

Developing a Methodological Framework for the Asset Management Elements

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Abstract— Local government assets are always supplying the community with important services. Assets effective management methodologies are significant to the sustainable provided services. These services have to meet current and future community needs. The Framework has been developed for use by local governments with data input exported from the Institutes, ministries, entities and research centers. It reflects a nationally approach to manage the already exist assets. The main target of the Framework is to enhance the sustainable local government assets management. Moreover, it is inspiring stakeholders and whole responsible from different backgrounds. The framework is always orient the decision maker to a long-term view of asset management. In addition to meet the social, economic and environmental impacts and ensure sustainable use of physical and financial resources. The Framework emphasizes the importance of asset management plans developed by local governments and expertise. These plans have to be linked to long term financial and strategic planning. Practices for effective and sustainable strategic planning will be unproductive without the integrated planning, reporting outlines and guidelines. To reach effective and sustainable assets management, all local governments are required to produce an asset management policy (AMP), develop an asset management strategy (AMS), build a process for evaluating asset management plans (AMPL), processes and asset sustainability and finally, Link asset management to the Annual Report (AR).

Index Terms— Urban Assets Management, Assets registration, Elements of Asset Management Framework.

1 INTRODUCTION

1.1 URBAN ASSETS MANAGEMENT

Urban management can direct targeting common goals, benefits from coordination of expenditures and human actions. Moreover, it can focus on organize and initiate essential tasks. Urban management is always dealing with resources for the users' needs of urban life. Urban management is the management of resources, development, public services, urban growth and any other partial urban concern. (1)

2. THE FRAMEWORK OVERVIEW

The Framework does not recommend a single methodology. It doesn't contain specific processes that a local government may use to achieve outcomes. The Asset Management Framework (AMF) will be used to update proposals for future requirements. It should be mentioned for describing the requirements regarding integrated planning, reporting, and financial management. To reach effective and sustainable assets management, all local governments are required to produce an asset management policy (AMP), develop an asset management strategy (AMS), build a process for evaluating asset management plans (AMPL), processes and asset sustainability and finally, Link asset management to the Annual Report (AR).

Effective asset management methodologies are meeting local government strategic goals with an Integrated Planning approach.

Asset Management Policies, Strategies and Plans are dis-

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cussed by the community and taken in consideration during creating the Strategic Community Plan. Asset management has to ensure that, Long Term Financial Plans and Annual Budgets are the main key to deliver strategic priorities for the future. The Framework relates to assets' value which a local government controls and uses to deliver various services and activities. In general, AMPL should be developed for all major asset classes. Although the number and size of assets will vary, Local governments should classify the classes and subclasses of assets that they manage during the asset's management processes. (6)

3. ELEMENTS OF ASSET MANAGEMENT FRAMEWORK

3.1. ASSET MANAGEMENT POLICY (AMP)

An Asset Management Policy is one or more documents outlines the main goals, aims, targets and plans for the local governments. AMP establishes a platform for delivered services. The Asset Management Policy must support organizations, community, stakeholders, and local governments to produce effective AM. The local government administration develops the AMP with the Council based on Council priorities and community needs. Developing AMP needs answers of many questions like "Who are involved?, What are the required inputs, What are the expected outputs and what are the run activities to finalize the policy?" (7)

3.2. ASSET MANAGEMENT STRATEGY (AMS)

An Asset Management Strategy (AMS) is one or more documents that outline how the local government's asset portfolio will meet the required services to reach the communities' needs in the future. In addition, enable the local governments to reach the AMP, and ensure that asset management is established as part of the local government's integrated future Plan. AMS is always listing and articulating the required communities' service through developing Asset Management Plans (AMPL) for each major asset class.

Developing AMS needs answers of many questions like

“What currently assets do we have? What the currently asset management position is? “Including current and forecast future needs and adequacy of funding”, Where do we want to be according to the future plan? How will we get the targeted strategy? (6)

3.3. ASSET MANAGEMENT PLANS (AMPL)

AMPL is documents used by the local governments to manage each of their asset classes. These assets classes and current levels of service are reflected and defined in the AMPL. It must be regularly reviewed to determine ongoing and future service expectations and their financial impacts. So that, AMPL should be developed for all major asset classes (AC) and sub classes (SC), but not limited to include: roads, buildings, drainage, paths, parks and infrastructure. The following list of ‘typical’ examples can assist.(6)

Table no. 1 - The assets and sub assets classes, Source: The Western Australian Local Government Accounting Manual (Edition 2), February 2011.

Local Government (AC)	Sub-Class Examples
Land	Investments, Vegetal Garden, Parks, Sports ground and Playing Fields, Land-fill Sites, Graveyards and other land assets requiring management.
Building	Administration buildings, housings, libraries, public toilets, halls, heritage listed sites and other building assets requiring management.
Infrastructure	Road networks, including car parks, pavement, , traffic management, bridges airports, wharves, piers, jetties and pontoons, Infrastructure on parks, gardens and reserves, tunnels Hardscape, furniture and signs, lighting and paths, Drainage networks, including flood mitigation networks, channel, drainage, water supply network, waste treatment facilities, other infrastructure assets requiring management.
Information Technology	Hardware (including computers, monitors, servers, network hubs), software (including all operating software - excluding internally developed software, specialist software e.g. finance/GIS, customer service systems), Communications (telephone systems, radio systems, fiber optics conduits/pipe), application specific technology (CCTV cameras/systems, CCTV monitoring room equipment, GIS recording units, as well as other information technology requiring management.
Gear and equipment	Vehicles (including corporate fleet, service vehicles e.g. rubbish collection vehicles/ranger vehicles, works vehicles; heritage plant), equipment (including: fixtures and fittings, furniture, street cleaning equipment, roads/paving

	equipment, parks equipment, heritage equipment, library books) as well as other equipment assets requiring management.
Other Assets	Off road paths, beaches, green and gray urban open space, street scapes and any other assets requiring management.

To set the AMPL according to the level of services mentioned before, elements of assets classes and sub-classes should be included. (8)

Table no. 2 - The elements of the assets classes and sub-classes, Source: The Western Australian Local Government Accounting Manual (Edition 2), February 2011.

Elements of the AC & SC	Descriptions
An asset registers	“The process of recording all assets by documenting their location, revenues, running cost, life cycle, transactions based on best current information, condition, performance review and plan evaluation.”
Defined levels of service	Identifying asset class and specific activities required to offer a service in the most cost-effective method.
Demand forecasting	It is an analytic way which tries to estimate customer demand to offer supply decisions.
Risk management strategies	It is a process of classifying, quantifying, and justifying any faced risk that affects strategic goals, and strategic implementation.
Financial information	Identifying asset values, depreciation rates, depreciated values, capital for new assets as a result of assets’ expands.
Strategies	Draw strategies to manage any funding gaps.
Consideration of alternative	Delivery service by inviting private/public/community partnerships and shared services arrangements.
Clear linkages	Linking with the other strategic documents like Business Plan, Long Term Financial Plan and Annual Budget.

3.4. DEFINING LEVELS OF SERVICE

Level of service is the defined service quality for a particular activity which has a performance may be measured. Service levels usually relate to quality, quantity, consistency, responsiveness, environmental, acceptability and cost. (9) Local governments not only have to regulate the level of service but also, adjust the quality of the targeted services and the related cost for each asset class. This is a main crucial process in the development of AMPLs. It is shaped due to the community need -as identified through the Strategic Community Plan and ongoing community engagement activities- and Council priorities. (5)

3.5. LINKING TO THE LONG-TERM FINANCIAL PLAN

The Assets Management Strategy has to be linked with the ‘whole of life’ with the local government’s annual budget. In addition, it must be linked with long term and operational financial planning. (5)

3.6. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

Well governance and management arrangements ensure that asset management is sufficiently linked to delivered services. Governance and management arrangements within the Asset Management Strategy include:

Recognize the asset management roles and responsibilities of the CEO, Senior Managers and Asset Managers, Mayor/President and Elected Members”.

Categorize and address staff resourcing, funding and training needs.

Detect and implement high level review or oversight mechanisms for Asset Management Plan development and delivered services.

Classify and implement mechanisms for reporting AMPL progress. These arrangements should be reviewed annually to regulate ongoing, future governance, management requirements and their financial impacts. (6)

3.7. DATA AND SYSTEMS

Systems should be Launch during collecting and analyzing of asset management data. The system is built to ensure efficient maintenance proficient programs and targeted performance. When data systems are used, suitable links must be made between asset management and financial systems. Data required for the system include maps, list of prices, list of required services, list of existing offered services, vital documents, architecture drawings, laws etc... (10)

3.8. SKILLS AND PROCESSES

Improving governmental organizations skills include programs of continuous enhancement. Skills improvement programs occurred by ongoing training is the key asset management topics. Elected members should be provided with training to help them understanding the importance of asset management. (6)

3.9. LINKING TO THE ANNUAL REPORT

Local governments should report in the Annual Report the short and long-term service offered by their asset portfolios. Furthermore, Local governments have to document community feedback on the asset’s performance in the Annual Report. (7)

3.10. EVALUATION

Anything can’t measure can’t evaluate. Asset management programs have to include evaluation mechanisms to measure the effectiveness against the target outcomes of the Asset Management Strategy and Plans. Evaluations should be conducted annually to highlight any organizational issues, including policy inputs required from Council that affect the asset portfolio’s delivery of sustainable services. (6)

4. EMPIRICAL STUDY

4.1. URBAN ASSETS MANAGEMENT ACTION PLAN

After identifying the Elements of Asset Management Framework in details the second stage is how to convert the framework overview into an action plan according to the steps mentioned before. The action plan required to identify the

involved stakeholders, the required inputs, outputs, and finally the significant activities to start the process.

A) Developing the Policy		
Who is involved? (Stakeholders)	Community	Offers input into needed service and opportunities through the Strategic Community Plan and therefore the local government ongoing community engagement.
	Council	Understands and approves the Asset Management Policy.
	Local Government Administration	Develops and implements the Asset Management Policy for the Council.
What does teamwork need to gather? "Input Data"	Strategic Community Plan issues and aspirations.	
What does teamwork find yourself with? "output Data"	Asset Management Policy. Key objectives. Commitment to continuous improvement.	
Activities "establishment"	Workshop asset management policy with council to determine key objectives. Establish plans for monitoring and improvement of asset management outcomes. Council adopts asset management policy.	
B) Developing the Assets management strategy		
Who is involved?	Local Government Administration	Develops the Asset Management Strategy. Implements the Asset Management Strategy with agreed resources. Develops Asset Management Plans for individual asset classes. Undertakes appropriate risk management. Monitors and reviews performance in achieving the Asset Management

		Strategy outcomes.
What does teamwork need to gather? "Input Data"	What assets can we currently have? What's the present asset management position, including current and forecast future needs and adequacy of funding? Where can we want to be (in reference to the plan for the future)? How will we get there?	
What does teamwork find yourself with? "output Data"	It is recommended that the Asset Management Strategy be developed considering making sure it achieves the specified policy outcomes and effective corporate governance	
Activities "establishment"	Creating Asset Management Plans drafts. Defining levels of service. Linking to the future budget. Governance and management arrangements. Update the info and system requirements. Improving skills and processes.	
C) Developing the Assets management plan		
Who is involved?	Council	Ensures appropriate resources for asset management activities are made available.
	Local Government Administration	Develops an Asset Management Plan for every asset class. Implements the Asset Management Plans with agreed resources. Delivers services to the agreed levels of ordinary and price. Undertakes appropriate risk management. Monitors and reviews performance in delivery of Asset Management Plan outcomes.
What does teamwork need to gather? "Input Data"	Current asset data. Community satisfaction/service delivery data. State/Federal legislation. Demand forecasts. Risk management data. Renewal priorities and standards. Asset life cycle estimations. New asset priorities. Assets identified for disposal. Asset management systems.	

	Asset replacement schedules and values. Capital renewal shortfall/surplus. Capital program review.	
What does teamwork find yourself with? "output Data"	Asset Management Plans for every major asset class that include: Links to an asset register. Asset category levels of service. Infrastructure risk management plan. Alternate service delivery solutions. Financial information (such as asset values, depreciation rates, depreciated value, cost projections for new assets as a result of growth, or to renew, upgrade and extend assets). Asset Improvement Program.	Identified expenditure projections: Operations. Depreciation. Maintenance. Capital renewal. Capital upgrade.
Activities "establishment"	Set the Context Review Asset Register Data Develop Asset Management Plans Predict Demand Plan for Renewal Prognosis Manage the Funding Gap Plan for Improvement Plan evaluation. Complete the Asset Management Plans	
D) Defining Levels of Service		
Who is involved?	Community	Provides service requirements, expectations and satisfaction input as a part of the local government's ongoing community engagement activities.
	Council	Approves the determined levels of service.

	Local Government Administration	* Provides all relevant information to help Council. Revisits and renews defined service levels to align with reviews of the Strategic Community Plan and Asset Management Plans.
What does teamwork need to gather? "Input Data"	Community needs and aspirations. Council future visioning. Community service level expectations. Council service level expectations. Local area/place planning information. Current service levels. Asset capacity for service level delivery.	
What does teamwork find yourself with? "output Data"	Service delivery needs. Defined service levels. Quality and price standards for service delivery. Service delivery review process.	
Activities "establishment"	Establish Existing Levels of Service Define Levels of Service	
E) Linking to the "future budget" Long Term Financial Plan		
Who is involved?	Council	Approves the future budget
	Local Government Administration	Collects the required data and completes the future budget. Monitors and reviews the future budget and reports to Council.
What does teamwork need to gather? "Input Data"	All the previous results and available data	
What does teamwork find yourself with? "output Data"	Making the link	
Activities "establishment"	Incorporate Information into Financial Plans Explore Revenue Develop a Funding Plan	
F) Developing Governance and Management Arrangements		

Who is involved?	Local Government Administration	Provides all relevant information to help Council. Develops and implements the governance and management arrangements. Revisits and renews governance and management arrangements annually.
What does teamwork need to gather? "Input Data"	Key officers/individuals. Key officer asset management knowledge. Current governance/audit processes. Currently available staffing/resourcing.	
What does teamwork find yourself with? "output Data"	Asset management roles and responsibilities. Asset management resourcing plan. Audit plan. * report back to the community. Annual Report sections. Ongoing community engagement.	
Activities "establishment"	Introduce Asset Management Planning Establish a Cross Functional Team Maintain the company Approach	
G) Establishing data and information systems		
Who is involved?	Local Government Administration	Identifies data management systems appropriate to local government needs. Implements data management systems and associated processes to link asset management systems and financial data systems.
What does teamwork need to gather? "Input Data"	All the previous results and available data	
What does teamwork find yourself with? "output Data"	Digitalize the data in addition to having the knowhow of the information system	

Activities "establishment"	Identify the Data Required to Implement and Improve Asset Management Processes for Each Asset Class Identify an Asset Management Information System Collect or Collate the Necessary Data Utilize the System
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H) Developing skills and processes		
Who is involved?	Council	Endorses the 'whole-of-organization' asset management approach as part of the Asset Management Policy. Engages with training programs as required.
	Local Government Administration	Identifies a continuous improvement program and training appropriate to the local government's needs. Implements the continuous improvement program and associated processes. Provides all relevant information to assist Council. Regularly evaluates improvement in asset management performance.
What does teamwork need to gather? "Input Data"	Council strategic priorities. Council or/staff Issues (e.g. elections, staff turnover). Training budget/resource implications. Organizational approach to sustainable service delivery. Legislative requirements. External 'good practice' models.	
What does teamwork find yourself with? "output Data"	Asset management training program/schedule. 'Best practice' asset management processes and culture.	

I) Linking to the Annual Report		
Who is involved?	Community	Provides feedback on local government performance as part of the community engagement process.
	Council	Approves the Annual Report.
	Local Government Administration	Undertakes performance monitoring and compiles reports. Publishes and distributes reports and performance information. Engages with the community to obtain feedback on performance.
J) Evaluating progress		
Who is involved?	Community	Form a workshop for the evaluation
	Council	Compare the progress with the plans
	Local Government Administration	Compare the progress with the plans and edit the plans as soon as possible if facing any lack.

5. CONCLUSIONS

Assets are no longer seen as a passive product or business always delivering services. It introduced from 2010 as measurable components of organizational planning through a governmental vision. (11) Assets are important to all governmental activities. Accountability government must not look to assets as only relate to the financial resources, but also to the managerial / authorized processes of government. (12) Local government has to work toward creating an asset management plan for each significant asset or even asset group. Each plan should define the required activities to manage that asset effectively. The plan scope is including maintenance, renovation and ultimate replacement. Government has to record assets to get a comprehensive asset inventory. An asset register is a recording system build using spreadsheet or with any other software program. Assets registration facilitates the storage of data relating to an asset or asset group. Aside from the policies that local government may approve covering asset management activities and some external requirements. Furthermore, Local government can evaluate asset performance based on how the asset is meeting needs. Government have to define for example, is the asset meeting user needs? Are safety re-

quirements met? Is demand outstripping capacity? Etc... The current value of an asset can be firm by reviewing information on its historical or social value, age and condition. The valuation mainly on current condition and performance can be more meaningful than considering historical cost and age alone. All of the discussion can be valid in the real field after record the involved stakeholders, the required inputs, outputs, and finally the significant activities to start the process during creating the urban assets management plan.

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