Development of Asset Management Policy, Governance and Capacity

Participant Workbook

This initiative is offered through the Municipal Asset Management Program, which is delivered by the Federation of Canadian Municipalities and funded by the Government of Canada.

fcm.ca/assetmanagementprogram

About FCM

The Federation of Canadian Municipalities (FCM) is the national voice of municipal government. In leading the municipal movement, FCM works to align federal and local priorities, recognizing that strong hometowns make for a strong Canada.

About AUMA

Founded in 1905, the Alberta Urban Municipalities Association (AUMA) represents 269 urban municipalities including cities, towns, villages, summer villages, and specialized municipalities. AUMA works with federal and provincial governments and business and community stakeholders on a broad range of issues to strengthen the economic, social, cultural, and environmental vitality of its member municipalities.

About RMA

The Rural Municipalities of Alberta (RMA) is an independent association representing Alberta's 69 counties and municipal districts. Since 1909, the RMA has helped rural municipalities achieve strong, effective local government.

About IAMA

Infrastructure Asset Management Alberta (IAMA) represents the greater community of any person, organization or agency engaged in or has an interest in infrastructure asset management.

The 'community' is supported by the IAMA Working Group which is a voluntary group of representatives from associations, local governments, agencies, private industry and/or first nations brought together to recognize and integrate the administrative, technical, operational, financial, and planning aspects of asset management.

Table of Contents

Welcome

Welcome to Development of Asset Management Policy, Governance and Capacity. This course is designed to help you, as municipal staff, complete the asset management process for your municipality. It will include a a series of three workshops (two one-day workshops, with a two-day workshop in between), with guided support in between each workshop. You will receive additional content at each workshop that will build on your knowledge and assignments that will support the development of asset management capacity in your organization.

This course is intended to build on your understanding of asset management and to help your municipality develop an asset management policy, strategy, and internal asset management team. As you progress through the course, you will see that the Federation of Canadian Municipalities (FCM) Municipal Asset Management Program (MAMP) Asset Management Readiness Scale (hereafter referred to as the AMRS) is a great resource to support municipalities in improving their asset management practice. After this course, not all municipalities will be at the same level on the AMRS; however, all participants should take away the skills and knowledge required to progress on the scale.

Some participants may already be familiar with asset management, while others may be new to the subject. This course will allow all participants to build their knowledge and skills and share their experiences with their colleagues and peers. The agenda includes opportunities for group discussions and exercises, as well as assignments that can be completed after the course to help you build your municipality's asset management capacity.

Your participation in the course is invaluable to you and your colleagues. Over the next few months, you will share your thoughts, insights, and experiences. We will also be asking for your feedback through evaluations at each workshop. Your responses will help us continually improve this material for future deliveries.

Using the Workbook

The following icons will help you to navigate the workbook and presentation and workbook.

Learning Goal

Specific learning outcome to be achieved.

Try it out

Actions, questions, or perspectives to put into practice back at work.

Activity

Individual or group exercises designed to put learning into practice.
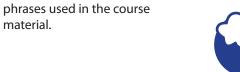
Resources

Additional reference materials and tools related to the topic. Web addresses for the resources can be found at the back of the workbook.

Glossary

Definitions of words and phrases used in the course material.

Reflection

A place to write your own reflections and insights on how you might apply a concept or idea to your own municipal circumstances.

Did You Know?

Interesting facts and insights on asset management.

Module 1—Define Asset Management

After completing this module, participants will achieve the following learning goals:

- Define asset management, service, risk and cost
- Articulate the benefit of asset management and the role it plays in sustainable service delivery
- Describe the tools used in an asset management process and what they are used for
- Describe the implementation of asset management

LEARNING GOAL: Define asset management, service, risk and cost

Municipalities in Alberta are empowered to provide a range of services to their communities through provincial legislation, specifically the Municipal Government Act (MGA). A major component of service provision is taking care of the assets that make those services possible. An asset is a physical component of a system that enables a service or services to be provided. For example, pipes are the assets that deliver water service to homes, roads and traffic lights are the assets that make transportation possible, and recreation centres are assets that allow recreation services to be provided to the community.

Municipalities have been managing assets for a long time. However, asset management is more than just managing assets — it is a systematic, organized, and integrated approach.

Activity

1. As a group, develop a 3-minute presentation on the definition and benefits of asset management. Make the benefits as specific to your municipalities as possible. Include something unique in your presentation to make it interesting. Ideas include: an anecdote from your municipality, "top 5 myths about asset management", etc.

Asset management is a way of thinking about how assets are used to deliver services to a community and its citizens. Asset management helps a community make sure that its physical assets can deliver the levels of service that councils have committed to. Asset management allows a community to examine the services it delivers, understand and manage the risks it faces, and take a holistic view of its assets. Asset management is about making sure communities are sustainable into the future.

> **"The process of making decisions about the use and care of infrastructure to deliver services in a way that considers current and future needs, manages risks and opportunities and makes the best use of resources"**
> *Handbook & Toolkit for Alberta Municipalities*

Asset management is about using systems and processes to balance **cost, risk,** and **level of service** to make informed **decisions** that make sense for your community in the long run. Asset management is not just for large communities. All municipalities make decisions about their assets. The systems and processes don't need to be extensively detailed or expensive; you can start with what you have. Your municipality is likely already using processes for things like planning and budgeting. Asset management is about evaluating and updating those processes to ensure they systematically consider the right kind of information and take a long-term perspective.

WHAT ASSET MANAGEMENT IS:

- a process,
- a means to an end,
- practices for good decisions,
- an ongoing process.

WHAT ASSET MANAGEMENT IS NOT:
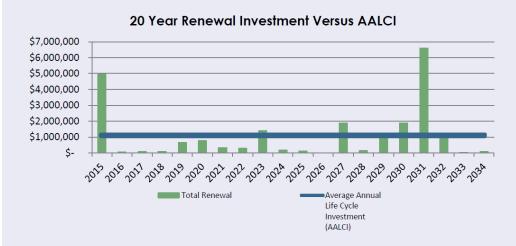
- a single project or plan,
- an end in itself,
- a software program

Asset management means focusing on things like:

- The purpose of your organization and how assets support community goals
- Value, purpose, and long-term outcomes of assets
- Managing risks and understanding the context of risks
- Holistic approaches to budgeting
- Collaboration across municipal service areas and with service partners

When many people think about asset management, they think about developing inventories of assets, doing condition assessments, and undertaking maintenance management tasks. They think this is the job of someone in public works and that they don't need to be involved. Asset management does involve those tasks, but more importantly, it is about connecting asset lifecycle activities to the bigger picture. It requires the integration of information from planning, engineering, public works, and finance.

Renewal investment is the investment needed to replace or renew existing assets that have reached the end of their service life. For example, if a pipe was constructed in 1940 and is expected to have a useful life of 80 years, the full cost of replacing that pipe would be shown in 2020. The total cost shown for each year is the total cost of replacing all assets in a community that are at the end of their service life. It is common to see spikes because often significant infrastructure investments are made at the same time and so the infrastructure reaches the end of its service life at the same time.

20 Year Renewal Investment Versus AALCI

Graphic from Building Community Resilience Through Asset Management: A Handbook and Toolkit for Alberta Municipalities.

Average Annual Life Cycle Investment (AALCI) is the average annual investment needed to renew or replace assets at the end of their service life. It's the amount that a municipality would save each year in reserves if the strategy was to pay for the replacement of the assets in full at the end of the assets lives. For example, if a segment of pipe cost $80,000 and the pipe is expected to last 80 years, you would theoretically save $1,000 per year for the life of the pipe so you could pay to replace it at the end of 80 years. The total AALCI for a municipality is the sum of the average for all infrastructure. Since it is very uncommon for municipalities to fully fund replacement of infrastructure from reserves, this is more of a theoretical value that is used for communication and planning purposes only.

This is a common approach to considering the amount that will need to be invested in assets over time. The sample chart above shows the renewal investment and AALCI for a town's asset.

Group Discussion
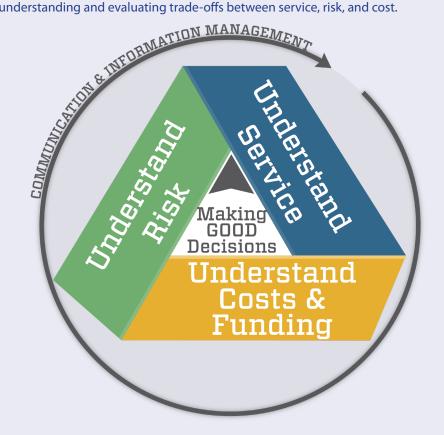
Do you have this kind of information in your community?

How would you respond to this if you received this information about your community's infrastructure?

Key discussion point

Asset management is a scalable process of ongoing continuous improvement. The purpose of asset management is not to eliminate your deficit, the purpose is to manage it by understanding and evaluating trade-offs between service, risk, and cost.

Source: Alberta Handbook & Toolkit

There are lots of ways of approaching asset management – but at even the most basic level, asset management is always about informed decisions with an understanding of service, risk, and cost.

The difference between an entry level approach to asset management and a mature, in-depth approach is not what content is considered, but increased data accuracy, levels of analysis, integration, documentation, and formalization of processes.

Try it out:

Different people often hold different perceptions of what asset management means based on their role and responsibilities. Ask your coworkers what they think asset management means, and how it could help your community.

Service

Sustainable service delivery is at the centre of asset management. Having asset management processes in place will help you to be clear on what services you're providing, at what level, and how the service needs may change over time. Constituents are the recipients of services and will therefore have an important role in determining what services will be delivered and to what level. It is important that constituents are engaged somehow in these decisions – either directly or through their elected officials. However, decisions about service delivery should always be made in the context of the cost of delivering services and the associated risks.

The **level of service** is a measure of the quality, quantity, and/or reliability of a service from the perspective of residents, businesses, and customers in the community.

Understanding service means having a consistent understanding of:

- The types of services you provide;
- The groups of residents, institutions and businesses you provide them to;
- The level of service that is currently delivered (performance); and
- The level of service that you're aiming to provide (target)

Levels of service ultimately link back to what customers experience and care about. Municipalities can practice thinking critically about level of service and understanding service through a community lens. A strong understanding of level of service needs to be clear and consistent among council, staff, and the public.

Activity

1. What are the services you provide in your community?

2. Why do you provide those services?

3. Who are your service delivery partners – currently and in the future?

4. What mechanisms do you use to define and communicate the level of service?

5. Where is there some lack of clarity about the level of service the community provides or is aiming to provide?

Risks are events or occurrences that will have undesired impacts on services. When assessing risk, it is important to consider the impact of the risk and the likelihood of occurrence.

Understanding risks and where they are is important to managing assets effectively. Risks cannot be entirely eliminated, and sometimes mitigating risks can be expensive. As an organization, you may decide that some risks should be tolerated. Tolerating risks is perfectly acceptable, as long as it is an informed decision to tolerate risk.

Risk = Impact × Likelihood

Asset risk describes the risk of an asset failing to perform the way you need it to deliver a service. For example, a pipe bursting, roadway washing out, or lagoon reaching capacity all describe types of asset risks.

Strategic risk describes a change that would affect your ability to achieve municipal objectives. For example, the public works manager retiring without a transition plan in place, a declining revenue base, or changing regulations are strategic risks.

IMPACT

LIKELIHOOD

Managing risk is not always as straightforward as eliminating risk, and every community and asset has a different level of **risk tolerance**. In some cases, a community can mitigate risks but not eliminate them altogether. For example, a community that faces drought conditions each summer can enact water conservation measures and educate the public, but may not be able to prevent the need to enforce water restrictions. In other cases, the level of risk may be manageable, but a municipality may choose to tolerate the risk because other priorities are more urgent. For example, a side road in poor condition may be a nuisance for the small portion of the population that uses it, however, investment in repairing the road may be delayed to pay for the cost of repairing a burst pipe.

Asset management involves the consideration of a community's risk tolerance: the level of risk the municipality can reasonably handle. Attempting to reduce risk as much as possible is prohibitively expensive, and unnecessary. Municipalities and their constituents understand that things aren't going to be perfect 100% of the time – but the important things need to be pretty good most of the time. Your risk tolerance will be informed not just by the magnitude of the risk (the consequence it will have and the likelihood that it will happen) but also the cost of managing or reducing the risk. This is an example of a trade-off between risk and cost.

Risk management refers to the process of identifying and assessing risks, identifying and evaluating actions that can be taken to reduce risk, and implementing the appropriate actions. Risk management is an iterative process, meaning that the desired result is achieved through repeated efforts, rather than through a single action.

Climate Change in Alberta is often experienced through changes in precipitation patterns, temperatures, and the frequency and intensity of extreme events, all of which threaten a community's ability to deliver sustainable services.

Climate change is an example of both asset and strategic risk. It is an asset risk because changes to temperature and weather patterns may impact the ability of your infrastructure to perform as it was intended to; for example, increased rainfall may overwhelm your stormwater system because it was built for a different capacity and range of events. Climate change is also a strategic risk because it changes the assumptions under which services are delivered, which may force your community to draw resources away from some goals towards others. For example, if your community's water source is becoming compromised by hotter, drier conditions, resources may need to be shifted to find another water source or better secure the existing one.

Sustainable service delivery requires continuously balancing trade-offs between service, risk, and cost. Climate change introduces impacts that may:

- Amplify the risk of asset failure

- Reduce the useful life of the asset

- Reduce the level of service

- Increase the costs of managing risk

Incorporating climate change factors into the asset management process can help assess the vulnerability of assets and provide the opportunity to introduce additional considerations into capital planning and operations and maintenance processes to mitigate the potential impacts of climate change on service delivery.

The Municipal Climate Change Action Centre (MCCAC) is a collaborative partnership among AUMA, RMA, and the Government of Alberta. It delivers funding, technical assistance, and education to municipalities and a variety of organizations to reduce the impacts of climate change and enhance climate resilience. https://mccac.ca/

Activity

1. How is risk identification and risk management identified in your capital plan? How is risk tolerance set in your community? Is there consistent understanding of which risks are acceptable risks, and which are not?

2. As you think about risks in your various assets, where do you think you are the most vulnerable to disruptions in service delivery resulting from the adverse impacts of climate change?

Cost

In asset management, costs include the financial and human resources required throughout the lifecycle of the asset. We intuitively understand that there is a connection between cost, level of service, and risk, but we often limit our considerations to the immediate situation. When considering cost in trade-offs, it's important to think about the following considerations:

- Replacement costs of current assets and the timeline for these costs

- Capital costs of new assets and timeline for these costs

- Expected operating and maintenance (O&M) costs for current and new assets

- Actual operating and maintenance costs for current assets

- Relationship between capital cost and O&M costs (full lifecycle cost)

- Past and projected trends in O&M costs over time

- Revenue sources for future capital and operational costs

Activity

1. How does your capital planning process evaluate trade-offs between service, cost, and risk? What is working well in this respect, and what could be improved?

2. How are revenue sources evolving in your community, and how might that impact service sustainability in the future?

There is no 'right answer' when it comes to evaluating trade-offs. What is important is that there is information and a process available to consider the trade-offs effectively for today and the future.

LEARNING GOAL: Articulate the benefit of asset management and the role it plays in sustainable service delivery

Benefits of Asset Management

Asset management helps municipalities deliver services effectively, efficiently, and in a way that protects the long-term interests of the community. It helps you to deliver the services that are important to your community, get the biggest bang for your buck from your assets, and set your community up for success.

Align the organization with things that matter most.

At its core, asset management is about service delivery. Effective service delivery requires that priorities are set and decisions are made through a lens of what matters to constituents in the short and long term. It also helps reduce duplicate work and unnecessary interruption to constituents' access to certain services. For example, asset management would help a community prioritize projects that align with the community's vision and priorities outlined in its strategic plan, or help prioritize a water main replacement based on risk to service outages and coordinate such work with road projects to minimize traffic disruption and lifecycle costs identified in the community's transportation master plan. Asset management should integrate and align with other municipal plans.

Defensibly prioritize projects and allocate resources.

Asset management helps communities decide what infrastructure needs to be replaced, when, and how much needs to be saved for infrastructure renewal. Taking a systematic approach supports efficient use of resources and equips a community with strong evidence that can be used to communicate why decisions are made, particularly when the need for investments is unclear or controversial to the public. For example, asset management can be used to help a municipality identify the need for water main replacement throughout the community, and plan for these costs. It can also be used to evaluate competing priorities, such as a town hall upgrade or the development of a recreation trail.

Systematically manage risks to service delivery.

Asset management supports the management of both **strategic risks** and **asset risks** – leading to sustainable service delivery. For example, many communities in Alberta face risks related to their roads. There are risks that specific roads will fail because they are in poor condition (asset risk) and there is an overall concern that deteriorating road conditions will lead to complaints from the public and potential safety issues (strategic risk). There isn't enough money to fix all the roads, especially given all the other financial demands on the community (also a strategic risk). The level of service for roads is decreasing and there are weight restrictions on some roads with no plans to correct them (risk to service sustainability). Asset management helps a community identify overall funding needs for sustainable service, prioritize where and when money should be spent repairing roads to appropriately manage risks, identify how much should be saved for long-term maintenance, and understand how to effectively respond to public complaints.

Demonstrate accountability to community.

Asset management establishes a clear and systematic approach to making decisions, prioritizing resources, and planning for the future, which in turn demonstrates municipal accountability. For example, asset management will help a municipality explain to a small (but vocal) group.

Position your community to take advantage of provincial or federal government incentives.

There may also be opportunities to align with government incentives for asset management. Provincial and federal governments are increasingly looking for indicators that a local government is practicing asset management in grant applications. The 2014-2024 Gas Tax Agreement between Canada and Alberta included requirements that Alberta develop an approach to asset management. In 2016, the federal government approved Alberta's approach, which includes the following components:

- Publishing an inventory of current asset management tools and resources
- Supporting the development of new tools that support asset management
- Enhancing existing advisory services and training opportunities
- Assessing existing gaps and expanding tools and resources where required
- Reviewing corporate planning requirements as part of the MGA review

ASSET MANAGEMENT IN OTHER PROVINCES

Each province has committed to making progress in asset management through their respective Gas Tax Agreements with Canada, and each province is choosing their own approach. For example, in British Columbia, the emphasis is on making progress on achieving outcomes defined in the BC Asset Management Framework. In Ontario, there are requirements to have specific asset management plans that demonstrate their infrastructure funding needs. The specific provincial requirements may change over time as each province learns what is effective in their context.

Beyond providing a networked community of peers working in Asset Management, Infrastructure Asset Management Alberta (IAMA) hosts three educational workshops per year to advance the practice of Asset Management in our municipalities. Their website, https://assetmanagementab.ca/, provides resources from previous workshops that can provide a valuable source of information on a variety of different topics of relevance to communities of all sizes.

Activity

1. What are the most important objectives for your community to achieve from asset management?

2. In the next one year?

3. In the next five years?

4. Into the future?

LEARNING GOAL: Describe tools used in an asset management process and what they are used for

Asset management isn't just about planning and policy documents. However, as part of a robust process, these can support decision-making by documenting community goals related to assets and providing a roadmap for how to achieve these goals. We're going to spend some time reviewing the different tools available to guide asset management and how these are used. It is not necessary to have all of these documents to practice asset management. You can start with where you are and build your practice, for example, using an asset management lens in decision-making, building an inventory, and starting the asset management planning process. For reference, examples of policies and strategies can be found in the Resources section.

Asset Management Policy

An asset management policy is used as the connection between council's strategic guidance and staff's operational processes. Asset management as a practice touches on many parts of a municipality's operations, and so there are various ways a municipality may choose to adopt policy related to asset management. A municipality may choose to develop a standalone asset management policy, or may choose to develop or update a series of policies related to areas like finances, human resources, training, etc. to incorporate an asset management lens.

The specific way that policies are organized is not important (whether asset management is covered in one policy, or many policies) – as long as it makes sense for your municipality and the policies are followed. The content and purpose of the policies are important though. Policies related to asset management should accomplish the following:

- Outline an organization's commitment and mandated requirements for asset management
- Link to the organization's strategic objectives
- Be shaped by the organization's values and priorities, as well as community objectives
- Outline principles to guide decision-making about assets (for example, incorporate lifecycle costing, adopt a risk based approach to setting priorities, etc.)
- Outline the corporate approach to funding and financing asset acquisition, renewal, and operations and maintenance

Council's role is to provide the direction and strategic guidance that is captured in the policy.

Asset Management Strategy

As part of developing and maintaining asset management practices, council may be asked to endorse an asset management strategy. The asset management strategy is primarily for staff use, but council may provide input on the document. Council's endorsement is an important signal that the implementation of the strategy is important to the municipality. Implementing the strategy may require some re-alignment of staff and financial resources, so it is important that council knows about the asset management strategy being adopted. The asset management strategy should accomplish the following:

- Outline the framework and approach for implementing the asset management policy/policies
- Serve as the conceptual structure for the asset management system (series of practices and processes developed by the organization)
- Define the key components of the asset management system and interactions with other organizational processes (such as capital planning, budgeting, financial planning, etc.)
- Identify objectives (specific, measurable outcomes required of assets and asset management) and reporting requirements

- Provide an overview of current corporate assets, services, risks, costs, and funding

- State status of corporate asset management practices

- Identify goals (the general intent of your strategy, what you want to achieve at a high level) and timelines for the goals

- Outline the approach that you will take to improve asset management practices

- Outline relationships between other corporate initiatives or plans (such as the Municipal Development Plan, the Integrated Community Sustainability Plan, the Intermunicipal Collaboration Framework, etc.)

Asset Management Plan

An asset management plan supports the implementation of the asset management strategy. An organization may have one asset management plan, or it may have one for each grouping of assets. It is unlikely that council will be involved in the development of the asset management plan – council's direction should be provided through the policy and strategy. However, it is important for council to know whether or not the municipality has an asset management plan(s), and how these plans have been used to support processes like capital planning and budgeting. Asset management plans may also be useful in providing information about cost, service, and risk to support council in evaluating trade-offs in decision-making. Staff may provide updates on the progress of the asset management plan.

Asset management plans will do the following:

- Outline specifically how asset management practices and processes will create, maintain, and renew infrastructure and other assets

- Provide comprehensive information about assets, their condition, and how they are performing

- Identify the current level of service performance and desired level of service

- Categorize asset risks and strategic risks

- Define capital and operational projects required to deliver service and mitigate risks

- Define current and projected costs and funding

- Provide a timeline for implementation

- Articulate the consequences of not following the plan

Software

For some people, when they think about asset management, they immediately think about databases, inventory, and the never-ending quest for good data. Data and information are important—good data ensures that your decisions are based on a solid understanding of your assets. However, it is important to remember that data is just one component of asset management, and data collection is an ongoing process that you can start and improve over time.

Tools are important, but asset management software is best used when there are good processes in place already. Before investing in new software, figure out what your organization needs by reviewing what data you have and what you need to collect and keep track of moving forward. For more considerations in selecting a software, see FCM's questions to ask before your municipality considers asset management software, which is included in the resources section of this binder.

This section will review various aspects of data and information involved in asset management. It is not meant to provide a comprehensive review of how to collect, store, and use data – that will be up to staff in your organization.

Collecting data is often a major hurdle to asset management, but it can start simply and does not have to be overwhelming.

Activity

1. Look through example policies and strategies provided in the Appendix section at the end of your binder. Evaluate what you like and don't like about each, and why

LEARNING GOAL: Describe implementation of asset management

One of the most common questions about implementing asset management is where to begin. Implementing asset management can start with whatever step makes most sense for your organization. Understanding what is driving the desire to implement asset management and what you want to achieve can be helpful in this decision. However, if you're still not sure where that might be, a potential pathway has been outlined below. This pathway shows you where to start, and is also a roadmap for continuous improvement.

Regardless of where you start, if the data, plans, policies, software, and tools that you create don't impact the decisions made about asset construction, operation, maintenance, or replacement, then you are not actually implementing asset management. Just developing a plan or policy alone is not implementing asset management.

Implementation

1. **Identify a champion and build a team**

   Building a team and the support network you need (internal and external). The team should include someone who knows about finance, operations, planning, and engineering. The champion needs to be able to bring people together and keep it going.

2. **Assess assets**

   Bring together available information on your assets to get a high-level snapshot of what you own, the level of service you're delivering, asset risks, and costs. Compile it into a central inventory or location. Use the information you have as a start. You can improve it later.

3. **Assess asset management practices**

   As a team (and maybe even more broadly) assess your current practices related to understanding services, risks, and costs, and making decisions. You might already be doing asset management in certain areas, but calling it something else. AssetSMART is an assessment tool that can be used for this assessment.

The minimum factors for success are:

A champion

You need someone who can drive asset management forward. The department or title of this person doesn't matter, but they need to be good at bringing people together.

A team

The champion will be supported by a cross departmental team. At a minimum, the team should include someone from finance, public works, engineering, and planning.

Support from management and council

Since asset management is ultimately about decision making, it is very difficult to be successful in implementing asset management without support from management and council. You might not have this support from the very beginning, as some up-front work might be needed to frame the issue and build buy-in. You shouldn't invest much time or money in developing expensive plans or collecting data without senior support.

4. Identify priorities for improvement

Based on your assessment of assets and asset management practices, select priorities for improvement. These might be capital or operational projects to mitigate risk or increase service, or they might be initiatives for improving understanding of service, risk, or costs and funding.

5. Implement and monitor

Implement what you've planned to address your top priorities. This might include capital projects, conducting maintenance, updating or maintaining data, or developing policies, strategies, or plans.

Ongoing decision making

Alignment with regional service delivery

Many communities have assets that also contribute to regional service delivery – for example, some communities own the sanitary sewer collection in town that connects to a regional treatment facility that services several communities. When making decisions about these shared assets, it is important to think about the impacts to the decisions about the individual municipality's assets, and vice versa.

For example, if some of the communities that connect to the regional wastewater treatment facility started to experience increases in infiltration and inflow to their collection system during rainfall events, the regional facility's ability to handle the increased capacity demands would be reduced. This could eventually trigger the need for a facility expansion. Since that facility is a shared asset, the risk and cost associated with changing the service would need to be shared by all parties. Alternatively, the municipalities that are experiencing the increases in infiltration and inflow could investigate ways to improve their collection system to reduce infiltration and inflow contributions to the regional system. Both of these approaches are ways to address the challenge of increased infiltration and inflow, and should be evaluated with an asset management mindset on the scale of the individual municipality as well as with service delivery partners.

Communication for good decision making

To realize all the efforts put into developing your asset management team and tools, it is critical to be able to communicate information in a way that they understand, so that they can use what you prepare in their decision-making. Your council may not have the same background in infrastructure design and management that you do, so you need to be able to communicate with them about assets and asset management in a way that relates back to the services being provided to the public. You can help your council in many ways, such as:

ENGAGING COUNCIL IN ASSET MANAGEMENT

"Council has the final say in major decisions about service, risk, and cost – and therefore it is critical that council is informed and engaged on an ongoing basis about asset management."

Alberta Handbook & Toolkit, pg. 23

- Raise council's awareness of asset management. Educate them on what you are learning in this course as well as others you may have taken;

- Hold briefing sessions with your council to share general information on asset management and engage them in discussions about the state of the community's services and assets and how that translates to service delivery to the public;

- Encourage your council to consider level of service and risk when making decisions on planning, service, and financial matters. Continue to link levels of service to cost, ensuring that they fully appreciate that higher service increases cost, and vice versa;

- Highlight the links between council's strategic priorities and asset management;

- Discuss the needs of the organization to start implementing an asset management policy and asset management strategy. Ensure that they are aware of the need for a cross-functional team: although this may require resources, it will ultimately lead to better and more sustainable outcomes;

- Engage your council in a discussion over the significant risks that face your community, and what you are doing to manage them. Ensure that they are aware of the role they play in risk management; and

- Report annually on the state of your assets: ensure council knows their condition and what long-term investment may be required; and

- Celebrate successes in asset management with your council, including milestones met, costs saved by extending asset lifecycles, or processes that were made easier due to progress in asset management.

Try it out:

Include an update on your attendance at this course in your next council meeting, including the specific benefits that your community will see out of improving asset management. Ask your council about how they think asset management could help them in their role as decision-makers.

Discussion Point

Your asset management team may not be limited to your municipality. By thinking beyond our local areas, we are able to collaborate with our neighbours to achieve greater economies of scale and better service delivery. There are many services that can be delivered across municipalities or regions, such as water, sewer, and solid waste. Municipalities can share the costs and risks associated to their assets, while delivering a more consistent level of service throughout the region.

Asset management systems can help you and your partners in service delivery identify where there are services that could be better shared and to work together to make the most efficient use of your pooled resources.

Partnering with your neighbors to create intermunicipal agreements promotes regional cooperation, can reduce the costs and risks of a service, and increases the level of service.
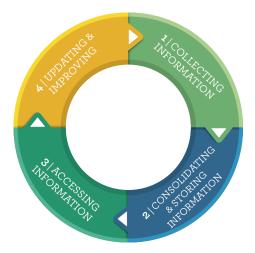
Reflection:

Which services are you currently delivering regionally? How are decisions about that service made? Do you see opportunities to incorporate asset management principles into these decisions?

Information Management

Appropriately accurate information is an important support to good decision-making. To support those decisions, information must be collected, consolidated, organized, and accessed by those that need it – it's all about getting the right information to the right people, at the right time.

1. Collecting Information

Asset management practices involve collecting and consolidating information about the municipality's assets and services so that it's available to inform decision-making. This information doesn't need to be perfectly accurate – starting with even anecdotal information or estimates from knowledgeable staff provides value to decision-making.

Source: Alberta Handbook & Toolkit

The level of detail will depend on your needs and resources. For example, if you are trying to develop a long-term projection of what your asset replacement costs might be, assets can be grouped into large and general categories – there is no need to get into specific details because things will change over time and your aim is only to develop an estimate to help you plan. However, if you're trying to decide which water mains should be replaced over the next two years, you will need more specific and accurate detail about size, location, fittings, connections, and condition.

You may have high levels of detail for some types of assets, and low levels of detail for other types of assets – it all depends on what is needed to reasonably inform decisions.

2. Consolidation and organizing Information

Once information is collected, it needs to be consolidated so that it can provide a snapshot of the state of the organization's assets and is accessible for decision-making. The information should be compiled and organized in a way that is appropriate to the municipality. Specialized software may be preferred, but basic Geographic Information System (GIS) information with an Excel inventory can be good enough for many small communities, and a great place to start for some larger communities.

3. Storing and Accessing Information

Staff should know what information is available, how accurate it is, and what limitations there are to the information. When information is shared or accessed across departments, there should be effective communication about information needs.

4. Updating and Improving Information

Information will need to be updated as circumstances change. Regular updates ensure that information remains usable. Again, council's role is not to update or improve information; council supports staff and provides the resources they need for updating and improving information, e.g., through budgeting for resources to support asset management practices.

Information doesn't need to be completely accurate, it needs to be appropriately accurate. What is appropriate depends on the nature of the decisions it will be informing. High stakes decisions require higher accuracy information. For example, having the accurate location of water main valves is important because valves need to be accessed quickly in the event of a main break. But having the precise location of every park bench in the city is less important; it's likely sufficient to know the number of benches in each park.

This is a process of continuous improvement – information doesn't need to be perfect from day one.

Activity

1. What do you envision implementation of AM will look like at your organization?

[ ]

2. What are some ways you think you might be able to measure implementation of AM?

[ ]

5. Opportunities to use existing data

"There is a perception that asset management requires a lot of detailed data about all of your assets – but this information can be time consuming and costly to collect. Just like asset management, information management is a process of continuous improvement. It's best to start by pulling together all of the data and information you already have to see what it tells you about your services, risks, and costs, and then to prioritize improving information where it's going to make the biggest improvement to your decision-making."

Alberta Handbook and Toolkit, pg. 19

Start where you are! Assessing the data you have to work with today is part of assessing your current state of asset management. Information will need to be updated as circumstances change, Regular updates ensure that information remains usable.
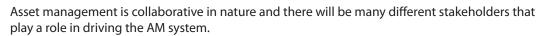
In this course, we will not be getting into the specifics about developing your asset inventory. If you would like to learn more, refer to the *Alberta Handbook and Toolkit, pg. 23*.

Module 2 – Define human and financial resources required for asset management

> **After completing the module, participants will achieve the following learning goals:**
>
> - Describe the roles and responsibilities of stakeholders in asset management
> - Describe the attributes of a successful asset management team
> - Estimate Financial Resources Required for AM

LEARNING GOAL: Describe the roles and responsibilities of stakeholders in asset management

Asset management is collaborative in nature and there will be many different stakeholders that play a role in driving the AM system.

Council	• Champions asset management in the community. • Provides leadership through setting direction and relevant policies. • Acts as a steward of community services. • Supports building community resilience. • Considers asset management information and mindset in day-to-day decision-making. • Allocates resources towards asset management through budgeting.
CAO	• Employee of, and accountable to, council. • Responsible for working with administration to implement council direction. • Directs and supports staff in developing appropriate asset management processes and systems and shares information with council on asset management progress.
Staff	• Develops and implements asset management practices. • May be involved throughout the asset management process, including background research, data collection and management, community engagement, risk analysis, level of service reviews, capital planning, and monitoring of practices. • Accountable to the CAO, not council.

Community constituents (including residents, businesses, and institutions)	• Receive services.
	• Pay rates and taxes.
	• Are the "why" of service delivery.
	• When community members are unhappy, the elected official may be their first point of contact. Information and accountability are important to the relationship between the elected official and community members. Asset management helps to provide this information and demonstrate accountability.
Partners (such as other municipalities, other levels of government, or private service providers such as EPCOR Utilities)	• May work with the municipality to deliver a service. In this case, the municipality will still need to steward sustainable service delivery.
	• Partnerships may be used to deliver services to the public, or even to achieve asset management objectives, such as an up-to-date database of asset information.
	• An Intermunicipal Collaboration Framework may identify opportunities and strategies for partnership among municipalities.
	• In cases where partnerships relate to infrastructure-based services, it is important to identify who in the partnership will be responsible for asset management of joint assets.
Consultants	• May be hired to provide specialized asset management services or for other aspects of service delivery where asset management may be relevant (e.g. establishing utility rates, etc.).
Federal and provincial governments	• Have implemented incentives for municipalities to develop asset management processes.
	• Communities receiving grants from other levels of government may be required to demonstrate their need for the investment by describing their asset management practices.

Activity

Explain the role of each group, who could be a part of each group, and the implications on the success of the AM strategy:

1. Council and chief administrative officer (CAO)

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2. Senior management team (SMT)

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3. AM champion (AMC)

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4. AM steering committee

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```

5. AM implementation teams

[blank response box]

6. AM cohort learning network

[blank response box]

Activity

1. What will you need to do to build organizational support for your AM policy and strategy?

[blank response box]

LEARNING GOAL: Describe the attributes of a successful asset management team

Asset management is intended to build your municipality's capacity to make better organizational decisions. Communication and information management are a key focus of this practice and lay the foundation of AM practices. Decision-making is improved when the right people have the right information at the right time.

In order to support this goal, requires a process of communication and ongoing information management – supported by a culture of teamwork. Asset management is not about having perfect information. It is about ensuring that decisions are made using the best information available, and then improving information where appropriate.

> "Making decisions requires that the right information reaches the right people at the right time. Working across disciplines and departments is required to make this happen."
>
> *A Handbook & Toolkit for Alberta Municipalities*

Building a team

Asset management processes can be scaled according to the size and capacity of any municipality. You don't need to be a big city to have an asset management team, though your team will look different from theirs. It's important that each municipality designs an asset management system that meets their organizational needs and abilities.

Municipalities with smaller staff and capacity will probably have asset management embedded into departments, whereas larger municipalities may have a specific role dedicated to asset management. Either way is acceptable, and still forms a team!

When building your AM team, it is helpful to keep in mind what you will be trying to achieve and what resources you will need to get there. Some communities may choose to appoint or hire a project leader that is dedicated to the task of asset management whereas other communities will draw on existing staff to take on leadership roles within their department. In both circumstances, a culture of teamwork and communication is necessary to deliver the most pertinent information for decision-making.

Cross-functional groups will reflect the size of your community: in smaller communities, it may mean the CAO and the public works manager working together; and in bigger communities, it may mean having a representative from each relevant department meeting regularly. Regardless of the number of participants on your team, you will need cross-functional representation and a champion to drive initiatives forward.

Your AM team will require a minimum involvement of staff who have knowledge in the following areas:

- finance
- public works
- engineering
- planning

All these different perspectives will probably have different objectives for asset management. For example, finance may want to explore long-term financial planning, and public works may want to investigate a new system for organizing and directing repair work. This is absolutely ok – and is actually necessary – for your AM team. Having an interdisciplinary team helps to identify the bigger picture of an approach that can meet multiple, diverse objectives.

Building corresponding competency in people and leadership

Building a team that will lead the implementation of the AM system will require setting up cross-functional groups with clear accountability and ensuring adequate resourcing and commitment from senior management and council. In addition to identifying the players (or roles) that are needed on the team, you also need to think about the competency and skills of these players.

When considering the competencies of your AM champion and team, keep in mind these key attributes for success:

- Leadership qualities, ability and influence to motivate the broader team towards improvement in asset management,

- Equipped with an understanding of asset management and how it connects from policy to specific activities,

- Ability to communicate asset management approaches, progress, and challenges to others throughout the organization,

- Clear accountability and commitment to working together to advance asset management.

Additionally, the successful AM team will also possess the following characteristics:

- Ability to work together and promote a culture of communication,

- Considers and gives weight to all the perspectives and functions that are represented,

- Collective sense of accountability to asset management and improvement in asset management.

Resourcing and commitment

You probably have a dream team in mind for your AM strategy. It's important to think through what resources and support they'll need in order to be successful. This includes both the hard things like financial resources required, as well as the softer things like support for committing part of their time to asset management, as well as opportunities for training and skill building, and a support network that they can bounce ideas off.

Council plays a critical role in setting the tone for what is important in a municipality. Council's leadership is influential and can be very impactful in moving an organization along in developing and implementing asset management practices. Ensuring that you have Council's support to secure the resources and support for your AM team, as well as to support required policies and strategies, are vital steps to making sure that staff's efforts will lead to meaningful results.

Activity

1. How have you assigned responsibility for AM in your organization to date? What do you have that is working well, that can be leveraged? What gaps do you need to fill?

LEARNING GOAL: Estimate Financial Resources Required for AM

The basic requirements to getting started

Starting your asset management plan may not be as hard as you think. However, there are a few basic steps that you will want to complete before launching your asset management strategy:

1. Identify a champion that is committed to driving your asset management practice forward. The most important attribute of a champion is their ability to mobilize their team to work collaboratively.

2. Identify a team that will support the project across departments of your organization. Specifically, you will need to draw on expertise representing finance, public works, engineering, and planning.

3. Ensure there is support from management and council.

The success and viability of an AM system depends on the commitment from council to support the resources required for the development and implementation of the asset management process. Before expending time and money in developing expensive plans or collecting data, ensure there is support from senior management and council. Securing council support for the initial development of the system and for future years of operation and investment will help ensure that there is adequate momentum to move forward. If your council is currently not aware of asset management and its benefits, some basic investment may be needed to raise awareness with council before they are able to make the informed decision to commit their support to asset management.

No matter how you decide to build your team, it is important to understand the investment in resources, staff time, and other investments that your AM strategy will require. Understanding these inputs will help you create a realistic budget that is defensible to council, meets your team's needs, and aligns your team for success.

Levels of investment

The level of investment that is made will determine what how much time it will take to reach your asset management goals. However, this will not necessarily have a bearing on your success. For example, if you consider a bicycle versus a helicopter as different levels of investment in your asset management system, both will get you to where you need to go. However, the helicopter will get you there faster and cost a lot more than a bicycle.

> "In building asset management practices, investments may include data collection and management, software programs, staff time, and/or consultants. Each of these resources can cost either a little or a lot – depending on how much infrastructure you have, the current state of your data, and what your needs are" (Handbook & Toolkit for Alberta Municipalities).

THE BICYCLE. Costs basically nothing. Gets you moving, but not that fast.

Use the tools in this toolkit to get started with incorporating asset management into decision making with the information you already have.

THE BUS. Entry level option that gets you where you need to go.

Invest in some training or some advisory support to help you understand where you're at and develop a tailored roadmap for moving forward with carefully selected initiatives.

THE CAR. More options for going where you want, but costs more.

Invest in data management tools, collecting condition data for critical assets or those near the end of their life. Develop or update infrastructure plans.

THE HELICOPTER. Gets you wherever you want, quickly. Really expensive and special operations skills required. May be excessive if your needs are basic.

Comprehensive system of complete and current data for all assets, integrated with financial systems and maintenance management systems. Detailed asset management plans for all asset classes and an integrated corporate level asset management plan.

Source: Alberta Handbook & Toolkit

Not all organizations require a high level of complexity to meet their asset management needs. Identifying what you need from asset management will help you understand how much it might cost.

When you're thinking about what resources you'll need to get your asset management systems going, make sure you're thinking about:

- Staff time and capacity: how much time will members of our asset management team need to focus on asset management? Do they have that time available currently? Do they have the skills they need to do this, or do they need some training?

- Systems, processes, and tools: do we need to invest in any tools to support our efforts, such as an asset management software? Do we need to hire some specific external help to help us develop new processes, perform assessments, or develop plans?

Once this level of investment is decided, it is crucial to ensure that there are adequate resources to support staff to meet the desired outcomes.

"Asset management processes are most effectively built through continuous improvement, so you may start at the entry level and make small investments over time to improve your systems and processes. The important thing is to get started (Handbook & Toolkit for Alberta Municipalities)."

Module 3 – Articulate current state and conditions for success

> **After completing the module, participants will achieve the following learning goals:**
>
> - Define measuring and monitoring in the context of asset management
> - Describe the five competency areas of asset management AND assess current state on the AMRS
> - Define conditions for success

LEARNING GOAL: Measuring and monitoring

How will you know when you are successfully implementing asset management, or if you need to course-correct?

Developing a process to measure and monitor the status of asset management objectives and practices is key to maintaining momentum, especially at the start of your asset management journey. In asset management, you can measure and monitor progress in the process, the actions, and the outcomes.

The process: this includes the organizational tools and systems you have in place to implement asset management, like your policy, strategy, and team. You can measure progress in your processes using tools like the AMRS, or Asset SMART.

The actions: this includes specific to activities you complete, and the (usually) quantitative measurements that go with them. Examples of things to measure include lane-km of road repaired, length of pipe replaced, or facilities refurbished.

The outcomes: this speaks what impacts your processes and actions have on the services that are delivered. Examples of outcomes include fewer reactive or emergency repairs, and therefore fewer interruptions to service, or staff are able to complete more repairs in the course of a year, because their work is more directed. A great tool for measuring outcomes is the Service Sustainability Assessment Tool, available on the Asset Management BC website: https://www.assetmanagementbc.ca/resources/#toggle-id-12 (under the "Service Sustainability Assessment Tool)"

Here are some questions to help you think through what success in asset management looks like for you:

1. Assess current state - Where are we now?

   When assessing current state, it is important to think about all the areas that contribute to asset management. There are several comprehensive tools available for you to use to assess your current state, including the FCM AMRS and AssetSMART.

2. What direction do we want to go?

   Your asset management approach needs to be in alignment with your organization's higher goals. This is where your asset management policy and objectives provide strategic direction and connection, without getting into the details of exactly how you're going to get there.

3. How do we want to get there?

You may want to tackle all facets of asset management at once, or you may want to focus your efforts on improving things one at a time. Either way is acceptable – as long as it is realistic and achievable. Articulating an asset management strategy and roadmap can help you identify the intermediate milestones and corresponding measurements in between your current and desired states.

Remember: asset management is a journey, not a destination. Successful implementation of asset management is much less tangible (or glamorous!) than cutting a ribbon on opening day of a new facility. Thinking about how you want to measure progress at the beginning of your journey will make it much easier for you to feel successful and communicate your progress to others.

Continual improvement, monitoring and innovation

Creating SMART goals

SMART metrics are helpful in practical implementation of your asset management strategy and roadmap. Periodically measuring the same things in the same ways can clearly communicate progress.

Some examples of SMART goals for asset management:

- By the end of the summer, we will collect all of our hard copy drawings into a centralized place, and will contact an external consultant to learn about what it will take and how much it will cost to turn this information into a GIS database.

> A SMART goal is:
>
> **Specific** – how will we know when we have achieved our objective?
>
> **Measurable** - how will we communicate progress?
>
> **Attainable** – is this something that we can achieve from our current state?
>
> **Relevant** – is this important to those that are affected?
>
> **Timely** – when are we going to do this by?

- By the end of the third workshop in this series, we will have a draft asset management policy that is ready to be taken to council.

- Starting at our next council meeting, we will add a regular asset management item to the agenda to update council on our progress in asset management.

Did You Know:

FCM's Building Blocks of Asset Management contains an action checklist and action planning worksheet that could provide some inspiration for your own SMART metrics.

Key areas to measure

How do you know what's important to measure? The simple answer is, you measure what's important!

"Don't over-measure. Pick some key areas you wish to focus on and monitor these. Use proxies if necessary. Resources are limited in municipalities and you only need to have enough monitoring to be confident that you have a clear understanding of system performance"

FCM's How to develop an asset management policy, strategy, and governance framework, pg. 45

An example:

You've decided you are going to develop your first asset management government policy.

How will you know if you're successful?

- Council passes the policy

- Staff use the policy to guide the development of asset management plans that directly consider level of service, risk, and cost

Soliciting feedback

You will probably not be completely successful in everything you try to implement. Soliciting feedback from those affected by changes to evaluate whether you're on your way to achieving your objectives provides you with valuable information to either confirm your approach, or to guide you in course-correcting.

While every municipality's goals for asset management may be different, many of the learnings and experience gained through the implementation of asset management are transferrable. Talking to your neighbours about their experience in implementation could go a long way in helping you craft your implementation approach, and vice versa.

Remember: It is unreasonable to expect that you will get things right the first time, every time. Often we require the information gathered through an unsuccessful effort in order to know what we need to do to be successful.

Did You Know:

There are several communities of practice across Canada, including Infrastructure Asset Management Alberta (IAMA). IAMA represents individuals in organizations in Alberta who are interested in asset management, providing opportunities to share knowledge, learn, and network.

Data and information

Information can support you in quantitative measurement of your asset management progress. Some important things to know the status of include:

- Asset inventory data – completeness of inventory and condition information

- Performance data – for assets and/or services

- Financial Information – historical costs, expenditures, and funding

LEARNING GOAL: Describe the five competency areas of asset management AND assess current state

FCM's Asset Management Readiness Scale identifies five competencies that are required for successful asset management:

- **Policy and governance:** Putting in place policies and objectives related to asset management, bringing those policies to life through a strategy or framework, and then measuring and monitoring implementation over time.

- **People and leadership:** Setting up cross-functional groups with clear accountability and ensuring adequate resourcing and commitment from senior management and elected officials to advance asset management.

- **Data and information:** Using asset data, performance data, and financial data to support effective asset management planning and decision-making.

- **Planning and decision-making:** Documenting and standardizing how the organization sets priorities, conducts capital and operations and maintenance planning, and decides on budgets.

- **Contribution to asset management practice:** Training and staff development, sharing knowledge internally and participating in external knowledge sharing.

Start here

FCM's Asset Management Readiness Scale helps local governments measure progress on asset management in five **competency areas**. Each of these competencies is a building block. Together, the five building blocks form the practice of asset management.

These five competencies are key for sustainable service delivery. Asset management is not just about doing one thing — it is about building a robust understanding of asset needs and implementing good practices for caring for those assets. For a community to do this successfully, it must build skills and practices in each of the competency areas.

Definitions for key asset management terms can be found in the Key Concepts section of this document.

The five competencies

Policy and governance: By developing this competency, your organization is putting in place policies and objectives related to asset management, bringing those policies to life through a strategy and roadmap, and then measuring progress and monitoring implementation over time.

This competency helps you create the policy structure in your organization that lays out your asset management goals and how they will be achieved, leading to organizational alignment and commitment.

People and leadership: By developing this competency, your organization is setting up cross-functional teams with clear accountability and ensuring adequate resourcing and commitment from senior management and elected officials to advance asset management.

Asset management requires integration of multiple perspectives. At a minimum, your asset management team should be a representation of people who understand finance, decision-making, and the planning and operations of each relevant service area. This competency helps you create and sustain connections across teams and build leadership in asset management.

Data and information: By developing this competency, your organization is collecting and using asset data, performance data and financial information to support effective asset management planning and decision-making.

This competency helps you improve your data management practices so that you have the information you need about your assets when you need it.

Planning and decision-making: By developing this competency, your organization is documenting and standardizing how the organization sets asset management priorities, conducts capital and operations and maintenance (O&M) planning, and decides on budgets.

This competency helps you implement asset management, by ensuring that asset management policies, objectives and information are consistently informing organizational plans.

Contribution to asset management practice: By developing this competency, your organization is supporting staff in asset management training, sharing knowledge internally to communicate the benefits of asset management, and participating in external knowledge sharing.

This competency helps you build your organization's overall asset management practice by ensuring that internal stakeholders are well-informed and that your organization stays current with, and contributes to, leading practices, training and education.

Activity

1. Refer to the FCM Asset Management Readiness Scale at the end of this section. As a group, think through each competency area and evaluate your community's current state.

Reflection:

Who else in your organization would have a relevant perspective to include in evaluating your current state on the Asset Management Readiness Scale?

Levels and outcomes

Each of the five competency areas is organized on a progressive scale of five levels. Each level is further broken down into three **outcome areas**. The outcomes describe milestones in asset management from initial investigation of practices, to adoption, and, eventually, to full integration of asset management practices into daily routines. **Each of these three outcome areas need to be achieved before a level has been achieved.** Referring to the outcomes described at each level can help you set goals and objectives, and design initiatives.

Outcome area A   **Outcome area B**   **Outcome area C**

The Asset Management Readiness Scale helps municipalities assess where they are and identify the areas they need to work on. Asset management is a journey and every community will be at a different stage in terms of which competencies they have developed, and which they have not yet focused on.

Learn more

FCM provides resources on asset management through the **FCM's website**.

Communities of practice are also great resources for additional asset management support. You can find a list of Canadian asset management communities of practice on the **Asset Management Canada website**.

Getting started

If your community is just getting started on asset management, and you're not sure how to get to Level 1 on the Asset Management Readiness Scale, we recommend you check out FCM's **The Building Blocks of Asset Management: A How-to Guide for Reaching Level 1 of the Asset Management Readiness Scale**.

Continual improvement

If your community's asset management practices are under way but you want to dig deeper into certain concepts or understand how asset management documents work together, we recommend FCM's **How to Develop an Asset Management Policy, Strategy and Governance Framework: Set Up a Consistent Approach to Asset Management in Your Municipality**, published on FCM's website in 2018.

Completing the Asset Management Readiness Scale for your community

Follow these steps to undertake the Asset Management Readiness Scale assessment for your community:

1. Bring together a cross-functional team of staff from the departments that are relevant to your asset management practices. The Asset Management Readiness Scale assesses the asset management practices across your whole organization — not just the practices related to one asset class. Therefore, it is important that a cross-functional team complete the Asset Management Readiness Scale, not one individual or one department.[1]

2. For each competency area, read through the descriptions of outcomes for each level. Make sure that everyone is on the same page about what they mean.

   You can start with the competency that resonates the most with your team. You do not need to go through the competencies in a specific order; they all work together.

3. Discuss your organization's current state in relation to each outcome and identify what has already been achieved.

4. Select the outcomes that describe where your organization is today. Use your outcome selections to determine your organization's level for the overall competency. You have completed a level once all outcomes for that level have been achieved. If you are still working on one or more of the outcomes for a level, select the previous level to indicate that you have fully achieved all outcomes in that level.

   If you are just getting started in a certain competency, select "Working on Level 1." If you're not sure how to start working on that competency, check out FCM's **The Building Blocks of Asset Management: A How-to Guide for Reaching Level 1 of the Asset Management Readiness Scale**.

5. Use the assessment page at the end of the Asset Management Readiness Scale to write down your levels for each competency area, document how you've achieved those levels, and identify potential actions for improving your organization's asset management practices.

You will get the most out of the Asset Management Readiness Scale by taking the time to work through it as a team and by thinking critically about where your organization is today. Assessing yourself at a lower level does not mean you are not managing your assets, only that you have work to do in formalizing your asset management program. Remember that this is a work in progress!

Over-assessing your organization's achievement will make it more difficult to understand where you should focus your efforts, resources and funding. It may also make it more difficult to identify areas of progress or communicate to staff and council the need for continued improvement in asset management.

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1   In some communities it may be appropriate to include knowledgeable council members in conducting this assessment.

Completing the Asset Management Readiness Scale for your community   **6**

Using the results

The results of your self-assessment on the Asset Management Readiness Scale can be used to support your community's asset management practices in several ways:

1. Identify priority areas of improvement to help you plan for staff time and resource allocation.

2. Design initiatives to improve asset management practices based on which outcomes you want to work on.

3. Track your progress over time so you know if your activities are helping you improve, or if you need to make some adjustments.

4. Report on the achievement of outcomes to a variety of stakeholders: the internal team, CAO, council, FCM and other funders.

5. Use the shared language of the Asset Management Readiness Scale to talk to other municipalities about where they are and what they did to get there.

Planning for improvement

Each organization's progress in the competencies will depend on a unique group of factors. There is no need to progress through each competency to the same level. You may currently be much further along in some competencies than in others.

Additionally, your municipality may choose to aim for higher levels in some competencies than in others. For example, your community may aspire to reach Level 3 in data and information, Level 4 in planning and decision-making and Level 2 in policy and governance. Keep in mind that Level 4 of the Asset Management Readiness Scale is roughly aligned with the requirements of the ISO 55000 standard — which is a significant accomplishment.[2] It may not be necessary for your municipality to achieve the higher levels in the scale to meet the needs of your community.

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2   Note that ISO 55000 has specific content, documentation, and review requirements that are not always explicitly included in this scale. For example, ISO 55000 has specific requirements on what information needs to be included in a policy, strategy and asset management plan. It also includes specific requirements around continuous improvement. If you are pursuing the ISO 55000 standard, you should refer directly to the ISO 55000 requirements.

Asset Management Readiness Scale

Policy and governance

By developing this competency, your organization is putting in place policies and objectives related to asset management (AM), bringing those policies to life through a strategy and roadmap, and then measuring progress and monitoring implementation over time.

Outcome areas	Outcomes: Select the outcomes that your organization has achieved.				
	Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
A **Policy and objectives**	☐ Senior management is committed to formalizing an **AM program**.	☐ We have drafted an **AM policy**. ☐ Senior management and council have endorsed the **AM policy**.	☐ We are starting to use our **AM policy** to guide our actions.	☐ We manage assets and services in accordance with our **AM policy** and organizational objectives.	☐ We continue to validate and refine our corporate, service and AM objectives based on the evolving needs of our community.
B **Strategy and roadmap**	☐ We have identified the benefits that we want AM to deliver, and the benefits support organizational objectives.	☐ We have a strategy for our **AM program**. ☐ We have a draft **roadmap** that outlines our approach for the next 1 to 3 years.	☐ We have a **roadmap** that details the actions for implementing our **AM strategy** over the next 3 to 5 years.	☐ We are achieving our **AM policy** objectives. The necessary workflows, documents, and reporting tools are in place. ☐ We update our **roadmap** to address evolving needs.	☐ We follow our **roadmap** and continually improve our AM practices. ☐ We document improvements to our AM practices.
C **Measurement and monitoring**	☐ We have identified short-term actions that will demonstrate early progress on AM.	☐ We are collecting baseline data on our current AM practices.	☐ We have established performance measures to monitor our asset management progress, outcomes, and the benefits to our community.	☐ We use performance measures to monitor AM progress, outcomes, and benefits.	☐ We monitor performance and use the feedback to prioritize and make ongoing refinements and improvements to AM practices.

Readiness level: You have achieved a readiness scale level when your organization can demonstrate achievement of all outcomes for that level.

Readiness level	Working on Level 1	Com- pleted Level 1	Completed Level 2	Completed Level 3	Completed Level 4	Completed Level 5
	☐	☐	☐	☐	☐	☐

People and leadership

By developing this competency, your organization is setting up cross-functional teams with clear accountability and ensuring adequate resourcing and commitment from senior management and elected officials to advance asset management.

Outcome areas	Outcomes: Select the outcomes that your organization has achieved.				
	Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
A **Cross-functional teams**	☐ We have identified the representation we need on our cross-functional **AM team**.	☐ We have a cross-functional **AM team*** that guides the planning and implementation of our **AM program**.	☐ Our **AM team*** works within our organization to lead, communicate, and support AM improvements and organizational changes.	☐ Our **AM team*** is permanent and tasked with guiding and supporting AM across the organization on an ongoing basis.	☐ Our **AM team*** guides and supports the ongoing improvement of AM within the organization.
B **Accountability**	☐ We have a champion who has been tasked with planning for our **AM program**.	☐ Our **AM team*** has a documented mandate to develop our **AM program**, which is outlined in a terms of reference and a one- to three-year **roadmap**. ☐ Our **AM team** is accountable to senior management and council.	☐ Our **AM team*** is accountable for implementing our **AM program**. ☐ AM roles and responsibilities are included in staff job descriptions.	☐ We have operationalized AM roles and responsibilities across our organization.	☐ We document changes to AM roles and responsibilities as needed to support our evolving requirements.
C **Resourcing and commitment**	☐ Council knows that resources must be dedicated to exploring the requirements for **AM** and for drafting an **AM roadmap**.	☐ Council demonstrates buy-in and support for AM and allocates resources (funding or staff time) to further develop the **AM program**.	☐ Council champions AM as a core business function and has approved funding to continue **AM roadmap** activities.	☐ Council funds ongoing AM monitoring and enhancement.	☐ The **AM team** measures and monitors progress. ☐ Council demonstrates commitment to ongoing improvement of AM practices.

Readiness level: You have achieved a readiness scale level when your organization can demonstrate achievement of all outcomes for that level.

Readiness level	Working on Level 1	Com-pleted Level 1	Completed Level 2	Completed Level 3	Completed Level 4	Completed Level 5
	☐	☐	☐	☐	☐	☐

* Note: Larger organizations may have both an AM team responsible for implementation and an AM steering committee to provide direction and oversee the work. Smaller organizations may group these functions together. This outcome may be better suited to an AM team or an AM steering committee, depending on the organization. In some small communities the AM team may be as few as two people.

Asset Management Readiness Scale **9**

Data and information

By developing this competency, your organization is collecting and using asset data, performance data and financial information to support effective asset management planning and decision-making.

Outcome areas	Outcomes: Select the outcomes that your organization has achieved.				
	Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
A **Asset data**	☐ We have **asset inventory data**, including approximate quantities of assets within most asset groups. ☐ We have some anecdotal information on asset condition. Some age information exists.	☐ We have a **basic inventory** of most **critical assets**, including information on general asset properties such as size, material, location and installation date. ☐ We are moving our data to a centralized location for use by the **AM team** (note: this does not require AM software). ☐ We have defined **critical assets** and have some information on asset condition for these assets.	☐ We have a consolidated, **basic inventory** of all assets. ☐ We have defined life cycle investment requirements for **critical assets**. ☐ We have standardized condition rating systems defined for most asset groups. ☐ We have asset condition information on all **critical assets**.	☐ We have expanded **inventory** data for some assets ☐ We have evaluated the life cycle investment requirements associated with **critical assets**. ☐ We update data according to cycles defined in our **AM plans** or **strategy**.	☐ We have expanded **inventory data** for most assets. ☐ We have evaluated the life cycle investment requirements associated with most assets.
B **Performance data**	☐ We have informal or anecdotal approaches for measuring asset or service performance.	☐ We have some information on performance of **critical assets**, collected from a variety of sources.	☐ We have defined **level of service** measurements for some service areas. ☐ We have captured data on current **level of service** performance for some service areas. ☐ We have reviewed service levels and asset performance with council.	☐ We have defined **level of service** measurements for critical service areas. ☐ We communicate the results from our **level of service** measurement program to staff and council regularly.	☐ We have defined **level of service** measurements for most or all service areas. ☐ We continually improve how we collect data on **level of service** performance.

Outcome areas	Level 1	Level 2	Level 3	Level 4	Level 5
Financial information	☐ We have **financial information** on our assets, supporting minimum PS-3150 reporting requirements.*	☐ We have major capital renewal and operating & maintenance (O&M) expenditure data for some assets. ☐ We have a strategy to link AM and **financial information**.	☐ We have capital (new and renewal) and O&M expenditure data for most assets. ☐ We have linked AM and **financial information** for all **critical assets**. ☐ We can demonstrate the gaps between forecasted infrastructure needs and current spending levels.	☐ We understand the cost of sustaining current **levels of service** for all **critical assets**.	☐ We understand the trade-offs between investment and the **level of service** we deliver and use this to optimize our financial plans.

Readiness level: You have achieved a readiness scale level when your organization can demonstrate achievement of all outcomes for that level.

Readiness level	Working on Level 1	Com-pleted Level 1	Completed Level 2	Completed Level 3	Completed Level 4	Completed Level 5
	☐	☐	☐	☐	☐	☐

* PS-3150 is the Public Sector Accounting Board's standard guiding the treatment of tangible capital assets.

Asset Management Readiness Scale   11

Planning and decision-making

By developing this competency, your organization is documenting and standardizing how the organization sets asset management priorities, conducts capital and operations and maintenance (O&M) planning, and decides on budgets.

Outcome areas	Outcomes: Select the outcomes that your organization has achieved.				
	Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
A **Documentation and standardization**	☐ Our asset planning approaches vary across the organization.	☐ Our departments follow a similar but informal asset planning approach. ☐ We evaluate investment needs and priorities based on a mix of structured and ad-hoc practices and criteria.	☐ We have a structured asset planning approach, but application is inconsistent. ☐ We set priorities using criteria based on organizational goals and objectives.	☐ We employ a consistent structured asset planning approach for each of our **critical services**. ☐ We set priorities using criteria that are fully aligned with our organizational goals and objectives.	☐ We employ a consistent structured asset planning approach for all services. ☐ We adapt our planning approach and criteria to align with evolving organizational goals and objectives.
B **Asset management plans**	☐ Our approach to asset renewal focuses on reacting to basic needs (e.g. growth, regulations and known problems). ☐ We evaluate priorities based on available information, staff experience, and input from council and management.	☐ We have draft **AM plans** for some asset classes, with forecasted financial needs based on estimated data.	☐ We have **AM plans** for **critical services**, based on a mix of estimated and actual data. ☐ Our **AM plans** include available information about **level of service** (current and target) and **risk** management. ☐ Our **AM plans** identify short-term issues and priorities.	☐ We have **AM plans** for most services based on actual data. ☐ Our **AM plans** include basic needs forecasting and **risk** management strategies for **critical assets**. ☐ Our **AM plans** are based on both short- and long-term issues and priorities. They balance short-term service objectives with longer-term goals and **risks**. ☐ We keep our **AM plans** up to date through normal business.	☐ We have **AM plans** for all services based on actual data. ☐ Our individual **AM plans** are integrated across services. ☐ Our **AM plans** include needs forecasts and **risk** management strategies for most assets. Plans address **risks** to both service and business goals.

Outcome areas	Level 1	Level 2	Level 3	Level 4	Level 5
Budgets and financial planning	☐ We prepare annual capital and operating budgets based on historical values. ☐ We deal with new needs reactively, as they occur.	☐ We prepare annual capital and operating budgets based on a mix of historical values and new priorities.	☐ We prepare an annual capital budget based on an annual assessment of current needs. ☐ We have a 3-year **capital plan** that addresses short-term issues and priorities.	☐ We prepare annual needs-based capital and operating budgets that are based on an annual assessment of **risks** and current needs. ☐ We have a 5-year **capital plan*** and update it annually. ☐ We update our **long-term financial plan** (at least 10-year) annually and understand the risks associated with our investment gap.	☐ We prepare multi-year needs-based capital and operating budgets that are based on our short- and mid-term needs. ☐ We take a structured approach to address in-cycle changes.

Readiness level: You have achieved a readiness scale level when your organization can demonstrate achievement of all outcomes for that level.

Readiness level	Working on Level 1	Completed Level 1	Completed Level 2	Completed Level 3	Completed Level 4	Completed Level 5
	☐	☐	☐	☐	☐	☐

* Communities may benefit from long-term capital plans that extend beyond five years to ten years or more.

Asset Management Readiness Scale   13

Contribution to asset management practice

By developing this competency, your organization is supporting staff in asset management training, sharing knowledge internally to communicate the benefits of asset management, and participating in external knowledge sharing.

| Outcome areas | Outcomes: Select the outcomes that your organization has achieved. | | | | |
	Level 1	Level 2	Level 3	Level 4	Level 5
A **Training and development**	☐ Our AM training and development approach is informal and largely driven by the personal initiative of staff. ☐ Some staff conduct targeted research, seeking out basic information on AM concepts and techniques.	☐ Our AM training and development requirements are defined by management based on short-term needs. ☐ Selected staff are trained on basic AM concepts. ☐ Council has opportunities to increase their understanding of AM concepts.	☐ We provide all staff with basic AM awareness training. ☐ Some staff undergo training on advanced AM concepts specific to their roles and responsibilities. ☐ Staff and council are able to communicate the value of AM in their own words.	☐ We define AM knowledge and skill requirements. A training plan is in place for all positions. ☐ Council, management and staff receive role-appropriate AM training to establish needed capacity across the organization.	☐ We train select staff members as internal experts to support the ongoing development of organizational capacity. ☐ Proactive, role-based training serves as a support for career development and succession planning.
B **Internal communication and knowledge sharing**	☐ We are aware of the need to mitigate the risk of losing information held in the minds of long-term staff.	☐ We mitigate the risk of losing information held in the minds of long-term staff, through improved record keeping.	☐ A culture of knowledge sharing is emerging internally, supported by official initiatives. ☐ We collect and maintain AM knowledge resources. ☐ We communicate the benefits of AM internally to staff and council.	☐ A culture of knowledge sharing exists and is supported by a mix of formal and informal initiatives. ☐ We disseminate AM knowledge resources within the organization.	☐ We capture AM knowledge and it flows freely throughout the organization. ☐ Staff leverage internal and industry knowledge and leading practice resources.

Outcome areas	Level 1	Level 2	Level 3	Level 4	Level 5
External communication and knowledge sharing	☐ We are investigating AM-related organizations and resources.	☐ Staff or elected officials attend AM-related events. ☐ We share basic information on current capital projects with the public.	☐ We are members of one or more AM organizations and actively share our AM experience. ☐ We share basic information on our assets, the services we provide, and future needs with the public.	☐ We are actively involved in AM organizations and present at AM events. ☐ We share information with our peers on our experience, innovations and lessons learned. ☐ We rely on the data from our **AM program** to explain decisions to the public.	☐ We are a thought leader on AM within the municipal sector. ☐ We are active in coaching others to improve the overall body of AM knowledge. ☐ We communicate the benefits of AM to the public.

Readiness level: You have achieved a readiness scale level when your organization can demonstrate achievement of all outcomes for that level.

Readiness level	Working on Level 1	Com-pleted Level 1	Completed Level 2	Completed Level 3	Completed Level 4	Completed Level 5
	☐	☐	☐	☐	☐	☐

Source: Government of Nunavut

LEARNING GOAL: Define conditions for success

You've learned a lot today about what asset management is, why it's important, and what the minimum requirements are for getting started. Now what?

The objectives of this course are to advance participants in their asset management capacity, specifically in the areas of establishing and developing your asset management team, policy and strategy. Take some time to think through how you can take what you've learned back to your organization, and how you can work together with your neighbours to progress with each other's support

Reflection

1. How will the development of a policy and strategy draw on each of these asset management competencies?

2. How will you know if your AM Policy, Strategy and Team are successful?

3. For an AM policy and strategy to be successful in your organization, what attributes must it have?

4. What are other critical factors for success?

5. What would you hope to achieve through this program, and what might you need to do in between group sessions as a community?

6. Can you do any of these things with the support of your neighbours?

Reflection:

What did you learn today that surprised you? What would you like to know more about?

Looking forward to Workshop 2

The next workshop is going to focus on developing your asset management team and strategy. This workshop will provide you with the time and space to work on these things as a team, with access to tools, resources, and the experience of your neighbours and the facilitators.

Tasks to complete before the next workshop:

- Identify your asset management champion

- Talk to council about asset management, and provide an update on what you learned at today's workshop

- If you have one, review your asset management policy with your champion. If you don't have one, talk to your champion about what an asset management policy could look like for your municipality, and review the sample policies provided in the resources section.

- Check in with your neighbours to share progress and experience