District of Barriere

REPORT TO COUNCIL
Request for Decision

Date: February 3, 2025	**File:** 530.20/Rpts
To: Council	**From:** Chief Administrative Officer
Re: Policy No. 55FI - Asset Management Policy	
Recommendations: **THAT Council adopts Policy No. 55FI as presented.** **THAT Council rescinds the Asset Management Policy dated December 12, 2016, and the related Asset Management Strategy dated December 12, 2016.**	

Purpose

For Council to consider replacing the current Asset Management Policy and Strategy, both dated December 12, 2016, with an updated Policy No. 55FI.

Background

In December 2016, Council adopted the District's first Asset Management Policy and Strategy to establish an Aset Management Program. Due to requirements for continuing to receive grant funding from provincial and federal governments, this was an essential first step to provide for the potential for grant revenue for the District towards evolving the related asset management plans and implementing asset management projects.

Over the past 8 years, Staff continued to work with District engineers to advance the program forward by applying for specific grants and developing in 2022 for example, a Risk Analysis for the District's Water and Wastewater systems which will form an integral part of asset replacement planning.

Currently, the District is in need to reassess our Asset Management Policy and Strategy to align with the current and future needs of the organization and community. As part of the Strategic Plan which Council adopted on January 13, 2025, Council's number one priority was to better understand our current practices and the state of our assets, followed by a development of Asset Management related policies and plans with a focus on the financial investments needed across the organization.

In reviewing the current policy and strategy, the past focus was primarily on Roads, Water, and Wastewater as often these include the assets that have the highest replacement cost associated with them. To achieve the desire of Council for a holistic organizational Asset Management

Program, the Policy and Strategy have to be revamped from the ground up to adjust for that need. As such, the proposed policy has this focus in mind which would then also include other assets such as Facilities, Parks, Equipment, and Technology Infrastructure. The information gained by including these categories will now allow the District to make decisions based on criticality while evaluating all District activities and priorities at the same time.

To update our policy, Staff reviewed Asset Management Policy templates from the Town of Gibsons (this was provided by Asset Management BC as a recent template), the Village of Ashcroft (a similar sized community in the region that has received praise for their Asset Management program), and other municipalities that had success with their programs in the past.

Key Highlights

Below are some of the Key Highlights of the proposed policy and changes from the original one.

Purpose – The Purpose Section originally included the background information of the Asset Management program. This section has been shortened now to reflect the intent "to set guidelines for implementing consistent Asset Management processes" within the organization. Some of the original content was moved to the Background and Vision Section.

Definitions – This section is entirely new and includes key terms that are used throughout the document. For example Engineered Assets are defined as:

> *Assets that have been constructed and are owned by the District (e.g., water systems, wastewater systems, roads, streetlights, buildings, etc.), land that is owned by the District and supports assets (e.g., land under roads or buildings), and land that is undeveloped and owned by the District. This category would also include other non-linear assets such as fleet & equipment, technology infrastructure, parks facilities & playgrounds, etc. These assets must be operated, maintained, managed, and, with the exception of land, ultimately replaced as they wear out.*

Scope – The Scope has been updated to include all activities and services that the District provides to the community.

Background and Vision – This section now contains some of the background information but also additional information that the District generally was not aware of in 2016. For example, we now know, that as of December 2023, the historical costs of Engineered Assets for the District are roughly $37.5Million.

Policy Statements – The District's original language is still reflected throughout those statements; however, it is now complimented by newer standards and clearer definitions what some of the expected outcomes are, which are in line with Council's Strategic Plan priorities and goals. For example, item 8. speaks to Staff developing a rolling 20-year Asset Management Investment Plan (AMIP) which would be included in budget deliberations annually. Item 9 then further details the establishment of an Asset Management Financial Policy (AMFP) which would work in conjunction with the AMIP to determine revenue models. While item 10. then ensures that the budget would ultimately focus on the essential, critical priorities for the next 5 years, while always keeping an eye on the long-term needs of the District.

Responsibilities – The main change here has been a move to a table format for ease of use for the reader and end user.

References – This section includes key reference materials for the development of future asset management documents, which may need to be expanded upon in the future as other policies are finalized.

Related Documents – Staff also added a list of related internal documents that will need to be completed. This list only includes the main Asset Management documents each organization should have, but the list can be expanded upon. As Council approves future items, Staff would be amending this list.

Summary

In summary, the proposed policy includes updated language that intends to achieve a holistic Asset Management Program throughout the organization. It clearly defines the roles and responsibilities of Council, Staff, and the Public.

Benefits or Impact

General

As the Asset Management Policy is the foundation of our Asset Management Program it is essential as the first policy that's adopted by Council to reflect the direction that Council would like the organization to take in relation to the program.

Finances

N/A – any financial decisions will be brought annually to Council as part of the budget process.

Strategic Impact

Priority #1: Implement an Organizational Asset Management Program

Goal 2. – Develop Asset Management Policies

Actions to get us there:

a. Develop or amend Asset Management Program Policies
b. Develop an Asset Management Investment Plan (AMIP)
c. Develop Asset Management Financial Investment Policy

The Results We Want to See:

a. Present Asset Management Framework Policies and Plans for Council consideration, including:
    a. Tangible Capital Assets Policy
    b. Asset Management Policy
    c. Asset Management Framework/Strategy
    d. Asset Management Investment Plan (AMIP)
    e. Asset Management Financial Investment Policy
b. In the Policies and Plans, consider the current State of Our Assets (from Goal 1.) and Asset Deficits.
c. Provide a list of immediate critical renewal needs as part of the annual budget with a 5 year forecast.

Risk Assessment
Compliance: Public Sector Accounting Board (PSAB) 3150, Asset Management BC

Risk Impact: Low

Internal Control Process: Staff is following establishes processes to update policies.

Next Steps / Communication
- If adopted, Staff will continue to work on following the other strategic goals of Council in relation to the Asset Management Program.

Attachments
- Draft Policy No. 55FI – Asset Management
- Asset Management BC – Executive Summary
- Asset Management BC – Asset Management for Sustainable Service Delivery: A BC Framework
- Current Asset Management Policy
- Current Asset Management Strategy

Recommendations
THAT Council adopts Policy No. 55FI as presented.

THAT Council rescinds the Asset Management Policy dated December 12, 2016, and the related Asset Management Strategy dated December 12, 2016.

Alternative Options
1. Council could choose not to amend the policy at this time. Staff would subsequently utilize the older policies when focusing on Asset Management.
2. Council could choose to amend the proposed policy before adoption.

Prepared by:
D. Drexler, Chief Administrative Officer

DISTRICT OF BARRIERE
COUNCIL POLICY MANUAL

Approval Date: MMM DD, 2025
Amended Date: N/A

NO: 55FI
SECTION: Finance
SUBJECT: Asset Management

Purpose

To set guidelines for implementing consistent Asset Management processes within the District of Barriere (the "District").

Definitions

Asset Management: an integrated, lifecycle approach to effective stewardship of infrastructure assets to maximize benefits, manage risk and provide satisfactory Levels of Service to the public in a Sustainable manner. The majority of the services that the District provides are related to Asset Management.

Asset Management Financing Policy (AMFP): a funding cash flow analysis for all of the District's Engineered Assets that utilizes the projected costs from the AMIP.

Asset Management Investment Plan (AMIP): a 20 year cost cash flow analysis for all of the District's Engineered Assets.

Engineered Assets: assets that have been constructed and are owned by the District (e.g., water systems, wastewater systems, roads, streetlights, buildings, etc.), land that is owned by the District and supports assets (e.g., land under roads or buildings), and land that is undeveloped and owned by the District. This category would also include other non-linear assets such as fleet & equipment, technology infrastructure, parks facilities & playgrounds, etc. These assets must be operated, maintained, managed, and, with the exception of land, ultimately replaced as they wear out.

Level of Service: the service level delivered to the public by the District. This can take the form of the selection of services that are provided (e.g., bike lanes, doggie bags, or a new pool), the standard of infrastructure in place (e.g., concrete sidewalks versus gravel paths), or the standard to which an asset is maintained (e.g., the frequency of scheduled curb sweeping). The desire of Council or the public for a particular Level of Service will directly affect utility fees or taxation.

Natural Assets: naturally occurring land or subsurface features which perform or support service delivery to the District (e.g., the aquifers, which filters and stores water, and the rivers, which convey and treat stormwater run-off). This category also includes artificial features that mimic naturally occurring features (e.g., ditches, ponds, and wetlands). If these assets did not exist, Engineered Assets would be required to provide these services. Natural Assets must be operated and maintained but, if managed appropriately, require no replacement.

Risk: analysis of the 'likelihood' and the 'consequences' of a given event. Establishing the risk associated with lower infrastructure performance due to Levels of Service or postponement of asset replacement will identify system vulnerabilities and assist in prioritizing work. For example, puddles on a gravel walkway may have a high likelihood of occurring but the consequences are not significant. In comparison, an ageing sanitary main may have a high likelihood of failure and the consequences of a break may be significant.

Staff: means the Chief Administrative Officer (CAO) or designate.

Sustainable: meeting the needs of the present without compromising the ability of future generations to meet their own needs. In relation to Asset Management a sustainable approach takes into consideration the current and future benefits and costs of existing and new assets or services.

Scope

This Policy applies to all District services and activities.

Background and Vision

Council's vision and goal for the community includes providing a safe, livable, Sustainable and economically vibrant community underpinned by well managed and maintained infrastructure assets. These assets include but are not limited to efficient transportation networks, an economical and reliable water distribution network, a safe and reliable sewage collection system, reliable information technology systems, appropriate fleets, and accessible parks, recreation, and civic facilities.

The District is committed to implementing a systematic Asset Management Program in order to apply appropriate Asset Management best practices across all areas of the organization. This includes ensuring that assets are planned, created, operated, maintained, renewed and disposed of, where appropriate, in accordance with the District's Levels of Service priorities.

As of December 2023, the District owns and operates approximately $37.5 Million (historical costs) of Engineered Assets to support its core business of delivery of service to the community. Although the equivalent values have not been established, the District also recognizes the additional and significant contribution made by Natural Assets in the delivery of service to the community.

Adopting Asset Management principles will assist Council in achieving its strategic plans and long-term financial objectives while demonstrating to the community that District is exercising good stewardship and is delivering affordable services while considering its legacy to current and future residents, businesses, and industry.

Policy Statements

1. Asset Management is the core service of the District. The goal is to strategically and systematically integrate Asset Management into corporate, financial, technical, and budgetary planning across the organization.

2. The District will maintain and manage infrastructure assets at sustainable levels to support public safety, community well-being, economic prosperity, and strategic goals.

3. The Asset Management program will develop, maintain, and report on the following;
    a. Asset inventories of all its major Engineer Assets.
    b. Levels of Service for each asset and asset type.
    c. Long term asset replacement, renewal, and construction strategies.
    d. Long term financial planning to support the asset replacement, renewal, and construction strategies.

4. The District will establish infrastructure investment strategies through the use of full life cycle costing principles. Life cycle costs will be considered in decisions relating to new services and assets and upgrading of existing services and assets.

5. The District will plan financially for the appropriate level of infrastructure investment to deliver service levels and extend the useful life of assets at acceptable levels of Risk.

6. The District will plan for and provide sustainable long-term funding to replace and/or renew and/or expand and/or decommission infrastructure assets.

7. The District will consider and incorporate Asset Management in its other organizational plans, such as (but not limited to) master plans, the Official Community Plan, business plans, resource management plans, environmental plans, designs, facility plans, and economic development plans.

8. Staff will develop and maintain a rolling 20-year AMIP, which will include all cost drivers. The AMIP shall be included as part of the annual budget preparations as an information item for Council.

9. Council and Staff will develop an AMFP. The intent is that there will be a balance between the AMIP costs and AMFP revenues by making informed decisions, identifying all long-term cost drivers and revenues associated with infrastructure asset decisions, including additions and deletions.

10. Annual budget processes will prioritize essential Asset Management projects for the next 5 years.

11. Climate change and resiliency, as it relates to impact on infrastructure and service delivery, will be considered in asset management activities.

12. Natural Assets are recognized by the District as performing essential service delivery and will be identified and managed in a similar manner as Engineered Assets.

13. Staff will implement the Policy by utilizing the *Asset Management for Sustainable Service Delivery: A BC Framework* and general asset management best practices to help with the development of the District's practices. Staff will collaborate with the Senior Management Team and key departmental employees in their infrastructure decision-making and in their recommendations to Council. Since the performance of asset management is organization-specific, reflective of knowledge, technologies and available tools, and will evolve overtime, the responsibilities for guidelines, practices, and development of support tools are delegated to Staff.

Responsibilities

Asset Management is a corporate responsibility that involves all District staff and members of Council in the effective implementation of Sustainable service delivery. While District staff, the public, or other agencies may provide input on the nature of this policy, Council retains sole authority to approve, update, amend or rescind the Policy and any subsequent related items. The responsibility of implementation is delegated to Staff.

Role	Responsibility
Adopt Asset Management Policy and related items	Council
Implement Policy	CAO, Senior Management Team
Establish Levels of Service	Council, CAO
Develop and maintain infrastructure strategies including development & service plans	CAO, Senior Management Team
Report to citizens on status of the District's infrastructure and asset management program	Council, CAO, Senior Management Team
Ongoing review of policies, issue identification and policy updates	Council, CAO, CFO, Manager responsible for Engineering
Integrated asset management, including inventories, condition, service levels, mapping, financial plans for appropriate level of maintenance, rehabilitation, extension and decommission of assets and full life cycle costing	CAO, CFO, Manager responsible for Engineering
Implement and maintain Geographic Information Systems and associated datasets	Manager responsible for Engineering

References

- Asset Management BC – Asset Management for Sustainable Service Delivery: A BC Framework
- Public Sector Accounting Board - PSAB 3150 Tangible Capital Assets Reporting Requirements

Resolutions and Amendments

MMM DD, YYYY – Council Policy No. 55FI Established – Previous Asset Management Policy and Strategy Rescinded.

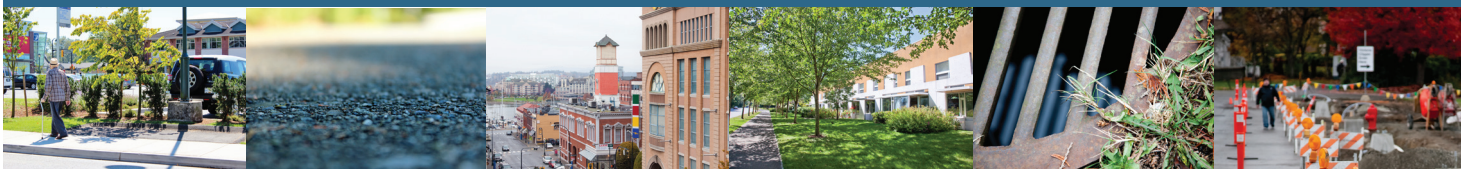
Related Documents

Staff is authorized to update the list of Related Documents below as Council provides approval through resolutions.

Document Title	**Approval / Revision Date**
Asset Management Investment Plan (AMIP)	To be developed
Asset Management Financing Policy (AMFP)	To be developed
Tangible Capital Asset (TCA) Policy	To be developed

Asset Management for Sustainable Service Delivery

A BC Framework



Sustainable Service Delivery

Sustainable Service Delivery ensures that current community service needs, and how those services are delivered (in a socially, economically and environmentally responsible manner), do not compromise the ability of future generations to meet their own needs. Communities build and maintain infrastructure to provide services. These services support our quality of life, protect our health and safety, and promote social, economic and environmental well-being. Failure to care for our infrastructure, manage our natural resources and protect the benefits provided by nature risks degrading, or even losing, the services communities enjoy, and that future generations may rely on.

Sound asset management practices support Sustainable Service Delivery by considering community priorities, informed by an understanding of the trade-offs between the available resources and the desired services.

Asset Management

Asset Management is an integrated process, bringing together skills, expertise, and activities of **People**; with **Information** about a community's physical **Assets**; and **Finances**; so that informed decisions can be made, supporting Sustainable Service Delivery.

The Core Elements

People, Information, Assets, and Finances are considered the core elements of asset management. Each of these elements is necessary for sustainable service delivery. Success requires the integration of these four elements throughout the **Process** of asset management.

People

Asset management is a corporate function. Local governments that successfully implement asset management have staff and elected officials who; understand the need for asset management and support its implementation, are effective leaders, have a culture of inter-disciplinary teamwork, value informed decision making, and continuously develop their skills, experience and capacity.

Information

Information is needed to support decisions that are cost effective, manage risks, and support long-term service delivery. The quality of information, information collection and dissemination can evolve over time to support informed decision-making.

Assets

The physical infrastructure owned by local governments to enable service delivery including, but not limited to; water and wastewater systems, drainage and flood protection systems, transportation systems, civic facilities, parks and fleet. It may also include natural resources and the essential ecological functions nature provides.

Finances

A holistic understanding of the long-term costs of providing services and the infrastructure required is a critical element of asset management. Proactive asset management will yield fewer service disruptions, more predictable results and lower total lifecycle costs than a reactive approach to repair and replacement.

Asset Management: The Process

Asset management is a **continuous quality improvement process**. This ongoing **Process** is **incremental** and **scalable**, involving; **Assessing** capacity, demand and results, **Planning** what needs to be done, and **Implementing** the plans. This continually informs how to enhance and expand the **Process**.

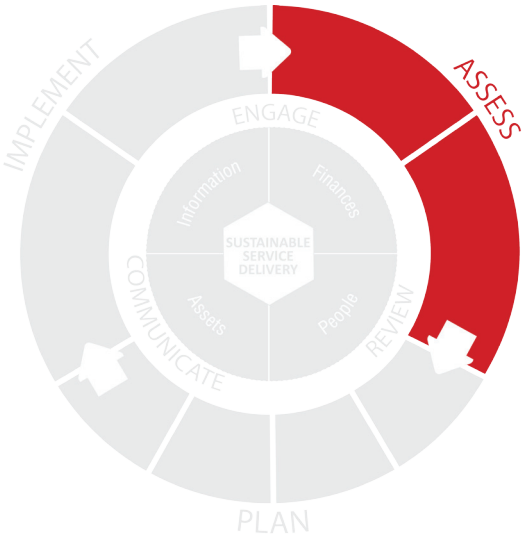
Review, Communicate and Engage

Integral to, and throughout the asset management **Process**, it is important to include regular **reviews** and provide effective **communication** internally and externally with all affected stakeholders. Internally, it is critical to develop organizational alignment and build knowledge/understanding prior to external **communication** and **engagement**. Educating and building awareness will improve the ability to implement asset management.

ASSESS

Assess Asset Management Practices

Determine organizational capacity to undertake asset management as an ongoing corporate function. This includes a high level assessment of all the core elements: **people, information, assets, and finances.** The assessment results serve as a foundation for developing and implementing the **Process.**



Assess the Current State of Assets

Assessing the current state of assets includes; knowing the inventory, asset conditions, both defined customer and technical levels of service and risks within each asset group. This assessment is the foundation for the development of **Asset Management Plans.**

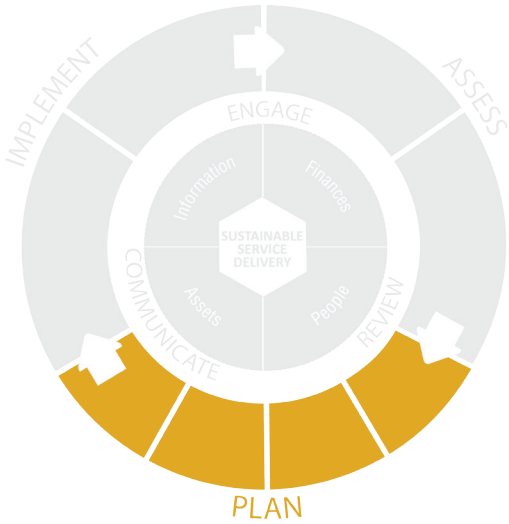
PLAN

Asset Management Policy

A document that broadly outlines the principles and mandated requirements for undertaking asset management across the organization in a systematic and coordinated way, consistent with the organization's plans.

Asset Management Plan

Long-term plans that outline the assets, asset conditions, levels of service, asset and service risks, activities and programs for each service area and resources required to provide a defined level of service in the most cost effective way. Each Asset Management Plan is a readable and user-friendly living document that is continuously improved to incorporate new information or changing requirements.



Asset Management Strategy

The high-level, long-term approach to asset management, including **Asset Management Plans** and objectives for managing assets.

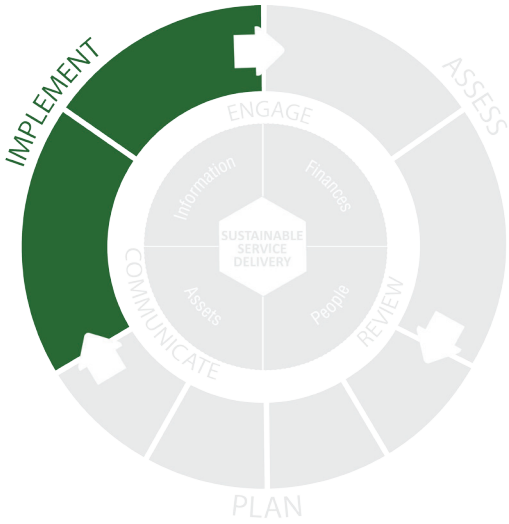
Integrate to Long-term Financial Plan

Asset Management Plans are integral to a robust Long-Term Financial Plan and support **Sustainable Service Delivery**. This integration identifies gaps between long-term costs and available funding. The financial planning process identifies opportunities to close the gap through adjusting service levels (reducing costs) and/or increasing funding (raising revenue).

IMPLEMENT

Implement Asset Management Practices

Asset management practices establish and implement ways that integrate people, organizational culture and capacity. The implementation of these practices is guided by an **Asset Management Strategy** and the actions in **Asset Management Plans**.



Measure and Report

Annual and financial reports include asset management objectives and outcomes identified in an **Asset Management Strategy** and **Asset Management Plans**. Reporting demonstrates measurable progress in implementing the **Process** and achieving outcomes that contribute to **Sustainable Service Delivery**.

Asset Management for Sustainable Service Delivery

A BC Framework
2019

"Local Governments too often take core infrastructure for granted until it breaks down. Without robust Asset Management practices, it is too easy for local governments to starve capital replenishment and bring in artificially low tax rates and user fees in order to balance budgets – the long-term consequences of this can be catastrophic. Sustainable service delivery is critical for the guarantee of future livability with our communities."

- Mike Little, Mayor, District of North Vancouver, 2019

Preface

Local governments in British Columbia are increasingly working to implement asset management practices as a way to deal with aging infrastructure, the costs of replacing assets, increasing expectations for service levels, and increasing risks to the delivery of critical services such as water delivery, sewage collection, transportation, recreation, and civic services. *Asset Management for Sustainable Service Delivery: A BC Framework* ("the Framework") was developed to provide local governments with a high-level overview of the process of asset management. This 2019 update reflects advancements in asset management over the past five years – it references new resources, profiles additional progress in BC local governments, and better integrates land use planning, operations and maintenance, natural assets, and climate change.

The Approach

The Framework aligns with the 'BC Approach' for asset management which is being led by Asset Management British Columbia (AMBC). It is based on current international best practices, as well as best practices that have been developed and endorsed by BC local government practitioners. The Framework recognizes the diversity of BC communities and is scalable to community size, character, and capacity. The Framework focuses on desired outcomes rather than prescribing specific methodologies which allows local governments to develop and implement an approach that local governments can adapt to their unique local conditions.

The Framework describes asset management as a process, providing a guide to the what and why of asset management, with a high-level review of the how. It is a principal resource for local governments looking for strategic direction or guidance on asset management. The Framework is complemented by the Asset Management Roadmap which provides step-by-step directions on asset management, along with the additional tools and resources identified throughout this document.

Acknowledgements

The development of the Framework was funded by the Union of British Columbia Municipalities (UBCM). The Framework was developed in partnership with the Ministry of Municipal Affairs and Housing and AMBC, with consulting services provided by Urban Systems Ltd.

Special thanks to the members of Asset Management BC for providing input and feedback, and particularly to members of the Asset Management Framework Steering Committee:

- Glen Brown, Chair, Union of British Columbia Municipalities
- Brian Bedford, Ministry of Municipal Affairs and Housing
- Wally Wells, Coordinator, Asset Management BC
- David Allen, Chief Administrative Officer, City of Courtenay
- Andy Wardell, Chief Financial Officer, District of North Vancouver
- Doug Allin, Chief Administrative Officer, Township of Spallumcheen
- Kala Harris, Executive Director, Government Finance Officers Association of BC

About Asset Management BC

AMBC is the greater community of any person, organization or agency engaged in or has an interest in asset management. AMBC is governed by a Partnership Committee that includes; Union of BC Municipalities, Local Government Management Association, Government Finance Officers of BC, Planning Institute of BC, Public Works Association of BC, BC Water & Waste Association, Municipal Insurance Association of BC, CivicInfo and the Province of BC. In addition, the 'Asset Management BC Community of Practice' which is a broader group of Associations, local governments, First Nations, and committed individuals has a purpose that includes:

- Supporting British Columbia's asset management's greater community of practice through learning, collaboration, sharing, educating, and encouraging the development and implementation of asset management best practices.
- Providing support, advice and recommendations to the AMBC Partnership Committee.
- Supporting the development and implementation of the AMBC activities.

The formation of AMBC involved broad consultation and discussion with a wide selection of stakeholder parties including local governments, professional associations, private and academic sectors.

Contents

1.0 About this Framework

Asset Management for Sustainable Service Delivery: A BC Framework (the "Framework") is a high-level, systematic approach designed to support local governments in moving toward service, asset, and financial sustainability through an asset management process. The Framework addresses three questions:

1. What is asset management?
2. Why is asset management necessary?
3. How can asset management be implemented?

The Framework was designed for local government staff to advance asset management practices in their organizations. It provides a common system for understanding the key concepts of asset management. It is represented graphically as a circular, continuous process that is ongoing and requires continuous review and improvement.

This document is intended to be used as a reference to guide asset management work within local governments. It may be helpful to read the whole document initially, but the chapters were designed to make it easier for users to move to the section that is most relevant for them. There is also an executive summary version that is intended to provide a high-level overview of the Framework for council and staff who would like an introduction but do not need the details for their role.

The first part of this document provides information about the what and why of asset management (Section 2.0). The second part delves into the how of asset management through a review of each component of the wheel (Section 3.0, 4.0 and 5.0).

The Framework is based on current international best practices (International Infrastructure Management Manual and the International Organization for Standardization (ISO) 55000 Standard for Asset Management), as well as best practices that have been developed and endorsed by local government practitioners in BC. It is part of a series of asset management foundation documents released by Asset Management BC (AMBC).

AMBC ASSET MANAGEMENT FOUNDATIONAL RESOURCES

Resource	Description
Asset Management for Sustainable Service Delivery: A BC Framework	A resource that describes the high-level process of asset management to achieve the objective of sustainable service delivery.
AssetSMART 2.0	A tool for assessing the state of asset management practices.
Asset Management BC Roadmap	A resource to support implementation of asset management.
Sustainable Service Delivery Primers	A set of reference documents that expand on specific topics included in the Framework. These primers currently include: 1. Climate Change and Asset Management 2. Integrating Natural Assets into Asset Management 3. The Role of Operations and Maintenance in Asset Management 4. Land Use Planning and Asset Management

The Framework recognizes the diversity of BC communities and that asset management and corresponding best practices must be scalable to community size, character, and capacity. The Framework focuses on desired outcomes rather than prescribing specific methodologies, which allows local governments to develop and implement approaches that are tailored to their specific needs and capacities.

The Framework is a living document. Recognizing that best practices change and are updated, this document will be periodically updated and made publicly available through AMBC.

Overview of Sections of the Framework

SECTION 2.0 – Asset Management for Sustainable Service Delivery

Sustainable service delivery is the primary objective of asset management and is at the centre of the process diagram. This section describes what sustainable service delivery is, and the role of asset management in achieving it. This section also presents definitions and benefits of asset management.

SECTION 3.0 - Core Elements

This section describes each of the core elements shown in the blue circle inside the wheel: assets, information, finances, and people. Each of these elements are required to support all asset management and service delivery activities.

SECTION 4.0 - Communicate, Engage and Review

This section describes the importance of the white circle inside the wheel: ongoing communication, engagement, and review throughout the entire process of asset management.

SECTION 5.0 - The Process

This section describes the outer circle of the Framework wheel: Assess (red), Plan (yellow), and Implement (green). This section details why each component of the process is important, example activities to undertake (including where to start) and provides examples of application.

SECTION 6.0 - Resources and Tools

This section summarizes the resources and tools referenced throughout this document.

All the referenced resources are available through **www.assetmanagementbc.ca**.

2.0 Asset Management for Sustainable Service Delivery

Communities build and maintain infrastructure to provide services. These services support quality of life, protect health and safety, and promote social, economic and environmental well-being. Failure to care for infrastructure, manage natural resources, and protect the services provided by nature risks degrading—or even losing—the services that communities enjoy, and future generations rely on.

2.1 What is sustainable service delivery?

Sustainable service delivery is defined as a process of providing services to the community in a way that fosters the economic, social, and environmental well-being – today and into the future. Sound asset management practices support sustainable service delivery by integrating community priorities, values, and an informed understanding of the trade-offs between risks, costs, and services.

Sustainable service delivery lies at the centre of the asset management process; it is the purpose and desired outcome of asset management. Infrastructure represents a significant investment for every local government, and council members are the stewards of local government assets for current and future generations.

Stewardship and sustainable service delivery requires more than just replacing assets when they get old. Every day, in ways big and small, local governments are making decisions and taking actions that influence the levels of service being delivered, the risks to those services, and the costs of delivering those levels of service – today and into the future. Sustainable service delivery involves understanding and making informed decisions about trade-offs between delivering service, managing risk, and reducing cost throughout the lifecycle of the asset. Balancing these trade-offs starts with early stages of community planning, and continues with design, procurement, operations, maintenance, asset renewal, and ultimate asset retirement. It includes recognizing and managing natural assets that have a critical role in the delivery of core services and community well-being.

Asset management processes focused on sustainable service delivery will help local governments to achieve their primary purposes.

PURPOSE OF LOCAL GOVERNMENT

The purposes of a local government include:

a) providing for good government of its community,

b) providing for services, laws and other matters for community benefit,

c) providing for stewardship of the public assets of its community, and

d) fostering the economic, social and environmental well-being of its community.

Community Charter, s7, Municipal Purposes
Local Government Act, s185, Purposes of Regional Districts

2.2 What is asset management?

Asset management is a formalized process that integrates the four core elements:

- **PEOPLE** – The training, skills, expertise, activities, and leadership of staff and elected officials.
- **ASSETS** – The engineered and natural assets that allow the delivery of services to a community.
- **FINANCES** – The understanding of long-term costs of capital, operations, and maintenance of engineered and natural assets.
- **INFORMATION** – The information you need to make decisions about your services and assets, such as the age, condition, and lifecycle costs of engineered and natural assets.

For as long as local governments have delivered services, they have managed assets. Asset management is about more than just managing assets. It is a formalized, corporate-wide ongoing process of continuous improvement for making decisions about assets that balance costs, risks, and service to support sustainable service delivery.

Asset management is a process within the everyday business of local government; it is not a separate activity, software, or a plan.

DEFINING ASSETS

Assets are physical components of a system that enables a service, or services to be provided.

Engineered assets are the designed and constructed components of infrastructure systems. For example, roads and water treatment plants are engineered assets.

Natural assets are ecosystems or natural resources that communities rely on for critical services community functioning and overall well-being. Examples of natural assets include rivers and creeks, foreshore areas, wetlands, forests, and aquifers. Examples of services and community benefits provided include flood protection, drainage and rainwater attenuation, water treatment and storage, recreation, and air quality regulation, to name only a few.

ASSET MANAGEMENT: DEFINITIONS OF THE CONCEPT

ISO 55000 defines asset management as:

A coordinated activity of an organization to realize value from assets. Realization of value will normally involve a balancing of costs, risks, opportunities and performance benefits.

National Roundtable for Sustainable Infrastructure defines asset management as:

Asset management is an integrated business approach involving planning, finance, engineering and operations to effectively manage existing and new infrastructure to maximize benefits, reduce risk and provide satisfactory levels of service to community users in a socially, environmentally and economically sustainable manner.

International Infrastructure Management Manual describes asset management as:

The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost-effective manner.

2.3 What are the benefits of asset management?

A formal approach to the management of engineered and natural assets leads to significant benefits:

- Adequate quality information to support decision-making.
- Effective and reliable delivery of critical services – today and into the future.
- Reduced lifecycle costs of service delivery.
- Enhanced value of a community's investment in assets over their lifecycle.
- Defensible prioritization of limited resources using a consistent and repeatable system.
- Improved financial planning and better management of deferred maintenance and any unfunded liability associated with renewing or replacing aging engineered assets.
- Alignment of organizational and community objectives with technical and financial decisions and actions.
- Demonstrated stewardship that builds confidence with constituents, customers, and other stakeholders.

THE CASE FOR ASSET MANAGEMENT: DISTRICT OF NORTH VANCOUVER ASSET MANAGEMENT STRATEGY

"These best practices profile and reinforce that:

1. Community infrastructure is a foundation of sustained growing economic and social development.
2. Infrastructure is critical to meeting the recreational, institutional, cultural and other needs of the community.
3. Properly built and effectively maintained infrastructure supports public health and safety and mitigates potential adverse environmental impacts of society.
4. Financial sustainability requires strong connections between long-term infrastructure investment needs, long-term funding plans and financial performance measures to track progress over time.
5. Well informed decisions contribute to achieving the goals of the community, while balancing the financial capacity of current and future generations."

- *Asset Management Strategy, District of North Vancouver*

DISTRICT OF NORTH VANCOUVER

2.4 How does asset management apply throughout the asset lifecycle?

Asset management for sustainable service delivery is an ongoing process that applies throughout the asset lifecycle. At each lifecycle stage, there are opportunities to make decisions about levels of service, managing risk, and containing or reducing costs.

Lifecycle Stage	Considerations Impacting Service, Risk, and Cost
Planning	Before any infrastructure is even designed or built, land use planning sets the direction for the type and scale of infrastructure that will be needed in a community – decisions that will drive service levels and costs for decades. Land use planning decisions provide opportunities to identify and maintain or enhance natural assets, which can increase service while managing risk and reducing costs of service delivery. For more on how land use planning connects to asset management, refer to *Land Use Planning and Asset Management: A Sustainable Service Delivery Primer*. For more information on natural assets, refer to *Integrating Natural Assets into Asset Management: A Sustainable Service Delivery Primer*.
Design	Good design, procurement and construction can significantly improve service delivery, reduce risks, and reduce costs. Design that applies asset management principles incorporates factors like changing demands (including population growth or decline, technology changes, climate change, etc.), operating conditions and constraints, social and environmental impacts, and full lifecycle costs. For more information on how climate change can be considered in asset management, refer to *Climate Change and Asset Management: A Sustainable Service Delivery Primer*.
Procure / Construct	An improperly installed or constructed asset will often experience higher service disruptions, higher costs, and a service life below the expected design life. Asset management during the procurement and construction stage requires considering trade-offs between quality and lifecycle cost, following good installation or construction processes, conducting appropriate inspections and testing, identifying and adapting to field conditions that were not anticipated during design, and creating the appropriate documentation about the new assets to include them in the asset inventory.
Operate and Maintain	Operate and Maintain (O&M) activities within the context of asset management involve optimizing operations and maintenance activities to deliver service and manage risk while containing costs. This requires understanding lifecycle performance of assets and the cost-benefit trade-offs of investing in operational changes or increased levels of maintenance. O&M plans and processes need to be reviewed on a regular basis as conditions change due to factors like asset age, changing service demands, or climate change. For more information on O&M, refer to *The Role of Operations and Maintenance in Asset Management: A Sustainable Service Delivery Primer*.

Lifecycle Stage	Considerations Impacting Service, Risk, and Cost
Renew	In planning for asset renewal, service, risk, and cost are best balanced by identifying which assets should be prioritized for proactive renewal, and which can be run-to-fail. These decisions will be based on level of service goals, risk tolerance, and costs.
Retire	Decommissioned assets should be disposed of in a cost-effective manner that aligns with environmental stewardship goals. This stage of the asset lifecycle should also include a process for updating the asset register to remove the retired asset.

ASSESSING SERVICE SUSTAINABILITY: A TOOL

Local governments across BC are striving to provide sustainable services to their residents. However, many are not certain how their services are performing today or if they're prepared for the future. Factors such as scarcity of resources, rising expectations, and aging infrastructure can threaten the sustainability of municipal services. The Service Sustainability Assessment Tool (SSAT) was prepared to help local governments identify areas where service sustainability may be threatened, and to provide feedback on practices that contribute to service sustainability.

The SSAT will help you:

- Communicate to Council and the public about sustainability
- Identify areas where services are doing well
- Identify areas where the sustainability of the service is at risk
- Develop plans to improve the sustainability of service provision
- Track progress over time

The SSAT is available on the Asset Management BC website.

ADDITIONAL RESOURCES

Sustainable Service Delivery Primers |Asset Management BC

International Infrastructure Management Manual | Institute of Public Works Engineering Australasia

ISO 55000:2014 | International Organization for Standardization

Building Sustainable and Resilient Communities with Asset Management: An Introduction for Municipal Leaders | Federation of Canadian Municipalities

Asset Management Resources | Canadian Network of Asset Managers

ASSET MANAGEMENT: THE PARADIGM SHIFT

"Sustainable service delivery integrates all the principles of asset management. It understands the value of land-use planning; and it understands the impacts that land-use planning has on service delivery. It also integrates the 'design with nature' philosophy."

"Asset management usually commences after something is built. The challenge is to think about what asset management entails BEFORE the asset is built. Cost-avoidance is a driver for this 'new business-as-usual'. This paradigm-shift starts with land use and watershed-based planning, to determine what services are affordable, both now and over time."

"We know that if we do things right at the front-end, the outcome will be a lot better, and everyone will wind up saving time and money. And we will have a healthier environment."

- Derek Richmond, Secretary, Partnership for Water Sustainability in BC, 2015

the partnership
for water sustainability in bc

AN OUTCOMES-FOCUSED APPROACH: A LOCAL GOVERNMENT CAO PERSPECTIVE

"The Town of Gibsons has recognized, formally and in practice, that nature, and the ecosystem services it provides, are a fundamental and integral part of the Town's infrastructure system. Gibsons is one of the first communities in North America to do so. The policy change occurred with the adoption of the 2013/14 Strategic Plan. This hybrid document combines a sustainability framework with a more traditional strategic plan.

Natural assets are considered cheaper to operate; can last indefinitely, if properly managed; are carbon neutral, and in some cases can be carbon positive. It is important to differentiate green infrastructure, which is designed and built to mimic nature, such as a rain garden, from a natural asset such as a creek. Gibsons is also creating sub-categories in asset lists and financial statements to include Eco-Assets and implementing a strategy to manage these assets specifically.

Ultimately, the goal is to move from simply maintaining infrastructure to a service delivery model, where those services are delivered by the smallest number, the most natural, most energy energy-efficient, and the most reliable municipal assets, that cost the least to operate over the long term."

- Emanuel Machado, Chief Administrative Officer, 2015

THE SUSTAINABLE FOUNDATION: SERVICE, ASSET & FINANCIAL SUSTAINABILITY AT THE DISTRICT OF NORTH VANCOUVER

"With clear Council direction, staff expertise and the use of international best practices in asset management, our interdisciplinary Asset Management Steering Committee has been working since 2006 to continuously improve and manage our existing infrastructure assets."

"At the District, our asset management is grounded in what we call "The Sustainable Foundation"; a fully integrated asset management approach that brings the four core elements and our entire organization into alignment. Integration is achieved by:

- Developing asset management plans from the bottom up and setting policy at the top. Strategy brings it all together.
- Combining best practices in accounting, engineering, financial planning and sustainability performance measurement.
- Shifting our culture away from silos to a corporate mindset focused on continuously building organizational capacity.
- Training staff in finance, engineering, operations and planning together on how to develop asset management plans and integrate these requirements into long-term financial planning."

"Building a sustainable foundation takes time but if you don't start you will not finish. Once you have a vision you need to make it a shared vision. That is what The Sustainable Foundation is really all about; having a shared vision, continuously striving to bringing alignment to the organization and the key stakeholders that all play a role in stewarding local government toward long-term sustainability."

- Andy Wardell, Director, Financial Services, 2015

DISTRICT OF
NORTH
VANCOUVER

3.0 The Core Elements

Assets, information, people, and finances are considered the core elements of asset management. Sustainable service delivery requires understanding, developing, and integrating these four elements over time, using an approach of incremental continuous improvement. The core elements are the foundation for the process of asset management. Just like the process of asset management, the capacities required in each of the four core elements are scalable to the context of each local government.

Assets enable service delivery. Assets include the physical infrastructure owned by local governments, as well as the elements of nature that provide services critical to the well-being of the community. The table below provides examples of types of assets that may be included in asset management processes.

3.1 Examples of Assets

Engineered Assets

- Water and wastewater systems
- Drainage and flood protection systems
- Solid waste management infrastructure
- Transportation systems
- Civic facilities
- Parks
- Fleet
- Information technology
- Others

Natural Assets

- Rivers and creeks
- Foreshore areas
- Wetlands
- Forests and urban trees
- Natural landscapes
- Aquifers
- Soil
- Others

The data required for asset management comes from answering the following questions about engineered and natural assets:

- What assets do we own?
- What services are provided by these assets?
- Where are the assets located?
- What are their attributes? (e.g. size, material, make, model, etc.)
- What is their depreciated value and replacement value?
- What condition are they in?
- What is their expected remaining life?

Compiling this data into a consolidated asset inventory can be helpful for decision-making. Each local government in BC has a basic inventory or register of their engineered assets developed to meet Public Sector Accounting Board reporting requirements. This basic inventory or register can serve as a starting point for collecting asset information.

Building an understanding of infrastructure and natural assets is a process that can be completed over time. It begins with compiling available and anecdotal knowledge and prioritizing more detailed data collection based on what is needed to inform decision-making.

3.2 Information

Information brings together data about assets in a way that supports decision-making about service, risk, and cost trade-offs. This is often done through tools such as asset management strategy and asset management plans. The quality of information and its collection and dissemination can evolve over time to strengthen informed decision-making. Answering the following questions provides much of the information needed about both engineered and natural assets:

- What is the current and desired or targeted level of service?
- What service and asset risks need to be prioritized and managed?
- When will repair, upgrade, or replacement of assets be required to manage risk and deliver target levels of service?
- What O&M activities will optimize the life of the asset?
- How much will it cost?
- Which assets can be disposed?
- Which new assets may be required and when?

While it may take time, information should be updated over time to capture asset acquisitions or renewals, changing costs, retired assets, changing asset conditions, and service level expectations.

3.3 People

Asset management is a corporate responsibility, it is not the role of one person. The importance of ensuring people have the necessary knowledge, skills, and attitudes, along with enabling corporate processes and culture, cannot be overlooked. Local governments that successfully implement asset management generally have some key attributes:

- Elected officials understand the need for and benefits of asset management.
- Top-down leadership: senior management or leadership endorses and promotes a culture of asset management.
- Bottom-up leadership: staff at all levels understand their role in asset management and take actions that contribute to desired service delivery outcomes.
- Culture and corporate alignment that fosters teamwork and integration across departments and disciplines, including land use planning, environmental stewardship, engineering, public works, and finance. For example, the asset management team includes someone from planning, or the engineering department regularly communicates with the finance and planning departments.
- Staff with the required knowledge and skills to develop and implement asset management practices.
- Commitment to continuous improvement.

3.4 Finances

To achieve sustainable service delivery, services need to be financially viable over the long term. Asset management requires the integration of technical information about services, risks, and assets with information about costs and funding to inform decision-making.

Balancing costs and funding strategies is an iterative and ongoing process that begins with ensuring that the levels of service provided can be financially sustained. This information should be integrated in a financial plan.

Costs throughout the asset lifecycle need to be understood and considered, including long-term costs of capital, operations, maintenance, renewal, and disposal. Having information on assets and lifecycle costs helps prevent financial surprises.

Costs should be supported by a mix of funding strategies, including planning for changes to revenue rates or fees, reserves, and debt. Debt can be either a useful tool for a local government, or a burden and significant risk. In general terms, the correct amount of debt is subjective and context specific. Use of debt is best when it is strategic and augments progress toward steady state replacement of existing assets.

Some of the most important actions communities can take to contain their costs and maintain financial sustainability involve asset management:

1. **Setting an appropriate level of service.** Establishing both customer and technical levels of service ideally begins with decisions made in the up-front planning stage and continues throughout the lifecycle of the asset. Levels of service targets should be informed by affordability and public willingness to pay and consider both engineered and natural assets. Clearly defining levels of service ensures efforts and expectations are aligned and enables the identification of efficiencies.

2. **Managing risk.** Risk management involves a cycle of assessing risk, identifying risk tolerance, implementing actions to treat risks, and assessing the effectiveness of those actions. Effective risk management is done at a system level and considers potential risks to short-term service and costs, as well as ongoing service and financial sustainability (such as changing climate). It applies a variety of actions to manage risks such as proactive maintenance, modified operations, public education programs, defined renewal strategies, appropriate insurance policies, and management of financial reserves.

3. **Considering full lifecycle costs.** An understanding of the full lifecycles costs of assets should be used to inform decisions throughout the asset lifecycle. Asset management practices can support land use planning through consideration of the lifecycle costs of building and maintaining infrastructure for growth. Because cost implications can extend over decades, considering land use planning and asset management together can help a community be more proactive. Making land use planning decisions without understanding the implications on infrastructure can compromise service sustainability and leave a community playing "catch up" for many years. For the same reasons, full lifecycle costs are important to consider in decisions about asset design, procurement and construction. Lifecycle costs can also be used to inform decisions about the appropriate time to renew or replace an asset rather than continuing to invest in maintaining it.

4. **Proactive and effective operations and maintenance.** A robust and optimized O&M program will yield fewer service disruptions, more predictable results, and lower total lifecycle costs when informed decisions are made about when to apply proactive vs. reactive maintenance and renewal. Effective O&M programs are reviewed and updated over time to consider changing demands or circumstances.

4.0 Communicate, Engage and Review

Communicating, engaging, and reviewing are a set of ongoing activities that are applied, to some extent, in each stage of the process. Although these activities are ongoing and embedded in the overall process, their importance justifies dedicated consideration to ensure that they are central to the process and not an afterthought.

4.1 Purpose

The purpose of communicating, engaging, and reviewing is to work towards the following goals:

- Providing general education and increasing awareness of asset management among staff, elected officials, and the public.
- Aligning people and departments within an organization, including commitment from senior leadership and elected officials.
- Working towards common goals and reducing or preventing silos.
- Efficiently implementing asset management by providing a bridge between the technical information and incorporating this information into decision-making and programming.
- Gaining support for asset management from elected officials, staff, residents, and other ratepayers.

4.2 Approach

The scope and scale of these activities will vary based on organizational context, culture, and the level of maturity of the asset management process that an organization is at. However, there are a number of important steps that apply to all contexts:

- Identify the various stakeholders or audiences and their concerns or perspective (e.g. council, ratepayers, management, operations, etc.).
- Identify the goals for each type of communication or engagement method that will be used.
- Design and implement communications activities that support these goals. Both formal and informal communication and engagement channels may be leveraged.
- Use information obtained through communication and engagement to support the review and improvement of the asset management process.

> Never advance a solution to an issue prior to having public awareness of the issue, or the solution may become the issue.
>
> *- Frank Leonard, Former Mayor, District of Saanich & Past President, Union of BC Municipalities*

The following are common topics for asset management communication and engagement:

- Importance of infrastructure and natural assets in service delivery.
- State of assets.
- State of finances and funding challenges.
- Levels of service.
- Service delivery costs and trade-offs.
- Organization's approach to asset management.
- Staff and community members roles.
- Work, training, and education being completed to ensure long-term sustainable service delivery.
- Opportunities to leverage land use planning process to support service sustainability.
- Understanding risks, such as climate change.

These topics are relevant both internally and externally to an organization; however, the level of detail and the delivery of the message will depend on the audience. It is advisable to develop internal alignment and an understanding of assets, services, and related costs and risks prior to external communication and engagement.

4.3 Activities

Each organization will develop and tailor communication and engagement activities to suit their unique context. The following are some examples of activities:

1. Establishing an Asset Management Steering Committee with a mandate and a regular meeting schedule.
2. Identifying executive sponsors.
3. Developing and regularly communicating an asset management vision statement.
4. Engaging with the planning department on long-range planning exercises to incorporate an asset management lens.
5. Communicating progress in asset management and sustainable service delivery in public reports (e.g. financial plans, annual reports, general purpose financial statements, etc.).
6. Developing and implementing an asset management communications policy, strategy and/or plan. Reviewing and updating these documents regularly.
7. Leveraging public engagement events (e.g. open houses, satisfaction surveys, community workshops, etc.) to obtain input to inform asset management decision-making and priorities (e.g. willingness to pay, levels of service, etc.).
8. Educate the public and stakeholders on the importance of natural assets in service delivery. Educate the public and stakeholders on the impacts of climate change on sustainable service delivery.

THE IMPORTANCE OF COMMUNICATION

Local infrastructure is the foundation of the health, well-being, and economic prosperity of communities across the country. Throughout my tenure in local government, as Mayor and Councillor, it had become apparent to me that the general public remains largely unaware of the cost implications of maintaining and renewing existing infrastructure.

During my final term as Mayor, I conducted an inquiry project to investigate how the Town of Golden engaged the community in Asset Management. The goal was to develop a meaningful process that was focused on engaging the community and providing an opportunity to bring the staff, elected officials, and residents of Golden together to collectively decide what services the people need, want, and are willing to pay for. There were two opportunities for residents to participate in the inquiry. Data analysis led to the following findings:

1. Residents of Golden placed a high value on communication, and they wished to be able to access information through a variety of channels.

2. Although the citizens of Golden recognized the broad range of services provided by the local government, they did not understand the magnitude of the cost associated with providing those services or replacing those services.

3. Minor tax increases were generally acceptable to maintain or to improve levels of service.

4. The roles and responsibilities of local government are not always clearly understood by residents.

These findings, combined with my experience as Mayor of Golden, resulted in the following:

1. Citizens expect to be involved in local government decisions and to have a say on how their tax dollars are spent.

2. Communication, engagement, and education are critical factors for:

    a) Improving the level of trust between the citizens and the local government;

    b) Building awareness and understanding of the roles, responsibilities, and limitations of the local government; and

    c) Creating capacity in citizens to participate in conversations involving community owned assets.

Local governments need to engage their communities in a dialogue to consider what resources/ services they want and, more importantly, what are they willing to pay for. Building a common understanding allows the community to address this complex issue in a collaborative manner.

- Christina Benty, Former Mayor of Golden & Owner of Christina Benty Strategic Leadership Solutions, 2015

ADDITIONAL RESOURCES – COMMUNICATE, ENGAGE, REVIEW

Communication Toolkit | Asset Management BC

Asset Management Communication Plan | City of Prince George

AM Communications Strategy | Mickelson Consulting Inc.

Level of Service and Community Engagement: Practice Note 8 | Institute of Public Works Engineering Australasia

Why Invest in Asset Management? Video | Federation of Canadian Municipalities

Starting the Asset Management Conversation in Your Community – Tool | Federation of Canadian Municipalities

5.0 The Process of Asset Management

5.1 An Overview

The process of asset management is a continuous, data-driven process for making decisions about the use and care of assets to deliver services. Asset management is not a standalone project – it is integrated into the everyday business of local government. As a continuous process, asset management involves a cycle of three repeating stages:

- Assessing asset management practices and the state of assets.
- Planning what needs to be done to improve asset management.
- Implementing the plans.

This cycle integrates the four core elements. It is scalable and can be used to guide asset management practices at organizations of all sizes and capacity levels because it does not require any expensive software or external support. An organization makes incremental improvements to their asset management practices by moving through the cycle multiple times. The cycle continues even when things are going well, allowing an organization to be proactive about managing risks and delivering services in a cost-effective way.

The following sections introduce each of these stages, explain why they are important, and provide examples of typical activities to illustrate what is involved. Within each stage, the examples of typical activities can be modified to reflect an organization's size, capacity level, and local priorities.

TIPS FOR GETTING STARTED

There is no 'correct' place to start. Each local government must first consider where they are within the asset management cycle. If you're not sure where to start, it makes sense to start with "Assess" and follow a few initial steps:

1. **Assess existing practices**. Complete an assessment of asset management practices and organizational capacity using a tool like **AssetSMART 2.0** to identify good practices and opportunities for improvement. Refer to the **Assess Asset Management Practices** section for additional information, tools, and resources.

2. **Take stock of assets and finances**. Collect information on the asset inventory/registry and condition information (if available) to provide estimated remaining life of assets. This can be integrated with available financial data regarding replacement costs, O&M costs, and allocations. The existing Tangible Capital Asset registry used for financial reporting is a good starting point for basic asset inventory and historic cost information. Refer to the **Assess Current State of Assets** section for additional information, tools and resources.

3. **Build awareness.** Raise awareness with staff and council about the status of assets and finances, compared to long-term goals and objectives. Building awareness is key to getting the commitment needed to move through the asset management process and exercise continuous improvement. Refer to the **Review, Communicate and Engage** section for additional information, tools and resources.

If asset management is new to your organization, consider investing in training for key staff or council to build awareness of asset management and learn how to use this Framework.

5.2 Assess

Assess Asset Management Practices

Assessing asset management practices will help an organization identify the practices and processes that are currently in place, how they work together, and how effective they are. It will also identify areas where the organization has good practices and areas where there is room for improvement.

The table below provides some prompts that can be used to initiate the assessment process, across the four core elements of the Framework. However, there are several assessment tools available for local governments and these are referenced below.

People	Assets
- Is there a cross-functional team in place? - What is the level of asset management knowledge of relevant staff? - Are roles and responsibilities clear? - How do we communicate across departments and ensure our priorities are aligned?	- Do we have the data we need about our engineered and natural assets? - Is the asset data complete, accurate, and reliable? - Is asset data compiled into a format that is accessible?
Information	**Finances**

- Have we processed our asset data into information that can be used for decision-making?
- Have we developed asset management policies, strategies, and plans?
- Are we using our asset management policies, plans, and strategies?
	- Do we have policies and practices in place related to:
	  ○ Long-term financial planning?
	  ○ Infrastructure backlog?
	  ○ Cost recovery?
	  ○ Reserves?
	  ○ Debt?
	  ○ Financial tracking?

TOOLS TO ASSESS ASSET MANAGEMENT PRACTICES

AssetSMART 2.0 | Ministry of Municipal Affairs and Housing

NAMS.PLUS Maturity Assessment | Institute of Public Works Engineering Australasia

Asset Management Readiness Scale | Federation of Canadian Municipalities

Why It's Important

When starting to implement asset management, it is common for people within the organization to have different perspectives on the effectiveness of practices in place, priorities for improvement, and the ideal approach to asset management. An assessment can also be helpful in identifying what practices and processes are already in place that contribute to asset management. Completing an assessment helps establish a common understanding across departments about the current state of asset management and helps identify areas for improvement. It is part of the process of getting everyone on the same page, a key component of successful asset management.

When used as part of a continuous process, assessing asset management practices can help an organization monitor progress and provides feedback on what initiatives are working well and which can be adjusted. Assessment results can be helpful to report on progress with senior management and council and communicate the need for improvement.

Activities

1. Hold an inter-departmental workshop to assess the asset management practices and competencies of the organization, using a widely accepted assessment tool or framework such as **AssetSMART 2.0** or others (see additional resources) and knowledgeable facilitators (internal or external).
2. Conduct a high-level assessment of current organizational policies, strategies, and plans for alignment with asset management objectives and practices.
3. Use assessment results to establish an organizational benchmark of asset management practices and inform improvement goals.
4. Communicate the results of the asset management practices assessment to internal stakeholders, such as staff, management, and council.
5. Conduct an annual review of asset management practices and competencies, tracking progress and improvement against the established benchmark.

TIPS FOR GETTING STARTED

Build a team. Assemble a corporate asset management team with representatives from finance, public works, engineering, planning, and other areas to undertake an integrated assessment. Identify a team champion to ensure the initiative moves forward. The team should evaluate their own capacity and resources available, and accordingly choose to lead the assessment internally, or to access external support to facilitate the assessment.

WHERE TO START WHEN DEVELOPING A CORPORATE ASSET MANAGEMENT PROGRAM - ASSETSMART

"The City Kelowna faced this dilemma approximately three years ago when they started their corporate asset management journey. Prior to 2012, the City's asset management was being carried out within asset "silos" (e.g. water, wastewater, transportation, parks, building, etc.) with limited cross department integration. This presented a number of challenges and inefficiencies as departments vied for limited funding at budget time and there were lost opportunities to bundle renewal projects. So where do you start? Kelowna utilized the tools and resources from AMBC beginning with AssetSMART – A Local Government Self-Assessment Tool. The process and questions from AssetSMART were presented to the City's asset management cross functional team to identify gaps in the existing asset management practices and to develop priority projects for advancing the asset management program. The priority projects identified in the "up-front" AssetSMART exercise have proven to be very valuable for advancing the City's asset management program and the City continues to work its way through the priority projects identified three years ago. AssetSMART – A Local Government Self-Assessment Tool is an excellent way to start development of a community's asset management program."

– Joel Shaw, Capital Assets and Investment Manager, City of Kelowna, 2015

City of Kelowna

Assess the Current State of Assets

Assessing the current state of assets helps build an understanding of the assets owned by an organization, their service performance, risks, and related costs. Assessing the current state of assets requires understanding the:

- Infrastructure asset inventory/register.
- Natural asset inventory/register.
- Condition of assets.
- Customer and technical levels of service.
- Asset risks (e.g., condition, impact of climate change).
- Annual and lifecycle asset costs (including capital, operations, and maintenance).

Infrastructure report cards and infrastructure status reports are common examples of the output created after the completion of an assessment on the current state of assets.

Some asset information may not be readily available and may need to be compiled into a consolidated asset register from diverse sources or created for the first time. Whether from past assessments, studies, plans, or staff knowledge, pulling together existing information is the best place to start. Data gaps can be filled with anecdotal knowledge until more accurate data is available. Investing time and resources into obtaining new data should be prioritized only when the new information will significantly improve decision-making. Asset management is a continuous process and the understanding of the current state of assets will improve over time.

The assessment of the current state of assets is the foundation for the development of asset management plans. Developing an asset management plan requires identifying the gaps between the current state of assets and the desired state of assets and service levels, and the activities needed to close these gaps.

TOOLS TO ASSESS THE CURRENT STATE OF ASSETS

Asset Management Data Register | Master Municipal Construction Documents Association

NAMS.PLUS | Institute of Public Works Engineering Australasia

Developing Levels of Service | Federation of Canadian Municipalities

International Infrastructure Management Manual | Institute of Public Works Engineering Australasia

Primer on Asset Management | Canadian Infrastructure Report Card

Condition Assessment and Asset Performance Guidelines | Institute of Public Works Engineering Australasia

Practice Note 8: Levels of Service & Community Engagement | Institute of Public Works Engineering Australasia

Why It's Important

Assessing the current state of assets - especially the first time - is the beginning of the local government journey into asset management. It provides the basis for knowing the assets and their role in service delivery, identifying risks, understanding the resources required to sustain the assets at current levels of service, and quantifying what (if any) infrastructure backlog exists.

Assessing the current state of assets can also help shed light on the effectiveness of existing asset management practices. For example, if data is difficult to find or incomplete, this may highlight gaps in existing practices. The assessment process can also be used to inform the development of asset management objectives and form the basis of policy, strategy, and plan development or improvements. The results of the assessment to communicate with staff and council about the current state of assets, risks, and priorities.

Assessing the current state of assets is not a one-time activity that is done at the outset of building asset management practices. It is important that information about what assets are owned, their replacement value, age, risk, and role in service delivery is updated as new assets are added or replaced, degrade in condition, or are retired; the replacement costs change; or the community's service needs change. An asset registry is a powerful tool that can inform decision-making about day-to-day activities or long-term plans and it must be kept up-to-date to add value to the organization.

A NOTE ABOUT ASSET MANAGEMENT SOFTWARE

Software is a valuable tool for supporting asset management and it is best used when there are already good processes in place. Software alone won't "do" asset management. More important than any software package is a commitment to, and strong process for, collecting and maintaining good data about your assets and using this information to make decisions that consider risk, cost, and level of service.

For more information, refer to **Questions to Ask** before your municipality considers asset management software, a resource by the Federation of Canadian Municipalities.

ASSET CONDITION ASSESSMENT AND GAS TAX FUNDING

"It is my view that our asset management project is our single, greatest corporate challenge. Every service we deliver depends upon the many millions of dollars in tangible capital assets owned by the City. Led by Council, we have a statutory responsibility for the stewardship of those assets on behalf of all present users, and on behalf of all those who will use them in the future.

Asset condition assessment is an ongoing practice that underpins the entire project. However, with a limited flow of funding each year, the approach to it will be strategic. For example, in our early stages, it is generally better to develop basic information on all assets in all asset classes, rather than exhaustive information on a few assets isolated within one or two asset classes or departments. This is because the City's assets exist to deliver a broad range of public services, and each service-delivery unit should have equal assurance that the assets it depends upon will not suffer in-service failure.

To that end, the Asset Management Working Group will use the Condition Grading System regardless of asset class and asset condition assessments will have continuing priority use of Gas Tax revenue as its funding source."

– David Allen, Chief Administrative Officer to Courtenay, Asset Management BC, 2015

Activities

1. Identify and compile existing sources of asset information, such as the asset register developed for Public Sector Accounting Board (PSAB) compliance; asset plans, reports, and studies; condition assessments; operations logs or reports; maintenance history; specialized staff knowledge.
2. Determine the appropriate type of asset register or inventory to develop, based on current capacities, needs, staffing levels, ability to use software, and types of assets (including infrastructure and natural assets).
3. Develop the asset register to consolidate asset information:
    - Physical asset attributes, including infrastructure and natural assets;
    - Replacement values;
    - Asset conditions - physical condition, demand/capacity condition, and functional condition;
    - Asset risk profiles, including emerging risks such as changing climate;
    - Current and desired levels of service; and
    - Long-term financial requirements for capital, maintenance and operating expenditures.
4. Conduct asset condition assessments as appropriate, or document known asset condition information.
5. Conduct asset risk assessments that consider both the probability and consequence of failure.
6. Define the current customer and technical levels of service.
7. Tabulate current capital and O&M expenditures by asset class.
8. Identify fully amortized assets and review their suitability for continued service. Extend lifecycles of fully amortized assets based on condition assessment results.
9. Evaluate accumulated amortization by asset class and compare it to past and present maintenance and capital renewal expenditures of that asset class.
10. Identify changes in asset replacement values, condition, risk profiles, and levels of service if the state of assets has been assessed in the past.
11. Compile information from the assessment into a summary report and communicate key messages with staff and council as context for the need for asset management.
12. Develop relevant policies and programs to ensure that asset data is kept up-to-date as conditions, assets, and costs change.

TIPS TO GETTING STARTED

Start small. Asset management includes all asset classes, but it may be easier to start with one class as an internal learning exercise to build understanding of the process and achieve a "quick win" before expanding the process to capture all asset classes.

Build upon your Tangible Capital Asset (TCA) Registry. If no other asset registry is in place, the information compiled for TCA reporting can be a good place to start. This information can be compiled into your asset registry. Use widely available software tools, such as Excel and Geographical Information System (GIS) to develop the initial asset registry. More sophisticated tools can be implemented later if needed.

Invest in training. Send representatives from finance, public works, and engineering to asset management training together as a team (see AMBC for training opportunities). Up-front training can go a long way to building an organization's capacity for asset management and ensuring that the organization can make progress quickly.

5.3 Plan

The "Plan" stage represents the formalization of an organization's commitment to asset management and the documentation of how the four core elements of assets, information, people, and finances come together in asset management practices and improvement goals.

Asset Management Policy

The asset management policy is a document that formalizes corporate commitment to asset management. The policy broadly outlines the principles and guides the development and implementation of asset management across the organization in a systematic and coordinated way, consistent with the organization's plans.

The asset management policy will identify the connection between community objectives and the management of infrastructure assets; principles to guide decision-making about assets and services, such as connection to levels of service and risk; the integration of asset management into other documents, plans, and processes (such as land use planning); and the organization's approach to asset renewal and financing.

Why It's Important

Having an asset management policy is critical to ensuring effective long-term implementation of asset management. It helps accomplish four main objectives:

1. Establishes the organization's commitment to asset management and stable, long-term funding for the operation, maintenance, renewal, replacement or decommissioning of infrastructure.
2. Sets out clear guidance for council and staff for undertaking the asset management process. This includes corporate goals and objectives and may specify what is to be included in the asset management process (for example, natural assets and climate change response shall be included in asset management processes). The policy and may set up timelines for achieving results.
3. Ensures the approach to asset management is integrated throughout the organization and aligned with high-level objectives.
4. Provides direction for developing the asset management strategy and asset management plans.

EXAMPLE POLICY PRINCIPLES

- All relevant legislative requirements together with political, social, and economic environments will be taken into account in asset management.
- Asset management will be incorporated into land use planning and development processes, as well as growth and master planning exercises.
- Natural assets, as a key component of overall service delivery, will be included in asset management practices.
- Asset management principles will be integrated within planning and operational processes, including long-range land use planning and O&M programs.
- Performance will be measured and monitored, and activities adjusted based on results.
- Climate change mitigation and adaptation will be incorporated into asset management practices.
- A consistent asset management strategy will exist for implementing systematic asset management and appropriate asset management best-practices throughout a municipality.
- Asset management plans will be developed for major service/asset categories. These plans will be informed by community consultation consistent with engagement strategies and activities; land use planning, financial planning and reporting.
- Asset renewals and agreed service levels will be identified in asset management plans. Asset management plans will be used to update the long-term financial plan.
- An inspection regime will be used to ensure agreed service levels are maintained and neither drop nor creep without input or Council approval.
- Annual budget deliberations will be informed by asset renewal alternative options, along with operating, maintenance and capital budget impacts. Service and risk consequences of asset renewal alternative options will be made clear in both asset management plans and budget documentation.
- Asset renewal plans will be prioritized and implemented progressively based on agreed service levels and the effectiveness of the current assets to continue providing that level of service.
- Assets are to be managed, valued and depreciated in accordance with appropriate best practice using replacement values - not historical costs.

ADOPTION OF AN ASSET MANAGEMENT POLICY CITY OF MERRITT

"Adoption of the asset management policy helped formalize some of the good things we were already doing and define what we could be doing better. Adoption of an asset management policy helped us create a culture of big picture thinking. Every time we take on a new asset, we are looking at what it's going to cost to operate and eventually replace in the future. The asset management policy also helped set the tone for budget deliberations and everyone is always looking forward and not just at today. The policy helped us to look at our utility systems from a full life cycle cost basis. This was instrumental in setting user rates that will sustain the utility systems into the future and plan for their renewal. With our asset management policy, we are no longer in a state of crisis but have set rates that will ensure the safe reliable operation and renewal of our utility systems well into the future."

- Shawn Boven, Public Works Manager/Approving Officer, City of Merritt, 2015

Activities

1. Engage key people in the organization to identify linkages between the long-term community vision, objectives, and plans; and the short- and long-term management of assets including risks and opportunities.
2. Identify the primary drivers for asset management.
3. Communicate the state of assets and practices to provide context for policy setting.
4. Establish goals and objectives for the asset management process that are aligned with asset management drivers, to set a clear understanding for council/board and staff undertaking the asset management process.
5. Draft a policy (refer to resource links and sample policies referenced).
6. Get council/board endorsement on the policy.
7. Communicate the policy throughout the organization.
8. Review and update the policy as needed, or every three to five years.

TIPS FOR GETTING STARTED

Identify the right approach. The most efficient path to implementing successful asset management depends on the organization. Some find success with a top-down approach, starting with the endorsement and support of senior management and council. A top-down approach requires leadership and council buy-in, vision, and strong communication abilities. Endorsing an asset management policy can come early in these organizations. Other organizations begin with a bottom-up approach. In these organizations, early asset management plans are developed to provide good and clear examples to senior leadership and council of the value of asset management. A bottom-up approach requires motivated teams working together and strong communication among team members.

These approaches are not mutually exclusive, they can be very effectively used together.

ADDITIONAL RESOURCES

How to Develop an Asset Management Policy, Strategy, and Governance Framework | Federation of Canadian Municipalities

Asset Management Policy | Town of Gibsons

Asset Management Policy | City of Vernon

Asset Management Strategy

The asset management strategy is a corporate-level document that summarizes asset management objectives and how they relate to organizational objectives, and how the organization will approach the development of asset management practices and plans to achieve the objectives. The asset management strategy achieves the following purpose:

- Documents a summary of the current state of infrastructure and natural assets (e.g. replacement values, conditions, risk, levels of service), establishing a big picture context of the state of sustainable service delivery and the need for asset management.
- Identifies the desired state of assets, the target levels of service and critical risks to be managed.
- Outlines current asset management practices, asset management objectives, significant gaps between current practices and objectives, and approaches to filling these gaps.
- Provides a guide to each department to effectively implement asset management by documenting the desired asset management practices, including the corporate approach to assessing risks (including climate change), defining levels of service, and developing and implementing asset management plans.
- Identifies how other corporate plans for finances, community growth, and sustainability are linked to asset management plans, and how asset management decision-making is integrated into the organization.
- Provides clarity on governance and the representation, roles, and responsibilities within the asset management team.
- Summarizes projected resource requirements for developing and implementing asset management plans, including future requirements for capital, operations, and maintenance.
- Identifies the approach to reviewing and updating the strategy.

CONNECTING ASSET MANAGEMENT TO OTHER CORPORATE INITIATIVES

An asset management strategy identifies linkages to other organizational plans, initiatives, and priorities. These include, but are not limited to:

- Overarching plans such as the Official Community Plan, Council Strategic Plan, or Integrated Community Sustainability Plan
- Focused plans, such as a Community Economic Development Plan, Downtown Revitalization Plan, or Climate Change Adaptation Plan
- Service area plans, such as infrastructure master plans, maintenance management plans
- Departmental plans, such as departmental business plan

Why It's Important

Having an asset management strategy provides a corporate-level guide for all asset management activities. It identifies how other corporate plans, initiatives, or priorities connect to asset management and serves as a connection point between the principles in an asset management policy and actions in asset management plans. Without alignment of objectives, priorities, and approach, an organization risks missing key organizational connection points, as well as ineffective and inefficient use of assets, staff time, and financial resources.

MAKING PROGRESS IN ASSET MANAGEMENT

"Prince George assessed its capacity to undertake asset management (AM) in 2004 followed by development of a business plan in 2006 which identified the tools required and how these might be integrated to optimize city systems while managing the costs of ownership. Prince George initiated a "top-down" approach to evaluate the high level and long-term funding requirements for the replacement of its infrastructure.

The funding requirements for its roads, drainage, water and sanitary networks were first reported to Council in 2006. In 2007 the City added an Asset Manager position to develop internal capacity and provide the resources to allow the AM work to continue to develop. In 2013 the city's estimate of the replacement value of its assets was $2.3 billion as compared to a reported cost (PSAB-3150) of $810 million. This information together with estimates of the City's backlog of infrastructure re-investments together with Council understanding and support of the importance of the issues to be addressed has increased the City's AM activity.

Prince George's AM Policy was implemented in December 2012 followed by its first Strategic Plan in February 2013. The strategic plan outlines the progress made from 2004 to 2013 and includes a corporate work plan for the short-medium term. The strategic plan is now under review together with updates to the replacement value of the City's infrastructure. All of this activity is scalable to any organization along with a varying sophistication of available tools from spreadsheets to custom software which can be tailored to an organization's AM maturity."

- *Frank Blues, Asset Manager, City of Prince George, 2015*

CITY OF
PRINCE GEORGE

Activities

1. Articulate the benefits the organization wants to achieve from asset management.
2. Identify corporate asset management objectives.
3. Engage the right people throughout the organization to define the linkages between asset management and other organizational plans or initiatives.
4. Develop a standard corporate approach to:
   - Assessing and managing risks (including risks related to climate change)
   - Defining and measuring levels of service
   - Developing and updating asset management plans
   - Measuring asset management performance against asset management objectives
   - Financial and service sustainability performance reporting
5. Communicate progress on the asset management strategy with senior leadership and council annually.
6. Review annually and update the asset management strategy as necessary.
7. Provide an asset management orientation to ensure new councils understand the basics of asset management and the corporate asset management strategy.

TIPS FOR GETTING STARTED

Build a framework. Rather than developing a full strategy, it can be helpful to begin by drafting a high-level corporate asset management framework. The framework summarizes the key elements of asset management, the organization's approach to asset management, and how asset management connects to other corporate plans and processes. This framework can be considered the skeleton of the asset management strategy and can be easily reviewed and iterated by internal stakeholders, building awareness and alignment with staff.

ADDITIONAL RESOURCES

Infraguide – Managing Infrastructure Assets | Federation of Canadian Municipalities and National Research Council

ISO 55000 | International Organization for Standardization

How to Develop an Asset Management Policy, Strategy, and Governance Framework | Federation of Canadian Municipalities

Asset Management Framework | District of North Vancouver

Asset Management Plan

A local government may choose to have an asset management plan for each asset type, and/or a corporate asset management plan that includes all of the assets owned by the organization. Each asset management plan should tell the story of the assets it discusses. It should be a readable and user-friendly document that is long-term in scope. These asset management plans are continuously improved and regularly incorporate new information or changing requirements.

Asset management plans identify the following:

- Engineered and natural assets that are used to provide services to the community and their condition.
- Gaps between the current and desired levels of service.
- Risks to service delivery.
- Capital and O&M practices, projects, and programs required to meet organizational asset management objectives, manage risks, mitigate and/or adapt to climate change, and achieve the desired level of service in the most cost-effective way.
- A timeline for implementation.
- Resources required.
- Necessary future improvements to the plan.

While each asset or group of assets is unique with specialized requirements, certain key elements can be standardized using a corporate approach to achieve the best results. Some examples include the following:

- Condition rating scales (e.g. very good - 1, good - 2, fair - 3, poor – 4, very poor – 5).
- Risk frameworks based on the consequence and probability of failure, and incorporating consistent types of risk (e.g. condition, growth, capacity, climate change, etc.).
- Levels of service focused on both customers and technical requirements.
- Capital and O&M expenditure requirements.
- Process for connecting asset management with land use planning processes.
- Planning time frame (minimum 10 years) and structure to support easy update of long-term financial plans.

Why It's Important

Asset management plans provide clear direction on what to do, when to do it, and how much it will cost. It should also identify the consequences of not doing it. The plan supports the implementation of the asset management strategy and policy, identifies actions for achieving the asset management objectives, helps plan for and allocate human and financial resources, and provides the basis for developing the long-term financial plan. This all supports making informed decisions about assets and achieving asset management objectives.

Activities

1. Obtain asset information (outputs from assessing the state of the assets).
2. Identify data gaps.
3. Prioritize and fill data gaps or make informed and documented assumptions where there are information gaps.
4. Document current levels of service and asset performance.
5. Identify the target level of service for each asset type.
6. Identify risks to service delivery for each asset type, such as condition, capacity, and climate change.
7. Identify actions required to manage risks, meet the target level of service and the associated costs.
8. Review O&M costs and identify areas for optimization.
9. Compile information into a minimum 10-year plan for each asset class.
10. Identify improvements to asset management practices and processes.
11. Summarize information into an asset management plan for each service area (e.g. water, transportation, recreation, etc.).
12. Communicate the asset management plan(s) throughout the organization.
13. Review the asset management plan annually, and update with new information or adjustments.

TIPS FOR GETTING STARTED

Start wherever you are. If an asset management strategy is in place, it should outline the corporate approach to developing asset management plans. If the corporate approach has been defined, it can be followed and areas for improvement can be identified. For some organizations, developing a basic asset management plan is the first thing they do, and no corporate approach has been defined yet. In most cases, these early asset management plans are based on available information and anecdotal knowledge. They have large information gaps and significant areas for improvement. However, these early plans are important tools for communicating the process of asset management and can be very helpful in building momentum in an organization.

OUR ASSET MANAGEMENT PRACTICE

Our approach to asset management can be compared to living a healthy lifestyle that involves discipline and making good choices; a multifaceted and lifelong endeavor. You can't complete a 6-month program and claim a successful finish. Neither is it a do or don't proposition whereby you don't take care of yourself and you immediately wither and die. Thus, the issue is not whether you do "asset management"; it is whether you manage your assets well. Accordingly, we view asset management as a philosophy that we practice. This helps us imbed what we believe to be a sound and responsible methodology for effective service delivery in everything we do.

Our asset management strategies are founded in achieving sustainable service delivery.

- No unfunded liabilities by reconciling service levels desired by the community with the community's willingness to pay (LOS vs $).

- Integrated decision making across the service delivery spectrum.

In order to achieve our goals, we differentiate and focus on both the technical and political processes involved to secure successful outcomes.

Technical aspects need but follow well established asset management methodologies. The trick is to keep it as simple as possible and avoid overanalyzing.

Political tactics can be much more challenging but are essential to obtaining support from decision makers. Obtaining long-term political support requires achieving community buy-in. Every practical long-range infrastructure plan or initiative involves change and leading the change represents the challenge. We strive to put as much focus and effort into the public aspects of our asset management practice as we do on technical aspects and we believe the combination of these factors has been key achieving success.

Case in point is our Water Master Plan adopted by Council in 2012 which identifies a very ambitious $80 million capital improvement program intended to be delivered over 20 years. The plan required raising water rates from approximately $500 per year per household to $750. Obviously, this had the potential to result in significant community backlash. Our success in obtaining community buy-in resulted from clearly articulating the issues followed by presenting solutions including benefits. Inevitably the questions boil down to "What's in it for me?" and "How much is it going to cost?". We didn't always get enthusiasm, but we often got understanding, "I don't like it, but I get it!". In the end our objective is not consensus but community solidarity because solidarity is much more powerful and lasting than consensus which is apt to change.

- *Greg Buchholz, Director of Infrastructure Services, District of Lake Country, 2015*

LAKE COUNTRY
Life. The Okanagan Way.

ADDITIONAL RESOURCES

Asset Management Roadmap | Asset Management BC

Roadmap Case Studies | Asset Management BC

Primer on Asset Management | Canadian Infrastructure Report Card

Infrastructure Costs and Urban Growth Management | Sustainable Cities International

Optimized Asset Decision Making at the Region of Peel | Region of Peel

NAMS.PLUS (Training Program) | Institute of Public Works Engineering Australasia

Level of Service & Community Engagement: Practice Note 8 | Institute of Public Works Engineering Australasia

Presentation on Developing Levels of Service | City of Prince George

Integrate to Long-term Financial Plan

The integration of asset management plans with the long-term financial plan is necessary for sustainable service delivery. This integration identifies gaps between long-term potential costs and available funding and includes a review of requirements for capital (renewal/growth), operations, and maintenance. Integrating asset management plans with the financial planning process provides the basis for developing, reviewing, updating, and implementing financial strategies for sustainability. This integration may result in the identified need to reduce costs (adjust service levels) or increase funding (raise revenue).

Residents and ratepayers are both the recipients of services and the primary source of funding. Therefore, adjustments between service levels and funding should reflect the community's priorities, willingness to pay, and Council decisions in fulfilling their stewardship and governance obligations. Both asset management plans and the long-term financial plan require regular updates and are the foundation for significant parts of the annual budget plan.

Why It's Important

Integrating services and financial resources is necessary for sustainable service delivery. This integration translates asset management plans from a wish list to an actionable plan. This puts the organization on track to manage and reduce their infrastructure backlog. It also provides rationale for financial support requests to higher levels of government, for managing natural assets, or for evaluating alternative models of service delivery (e.g. Public Private Partnerships), reduced levels of service, or service/asset elimination.

Activities

1. Compare asset management plans with the long-term financial plan to identify gaps between projected costs and projected revenues.
2. Implement strategies to gradually raise revenues or reduce costs to meet the target annual investment level and desired levels of service.
3. Communicate the value and costs associated with service delivery with Council and residents.
4. Consult residents and ratepayers about willingness to pay for services and service levels.
5. Identify an annual target asset investment level that is considered sustainable.
6. Identify and adjust service levels to reflect affordability and willingness to pay.
7. Update asset management plans and the long-term financial plan to reflect adjustments made or actions identified to reduce costs or increase funding.

TIPS FOR GETTING STARTED

Build a shared understanding. Arrange for a meeting between financial and technical personnel to build a shared understanding around relevant topics such as the use of Tangible Capital Asset data reported for PS3150, long-term financial planning for asset replacement, and financial risks.

ADDITIONAL RESOURCES

Long- term Financial Planning and Asset Management Presentation | District of North Vancouver

Long-term Financial Plans | Local Government Association of South Australia

Practice Note 6: Long-term Financial Planning | Institute of Public Works Engineering Australasia

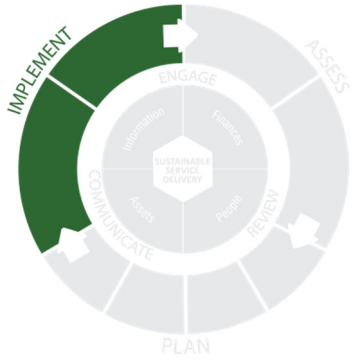
LONG-TERM FINANCIAL PLANNING IN PORT MOODY

"Port Moody Council and staff fully endorse the principles of sustainable financial planning to ensure the financial well-being of future generations. In 2012, Council funded a detailed assessment of all of our major assets and then proceeded to develop and implement a long-range strategic financial plan. This plan took into consideration the current asset renewal backlog and the future planned replacement needs. Although our water and sewer utilities were appropriately funded, it was determined that other areas, particularly roads, bridges, and facilities, were under-resourced and required an increase in our asset levy of approximately 10%.

Port Moody Council considered the detailed analysis and the longer-term financial implications and committed to addressing infrastructure renewal before adding new infrastructure. As City Manager, there is nothing more rewarding than having a brave Council who addresses the "unsexy" asset replacement challenges before adding any "sexy" new projects. Port Moody Council should be congratulated on their courage to do the right thing – sustain your existing assets before adding anything new. These great decisions were a direct result of developing the detailed science behind long-term asset renewal."

- *Kevin Ramsay, Former City Manager, City of Port Moody, 2015*

5.4 Implement



The "Implement" stage is about putting organizational asset management policies, strategies, and plans into practice, and measuring and reporting on progress.

Implement Asset Management Practices

Implementing asset management practices means implementing asset management policies, strategies, and plans. Implementation is focused on delivering target levels of service and managing risks at a minimum cost. Implementing asset management practices includes wide-ranging activities, such as evaluating the lifecycle costs of various servicing scenarios when planning for land use, updating design standards to reflect the changing climate, renewing existing assets, optimizing preventative maintenance programs to enhance asset lifespan. Successful implementation requires participation and leadership from all local government functions.

The implementation of practices will be related to some or all of the core elements: people, assets, information, and finances. Implementation can be incremental and based on available financial and human resources. This can be part of a continuous process where improvements are made over time, guided by the priorities and projects identified in the Plan stage of the asset management process.

Why It's Important

Although the necessity of implementing plans may seem obvious, many communities become so focused on developing asset management plans that they consider themselves finished once the plans are done. While the development of the plans is important, it is the implementation of the plans and ongoing asset management practices that are most impactful.

Asset management is meant to be a continuous process integrated within day-to-day practices. The value of asset management is maximized when initial investments such as building an asset inventory kick-start a regular process of updating asset information and using this information to make informed decisions. By updating inventory regularly and working towards the implementation of asset management plans, an organization will build capacity in asset management and ensure that quality information is available for decision-making.

Activities

1. Update the asset inventory by including improved information as it becomes available, adding new assets, identifying asset renewals, replacements, and decommissioned assets.
2. Update asset replacement costs or natural asset values.
3. Implement risk management plans and projects.
4. Implement asset O&M, renewal, and replacement projects.
5. Incorporate asset management into procurement processes.
6. Hold regular asset management team meetings to review implementation progress, successes, and challenges.
7. Review and update lifecycle analysis of assets in the asset management plan;
8. Update related corporate plans to reflect asset management information (e.g. utility master plans, the official community plan, etc.).
9. Implement appropriate asset management systems to support data management.
10. Train staff to enhance asset management competencies, skills, and organizational capacity.
11. Develop succession plans.
12. Update and develop job descriptions to align with asset management requirements.

Measure and Report

Best practices in progress measurement use high-level, corporate-wide indicators expressed in financial terms as overall indicators of progress. These indicators are tangible, measurable, and help to highlight the connections between cost, service, and performance trends over time.

Reporting demonstrates measurable progress in implementing the process and achieving sustainable service delivery. Asset management is an important part of overall sustainable service delivery. Annual and financial reports should include progress on the asset management objectives and outcomes identified in the asset management strategy and asset management plans, including performance on the indicators selected.

Each local government may wish to develop their own set of performance measures and processes for reporting in a way that best supports effective communication in their organization and achievement of their goals.

WHY MEASURE AND REPORT

The Status of Asset Management in British Columbia (UBCM, 2016) shows that:

- 92% of local governments have not developed or underdeveloped asset management progress measures.
- 88% of local government reporting on asset management to key stakeholders is undeveloped or underdeveloped.

Measurement and reporting on asset management processes and outcomes is a critical step in raising awareness of the need for asset management and progress that has been made. Measurement and reporting will support the development of an organizational culture that prioritizes and implements asset management. The Status of Asset Management in British Columbia report is a mechanism to measure and report the development and continuous improvement of asset management in local governments across BC.

TYPES OF MEASUREMENT AND REPORTING

Local governments can use several types of progress measurement tools and approaches, depending on what and who the information is needed for.

- Corporate indicators are used to measure progress on high-level objectives across the entire organization, though they may be categorized by department. These indicators are often tied to council priorities or a corporate strategic plan.
- Sustainable service delivery indicators are used to measure how the local government is meeting present needs while supporting the community's ability to meet future needs.

  AMBC's Service Sustainability Assessment Tool helps local governments assess current performance and preparedness for the future across eight service areas: wastewater, water, drainage and flood protection, transportation, fire protection, parks and recreation, solid waste, and civic facilities.
- Key performance indicators can be used to report on the state of assets (e.g. average condition of assets), progress in asset renewal (e.g. lane km of road resurfaced), and financial performance (financial sustainability ratios).
- Asset management indicators are used to monitor improvements in specific asset management practices.
- Tools like **AssetSMART 2.0** or T**he Asset Management BC Roadmap** helps local governments measure progress on asset management in five competency areas: data and information, policy and governance, planning and decision-making, people and leadership, and contribution to asset management.

Regardless of what kind of tool or approach is taken, progress measurement is most helpful when it is done on an annual basis to allow for year-to-year comparisons.

Why It's Important

Asset management is a continuous improvement process, and processes are more likely to improve when results are being measured. Setting optimal levels of service requires understanding both the assets and finances needed to sustain service levels over the long-term. Understanding the connection between service and price is fundamental to being able to communicate progress to stakeholders toward achieving service, asset and financial sustainable. Making progress against indicators demonstrates the reduction of infrastructure backlogs and that service levels (and costs) are at a level people are willing to pay for.

Activities

1. Identify the audience segments for reporting and the reporting objectives for each audience. Examples of audience segments include the public, council, senior leadership, and staff.
2. Develop or select key performance indicators for measurement (customers, technical, financial and environmental health) for each of the audience segments, in support of achieving the reporting objectives.
3. Measure performance against each of the indicators.
4. Communicate performance results through appropriate channels for each audience segment. For example, communication to the public may be done through the community annual report.

ASSET MANAGEMENT BC ROADMAP IN PRACTICE

"The Regional District of Nanaimo is finalizing its integrated asset management strategy and implementation plan. Using the Asset Management BC Roadmap (AMBC Roadmap) as a guide we were able to assess where we are with asset management and where to focus in developing an effective and sustainable asset management process.

The Asset Management BC Roadmap is scalable, non-prescriptive and gives a realistic and understandable view of the asset management components. "Modules of practice", six in all, capture the key principles. Using these modules, we were able to work through our current strengths and weaknesses and then move on to develop our implementation plan. What we now have is baseline information and a tool that allows us to measure progress as we implement asset management practices.

An important aspect of the Asset Management BC Roadmap is that it allows for plans to be developed that reflect each local government's individual needs. It isn't a one solution fits all approach, it gives you the tools to build a process that meets your community infrastructure profile.

The Asset Management BC Roadmap has been invaluable in clearly setting out the practices that our organization needs to effectively understand, manage and make informed decisions about the long-term sustainability of our community infrastructure."

- *Mike Donnelly, Manager of Water & Utility Services, 2015*

REGIONAL DISTRICT OF NANAIMO
ESTABLISHED 1967

ADDITIONAL RESOURCES

Sustainable Service Assessment Tool | City of Grand Forks

Financial Sustainability Information Paper #9 | Local Government Association (Australia)

Asset Management Roadmap | Asset Management BC

AssetSMART 2.0 | Asset Management BC

Asset Management Readiness Scale | Federation of Canadian Municipalities

Long-Term Financial Planning – Practice Note 6 | Institute of Public Works Engineering Australasia

6.0 Resources & Tools

As referenced in Section 1.0 of this Framework, this Framework is part of a set of foundational asset management resources prepared by AMBC. These resources include:

1. Asset Management for Sustainable Service Delivery: A BC Framework
2. Sustainable Service Delivery Primers, which currently include:
    a. Climate Change and Asset Management
    b. Integrating Natural Assets into Asset Management
    c. Land Use Planning and Asset Management
    d. The Role of Operations and Maintenance in Asset Management
3. AssetSMART 2.0
4. The Asset Management BC Roadmap

Other documents and tools have also been listed throughout this framework as resources to support the development and implementation of asset management practices. Publicly available presentations, plans, and other documents from BC municipalities have also been listed throughout the framework to provide examples. All these listed resources, and more, are available through the AMBC website (**www.assetmanagementbc.ca**). The Federation of Canadian Municipalities also has a compilation of national resources (**www.fcm.ca/en/resources/mamp/asset-management-resources**) including a list of recommended resources for beginning asset management.

ASSET MANAGEMENT BC | ASSET MANAGEMENT ROADMAP

Description

A document that guides the reader through the steps of implementing asset management at a basic, intermediate, and advanced level through a modular approach.

This may help you with

- Understanding the scope of asset management activities
- Developing asset management plans
- Implementing asset management practices

ASSET MANAGEMENT BC | ASSET MANAGEMENT ROADMAP CASE STUDIES

Description

A report summarizing the approach and results of four case studies in applying the Asset Management Roadmap.

This may help you with

- Understanding how to implement the roadmap
- Identifying how your results compare to other local governments

ASSET MANAGEMENT BC | ASSETSMART 2.0

Description

A tool to assess your local government's asset management practices. Asset SMART2.0 aligns with this framework.

This may help you with

- Evaluating your asset management practices in a comprehensive way
- Establishing priorities
- Developing your asset management strategy

CANADIAN NETWORK OF ASSET MANAGEMENTS | ASSET MANAGEMENT 101 BOOKLET

Description

A guide on the what, why, and how of infrastructure asset management.

This may help you with

- Getting introduced to asset management
- Communicating about asset management to council and other staff

CANADIAN NETWORK OF ASSET MANAGEMENTS | RESOURCES

Description

A range of resources on different aspects of asset management

This may help you with

- Developing your organization's asset management practice

CITY OF GRAND FORKS | SERVICE SUSTAINABILITY ASSESSMENT TOOL

Description

A tool for local governments to assess current service delivery performance and preparedness for the future.

This may help you with

- Assessing your organizations service sustainability

CITY OF PRINCE GEORGE | ASSET MANAGEMENT COMMUNICATIONS PLAN

Description

An example of an asset management communications plan.

CITY OF PRINCE GEORGE | PRESENTATION ON DEVELOPING LEVELS OF SERVICE

Description

An example of an approach for developing levels of service.

CITY OF VERNON | ASSET MANAGEMENT POLICY

Description

An example of an asset management policy.

DISTRICT OF NORTH VANCOUVER | ASSET MANAGEMENT FRAMEWORK

Description

An example of an asset management framework.

This may help you with

- Developing an asset management framework or strategy

DISTRICT OF NORTH VANCOUVER | LONG-TERM FINANCIAL PLANNING AND ASSET MANAGEMENT PRESENTATION

Description

An example of an approach to long-term financial planning and asset management.

This may help you with

- Integrating your asset management plan with your long-term financial plan

FEDERATION OF CANADIAN MUNICIPALITIES | BUILDING SUSTAINABLE AND RESILIENT COMMUNITIES WITH ASSET MANAGEMENT: AN INTRODUCTION FOR MUNICIPAL LEADERS

Description

An introduction to asset management.

This may help you with

- Getting started on asset management for municipal leaders

FEDERATION OF CANADIAN MUNICIPALITIES | STARTING THE ASSET MANAGEMENT CONVERSATION WITH YOUR MUNICIPAL COUNCIL

Description

An editable template presentation that can be used to introduce asset management to council.

This may help you with

- Communicating what asset management is and why it is important with council

FEDERATION OF CANADIAN MUNICIPALITIES, CANADIAN CONSTRUCTION ASSOCIATION, CANADIAN PUBLIC WORKS ASSOCIATION, CANADIAN SOCIETY OF CIVIL ENGINEERS | ASSET MANAGEMENT PRIMER – CANADIAN INFRASTRUCTURE REPORT CARD

Description

An accompanying document to the Canadian Infrastructure Report Card, this primer describes asset management and makes a set of recommendations for implementing asset management. The primer also includes an asset management plan outline.

This may help you with

- Developing asset management plans.
- Understanding key components of asset management.

FEDERATION OF CANADIAN MUNICIPALITIES | QUESTIONS TO ASK BEFORE YOUR MUNICIPALITY CONSIDERS ASSET MANAGEMENT SOFTWARE

Description

A short guide of tips in selecting software and questions to ask vendors.

This may help you with

- Selecting an asset management software.

FEDERATION OF CANADIAN MUNICIPALITIES | INFRAGUIDE – DECISION MAKING AND INVESTMENT PLANNING: MANAGING INFRASTRUCTURE ASSETS

Description

A series of 'best practice' documents for public works and asset management (**www.fcm.ca**).

This may help you with

- Developing an asset management plan

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION | INTERNATIONAL STANDARDS 55000, 55001 AND 55002: ASSET MANAGEMENT

Description

An international standard for asset intensive businesses that provides an overview of the benefits, elements, requirements, and design of an asset management system (**www.iam.org**).

This may help you with

- Understanding asset management strategy
- Understanding the role of leadership in asset management
- Understanding the importance of a communication plan and what should be included

INSTITUTE OF PUBLIC WORKS ENGINEERING OF AUSTRALIA | INTERNATIONAL INFRASTRUCTURE MANAGEMENT MANUAL

Description

A definitive manual that outlines what asset management is and provides guidelines for how to implement asset management, techniques that can be used, and information management (**www.ipwea.org**).

This may help you with

- Deepening understanding of asset management concepts through a description of implementation and several case studies

INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA | NAMS.PLUS

Description

A subscription-based service that includes a set of templates and modelling tools to assist organizations in writing and updating asset management plans, based on the Infrastructure Management Manual.

This may help you with

- Assessing your organization's asset management practices
- Developing asset management policy and strategy
- Developing asset management plans
- Develop long-term maintenance and capital works programs
- Developing multi-disciplinary teams

INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA | CONDITION ASSESSMENT AND ASSET PERFORMANCE GUIDELINES

Description

Generic principles for condition assessment and asset performance, applicable to all asset types.

This may help you with

- Planning for condition assessments or setting up a condition assessment program

INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA | PRACTICE NOTE 6: LONG-TERM FINANCIAL PLANNING

Description

A document that provides guidance for the preparation of a long-term financial plan.

This may help you with

- Developing a long-term financial plan

INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA | PRACTICE NOTE 8: LEVEL OF SERVICE AND COMMUNITY ENGAGEMENT

Description
A guide to support local governments in defining affordable and appropriate levels of service.

This may help you with

- Community engagement with respect to services
- Developing levels of service
- Identifying tradeoffs between cost and level of service

LOCAL GOVERNMENT ASSOCIATION OF SOUTH AUSTRALIA FINANCIAL | MODEL FINANCIAL STATEMENTS

Description
A document with samples of model financial statements (**https://www.dpti.sa.gov.au/__data/assets/pdf_file/0006/482235/SAModel2018.pdf**).

This may help you with

- Preparing a financial statement

MASTER MUNICIPAL CONSTRUCTION DOCUMENTS ASSOCIATION | ASSET MANAGEMENT DATA REGISTER PROJECT

Description
The project includes an Infrastructure Data Scheme that provides conventions for use in an asset register, and an Infrastructure Data Management Utility database that can be used by local governments to create and manage an asset inventory. The Master Municipal Construction Documents website includes several videos and other resources.

This may help you with

- Developing your asset inventory
- Reporting the status of your inventory

MICKELSON CONSULTING INC. | AM COMMUNICATIONS STRATEGY

Description
A presentation outlining key messages for communication and strategies for effective communication.

This may help you with

- Internal and external asset management communication and engagement

NATIONAL ROUND TABLE ON SUSTAINABLE INFRASTRUCTURE | AN ASSET MANAGEMENT GOVERNANCE FRAMEWORK FOR CANADA

Description
A document outlining the role of various stakeholders in improving and enhancing the service by municipalities by promoting better management techniques.

This may help you with

- Identifying asset management stakeholders

REGION OF PEEL | OPTIMIZED ASSET DECISION MAKING AT THE REGION OF PEEL

Description
An example of asset decision making.

This may help you with

- Making decisions for your capital plans, operations and maintenance plans, and asset management plans

SUSTAINABLE CITIES INTERNATIONAL | INFRASTRUCTURE COSTS AND URBAN GROWTH MANAGEMENT

Description
A guide for understanding the full costs of infrastructure and urban growth scenarios.

This may help you with

- Undertaking cost of infrastructure studies

TOWN OF GIBSONS | ASSET MANAGEMENT POLICY MANUAL

Description
An example of an asset management policy manual.

This may help you with

- Developing an asset management policy

UBCM | STATUS OF ASSET MANAGEMENT IN BRITISH COLUMBIA

Description
A summary of results from the 2016 Gas Tax Fund asset management baseline survey.

This may help you with

- Learning more about the state of asset management in BC

Asset Management Policy

District of Barriere

December 12, 2016

TRUE CONSULTING

ENGINEERING ■ PLANNING ■ URBAN DESIGN

Original Report Submission

Report Prepared By:
Daniel Grant, EIT
Project Engineer

Report Reviewed By:
Dave Underwood, P. Eng.
Project Engineer

Revision Log

Revision #	*Revised by*	*Date*	*Issue / Revision Description*

Council Approval – *December 12, 2016*

Table of Contents

1.0 Purpose

The District of Barriere has, since 2008, worked towards creating and maintaining best practices towards the sustainable stewardship of services and assets for the municipality. The District, through support of staff and leadership from mayor and council, are pursuing the formalization and constant improvement of their Asset Management practices.

Asset Management is a broad strategic framework that encompasses many disciplines and involves the entire organization. The term Asset Management, as used in this document, is defined as “the application of sound technical, social, and economic principles that considers present and future needs of users, and the service from the asset”.

This Policy articulates the District’s commitment to Asset Management. This Policy also demonstrates to the community that the District is exercising good stewardship, and is delivering affordable services while considering its legacy to future residents.

The objective of this document is to provide guidance for the District’s staff in producing and maintaining efficient Asset Management practices for the sustainable delivery of community services. This will be accomplished by ensuring adequate provisions are made for engineering, finance, operations, and planning to provide long-term operation, renewal, replacement, and construction of new and existing assets.

The District’s vision and goal for the community is a safe, livable, sustainable and economically vibrant community underpinned by well managed and maintained assets. These assets include transportation networks, water distribution networks, sewage collection systems, information technology systems, fleets, parks, and recreation and civil facilities.

The District will operate an Asset Management Program for the ongoing sustainable delivery of services to the community. The Program will generally consist of this Policy, the Asset Management Strategy, and detailed Asset Management Plans.

2.0 Asset Management Policy Statements

To guide the District, the following Policy statements have been developed:

1. This Policy applies to Council and to staff who use or manage the District's assets to provide services to the community. The District's goal is to integrate corporate, financial, technical, and budgetary planning across the organization.
2. The long term goal is to complete the Basic Level Modules under Asset Management BC's Asset Management Roadmap, in all major asset categories. Intermediate and Advanced Modules will not be completed under the current Policy.
3. The Asset Management Strategy will prioritize the implementation of both:
    a. The Asset Management Planning of the asset categories with the highest capital value first. These categories are Roads, Water and Wastewater; and,
    b. The completion of the Asset Management Roadmap Modules, starting with 1.1, 1.2, and 2.1.
4. The Asset Management program will develop and maintain the following;
    - Asset inventories.
    - Levels of Service for each asset and asset type.
    - Long term asset replacement, renewal, and construction strategies.
    - Long term financial planning to support the asset replacement, renewal, and construction strategies.
5. The District aims to manage assets sustainably. Asset Management planning will be based on horizons appropriate to the class of asset, but will be for a minimum of 20 years.
6. A key goal in the management of assets is the minimization of life cycle costs. Life cycle costs will be considered in decisions relating to new services and assets and upgrading of existing services and assets.
7. Where appropriate, this Policy will be incorporated into other corporate plans.
8. The Asset Management Policy, Asset Management Strategy, and the detailed Asset Management Plans are public documents, to be used to communicate goals and progress to the community.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4. Manage Your Asset Lifecycle
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Additional Modules required for Intermediate AM
Advanced Asset Management Practice Modules

3.0 Responsibilities

Asset Management is a responsibility that involves all staff and members of Council. Specific responsibilities are;

3.1 Council

- To act as stewards of the assets of the community;
- To set Asset Management Policy and Asset Management Strategy, consistent with the Official Community Plan (OCP);
- To set Level of Service standards;
- To ensure that appropriate resources are made available for asset management activities.

3.2 Chief Administrative Officer

- To implement the Asset Management Policy and Asset Management Strategy;
- To periodically review the Asset Management Policy and Asset Management Strategy and advise Council of any recommended changes;
- To annually monitor and review performance of the District in achieving the Asset Management Strategy;

3.3 Managers

- To implement the Asset Management Policy and Asset Management Strategy;
- To develop and implement Asset Management Plans;
- To develop and implement maintenance, refurbishment and capital works programs in accordance with Asset Management Plans and Annual Budget;
- To deliver Levels of Service to agreed standards;
- To manage infrastructure assets with consideration of long term sustainability;
- To regularly report performance in delivering the Asset Management Plan;
- To annually review and update Asset Management Plans.

3.4 Staff

- To comply with the Asset Management Policy and Strategy;
- To implement the Asset Management Plans including the delivery of levels of service to agreed standards;

4.0 Review Date

The organization understands that the process of Asset Management is ongoing, and will need to adapt to meet the changing needs of the community. Thus, it is required that this Policy be reviewed and updated on a regular basis.

The Chief Administrative Officer shall review compliance with this policy and the Asset Management Plans and report to Council on an annual basis.

The next revision of this document shall occur no later than January 2022.

5.0 Related Documents

Asset Management Strategy

Asset Management Plans (To be developed)

PSAB 3150 Reporting

2011 Official Community Plan

Asset Management Strategy

District of Barriere

December 12, 2016

TRUE CONSULTING

ENGINEERING ■ PLANNING ■ URBAN DESIGN

Original Report Submission

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Revision Log

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1	C. Hannigan	Dec 12, 2016	Following presentation to Council on Nov. 7, 2016, and subsequent staff meeting to revise for presentation of revised draft to Council on Dec.12, 2016

Council Approval - *December 12, 2016*

Table of Contents

Introduction

This document is a compilation of excerpts from the “Guide for using the Asset Management BC Roadmap” (May 2011, Asset Management BC) and suggested corresponding Asset Management Strategies (broad) for satisfying each of the 18 Basic Level Roadmap Building Blocks.

This document is intended to be utilized as a guideline to completing the goals laid out in the District of Barriere’s Asset Management Policy.

This document address each of the 18 Basic Level Roadmap Building Blocks and provides initial guidance towards completing them. This document must be updated accordingly as building blocks are completed, or the resources behind achieving them have changed.

1.0 Know Your Assets

1.1 Basic Asset Inventory

An Asset Inventory is the record of information about your assets. It needs to be an itemized list of all the assets and it must have some basic facts about each of those assets (attribute data).

- What type of asset is it;
- Where is it located;
- What size is it;
- What is it made of; and
- How old is it.

The more information you know about an asset the easier it is to identify and respond to management issues.

- What format should the asset inventory be (Excel, GIS, Financial System);

1.1.1 Strategy

Conduct an evaluation of available format options and determine who should manage the inventory;

- *Who should have responsibility for maintaining the accuracy and completeness of which parts of the data;*
- *Who should have access and what type of access should they have; and;*

1.1.2 Strategy

Consolidate existing inventories into a single cohesive and consistent format

1.1.3 Strategy

Assign responsibility(ies) for the upkeep or oversight of the inventory

1.2 Identify Asset Components

The way to define a component is that it is an asset or part of an asset that can be independently replaced or has a significantly different life span.

Recording components of an asset as separate items in the inventory will enable you to keep your inventory up to date and to manage and financially account for your assets more effectively.

1.2.1 Strategy

a) Componentize existing aggregated assets.

b) Develop and assign a unique ID system

c) Identify what attribute data is missing and determine what data should be collected. Assess strategies for including missing attribute information of asset components (e.g.: water service, water valves, sanitary manholes, storm manholes) into current inventory

Ex: Public Works to survey and investigate asset systems and complete inventory, utilizing record drawings, maintenance records, video inspections, site inspections, etc.

- ***Dedicated project***
- ***As part of ongoing / routine maintenance***

Ex: Consultant to survey and investigate asset systems and complete inventory utilizing record drawings, maintenance records, video inspections, site inspections, etc.

1.3 Current Data, Software and Tools

Software and tools refers to any systems that the District uses for:

- Accounting/Financial/Valuation Data;
- Work History/Maintenance Records;
- Decision Tools (Prioritization/Risk); and
- GIS/Inventory.

The first step in making improvements to anything is to understand what you currently have.

1.3.1 Strategy

Determine and evaluate what tools / software are currently utilized by team members

- ***Staff discussion***
- ***Look holistically at the organization and collate corporate list of current data, software and tools***
- ***Consider benefits and drawbacks of linking tabulated information to mapping through tools such as GIS***

Objectives

- *Eliminating unnecessary duplication of data;*
- *Providing data in a more useful format;*
- *Defining who is in the best position to be responsible for management of the data;*
- *Highlighting where integration of data sets is desired;*
- *Sharing data to those who should know about it; and*
- *Identifying more efficient ways of using current tools and software.*

Ex: If a waterline is replaced or a sewer main is re-lined, how is this documented?

- *By whom is this documented?*
- *Is this information duplicated?*
- *Is this information available to other departments?*

2.0 Know Your Financial Situation

2.1 Current Asset Investment

Current Asset Investment is a measure of the assets value in terms of:

- What would it cost to replace the asset today (current replacement value); and
- What value is the current asset considering its age (current depreciated value)?

Understanding the value of an asset helps to make good decisions about the best way to operate, maintain and plan for replacement of that asset.

An understanding of Current Asset Investment is useful to determine:

- How long before we need to replace this asset;
- How much money should we put aside per annum to fund asset replacements;
- What is the asset currently worth (depreciated value in today's dollars);
- Should we keep fixing it or should we replace it;
- When should we replace it (from an economic point of view);
- Do we have any big financial hurdles looming up in the foreseeable future;
- Are there other options to provide this service, with or without this asset or with a different more cost effective asset; and
- Can we prove we are sustainable?

2.1.1 Strategy

a) In completion of 1.1 / 1.2, include / develop current replacement unit rate values for all asset components

- ***Identify team member(s) responsible for determining current replacement unit rate values***
- ***Document methodology / assumptions used to develop values***

b) In completion of 1.1 / 1.2 research / identify / estimate

- ***the asset component original value***
- ***remaining life / estimated expected life / install date***
- ***document methodology / assumptions used to develop values***

2.2 Current Operations and Preventative Maintenance Costs vs Specific Repair Costs

Many operational and preventative maintenance costs cannot be assigned to a particular or specific asset as it is a function that relates to the whole network or to the service being provided and they are difficult to track, particularly in a small municipality.

Specific repair costs however relate to the cost of actual physical repair work to a specific asset or group of assets. As time progresses and assets age, the occurrence and cost of repairs for any particular asset will increase. There are many advantages and opportunities that become available when these costs are tracked against the relevant assets.

2.2.1 Strategy

a) Record and Track Specific Repair Costs and Capital Costs

b) Define and document a methodology / process for recording costs as they occur

- ***Coordination amongst all departments***
- ***Definition of Specific Repair Costs***
- ***Ex: Record hours, materials, equipment costs for repair of watermain breaks***

2.3 Future Capital Costs

Future capital costs are an estimate of the most likely future funding needs. It is usually determined for at least a 20 year forecast.

It is only by looking ahead that it is possible to gauge the long term affordability of continuing to operate and manage the assets in the same way as we do now.

Future cost forecasts are therefore a fundamental component of ensuring long term sustainable management of the assets.

2.3.1 Strategy

Complete an overall Utility Asset Management Plan that encompasses Water, Wastewater, Storm, and Roads and provides methodology for prioritizing all renewal and expansion works in a manner which is achievable within the Districts resource limits

- ***Include minimum 20 year costs and timelines (new and renewal)***

2.4 Funding Sources

Funding sources refer to all the options where funding could come from and an estimate of how much that funding will be. The main funding sources for public assets will typically comprise:

- Taxes;
- Fees and Charges;
- Reserves;
- Grants; and,
- Loans.

It is essential that equal consideration is given to assessing future income as predicting future costs. Understanding the full financial picture sooner rather than later allows appropriate decisions to be made and action to be taken to ensure adverse financial dilemmas are avoided.

It is recommended that the review of income versus expense be done as a collaborative exercise.

Strategy 2.4.1

a) Continue with a regular (annual) collaborative discussion between all departments / managers to determine / evaluate and allocate the available funding from taxes, revenues, grants, etc. for presentation to Council as part of the annual Strategic Planning and Budgeting processes

b) Document the process

Ultimate goal

- ***Achieving estimated available income for 20 year horizon to match expense horizon (2.2 / 2.3)***

3.0 Understand Decision-Making

3.1 Evaluate Decision / Process

Evaluate Decision Processes means to think about all the key decision areas regarding assets and services and to identify who is responsible for making these decisions, what information they use and whether there is any procedure on how they decide.

All important decision processes should be documented and periodically reviewed.

The key objectives for desired decision processes are to ensure that:

- All important decisions are robust, consistent and repeatable;
- Decisions are not subjective unless this is deemed appropriate;
- The person accountable for a decision has all the necessary information; and
- Any assessment tools being used are being applied correctly and appropriately.

3.1.1 Strategy

Conduct an initial evaluation of current decision processes

- ***Review and document the current decision processes;***
- ***Identify and document desired decision processes; and***
- ***Document the improvement gap between current and desired processes.***
- ***Identify who is responsible for what decisions***

3.2 Improvement Plan and Process

Details of gap between current and desired decision-making processes will form the beginning of an improvement plan.

Generating and implementing an improvement plan is fundamental to sustainable asset management. This is because:

- There are always things that can be improved over time;
- Parameters change, assets age, funding levels change;
- Customer expectations change;
- The actions taken today cause change; and
- In response to change it is prudent to check if the original action plan is still the most appropriate course of action.

A basic process for an improvement plan is any process that:

- Identifies improvement tasks;
- Assigns responsibility for completing the tasks;
- Determines what funding is required;
- Documents the tasks in a schedule for completion (Improvement Plan); and
- Has a regular review cycle (typically completed at least once per year).

3.2.1 Strategy

Following 3.1 (based on results of) undertake the development of a basic improvement plan (relates to 2.3 and an overall AMP) consistent with the roadmap.

3.3 Prioritized Improvement Plan

3.3.1 Strategy

In the completion of modules 3.1, 3.2, 2.3, include a documented decision process for prioritizing projects

A basic process for prioritizing an improvement plan is to:

- ***Determine what criteria should be considered to assess how important a task is;***
- ***Establish a scoring system for the criteria;***
- ***Assess each task according to the criteria and scoring system; and***
- ***Order tasks by outcome score (priority).***

4.0 Manage Your Asset Lifecycle

4.1 Asset Condition

The condition of an asset component is a measure of its physical state compared to a brand new component

Tracking the change in condition over time will:

- Provide an indicator for rate of deterioration;
- Identify what type of remedial treatment is appropriate;
- Help determine the best timing for a remedial treatment;
- Support more accurate estimates for remaining useful life; and
- Indicate the most likely year that the asset will fail.

Not tracking condition increases the risk of sudden unexpected failures occurring. Such failures usually incur greater costs for remedial works in emergency situations compared to planned maintenance or renewal costs. Not tracking the remaining life of an asset increases the risk of being unprepared for large unavoidable expenditures.

4.1.1 Strategy

a) Conduct and record an evaluation / assessment of the condition data that exists

b) Determine:

- ***The most appropriate condition data to measure;***
- ***How condition data should be recorded (including what rating system to use);***
- ***How often measured data should be collected (condition monitoring interval);***
- ***Who should be responsible for tracking condition data;***
- ***How the condition data should be analyzed and used (deterioration modelling);***
- ***How work history records should be linked to asset records; and***
- ***How work history records can be reliably used to indicate condition.***

c) Implement:

- ***Documentation of process for collection and upkeep of asset condition data (tied to 1.1 – 1.3)***
- ***Collection and documentation of asset condition monitoring***

4.2 Level of Service

Level of Service is all about understanding what is being provided by the asset and to whom. The level of Service is defined by the following elements:

- Quantity (expressed in terms relevant to the asset group i.e. for roads it may be lane kilometers whereas for water it may be number of connections or total length of mains);
- Location (in terms of where is the asset, and therefore the service, located);
- Availability (is the service available 24/7 or are there some seasonal or other conditions that limit when the service is available); and
- Quality of Service (this is a measure of the benefit that the customer receives).

An asset owner should know about current service levels being provided and this should be recorded and tracked on a regular basis with outcomes reviewed at least annually.

4.2.1 Strategy

Undertake a Level of Service analysis consistent with the Asset Management Roadmap with the objective of determining, in measurable terms, the current level of service being provided and an indication of the cost of service / level of service relationship.

4.3 Assess Asset Renewal Alternatives

To assess Asset Renewal Alternatives means to look at:

- Technologies and methods to replace an asset by a method that is different to how the asset was originally installed; or
- Technologies and methods that do not replace the asset but are appropriate to the circumstances; or
- New and emerging technologies relating to asset replacement or in-place rehabilitation.

4.3.1 Strategy

When completing 3.1 / 3.2 / 3.3 document and incorporate the assessment of all renewal alternatives

- ***Ex: Roads – Crack sealing vs overlay vs repave vs full depth reconstruction***

4.4 Assess Asset Maintenance Strategies

An Asset Maintenance Strategy is a document that identifies the:

- Key goals that maintenance activities seek to achieve;
- Service level to be maintained;
- Parameters or criteria to be used for decision-making; and
- Rules and standards that the activity must comply with or within which it must operate.

An Asset Maintenance Strategy provides guidance to ensure all work tasks are focused on achieving the same goals. Maintenance management has a much larger significance to the organization than just keeping assets functioning. Timely intervention with the right techniques can extend the life of the asset for a cost saving to the organization. Conversely, poor decisions on maintenance intervention and treatment will increase costs.

4.4.1 Strategy

Prepare an Asset Maintenance Strategy consistent with the Asset Management Roadmap by:

i) ***Consider (and document) how maintenance options are currently being decided and by whom (refer 3.1)***
ii) ***Identify (and document) what the maintenance goals are and any criteria or rules applying to maintenance decisions (refer 5.1, 5.2);***
iii) ***Identify what the typical maintenance options are;***
iv) ***Evaluate the maintenance options using the decision criteria and rules (identified in (ii) above);***
v) ***Develop (and document) a maintenance strategy that defines how maintenance work is to be done to achieve the maintenance goals;***
vi) ***Monitor maintenance activities and review overall outcomes once a year; and***
vii) ***Based on the outcome of the maintenance activities, determine if any of the decision criteria for the Maintenance Strategy should be changed***.

5.0 Know the Rules

5.1 Strategic Goals

The strategic goals of the organization are the guiding principles for all activities of the organization. They are usually printed in a strategic plan document and reported on annually. It is common for strategic goals to incorporate sustainability objectives as well as social, economic, environmental and governance goals.

5.1.1 Strategy

- ***Continue to provide regular updates to Strategic Plan***
- ***Regard the principles of Asset Management when forming Strategic Goal statements***
- ***Work to define the connection between the strategic goals and the day to day business decisions and management of municipal assets***

5.2 Legal Obligations and Standards

Legal Obligations and Standards relate to all legislation, regulation, policies, standards and any other requirements that impact or relate in some way to the assets or the services associated with them.

Essentially, reference should be given to any document that:

- Sets out parameters within which the asset must be operated; or,
- Has a requirement or condition that the asset must comply with (i.e. the 'rules').

These requirements can generally be grouped into legal obligations (legislation and regulation) and general standards (industry best practice, guidelines, organizational policy).

5.2.1 Strategy

Produce a single collated list that references and documents all relevant legislation, regulation, policies, standards and other requirements regarding the operation and / or ownership of all municipal assets

- ***Ex: IHA 4-3-2-1-0 Objectives, Canadian Drinking Water Guidelines, MoE Permits (sanitary discharge), etc.***

6.0 Sustainability Monitoring

6.1 Sustainability Assessment

A Sustainability Assessment is a review of whether or not sustainability goals are being met. In the context of asset management practice this will include an assessment of current business processes and outcomes relative to sustainability goals.

At a corporate level, having sustainability goals does not necessarily mean that an organization is sustainable. Likewise, at an asset management level, implementing sustainability programs (such as energy efficiency targets; reduction of carbon footprint; or greenhouse gas emissions etc.), does not mean the assets and services are sustainable. A Sustainability Assessment however compares the outcome of asset activities to the ideals of the organization's sustainability goals. This is necessary to identify if:

- The sustainability goals are being met;
- The outcome of asset activities supports sustainability;
- The business goals for management of the assets are promoting sustainability;
- The sustainability goals are still appropriate and provide the right drivers; or
- The sustainability goals should be amended.

6.1.1 Strategy

Conduct a Sustainability Assessment consistent with the Roadmap that includes determination and documentation of the following:

- ***Current Sustainability Status (what is the current assessment of how sustainably the assets and activities are being managed)***
- ***Desired Processes to better ensure long-term sustainability and required strategies needed to manage long-term sustainability of the asset***
- ***Improvement Gap identification and action plan preparation***

6.2 Coordinating Infrastructure Works

Coordinating Infrastructure Works refers to taking practical steps to try to coordinate physical works projects for the purposes of:

- Saving on total costs by combining projects where possible;
- Reduction in overall disturbance; and
- Increased confidence in efficiency of organization

6.2.1 Strategy

a) Identify and document the current procedure for co-ordination of infrastructure works programs.

b) Conduct an annual infrastructure work program co-ordination meeting