ASSOCIATION OF MANITOBA MUNICIPALITIES

INTRODUCTION TO ASSET MANAGEMENT

INTRODUCTION

THE NEED FOR ASSET MANAGEMENT

A large portion of the infrastructure in Canada is nearing the end of its useful life. This is the result of a significant investment in infrastructure during the 1950s and 1960s which is now approximately 40 to 60 years old. Unfortunately, this infrastructure will not last forever. With this aging infrastructure, municipalities can expect an increase in maintenance and operating costs, and significant increases for renewal and replacement costs going forward.

Having a clearer picture of the current state of your municipal infrastructure can help you make more informed decisions about asset operations, maintenance and renewal.

PURPOSE AND CONTENTS OF THIS GUIDE

This guide will provide readers with fundamental information about asset management and how it can be used to help support municipal operations. While this guide focuses on municipal asset management, the content can be helpful to anyone involved with managing infrastructure assets. Asset management can be complicated, but at its core it is about understanding what municipal assets you have and how to manage them effectively over the long term.

This guide will give you a strong foundation of knowledge so you can better understand and promote asset management in your municipality. The work performed to date in creating asset registers for PSAB 3150 Capital Asset Reporting is your starting point for asset management.

This guide is not a detailed explanation of how to practice asset management. Asset management requires training, tools and expertise that are beyond the scope of this document. However, you will come away with a better understanding of what is involved in asset management so you can work toward implementing asset management practices and principles in your municipality.

This guide contains three sections and an appendix.

- The **Getting Familiar** section provides a high-level introduction to asset management.
- The **Getting Started** section provides a more detailed look at how asset management principles are applied to municipal operations.
- The **Next Steps** section provides practical tips about how to get started and leverage asset management in your community.
- The **Appendix** section provides a list of common terms, useful links to asset management resources and a list of questions that can be used to engage council and determine your familiarity with your municipal assets.

USING THIS GUIDE

Some extra tools have been included to help you better understand asset management and the value it brings.

Definitions and asset management terms

This guide contains a full list of common asset management terms and definitions in the appendix. You will also find relevant definitions in the margins of the pages.

Applying the principles to real examples

Sometimes it is hard to think in the abstract. To help you understand how asset management can be applied to municipal operations, this guide includes a consistent example of how asset management principles can be applied to municipal assets – specifically, we look at how they can be applied to a municipal road. Watch for these examples to help you understand how asset management can help inform your infrastructure decisions.

GETTING FAMILIAR

This section looks at asset management and helps you get familiar with what it is, why it is important and what your role is as a municipal leader.

WHAT IS ASSET MANAGEMENT?

Asset management (or infrastructure asset management) is the way we manage the infrastructure we own. On a personal level, we all practice asset management, although we might not realize we are doing it. We practice asset management by fixing a leak in the roof of a house to prevent more costly damage down the road. We practice asset management by doing regular proactive maintenance to prolong the life of a vehicle. We practice asset management by planning for major upcoming household expenses. We do these things to ensure that we maintain what we own in the most cost- effective way to a standard that we feel is acceptable.

These principles that we apply to everyday life can, and should, be applied to the management of municipal infrastructure assets. Asset management is a municipality's plan for how to manage municipal infrastructure in order to provide services to residents and other users in a way that meets their expectations, and is financially sustainable into the future.

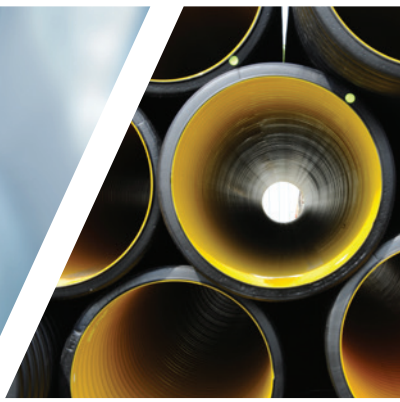
WHAT ARE INFRASTRUCTURE ASSETS?

Municipal infrastructure is made up of the physical assets that exist to provide services to communities. Infrastructure exists to provide services and is critical in maintaining our standard of living, safety, well-being and economic prosperity at the municipal, provincial and federal level. If the service is no longer needed then the infrastructure becomes unnecessary.

Infrastructure assets can include:

- roads and bridges;
- water distribution networks;
- wastewater systems;
- water treatment plants;
- landfills;
- culverts;
- sidewalks;
- buildings;
- equipment;
- and the like.

Municipal infrastructure is important because it provides services residents rely on. Ask someone who has experienced a water main break, sewer backup, or closure of a main street and they readily tell you the impacts of our infrastructure being unavailable.


WHAT IS INCLUDED IN ASSET MANAGEMENT?

There are lots of practices and principles that make up asset management. The International Infrastructure Management Manual outlines seven key principles to apply in your municipality:

WHY IS ASSET MANAGEMENT IMPORTANT?

Asset management is an important tool because it helps municipalities maintain and operate infrastructure in the most effective way so critical services can be provided to the community.

The outputs of asset management planning support municipal decision makers in regards to maintaining infrastructure and providing municipal services. It is not realistic to think municipal leaders can make fully informed decisions when managing these services without knowing information such as:

- full life cycle costs of owning and operating existing or proposed infrastructure;
- levels of service: current, expected future and desired;
- risks and how they are managed; and
- implications of future demands.

Practicing asset management helps provide municipal leaders with this information.

HOW DOES ASSET MANAGEMENT TIE INTO EXISTING PRACTICES?

Strategic Plan

Asset management is an important piece of the municipal management puzzle. Successful communities often have a strategic plan to help guide their development and operations. A strong strategic plan includes the components of asset management, financial reporting, an official community plan and a long-term financial plan. Asset management ties in well with these practices, and can help strengthen the development and operation of municipal infrastructure and the services they provide to the community. All of these tools help a municipality produce a strong operating plan or business plan.

It is important that municipalities have these operational plans in place. Ensuring you have strong plans for governance and administration practices, or service delivery and public safety plans, will ensure the long-term sustainability of your community. Asset management is critical to providing the data to help establish effective planning.

STRATEGIC PLAN
A plan containing the long-term goals and strategies of an organization. Strategic plans have a strong external focus, cover major portions of the organization and identify major targets, actions and resource allocations relating to the long-term survival, value and growth of the organization.

WHAT IS MY ROLE AS A MUNICIPAL LEADER?

Municipalities rely on elected officials, administrators and municipal staff to help ensure that communities run smoothly. All municipal leaders have an important role to play. When practicing asset management, it is critical that both council and staff are engaged in the process, understand the benefits of asset management and buy into the need to practice asset management.

Municipal Administrators and Staff

Municipal administrators and staff can use asset management outputs to help run the municipality more effectively. This can be applied to managing service fees, developing service plans and compiling the municipal budget, to name a few. Delivery and public safety plans will ensure the long-term sustainability of your community. Asset management is critical to providing the data to help establish effective planning.

Elected Officials

Elected officials can use asset management outputs to better inform their decisions about which projects should be implemented and which projects are not in the community's best long-term interest. This information is especially helpful when communicating with stakeholders to help them understand what decisions are being made and why.

Upon seeing the information that is provided from practicing municipal infrastructure asset management, councils will often make statements such as "don't you wish that past councils had done this type of planning?" This begs the question "what is the legacy you want to leave for future councils?"

Having the information provided by asset management can also help with disputes and conflict resolution. As an example let's look at two councillors lobbying for different projects in their community — one councillor for repairs to a local road and another for the replacement of an ice surface at the local arena. Having asset management data can take people and personalities out of decision making. Asset management data allows councils to look at the facts and make evidence-based and informed decisions about what is in the best interest of the community overall. This is a more sound approach than supporting an initiative that may have a loud voice but not a high need. Asset management provides a strong basis for making informed and sustainable decisions about the management of local infrastructure.

GETTING STARTED

This section looks at asset management and helps explain some of the principles and practices you will need to understand in order to implement asset management in your community. Specifically, this section looks at: what makes up an asset management plan and how to develop an asset register; how to apply life cycle costs; how to examine levels of service and use this information for community consultation; cost-effective management strategies; and long-term financial planning.

ASSET MANAGEMENT PLANNING

What should an asset management plan look like?

An asset management plan is essentially a long-term plan for your community. It is a snapshot of the state of your municipality and your plan for the future. An asset management plan does not need to be an exceptionally long document. However, the plan must indicate the expected upcoming infrastructure work (rehabilitations, replacements and new assets) including both the timing and the expected cost of the work. An asset management plan should also include the current funding in place, if any, for upcoming work. Asset management plans also include discussions about the levels of service provided and the risks associated with providing services.

ASSET MANAGEMENT
The systematic and coordinated activities and practices of an organization to optimally and sustainably deliver on its objectives through the cost-effective life cycle management of assets. (IIMM)

How do I get started?

Asset Register

If you want to start down the path of developing an asset management plan, you will need to compile an asset register. Before you can begin to practice asset management, it is imperative that you know what you are trying to manage. The infrastructure that you own and manage is documented in the asset register. Asset registers outline the infrastructure owned by a municipality, describe individual segments of infrastructure, and document key attributes of each segment such as the location, age and current replacement cost.

Accrual Accounting

In Manitoba most municipalities are in good shape to start asset management as they have completed an up-to-date asset register. This is a result of the shift to accrual accounting through the implementation of the Public Sector Accounting Board's recommendation of the PSAB 3150 reporting of tangible capital assets. The good news is, with a few additions, these existing asset registers provide a solid starting point for municipalities to practice asset management. An example of the additional information that might need to be added to existing asset registers is the current replacement cost and the expected remaining life of the asset segments.

What are asset segments and how do they affect my asset register?

The quality of an asset management plan is often directly related to the quality of the asset register. It is important that asset registers are properly broken into asset segments and components.

The asset segments should reflect a portion of the asset that is a reasonable size and that would be replaced at the same time for a similar cost. This means that each segment should have a common:

- year of construction;
- type of construction;
- type of materials; and
- expected useful life.

There are no hard rules for how to segment infrastructure but if an asset has a common timing and type of construction, common materials, and a similar expected useful life then they can be broken into segments of a reasonable length – this might be block by block for roads, or manhole to manhole for a sanitary sewer.

EXAMPLE: Roads

Let's take a look at how you might apply asset segments to a municipal road.

A municipal road might be broken into a segment that is one block in length as it was constructed at the same time and to the same standard. Within this one block of municipal road the segment would also have a number of components including road surface, road structure, curb and gutter, and sidewalks. This ensures that any single asset has a common useful life; since a road structure and a sidewalk are expected to have different useful lives they need to be considered as separate assets.

ASSET REGISTER
A record of the asset information, typically held in a spreadsheet, database or software system, including asset attribute data such as quantity, type and construction cost.

ACCRUAL ACCOUNTING
Recognition of assets, liabilities, equity, income and expenses as they are incurred (and once they satisfy the definitions and recognition criteria for inclusion on financial statements). (IIMM)

LIFE CYCLE COSTS

What are life cycle costs?

Once you know what you are managing, the next step is to understand the life cycle costs of what you own. Using full life cycle costs of assets for decision making is one of the seven key components of asset management.

Municipal infrastructure life cycle costs include all of the costs that you would anticipate to occur during the ownership of an asset. As a vehicle owner, unless it's your first car, you know that the purchase price of a new vehicle is only one of the costs that must be considered when evaluating affordability and future budgeting. That new car will also have operating costs such as registration, insurance and fuel. Over time that new car will require ongoing maintenance such as oil changes, new tires and windshield replacement. You can also anticipate that at some point during ownership of that vehicle there might be major renewals such as rebuilding an engine, or work on the braking system. All of these costs together, experienced over the entire time that the vehicle is owned, make up the life cycle costs of the vehicle. Unless these full life cycle costs are defined and understood, it is difficult, if not impossible, to effectively plan for infrastructure costs going forward.

Back to the car example. When people purchase their first vehicle they often mistakenly plan for only the initial purchase cost and wind up in hot water covering the full life cycle costs. Municipalities can fall into this same trap when acquiring infrastructure assets where initial capital costs do not include the future costs the municipality is committed to when they build or buy a new asset. When looking at infrastructure assets the capital costs can be as little as 20 per cent of the full life cycle costs.

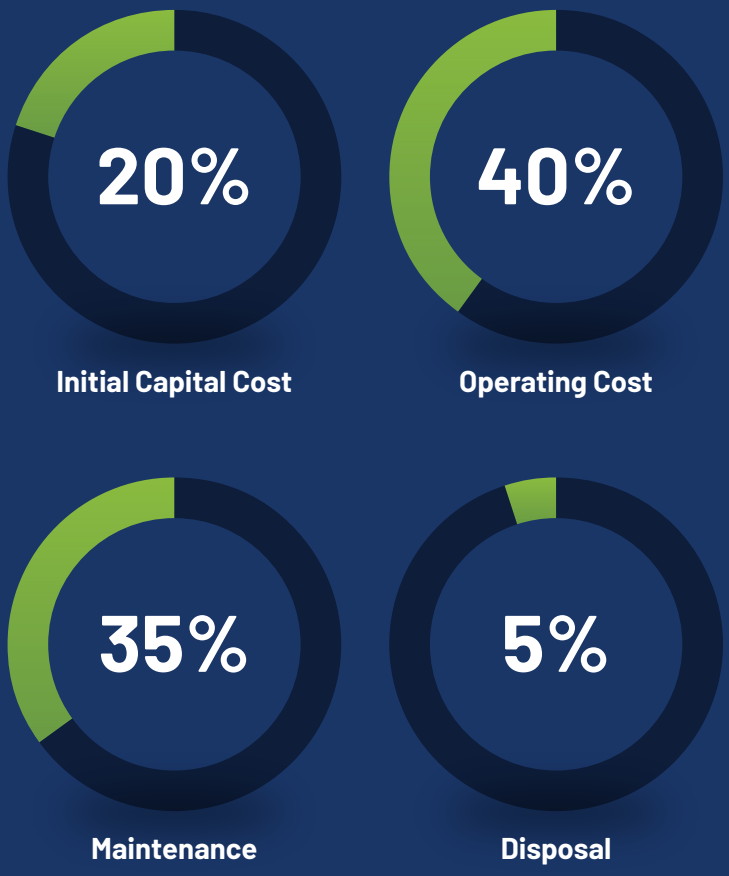
LIFE CYCLE COSTS
The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs. (IIMM)

According to the International Infrastructure Management Manual, full life cycle costs typically include:

- planning and design costs;
- capital costs;
- operating and maintenance costs;
- rehabilitation and renewal costs; and
- disposal costs.

But life cycle costs can also include:

- financial management costs;
- condition and performance modeling costs;
- audit costs; and
- review costs.



Life cycle costs are tied directly to the levels of service that are provided by an organization. As a vehicle owner, if you were not concerned about the reliability or the quality of service provided by the vehicle you might choose not to change the oil, replace old tires, or fix a cracked windshield. This lack of maintenance, repair and rehabilitation would directly impact the life cycle costs, risks and level of service compared to vehicle ownership with regular proactive maintenance and repair.

LEVELS OF SERVICE

What are levels of service?

As consumers we make choices about levels of service all the time. When we book a hotel room, we make a decision based on the hotel's rating and the associated cost. We expect a higher level of service from a five-star hotel than a one-star hotel, but understand that a higher quality hotel room will likely come at an increased cost. Based on our priorities as consumers, we balance between an acceptable level of service and a cost that is affordable to us.

EXAMPLE: Roads

Let's take a look at how you might apply levels of service to a municipal road.

This same principle can be applied to the services that municipalities offer such as transportation networks, water networks, or sanitary networks.

Suppose you are managing a rural gravel road with traffic volumes of 100 vehicles per day. This road could be maintained to various levels of service. In this example, the gravel road is currently being graded once every two weeks. The current level of service can be either increased or decreased, which would impact the associated life cycle costs.

Graded	Level of Service	Cost
Once a week	Increased	Increased
Every two weeks	Current level	Current level
Every three weeks	Decreased	Decreased

LEVELS OF SERVICE
Levels of service statements describe the outputs or objectives an organization or activity intends to deliver to customers. (IIMM)

In the previous road example, the higher level of service would offer users a smoother driving surface, and the safety of the road might be increased as well. The lower level of service would likely have a rougher driving surface and might have additional risks, but costs less to maintain. Given the choice, most people would want the highest quality of road. But when made to understand the full cost associated with that level of service, they might be inclined to choose either the current or even a reduced level of service that still meets their needs but is more affordable.

Asset management, at its root, is really about balancing between the full life cycle costs of various services and the levels of service being provided. It is about knowing what levels of service customers expect and what they are willing to pay.

The level of service is a reflection of the quality, function and capacity of the services being provided. As a municipality do you know:

- the level of service you are currently providing to users?
- the annual cost to continue to provide the current level of service?
- how the current level of service is expected to change in the future given current funding levels?
- if you are meeting the level of service expectations of your users given the costs to provide current, increased or decreased levels of service?

If you are able to answer these questions then you are probably in a good position to plan for future expenditures within your municipality. Many municipalities across the world cannot currently answer these questions – although many are working towards this goal. If you can't answer questions about the current, future and desired levels of service (with associated costs), then it will be difficult to understand the financial implications of owning the asset going forward.

How are levels of service used in asset management?

The levels of service that you provide as a municipality directly impact many parts of asset management including both life cycle costs and risk management. As a rough generalization, the higher the level of service provided, the higher the life cycle costs of providing that service. Levels of service drive the expected treatments in the management of infrastructure. Customer levels of service outline the overall quality, function, capacity and safety of the service being provided. Technical levels of service outline the operating, maintenance, rehabilitation, renewal and upgrade activities expected to occur within the municipality.

When practicing asset management it is important to first document the current level of service being provided. As asset management becomes more established within your municipality, levels of service may be set through consultation with the community. However, it is critical that prior to consulting with the public, the current levels of service along with associated life cycle costs are understood. It is also important to discuss how various levels of service may have different risks associated with them. These risks may play an important role in determining if certain levels of service are acceptable.

How can levels of service affect risk planning?

Each alternative level of service will have unique life cycle costs associated with it as well as unique risks. As a generality, lower levels of service may have higher levels of risk. Being able to clearly document the risks associated with the services municipalities provide supports good management. Risk management ensures council and staff are aware of the risks that exist, as well as the current activities that are used to reduce or manage these risks. Both current and proposed risk management activities should be incorporated into asset management and long-term financial plans.

The effects of risk can be particularly visible when we think about essential services and public safety. Safe, clean drinking water is a good example of how assets with low levels of service can be a risk to public health and safety. What would happen in your community if your water treatment system was unreliable, causing multiple boil water advisories? Or even worse, what if your water treatment system failed completely, leaving your community without access to water or with a widespread public health problem? No municipality or council wants to find themselves in this situation. Effective asset management can help municipalities manage risk and ensure the safety of their communities.

How is community consultation used in asset management?

Asset management plans should reflect the priorities and the expectations of the community. At some point in asset management planning it is necessary to ensure that the services you plan to provide to the municipality are in fact those that stakeholders place the most importance on. It may also be important to determine if the services provided are at a level that the community finds acceptable or if those service levels should be decreased or increased.

Community consultation is not an easy thing to do effectively. To ensure that community consultation provides value for money, as a municipality you need to be both clear on what you are trying to achieve and be prepared with background information. For consultation during asset management planning, it is critical that levels of service are always discussed in terms of the life cycle cost implications and the associated risks. It is important to remember that community consultation is about better understanding the balance between desired levels of service and willingness to pay.

COST-EFFECTIVE MANAGEMENT STRATEGIES

What is cost-effective management?

Utilizing cost-effective management strategies is another one of the seven key components of asset management. Having cost-effective management strategies is about doing the right thing at the right time. This is often more difficult than it seems.

How do municipalities know what the right thing is (maintenance, replacement, etc.) and when the right time is? Not only do municipalities need to know the optimal timing of the work they do, they also need to have the financial resources to do those right treatments at the right time.

Often public works and engineering staff have a good idea of both the type and timing of treatments that lead to optimal infrastructure management. Asset management planning can help determine what cost-effective strategies are. Once a municipality knows the type and timing of cost-effective treatments, it is important that this information is communicated to decision makers to ensure that the funds are available in a timely way.

Asset Management provides a powerful set of tools and practices that help municipalities understand the operating, maintenance and replacement costs of their infrastructure over the long term. It helps Manitoba municipalities determine what is truly affordable, and helps them make good financial decisions that keep their communities strong and sustainable.

– JOE MASI, EXECUTIVE DIRECTOR, ASSOCIATION OF MANITOBA MUNICIPALITIES

How does asset management link to long-term financial planning?

Long-term financial planning is a critical part of municipal management. Financial planning ensures that communities operate in a way that is sustainable over the long-term. Long-term financial planning is about understanding future municipal expenditures and how they will be funded. Asset management is an important part of financial planning because it predicts both the cost and timing of future infrastructure expenditures.

Long-term planning means that municipalities no longer plan on an annual basis; instead they plan over multiple years because asset management allows them to better plan for and predict infrastructure expenses. Long-term planning is important in reducing potential financial 'shocks' to municipalities in the future and allows expenses to be spread out over a long period of time.

COST-EFFECTIVE MANAGEMENT
The proactive, as opposed to reactive, management of the maintenance, repair and rehabilitation activities required to deliver the desired/required level of service while minimizing the life cycle costs of providing the infrastructure.

LONG-TERM FINANCIAL PLANNING
Planning for generating, spending and saving future income and raising and repaying borrowings as appropriate. A long-term financial plan will cover a period of at least three years but preferably longer, and will highlight the financial implications of an entity's proposed activities and anticipated events.

EXAMPLE: Roads

Let's take a look at how you might apply cost-effective management strategies to a municipal road.

You might be wondering how important these cost-effective management strategies are. Take the road repair scenarios below into consideration and you will see how valuable this practice can be.

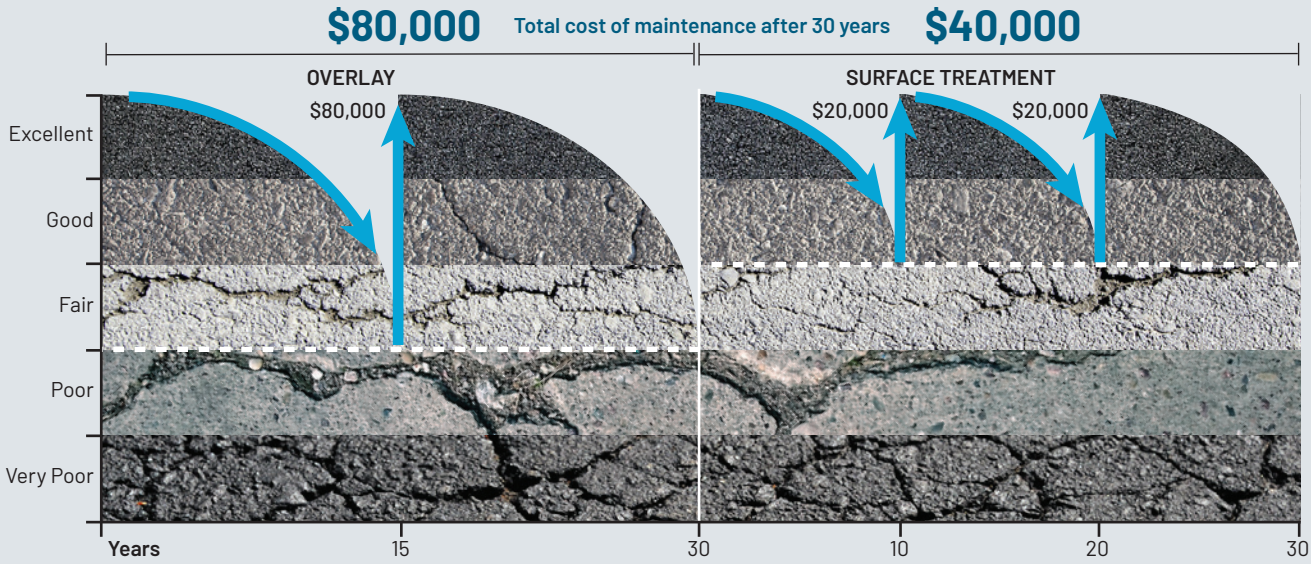
Take these two alternative approaches to the management of road pavement:

1. Reactive Approach

The first is a reactive approach where a municipality essentially waits until the road asset fails and requires a major renewal such as an overlay. In the example shown below, a reactive approach would cost $80,000 over a 30-year useful life, and the condition of the asset would range from excellent to poor.

2. Proactive Approach

The second management approach will consider the same asset segment but will use a proactive method. Instead of waiting for the pavement to reach poor condition, treatments will be applied at the right time. These proactive treatments are more minor than those shown in the reactive approach. The proactive approach has a cost of $40,000 over the 30 years with a condition ranging from excellent to fair.



This example shows that managing the road in a proactive way vs. reactive way, the total cost of maintenance over the 30-year period is reduced by 50 per cent. Not only have the costs been cut in half, but the overall condition was improved over the 30-year period. Reduced overall costs with improved level of service. As an infrastructure manager it is your choice – but it seems like a no brainer!

Source: "Pavement Management: A Guide for Local Officials (Delaware) p. 2-16

NEXT STEPS

This section looks at recommended actions and how asset management information can be leveraged to support municipal operations.

RECOMMENDED ACTIONS

What should I do to get started?

For municipalities that do not currently practice asset management, this new initiative will require additional time and financial resources. To ensure that asset management is successful, council and staff need to understand how they will use this additional planning information and how it will support various aspects of municipal management. As with any new initiative, having an internal champion for asset management will increase the chances of successful implementation. The champion for asset management can be critical in getting organizational buy-in at both the staff and elected levels. An asset management champion can be critical to implementation, but like any new project, asset management needs to be adequately supported and resourced to enable successful execution.

What kind of support is out there?

If you are serious about practicing asset management you may want to look into training opportunities for municipal staff and elected officials. You can also engage support from professional consultants who can help coach you through the development of an asset management plan.

Be sure to reach out to fellow municipalities who are already practicing asset management. They can help provide advice about how to get started and lessons they have learned. Your municipal associations—Association of Manitoba Municipalities, Manitoba Municipal Administrators Association, and Federation of Canadian Municipalities—may also provide support and advice about how to get started. You may want to consider having your asset management champion join the Canadian Network of Asset Managers.

LEVERAGE YOUR ASSET MANAGEMENT INFORMATION

How can I leverage asset management to support municipal planning?

When engaging in municipal planning it is important to remember that all planning tools work together. Strong financial reporting and asset information help with long-term financial planning. Having an official community plan also helps with long-term planning for municipal assets and financial management. Having a long-term financial plan helps to ensure your municipality is sustainable into the future and can effectively manage its assets. All these pieces together contribute to strong municipal operations.

How can I leverage my asset management planning to support municipal operations?

In addition to the benefits outlined in this document, here are some ways you can leverage asset management to make informed decisions and improve municipal operations:

Writing grant and funding applications
Being able to clearly identify your infrastructure needs will be helpful in writing grant and funding applications. A well-written, well-researched and well-supported application will be of greater value to your community. Asset management planning will provide a municipality with a better idea of what type of support is needed and allow you to provide a more detailed account of how any funding will be put to use. This additional information will help improve the quality of your funding application.

Setting user/services fees
Being able to clearly identify levels of service will be helpful when setting user fees. This information is critical to the storytelling and understanding of the quality of services provided and associated costs. No one likes to see their user fees increase, but having a clear picture of levels of service and associated costs can help users better understand how and why rates are set. This gives council the ability to set rates that will improve the long-term sustainability of the asset.

Setting tax rates
Being able to clearly identify your infrastructure needs will be helpful in evidence-based decision making around setting municipal tax rates. Having a clearer picture of what your infrastructure costs to operate and sustain into the future is critical information when a municipality is budgeting and setting associated tax rates for the community.

Leveraging service agreements and partnerships
Being able to clearly identify your infrastructure resources will be helpful in establishing service agreements and partnerships with other municipalities. Being able to pool equipment, share services and purchase in bulk allows municipalities to leverage their collective strengths. Having asset information like an asset register will ensure municipalities are speaking the same language and can compare and coordinate plans.

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APPENDIX

QUESTIONS FOR COUNCIL

The following is a list of questions that can be used to engage council and determine how familiar they are with the state of the infrastructure in their community.

Do you know what infrastructure assets you own, including:

- quantity of infrastructure assets?
- year of construction of infrastructure assets?
- remaining life of infrastructure assets?

Do you know the financial state of your municipality, including:

- total value of infrastructure (current replacement cost)?
- current operating and maintenance costs for various asset classes?
- cost and timing of upcoming infrastructure work (next 10 years)?
- full costs of providing current services?

Do you know the level of service that you are currently providing, including:

- if the current level of service is acceptable to stakeholders?
- if the current level of service can be maintained with current funding levels?
- associated costs of increasing levels of service?

Do you know the risks associated with infrastructure assets, including:

- types of risks?
- current activities to mitigate risks?
- risks that are not acceptable and need to be reduced?

When you commit to new infrastructure do you know the full life cycle costs that you are committing to, including:

- capital costs?
- operating costs?
- maintenance costs?
- disposal costs?

COMMON ASSET MANAGEMENT TERMS

Accrual Accounting
Recognition of assets, liabilities, equity, income and expenses as they are incurred (and once they satisfy the definitions and recognition criteria for inclusion on financial statements). (IIMM)

Asset Management (AM)
The systematic and coordinated activities and practices of an organization to optimally and sustainably deliver on its objectives through the cost-effective life cycle management of assets. (IIMM)

Asset Management Plan (AMP)
Long-term plans (usually 10 to 20 years or more for infrastructure assets) that outline the asset activities and programs for each service area and resources applied to provide a defined level of service in the most cost-effective way. (IIMM)

Asset Management Policy
A document that broadly outlines the principles and mandated requirements for undertaking AM across the organization in a systematic and coordinated way, consistent with the organization's strategic plan. It provides the framework for the AM strategy and AM Plan. (IIMM)

Asset Register
A record of the asset information, typically held in a spreadsheet, database or software system, including asset attribute data such as quantity, type and construction cost.

Condition Assessment
The inspection, assessment, measurement and interpretation of the resultant data, to indicate the condition of a specific component so as to determine the need for some preventive or remedial action. (IIMM)

Core Asset Management (or 'Basic AM')
Asset management which relies primarily on the use of an asset register, maintenance management systems, top-down condition assessment, simple risk assessment and defined levels of service, in order to establish a long-term cash flow projection. (IIMM)

Cost-Effective Management
The proactive, as opposed to reactive, management of the maintenance, repair and rehabilitation activities required to deliver the desired/required level of service while minimizing the life cycle costs of providing the infrastructure.

Current Replacement Cost
The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a new modern equivalent asset (not a secondhand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs. (IIMM)

Demand Management
Actions taken to influence demand for service and assets, often undertaken as part of sustainability initiatives and/ or to avoid or defer required asset investment. Demand management may be 'SUPPLY-SIDE' demand Management (for example: minimizing wastage through pipe leak detection) or customer DEMAND-SIDE management to reduce demand for over-utilized assets or vice versa (for example: through pricing, regulation, education and incentives). (IIMM)

Levels of Service
Levels of service statements describe the outputs or objectives an organization or activity intends to deliver to customers. (IIMM)

Life Cycle Costs (LCC)
The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs. (IIMM)

Long-Term Financial Plan (LTFP)
A long-term financial plan is a plan for generating, spending and saving future income and raising and repaying borrowings as appropriate. It will cover a period of at least three years but preferably longer, and will highlight the financial implications of an entity's proposed activities and anticipated events. (AIFMG)

Renewal
Work to replace existing assets or facilities with assets or facilities of equivalent capacity or performance capability. (IIMM)

Risk Management
Coordinated activities to direct and control an organization with regard to risk. (IIMM)

Strategic Plan
A plan containing the long-term goals and strategies of an organization. Strategic plans have a strong external focus, cover major portions of the organization and identify major targets, actions and resource allocations relating to the long-term survival, value and growth of the organization.

Definitions References

NGENIUM and IPWEA (2011) International Infrastructure Management Manual (IIMM), Association of Local Government Engineering New Zealand Inc. and National Asset management Steering Group, Thames, New Zealand.

IPWEA (2010) Australian Infrastructure Financial Management Guidelines (AIFGG), Institute of Public Works Engineering Australia, Sydney, Australia

LINKS TO EXTERNAL RESOURCES

AMM's Asset Management

www.amm.mb.ca/issues/

Alberta Municipal Affairs – Asset Management

www.municipalaffairs.alberta.ca/asset-management

FCM Asset Management & Sustainability

www.fcm.ca/home/programs/municipal-asset-management-program/municipal-asset-management-program.htm

Asset Management BC

www.assetmanagementbc.ca

Canadian Network of Asset Managers

www.cnam.ca