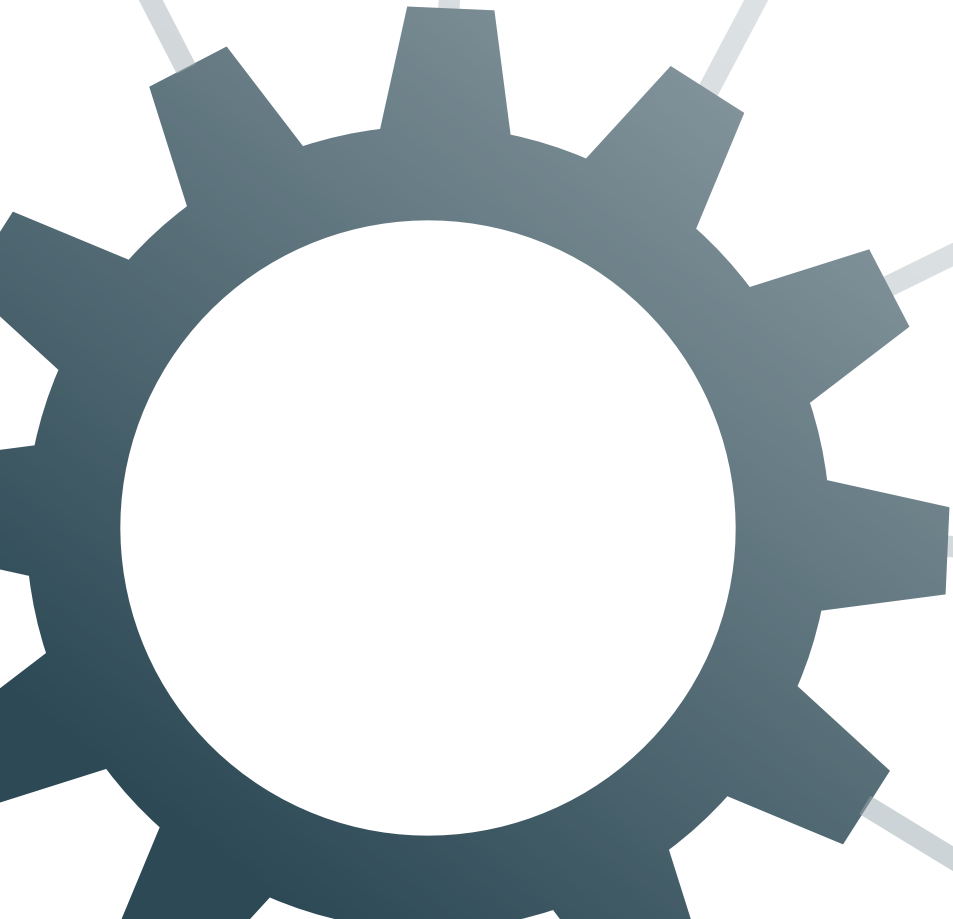
Asset Management Cohort Risk Workshop

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. AB Munis 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.

Table of Contents

Welcome

Welcome to the Asset Management Cohort Risk Workshop. This workshop is designed to help you, as municipal staff, develop your asset management approach with a focus on risk management for your municipality. This workshop is designed to support those that have completed the Introductory and Intermediate Asset Management Cohorts and have at least a draft Asset Management Policy and Asset Management Strategy.

This workshop is intended to build on your understanding of asset management and to help your municipality develop a risk register. This workshop is offered in addition to the Introductory and Intermediate Asset Management Cohorts offered by Alberta Municipalities (ABMunis), Rural Municipalities of Alberta (RMA), and Infrastructure Asset Management Alberta (IAMA). 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 workshop, 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.

At this point, all participants should be familiar with the basics of asset management. This workshop 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 workshop to help you build your municipality's asset management capacity, integrated with risk management.

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

This workshop is divided into 3 modules that will correspond to some of the main themes about risk management in the context of asset management.

- **Module 1** – Risk in the Context of Asset Management
- **Module 2** – Navigating Risk Management Frameworks
- **Module 3** – Implementing Risk Management

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.

Activity

Individual or group exercises designed to put learning into practice.

Glossary

Definitions of words and phrases used in the course material.

Did You Know?

Interesting facts and insights on asset management.

Try it out

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

Resources

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

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: Risk in the Context of Asset Management

LEARNING GOAL 1: Getting Reaquainted with the Components of Asset Management

Activity

With your municipal team, discuss the following questions considering the work that has been done since we came together in the Introductory or Intermediate cohort.

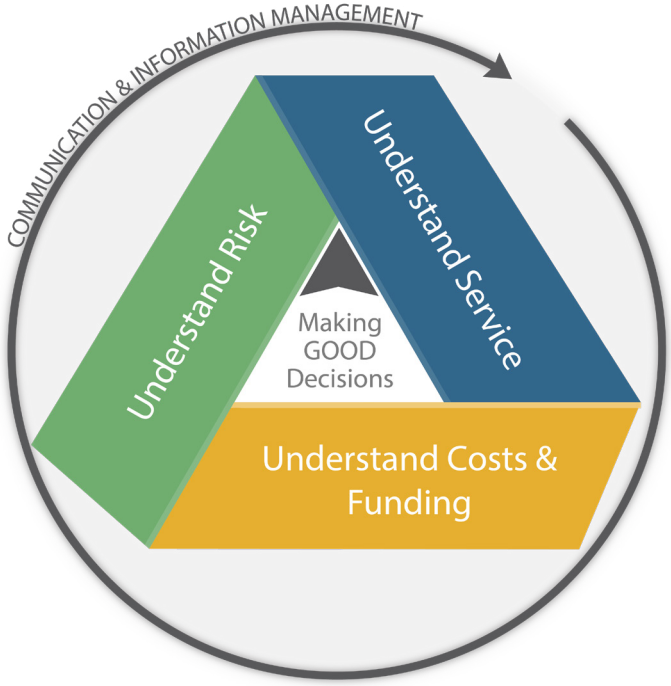
1. **How has your definition of asset management changed through your participation in the cohort(s)?**

2. **How has risk been incorporated into your asset management approach so far, if at all?**

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 and improve as you go.

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.



Source: *Alberta Handbook & Toolkit*

Activity

With your municipal team, discuss the following question considering the work that has been done since we came together:

1. **What trade-off decisions did you make today that prioritized the risk of an activity/event? (e.g. your choice of transportation to the workshop, the clothes you chose to wear, etc.) What is an example of a recent trade-off decision you have made at work (bonus if this applies to your communiy's assets)?**

LEARNING GOAL 2: Articulate the Connections between Risk and Asset Management in your Community's Context

Why are we focusing on understanding risk in this workshop?

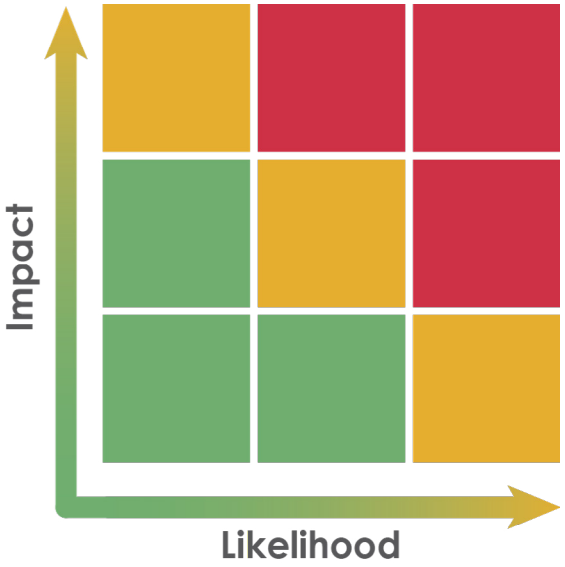
Municipalities of all types and sizes lack a clear and consistent understanding of what their risks are.

The process of understanding risks can often be overwhelming specifically when discussing risk and the impacts that it has on your community. Starting with what you have and where you are and taking small tangible steps forward can often be the most successful way forward. Every organization can incorporate considerations of service, risk, and cost into decisions, with the information you already have.

Risk is measured using the following equation:

IMPACT X LIKELIHOOD = RISK

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 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.



Source: *Alberta Handbook & Toolkit*

Risks are events or occurrences that will have undesired impacts on services.

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 all strategic risks.

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. Managing risk is not always as straightforward as eliminating risk, and everyone has a different level of risk tolerance.

Vulnerability refers to a weakness in the ability of a person, structure or natural system to respond to a hazard (i.e. flooding). Vulnerability occurs when infrastructure and natural assets are exposed to natural elements and is the product of both sensitivity and the adaptive capacity of a system.

Resilience refers to the capacity to recover quickly from difficulties and return to a state of normal functioning and service delivery. Ideally, resilience also means returning to a state that is better than you were in before. A resilient community can adapt quickly and effectively when faced with chronic stresses or acute shocks such as climate change impacts (e.g., severe storms, flooding, or thawing permafrost). To achieve resiliency, it is necessary to have a holistic understanding about community vulnerabilities as well as how systems are dependent on each other.

Activity

With your municipal team, reflect on the following question considering the work that has been done since we came together:

1. **What does your Asset Management Policy say about risk management? What about your Asset Management Strategy?**

Risk Management Policy

Some municipalities will have a risk management policy that is separate from their asset management policy. The risk management policy should clearly state the organization's objectives for, and commitment to, risk management and typically addresses the following:

POLL

Does your Asset Management policy include clear direction to consider risk?

- The organization's rationale for managing risk;
- Links between the organization's objectives and policies and the risk management policy;
- Accountabilities and responsibilities for managing risk;
- The way in which conflicting interests are dealt with;
- Commitment to make the necessary resources available to assist those accountable and responsible for managing risk;
- The way in which risk management performance will be measured and reported; and
- Commitment to review and improve the risk management policy and framework periodically and in response to an event or change in circumstances.

If you don't have a risk management policy, you are still responsible for managing risks! Depending on your municipal context, it may or may not make sense to have a separate risk management policy.

LEARNING GOAL 3: Share your Community's Approach to Considering Risk

Benefits of Understanding Risk

Understanding risk is essential for the resilience and longevity of critical services. By identifying and evaluating risks associated with infrastructure, such as natural disasters or the impacts of climate change, decision makers can implement proactive measures to mitigate potential disruptions and enhance overall system reliability. This strategic approach not only safeguards infrastructure investments but also contributes to the sustainable development and efficiency of essential services, fostering the long-term well-being of communities and economies. Some of the benefits include:

- Develops a consistent language across the organization to describe possible events, their impact, their likelihood, and what should be done about them (if anything).
- Helps you to identify top priorities, and check if you're spending your resources in the areas that are your biggest risk.
- Helps you allocate limited financial and human resources.
- Helps people agree on what level of risk is acceptable, what kinds of risks need to be managed, and what should be invested to manage these risks.
- Contributes to building resilience of your community.

Activity

With your municipal team, reflect on the following questions (and be prepared to share with others):

How is risk considered in your municipality? In what process/time of year/meetings do you communicate most about risk?

Activity

Tell a story about a time that the risk management tools that your municipality has were utilized. What were the peaks (positives) and valleys (negatives)? How has your approach to communicating about risk changed in relation to that event?

Module 2 – Navigating Risk Management Frameworks

There are many risk management resources, making it challenging to select one. Module two aims to provide guidance on how to navigate the many risk management resources by asking some probing questions, outlining the key steps in risk management, and how to complete a risk assessment.

LEARNING GOAL 1: Identifying Available Risk Management Resources and Understanding Information Required to Engage in Risk Management

There are so many resources and frameworks to choose from, and so many places to start. How do you decide what to do first? Consider these questions as you determine your first steps:

How technical do you need to get?

Evaluating the impact and likelihood of risks requires some information about the hazard and the interactions with infrastructure and services. This information can be anecdotal (for example, your Public Works staff may know how many times a pump went down for unexpected maintenance in a year) or quite technical (for example, the modeled 1:200 year flood elevation at a bridge crossing). Just like in asset management, you can start with the information that is already available to you, identify where you may need more detailed information, and refine in your next iteration.

Remember that some information is more expensive to acquire and/or synthesize into a useful form. Balancing the cost of data acquisition with potential benefit will help you to evaluate whether you're getting into diminishing returns.

How are we currently communicating about risk?

Rather than embarking on risk management as a new and separate initiative, it is worthwhile to spend some time examining how risk already appears in existing processes. Simply starting with conversations about risk can go a long way in advancing your community's approach to risk management. Knowing which existing processes include elements of risk management will help you narrow your search for resources that will be the most helpful.

Have we set expectations for how we will consider risk?

Your community may have already established some guidance for risk management. This can appear in administrative policies, level of service policies, emergency response plans, operational plans, climate action plans, or Occupational Health & Safety (OH&S) policies. Direction for considering risk may also appear at a high level in your community's Strategic Plan. The direction in these documents will vary in specificity – you may need to do some work in translating strategic direction into action through risk management.

Knowing what direction for considering risk already exists in your community will help you choose resources that will best help you in next steps.

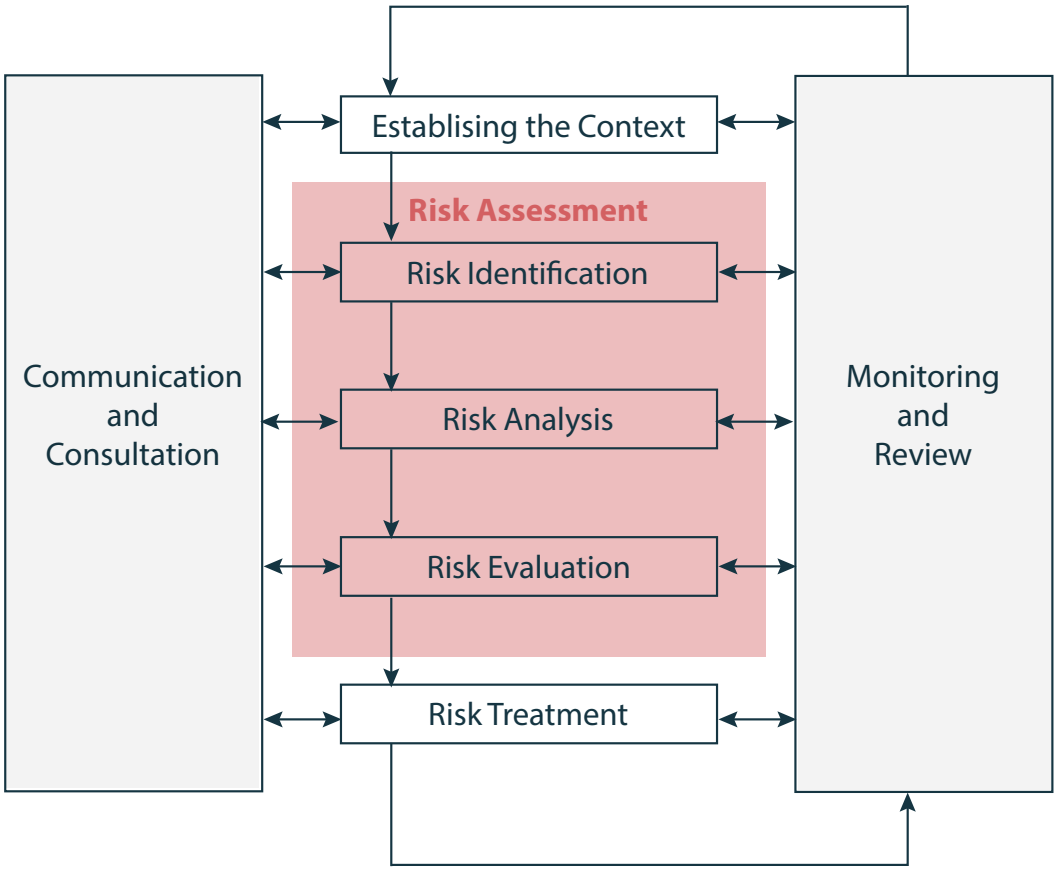
> Here are a few links to get you started in your search for risk management resources, including tools, guides, and webinars:
>
> Risk Management | Alberta Municipalities (abmunis.ca)
>
> Managing Risk (fcm.ca)
>
> Risk Management for Government & Provincial Public Sector - Province of British Columbia

Information Needed to Manage Risks

What are the possible events that could impact your ability to deliver service to your community? Some of these events will have a higher probability or greater impact than others – which make them a bigger risk. Often, with the right planning and actions, the likelihood or impact of these events can be reduced. To understand risk, you need to have information about:

1. What your risks are and where they are;
2. The impact and likelihood of these risks;
3. What can be done to control or mitigate them and what resources are required; and
4. Whether they are worth mitigating or if they should be tolerated.

In this workshop, we will be following along with the ISO 31000 risk management framework, illustrated in the graphic below. We will be spending workshop time in each of the steps below, practicing communication along the way!



Tips for implementing risk management

Before you get to work in implementing risk management in your community, consider the following:

- Align timing of risk management with processes that are already happening;
- Identify any legal and regulatory requirements that provide direction about risk management for services your community delivers;
- Think ahead to how the results of the risk management process will be incorporated in decision making
- Hold information and training sessions for staff involved in risk management; and;
- Identify key stakeholders that you will need to communicate and/or consult with

Reflection

In a group reflect the following question:

Does your municipality have some experience in working with the ISO 31000 Risk Management Framework? If not, where do you see connections to the framework in your existing processes?

LEARNING GOAL 2: Describe the Approach to Implementing Key Steps in Risk Management

This section of the workshop follows along closely with the ISO 31000 risk management framework. We will explore this framework one step at a time, with some practice along the way.

Step 1 – Establish the Context

Setting the context is an important (and often forgotten!) step in risk management. Consider the following questions to help you set the stage:

- What kind of risks are you evaluating?
- What perspectives need to be involved in evaluating these risks?
- Is it valuable to isolate hazards and interactions before setting criteria and evaluating risks?
- Do we have the information/level of detail needed to complete our assessment?

Defining Risk Criteria – Impact and Likelihood:

Defined criteria are useful in evaluating the significance of risk. The criteria should reflect the organization's values, objectives and available resources. Some criteria can be imposed by, or derived from, legal and regulatory requirements and other requirements. For example, municipalities in Alberta that provide treated water are required to comply with drinking water standards to manage risks to public health.

Risk criteria that you define should be consistent with your community's risk management approach, be defined at the beginning of any risk management process and be continually reviewed. When defining risk criteria, factors to be considered should include the following:

- The nature and types of causes and how impacts will measured;
- How likelihood will be defined;
- The timeframe(s) of the likelihood and/or consequence(s);
- How the level of risk is to be determined;
- The views of stakeholders;
- The level at which risk becomes acceptable or tolerable; and
- Whether combinations of multiple risks should be taken into account and, if so, how and which combinations should be considered.

Asset management processes can provide key information that supports assessing risks – condition, which is an indication of service life; and capacity/performance, which can trigger replacement or upgrades before service life has been reached.

Setting context and defining risk criteria is an iterative process – you may need to try a few approaches before you find one that feels "right"!

The Alberta Asset Management Handbook & Toolkit includes an editable excel workbook that has some examples of impact and likelihood scales, and an editable risk register tab. Download it here: Getting started : toolkit user guide. Quick start tools and templates for building an asset management program - Open Government (alberta.ca). It even has a populated example you can follow along with!

Step 2 – Risk Assessment

Risks are assessed by identifying the impact and the likelihood of the event, applying scores based on your previously defined criteria, multiplying those scores together, and mapping the corresponding level of risk on a risk matrix like the one below. The higher the score, the bigger the risk. Doing this for each risk helps you to compare risks through their scores, which is a key part of prioritizing what to worry about first.

Incorporating Climate Change in Risk Management:

Climate change can have a significant impact on any community, think of the following when setting the context to ensure that climate considerations are being taking into account:

- Climate change can impact the context of your risk assessment, as well as how you define risk assessment criteria of consequence and likelihood.
- Climate context may require some information on climate projections for your geography.
- Climate change considerations can introduce new hazards or increase likelihood of hazards that already exist.
- Including climate considerations in risk assessments is a key first step in climate adaptation and mitigation

The following resources can provide you with some resources that can help you incorporate climate considerations while setting your risk context:

- The Climate Atlas of Canada offers an interactive map which allows the user to obtain summarized climate projections for a selected grid region or specific community.
- The IDF-CC Tool offers projected rainfall intensities for combinations of storm duration (sub-daily) and return period. This tool can help you update technical modeling with statistical projections of how rainfall events may behave in climate change scenarios.
- Home - ClimateData.ca

Step 2a: Risk Identification

The first step of a risk assessment is to identify which risks you will evaluate. The aim of this step is to generate a comprehensive list of risks based on those events that might create, enhance, prevent, degrade, accelerate, or delay the achievement of objectives. It is important to also identify the risks associated with not pursuing an opportunity. Comprehensive identification is critical, because a risk that is not identified at this stage will not be included in further analysis. Identification should include risks whether their source is under the control of your municipal, even though the risk source or cause may not be evident.

Risk identification should include examination of the knock-on effects of consequences, including cascade and cumulative effects. It should also consider a wide range of consequences even if the risk source or cause may not be evident. As well as identifying what might happen, it is necessary to consider possible causes and scenarios that show what consequences can occur. All significant causes and consequences should be considered. The organization should apply risk identification tools and techniques that are suited to its objectives and capabilities, and to the risks faced. Relevant and up-to-date information is important in identifying risks. This should include appropriate background information where possible. People with appropriate knowledge should be involved in identifying risks.

Completing the first step of asking the question "will this hazard impact the infrastructure I'm assessing" can be very helpful in managing the amount of time spent on completing your risk assessment. You can focus on the strong interactions between hazards and assets and put your effort to evaluating events that are actually possible, rather than putting energy into events that would never occur!

A useful step in risk identification can be completing a hazard interaction analysis. This involves setting up a table like the example below:

Hazard	Water System	Wastewater System	Stormwater System	Road System	Recreation Facilities
Drought	**Yes** – affects water supply	**Yes** – affects water use and may decrease load on wastewater system, affect discharge of treated effluent to receiving water body	**Yes** – affects normal operating levels of stormwater ponds	**No**	**No**
Wildfire	**Yes** – required for firefighting efforts	**Maybe** – depends on location, wildfire may threaten treatment facility	**No**	**No**	**Maybe** – depends on location, wildfire may threaten facilities
Global Pandemic	**No**	**No**	**No**	**Yes** – travel patterns will change	**Yes** – facilities may need to close
Extreme Rainfall	**Maybe** – floodwaters may impact treatment facilities	**Yes** – high infiltration and inflow in our system means increased flows in pipes to treatment facility	**Yes**	**Yes**	**Maybe** – floodwaters may impact facilities
Windstorm	**Maybe** – damage to facilities	**Maybe** – damage to facilities	**No**	**Yes** – may impact power lines and/or signals	**Maybe** – damage to facilities

Step 2b: Risk Analysis

The severity of risks can be evaluated based on the impact to services. Risk analysis provides information that supports:

- Prioritizing which risks to manage first
- Identifying which risks can be tolerated
- Identifying which risks need to be treated, and
- Determining most appropriate risk treatment strategies and methods.

The results of your risk analysis can be represented spatially by plotting them on a risk matrix like the one on Page 7 of the workbook, as well as in a tabular way in a risk register like the one in the Alberta Handbook & Toolkit.

While completing the risk analysis, keep the following in mind:

- Consider the causes and sources of the risk you're evaluating – what is the root cause of the risk?
- What are the positive and negative consequences of the risk? What's the likelihood of each?
- What factors could affect how we evaluate the consequence or likelihood?

What happens when there are knock-on effects of risks?

An event can have multiple consequences and can affect multiple objectives. Existing risk control measures and their effectiveness and efficiency should also be considered in a way that is consistent with the risk criteria you've established. It is also important to consider the interdependence of different risks and their sources – some risks can be elevated because of other risks. For example, a risk that all municipalities face is the risk of drought, which would increase risks to water supply as well as increase risks of wildfire. These knock-on effects can be difficult to measure with any sort of precision – it's important to talk about them during your risk analysis, but don't get hung up on trying to evaluate them exactly!

Keep in mind…

The confidence in the level of risk and its sensitivity to the assumptions you've made should be considered in the analysis, and communicated to decision makers and other stakeholders. Important assumptions or conditions to communicate include:

- Divergence of opinion among experts
- Uncertainty, availability, quality, quantity and ongoing relevance of information,
- If using models or projections, limitations on modelling and input data

If you are getting started on a first risk assessment, remember that anecdotal information is still valid information!

What's the right level of detail?

Risk analysis can be completed with varying degrees of detail, depending on the risk, the purpose of the analysis, and the information, data, and resources available. Analysis can be qualitative, semi-quantitative or quantitative, or a combination of these. Consequences and their likelihood can be determined by modelling the outcomes of an event or set of events, or by extrapolation from experimental studies or from available data. Consequences can be expressed in terms of tangible and intangible impacts. In some cases, more than one numerical value or descriptor is required to specify consequences and their likelihood for different times, places, groups, or situations.

Step 2c: Risk Evaluation

Risk evaluation can help your community to making decisions about which risks need treatment and the priority for treatment implementation, based on your risk assessment results. Decisions should take account of the wider context of the risk and include consideration of your municipality's tolerance of risks. Decisions about risk treatment and prioritization should be made in accordance with legal, regulatory, and other requirements. In some circumstances, the risk evaluation can lead to a decision to do further analysis to better understand the risk. The risk evaluation can also lead to a decision not to treat the risk in any way other than maintaining existing controls – remember that tolerating risks is perfectly acceptable if it is a conscious decision. This decision will be influenced by the organization's risk attitude and the risk criteria that have been established.

Step 3 – Risk Treatment

Deciding on the most appropriate risk treatment option involves balancing the costs and efforts of implementation against the benefits. This should sound familiar, as asset management is all about making trade-off decisions between service, risk, and cost.

There are many ways you can control or mitigate risks: capital projects (e.g. replacement of a water main) or operational approaches (e.g. having a plan to fix the water main very quickly after it breaks and/or the ability to rely on an alternate water supply). Often, a single project will only reduce the likelihood of the event OR the impact of the event – but not both. You may need more than one approach to managing bigger risks.

When selecting risk treatment options, you should consider the values and perceptions of stakeholders and the most appropriate ways to communicate with them. Though equally effective, some risk treatments can be more acceptable to some stakeholders than to others. In developing your treatment plan, clearly identify the priority order in which individual risk treatments should be implemented.

Step 4 – Monitor and Review

Risk treatment itself can introduce risk, as a significant risk can be the failure or ineffectiveness of the risk treatment measures. This is why monitoring needs to be an integral part of the risk treatment plan to verify that the measures remain effective. We will spend more time on this step in Module 3.

LEARNING GOAL 3: Complete a (First) Risk Assessment and Populate a Risk Register

We've learned about the key steps in risk management, now let's practice! We will be spending the next part of the workshop completing a first risk assessment or updating a previous assessment. Facilitators will be distributing an activity sheet in either hard or digital format for you and your team to work from.

Activity

Let's map out "The Things That Keep You Up at Night". Using the risk/likelihood scale write the things that keep you up at night on the sticky notes, place them on the scale and discuss.

Module 3 – Implementing Risk Management

LEARNING GOAL 1: You've Done a Risk Assessment Now What?

Now that you have done a risk assessment, what do you do now? There are a couple key steps that should happen following a risk assessment, and before you get into the monitoring and review step of ISO 31000. They are:

- Identify risk mitigation or reduction actions
- Evaluate risk tolerance – of the identified actions, what is most appropriate to do based on your community's risk tolerance?
- Develop a prioritized plan for implementing actions and coordinate with existing processes
- Implement actions!

Risk tolerance: the level of risk the municipality can reasonably handle. Attempting to reduce risk as much as possible is prohibitively expensive, and unnecessary.

Activity

Share your top 3 risks from your assessment with the table next to you. Are there similarities? Differences? What are some potential mitigating/reducing actions?

LEARNING GOAL 2: Integrating Risk Management with Decision Making Process

Trade-offs and Risk

Accepting greater asset risks can mean that assets are not performing like they need to, which impacts the level of service you can provide. An example of this connection is water mains that are allowed to deteriorate, resulting in more breaks, and more water service outages for the community. Strategic risks can have an impact on your ability to deliver level of service, and small actions made today can help to maintain level of service in the future. An example of this connection is the strategic risk of having spikes in asset replacement costs if several assets are expected to reach the end of their useful life at the same time. This risk can be managed by making annual contributions to reserves to spread out the financial impacts of asset replacement. Elected officials and community members should be informed of the connection between service and risk, so that decisions to manage or to tolerate risks are made while considering the impact to services.

Evaluating trade-offs is everyone's job!

Everyone within a municipality makes decisions that should be informed by an understanding of service, risk, and costs/funding. Everyone has a role to play in providing information for others to make decisions, and in seeking out the appropriate information to inform the decisions they make.

In the context of risk management and asset management, different roles in a municipality will engage with evaluating trade-offs in different ways:

Role	Risk Trade-off Responsibilities
Council	Receive risk assessment results and prioritized action plan from staff. Review recommendations. Evaluate the proposed plan against the municipality's risk tolerance, guided by Strategic Plan and/or Policies. Provide direction to implement the plan or adapt the plan. Commit resources to monitoring and reporting on effectiveness of risk treatment. Communicate about trade-off decisions to the community.
Management	Assemble cross-functional team to complete risk assessment. Collect information needed for risk assessment, complete risk assessment as per steps identified in this workbook. Develop a prioritized action plan and communicate to Council. Communicate the implications of choosing not to implement actions. Implement Council direction, monitor and review on effectiveness of risk treatment. Initiate periodic review and update of risk assessments.
Operations	Provide information needed to complete risk assessments, provide input on risk assessments and/or development of prioritized plan. Implement approved action plan, monitor actions for effectiveness.

There are likely other roles involved in risk management in your community. Just like in asset management, context matters!

Communicating what matters most for making good decisions

Communication enables the flow of information for making decisions at all levels of the municipality. Asset management is a team sport, and everyone has experience and information about services, risks, and costs that needs to be communicated with others. Similarly, decisions and directions about services, risks, and costs need to be communicated throughout the organization to ensure that everyone is on the same page with what needs to be done and why.

Source: *Alberta Handbook & Toolkit*

Opportunities to integrate risk management in decision-making

Recall our discussion from the beginning of this workshop. When and how are you already communicating about risk management in your community? What processes are you already engaging in that could benefit from the risk assessment you just completed?

Activity

As a team, reflect on the risk assessment you just completed. What process do you think would benefit most from what you have completed today? How else can you use the results? Be prepared to share with other groups.

Step 4 - Monitor and Review

Now that you have had some practice doing a risk assessment, it's time to put some actions in place. Monitoring and reviewing after controls have been implemented can help to reduce the likelihood and severity of the risk occurring. Some tips for monitoring and reviewing include:

- Monitor outcomes, and revisit risk assessment(s). Did your actions have the desired effect on likelihood and/or consequence of failure?
- Communicate outcomes and any adjustments needed in the future
- Evaluate the risk management framework and risk assessment process – what needs to be improved for next time?
- Iterate, iterate, iterate!

Continuous Improvement in Risk Management

Based on results of monitoring and reviews, decisions should be made about how your approach to risk management can be improved. Over time, these incremental improvements in the organization's management of risk will become part of every day business.

LEARNING GOAL 3: Communicating About Risk Management

Developing a common language

Different people within the same organization will have different perspectives, opinions, and language that they used to understand risk. This can complicate decision making. If you have a systematic approach to identifying and ranking risks, you can develop a common language and better decisions. Key things to remember are:

- Context is paramount! Communication about risk needs to be connected to what is important to the community.
- Context changes over time – repeated or continuous communication is necessary

Managing expectations of risk management

Sometimes, completing a risk assessment can instill a false sense of security. Many people will stop at that point thinking they've effectively managed risks, without implementing the actions. You may need to do some work early on to communicate to decision-makers that completing a risk assessment comes with responsibility to act upon the results, and to make trade-off decisions between risk, service, and costs.

There is also a need to communicate to those receiving risk assessment results that there is uncertainty in every risk assessment. We will never have the exact information and future insight to say with certainty what the exact, quantifiable level of risk is. Considering climate change and other projections of the future adds in an additional layer of uncertainty to the conversation. Risk management is all about planning for, not predicting the future. Its main purpose is as a conversation framework between many perspectives in a municipality, to support good decision-making and building resilience.

Wrap Up and Feedback – You Did It!

You dedicated your day to talking about risk for your community and what keeps you up at night which can be hard. We appreciate the conversations and the reflections that you put into the workshop. We covered navigating risk in the context of asset management, how to do a risk assessment, and considerations for implementing a risk management approach for your organization. These are important and foundational elements to improving the resiliency of your community through the lens of your infrastructure assets.

Topics covered in this workshop:

- Getting re-acquainted with the components of asset management
- How to articulate the connections between risk and asset management
- Shared your community's approach to considering risk
- Identifying available risk management resources and understanding information required to engage in risk management
- Described the approach to implementing key steps in risk management
- Completed a first risk assessment and populated a risk register
- Learned what to do after a risk assessment
- How to integrate risk management with decision making processes
- Communicating about risk management