Asset Management: The Strategic Basics

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 AB Munis

Founded in 1905, the Alberta Municipalities (AB Munis) represents 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 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.

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Welcome

Welcome to *Asset Management: The Strategic Basics*. Today, we will be introducing a range of topics on asset management. There will be a lot of information and learning, as well as lively discussion and activities.

This course has been designed to equip you with a basic understanding of asset management to support your work as an elected official. In Alberta, municipalities are governed by elected councils made up of councillors (elected officials). Council as a whole is accountable to constituents and the provincial government.

Some of you may already be familiar with asset management, while others will be new to the subject. This course will allow you to build your knowledge and skills, as well as share your experiences with your colleagues.

Your feedback on this course is valuable to us and will help us adapt this course to better serve the needs of elected officials. Over the course of the day, we will ask you to share your questions, insights, and experiences. We will also be asking you to complete evaluation forms and we thank you in advance for your feedback.

Asset Management and Elected Officials

Through this course, you will be introduced to the ins and outs of asset management, specifically how it relates to your role as an elected official. A few important points to get us started:

Asset management is the process of making decisions about using and caring for infrastructure to deliver services in a way that considers current and future needs, manages risks and opportunities, and makes the best use of resources.

Elected officials support asset management in their communities by being knowledgeable about good practice, supporting staff initiatives, making resources for asset management available, championing asset management in the broader community, and asking the right questions when making decisions about infrastructure. However, there has been little training provided to elected officials to help them navigate their role in asset management.

This course was designed to provide you, as elected officials, with a foundation in asset management so that you know what it is and how to use it in your day-to-day decision-making as council.

Using the Workbook

Learning Goal

Specific learning outcome to be achieved.

Did You Know?

Interesting facts and insights on asset management.

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.

Module 1—Define Asset Management

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

- Define asset management
- Articulate the benefit of asset management and the role it plays in sustainable service delivery
- Understand the role of asset management in recognizing trade-offs and making decisions
- Describe the aspects of an asset management process and what each is used for

LEARNING GOAL: Define Asset Management

Municipalities in Alberta are empowered to provide a range of services to their communities, and define the level to which they are provided, 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**, also known as a tangible capital asset (TCA), 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.

"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"

Munis 101:The Essentials of Municipal Governance (Elected Officials Education Program)

The key emphasis here is "making decisions". 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. It is not about trying to make the "right" decision, but having the information you need to confidently make defensible decisions. 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 likely already uses processes for things like planning and budgeting. Asset management is about updating those processes to ensure they systematically consider the right kind of information and take a long-term perspective.

When many elected officials 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. Asset management is most effective when it is part of an organizational culture where everyone understands the "why" behind asset management as well as their role in implementing it.

Asset management means focusing on things like the following:

- 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

Asset management is a scalable process: you can start with what you have and improve incrementally. As we will emphasize throughout this course, learning and improving are integral to what asset management is all about.

You've probably heard the phrases "asset management plan", "asset management policy", or "asset management strategy". These are all tools that can support your community's efforts in asset management. However, asset management is about the process. Tools can help, but they are not the end goal. Asset management is a set of practices to support good decisions. It requires integration of information from planning, engineering, public works, and finance. A plan on its own is not enough. Part of the work we're doing today is reviewing why asset management is not a single project or plan, an end in itself, or a software program.

ASSET MANAGEMENT AND OTHER LEVELS OF GOVERNMENT

Asset management is increasingly being prioritized by other levels of government, particularly in the distribution of infrastructure grant funding, as well as in planning and reporting requirements. FCM's Municipal Asset Management Program is designed to help Canadian municipalities make informed infrastructure decisions based on sound asset management practices. Federal-provincial Gas Tax Agreements are also promoting asset management practices across Canada.

In Alberta, the MGA requires that municipalities prepare three-year operating and five-year capital plans. Asset management policies, strategies, and plans support the preparation of these plans.

Did You Know?

- The Canadian Infrastructure Report Card is an ongoing project that has assessed the state of municipally-owned infrastructure in periodic reports since 2012. Key messages over the 2012, 2016, and 2019 reports are summarized below:
  - 60% of Canada's core public infrastructure is owned and maintained by municipal governments
  - A concerning amount of municipal infrastructure is in fair, poor, or very poor condition
  - All communities, particularly smaller municipalities, would benefit from increased asset management capacity.

Resources

Government of Alberta—Building Community Resilience Through Asset Management: A Handbook and Toolkit for Alberta Municipalities

Canadian Infrastructure Report Card

Glossary

Asset management

A process of making decisions about how infrastructure is used and cared for in a way that manages current and future needs, considers risks and opportunities, and makes the best use of resources.

Assets

Also known as a tangible capital asset (TCA), a physical component of a system that enables a service or services to be provided.

Activity

1. What are some important assets in your community? What do you know about the state of these assets? What have you seen your municipality do to manage these assets?

2. How might an elected official know that a municipality is practicing asset management?

3. What do you want to learn about asset management?

LEARNING GOAL: Articulate the 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 essentially 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 of residents why their road will not be paved – even though other roads in town may be.

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 *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

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.

Glossary

Asset risk

The risk of an asset failing to perform the way you need it to (e.g., a pipe bursts).

Average Annual Life Cycle Investment (AALCI)

The average annual investment needed to sustain an existing asset over its service life and replace or renew the asset once it reaches the end of its service life.

Renewal investment

The total investment needed to replace or renew existing assets that have reached the end of their service life.

Strategic risk

The risk of a change occurring that impedes a municipality's ability to achieve its overarching strategic goals (e.g., hot, dry conditions put pressure on the ability to provide water service).

Sustainable service delivery

Ensuring that municipal services are delivered in a socially, economically, and environmentally responsible way, and that decisions today do not compromise the ability of future generations to meet their own service needs.

Resources

Government of Alberta—Building Community Resilience Through Asset Management: A Handbook and Toolkit for Alberta Municipalities

Government of Alberta—Federal Gas Tax Fund Asset Management Approach

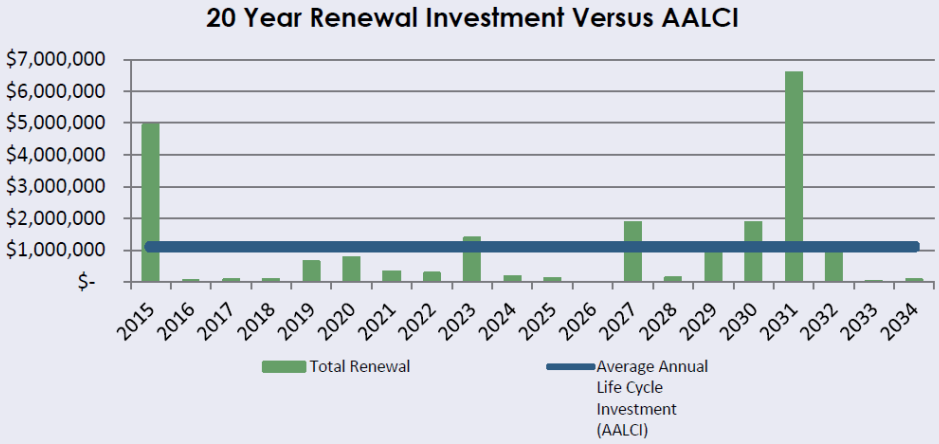
Activity

Take a moment to consider the following information. Then, working in pairs, complete the questions below. Be prepared to share some insights with the larger group.

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.

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 below shows the renewal investment and AALCI for a town's asset.



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

Activity (continued)

1. What are your initial observations?

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

3. What messages does this graph convey to you?

4. What questions would you ask? Who would you ask?

Reflection

1. What do you see as some of the risks to sustainable service delivery in your community?

2. What could asset management help achieve in your community?

LEARNING GOAL: Recognize Trade-Offs in Asset Management Decision Making

It is the role of council to make decisions and set direction. Council is often asked to act in the interests of the "public good". However, there is no universal definition of the public. Making decisions in a municipal context requires thinking about trade-offs between service, risk, and cost. While it is not the role of councillors to prepare information about service, risk, and cost trade-offs, it is their role to incorporate an **asset management lens** and request information from staff to support sound decision-making. Without an asset management lens, these trade-offs may not be visible or easy to understand during decision-making and budgeting processes. Asset management systems provide valuable information, and an asset management mindset brings a useful perspective to decisions.

DECISION-MAKING AND POLITICS

Politics is the process of making decisions for the distribution of resources in a community. Elected officials are striving to achieve their election mandate and manage the expectations of constituents. Asset management helps communities make better decisions by improving information, taking a long-term perspective, considering trade-offs, aligning decisions with community goals, and communicating why decisions were made. However, these decisions are ultimately up to the council of the day, who balances information from staff with community perceptions.

To understand the importance of having an asset management mindset, we're going to review service, risk, and cost considerations – what these are and how they may impact asset decisions – and then work through some trade-off scenarios together.

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 will 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.

Many people don't question the level of service a municipality provides. In fact, they may never even think about it! They may assume that the current levels of service are required o desired because it's always been this way.

Level of service is a major focus for local governments, because it relates directly to how customers experience a service. There are numerous challenges that may arise related to how levels of service are defined, communicated, and delivered:

Expectations

- The public may have different service expectations than municipal staff and council.
- Staff and council may have different service expectations.
- Constituents may expect a higher level of service than what was expected or delivered in the past. This may occur when constituents are exposed to different levels of service in neighbouring or other communities.

Cost

- Even when a higher level of service is expected, the willingness-to-pay is often low.
- Even the current level of service may be a drain on the municipality's budget.
- Staff may not be able to find efficiencies to provide the expected level of service at the price people are willing to pay.

Perceptions of Fairness

- If the service is not used by everyone, some residents may feel disgruntled at the shared cost to provide the level of service.
- Levels of service may vary between neighbourhoods. For example, the roads in some areas of town may be in better condition than in others, or newer neighbourhoods may have wider sidewalks than older neighbourhoods.

Defining Level of Service

- It may be difficult to define a level of service, particularly when there are competing needs, or the service itself is hard to define.
- The municipality may be reluctant to commit to providing a certain level of service, perceiving that such a commitment would "tie their hands".

Many of these challenges are mitigated through the effective establishment and use of formally set levels of service. Though it can be scary to commit to a level of service, the process can help manage a lot of the issues that we've identified. And levels of service can be used to help manage costs, to improve communication with the public, and to more effectively plan for resource needs.

Staff are critical to gathering the information needed to understand levels of service, including making calculations to identify trade-offs and regularly communicating with constituents on service issues. Ultimately, however, it is council that determines the services that a community will invest in and the level of resources that will be directed to providing that service.

Council decisions on level of service must reflect its commitment to the community and community values and priorities. These decisions must also balance risk and cost to avoid putting assets and budgets at risk in the future.

In summary, council has the following roles in setting levels of service:

- Determining which services a municipality will provide.
- Determining the standard to which services are provided (quality and quantity of service).
- Making decisions that reflect community values and priorities.
- Balancing levels of service with managing risks and costs for today and the future.

It is not the role of council to identify how to deliver a level of service, or to prepare the information needed to identify and understand trade-offs between service, risk, and cost. These roles will be filled by staff, with appropriate consultation with council.

Service Considerations

Information Needed	Questions to Ask	Examples
Types of Services	• Does our municipality need to provide this service? Why?	• A municipality may choose to enter into a partnership with a neighbouring, larger municipality, to allow residents access to their recreation facility instead of providing those recreation services directly. • Through an Intermunicipal Collaboration Framework (ICF), two municipalities may choose to allow all residents to access libraries in both communities. This serves to increase the level of service, without requiring each community to provide more of that service. • A municipality may choose to provide curb-side recycling collection to support waste diversion goals.
Benefits	• Who benefits from these services? • Who many not benefit?	• Not all residents in a community may choose to use the local recreation centre. • In a community that is both urban and rural, not all residents may have access to piped water and sewer systems.
Level of Service	• What is the current level of service provided? • What is the desired level of service and timeline for achieving it? • What are the regulatory requirements (i.e., minimum level of service)? • How do council and staff understand what level of service is needed or wanted by recipients? • What is the appropriate level of service to deliver?	Roads • Current level of service: all streets in town are paved. • Desired level of service: only primary streets in town are paved, the remainder are gravel. Sidewalks • Current level of service: sidewalks only on Main Street. • Desired level of service: sidewalks on all 'urban' streets within 10 years. Water service • Current level of service: piped water available to 75% of buildings in town. • Desired level of service: all buildings can access piped water by 2025. Snow and ice control • Current level of service: snow and ice control on major streets within 24 hours of an event. • Desired level of service: snow and ice control on major streets within 24 hours of an event.
Service Demands	• How will service demands change over time? • What are the ways that the municipality can influence the demand for a service? • How do service demands vary in different areas of the municipality?	• New developments will change traffic levels on roads. • An aging population may change the type of programming or equipment needed at recreation centres. • Water demand may increase with community growth, or may decrease with conservation incentives implemented by the municipality. • Those located far from services may have a greater demand for improved service delivery

COMMUNITY ENGAGEMENT AND ASSET MANAGEMENT

Most often, infrastructure assets are invisible to the public until something goes wrong. You don't notice the quality or condition of your roads until there is a pothole, or how much water you use until there are water restrictions in place. Community engagement is an important part of asset management so that council and staff understand what service levels are needed and so that the public understands the reasons behind priorities and investments.

What do we mean by engagement?

- Educating the public on infrastructure and the costs of service delivery
- Being transparent about investment decisions and levels of service
- Considering public input and expectations in the setting of levels of service and understanding willingness to pay

What are the benefits of engaging the public?

- Minimize surprises to constituents
- Transparency of decision-making and prioritization can improve trust
- Educating the public on how services are delivered, and the trade-offs considered can increase the willingness to pay

Purpose of engagement:

- To build awareness about assets and provide relevant information on asset management
- To be transparent about investment decisions and levels of service
- To understand and consider public expectations and input in setting priorities and levels of service, as well as understand willingness-to-pay

Benefits of engagement:

- Minimizes surprises to constituents and demonstrates transparent decision-making
- Increases public trust that the municipality is acting as a responsible steward, while educating the public on how services are delivered and what trade-offs are considered
- Informs realistic expectations of what service levels can be delivered at what cost and enables constituents to communicate their priorities and willingness-to-pay

Council's role in engagement:

- Talk with constituents about how decisions are made and how the municipality acts as long-term stewards of services through asset management
- Reporting any information on service issues identified during public interactions to staff and enabling staff to strengthen communication and engagement by allocating adequate resources
- Participating in engagement processes to gain input that can support council making informed decisions

Activity (continued)

Discuss the following scenario in a small group. We will debrief together.

Within a County, three hamlets have their own piped community water systems, while in two hamlets, residents use their own private wells. The County is working to develop some level of service definitions, which would state the requirements for receiving piped water service, such as a minimum housing density and/or minimum number of connections.

How would defining these levels of service for water systems help the County…

a) Align expectations between the municipality and constituents?

b) Align expectations between staff and council?

c) Have conversations about willingness to pay with constituents?

d) Drive improvements in service efficiency and effectiveness?

e) Prioritize investments of resources?

f) Identify and manage risks?

RISK

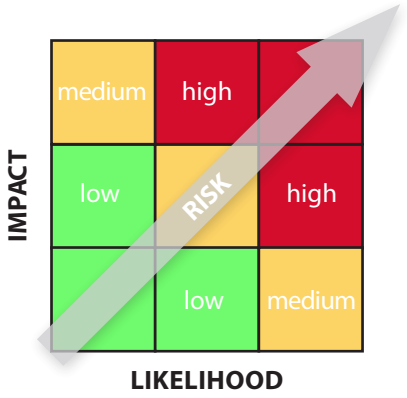
Risk describes events that would have an undesirable impact on services if they occurred. Risk can be described with the following equation:

RISK = IMPACT x LIKELIHOOD

(how severe will the negative consequences be?)

(how probable is it that these negative consequences will happen?)

The image below shows a simple way for considering a risk:



Risk, in the context of asset management, refers to risks to the delivery of services. In evaluating trade-offs, asset management will help you to think about risk from multiple angles.

Council plays an important role in setting the tone for risk management and providing leadership that prioritizes risk management within asset management. This is often done through policy, but it is also important to consider risk in day-to-day decision-making.

Types of Risk

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.

Climate change is affecting our expectations about the impact and likelihood of certain events. This is particularly relevant for natural disasters like flooding and forest fires and how municipalities plan their infrastructure to cope with them. 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.

The examples below illustrate how climate change is impacting infrastructure vulnerability and increasing risk to service delivery. It is important to note that a municipality may select multiple adaptation options, and that options will have different strengths/weaknesses and achieve different objectives. Some may be operational solutions, others might be capital projects. Some will be better suited for the short-term, and others better for the long-term. Some options will reduce the likelihood of the risk, and other options may be designed to reduce the consequence. Municipalities may choose to implement a suite of adaptation actions, rather than just rely on one action.

Climate Change Impact	Vulnerability	Risk	Examples of the Range of Adaptation Options
Changes to rainfall patterns, extreme rainfall events	The existing drainage and flood infrastructure is vulnerable to failure if a rainfall event exceeds the design standards it was built to. With climate change, rainfall events may exceed historic norms, leading to asset failure and flooding.	Climate change may make rainfall events beyond historic norms more likely, making it more likely that flooding will occur. The consequences of flooding will depend on severity but will likely influence road infrastructure, disrupt transportation, and damage property. Flooding often creates a cascading negative impact.	• Increasingclearing of drains • Rehabilitating streams and ponds that serve stormwater functions • Building larger pipes • Not allowing development in floodplains
Hotter temperatures and drier conditions	Forests are more vulnerable to fires with hotter, drier conditions.	Higher temperatures and drier conditions make it more likely that forest fires will occur and can increase the duration and spread of forest fires. Communities near forest fires are at risk of damage to their ground infrastructure, having their roads cut off, and fire protection service and infrastructure being overwhelmed.	• Clearing forested areas near human settlements • Not allowing development near high-risk forested areas • Emergency and evacuation plans in place
Drought conditions	A community's water supply and water system may be vulnerable to being depleted under drought conditions.	The community is at risk of water shortages under drought conditions.	• Public education on water reductions • Enforce water restrictions • Ship water from elsewhere
Temperature fluctuations	The material used for roads may not be able to withstand rapid fluctuations in temperature and may be vulnerable to damage.	Roads are at risk of damage from temperature fluctuations. Potholes and cracks, when left alone, can lead to greater road damage and significantly reduce the life-span of the road and increase the costs of repair. They may also damage cars, slow down traffic, and interrupt transportation networks.	• Using new materials for roads • Increasing frequency of inspections and repairs of minor cracks

Climate Change Impact	Vulnerability	Risk	Examples of the Range of Adaptation Options
Extreme temperatures	A natural gas system is vulnerable to interruption under extreme temperatures.	A community is at risk of homes being without heat due to extreme temperatures interrupting natural gas flows.	• Using natural gas trucks to feed the system when there are interruptions • Changing the community's heat source • Preparing emergency shelters for times when home heat is interrupted

Risk Tolerance

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.

Council's primary role is to make decisions on what level of risk is acceptable to the municipality, or in other words, establishing risk tolerance. Risk tolerance can and should be established for both strategic risks and asset risks. Risk tolerance should be informed by an understanding of the magnitude of the risk (e.g. the ranking using the risk matrix), how the risk will change over time without intervention, and the cost and level of effort associated with managing the risk.

Risk Management

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.

Council provides direction to staff to initiate a risk management process for assets, if one is not in place already. Council can support staff by making resources available for risk management, as well as supporting staff time on risk management and additional training. During the day-to-day work of local government, the mayor/reeve and councillors support risk management by asking for information about risk to help inform decision-making.

Activity (continued)

Consider the following scenario:

You are in a budgeting meeting, and a decision must be made between allocating money to the repair of a road or the repair of a water main, which are in two different locations. There is only enough funding to do one of the two activities.

Information about the water main: The water pipe is under an existing road that is in fair condition. The pipe is old but functional, and is the main water supply for the school.

Information about the road: The road is in a residential area. Milling and paving occurred in this area four years ago, with some additional pothole filling since then. However, council has received numerous complaints from residents about the number of potholes. A consultant hired by the municipality has determined that there are some drainage issues on the road that are making the pothole problem worse. Based on their recommendation, full rehabilitation of the road is required to completely fix the problem.

Residents are very angry about the state of the road. They think money was wasted on milling and paving. They have written letters to council and have published stories in the local newspaper. According to the complaints, one resident claims to have experienced damage to one of their vehicles due to the potholes.

What are the risks (strategic and asset risks)? What are the trade-offs? How should this community go about making a decision in this scenario?

COSTS AND FUNDING

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
- Opportunities to reduce costs through partnerships or other alternate service delivery mechanisms
- Opportunities to increase revenues through taxes and fees"
- Asset management for assets funded through intermunicipal partnerships

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.

Did You Know?

There is funding available to support asset management in your community! The Federation of Canadian Municipalities offers funding for communities who are undertaking asset management through their Municipal Asset Management Program.

Strong asset management processes can also improve your community's access to infrastructure grant funding. Asset management practices are required to access funding through the Gas Tax Fund program.

Glossary

Asset management lens

Integrating asset management practices into decision-making. Specifically, thinking about what information is available, what additional information is needed, what trade-offs are being made, and what are the community's long-term goals and needs.

Asset management system

The set of policies, people, practices, and processes that are used in asset management. An asset management system is tailored to each community, and is not a software program.

Life cycle costs

The total cost of an asset over its life, including capital, operating, maintenance, renewal, and decommissioning costs.

Risk

The chance that conditions or events may occur to cause an asset to fail.

Risk management

The iterative process of identifying and assessing risks, identifying and evaluating actions that can be taken to reduce risk, and implementing the appropriate actions to mitigate risk.

Risk tolerance

The capacity to accept a level of risk, dependent on the likelihood and severity of consequences, and the existence of other priorities that require more immediate investment.

Resources

Government of Alberta — Building Community Resilience Through Asset Management: A Handbook and Toolkit for Alberta Municipalities

Activity

Consider the following scenarios that a municipality may face. Working with your table group, pick two to four scenarios and identify the service, risk, and cost considerations for each, as well as potential trade-offs between them. Be prepared to share your group's thoughts with the larger group.

Scenario 1

A recreation facility in the community is aging – maintenance costs are increasing to maintain the existing level of service, and the community is unhappy with the facility because it lacks many features seen in more modern facilities. A new recreation facility is a major investment for the community, but so are regular renovations that are needed to keep the existing one in use.

Service Considerations

Risk Considerations

Cost Considerations

Trade-offs and Potential Actions

Scenario 2

A new industrial park is being developed nearby. The town, which has struggled with declining population for years, is excited at the opportunity to attract new customers for the town's businesses, and maybe even new residents. However, the town looks run down and the main street is literally crumbling. The municipality wants to re-pave and beautify the street. There have also been recurring challenges with blocked culverts leading to flooding roads in other parts of town. If flooding keeps happening, it could wipe out sections of the road and do serious damage to other infrastructure. There is only enough money to do one of these projects right now, and there won't be budget for the other project for another two to three years.

Activity (continued)

Service Considerations

Risk Considerations

Cost Considerations

Trade-offs and Potential Actions

Scenario 3

The municipality has assumed ownership of newly developed assets in a major subdivision, including roads, curb and gutter, sidewalks, street planter boxes, lights, and a new neighbourhood park. The budget for the public works department has not changed in five years, and maintenance practices on all assets are slipping.

Service Considerations

Risk Considerations

Cost Considerations

Activity (continued)

Trade-offs and Potential Actions

Scenario 4

As a small community, your municipality only has a few recreation facilities, and these do not meet everyone's needs. Though your constituents would love a brand-new recreation centre, the impact on taxes is too high for the community to finance alone. Elected officials in a nearby municipality reach out to your council to explore a partnership to build a new facility to serve both communities.

Service Considerations

Risk Considerations

Cost Considerations

Trade-offs and Potential Actions

LEARNING GOAL: Describe the Asset Management Process

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, plans, and strategies can be found in the Resources section.

WHAT IS AN 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. Staff's role is to implement the policies. To ensure the policies are effective, it is good practice for council to review them when appropriate. A high-level review may be conducted every five to ten years to ensure that policies are still relevant, reflect current priorities, and that council remains familiar with them.

The following are some general considerations for an effective policy:

- Some procedures may be reviewed with each new council term.
- Policy statements should be high-level and provide guidance. However, they should also be clear enough that staff will be able to implement them and report to council on implementation.
- Policies are not aspirational. They are appropriate for today and can be implemented upon adoption.
- The details of procedures are not necessary in a policy and should be addressed in a separate process or document.
- Think of circumstances when you might not want to follow the policy and how you would deal with these. The policy should be flexible enough that unexpected situations do not discredit the whole policy.
- Make sure the language is aligned with the intent. "We will" vs "we may" vs "at the discretion of council" signal different levels of commitment as well as define who can make the decision.
- The policy should cover how implementation should be reported on.

WHAT IS AN 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.)

WHAT IS AN 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

HOW CAN ASSET MANAGEMENT BE MEASURED AND MONITORED?

Staff will have indicators and measures they use to monitor the implementation of asset management. Council will not need the details of all the indicators, but council may ask that the CAO report on a regular interval on some key indicators on outcomes that assure council that progress is being made to implement asset management.

One way of reporting on outcomes is to report on the sustainability of service delivery. Sustainable service delivery is at the core of asset management, so this is the ultimate outcome that council should be monitoring. There is a tool developed to support staff in reporting on sustainable service delivery called the Service Sustainability Assessment Tool.

The FCM Asset Management Readiness Scale was created to help municipalities monitor their progress in asset management at a high level. The Readiness Scale measures achievement of outcomes across five competency areas that are important to asset management: policy and governance, people and leadership, data and information, planning and decision-making, and contribution to asset management practice.

Glossary

Asset management policy

Outlines an municipality's commitment and mandated requirements for asset management. A policy is linked to the municipality's strategic objectives and is shaped by its values and priorities.

Asset management strategy

A document that lays out the direction, framework, and approach for implementing the community's asset management policy.

Asset management plan

A detailed plan that outline how assets will be managed in one or more service areas. An asset management plan identifies how assets will be maintained and renewed, and the cost, service, and risk considerations in providing each service.

Resources

Government of Alberta—Building Community Resilience Through Asset Management: A Handbook and Toolkit for Alberta Municipalities

FCM—Asset Management Readiness Scale

Asset Management BC—Sample Plans, Policies, and Strategies

Activity

Choose a couple of the policy statements below and work as a group to respond to each of the questions. Be prepared to share your responses for one of the statements with the larger group.

1. Levels of service will continue to be determined and refined in consultation with the community.
2. Life cycle costs will be reported and considered in all decisions relating to new services and asset classes and upgrading of existing services and asset classes as soon as they are established.
3. Training in asset and financial management will be provided for relevant staff.
4. The organization shall articulate and evaluate trade-offs and record the basis for a decision.
5. The organization shall optimize the use of available resources.
6. The municipality will plan for and provide stable long-term funding to replace, renew and/or decommission assets.

What is the purpose of each statement?

What are the strengths or potential weaknesses of each statement?

Which of these statements would be suitable for your municipality? Which ones would not be suitable, and why? What would you change?

Module 2—Fulfill the Role of the Elected Official in Asset Management

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

- Identify the role of the elected official and the role of other stakeholders in asset management
- Identify asset management considerations in standard municipal decisions, plans, and processes
- Articulate the role of an elected official in demonstrating commitment and internal leadership on asset management, as well as external leadership on asset management
- Effectively use data and information in asset management
- Recognize the role of processes for planning and decision-making

LEARNING GOAL: Identify the Role of Elected Officials and Other Stakeholders

Asset management requires the participation of a range of departments, as well as elected officials. This section will describe each of these roles and how they support asset management.

Actor	Role
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. • Establishes priorities aligned with asset management policy, strategy, and plan. • 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.

Actor	Role
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

Discuss the questions below.

1. How does your community interact with the external stakeholders identified in the previous table?

2. What are some potential opportunities for your municipality to collaborate with neighbouring municipalities in asset management?

LEARNING GOAL: Use an Asset Management Mindset

Implementation of asset management, especially from the perspective of council, is often about applying an asset management mindset to existing decision-making requirements. An asset management mindset is a way of considering services and service delivery in a sustainable way. It can be applied to a variety of municipal decisions, plans, and processes. Some of the components of an asset management mindset include keeping the following in mind:

- Focus on sustainable service delivery
- Consider long-term implications and commitments resulting from decisions
- Work across disciplines and integrate the necessary perspectives (planning, engineering, public works, and finance)
- Start where you are and continually improve, meaning that council can start with what information is available, and, over time, support staff in collecting better data on assets
- Consider both short-term and long-term needs
- Make decisions based on available information and evidence

For example, one of the activities that council engages in is developing municipal budgets. Council can apply an asset management mindset to budgeting by considering questions such as the following:

- How do the priority projects in the budget contribute to service delivery? What about the projects that are unfunded and not included in the budget – what impacts do those have on levels of service or on risk?
- What are the long-term operations and maintenance costs of the identified capital projects? What precedents are being set that may establish expectations in the future?
- How do the prioritized projects help to reduce the risk that our municipality is facing?
- Do we have the information that we need to support a decision? What if we don't feel like we have enough information to support a decision?

Council can ask these questions of the CAO, who can provide information to support decision-making.

An asset management mindset can be applied to many other decisions and processes that council is involved in.

Resources

Government of Alberta—Building Community Resilience Through Asset Management: A Handbook and Toolkit for Alberta Municipalities

Activity

For each scenario, brainstorm some ways to bring an asset management mindset:

Scenario	Asset Management Mindset
Developing a budget	
Setting strategic priorities	
Preparing a municipal development plan	

LEARNING GOAL: Articulate the Role of an Elected Official in Providing Leadership on Asset Management

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 – ultimately stewarding the sustainability of the community.

There are a few important and practical things council can do to demonstrate commitment to asset management internally:

- Support the development of a cross-functional team to lead asset management. This 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.
- Bring an asset management mindset to council meetings. Ask questions of staff to highlight the importance of considering asset management and sustainable service delivery in decisions.
- Emphasize the importance of discussing trade-offs as part of the decision-making process.
- Advance asset management practices internally by supporting resources for developing and implementing asset management systems and training for staff.
- Approve the required policies and strategy to move the municipality forward with asset management.

External leadership is also an important role for elected officials because it will ultimately improve the practices and sustainability of the municipality.

- Elected officials can show leadership through participation in knowledge sharing initiatives, such as peer networks and conferences, and through supporting staff in participating in these forums. Knowledge sharing forums, like conferences, can be a great way to meet elected officials who are interested in asset management, as well as other champions of asset management such as staff at other municipalities and consultants. Coming together to share knowledge and best practices in asset management helps build a strong community of practice, and a collective voice for municipalities when working with the provincial or federal governments.
- Elected officials can bring an asset management mindset to engagement with residents and help the public understand and appreciate how asset management supports decision-making. This is especially helpful when constituents may be lobbying for specific projects when an asset management approach supports the defensibility of undertaking other priority projects.

Resources

Infrastructure Asset Management Alberta (IAMA)

Government of Alberta—Building Community Resilience Through Asset Management: A Handbook and Toolkit for Alberta Municipalities

Did You Know?

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

Activity

Review the following case study and answer the questions below.

The Town of Nimble has a population of approximately 2,500 people. A majority of the population is employed either in farming, oil and gas, or related service industries. Much of the community was built in the 1950s. The people who live in Nimble love it – but the population is not really growing. Taxes have not been raised for the past seven years and the budget is stretched. The Town has identified some significant risks to the water main that supplies the local elementary school and daycare. About 40 engaged local residents and business owners have formed a group called "Beautiful Nimble". They have been strongly lobbying council to fix up some of the crumbling sidewalks downtown, install some street furniture, and decorative street lamps. Town staff have indicated that there is not enough money to do all the projects needed.

What are some ways this council could provide internal leadership in asset management?

What are some ways this council could provide external leadership in asset management?

LEARNING GOAL: Effectively Use Data and Information

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.

> **"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*

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. However, elected officials will want to know the role of data in asset management and what kinds of information should be available and used in decision-making.

The key message is that elected officials need to support staff in collecting, maintaining, and using information in a way that contributes to making better decisions. Elected officials support staff by ensuring that appropriate levels of human and financial resources are available to collect and maintain data. The level of resources required will depend on the size and complexity of the organization – but any organization can start with whatever information they have.

Council also supports staff by using available information in decision-making and encouraging collection of data and information.

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

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. Information should be collected to answer the following questions:

- What do we own, what are the attributes, and where is it?
- When was it installed or put into service?
- What did it cost?
- What would it cost to replace it?
- What condition is it in?
- How long will it last?

This information doesn't need to be perfectly accurate – starting with even anecdotal information or estimates from knowledgeable staff provides value to decision-making. 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.

CONSOLIDATING 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.

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.

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

Review the following long-term capital plan on the next page and consider the questions below.

What questions do you have about this plan?

What kind of supporting information might you want to see before approving this plan?

10-Year Capital Plan

						2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
No.	**Program**	**Project Name**	**Driver**	**Start Date**	**Total**	**Spending Profile**									
1	Water main replacement	Main street replacement	renewal	2018	$250,000	$190,000	$60,000								
2	Water treatment	filter upgrade	regulatory	2022	$65,000					$65,000					
3	Water main replacement	2nd Ave replacement	renewal	2025	$180,000								$20,000	$120,000	$40,000
4	Sewer main replacement	Main street replacement	renewal	2018	$200,000	$150,000	$50,000								
5	Sewer lift station upgrade	pump replacement	renewal	2026	$45,000									$45,000	
6	Road repair	Main street resurfacing and upgrade	renewal	2019	$350,000		$350,000								
7	Road repair	6th Street resurfacing	renewal	2020	$190,000			$190,000							
8	Road repair	Lyle road culvert replacement	renewal	2020	$300,000			$300,000							
9	Road upgrade	Pave Miller Street	level of service	2021	$350,000				$300,000	$50,000					
10	Playground	New playground	growth	2019	$15,000		$15,000								
11	Parks	New ball diamond	level of service	2022	$15,000					$15,000					
12	Pool	New water slide	level of service	2018	$3,000	$3,000									
13	Sidewalks	Main street repairs	renewal	2019	$60,000		$60,000								
14	Sidewalks	Hillview subdivision sidewalks	level of service	2024	$120,000							$120,000			
15	Town Hall Renovation	Carpet replacement	renewal	2023	$15,000						$15,000				
16	Town Hall Renovation	Office expansion	growth	2023	$75,000						$75,000				
17	Town Hall Renovation	HVAC replacement	renewal	2023	$60,000						$60,000				
				TOTAL	**$2,293,000**	**$343,000**	**$535,000**	**$490,000**	**$300,000**	**$130,000**	**$150,000**	**$120,000**	**$20,000**	**$165,000**	**$40,000**

Learning Goal: Understand and Follow the Asset Management Process

Standardized decision-making processes for allocating resources can be a departure from how budgeting and decision making has been done historically in many communities. However, it provides elected officials, staff, and the community with a transparent process for making decisions, and provides clear rationale for capital planning and budgeting.

CONNECTING ASSET MANAGEMENT TO WHAT YOU DO

Asset management is part of service delivery, it doesn't exist on its own. If you are particularly interested in one service—for example, water or parks—think about the role of asset management in providing these services.

Using standardized decision-making processes means that your processes are written down and followed consistently, even by those who are new to the organization. These processes provide a consistent framework that is used to understand the need or problem, identify and evaluate the options for addressing the need or problem, and prioritize between competing needs to fit the available resources.

ILLUSTRATIVE EXAMPLE/THOUGHT EXPERIMENT

To illustrate why standardized decision-making processes are important, consider two different communities.

The first community has an informal approach to budgeting and capital planning, but has never written it down. The public works manager has been in the role for about 15 years, and since he has good knowledge of the community's infrastructure, it's up to him to identify projects for the capital plan and figure out how they should be prioritized. The plan is rounded out by adding the projects that council has identified to be important based on interaction with the community. Then the capital plan is approved.

In the second community, written and standardized processes are used to develop the capital plan and budget. At the beginning of the process, a review of asset management data is conducted to identify high-risk assets and assets coming to the end of their useful life. Community plans are reviewed to identify projects that are important to achieving the community vision and goals. A business case is then developed for each potential project identified. Business cases are prioritized according to risk, benefit, and available funding sources. Projects that will be funded are included in the capital plan budget. Business cases for projects that are not funded are included for review in the process the following year.

In the first community, we can't definitively say whether the projects identified in the budget were the right projects or not. Since the public works manager is the one identifying the majority of the projects, council and the community need to trust that he understands the risks and the priorities of the community. The plans are not defensible, and since there is no clearly defined method for developing the budget, the budget is more susceptible to being swayed by influential individuals or interest groups.

The second community can defend their budgets by pointing to the process and the evidence used to support decisions. Projects are more likely to proceed on merit and need, rather than on the ability of influential people to argue for them. It's important to emphasize that staff experience and knowledge are still highly important in formal decision-making. However, it is documented and evaluated to demonstrate the evidence for taking one decision over another.

Using a standardized approach helps to place decisions within the context of overall strategic goals and resources. It mitigates the potential pitfalls of reactive decision-making that may prioritize issues with the loudest champions, rather than issues that have the greatest impact on the community. It also ensures that decisions in the short-term are made while considering long-term impacts.

Standardized decision-making processes should be used to support the following:

- Long-term capital planning and financial planning
- Short- and medium-term capital and operational budgeting that considers needs and assessment of risk
- Making changes to capital and operational budgets

Council does not develop decision-making processes, but should understand how priorities are determined and ensure that staff have followed a process. When elected officials have a strong understanding of how decisions were made and how community input was taken into consideration, they are better equipped to liaise with community members, especially when there are questions about why some things were prioritized and not others.

Activity

Review the following scenario:

A municipality uses a standardized process for developing its roads budget, which can be summarized in the following steps:

1. The condition of all roads is reviewed, and fair and poor condition road segments are identified
2. Of the fair and poor condition segments identified, the use of the road is assessed (e.g. road type, traffic count, network redundancy, emergency access, etc.)
3. Projects to repair the roads are identified and budgeted
4. Projects are prioritized and put into the budget based on the condition and use, until the available budget has been allocated.

During the budgeting process, residents from a single neighbourhood organize and begin to lobby council to repave the roads in their neighbourhood. This project has not been identified as a priority in the budget, but these are influential citizens.

What would your response and actions be to this scenario? Identify if you would require any further information from staff. Use the space below to jot down your thoughts.

You've Made It!

Here you are at the end of the course. Thank you for joining us for what was hopefully a day of learning, good conversation, and shared insight among you and your colleagues. Remember, today is just a start. Together, we've laid the foundation, but we hope that you'll continue to learn, ask questions, and participate in other opportunities to expand your knowledge of asset management. Throughout this book, and at the back, you can find the glossary and a list of resources if you ever need to reference something you learned in this course.

ASSET MANAGEMENT MINDSET

If you got anything out of today, we hope that it was an understanding of how an asset management mindset can support you in your role as an elected official and steward of community well-being. If you're ever stuck, start by asking yourself some questions:

- ❑ Do we have the information we need to make a decision?
- ❑ Have trade-offs between cost, risk, and service been considered?
- ❑ Are we focusing on service delivery?
- ❑ What are the long-term implications?
- ❑ Have all the relevant disciplines been properly engaged in this decision (e.g., planning, engineering, public works, finance, etc.)?
- ❑ Are we thinking about both short- and long-term needs?

Glossary

Asset management | A process of making decisions about how infrastructure is used and cared for in a way that manages current and future needs, considers risks and opportunities, and makes the best use of resources.

Asset management lens | Integrating asset management practices into decision-making. Specifically, thinking about what information is available, what additional information is needed, what trade-offs are being made, and what are the community's long-term goals and needs.

Asset management system | The set of policies, people, practices, and processes that are used in asset management. An asset management system is not a software program.

Asset risk | The risk of an asset failing to perform the way you need it to (e.g., a pipe bursts).

Assets | Also known as a tangible capital asset (TCA), a physical component of a system that enables a service, or services, to be provided.

Average Annual Life Cycle Investment (AALCI) | The average annual investment needed to sustain an existing asset over its service life and replace or renew the asset once it reaches the end of its service life.

Life cycle costs | The total cost of an asset over its life, including capital, operating, maintenance, renewal, and decommissioning costs.

Renewal investment | The total investment needed to replace or renew existing assets that have reached the end of their service life.

Risk | The chance that conditions or events may occur to cause an asset to fail.

Risk management | The iterative process of identifying and assessing risks, identifying and evaluating actions that can be taken to reduce risk, and implementing the appropriate actions to mitigate risk.

Risk tolerance | The capacity to accept a level of risk, dependent on the likelihood and severity of consequences, and the existence of other priorities that require more immediate investment.

Strategic risk | The risk of a change occurring that impedes your ability to achieve your overarching strategic goals (e.g., hot, dry conditions put pressure on your ability to provide water service).

Sustainable service delivery | Ensuring that municipal services are delivered in a socially, economically, and environmentally responsible way, and that decisions today do not compromise the ability of future generations to meet their own service needs.

Resources

AB Munis - Asset Management Resources

https://www.abmunis.ca/advocacy-resources/infrastructure/asset-management

Asset Management BC—Sample Plans, Policies, and Strategies

http://canadianinfrastructure.ca/en/index.html

Canadian Infrastructure Report Card

http://www.canadainfrastructure.ca/en/

FCM—Asset Management Readiness Scale

https://fcm.ca/en/resources/mamp/tool-asset-management-readiness-scale

Government of Alberta—Building Community Resilience Through Asset Management: A Handbook and Toolkit for Alberta Municipalities

http://www.municipalaffairs.alberta.ca/asset-management

Government of Alberta—Federal Gas Tax Fund Asset Management Approach

http://www.municipalaffairs.alberta.ca/documents/ms/Asset_Management_Approach.pdf

Infrastructure Asset Management Alberta (IAMA)

http://assetmanagementab.ca/

Municipal Asset Management Program

https://fcm.ca/home/programs/municipal-asset-management-program/funding-mamp.htm

RMA — Asset Management for Municipalities in Alberta

https://rmalberta.com/

Service Sustainability Assessment Tool

https://www.assetmanagementbc.ca/resources/