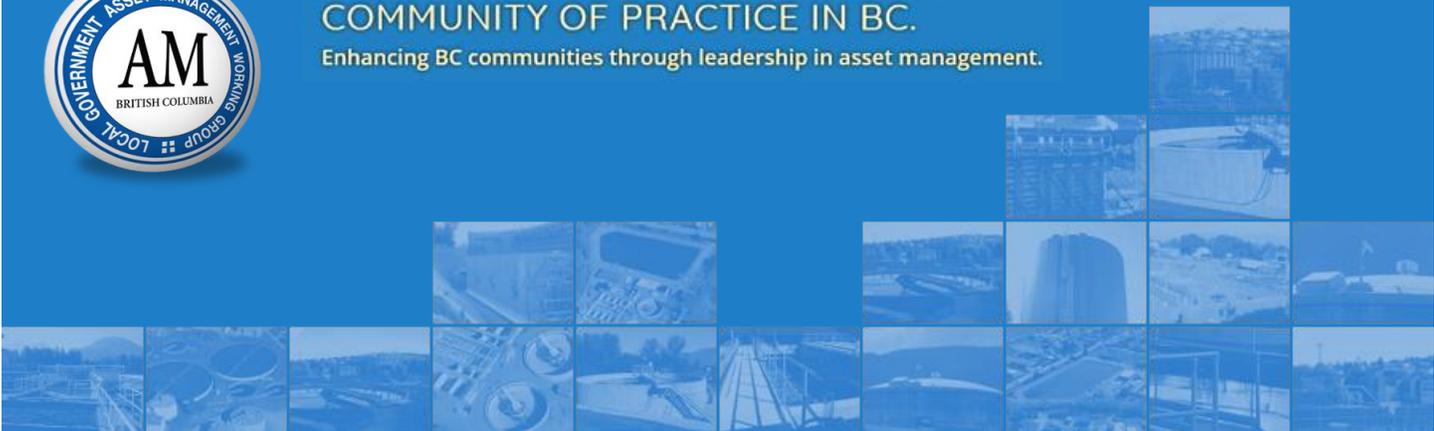




YOUR LOCAL ASSET MANAGEMENT COMMUNITY OF PRACTICE IN BC.

Enhancing BC communities through leadership in asset management.



TWENTIETH EDITION – SUMMER 2017

YOU are Asset Management BC

This is our 20th EDITION of the **Asset Management BC** (AM BC) newsletter and our **NEW LOOK** both for our newsletter and our website www.assetmanagementbc.ca

Many of you have been contributors in bringing us case studies, informative articles, resources and tips and tactics. With emerging “communities of practice’ across Canada, we have been able to share resources and keep you informed of their activities and those of Infrastructure Canada and Federation of Canadian Municipalities. FCM have an excellent article in this edition updating us on their current funding programs.

Asset management is about service levels and striving for an affordable sustainable mix of services both physically and financially. The process is a corporate function in our communities, bringing together all the varying skill sets for a common purpose. The Working Group of AM BC, included Union of British Columbia Municipalities, Local Government Management Association, Government Finance Officers Association of BC, Public Works Association of BC, BC Water and Waste Association, Planning Institute of BC, Municipal Master Construction Documents Association, Recreation Facilities Association of BC, Municipal Engineers Division of APEGBC and the Municipal Insurance Association of BC. Also ‘at the table’ are our First Nations, the province, all forms of local governments in BC. This group has acted as an advisory group to help identify the tools and resources you need. AM BC has focused on ‘integrated’ asset management.

The first major tool developed for your use was **AssetSmart** now in version 2.0. That tool allows you to assess the knowledge and capabilities within your organization for carrying out asset management. By repeating the exercise, at a later date, it also provides you a means of performance measure on how you have improved. The second major tool developed was the **Asset Management Road Map**. Presented in modular form and not critical path, you decide the order of importance. It lays out what you need, to achieve the basic level or more advanced levels of asset management. The text for the basic level supports the road map graphic. Currently the Roadmap is being updated and text for the more advanced levels is being prepared.

Fundamental to asset management in BC is:

Asset Management for Sustainable Service Delivery: A BC Framework



Asset Management is a continuous process of which the asset management plan is only part. This is the fundamental document for asset management in BC. Both provincial funding program and gas tax funding through UBCM are linked to showing progress within the asset management process as outlined in the framework. There are two supporting text documents as part of the framework. The 'short one' or executive summary is published in very simple language for use by Councils and the public. The primary text document and graphics associated with it explains the elements of the process and ways to address the various components.

On the AM BC website is a long list of resources, case studies, guides and sample documents to help you in all aspects of asset management. They are organized in the categories identified in the framework. We continue to add to this resource base. So, check regularly for new material. Are you looking for assistance that you cannot find? Let us know. We likely can help. Here are what others say about **Asset Management BC**:

Paul Murray

Director of Financial Services, District of Central Saanich.

"Sharing collective knowledge and experiences with each other about asset management is fundamental to our success in addressing this critical issue for our communities. Asset Management BC is the community of practice and a powerful vehicle for us to learn from each other, both in British Columbia and across the country."

Diane Kalen-Sukra, MA, CMC,

Chief Administrative Officer, Village of Salmo

"Asset Management BC is the hub for ideas, best practices and support as local governments chart new territory in ensuring sustainable service delivery into the future. From asset management communications to implementation, we are grateful for the shared knowledge and resources provided by this community of practice."

Doug Allin

Chief Administrative Officer, Township of Spallumcheen

"Asset Management BC has provided a practical platform for success for the communities in BC. The success was clear after a couple years of consistent application of the templates, tools and advice that communities I lead proved financial and corporate sustainability."

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Asset Management BC and Partner Conference – 2017



November 9 & 10, 2017

Radisson Hotel Vancouver Airport

Keynote speaker: Dr. Guy Felio,
Asset Management and Climate Specialist

Registration open soon on Civic Info
(www.civicinfo.bc.ca)

Kristy Brown**Asset Manager, Asset Management Division, City of Prince George**

“Asset Management BC is an invaluable service to the municipalities in British Columbia. Not only does their website provide me with helpful resources, but the staff are also full of knowledge that I can learn from. I am very grateful that we have a community of practice here in BC that works alongside provincial level organizations like UBCM, to bring some consistency to asset management in our province.”

Tom Barnes**CEO & General Counsel, Municipal Insurance Association of BC**

“The Municipal Insurance Association of British Columbia is honored to lend its support, experience and expertise in municipal risk management to an organization such as Asset Management BC, who has demonstrated success in building strong forward thinking communities across British Columbia, geared at planning for a sustainable future.

We are inspired by working closely with such an organization as Asset Management BC whose goals are so closely aligned to ours: working together to build strong forward thinking communities across British Columbia geared at providing a high level of service, asset and financial stability.”

This year, besides continuing to build the basic resources, programs such as the Natural Capital Assets, climate change, risk assessment and other specific elements of asset management will be developed further and documented on the website. As presentations are given at many conferences both in BC and nationally, these are also posted where appropriate to the website. We have very good relationships with other counties especially Australia, who have been a world leader in asset management. Many resources from other countries and other jurisdictions in Canada are also available to you.

We will continue providing the NAMS training program throughout BC this year. Up to 5 workshops are planned dependent on registration. After a very successful conference last year, you expressed a desire for another one this year. There is an announcement elsewhere in the newsletter of ‘Conference 2017’. Registration for the conference and NAMS training will be available very soon on the CivicInfo website.

To ensure AM BC continues to deliver assistance and resources to you, AM BC is formalizing partnerships with many key organizations. We talk sustainability and we, ourselves, must be sustainable.

Asset Management BC is here for you. Use the material from the website. Provide your successes to us for posting. Write articles for the newsletter, publish your case study. Call for assistance. Be part of the success.

How a Small Community Approaches Asset Management

An interview with

Diane Kalen-Sukra, MA, CMC

Chief Administrative Officer, Village of Salmo



The **Village of Salmo** is known as the “Hub of the Kootenays”, it is located on Hwy 3 in South Central BC, and has a population of about 1,180.

- 1) What got your attention that asset management is something the village needed to engage in? What were your initial issues with even contemplating engagement?**

“Asset management” the new buzz word in the municipal sector. That being said, what really got my attention was the need to provide Council (and the public) with an objective basis for investment decisions.

While virtually all municipalities are facing an infrastructure deficit and capital assets that are nearing their end-of-life, the lack of capacity and expertise in small municipalities coupled with very limited financial resources make good asset management planning a necessity today for sustainable service delivery into the future.

- 2) What initial steps did you take to inform council and engage staff? How did you make them understand what you needed to achieve?**

For the past two and a half years, the Village has embarked on a major rebuilding effort – from rebuilding the public record (new central filing system), significant mapping and data collection upgrades and staff training to ensuring operations and maintenance manuals exist for Village facilities and infrastructure.

We started with a successful UBCM asset management grant in 2015 for the development of an asset management plan for our vehicle fleet and heavy equipment. Council and staff were able to see how such an asset register and plan, can help guide investment decisions and manage desires and needs when it comes to the maintenance and acquisition of these assets.

3) What steps did you take externally to educate yourself on asset management?

In addition to reading the Asset Management BC educational materials, Wally Wells, Executive Director of Asset Management BC dropped by the Village office and encouraged me to attend the 2016 forum on Asset Management in Richmond. Attendance at this conference was a significant investment for our small Village, however one well worth it as following the conference Salmo was selected for two important pilot projects that are helping to advance asset management in our organization. The first is a provincial pilot to determine performance measures for sustainable service delivery and the second a national pilot called Communicating Asset Management Initiative where Salmo is one of six municipalities in Canada participating.

4) You mentioned you have hired a consultant to help you. What are you having the consultant do to help your staff? What training are you getting?

The Village does not have an engineer on staff. We are having our contract engineer take the NAMS training with us. As our \$2.1 million upgrade of our waste water facility takes place this year and the system is renewed, we will be able to ensure our asset register is up to date with this new data and improvement. Our current ongoing asset inventory and condition assessment of all linear infrastructure (water and sewer) is being completed in 2017 as a result of a grant from the Clean Water and Waste Water Fund for \$104,000 for total project cost of \$140,000. This will result in an integrated asset management system that integrates our mapping system and accounting system together with operations, which will be provided with iPads to upload relevant infrastructure maintenance and condition information.

5) Are all staff 'buying in' to and understand their role for on-going asset management?

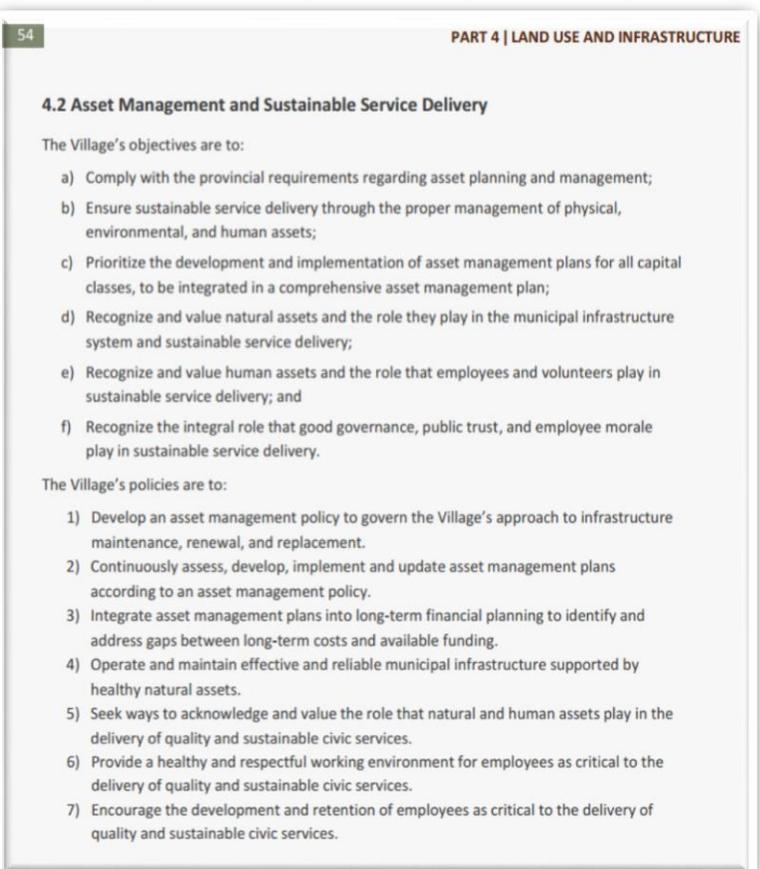
We are getting all staff to 'buy in' by involving all staff in asset management data collection and management. This year, 70% of our staff, together with our contract engineer and contract mapping technician will be taking the National Asset Management Strategy (NAMS) training, ensuring their engagement and competence in advancing asset management principles and practices in every facet of our organization.

We have also enshrined asset management principles in our draft official community plan called "Sustainable Salmo", which in addition to including natural assets, recognizes our employees as human assets who are key to sustainable service delivery. See www.sustainablesalmo.ca and adjacent graphic.

6) You recently incorporated asset management related policies in your OCP. What led you to do this. What other strategies are you using to integrate on-going asset management into your corporate culture and on-going business operations.

Our draft official community plan is hybridized with an integrated community sustainability plan. It seemed impossible to draft a document that will govern land use in addition to policies related to the natural environment, social and cultural well-being as well as economic development, without incorporating asset management principles and policies.

We are integrating on-going asset management into our culture and operations by including it in the 5-year Strategic Plan and utilizing social media and public bulletins to educate the public. Furthermore, we have built-in communications budgets regarding our infrastructure into our asset management grants and projects. Our end goal is to have the condition assessment of our infrastructure as well as details about the infrastructure deficit and performance measures for sustainable service delivery publicly available information on our website (www.salmo.ca).



Communities of Practice meet at CNAM

Three days of intensive breakfast meetings brought Atlantic Canada, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Yukon and Northwest Territories together with CNAM and, for part of the meetings, Federation of Canadian Municipalities, to discuss co-operation and co-ordination of common goals for our 'communities of practices' across Canada.



Back row L to R: Daune Nichol (Manitoba), Glen Brown (Asset Management BC) Gordon Sparks (Municipal Asset Management Saskatchewan) Elena Loukin (Infrastructure Asset Management Alberta) Daisy Foster (Atlantic Infrastructure Management), Melissa Osborne (CNAM), Leanne Brannigan (Ontario Community of Practice), Wally Wells (Asset Management BC) Doug Cutts (CNAM)

Front Row L to R: Bradley Leeman (CNAM) Sarah Russo (Yukon) Sudhir Jha (NWT) John Murray (Chair, CNAM) Catherine Simpson (CERIU, Quebec), Todd Latham (Ontario Coalition for Sustainable Infrastructure) Katie Chesterton (Municipal Asset Management Saskatchewan)

This network of our Communities of Practice meets to discuss collaboration and knowledge and information transfer. We all have a common goal of providing the best information on asset management, including education and training for our regional areas. Having the communities of practice, focusing on regional areas, allows recognition of local conditions and requirements for asset management processes across our country.

Contact your Community of Practice for information.

Asset Management Co-chair and Provincial Director of Infrastructure Branch well received at GFOA International Conference

In May, Andy Wardell and Brian Bedford attended the 111th Annual Government Finance Officers Association conference in Denver Colorado and presented on the "Asset Management for Sustainable Service Delivery: A BC Framework" and the District of North Vancouver's asset management work as an accompanying case study. Also covered was the concept of local governments working together to create communities of practice for themselves and leveraging the open source data Asset Management BC currently provides. The session was well attended by approximately 600 of the 5,000 conference delegates. Andy and Brian note that it was good to see a number of presentations about asset inventories, quantifying funding gaps and integrating asset management best practices into long term financial plans.

The general theme across the asset management sessions attended was that while sustaining the existing built environment is a systemic challenge for most local governments, local conditions matter. Economic wellbeing and population migration from small towns to cities are only two of many major factors influencing the ability to sustain the existing built environment. Looking at the bigger picture, the estimated worldwide replacement value of existing Government infrastructure is \$50 trillion^[1] and the annual funding gap is currently \$1 Trillion. America's infrastructure currently scores an average of D+ and needs \$2 Trillion over the next ten years^[2].

Brian Bedford is the Director of Infrastructure for the Province of British Columbia

Andy Wardell is the Director, Financial Services for the District of North Vancouver

^[1] Strategic Infrastructure 2014 report – World Economic Forum

^[2] American Society of Civil Engineers – 2017 Infrastructure Report Card

BRIDGING THE GAP

CNAM 2018 Conference

May 14-17 Windsor, Ontario

• Connecting to the Future of Asset Management •

CNAM Canadian Network
of Asset Managers

Performance Measurement and Reporting Framework for Sustainable Service Delivery – Pilot Project Update

By: Doug Allin, CAO, Spallumcheen (Formerly City of Grand Forks)
 Scott Shepherd, Urban Systems, and
 Kevin Ramsay, Innova Strategy Group

How well are we currently delivering services and are we prepared for the future?

Successful asset management plans are founded on the concept of sustainable service delivery and informed decision-making. A key component of these plans is the ability to measure and report on the sustainability of service delivery to Council and the public. Measurement and reporting of service delivery are important components of the BC Asset Management Framework and the Gas Tax agreement.

A pilot project lead by the City of Grand Forks, Urban Systems, and Innova Strategy Solutions will develop a simple and intuitive tool for communities to assess and communicate service sustainability. The creation and testing of this tool is also in collaboration with six other local governments.



Current Performance and Preparedness for the Future

In many instances, municipalities think about how a service -- water, for example -- performs TODAY, and we fail to think about how this service might perform in the future.

But once we've started to think about long-term service performance, how do local governments know if the services they provide are *SUSTAINABLE*?

To help local governments assess the sustainability of services, it's helpful to break down the concept of sustainability into its two components:

Sustainability:
 The ability to meet the needs of the present without compromising the ability of future generations to meet their own needs

- 1. Current performance:**
How the service is doing today; and
- 2. Preparedness for the Future:** What are municipalities doing today to ensure they will be able to provide services well into the future.

Sustainability comes from successful implementation of both Current Performance and Preparedness for the Future. The intent of this tool, is to generate an overall sustainability rating for each service area, which shows areas of strength and areas for improvement.

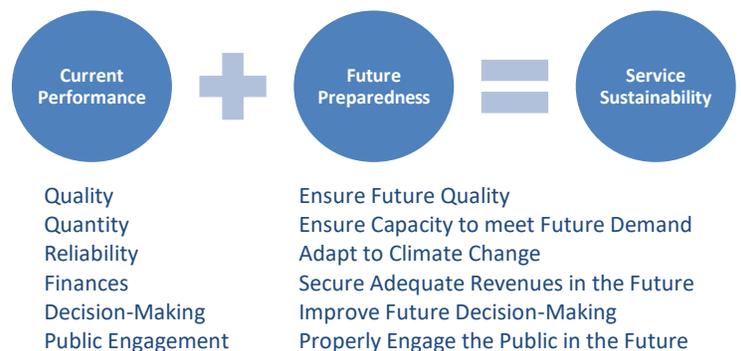
Current Performance

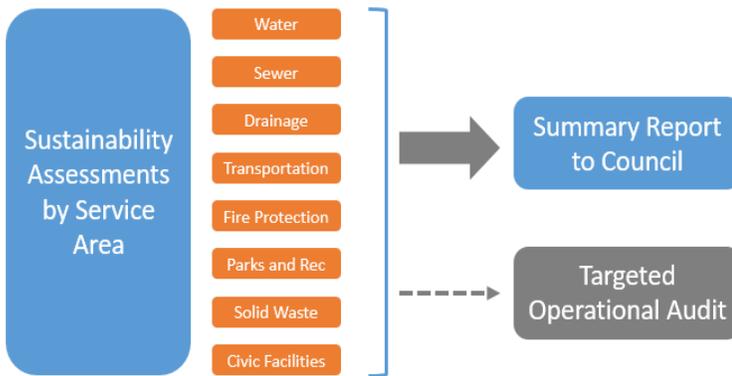
Looking deeper into the Current Performance component, this tool will assess how each service is doing in terms of: quality, quantity, reliability, finances, decision-making, and public engagement. It is important to note that Current Performance indicators are not specifically about public works – i.e. system capacity or condition of pipes, but about how decisions are made, how services are funded, and how the public are engaged.

Future Preparedness

Future Preparedness looks deeper into the following indicators and asks what measures have been taken to:

- Ensure future quality
- Ensure there is capacity to meet future demand
- Adapt to climate change
- Secure adequate revenues in the future
- Improve future decision making
- Properly engage the Public into the Future





To be considered truly healthy, a service needs to do well in terms of: service delivery, finances, and governance. This tool will also help to determine if all the necessary **plans**, **policies**, and **systems** are in place to help ensure future service provision.

Overall Concept of the Performance Measurement Tool

This tool will provide a sustainability rating for the following core services – water, sewer, drainage, transportation, fire protection, parks and recreation, solid waste, and civic facilities. There are many other functions that local governments perform, but these services tie most closely to hard infrastructure assets.

This tool is intended to help not only think about today, but also to pay attention to the future. As a result, communities will be able to self-assess on the two components of sustainability – Current Performance and Future Preparedness.

What will Reporting Look Like and How will it Help Communities?

The final report of the Sustainability Assessment Tool will be a visual representation of the above service delivery areas. Each service area will be evaluated based on Current Performance and Preparedness for the Future and will give an overall sustainability rating on a defined scale. Reporting will:

- Be rolled up reporting for Council and the Public
- Have more details for managers
- Easy to track progress over time

The tool is intended to help communities:

- Make informed decisions about how to best improve current service provision
- Make informed decisions about how to best prepare for future service provision
- Identify where operational audits might be needed

- Track progress over time
- Easily communicate the “sustainability status” of each service
- Provide a rationale for rate/tax increases

The final reporting tool and user guide will be posted on the Asset Management BC website this fall for all BC municipalities to use and benefit from.

Developing Optimal 20-YEAR Renewal Plan for Regina Water Distribution Network

By Loretta Gette & Amir Agha, City of Regina, and Mahmoud Halfawy & Syed Imran, Infrastructure Data Solutions Inc.

The City of Regina is implementing an innovative asset management and renewal planning system to ensure sustainability of service levels while reducing risks and lifecycle costs of water infrastructure assets.

Over the past decade, the City has experienced unprecedented growth that increased the demand for water services. The City currently manages an inventory of 1,155 km of water mains, approximately 30% of which were constructed 50 years ago. In face of increasing demand and limited financial resources, the City has been developing optimized long-range asset renewal programs to minimize risks, maximize network performance, and ensure service reliability.

The Renewal Planning Challenge

A renewal plan essentially establishes, for any given year and for each pipe segment, the most cost-effective rehabilitation or replacement action, if any. A plan should optimize the allocation of budget while maximizing network-level performance and minimizing risk. Existing renewal planning approaches mostly rely on subjective and heuristic approaches such as decision trees and multi-criteria utility functions to rank candidate projects. These approaches are not guaranteed to generate “global” optimal long-range renewal plans. The use of “sub-optimal” plans would lead to directing resources to “the wrong projects.”

A global optimal long-range renewal plan would ensure that only the “best” mix of projects are selected. The plan would essentially guarantee that:

- » Under any given budget scenario, no other list of projects would provide better condition or risk level; and
- » Under any scenario to meet a required network-level performance or risk target, no other list of projects would provide better or same target at a lower cost.

However, the key challenge in developing such global optimal renewal plans is the current lack of proper optimization tools that can solve a typical problem involving tens of thousands of water mains over a multi-year planning horizon, while considering a range of alternative rehabilitation and replacement actions. Enumerating and testing all feasible project combinations would be virtually impossible using traditional heuristic or mathematical optimization approaches.

To address this challenge, the City of Regina applied a novel risk-based multi-objective optimization methodology and software tool capable of “intelligently” searching the enormous search space of possible project combinations, while ensuring convergence to a global optimal solution within a reasonable time frame. The optimization objective function was formulated to maximize network-level condition, minimize risk, and minimize lifecycle costs. The City used this software to develop an optimized 20-year renewal plan for approximately 900 km of small diameter water mains (<= 450 mm) under a wide range of budget and performance target scenarios. The software was customized to use the City’s risk analysis and prioritization framework, and meet specific operational and policy constraints. The following sections provide an overview of the main steps in developing the plan.

Step 1: Defining Water Main Groups

Pipe groups are generally defined to have similar physical characteristics to reflect somewhat homogeneous behavior in terms of deterioration rate. It is always advantageous to define groups to balance the planning objectives and data availability, and to reduce the time and effort needed to process the data. In this project, three groups were defined based on the pipe material: asbestos-cement (534 km), cast iron (7 km), and polyvinyl chloride pipes (357 km).

Step 2: Developing Deterioration Models

For each pipe group, a deterioration model was developed to forecast the rate of deterioration (i.e., growth of pipe break rate) based on historical break data. Pipe break data

was geo-coded and spatially joined to water mains using the City’s GIS data. Shamir and Howard exponential regression models were used to model the growth of annual pipe break rate for each pipe group (number of breaks, per year, per km). The forecasted break rate of each pipe segment is used as a proxy for pipe condition index (CI).

Step 3: Building Risk Models

Assessing the risk of pipe break is essential for prioritizing pipes for rehabilitation and replacement actions. Risk is measured based on the consequence and the likelihood of pipe break. The likelihood of break is represented using the pipe condition index (CI). The consequence of break is represented using a “criticality index” (CT) that ranges between 0 (not critical) to 100 (extremely critical).

Water mains criticality is assessed based on two sets of criteria: hydraulic criticality and socio-economic criticality. Each set includes a set of “risk factors” representing key physical and operational characteristics such as pipe’s location, diameter, level of service criticality, number of affected customers, etc. Each criterion is assigned a “relative” weight that indicates the level of expected negative impact on the public and serviceability resulting from a water main break.

Figure 1 (below), shows the criteria and weights used to calculate the criticality index of each pipe segment. A “risk index” can then be calculated for each pipe segment as the product of the pipe’s CI and CT. Subsequently, calculated risk indices are used to prioritize pipe segments to reflect urgency of renewal actions. Figure 2 shows a map of criticality indexes for each pipe segments.

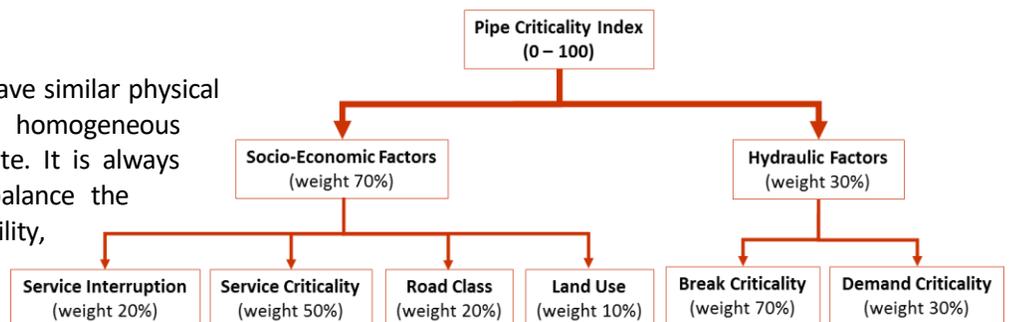


Figure 1: Hydraulic and socio-economic criticality factors and weights.

Step 4: Defining Costs, Benefits, and Constraints of Renewal Actions

Two main renewal actions were considered: open-cut replacement and fully-structural lining using cured-in-place (CIPP) technology. The costs of renewal actions were assumed based on historical data and industry average.

Benefits were defined in terms of “condition improvement increments” (i.e., reduction in the pipe’s break rate), which represents the action’s effectiveness for extending the pipe’s service life and reducing risk of breaks. Different renewal actions improve pipes condition to varying degrees. For example, the lining option was assumed to reduce the break rate by a maximum value of 0.4.

A set of constraints were also defined to ensure the feasibility and cost-effectiveness of different renewal actions in certain circumstances. For example, the replacement option was defined to only apply for pipes with minimum age of 40 years and minimum condition index of 0.7, whereas CIPP was used for pipes with age range of 30-80 years and condition index range of 0.5-0.9.

In addition, a set of rules were defined to represent policy constraints on the inter-application of subsequent renewal actions. These rules are often used to reflect accepted practices and ensure economic feasibility and practicality of selected projects. These rules may lead to eliminating future application of a specific renewal action depending on prior actions applied on a pipe segment. For example, a rule was defined to eliminate the use of replacement actions on a pipe segment that was lined over the past 20 years.

Step 5: Defining and Evaluating Renewal Planning Scenarios

Two groups of renewal planning scenarios over a 20-year horizon (2017-2037) were defined: (1) Budget scenarios- to assess the impact of funding levels on network-level condition and risk levels; and (2) Performance target scenarios- to evaluate budget requirements to achieve certain network-level risk or condition levels. For each scenario, optimal project lists were generated on an annual-basis to satisfy all defined constraints. The software was then used to perform trade-off analysis of different scenarios, and to quantify the impact of funding levels and policies on condition and risk levels. Figure 3 shows a typical analysis of scenario results and trade-offs.

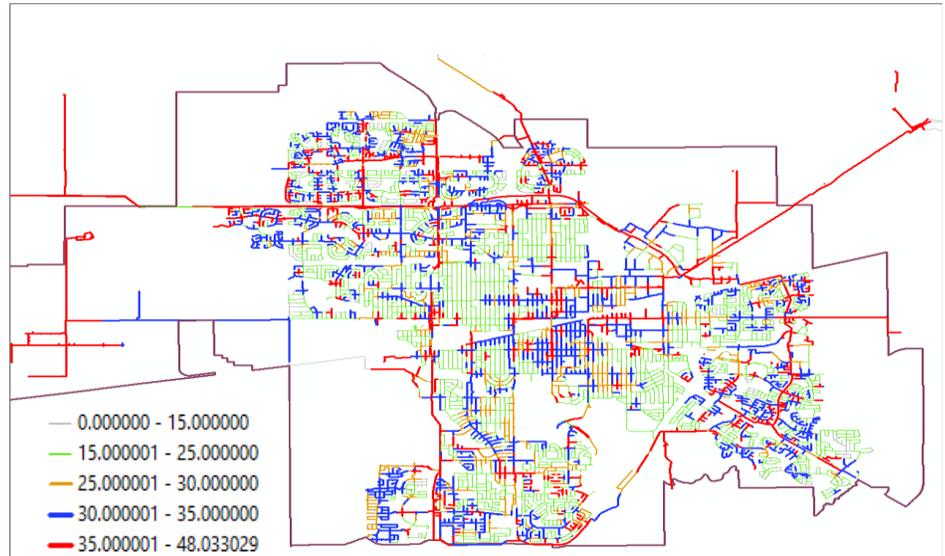


Figure 2: Criticality index of water mains in Regina water network.

Summary

Detailed analysis of various scenarios helped to accurately quantify relationships between funding levels and system-wide condition and risk metrics, explicitly define performance objectives and constraints, and optimally select projects to allocate investments where mostly needed. This analysis would support the development of objective, defensible, and optimized long-range asset management plan, and the justification of planning decisions using quantitative measures and consistent procedures that are aligned with the City policies and service goals.

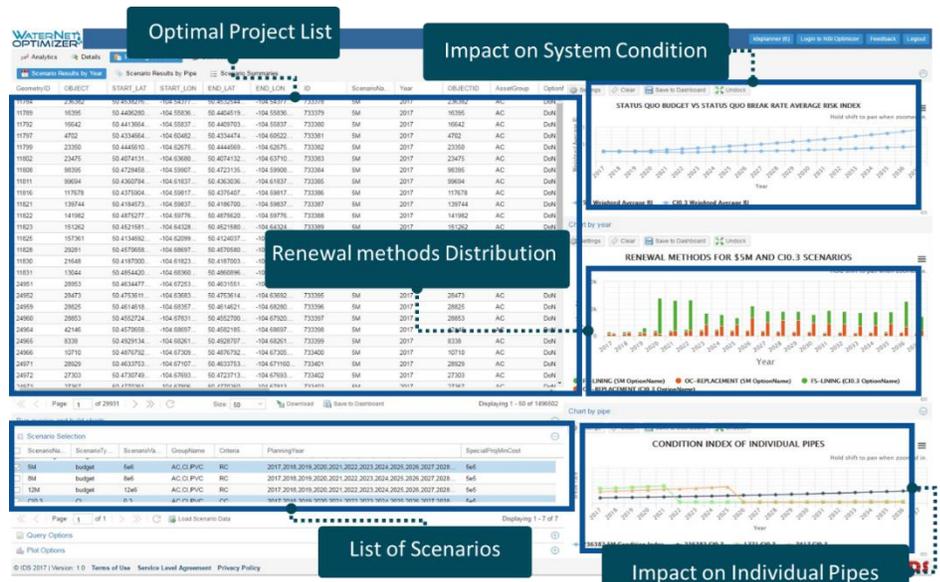


Figure 3: Typical results of trade-off analysis of renewal planning scenarios.

Senior Government Funding for Gibsons' Natural Assets Management

By Sara Jane O'Neill, Municipal Natural Assets Initiative

Municipal Natural Assets Initiative

The Municipal Natural Assets Initiative (MNAI) is helping municipalities across Canada develop strategies to account for nature's ability to provide municipal services in future asset management decisions. The Town of Gibsons is where it all started so it is fitting that the town recently received a boost from senior governments in support of their strategy to deliver services through natural assets: they received approximately \$249,000 through the federal-provincial *Clean Water and Wastewater Fund* to rehabilitate and manage natural assets that underpin the town's stormwater management system. Projects will include:

- Expanding stormwater management ponds at White Tower Park and Brothers Park in order to address existing erosion and capacity issues in Charman Creek, the primary watercourse running through town
- Management plan for Charman Creek to address potential downstream flood concerns
- Management plan for Goosebird Creek to identify restoration priorities
- Updates to Development Permit Areas to better manage flooding and geotechnical hazards and protect environmentally sensitive areas
- Updates to the Subdivision and Development Services and Stormwater Management Bylaw and the Drainage Development Cost Control Bylaw to align with the updated ISMP
- While this funding will help the Town of Gibsons continue to better protect and manage the natural assets that provide valuable services to residents, it is also a clear signal that things are changing where natural assets are concerned. The Public Sector Accounting Board (PSAB), which establishes the accounting standards for municipalities and other public sector entities, also recently signalled a potential shift in how they view natural assets. In a [recent submission](#) to the PSAB Discussion Group, barriers to integrating urban forest into financial statements was discussed and this topic is set to be on an upcoming project priority survey. This is an important first step towards removing barriers to

the inclusion of natural assets in municipal asset management.

- To continue with this momentum towards a municipal natural asset management approach, the MNAI is looking for the next round of pilot projects. [Expressions of Interest](#) are being accepted until July 14, 2017. Municipalities considering applying should be able to answer "yes" to any of the following points:
 - » I am already engaged in Asset Management and want to take the next step: including natural assets in my inventory.
 - » I am about to start Asset Management, have a clear corporate commitment and team, and want to include natural assets from the outset.
 - » I have one or more natural assets in my community and would like to have a more comprehensive understanding of their functions and service value as this may help with future management, restoration, acquisition or other decisions.
 - » I have an upcoming capital decision to make and want to know if managing/restoring/maintaining an existing natural asset can do the job instead of spending money on a new engineered asset.

For more information on the MNAI please visit our [website](#) or [facebook](#) page.

SUSTAINABLE WATERSHED SYSTEMS THROUGH ASSET MANAGEMENT: Embed 'state-of-art' hydrology in engineering 'standard practice'

By Kim Stephens, M.Eng., P. Eng. Executive Director
Partnership for Water Sustainability in BC



*This article is a progress report on implementation of the Georgia Basin Inter-Regional Education Initiative. The IREI is aligned with the vision for **Asset Management for Sustainable Service Delivery: A Framework for BC**. The IREI is about how to implement "Sustainable Watershed Systems, through Asset Management". The IREI is funded by the governments of Canada and British Columbia.*

Driving Change



“The BC Framework sets a strategic direction that refocuses business processes on outcomes that reduce life-cycle costs and risks. The program goals for the *Georgia Basin Inter-Regional Education Initiative* (IREI) are aligned with this strategic direction,” stated the

Hon. Peter Fassbender when he announced (in March 2017) funding for the IREI program through 2018.

“Successful implementation province wide of **Sustainable Watershed Systems, through Asset Management**, would represent an evolution in how infrastructure is planned, financed, implemented and maintained in British Columbia.”

IREI Implementation: A goal of the IREI program is to embed state-of-the-art hydrology in engineering ‘standard practice’. Three categories of IREI deliverables are inter-connected and therefore mutually reinforcing:

1. Ecological Accounting Protocol
2. Water Balance Methodology / Model / Express
3. Professional Development & Outreach

The vision is that a program of teaching, training and mentoring would build up practitioner capacity within local governments to achieve, over time, *Sustainable Watershed Systems, through Asset Management*.

Success would be defined as follows: there would be a consistent understanding of WHY and HOW to apply science (evidence)-based methodologies and tools.

Category 1 – Ecological Accounting Protocol (EAP)

The Ecological Accounting Protocol (EAP) for valuing **watersheds as infrastructure assets** is the lynch-pin for driving change. EAP deals with the monetary value of renewable services provided by natural assets.

Under the EAP framework, the reference to **natural assets** means ecosystems of watersheds. The EAP methodology focuses on drainage and water balance services because this is of direct relevance to local government decision-making.

Parallel Initiatives: EAP follows the framework known as the *Principles of Natural Accounting*, currently under development by the Office of National Statistics and Department for Environment, Food and Rural Affairs in the United Kingdom (UK).

The Partnership for Water Sustainability in BC has independently arrived at a valuation strategy that is shared by the UK agencies. Both initiatives have moved from concept to application of the valuation approaches, albeit at different scopes, on a parallel time-line.

Life-Cycle Demonstration Applications: The Partnership is moving forward with EAP demonstration applications in the Cowichan and Comox valleys on Vancouver Island. These applications will showcase how to analyze the life-cycle costs, from pre-planning to replacement/renewal, of existing and proposed drainage infrastructure works.

The life-cycle calculation would contribute significantly overall to local government plans for asset management, the sustainability of watershed natural assets, as well as administrative and financial capacity of local government.

Category 2 – Water Balance Methodology/ Model/ Express

Adopted by the Province in 2002, the Water Balance Methodology is the foundation for a family of online tools for different users at different scales and purposes:

- **Water Balance Methodology** (existing) – independent of software platform or computer model
- **Water Balance Model for BC** (existing) – planners
- **Water Balance Express** (existing) – homeowners
- **Online Watershed Assessment Tool** (ready in 2017) – engineers

Deployment would help local governments bring state-of-the-art hydrology into engineering standard practice.

Healthy Watersheds: The driver for using the Water Balance family of tools is this desired outcome: **restore watershed hydrology and re-set the ecological baseline**.

To this end, for example, the Partnership is implementing the *Water Balance Express Cost-Sharing Incentive Program*. By 2018, our goal is to double (to ten) the number of local governments in the Georgia Basin using the Water Balance Express. The tool is a means to an end to influence behaviour at the homeowner scale.

Integrated with Google Maps/Earth, the Express allows a homeowner to create a simulation of their property.

Category 3 – Professional Development & Outreach

The Partnership for Water Sustainability provides a type of engagement and outreach with local government that

provincial staff no longer provide. Collaboration with participating local governments creates sharing and cross-pollinating opportunities that help eliminate the ‘disconnect between information and implementation’.

IREI program experience since 2012 has shown what works; and how to move forward incrementally and constantly improve.

Project Goal: Build local government capacity to transition to Step Three on the Asset Management Continuum (refer to image) so that watersheds are managed as ‘infrastructure assets’ that provide ‘water balance services’. Readers should be aware that:

- **Technical Foundation:** “Stormwater Planning: A Guidebook for BC”, released in 2002.
- **Guidebook Vision:** Community development activities result in cumulative benefits, rather than cumulative impacts.
- **Beyond the Guidebook:** Ongoing initiative to add tools and resources.

Project Objective: Disseminate outcomes of EAP, Water Balance Methodology and Express development:

- » Add to an existing set of cascading deliverables to meet diversified outreach objectives for informing and educating.
- » Teach, train and mentor practitioners so that they would move from sharing to understanding to implementation.

Outcome and Benefits: The vision for implementation of a whole-system, water balance approach is to protect and/or restore stream and watershed health:

- » Land use and infrastructure practitioners would understand how natural systems support municipal services.

- » Communities would avoid an unfunded liability (by limiting stream erosion, preventing flooding, improving water quality), adapt to a changing climate AND reduce life-cycle costs.

Asset Management and the Municipal Infrastructure Challenge



Infrastructure renewal in an era of rapid changes in climate patterns represents arguably the toughest challenge facing local governments both in British Columbia and across Canada. Much of this country’s community infrastructure—roads, water and wastewater systems, arenas and more—is either past or near the end of its lifecycle. By some estimates, dealing with the problem will cost \$123 billion.

“Ultimately, infrastructure is about services for residents,” says Deborah Duncan, Deputy Director of Financial Services for the City of Nanaimo. “Whether it’s drinking water, public transit or recreation, municipal services depend on infrastructure. And local governments have to plan constantly to ensure that their infrastructure can deliver the services that residents rely on today and into the future.”

A Chartered Professional Accountant who began her career in the private sector, Ms. Duncan has a deep understanding of the municipal-infrastructure challenge. When she started with Nanaimo a decade ago, one of the first projects she worked on was the city’s 25-year water supply plan. At that time, Nanaimo—like most other local governments in British Columbia—did not follow an integrated approach to infrastructure planning.

“Each department—engineering, recreation and others—developed long-term plans of their own but little work went into combining them,” she says. “And there was a disconnect between staff, City Council and the general public when it came to infrastructure. About eight years ago, Nanaimo started on its asset-management journey and we’ve never looked back.”

Asset management involves a broad, holistic and long-term approach. Decisions about maintaining, upgrading and building infrastructure are based on a full analysis of all relevant factors, such as capital and ongoing costs, along with environmental,



Asset Management Continuum for Sustainable Service Delivery

GROUND ZERO: In the beginning, no Asset Management Plan exists. A consequence is an ‘unfunded infrastructure liability’.

STEP ONE: Local governments embrace the BC Framework, with an initial focus on core engineered assets (water supply, sewage, roads) and embark on an Asset Management Strategy / Plan / Program process.

STEP TWO: Local governments start thinking holistically and implement a life-cycle approach to infrastructure decision-making so that Sustainable Service Delivery for engineered assets becomes standard practice.

STEP THREE: For the drainage function, local governments will integrate natural systems thinking and climate adaptation into asset management and account for the Water Balance Services provided by watershed systems.

As understanding grows, local governments will progress incrementally along the **Continuum**

social and community impacts. Asset management builds in-house expertise and helps to make cities more sustainable and resilient. The considerable value of asset management is increasingly apparent—the International Organization for Standardization published an ISO standard for it in 2014—and the number of Canadian municipalities following this approach continues to grow.

That same year, the Federation of Canadian Municipalities (FCM) launched a multifaceted strategy to help municipalities acquire the knowledge and expertise needed to incorporate asset management as a business process. In 2015, the first cohort of municipalities began to participate in Leadership in Asset Management Program (LAMP), a peer-to-peer learning initiative developed by FCM in collaboration with the Canadian Network of Asset Managers. Nanaimo participates in LAMP.

“The missing piece for local governments has been assistance with capacity-building and planning,” says Deborah Duncan. “FCM helps fill the gap.”

“Our goal is to raise the bar on the management of municipal infrastructure across the country,” says Clark Somerville, President of FCM. “I’m confident that our programs will achieve this goal and enable municipalities to maximize the impacts of federal investments in infrastructure.”

This year marks the debut of two targeted FCM initiatives. The Municipal Asset Management Program (MAMP) is a five-year, \$50-million initiative delivered by the FCM and funded by the Government of Canada designed for all municipalities, regardless of experience with asset management. The Program funds a range of activities, such as: documenting asset management goals and formalizing the plans needed to achieve them; assessing the condition of assets; and documenting operating and maintenance costs, along with desired service levels, to calculate an asset’s lifecycle cost.

The second initiative targets municipalities committed to taking action on climate change by adapting their infrastructure or by reducing greenhouse gas emissions in their community. Although the changes in climate patterns vary by region, many are already underway—more frequent and intense storms and droughts, along with rising sea levels. For municipalities, the impacts can be enormous and costly: more frequent freeze-thaw cycles shorten the lifespan of road surfaces, for instance, while larger storms threaten to overwhelm storm-water and sewer systems. The Municipalities for Climate Innovation Program (MCIP) is a five-year, \$75-million program delivered by the FCM

and funded by the Government of Canada that helps municipalities prepare for, and adapt to, climate change, and to reduce emissions of greenhouse gases.

Along with funding for projects to assess the vulnerability of infrastructure to climate change and to complete energy retrofits, MCIP includes the Climate and Asset Management Network—an initiative adapted from LAMP that will see municipalities collaborate and incorporate climate considerations into asset management.

“Risk management is central to effective infrastructure planning,” says Deborah Duncan, who is currently working with her colleagues to develop a 20-year plan for Nanaimo’s infrastructure. “And to manage risk, we have to consider all of the factors that are likely to change—not only climate, but also the city’s economy and demographics. We expect Nanaimo to grow by one-to-two percent per year over the next couple of decades. Asset management helps us to accommodate this growth and manage all of the other factors and risks that come into play.”

The new FCM programs will help municipalities develop appropriate policies and strategies, along with the capacity and processes needed to properly manage infrastructure and deliver services. When properly designed and maintained, community infrastructure typically lasts for several decades—up to 50 years, in some cases. Infrastructure planning has significant consequences not only for a municipality’s bottom line, but also for residents, neighbourhoods and the natural environment.

“Asset management connects decisions about infrastructure with services for residents,” says Deborah Duncan.

To learn more about FCM programs, visit fcm.ca.



FCM Program staff (left to right): Donna Chiarelli, Devin Causley, Kate Flemming, and Shannon Joseph

Managing the Asset Management Message: Practical Pointers for Communicating with your Council and Community

David Allen, City of Courtenay, Christina Benty, Strategic Leadership Solutions, and Jan Enns, Jan Enns Communications



Heard the one about the asset manager evangelist, the communications crusader and the enterprising CAO who walk into a bar?

It may sound like the beginnings of a well-

worn joke, but in fact, this animated conversation was the incubator for a workshop at BC's recent Local Government Management Association annual conference in Penticton, BC. David Allen, CAO, City of Courtenay, Christina Benty, former Mayor of the Town of Golden and Asset Management Consultant, Strategic Leadership Solutions and Jan Enns, Communications Strategist, Jan Enns Communications teamed up to present on actionable approaches to best communicate asset management.

Close to 40 people packed the room to garner new ideas and share some insights on ways to tackle this communication challenge: How can we help our elected officials and our staff better inform and engage their communities about what asset management is, why they need to care, and how it impacts them?

"I think as CAO's, we are all trying to figure out how best to engage our Councils and our communities in the conversation," said David. "Whether it's a budget item for a new bridge or funding for improved preventative maintenance programs, the hard part is getting the message across to both our Councils and communities about why we need to invest in our assets in a way that they can get behind and support allocating the resources to make it happen."

You've Got This

Ironically, asset management is something that many local governments have been doing all along. It is the rigor and structure around asset management that has evolved. The difference today is in the increased focus on the art of planning for sustainable service delivery, and in the

recognition that each local government needs to find its own way of progressing on the asset management maturity continuum. It is safe to say that most people, including local government leaders, get the fact that we need to plan for the future, which requires funding for planning, maintenance, new builds and operations. Why then is it such an uphill battle to get the point across?

"Too often complexity is the enemy of execution," noted Christina. "Elected officials need to be focused on their priorities and not get sidetracked by the next shiny, new thing. While planning and organizational capacity are critical components to making this happen, it is equally important that Council is clear on their roles and responsibilities regarding the built environment, has the empirical evidence to make sound decisions and then feels confident in communicating those decisions."

So how confident are we when it comes to communicating the "what and why" of asset management? That was just one of four key questions asked of the participants as part of the asset management workshop led by David, Christina and Jan. With the support of Matt Rouleau of Turning Technologies Canada and his magic hand-held polling tools, participants were able to provide real-time responses shown onscreen.

While most indicated their elected officials and staff were aware of the benefits (about 84% reported some level of awareness), only 4% reported they were confident in the ability of their front-line staff to explain what it is (interestingly, no one felt "Very Confident").

Know Your Audience

Part of that confidence also stems from organizational capacity. Simply put, it's hard to communicate something that you may feel you don't have time to do. Feeling burdened by a growing "to do" list of tasks and competing priorities, championing asset management can easily fall off the table.

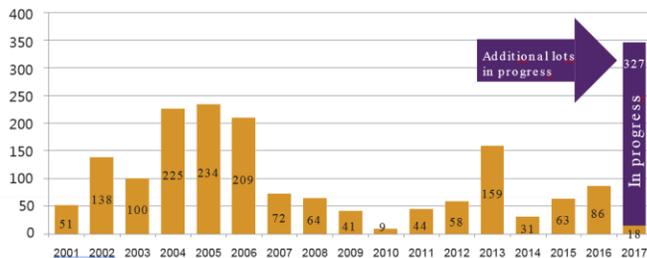
Armed with a solid understanding of the situation from his internal audience of staff and elected officials, this was an issue that David set to address. Knowing that resources are needed, not just to fund projects, but to do it in a systematic way – with the data, the organizational structure, and the people to make it happen.

"The City of Courtenay has grown by an average of 43% since 2001, including a 41% increase in the number of new residential properties, and a 56% increase in City area. So far in 2017, the number of subdivision applications has jumped to 345 from 86, yet our staff to maintain and

deliver these services has only increased by 27%,” said David. “We know we haven’t kept up and that’s why we have been working to get our own house in order by identifying efficiencies, building staff competencies, and restructuring the organization to ultimately achieve sustainable service delivery.”

NEW SUBDIVISION LOTS REGISTERED BY YEAR

New subdivisions result in more roads, side walks, & underground utilities requiring maintenance



Communicate Early and Often

Recognizing the importance of knowing your audience, David began the communication process back in 2014 with a custom workshop for Council and senior staff on how to message asset management. He brought in Christina, the asset management evangelist and Jan the local government communications crusader and media message trainer, to deliver an interactive workshop, sharing best practices and life experiences from both the elected and the staff perspective. The outcome was a better understanding of how to talk about asset management, particularly in the face of opposition.

“Local governments do a fantastic job of providing a wide range of services for dimes on the dollar,” said Jan. “Where we need to step up our game is in telling people what we’re doing, why it’s better or necessary, and what the call-to-action is for our audience – why they should care.”

One of the key takeaways is knowing your audience and speaking to them in terms they understand. Starting from the inside out is critical in making sure your message is consistent and that your Council and staff are confident in delivering that message.

“This is especially important when your Council does not all agree,” added Christina. “Being able to debate differing perspectives around the table is critical to the entire democratic process. It’s ok to disagree but once resolutions are made, Council must respect and support the results voted on by the majority. They are a collective decision-making body and ought to behave and

communicate as such. Council may need some support in messaging the process without undermining the final decision.”

The Council workshop was a turning point. That, combined with other steps, such as a new Asset Management policy, helped increase the asset management literacy amongst Council and staff. This process of continuous education, along with the completion of a human resources action plan, assisted Council to see value in getting people in place to do the work, culminating in a vote to support the creation of 17 new positions.

“It is not without its challenges. At first blush, it looks like a lot of staff,” said David, “Council has recognized the need for staff to deliver the services to the level identified in their strategic priorities. Our staff have more confidence and clarity on the message so when they are talking to members of the public they are clarifying as opposed to justifying the decisions being made about investing in our assets.”

“If our own teams can’t explain it, in terms that people understand, how can we expect to get support at the Council table when it comes to making decisions about strategic and necessary investments to manage our assets for current and future generations?”, posed David.

Christina concurs. “Asset management is a journey, not a destination. There is no finish line. Instead of fretting about getting to some end game, why not accept that asset management is simply what we do? It is an ongoing process and needs to be communicated as such.”

10 Takeaways for Communicating Asset Management (And Making your Life a Whole Lot Easier)

- 1. Start with a communication plan.** Know what you need to communicate, to whom and how.
- 2. Know your audience.** Know who you need to reach and how they perceive your intended message. Are there any barriers you can remove or benefits you can share?
- 3. Start from the inside out.** Make sure everyone in your organization – from your elected officials through to the front-line staff know what’s going on first. The people within are often our best ambassadors for our message.
- 4. Communicate early and often.** Communication isn’t an afterthought. Make it part of the asset management planning process. And keep talking

about it throughout the process both internally and externally. It's integral to your asset management continuum.

5. **Be useful.** Provide relevant, timely information. Be sure to answer the four key questions:
 - » What are you doing?
 - » Why?
 - » Why better or necessary?
 - » What's the call-to-action?
6. **Speak their language.** Ditch the technical terms and keep it simple. Write in a way that frames your message in terms they would understand, like checking the gas gauge in your car vs the cost to get it towed when you run out of gas, leaving your stranded.
7. **Be consistent.** Make sure your Council and staff are all on the same page. Share short one-pager updates on big projects, provide key messages and even posts for people to share on social media.
8. **Be proficient.** Keep up with professional development. Get the training your Council and staff need to be fluent and passionate ambassadors of your sustainable service delivery message.
9. **Get help.** Talk to colleagues, ask your staff and Council for input. Check out the resources at Asset Management BC (www.assetmanagementbc.ca). For communications tips, check out the free, award-winning Small Town PR Playbook, published by Northern Development Initiatives Trust (www.northerndevelopment.bc.ca/small-town-pr-playbook/)
10. **Celebrate small wins.** Asset management is a journey. Don't wait for the finish line because there isn't one. Take time to celebrate small wins with your team, your elected officials and your community. You've got this!

Want more info? Please feel free to contact us!

- » David Allen, City of Courtenay: dallen@courtenay.com
- » Christina Benty, Strategic Leadership Solutions: christinabenty@christinabenty.com
- » Jan Enns, Jan Enns Communications: jan@janenns.com
- » Visit www.lgma.ca for a copy of the presentation.

(copy and paste following address:

<http://www.lgma.ca/assets/Programs~and~Events/Conference~and~Tradeshaw/2017~Conference/ALLEN,%20BENTY,%20ENNS%20-%20Managing%20Asset%20Message.pdf>)

Engaging Operators About Asset Management – District of Squamish's Experience in Benchmarking

By Ben Kineshanko, Technical Operations Manager Public Works, District of Squamish
and Catherine Dallaire, Co-chair BCWWA Infrastructure AM Committee



SQUAMISH

HARDWIRED *for* ADVENTURE

The District of Squamish has been incrementally adopting asset management practices across its organization since it published its first asset management plan in 2010. It has meaningfully involved Public Works from the start and offers an interesting case on how to gradually engage operators about their work and the value they provide in support of asset management objectives.

Exploring the role of operators is in keeping with the current asset management discourse on people which recognizes that everyone has a unique role to play in the asset management model we are all trying to do better by. As a result of this discourse, perceptions of the role professionals such as accountants and engineers play in local government have changed.

But what of our colleagues in operations that have been "doing asset management" for a long time already? At the common starting line of the asset management journey, focused on long-term capital reinvestment plans and risk analysis, O&M staff are *valued* as an authority on the history and configuration of the infrastructure they look after. How have perceptions of their role changed beyond that?

Operators and other Public Works personnel are a largely untapped resource in most municipalities. Every time they conduct an inspection, repair, installation or upgrade of water, sanitary, storm, road or parks infrastructure is a golden opportunity to capture valuable, asset condition data. The asset management model is kept live when they have a basis to defend their work and the tools to collect, assimilate and communicate that information in a meaningful fashion.



In its first asset management plan, the District went beyond assessing its long-term capital reinvestment needs and risks. Operators were asked about the O&M work plans they follow and the issues they face.

This was done through interviews that were partly focused on developing a list of capital and maintenance projects that would result in operational improvements and operational cost savings. It was also done through benchmarking a small set of performance measures.

The District's asset management planning goal to minimize lifecycle costs was met. But it was not achieved through a reduction of the operating budget since a need to increase it was identified.

The analysis shed light on systemic challenges and risks that had been known by operators. Though one group was aware of the issues in the organization these had nonetheless lingered. An occurrence that is common across municipalities.

The roadblock was that these O&M program issues were not sufficiently understood by the higher levels of the organization as they had not been communicated as convincingly in the past as they could now be done through the asset management plan.

Lifecycle costs will be minimized over time as operations and preventative maintenance program gaps, such as unidirectional flushing, sanitary sewer flushing and CCTV inspection, are closed.

One cannot underestimate the impact that closing these gaps has on operators. It demonstrates to them that it is possible to successfully make the case for changes to O&M. Completing a preliminary benchmarking analysis and taking the time to engage operators about their

understanding of system and organizational needs, has achieved this in Squamish.

A few years after this initial success, the District followed through with an asset management plan recommendation to undertake annual benchmarking. This was the recommended means to monitor performance year-over-year, and provide the impetus for collecting and managing operations data. Data necessary for managing the lifecycle of assets, the service delivered, and improving the asset management plan in the years to come.

The District hired a Technical Operations Manager to oversee the benchmarking program and the translation of data from operations to engineering. Ben Kineshanko helped the District move from having next to no asset history to having records that are a help in managing the service.

The National Water and Wastewater Benchmarking Initiative (NWWBI) was the benchmarking program selected. It gave a structure by which the District could start measuring what peer municipalities had deemed important to managing water and wastewater services. It was also a means for the District to do an inventory and an assessment of the O&M data it had available and what could be reported on. Where there was no mechanism, to track a given piece of information that feeds a performance measure, the District was compelled to develop one.

The benchmarking results were shared with the operations group. At first there was resistance and skepticism to the results and what they meant. But that was counteracted by not critiquing the work done by operations. The approach taken was to communicate how the business case used in the past for unidirectional flushing, sanitary sewer flushing and CCTV inspection and the case for other improvement opportunities are routed in data collection.

Operators were shown how the benchmarking comparisons can be interpreted which led them to see for themselves the value of gathering operations data.

This helped cement how long-standing complaints about not being listened to could be resolved by communicating key information substantiated by records. It also helped the District rationalize some of the O&M programs it adopted following the asset management plan with operator buy-in. In some instances, the comparison with a peer group helped make the case to even scale back some O&M budgets, for instance the unidirectional flushing program.

It may seem like going from a small benchmarking study done through the asset management plan, to assessing gaps in O&M data through a broad benchmarking program, to making changes to the O&M program, was easy. But it was not. Managing change is hard.

Operations and Public Works is where you will get your best intelligence on the infrastructure but getting that information in a format useable to others is the challenge. A data collection application had been set up by the mapping department, but was not being used. It needed to be programmed, operators required training, and inspections needed to be created in the App.

The District needed the Technical Operations Manager to bridge the O&M data discussion between operations, engineering, and even GIS. Though they all work in infrastructure and are curious about similar facts on the condition of the infrastructure, they do not speak the same language. The data collection method was tailored to operator's needs as well as other stakeholders.

Building buy-in for data collection, resolving the language barrier, and providing operators with the tools to easily record the information, helped the District involve operators in asset management. Do operators see themselves differently since asset management has gained ground in the province? Most of them do not yet, but the operators at the District are starting to.

Asset Management BC to hold Major Conference



After a very successful conference last year, you asked we do it again. Your wish is our command.

Mark November 9 and 10 at the Radisson Hotel Vancouver Airport on your calendar. The 1 ½ day conference will be packed with great information on integrated asset management and funding opportunities. Infrastructure Canada, Federation of Canadian Municipalities, UBCM and the Province have all indicated their intention to be there to tell you more about opportunities for you.

Dr. Guy Felio will open the conference as keynote speaker. Dr. Felio was the 'brainchild' behind InfraGuide, best management practices. His career has focused on asset management working in both the public and private sector including a term as a municipal councillor. Today, he is in demand throughout the world focusing on climate change impacts on our municipal infrastructure.

Our partner Associations will be participating in bringing you a diverse program for small and large communities, beginners and advanced communities on asset management including opportunities for interactive participation to get your questions answered and bring your knowledge and expertise to the table. There will be a networking reception where our vendors will demonstrate their wares for you and all can enjoy an networking opportunity.

Registration is through CivicInfo (www.civicinfo.bc.ca) and will be open early July as will a block of rooms at the hotel. See you there.

Online course in Asset Management attracts great interest

By Chris Champion, Director International Institute of Public Works Engineering Australasia



There has been an excellent response to the IPWEA online Professional Certificate in Asset Management Planning course that commenced in March with over 190 participants. This international program builds on the face-to-face workshops that Asset Management BC has been delivering for several years in association with IPWEA and NAMS Canada.

The program is now also supported by CPWA and CNAM bringing international approaches in infrastructure asset management to across Canada. The online program provides participants with the opportunity to interact with their peers across the globe.

The greatest international take up was from Canada with 54 participants where there is strong encouragement from the federal government for asset management planning to be taken up by local communities. Additionally, there were 18 who registered from the United States, 112 from Australia and several from New Zealand and the United Kingdom.

The participants from Canada in the 10-week online program were from the provinces of Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland, Ontario and Saskatchewan – so quite a spread across Canada! Registrations came from a range of organization

sizes from the very small to large local governments, consultants, municipalities, water & wastewater utilities, an education college and even a toll way operator.

Participants can track their progress through the course with their own personal score as they compete forum challenges, participate in the live or recorded events, watch “how to” videos, submit 2 assignments, and answer multiple choice questions on the way through.

Feedback has been most positive with previous participants from a range of backgrounds including professional engineers, maintenance & operations managers, community services, GIS Technicians, asset coordinators/managers, public works directors/managers and finance managers.

David Love | City of Courtenay, BC

“The introductory three-day NAMS workshops create the foundation well-suited to all practitioners. However, the Professional Certificate provides further hands-on practical skills to build on that foundation.”

Troy Sykes | City of Calgary, AB

“The course is well suited to the Canadian environment because it aligns with ISO 55001 standards and the asset management principles taught are universal. Participants will learn valuable asset management skills in a real-life situation.”

Lisa Vass, CFO | Town of Golden, BC

“Being online, the Professional Certificate allowed me to maximize my time and effort without compromising my schedule. As an international course, it opened a wider lens to the ideas and options that can be pursued. I truly appreciated that the course supported a multidisciplinary approach.”

Sandra MacArthur | Former CAO | Town of Osler, SK

“Having this “on line” training provided an opportunity to provide so much more clarity to preparing a ‘concise’ Asset Management Plan for my municipality. The NAMS trainers provided ongoing support which was invaluable, particularly for a small community like ours. I would highly recommend this NAMS course to anyone working in the municipal field.”

The program comprises 8 modules delivered over 10 weeks with an additional 4 weeks at the end for participants to submit their draft asset management plan developed for their organizations – a great output for their employers while they earned their personal qualification.

Many have already commented how they are learning about different methodologies being utilized internationally to develop and implement asset management. At the same time, they are getting an

opportunity to connect and interact directly with the presenters and their peers internationally.

Allan Mapstone, one of the main presenters of the online program, has worked extensively in both Australia and Canada implementing improved asset management practices. Allan is a keen advocate of the professional certificate, which he says reinforces the importance of sound asset management planning and gives delegates access to the hands-on tools to get started.

“Anyone involved with the provision of infrastructure whether they be from a technical or non-technical background really need to be confident with the discussion and practice of asset management. This course is a strong step towards that position,” he said.

“This qualification is an important step in the whole picture of managing assets on behalf of our communities. It’s a significant responsibility and whilst we find most organizations do a great job at delivering services, there are challenges in how we ‘discuss’ the options with our communities. This greatly helps.”

Mapstone has been impressed by the level of engagement of participants, particularly considering the online nature of the course. He admits that he was nervous about the online set-up initially, but has embraced the format which allows him (and students) to interact with each other in group discussions.

“I have been involved with many of the face-to-face courses, so I was a bit hesitant about this environment. It’s so much better than I expected,” he said. “The most frequent feedback is just how engaging and interactive the course is.”

The IPWEA online Professional Certificate course is well suited to Canadian participants as it follows ISO 55001 standards and the asset management principles of the International Infrastructure Management Manual (IIMM) which are universal.

See below for details of next course.

Next online Professional Certificate in AM Planning

For further information on the next online program commencing on September 13, 2017, visit www.namsCanada.org/ProCertAMPLanning.

Registrations are now open. You can also email chris.champion@namsCanada.org if you have any questions.

Tips and Tactics: Strategies for establishing the rightful place of AM in your Organization

By Bernadette O'Connor, Opus International Consultants



Attitudes toward AM will influence perspectives on what structure is appropriate for AM and where in the organization AM should fit and how AM should relate to other organizational management systems.

Attitude can be influenced and shaped by various things;

Knowledge – if you think AM is mostly about producing an asset replacement plan, your attitude regarding where this fits into the organization, how you should interact with AM and what priority it has for you, will be considerably different to the person who understands AM as a holistic way of doing business, something that does or should influence every step in the delivery of a service. Therefore, if you have people with different levels of AM knowledge, you will get different levels of engagement and commitment, probably some resistance, and less success overall.

Experience – is there anything in the past that will hinder success, for example previous experience with organizational change. Whatever the obstacle is, you need to build confidence that adverse history will not be repeated. Strategies include bringing key people deeper into the decision-making process. Assigning an audit role to the most vocal dissenter, empowering them make sure things stay on track. Have clear targets and measured results. You could also do periodic interview reviews to track opinion and gauge buy-in/belief. Embrace the dissenters, they will make the outcome stronger. Never avoid or exclude dissenters.

Social Influences – people can be swayed by the advocacy of others (peers/role models/good argument put forward/numbers/majority vote).

Individual motivation – one of the most powerful influences is “what is in it for me”. It is worth taking time to building some key the win/win tasks into the work plan.

Belief/value – any of the above influences or combinations of them could have sufficient impact on a person to change their belief about AM and what value they place on various AM initiatives. Change in attitude can occur out of choice without change in belief, and this will support success in AM, but change in belief provides a more robust enduring platform for success.

CONCLUSION – if you are having trouble with aligning different perspectives or managing difficult attitudes, the strategy is to not focus directly on the attitude – but to look at the influences. Make adjustments to the influences and allow people to self-adjust their attitudes based on new knowledge, new experiences, positive role models, and delivery of real benefit.



Just as attitudes can influence what governance structure is chosen for AM and how AM is viewed in an organization, the type of structure that is set up can impact attitudes.

It may not be possible to start with the ideal structure, so pick the least line of resistance, and design a strategy to progress to a more successful model in the longer term.

Four common structures in an organization for AM are;

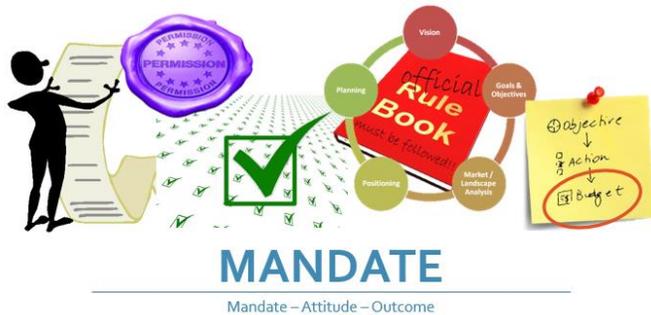
Single AM Officer – The potential problem is that AM is left to this person and they struggle to get AM integrated into daily business. A mitigation strategy is to have a high level of collaboration and communication, and being strong and consistent on ownership issues. You should also look for early wins to sell others on the benefits of AM.

AM Department – This can have a similar problem as with a single AM officer, and it has the potential for other departments to take different approaches.

The mitigation is collaboration, communication, clear ownership definition, early wins, and facilitating departments sharing their best practice with each other.

AM Steering Committee – Success can depend on whether Corporate buy-in exists. Without it the committee can have great intentions but struggle to implement change, and progress can be slow. One mitigation is to have Terms of Reference with clear goals, roles, and purpose and measured outcomes. Another is to find early wins to prove benefit of AM to achieve or increase Corporate buy-in.

CONCLUSION – if you have to begin with a less than ideal governance structure, focus on improving the functionality and performance of that structure rather than trying to mandate or force-fit a different structure. Address the stumbling blocks to clear a pathway for the organization to mature into a more successful long-term structure, rather than relying on a change in structure to remove the stumbling blocks.



The last piece of the puzzle for establishing the place of AM in an organization, is the mandate to do AM. The existence of a mandate, and the type and strength of that mandate, will have an impact on attitudes toward AM, and this will help or hinder the successfulness of outcomes.

Successful forms of mandate include AM requirements in Corporate strategy, vision, or goal statements; a Council approved AM Policy; defined AM objectives with specific performance measurement and reporting requirements; and in Terms of Reference documents for AM committee and/or a comprehensive AM program.



Register for NAMS Training Program for Asset Management – 2017

Asset Management BC will again organize NAMS training sessions for municipal staff for asset management. The three-day course has been offered for the past few years throughout BC with great success.

The cost for registration is \$1650 per person. Subsidy is available from UBCM of 50% for up to three registrants. See UBCM website for details.

- Lower mainland: November 1/ 2 /3
- Vancouver Island: November 6/7/8
- Okanagan (Kelowna): October 3/4/5
- Southeast BC: October 18/19/20
- N.W. BC (Terrace): September 27/28/29

For more detailed information on course content and preparation contact: Wally Wells, Executive Director, Asset Management BC (wwells@live.ca).

Registration will be available for each workshop in July through CivicInfo (www.civicinfo.ca). Go to events and scroll to the correct dates.

We must achieve 20 registrants per course.

Upcoming Events

Public Works Association of BC

September 17 – 20, 2017

Annual Conference and Trade Show
Penticton Trade & Conference Centre
Penticton, BC

www.pwabc.ca

Centre for Advancement of Trenchless Technology

September 25 – 27, 2017

Trenchless Technology Road Show
Sheraton Vancouver Airport Hotel
Richmond, BC

www.cattevents.ca

Union of British Columbia Municipalities (UBCM)

September 27- 29, 2017

Annual Conference and Trade Show
Vancouver Conference Centre
Vancouver, BC

www.ubcm.ca

CERIU - Centre D'expertise et de Recherche en Infrastructures Urbaines

December 4-6, 2017
INFRA Congress – 2017
Palais du Congrès de Montréal
Montreal, QC
www.ceriu.qc.ca

Federation of Canadian Municipalities

February 6 – 8, 2018
Sustainable Communities Conference
Ottawa Convention Centre
Ottawa, ON
www.fcm.ca

Canadian Network of Asset Managers

May 14 – 17, 2018
12th Annual Networking Conference and Workshops
Windsor, ON
www.cnam.ca

BC Water and Waste Association

May 13 – 15, 2018
46th Annual Conference and Trade Show
Conference Centre
Penticton, BC
www.bcwwa.org

Local Government Management Association

May 15-18, 2018
Conference & Annual General Meeting
Victoria Convention Centre
Victoria, BC
www.lgma.ca

Government Financial Officers Association of BC

May 30 – June 1, 2018
Annual Conference
Delta Okanagan Grand
Kelowna, BC
www.gfoabc.ca

Federation of Canadian Municipalities

May 31 – June 3, 2018
Annual Conference and Trade show
Halifax Convention Centre
Halifax, NS
www.fcm.ca

Questions & Answers

We strongly encourage you to raise questions and make comments as this newsletter is provided for the advancement of Asset Management. Email questions or comments to the editor and note if you wish to be anonymous or not to have comment published.

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