



ROTTERDAM IS A LEADER IN BRINGING A CLIMATE LENS TO ASSET MANAGEMENT

Climate scientists have been ringing the alarm bells about climate change for decades, but in 2020 it has become a regular kitchen table conversation as we bear witness to multiple countries around the world being devastated by severe wildfires, hurricanes, tropical storms and flooding. As New York Times science writer **Henry Fountain** says, the only real debates now “are over how fast and how far the climate will change, and what society should do — the global-warming equivalents of lockdowns and social distancing — to slow or stop it and limit the damage.”

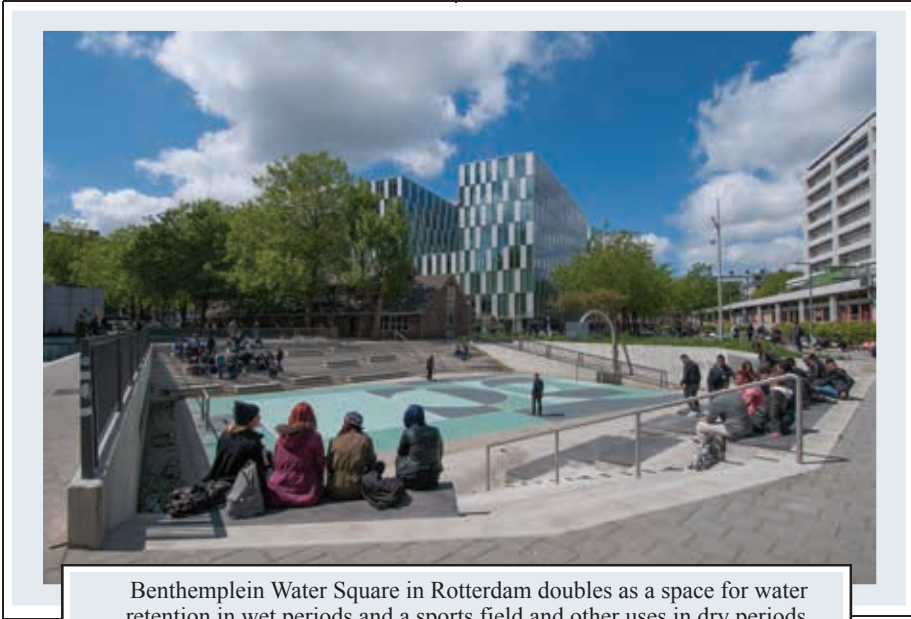
In Canada, the impacts of climate change are being felt more regularly and severely, demonstrated by reporting from the **Insurance Bureau of Canada** that shows a significant increase in claims from natural disasters in the last decade compared to past decades. Municipalities have a key role to play in protecting their communities by ensuring that infrastructure and services are resilient and can withstand the impacts of climate change, so many have begun to assess climate risks and develop plans to both adapt to climate change and reduce greenhouse gas emissions. Integrating climate considerations into asset management planning has recently become a priority and has never been more important.

While some Canadian cities and towns have begun to emerge as climate leaders in Canada, many are just getting started and have much to learn from jurisdictions that are more advanced. That’s why AIM Network was pleased to secure an international speaker at the upcoming Virtual Atlantic Asset Management Conference to provide a keynote in its two hour session on climate and asset management (see page 3 for information about the conference). Rotterdam’s manager of climate adaptation, Johan Verlinde, will be sharing the innovative approaches and lessons this leading city has learned over years of experience confronting its vulnerabilities head on.

The City of Rotterdam in the Netherlands is a global leader in addressing climate change, largely because of its vulnerability as a city

in which 85% of its built environment sits below sea level. It is also home to Europe’s largest port, an engine of the economy. The City is in a constant dance with the surrounding water and massive efforts have been put towards ensuring people and the city’s infrastructure are safe. It is renowned for its approaches to store rainwater. According to **C40 cities – a network of the world’s megacities committed to addressing climate change** – Rotterdam has built water storage spaces with a capacity of 10,000 m³ and also installed over 185,000 m² of green roofs in 2014 alone.

Until recently, the City was focused on managing risks related to stormwater. But that strategy has now changed following the introduction of its first strategic asset management framework in 2016. Rotterdam is now focusing on six big climate-related problems that need to be managed, some of which include heat waves, extreme weather, drought, and water level rise from both seas and rivers, and integrating actions into one big plan. Verlinde is based in the City’s public works department and was responsible for developing its first strategic asset management plan, through which he worked on integrating all the public works teams and defining strategic goals of the city.



Benthemplein Water Square in Rotterdam doubles as a space for water retention in wet periods and a sports field and other uses in dry periods.

He points out that the integration of teams has been critical because for example, the roads department can contribute to water retention. They weren’t looking at supporting their water retention objectives through better road design before.

The City also recognizes that it only has control over a portion of the infrastructure that is facing climate impacts. While they started their adaptation efforts in public spaces they own and manage, they’ve expanded their efforts to support actions that need to be taken by the community. The City set up Rotterdam’s WeatherWise Program that seeks to engage the community and support private property owners to retrofit and protect their properties with whatever solutions may be required, like installing green roofs, de-paving or removing

»»» (Continued from Page 1) stone in gardens. The City started the movement and now works in close collaboration with the water utility, water boards, social housing corporations, businesses and citizens to execute it.

Through the program, talks have been organized with every neighbourhood in the city to raise awareness of their climate risks. There is also a subsidy program for social housing corporations to undertake retrofits. Since these corporations own almost half of the homes in the City, their actions will be able to achieve far reaching

outcomes. But Verlinde says that it's not always about needing extra money. Once problems are identified and property owners are equipped with the right knowledge, they can use existing maintenance budgets or other budget lines to become climate proof. The program helps them to be strategic about how they spend their money.

Verlinde has tremendous inside knowledge on the progress Rotterdam is making to manage city services with an integrated asset management and climate lens. Join his keynote at the Atlantic Asset Management Conference on October 29th to learn more.



AIM NETWORK WELCOMES JOHAN VERLINDE AS KEYNOTE SPEAKER AT THE UPCOMING VIRTUAL ATLANTIC ASSET MANAGEMENT CONFERENCE.

Join **Johan Verlinde** on **October 29th** to learn about innovative approaches and lessons learned by the City of Rotterdam, a global leader in climate adaptation. Verlinde will be kicking off a two-hour session focused on how municipalities can build resilience to climate change with asset management.

Verlinde works for the City of Rotterdam as the program manager of the 2019 Rotterdam Climate Adaptation Plan "Rotterdam Weatherwise." The goal of

the plan is to take the next step in preparing the city for climate hazards like heavy rainfall, heat and drought. This is done in close collaboration with citizens, private sector, social housing corporations, water boards and more. Besides climate adaptive measures in the public space, where space is scarce, climate proofing the private space will become more and more important. He also works with various international organizations like the C40 Cities Climate Leadership Group, to share and gain knowledge on climate adaptation. Since 2019 he has been a fellow of the Singapore Water Academy.

See page 3 of the newsletter to learn more about the conference and how to register.

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REGISTER NOW *for the* VIRTUAL ATLANTIC ASSET MANAGEMENT CONFERENCE OCTOBER 28-29TH




In our June newsletter we shared the news that AIM Network decided to host the 2020 Atlantic Asset Management Conference virtually this Fall due to uncertainty related to the pandemic. While we're fortunate to be living in the safest bubble in Canada, we're confident we made the right call to run the event remotely as governments across the country navigate the second wave.

After a full summer of planning and with an exciting program in hand, we encourage you to register for what promises to be an insightful learning event true to the theme *"Achieving Lasting Change to Services through Collaboration, Transformational Processes and Implementation Pathways"*.

In addition to asset management-related funding, capacity building and regulatory updates from Infrastructure Canada, Atlantic Provinces and the Federation of Canadian Municipalities, you will be able to participate in networking sessions on asset management topics of interest and attend a range of technical sessions.

A highlight of the conference will be a two hour interactive session on asset management and climate change, focusing on how leading municipalities are integrating critical climate risk considerations into infrastructure decisions and leveraging natural assets to build resilience to climate impacts. Check out the article on page 1 for a sneak preview of what one of our keynote speakers, Johan Verlinde, Manger of Climate Adaptation for the City of Rotterdam, Netherlands, will be addressing.

See a snapshot of the program below. For more details and to register, visit our website at: <https://www.aimnetwork.ca/2020conference>

WEDNESDAY, OCTOBER 28TH		THURSDAY, OCTOBER 29TH	
Opening Remarks <i>Robert Hughes (AIM Network Chair) & Amy Winchester (Conference Chair)</i>		The State of Asset Management in Atlantic Canada <i>Robert Hughes, AIM Network Chair</i> Province of NB AM Update: Alex Berry Province of PEI AM Update: Alex Dalziel	
Update from Federation of Canadian Municipalities (FCM) <i>Bogdan Makuc, Program Director MAMP</i>	Update from Infrastructure Canada <i>Annie Geoffroy, Director & Katie Hogan</i>	The Check Engine Light: Summoning the Courage to Look Under the Hood <i>Christina Benty (Strategic Leadership Solutions)</i>	
Keynote: Putting Asset Management into Action <i>Wally Wells - Asset Management BC</i>		Open Street Map: How Your Community Can Get Involved in Updating your Own Data <i>Tjaart Vandenberg</i>	
A Proactive Approach to Transmission Main Condition Assessment <i>Demetry Maznichenko Pure Technologies</i>	ACWWA Guidelines - Updated for Climate Change <i>Mike Chaulk, CBCL</i>	Building Resilience to Climate Change with Asset Management Sponsored by: 	
A Comparison between Optimization and Prioritization Solutions for Municipal Fund Allocation <i>Roozabeh Rashedi Infrastructure Solutions Inc.</i> <i>Michael Maher Golder Associates</i>	Key Measures for Successful Integration of Municipal Climate Change Adaption and Mitigation <i>Neil Dawe Tract Consulting</i>	Keynote: Johan Verlinde - City of Rotterdam, Netherlands (Asset Management & Resiliency in a Coastal City) Keynote: Emanuel (Manny) Machado - Town of Gibson BC (The Value of Natural Assets) <i>Dustin Carey - FCM (FCM's Guide to Integrating CC into Municipal Asset Management)</i> Panel Discussion: Including Atlantic Municipal speakers, facilitated by Elliot Cappell, WSP	
Round Table/Networking Sessions : Asset Management Topics of Interest Sponsored by 		This initiative is delivered through the Municipal Asset Management Program, which is delivered by the Federation of Canadian Municipalities and funded by the Government of Canada 	
Town of Quispamsis AM Journey – Lessons Learned for Starting Your AM Program <i>Gary Losier - Town of Quispamsis</i> <i>Mike Benson - RV Anderson Associates</i>		Collaboration and Sharing What We've Learned <i>Dylan Heide, CAO, and Mayor David Devenne, Town of Mahone Bay</i>	
Managing Municipal Renewable Energy Assets <i>Aaron Long Alternate Renewal Energy Authority (AREA)</i>		Workforce App for Potable Water Network Improvements <i>Julie Stokes - City of Moncton</i>	
Closing Remarks		Closing Remarks	

WITH NO LUXURY OF ECONOMIES OF SCALE, THE SMALL TOWN OF OXFORD BRINGS EFFICIENCIES WITH ASSET MANAGEMENT

The small town of Oxford, Nova Scotia is known locally as Canada's wild blueberry capital. Located in Cumberland County not far from the Northumberland Strait, it serves about 1,200 people. Rural in character, the blueberry industry is strong and Oxford Frozen Foods Limited is the mainstay of the local economy. The lumber industry also makes a big contribution. While the population is relatively static, the Town takes pride in being a welcoming community and has become a hub in the area for new Canadians, including the ones that Oxford Frozen Foods has brought in as skilled workers and some Syrian and Korean families as well.

Rachel Jones is Oxford's chief administrative officer (CAO) and she is quick to point out that one of the big challenges for small municipalities like the one she runs is that you don't get the same economies of scale that the larger ones have. "We only have 14 staff, and that includes three part-time seasonal staff, but we have to meet all the same regulatory requirements for water, occupational health and safety, public sector financial reporting, etc. with the same integrity as a larger community would. The legislative requirements aren't getting any less stringent and lots of people in small communities don't understand that," said Jones.

The Town does everything on a shoestring annual operating budget of about \$2.5 million. That includes policing and fire services, a transfer station for garbage, roads, sewer, sidewalks, streetlights, trails and recreation, and a water utility that provides centralized water to residents and businesses. Oxford also owns a town hall and provides separate space for the Cumberland

County library and is responsible for land use planning and building and fire inspection services. The services to support new Canadians, like hosting English as a second language classes, have also been added to their list. Policing alone takes up 20% of the town's annual operating budget, so setting priorities and being strategic about how the town spends its money is a necessity and a big pre-occupation for Jones.

Jones is a seasoned municipal administrator, having worked in the municipal sector for the last 23 years, including almost a decade as a CAO in other jurisdictions in the province. Still, her vast experience hasn't made priority setting an easy task since she joined the Town of Oxford a couple of years ago. In Fall 2019 Council and staff hired a facilitator and undertook a strategic planning and priority setting process that resulted in 64 priorities, which Jones jokes meant they essentially had no priorities. Her team then worked with the facilitator to help break those down into a set of manageable projects, with a budget and work plan to support implementation. She now has a one-page document she uses to delegate operational tasks to staff and then update Council on a quarterly basis.

Jones has been aware of the need for asset management, especially because of federal requirements to make progress in

order to access gas tax funding for infrastructure, as well as a new requirement from the province to develop a 5- to 10-year capital plan. But the small jurisdictions she has worked for to date haven't had the capacity to get it done. It was only after a ...



THE TOWN OF OXFORD IS KNOWN AS CANADA'S WILD BLUEBERRY CAPITAL.

»»» (Continued from Page 4) conversation with the managing director of the **Atlantic Infrastructure Management Network**, Daisy Foster, that she put two and two together and realized that all the work they had been doing in Oxford on strategic planning could be done better by formalizing asset management.

Foster was outlining the range of work that AIM Network could support them with through its asset management capacity building **cohort program**, including assessing service capacity, identifying critical risks to infrastructure and developing a long-term financial plan to meet service needs. Jones realized that their participation in the program would support the top priorities the Town had already identified, which included developing a three-year capital plan, doing a service capacity review, developing a three-year water pipe replacement plan, and conducting a community centre feasibility study. All their priorities are part of asset management, but instead of looking at them as one-off projects, they could do it comprehensively. She seized the opportunity to bring everything under the umbrella of asset management, which would help to make the most out of their budget and keep the town afloat.

So far the team she pulled together to participate in the program, which includes herself, the public works superintendent and a senior accountant, has completed two of five workshops and they have already had a few “aha” moments. The last workshop focused on assessing how well the Town was meeting required levels of service, an exercise Jones found very eye opening. She usually doesn’t have time to delve into the details on all the considerations around service delivery so being able to get that detail and see how it maps out onto a longer-term work plan was valuable.

The most notable thing she learned was that up to 90% of the Town’s stormwater management infrastructure is not functional and the service is essentially non-existent. Their storm sewers and catch basins are plugged or so fragile that they’re close to collapsing and the whole system needs to be replaced. While they don’t see this as a huge risk or liability

right now, there are flood-related risks for some properties because of the Town’s location where three rivers converge. Until now, no one was willing to talk about the problem and it had never been identified as a priority.

Jones adds that the program is making them think through the details around each group of assets. Because the public works supervisor is working flat out on roads, water and sewer, he doesn’t generally have time to think about the Town-owned facilities or recreation services, streetlights and trails. Being able to have a roadmap that quantifies the condition of and risks to their assets and the costs to manage them will be helpful to her to be able to present all the service gaps to council. She sees this ability to communicate the level of service the town can provide and what it can hope to achieve with available funding as a huge benefit of asset management.

The town’s work on asset management through the cohort program is focusing primarily on their water infrastructure and that has been a good place to start. But Jones is so impressed by what the town will be able to achieve with improved asset management practices that she presented a request to Council and received approval to submit a joint application for funding with two other municipalities in her cohort to complete work on all their asset classes. Fortunately, with a joint application, the **Federation of Canadian Municipalities** funds up to 90% of the costs to get the work done through its **Municipal Asset Management Program** and for a small community with limited resources, that funding can make the difference between moving forward or stagnating. If successful in getting a grant, she hopes to complete the work by this time next year.

Before joining the cohort program, Jones had always thought of asset management as a daunting task and she thought other municipalities had more of a handle on it. But she now sees that there are many municipalities in the same situation. It has given her peace of mind that while they’re all facing infrastructure and capacity issues, by working together they’ll get a lot accomplished.



Are you Ready for Asset Management?

AIM NETWORK CAN HELP YOU!

FCM Accepting Applications in January 2021

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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