service (e.g. mowing, pothole patching).

Service level   A particular success measure against which each activity can be measured (e.g. investigation complete within 20 business days).

Target   This specifies the target percentage of services needed to achieve the stated service level.

These definitions are arguably the best available from current literature and have been used with only minor adjustment to develop the supporting methodologies and processes referenced in the SAMF.

It should be noted, almost all these services listed in the council's services catalogue and their associated service levels fall into the category of technical levels of service, as they specifically relate to how council delivers the service and the performance targets used to manage their effectiveness. The terminology of technical and customer levels of service is expanded below.

3.4.2 Levels of service (LOS)

Levels of service (LOS) are the defined service standards for a particular activity or service area (e.g. roads, sporting fields) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability and cost. LOS are a key component of council's AM processes. Council defines the LOS it expects to provide to the Ipswich communities through its organisational documents such as the i2031 plan and corporate plan.

The present LOS for council are defined into two categories, community LOS and technical LOS (as indicated below).

Community levels of service measure how the community receives the service and whether council is providing community value.

Community LOS measures used in council's AMPs and SAMF are:

Quality   How good is the service?

Function   Does it meet users' needs?

Capacity/utilisation   Is the service over or under used?

Technical levels of service support the community service levels and relate to the allocation of resources to service activities council undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

Technical LOS measures are linked to annual budgets covering a range of operational activities listed in the next section.

Technical LOS are expressed in terms of:

- meeting maintenance activity performance target

- cost effectiveness against budget

- production rates

- community satisfaction.

Asset managers plan, implement and control technical service levels to influence the customer service levels.

3.4.3   Operational activities, processes and methodologies

Operational activities associated with infrastructure technical LOS and performance measures are linked to annual budgets and have been functionally categorised as:

- inspection

- condition assessment

- risk assessment

- defect management

- operation

- maintenance

- renewal

- upgrade

The current council's services catalogue lists many operational activities at a lower level than these functional categories, based on the specific asset type and the particular level of service associated with the type of asset within a hierarchy.

Almost all operational activities performed in the delivery of the services require a documented process in order to ensure the activity is undertaken (and hence the service is delivered) in an agreed, controlled manner. Most also have an under pinning methodology which defines the logic behind the particular process, ensuring consistency and transparency in the decision-making parts of the processes.

Council has developed process maps for a number of activities and these maps provide documentation at different levels of the processes and the systems, personnel, roles, and governance linked to the activities.

Methodologies have been established and have been presented to council for a number of asset types, and this process will be ongoing so all assets are managed at an appropriate level, with due consideration for the criticality of the asset or service provided and the associated risk. These methodologies set out the process by which asset performance is assessed, defects are categorised and remedial works are apportioned and prioritised, as well as the underlying assumptions and criteria used in evaluating management options.

Many also have systems and datasets which form part of the workflow and facilitate the recording of relevant information as well as reporting. These systems are addressed in the following chapter on Data and Systems.

3.4.4   Inspection

Inspection is one of the essential elements of AM. It is the action of reviewing an asset within its operating environment to ensure the asset is functional and safe and to identify imperfections or changes which could impact its continuing service potential. It is carried out as per the frequencies set out in the relevant LOS. Asset inspection for council is defined into two categories, scheduled inspection and ad hoc inspection.

Scheduled inspections usually have predefined inspection frequencies and criteria as per the relevant LOS. Ad hoc inspections are usually undertaken on an as needs basis from internal or external requests. All inspections are supported by the latest data and systems which are available to the inspecting officer at the time of inspection.

3.4.5   Condition assessment

Condition assessment is the act of assessing the state of the asset and its ability to deliver the required service (e.g. as new, or requiring replacement). Understanding the condition of assets, particularly passive assets, is a key requirement of council's integrated SAMF.

Condition assessment usually involves several activities:

- assessing asset condition by physical inspection

- estimating remaining effective economic life

- modelling future asset performance and deterioration based on recorded condition and known performance characteristics

- modelling optional courses of action (e.g. maintain, renew or replace)

- assessing maintenance and/or refurbishment requirements.

Not all asset classes will have full condition monitoring undertaken on a regular basis, and the frequency, extent and complexity of the assessments will be determined by the:

- criticality of the asset class in general

- criticality of individual assets within the class

- adopted level of service for the asset or service.

3.4.6   Risk assessment

Risk assessment in the AM context is the activity and process used to establish risk or criticality rankings for all assets and to determine critical failure modes to assist in prioritisation of future works. It is an integral component of the AM process within council.

Council's Enterprise Risk Management Framework is the basis for all risk assessments.

Risk assessment involves:

- determining likelihood and consequence of asset failure or service delivery failure (level of risk)

- evaluating and prioritising the risk.

3.4.7   Defect management

Defect management is the activity and process carried out to either eliminate or control imperfections within assets which could lead to premature failure of the asset or its failure to deliver its designed service potential. It includes identification, categorisation and prioritisation of defects, programming of repairs and reinstatement of its service delivery capability, through either routine maintenance or a rehabilitation program.

In determining optimal treatment of identified defects, a range of criteria are considered based on the type of defect, the type and criticality of the asset, and the service being provided by the asset.

In general terms, the following criteria are applied:

- only defects meeting documented Intervention Levels are listed for repair/remediation

- remediation treatment and timing is based on delivering minimised lifecycle cost (Capex and/or maintenance over the life of the asset).

3.4.8   Operation

Operation is the active process of utilising an asset which will consume resources such as manpower, energy, chemicals and materials. It is the regular activity to provide services (e.g. opening hours, cleansing frequency, and mowing frequency). Many assets have standard operations which provide a range of services.

3.4.9 Maintenance

Maintenance is the activity necessary to retain an asset as near as practicable to an appropriate service condition (e.g. road patching, unsealed road grading, building and structure repairs). It does not increase the service potential of the asset or keep it in its original condition. Routine maintenance ensures the asset is able to reach its designed life and delays the rehabilitation and replacement of the asset.

3.4.10 Renewal and rehabilitation

Renewal or rehabilitation is the activity to rebuild, refurbish or replace the entire or part of an asset, to restore it to a required functional condition and deliver its original service potential (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement). Council is continuing to improve its process of asset renewal and rehabilitation with the establishment and continued improvement of rehabilitation prioritisation methodology to ensure the proposed rehabilitation works are delivered in a timely manner based within their respective capital sub-program.

3.4.11 Upgrade / enhancement

Upgrade / enhancement is the activity to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size). The upgrade of existing assets is typically to address growth in demand or changes to the required level of services. For any asset upgrade in council, a full project scoping report is required. A typical scoping report contains a brief summary of the objectives and needs, benefits, costs, assumptions, risks, timeframes and options considered.

3.4.12 New service

New service is the activity to provide a new service not previously existing (e.g. a new library, new shelter, new footpath, etc.). New service is typically to address growth in demand or changes to the required level of services. For any new service in council, a full project scoping report is required. A typical scoping report contains a brief summary of the objectives and needs, benefits, costs, assumptions, risks, timeframes and options considered.

3.5 Data and systems

In order to effectively manage council's assets and the services provided by them, the base information relating to all infrastructure assets needs to be held in a secure, governed, auditable location or locations, and capable of being retrieved, analysed and reported on through a suitable range of information management systems. Council does not have a single system for its assets and management. Instead, a wide range of suitable systems are being used to store, retrieve, analyse and report information about assets. The effective integration of these systems and exchange of information between them is vital to effective AM.

3.5.1 Asset register

The Physical Asset Register (PAR) is the depository of physical information of assets. It records the most fundamental physical attributes of the asset such as location, dimension, construction materials, date constructed, type, function, specification, etc. In council, the majority of the PAR is

held in a geospatial database which can be displayed spatially using a suite of geographic information systems.

The Financial Asset Register or Fixed Asset Register (FAR) is an accounting approach used by an organisation to report on the assets it owns. The information is used to support the preparation of annual financial reports, grant acquittals, asset valuation and audit. The financial information stored in the FAR is usually an aggregate of similar physical assets in the same asset group or class. Council is progressively reviewing the asset hierarchy between the PAR and the FAR to improve the alignment between the physical assets and the financial system.

3.5.2 Technical drawings and engineering plans

Technical drawings and engineering plans are usually provided to council as part of the As Constructed information package following purchase or construction of new assets. The drawings and plans are essential for the technician and engineer to perform any maintenance and/or repair of the assets. Access to the information can be arranged through the AM Section of council.

3.5.3 Operating and maintenance manuals

Where appropriate, operating and maintenance manuals are stored for specific assets or networks which are necessary for the prudent management of assets over their life. These manuals (as the name implies) contain critical information about how the assets should be operated and maintained, and are stored in documented locations which can be accessed by asset managers and technical staff.

3.5.4 Inspection and maintenance schedules

Schedules for both pro-active and reactive inspection and maintenance are developed based on agreed levels of service and particular intervention levels for recorded asset defects.

Cyclic schedules such as for grass cutting, facility cleaning, trash rack cleanouts, and defect or condition inspections are sent to the appropriate actioning officers through a system of electronically generated forms or displays on a mobile device.

3.5.5 Work activities statement

Work activities statement or similar records of work activities are used to transmit instructions on specific work to be undertaken on assets and are created and stored against the appropriate asset level. They are also commonly used as a means of recording actual work quantities performed, allowing the collection of data on a range of AM activities, costs and failure events. The information is stored in Oracle Spatial, the same geospatial database as the PAR. The information can be retrieved and integrated with the PAR to produce useful analysis to continue improve the management of assets.

3.6 Evaluation and improvement

Performance of assets shall be monitored and reported over the life of the assets and, where necessary, appropriate maintenance actions shall be undertaken to ensure the assets are operated within design expectations and deliver services required by customers and stakeholders in accordance with council's business objectives.

3.6.1 Key performance indicators

Evaluation of asset performance will involve continuous or periodic quantitative assessment of the actual physical and economic performance against specific objectives, targets and standards.

The key council performance measures for assessing the success of an integrated AM approach include:

- customer Key Performance Indicators (KPIs)
- product and service KPIs
- asset performance
- asset capability
- financial effectiveness
- asset condition.

3.6.2 Asset management maturity assessment

A key element of the AM process is to ensure the capacity and capability of the organisation is aligned with the corporate needs.

The underlying philosophy for this is, each organisation has differing requirements for its assets, and there will be differing levels of detail and differing performance levels associated with each asset or service. Essentially, an organisation's AM processes should be fit for purpose, targeted at a level which meets the organisation's needs.

IIMM includes a process for evaluating the level of AM capability through an assessment of the AM maturity level which provides a scoring system across a range of core assessment competency criteria. Council will continue to assess its AM maturity level on a biennial basis to ensure council's AM practice meets industry standards and the needs for the community.

3.6.3 Change control process

Processes are in place to manage any changes to levels of service, asset criticality or other data which is linked to other elements of the SAMF, other governance documents, budgets or any other associated systems.

In particular, formal process are in place to monitor changes to legislation and regulations impacting on the strategies for managing the assets, and how this flows through to asset policy, strategy and management including maintenance. Council will maintain a compliance register of relevant legislation and regulations with linkage back to the AM and customer service standards with clear lines of accountability for maintaining the documentation and deploying any updated processes.

3.6.4 Relationship to the budget and long term financial forecast

The AMPs have a bi-directional relation with the budget and long term financial forecast and each are dependent upon the other for their respective development, ongoing review and update. Budgetary decisions in any year are to be integrated and reflected in the AMPs in a timely manner

while the development of each subsequent annual budget and long term financial forecast is to be informed by a contemporary set of AMPs.

3.6.5   Asset management improvement plan

The AM improvement plan is a key element of the AMPs. It is also a key component of the SAMF. The Improvement Plan covers identified deficiencies in systems, processes and data, as well as capturing opportunities for improvements. The improvement plan is also being reviewed and updated as part of the AMP review.

The existing improvement plan consists of the current tasks from the four initial core network AMPs. The aggregation of the initial improvement plan tasks into a single database is being developed to expand its functionality and enable regular reporting and monitoring of actions against all tasks, as well as showing inter-dependencies between tasks.

The key focus areas of the improvement plan include:

- data quality and integrity,
- business processes and procedures,
- service intervention levels, and
- AM assumptions and methodologies.

The full development of the improvement plan and the regular management review of its identified tasks should provide the basis for effective AM into the future, and will form a key element of the SAMF.

4   Acronyms

AM   Asset Management

AMAP   Asset Management Advancement Program

AMP   Asset Management Plan

ARIS   Architecture of Integrated Information Systems

DLGP   Department of Local Government and Planning

FAR   Fixed Asset Register or Financial Asset Register

ICC   Ipswich City Council

IIMM   International Infrastructure Management Manual

IPWEA   Institute of Public Works Engineering Australia

KPI   Key Performance Indicator

LGPMC Local Government and Planning Ministers' Council

LOS   Levels of Service

PAR   Physical Asset Register

SAMF   Strategic Asset Management Framework