

# CAMA- Fredericton NB 2018

- **ERM and Asset Management- how do they fit?**
- Enterprise risk management (ERM) is a process for identifying and evaluating risks so that risks can be effectively mitigated and monitored. ERM helps measure and prioritize risk mitigation as an interrelated system, rather than looking at risks in silos.
- ERM is beneficial in helping municipalities make strategic decisions that can help save time and money, reduce risk over time, assist in knowledge transfer to new employees or councilors, and reduce legal liability



# What is Risk?

- Risk is often considered to be “what could go wrong”- and trying to prevent these events from occurring.
- A commonly used definition for risk is “the effect of uncertainty on the achievement of objectives. In other words, risk is a potential event that could affect the achievement of municipal objectives.
- In the absence of a pre-determined plan of action to reduce risk, the resulting issue can quickly become a crisis. The earlier a risk event is addressed, the more contained the impact often is.



# Inherent and Residual Risk

A municipality is dealing with an aging and deteriorating waterworks system. The engineers report that the structural integrity of the pipes is severely damaged. The advice is to replace the pipes ASAP! The risk of leaving the old infrastructure in place is that the pipes will start leaking and cause flooding, or lead to failure of the water supply.

*This is the inherent risk.*

A municipality implements a water shutoff within the pipelines system, the risk of flooding due to a pipe failure is reduced. However, the risk of failure of the system still exists.

*This is the residual risk.*



## Why is Risk Management important for municipalities?

- Municipalities provide a wide range of services and play a critical role in the well being of residents. Risk Management helps measure and prioritize risk mitigation as an interrelated system which is beneficial in terms of:
- Saving resources: People, income, property, assets time.
- Enhancing public image and responding to scrutiny for expenditures and actions relating to public funds and municipal assets.
- Assisting in knowledge transfer to new employees or councilors
- Protecting people from harm
- Reducing legal liability
- Protecting the physical environment
- Reducing risk over time and stabilizing cost of risk mitigation



# Controllable versus uncontrollable risk

- At its very basic form, risk can be categorized into two types:
- 1. Controllable risk- those risks you can control. For example, risk of injury from a slip and fall on a slippery sidewalk, which can be reduced by sanding/salting the sidewalk.
- 2. Uncontrollable risk- those risks outside of your control. For example, a natural disaster such as a flood, wildfire or tornado. Some controls can be put in place.



- Risk Management is not new. People have been managing risks forever!
- Enterprise Risk Management (ERM), is relatively new for municipalities to adopt. ERM is a step by step organizational wide integrated risk management process. It helps in understanding the entire risk profile of your municipality and manage risks in an aggregated manner, instead of individual risks
- An ERM can help you determine:
  - What can happen, and how likely is it to happen?
  - What are the consequences if it happens?
  - What can be done and what are the benefits, costs, risks and impacts of each option?
- How do we communicate these risks and make sure they are managed, monitored and reported appropriately?



# What could possibly go wrong?

A/C Failure

## **Arson**

Asbestos

Bomb Threat

Bomb Blast

Brown Out

## **Burst Pipe**

Cable Cut

Chemical Spill

CO Fire

Communication Failure

Condensation

Construction

Coolant Leak

Corrupted Data

Diesel Generator

## **Electrical Short**

Evacuation

Explosion

## **Fire**

Flood

Fraud

Frozen Pipes

Hacker

Hail Storm

Halon Discharge

## **Human Error**

Humidity

HVAC Failure

Ice Storm

Insects

Landlord Conflict

## **Lightning**

Lost Data

Microwave Fade

## **Network Failure**

PCB Contamination

Plane Crash

Power Outage

Power Spike

## **Power Surge**

Programmer Error

Raw Sewage

Relocation Delay

Rodents

Roof Cave In

Sabotage

Shredded Data

Sick building

## **Smoke Damage**

Snow Storm

## **Faulty Sprinkler**

Static Electricity

Strike Action

Terrorism

## **Theft**

Toilet Overflow

Tornado

Train Derailment

Transformer Fire

UPS Failure

Vandalism

Vehicle Crash

## **Virus**

Water (Various)

Wind Storm

Volcano

Epidemic – H1N1



# Slave Lake AB 2011







# High River Alberta 2013





# RMWB- Ft McMurray 2016



# After



- A major component of municipal service delivery 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.



- **Asset management** 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"*



## • **Asset Management and Decision-Making**

- Asset management is about using systems and processes to balance cost, risk, and level of service to make decisions that make sense for your community in the long run.
- Every community faces the challenges of limited resources and needing to contain costs, high level of service expectations from the community, and risks associated with asset failure.
- Depending on the situation, each of these three considerations will have more or less weight in decision-making. With limited resources, it can be difficult or impossible to maximize the objectives for all three.





| Service   | Risk  | Cost  |
|---|---|---|
| <ul style="list-style-type: none"> <li>• <b>Types of services</b></li> <li>• <b>Who benefits or doesn't benefit from a particular service</b></li> <li>• <b>The current and desired level of service</b></li> <li>• <b>Regulatory requirements</b></li> <li>• <b>Service demands</b></li> </ul> | <ul style="list-style-type: none"> <li>• Events that would have an undesirable impact on services</li> <li>• <u>Asset risk</u> describes the risk of an asset failing to perform the way you need it to deliver a service</li> <li>• <u>Strategic risk</u> describes a change that would affect your ability to achieve municipal objectives</li> </ul> | <ul style="list-style-type: none"> <li>• Replacement and capital costs</li> <li>• Operating and maintenance costs</li> <li>• Revenue sources</li> <li>• Partnerships</li> </ul> |

- There are a number of parallels between asset management and risk management: both are ongoing processes with the end goal of sustainable service delivery.
- Asset management is most effective when risk management is embedded



- 60% of Canada's core public infrastructure is owned and maintained by municipal governments.
- One-third of municipal infrastructure is in fair, poor, or very poor condition.
- These numbers give us some insight on the risk facing Canada's infrastructure.
- The condition of infrastructure is an indicator of the likelihood of failure: one of the two factors of risk.
- Asset management, and risk management specifically can help municipalities to further understand risks by assessing the other factor in risk: the consequences.



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



- Looking at asset management and risk management together, we can identify some parallels.
- Both are ongoing processes, with the end goal of sustainable service delivery.



- Asset management supports risk management in a number of ways. At its core, asset management considers risk alongside cost and service level to help provide a more holistic view of service delivery than would be possible by focusing on any one of these areas in isolation.
- Considering risk, service, and cost allows communities to have more nuanced conversations about their assets and their long-term goals.



- Systematic risk management
- Asset management is a process that requires re-evaluation and continuous improvement. Revisiting risk assessments over time allows for the monitoring of effectiveness of risk management strategies, as well as the re-assessment of risk in the case of change.
- Maximizing lifecycle and minimizing costs
- Asset management helps maximize asset lifecycles because there is a plan and process in place to maintain and replace assets as needed. There is significant evidence that good maintenance practices help reduce overall costs by extending the service life of assets.
- For example, the regular maintenance of roads can extend the life of the roads almost indefinitely. Costs of performing this maintenance (like crack sealing) are several times lower than reconstructing the full road.



- An AM Policy outlines the organization's commitment and mandated requirements for asset management. It links to strategic objectives and is based on the organization's values and priorities.
- Specific details on risk management will typically not be included in the AM Policy – the Policy is higher-level. However, by outlining objectives and principles, the Policy will set the direction on how risk is integrated into asset management considerations.
- The AM Policy may also state the municipality's commitment to implementing a risk management process and considering risk in planning and prioritization.
- Municipalities often have risk management policies; however, these are usually focused on corporate risk management rather than risks to service delivery. Both types of risk are important to manage and be considered at a policy level.





Thank you!

