



OPERATIONS AND MAINTENANCE: *What's All The Fuss ?*

Budgets are tight on capital projects. Time is limited. Work needs to be done before the snow starts to fly. Who has time to think about operations and maintenance (O&M) when planning capital projects? And besides, it is operations staff's job to keep the works humming after they are built, right? Well, maybe there is a different way to think about O&M.

Consider this:

- Asset Management British Columbia's primer on sustainable service delivery estimates that O&M staff spend 85% to 90% of maintenance time fixing things that break or are about to break.
- The National Institute of Building Sciences Whole Buildings Design Guide (2020) pegs O&M costs at 60% to 80% of the life cycle cost of buildings, and even higher toward end of life without preventative maintenance activities.
- The 2019 Canadian Infrastructure Report Card reports that spending \$1 on preventative maintenance early in an asset's lifecycle can save \$6 to \$10 investment in replacement or future rehabilitation.



Based on those statistics, paying attention to O&M can translate into big long-term savings. Investing early in O&M planning and prioritizing brings many benefits:

- Lifecycle cost of infrastructure is reduced through design and construction decisions.
- Operating costs such as energy use can be minimized, with the added benefit of greenhouse gas reductions.
- Level of service delivery is protected with fewer unexpected outages.
- Capital improvement costs are deferred by extending the life of infrastructure.
- Staff overtime responding to emergency calls is reduced, lowering workplace stress.

AIM Network has partnered with the Atlantic Canada Water and Wastewater Association (ACWWA) to deliver a series of workshops on integrating O&M with asset management. The first workshop, Operations and Maintenance in Water and Wastewater Systems, was delivered in February of 2021 as an introduction to concepts aligning the two processes. An upcoming series of four workshops will address specific considerations in assessing physical plant services, developing proactive maintenance plans and incorporating these planning activities into the life cycle asset management plans of infrastructure. For more information on past or future workshops, contact us at info@aimnetwork.ca.

By: Matt Delorme, P.Eng.
AIM TECHNICAL PROGRAM MANAGER

JOIN OUR LEADERSHIP BOOTCAMP IN SEPTEMBER

Asset management is a business process, not just a plan. In small municipalities, every staff and Council member has an important role to play to ensure that decisions move them towards sustainable service delivery. This means that to make real progress in asset management, municipal leaders require an understanding of the different perspectives that people bring to the process and a commitment to leadership that will achieve the best outcomes for their communities.

AIM Network is pleased to host a two-day leadership event from **September 1-3 at Inverary Resort on Baddeck Bay in Nova Scotia**. Join us for a meet and greet on the evening of September 1st. Sessions will take place all day on September 2nd and in the morning on September 3rd.

This experience is open to CAOs/town managers and local elected officials. It is guaranteed to educate, entertain, and enlighten participants while shining a light on dysfunctional patterns in municipalities that can keep us from meeting our asset management goals and objectives.

Participants will share an intense, interactive experience that engages them to examine:

- How collaborating with different roles in your municipality improves asset management processes and overall job satisfaction;
- How misunderstanding and miscommunication happen in municipalities and how to change that;
- How self-awareness and emotional intelligence positively impact the municipality; and
- How investing in the development of key leadership competencies can benefit the municipality far beyond the election cycle.

The event will be facilitated by Christina Benty, MA of Strategic Leadership Solutions. Christina is a speaker, facilitator, published author and a performance coach for governing bodies and senior management teams who want to develop a culture of high performance. Her superpower is that she can deliver intellectual content with energy and enthusiasm.

As former mayor for the Town of Golden, her leadership journey forced her to face her own resistance to uncertainty and discomfort. Now she uses her lived experience to help others develop their own leadership muscles, welcome curiosity into discomfort and expose the stories that keep us out of partnership and out of collaboration. She believes in the importance of cultivating leaders who lead from the inside out.

See the article by Christina called *What Does Psychological Safety Have To Do With Asset Management* on page 4 to get a flavour of what you'll learn at the retreat.

You can also check out **Christina's TED Talk on Leadership** here: <https://www.youtube.com/watch?v=VmDN0PLHZHk>.

Please contact Daisy Foster at dfoster@aimnetwork.ca to express interest in attending. Registration for this event will open later in the Spring.



Christina Benty
STRATEGIC LEADERSHIP
SOLUTIONS

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HOPE IS HIGH FOR AN IN-PERSON ATLANTIC ASSET MANAGEMENT CONFERENCE IN 2021

With the COVID-19 vaccination now rolling out steadily across Canada, the outlook is positive for the Atlantic Asset Management Conference to return to an in-person event this Fall on October 27-28th. The organizing committee is now looking into venues in Dartmouth, the location for what will be the fourth annual conference hosted by AIM Network.

The conference will be a valuable learning opportunity where municipalities and the people working with them will share the progress being made to strengthen asset management in the region and the challenges they are still working to overcome.

Martha Myers is enthusiastic about her role as chair of this year's conference. After nearly 30 years working as a professional engineer in asset maintenance and reliability, she returned to her home province of Nova Scotia in 2017 and became involved in municipal asset management. She has developed a keen interest in supporting municipalities with their asset management journey. The perfect entry point for doing that was to get involved with AIM Network. Martha is now quite well connected to the progress being made in the region and her insights will help ensure the content for this year's conference is thoughtful, relevant and engaging.

Stay tuned for a call for abstracts, which will be released sometime in April.



Martha Myers, P.Eng

INFRASTRUCTURE CANADA'S PROPOSED GREEN AND INCLUSIVE COMMUNITY BUILDINGS

PROGRAM SEEKING YOUR INPUT

Infrastructure Canada will be providing up to \$1.5 billion in federal funding for community buildings that will support retrofits, repairs or upgrades of existing public buildings and the construction of new public buildings that serve communities across Canada.

This funding commitment is part of Canada's strategy to meet ambitious climate objectives and was announced on December 11, 2020 as part of the Government of

Canada's Strengthened Climate Plan. This initiative will also support economic growth, job creation and building more inclusive communities where all Canadians have opportunities to thrive.

This proposed **Green and Inclusive Community Buildings** program is still in development and is not accepting funding applications at this time. Provincial, territorial and local governments, not-for-profit and Indigenous organiza-

tions are invited to provide ideas on potential priorities to Infrastructure Canada through its online program development questionnaire, available at this [link](#).

Infrastructure Canada will contact respondents to the questionnaire when the program is launched.

WHAT DOES PSYCHOLOGICAL SAFETY HAVE TO DO WITH ASSET MANAGEMENT ?

Given that this is a publication about asset management, I do not need to espouse the benefits of asset management to you. We all know that it makes good business sense, and no reasonable person would disagree. But let me ask you this, are you as mystified as I am about the slow traction in the asset management movement? Like me, maybe you cannot help but ask:

- What could possibly get in the way of evidence-based decision making?
- Why do we ignore the things we should not ignore?
- Why do we not attend to the things we should attend to?
- What keeps people from making logical, rational decisions in their best interest?

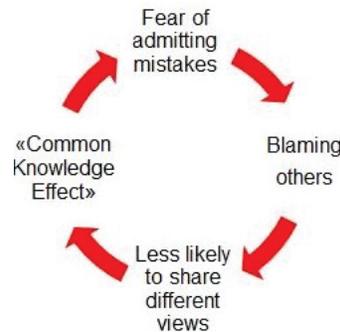
According to the science of human systems, people under stress do not make good decisions. Humans in various stages of fight, flight, freeze, and fawn are hijacked by their own brain and become immobilized or irrational or unavailable. In the presence of overwhelm, threat, fear, anxiety, and stress, humans are actually in a state of trauma and the executive functions (logical, sound decision making) of the brain go offline. As a result, the brain is robbed of its energy, focus, vitality, rationality, and capacity.

What does this mean? And more importantly, what is at stake here? Let's take a closer look at what happens when the people in our organizations are under stress.

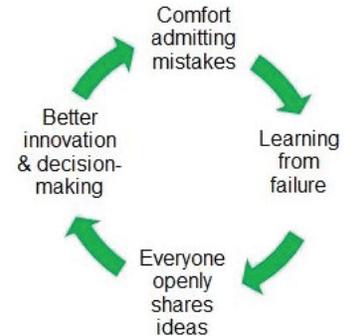
One of the most palpable signs that people are under stress is the ubiquitous culture of shame – blame – finger-pointing – assumptions – storytelling. This plays out when narratives are fondled about the 'other', assigning them with evil intent: the other department, the council, the administration, those idiotic 'others'.

- Long-term thinking goes out the window under stress. Without long-term thinking, we observe actions such as Council resorting to using reserves to offset taxes without full consideration of the consequences.
- It is unsafe to tell the truth. People get defensive leading to a lack of trust in difficult to digest information.
- There is a pendulum between rigidity and chaos. Organizations hide behind policy and then ignore policy.
- The organizational culture becomes passive and milque toast. There is no healthy conflict or passionate grappling with various philosophical ideologies.

Psychological Danger



Psychological Safety



From: Dr. Kas Henry, "Organizational Culture: The Foundation for Success" in Voice America Press Blog

Then there is the most insidious of all: FEAR – fear of being wrong – fear of being second-guessed – the fear of looking bad.

- Staff are afraid of being put on the spot. They feel they must have perfect data before they go to Council or they will be humiliated. They overprepare for every possible question. They become so guarded and cautious that no meaningful conversations contextualizing the data take place.
- Council is afraid of being duped. Or Council is afraid to make a decision because they don't want to make a mistake. They freeze into a state of inertia. Or they do not dig in and adequately wrestle with the complex information; they barely give a cursory review of the reports that, at times, represent months of research. Or this can happen when a Council is scared to disappoint the public and they give too much weight to opinions on the street.
- Ah yes....the press. The press who should be your partner in getting out sound unbiased information, are instead motivated by drama. They want Boards and Council to look bad. It solidifies the closely held beliefs that politicians are wasteful crooks fettering away the public purse.
- Lastly, the angry public who feels both entitled and terrified. They feel like they cannot bear a greater financial load because they have no idea that the services that they rely on day-to-day are at risk. Who can blame them? The cost of living has grown astronomically, and they have so little recourse. Their local politician is a clear target.

(Continued from page 4) We are talking about a system that is vulnerable and overwhelmed with feelings of helplessness due to competing priorities, a bombardment of mounting new regulations, a demand for more services with inadequate tax increases, and years of the narrative ‘do more with less’.

Is it any wonder that the whole system is living in reactive mode and moving about the world as if it is under attack and everything is a threat? Because it is.

What brought us here will not take us where we need to go. We need a new way forward and a healthier narrative. We have been so focused on the right information that we are not cultivating conditions where the brain can make rational, logical, evidence-based decisions. Investing in psychological safety will do more for asset management than any data, software, policy, plan or roadmap. This is no longer an ideological argument; this is an economic one.

Dr. Amy Edmondson defined psychological safety as a shared belief that the environment is conducive to interpersonal risks. People can be honest, ask for help, admit mistakes, and challenge assumptions in the presence of others. She so brilliantly reminds her audience that psychological safety is not being nice or soft or weak. It is not permission to whine. It is a brave and bold stance against a pervasive culture of anger, shame, blame, and fear.

So, what are the right conditions? Imagine an environment where:

- Healthy conflict is welcomed, and the group can hold the tension of discomfort;
- Clear, candid, and curious dialogue takes place, and the right things are talked about;
- Conversations and debate take place in an atmosphere of relaxed alertness and open awareness;
- Relational currency is prioritized, and others are humanized and not demonized;
- Fearless advice is given, and the collective intelligence thrives;
- There is the ability to manage complexity and full ownership of decisions are taken and communicated with courage; and
- The group is optimistic and has the capacity to imagine the future.

Did you feel your shoulders drop, your jaw relax, your heart rate slow down? If so, you just found yourself in a more rational, logical, and strategic frame of mind. If you want your asset management efforts to be successful, consider investing in creating the right conditions. The future will thank you.



By: Christina Benty
STRATEGIC LEADERSHIP
SOLUTIONS

“Life is a Continuous Process of Adjustment”

- INDIRA GANDHI

OK. You have an asset management program. You and your team have balanced your budgets and things are looking good. You have a five-year plan of capital projects and a funding plan for long-term investment. Life is good!

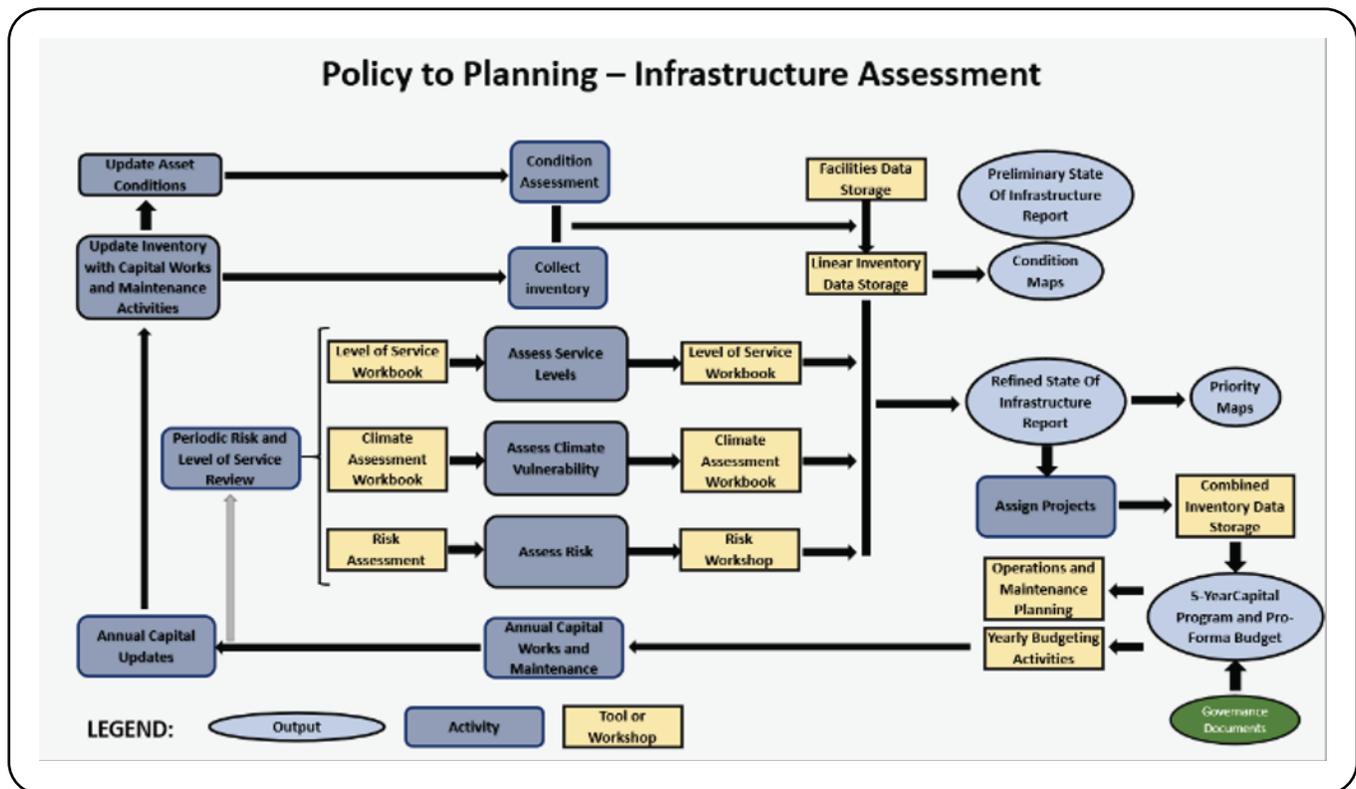
But then...you have an unexpected equipment failure and need to replace a heating system. Your well-planned capital program is pushing ahead, and you have completed your planned works on schedule. A new climate report comes out predicting quicker and more dramatic impacts. Plus, in a stroke of good news you have been approached by a business that wants to build a large industrial facility, but you do not have the infrastructure to support it. What now?!?

Asset management programs are built on the effective use of “living documents”. They are meant to grow and change as your situation changes. Newly constructed work needs to be incorporated into your dataset, conditions need to be upgraded, risk assessments need to be kept current and levels of

service targets change. You could be excused for thinking that this is all a bit overwhelming.

The AIMNet solution does not just have a set of tools and templates to help with asset management planning. It is a defined process that, when followed, provides an efficient, step by step process for building and updating your asset management information. After all, data is nothing without the people managing it and using it every day to make decisions.

The figure below shows an overview of the steps in developing and updating your asset management document set. We recommend that specific individuals take responsibility for specific steps in the process of keeping information updated. By incorporating a defined process with single points of responsibility, you can take advantage of the fact that it is much easier to keep a program updated annually than it is to revisit it at longer intervals.



Since asset management is all about making informed decisions, isn't it important to do so with the most up to date information you have? Here are some helpful hints to assist you in making the process manageable:

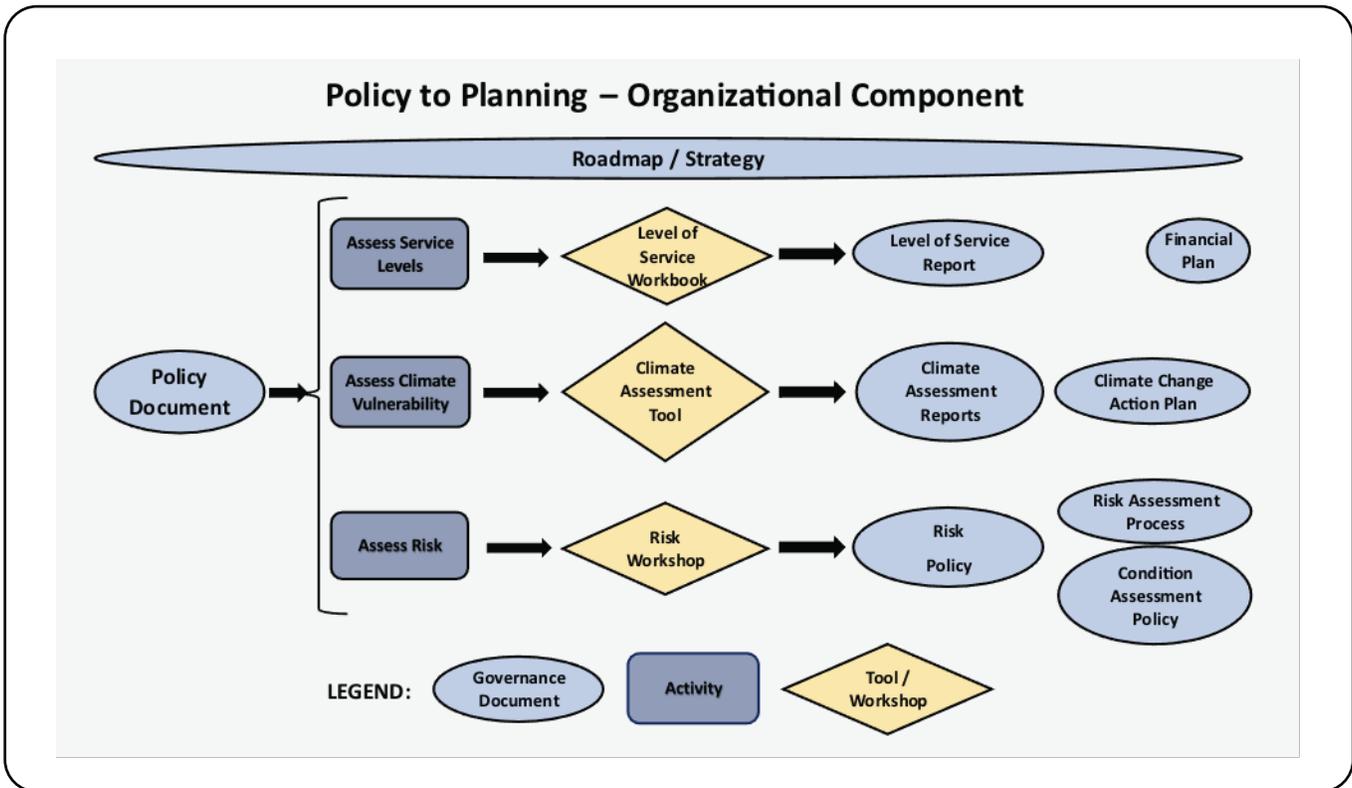
- **Set dates to update your governance documents periodically.** When was the last time you reviewed your policy? Is staff looking at it to make capital recommendations? Is Council familiar with your guiding principles when voting on capital recommendations? Have you re-assessed your level of service targets recently or your municipality's risk profile? These documents guide your decisions, so make sure they are current. The figure below shows some steps to guide that process.
- **Have a well-defined process with clear areas of responsibility and timelines.** Keep it simple.
- **Make the time. Small efforts yield big rewards.** Set specific times each year aside to update your AM Program information. It will save you time in the long run
- **Many hands make light work.** There is no need to give one team member all the tasks because they are the "asset manager". Asset management is an organization wide effort and input from more people makes for better decisions.

→ **You don't need to break the bank on condition assessments.** Look for inventory tools that incorporate aging of infrastructure following the initial assessment. That way you can focus field collection for condition updates on high risk, high value infrastructure with a clear cost benefit in collecting detailed condition data.

→ **Develop a process for capital upgrade updates.** Will you revise the GIS mapping in-house or by contract? Where do you store record information? Do you update it at project completion or save all the work to update at the end of construction season? A well-defined plan is an efficient plan.



By: Matt Delorme, P.Eng
AIM TECHNICAL PROGRAM MANAGER



Are you Ready for Asset Management?

AIM NETWORK CAN HELP YOU!

FCM Now Accepting Applications

The Federation of Canadian Municipalities Municipal Asset Management Program provides grants of up to \$50,000 to municipalities to cover 80 – 90% of eligible costs for an Asset Management Program: <https://fcm.ca/en/programs/municipal-asset-management-program>

Now is the time to prepare an application to take advantage of this wonderful opportunity to make progress, whether that is by preparing an inventory of your assets or by getting started on long-term capital planning.

Don't let these common barriers hold your municipality back:

1. We do not have a good understanding of where to start with an asset management program; or
2. Our staff just do not have time to work through the application process.

** Our sole mandate is to support municipalities in Atlantic Canada with asset management. **

AIM Network has assisted more than 50 municipalities in Atlantic Canada to prepare and submit successful applications to build capacity within their organization to develop an asset management program aligned with their municipality's goals for its services and infrastructure.

How do I start?

Simply send an email with your contact information to dfoster@aimnetwork.ca with **Expression of Interest in Asset Management** in the subject line and we'll start the conversation there.

Our Services:

- Assist with drafting the application and supporting documents
- Support with program execution from kickoff through to drafting the final report for submission to FCM at the end of the project
- Help tailor your program to what you need so that follow up activities are defined to fit your priority areas of asset management planning

Typical Workplan for a Municipality Getting Started

Step 1

Introduction to Asset Management and Prepare an AM Policy: AIM Network will facilitate a workshop for Council and senior staff that provides an overview of asset management and how it will benefit the Town. At this introductory session, you will prepare an Asset Management Policy using AIMNet templates to guide decision-making on municipal services and infrastructure renewal and replacement.

Then we will get started on your infrastructure planning.

Step 2

Complete an inventory of all major assets including sewer, roads, storm, trails, parks and municipal-owned buildings and structures in spreadsheet and GIS

- (A)** Obtain data, capture and verify linear assets (roads, sewer, storm and trails) and provide data in Excel spreadsheet format.
(B) AIM Network can manage data collection and provide quality control and quality assurance on the data if you have existing data or have a data collection contractor you would like to work with. Alternately, AIM Network can manage the data collection from start to finish by one of our associated data collection contractors familiar with the AIMNet Solution.
(C) Set up datasets in GIS system including base maps and asset layers for linear assets. Provide all data in an easy-to-use format to enable town staff to view and query.

Step 3

Undertake Condition Assessments on all Town Infrastructure.

- (A)** Calculate remaining life, condition and replacement cost for linear assets based on age using the standard costs and expected useful life in the AIMNet Solution toolkit.
(B) Undertake a condition assessment of all major buildings and structures to calculate remaining life, condition and replacement cost using the AIMNet Solution facility inventory tool.

(Continued on next page)

Step 4

Town staff undertake a training session that familiarizes them with their own data and information contained in the Excel spreadsheets and the GIS system. This will enable them to update and maintain it following the project as capital projects are completed and infrastructure is added or decommissioned.

Step 5

Prepare State of Infrastructure Reports and a Preliminary Capital Program

- (A) A Preliminary State of Infrastructure Report (P-SOIR) with condition, remaining useful life expectancy, replacement cost and reserve requirements will be generated for each major asset group. This P-SOIR will present information in table and graph formats summarizing the Town's major assets in a format that can be easily understood.
- (B) Prioritize projects based on risk and level of service with input from Council and Staff to generate a Refined State of Infrastructure Report to support capital planning budgets
- (C) Prepare a Preliminary 5-year Capital Program including individual projects for Council consideration.
- (D) Prepare 20-year projections based on estimated annual capital requirements for infrastructure renewal and replacement.

Step 6

Conduct a Project Wrap-up Workshop for Council to present the project deliverables and to discuss findings and next steps in asset management planning.

The Deliverables

At the end of the process, you will have:

1. A sound grounding in principles of asset management planning.
2. Tools, graphs, and data to educate elected officials and residents on the challenges and solutions with service delivery in your municipality.
3. GIS Maps of linear assets showing infrastructure location, probability of failure, consequence of failure and risk.
4. A spreadsheet catalogue of facilities containing all major building components.
5. An Asset Management Policy ready for Council ratification.
6. A level of service report showing current and future gaps in community service levels along with a scheduled plan to address those gaps,
7. A prioritized list of infrastructure renewal and replacement projects based on policy, service levels, interaction of assets with one another, climate vulnerability and risk.
8. A 5-year capital program based on 20-year annualized infrastructure demands with specific projects, rationale for selecting these projects, assessment of potential funding opportunities and a pro-forma budget basis for the Program.
9. A collated Asset Management Program with all Project deliverables and mapping.

\$\$ How Much Will This Cost Our Town?

This varies by size of municipality and amount of infrastructure. Typical direct costs to municipalities are:

\$5000 or less: For municipalities with populations less than 1000 or those collaborating with another town in your region. The FCM grant provides 90% of total project costs up to a maximum of \$50,000.

\$8000-\$10000: For municipalities with populations greater than 1000 and not participating in a collaborative application process. In this case, the FCM grant covers 80% of total project costs up to a maximum of \$50,000.

Contact Daisy Foster, Managing Director of AIM Network at dfoster@aimnetwork.ca with **Expression of Interest in Asset Management** in the subject line to get started.

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