



YOUR LOCAL ASSET MANAGEMENT COMMUNITY OF PRACTICE IN BC.

Enhancing BC communities through leadership in asset management.

THIRTY-FOURTH EDITION – WINTER 2022

The Way of Asset Management

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and Head Coach, City of Selkirk Manitoba



Donna H. Meadows in what would be her final work, *Thinking in Systems*, provides a countdown of the most important points of a system at which intervention can lead to change. Going from least impactful to most impactful, the second last point is **paradigms**.

Meadows says that paradigms are the sources of systems, “from them, from shared social agreements about the nature of reality, comes system goals and information flows, feedbacks, stocks, flows, and everything else about systems”. We’re talking values systems and normative beliefs. This is the level at which a small shift or a tiny adjustment reverberates through an organization and causes revolutionary change. Our paradigms are the lens through which we see the world, the framework on which we build our understanding of how things SHOULD be, and the measuring stick by which we interpret success.

This is the level at which we need to take our implementation of asset management.

Over the past seven years, the City of Selkirk has been slowly, methodically, and surely making asset management a core part of city government. This is the language we used in the by-law we passed which made doing asset management a legal requirement. But that language is not accurate. It’s what we understood at the time and what we wanted citizens to understand. But it’s

not exactly correct. Asset management isn’t a “core part” of city government, it is city government.

Asset management isn’t a profession, it isn’t a department, it isn’t a plan, it isn’t software, it isn’t a set of tools, it isn’t a series of processes, and it isn’t an ISO standard. It is a system of thought, a paradigm, a way of understanding how people, processes and tools come together to deliver services. It’s the way we evaluate, interpret and judge citizen needs, and it is the framework by which we decide which needs we meet.

To use an analogy, asset management isn’t a new application offered by Microsoft Office Suite, it’s the Windows operating system itself.

This sounds daunting. It is, if you look at it all at once and contemplate such change through our typical frames of reference like the annual budget or even a council’s term of office. But if you extend your time horizon and embrace the idea that such a project is never actually complete, possibilities emerge.

This level of change isn’t linear. There are tipping points. As you take methodical steps forward, you will find such tipping points and your organization will leap forward.

Do Then Think

Many of the change management systems we employ are built on the notion that change must be a thoughtful, planned, and rational process. Plan, do, check, act is a common refrain. This is based on the assumption that people are rational actors, they think before they do and to get them to change their behaviour, we must convince them of the need for change. What we know today, is that really isn’t what drives our behaviour.

We are much more emotional and habitual than we are prepared to admit. What researchers like Daniel Kahneman, Richard Thaler, and others studying cognitive biases and behaviour teach us, is that at the very least, the link between thinking and doing is iterative. What we do shapes what we think, just as much as what we think informs our actions.

This single idea makes the daunting notion of remaking municipal operations via asset management, not just possible, but manageable.

To change the paradigm, given enough time, all you need to do, is change what you do and shape how people internalize the new behaviour.

People First

I started my tenor as Selkirk’s CAO in 2014 with the idea that we were going to modernize city government. We were going to make Selkirk 2.0 and we were going to do that practically by investing in our **people, processes, and technology**, “and in that order” I would say.

Building the skills, capacity, and efficacy of our people was and is job one. This is manifested in many traditional and non-traditional ways, but it starts with making time to learn both individually and as a group.

Building the knowledge and understanding of our staff has been important, almost 10% of our permanent full-time staff are CNAM members, and almost 15% have received formal asset management training. In 2022, we will be rolling out a new asset management training program that will see 100% of city staff receive asset management awareness training and all new staff will receive training as part of their orientation. So will Council. In fact, asset management orientation for Council is required under our bylaw. But on top of this, is our efforts to **raise the awareness of our citizens**.

We incorporate asset management into all our infrastructure announcements. We create videos and other social media content designed to help citizens understand why we make the decisions we make. We send informational brochures infused with asset management education to citizens impacted by planned infrastructure projects. And we erect project signs with the costs clearly displayed. These just-in-time training opportunities take advantage of the fact that citizens are more likely to retain information if they receive it when they are actually paying attention. Nothing gets your attention more than construction on your street.

When candidates are knocking on doors at election time, we want regular citizens using terms like level of service,

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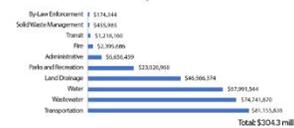
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lifecycle, replacement cost, operating and maintenance costs, condition assessment, and risk management.

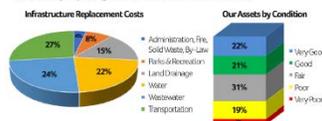
Our Infrastructure

In order to offer all our city’s services, we need to own and manage a lot of infrastructure, over \$304 million worth to be exact.

What would the cost be to replace all our infrastructure?



By making the right investments in our infrastructure, at the right time, we are continuously improving the overall condition of all our assets.



Agnes Street Sewer Replacement

Investing in our community using data-based decision making.

CitizenSupport
If you have questions about this or any other infrastructure projects, visit: MySelkirk.ca/citizensupport or call 204-785-4900.

Selkirk

CITY OF

An informed citizenry is the best way to ensure an informed Council.

Early in our asset management journey we created a team of staff to lead our efforts and set aside dedicated time to meet regularly. I have only three sacrosanct meetings in my calendar; Council meetings on Monday nights, Senior Management meetings on Wednesday morning, and our asset management team meetings on Wednesday afternoons. **This regularity is critical. It sends a message to the organization; asset management is important.**

The Capital Asset Management Program team (the CAMPers) is effectively a horizontal department – pulling in people from all departments in the organization. There is a terms-of-reference which empowers the chair to assign work to staff and to submit budget requests directly into the business planning process without first going through a department director. These authorities are also powerful messages to the organization.

Processes and Tools

Whereas in the past many of the decisions around how we operated and managed our assets were based on the tacit knowledge of our service area managers and experienced staff, we embarked upon a process of creating explicit policies and procedure documents, and developing checklists, forms, and other tools to guide staff in their work. This is painstaking and monotonous work, but critical. It seeks to remove human errors and biases. It makes processes repeatable, consistent in quality, and it encourages accountability.

It ensures continuity and makes processes resilient to people change.

Written documents allow everyone to see what is supposed to happen, to help them understand how their work fits within the larger system of work. It also allows people to participate in the shaping of that work, because they can ask questions, raise concerns, and make suggestions. It's far easier to question a written policy than the verbal direction given by your manager.

Link, Imbed, and Make Integral

As our program grew and become more established, we sought to integrate it into the existing processes already in use at the city. Rather than asset management being something that “that group over there” did, we looked and are looking for opportunities to link and imbed it into every part of our organization. We changed our job descriptions to reflect asset management responsibilities. We are currently restructuring our entire policy framework in the city to align with our asset management service areas rather than along departmental lines. Our CitizenSupport system (our version of 311) has similarly been realigned. The goal is to remove the old systems of decision making and replace them with tools and systems that align or are supported by our asset management program. In 2022 we begin the process of realigning our chart of accounts to conform with our asset management defined service areas.

The goal is to replace the old processes and tools with the new ones. Slowly, our asset management program shifts

from an enhancement of what we do, to an essential and foundational part of our operations. There is no process or tool too small to change and in time, there is no process so large that it won't be replaced.

Transformative Change

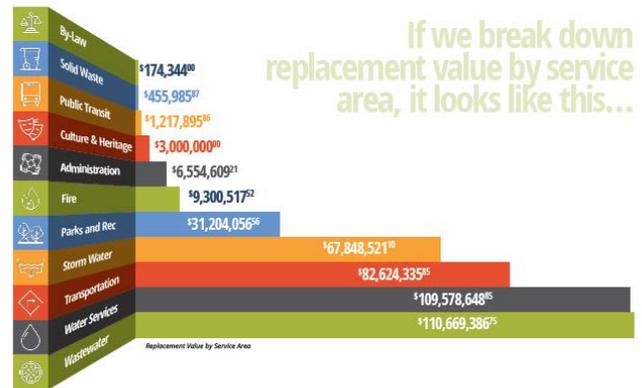
As we make these changes, the types of conversations we have internally and with our citizens have changed. We are evolving our language. We are becoming clearer about our values and beliefs. And most importantly, we are recognizing that those values and beliefs are a choice, and we are striving to make better choices.

In the coming weeks, we will release our first state of our infrastructure report which we're calling our “Sustainable Service Delivery Report Card”, again shifting the paradigm from infrastructure and assets, to services, sustainability, and value to citizens.

2021 Sustainable Service Delivery Report Card

8. | Service Area Reporting

Since service delivery relies on a combination of assets from different asset classes to deliver a service to the customer, it is sometimes more beneficial to report on assets that contribute to the same service. This section no longer focuses on assets from like Asset Classes, but rather focuses on assets that work together to deliver a service.



The final bullet in Donna Meadow's countdown of most impactful ways to impact a system is to step back and recognize that there is no best paradigm. We must always question our assumptions, our frameworks, and our models of how things should work. This too is something we must incorporate into our implementation of asset management.

The old thinking got us to where we are. New thinking will take us to the next situation. And after that? Call this continuous improvement or simply irrepressible curiosity, but any organization that can step back from their own thinking, regularly question everything, and is prepared to change anything, is an organization primed for success.

Beyond the ‘Plan’ - Operationalizing Asset Management: Why we Need a Primer for Chief Administrative Officer

David Allen CAO, City of Courtenay (retired)
and past Co-Chair of Asset Management BC



“Operationalizing Asset Management”¹ is a phrase increasingly prevalent in the local government lexicon. In the last few years municipal and local government association journals, magazines, and training programs have included articles, analyses, and case studies related to operationalizing Asset Management to achieve Sustainable Service Delivery².

I was first struck by this term in a 2016 policy document “Operationalizing Asset Management Policy within the City of Courtenay”. This was an output of an organizational review I initiated when I was the CAO at the City of Courtenay.

This story is outlined in a 2018 AMBC Newsletter article by David Love “Operationalizing Asset Management: It’s about People, Too”: Document (assetmanagementbc.ca)

What started as an organizational review focused primarily on staff capacity and reporting structure became an organization-wide perspective that “Operationalizing Asset Management” would involve four separate, interconnected initiatives that would be the pathway for our journey toward Sustainable Service Delivery³.

But what does Operationalizing Asset Management mean for other communities at the local government level?

One perspective is that, for communities large or small, it is the present action or process of progressing toward Sustainable Service Delivery at an organization-wide level. As a CAO, that is the route I took.

Asset Management webinars and other on-line training can be particularly effective in supporting innovation and best practices, and such offerings are becoming more readily available.

At the micro end of the spectrum, Asset Management can be initiated in an ad hoc manner by an individual staff champion or at the direction of a manager or department head, assuming the resources and staff capacity are available for such an endeavour.

At the departmental level, AM initiatives can be applied department-wide and so can have a greater impact on departmental roles and responsibilities.

Departmental working groups can tackle broader issues or focus on specific problems. Examples include tools and practices that improve knowledge about community infrastructure and assets, condition assessments, preventative maintenance, and *intra*-departmental AM training.

At the *inter*-departmental level of the spectrum, in the absence of specific direction from the CAO (or a Council/Board policy), collaboration between department heads to achieve (operationalize) a common objective can be more challenging, but also potentially more impactful in achieving Sustainable Service Delivery.

At the macro end of the spectrum, “Operationalizing Asset Management” is integrated, organization-wide Asset Management and Sustainable Service Delivery. It includes the leadership component: the Chief Administrative Officer (CAO) and the elected Council or Board.

Councils and Boards provide the foundation for Operationalizing Asset Management through AM Policies or by going one step further in adopting Asset Management Bylaws⁴. They also are responsible for the often-difficult decisions determining levels of service and approving long-term financial plans.

“BC local governments, with the support of the Province and UBCM, continue to develop and implement asset management best practices in order to deliver services, and manage infrastructure, in a sustainable, cost-effective way”⁵.

In BC the primary role of the CAO is the **operations** of a municipality defined in section 147 of the *Community Charter*:

- a) overall management of the operations of the municipality;

¹ Wiktionary defines “operationalizing” as the present participle of the verb “operationalize”, which is “to make operational”. Put another way, it is a verb (from the noun “operation”) trying to act like an adjective.

² Defined in the BC Asset Management Framework at: <https://www.assetmanagementbc.ca/framework/>

³ “Putting Asset Management into Action at the City of Courtenay Using “The 4 C’s”: Collaboration, Capacity, Culture and Council”, David Allen, AMBC Newsletter, Fall 2020

⁴ As have the City of Selkirk, Manitoba, and City of Courtenay, BC

⁵ Ensuring Local Government Financial Resiliency - Today’s Recovery and Tomorrow’s New Economy, UBCM, August, 2021

⁶ If Arnold Schwarzenegger were a CAO, he would be “The Operationalizer”.

- b) ensuring that the policies, programs and other directions of the council are implemented; and
- c) advising and informing the council on the operation and affairs of the municipality.

The CAO is both advisor to Council, and the ultimate source of direction to staff. So, the CAO has the potential to play an integral role in leading organization-wide Asset Management (*refer: [Framework - Asset Management BC](#)*).

Operationalizing Asset Management can happen at every level in local government. But to effectively achieve Sustainable Service Delivery it must be led by the CAO and supported by Councils and Boards.

I suggest that there needs to be additional support provided to CAO's, including a new Primer for CAO's.

Like the four other BC Framework Primers, a CAO Primer would require the collaboration of a range of local government associations and experts and assist CAO's and their organizations in their journey toward Sustainable Service Delivery.

Natural Assets and the Future of Asset Management

This article was written and published by Engineers and Geoscientists BC, and first appeared in its September/October edition of Innovation Magazine.

Asset Management BC thanks EGBC for permission to republish this article. The photos were added by AMBC.

In late July 2021, Engineers and Geoscientists BC issued a new Professional Practice Guideline titled *Local Government Asset Management*—a document guiding professionals in the management of local government assets. The term “local government assets” has traditionally meant physical assets—the kind that the Federation of Canadian Municipalities explained deliver “clean drinking water, transportation systems, waste management, drainage and flood protection, affordable housing, parks and recreation services.” In short, a local asset is often an engineered or human-built asset, like a water treatment plant, road, civic facility, or emergency vehicle.

While registrants frequently work with others at the local government level in the management (including the operations and maintenance) of these physical assets, the guideline *Local Government Asset Management* includes guidance on *natural* assets, like wetlands, forests, and aquifers. There's even a companion document devoted to the topic, authored by a Canadian not-for-profit called the Municipal Natural Assets Initiative (MNAI). The document,

titled *Natural Assets Management Considerations for Engineering and Geoscience Professionals*, provides guidance on managing natural assets, and won the endorsement of Engineers and Geoscientists BC's Council.

Roy Brooke is MNAI's Executive Director. “Traditionally,



local governments in Canada have considered natural assets at a social, green, or recreational level. These are important, but don't represent the full range of services that natural assets provide—or can be restored and rehabilitated to provide,” he said.

The process begins with developing an inventory of natural assets, as though they were a physical asset. For example, an aquifer—a natural asset—that supplies water to residents is an inventoriable asset that would incur a quantifiable cost should it need to be replaced. MNAI's methodology includes determining the current capacity of natural assets, how levels of service might change with different management actions such as rehabilitation or restoration, and what it would cost to deliver the services via engineered assets.

“All of this can be calculated, which gives natural asset work real, tangible, and operational value. If I can link natural assets to services that you have to provide anyway, then you have to start thinking of seeing it as an asset,” he said. The same is true for wetlands, forests, and creeks: they all provide tangible services to local governments that would otherwise have to be provided by built physical assets.

But expressing the value of natural assets in monetary terms is only part of the point. “Natural asset management is about broadening our understanding of nature and interacting with it in ways that preserve its health and biodiversity for the long-term, so that we can continue to benefit from the services it provides,” he said. “Every day, local governments make a range of complex decisions, and it is important that that they have full evidence of how these decisions affect nature-based services to visitors, to Indigenous people, and to residents.”



“We see two sets of values to services from nature: local government services, like stormwater management, drinking water supply, things of that sort are obviously important,” said Brooke. “But there is a whole suite of other services, like cultural, social, identity, and recreational, and the health benefits to residents. Together, these two sets of numbers give us a sense of some minimum values of nature’s services,” he said.

Incorporating natural asset management into local government asset management activities is also an important step towards sustainable and ecological government operations—an element that has caught the imagination of post-secondary engineering students and their faculty. Dr. Susan Nesbit, P.Eng., Co-Director of UBC’s Urban Systems Master of Engineering Leadership (MEL) program and a professor in UBC’s Department of Civil Engineering, says that a course on asset management is regularly taught by Dr. Dana Vanier to Urban Systems MEL students; and this fall, natural asset management is the focus of her course entitled Environmental Stewardship and Civil Engineering, offered to undergraduate and graduate engineering students.

“I’m on cloud nine, because Roy and others are raising the bar—big time—in terms of urban sustainability,” she said. “[Municipalities] are crucially important to accelerating sustainable development, and engineers are centrally involved.” Nesbit added that many engineering students are “a little scared” of climate change, and they want to be part of addressing it. “They care about sustainability, so they are super keen to learn about environmental stewardship, and especially the effective management of natural assets that are providing municipal services while simultaneously helping people live within our planetary boundaries,” she said.

The MNAI companion document points out that natural asset management is very closely connected to sustainability. “Sustainable service delivery requires an underlying ecosystem that is healthy, which in turn

requires that it be a biodiverse ecosystem; and, biodiversity is linked to climate change mitigation and adaptation outcomes,” states the guide.

The document points out that there are many “direct linkages between natural asset management and climate action.” In a previous report, through case studies in the City of Nanaimo, the Town of Grand Forks, and the Region of Peel, MNAI noted that, under climate change and intensified development scenarios, the value of natural assets actually *increased*—mainly because natural assets showed a remarkable ability to adapt and absorb the pressures associated with climate change, development, and population growth—adaptation that classical physical assets did not show.

According to Brooke, the Town of Gibsons is a leader in the field. The town is fortunate to possess an unusual number of natural assets, like the famous Gibsons Aquifer, a natural underground reservoir that provides water so pristine that it can be delivered directly to residents without additional filtration. Gibsons was one of the first municipalities to recognize that nature was delivering services that would otherwise require a built physical asset. So Gibsons incorporated its natural assets into its asset management planning, to help it manage risk, reduce costs, and maintain a healthy ecosystem. “They have done an outstanding job of considering natural assets in their core work,” said Brooke. “So [MNAI] was created to refine, replicate, and scale up their approach across Canada. By the end of this year, we will have worked with about 90 local governments across Canada. This stuff is still in its infancy, but it’s getting more traction because there’s an increasing evidence base that natural assets provide vital services to local governments, and should be part of any asset evaluation.”



Kristian La Rose, P.Eng., Senior Manager of Water and Wastewater Services for the Comox Valley Regional District (CVRD), has first-hand experience with both the benefits and challenges of managing natural assets.

CVRD’s key natural asset, the Comox Lake Watershed, supplies drinking water to over 50,000 CVRD residents—but it has multiple uses and multiple owners.

“The lack of direct ownership/control of the natural asset by local government highlights the need to work collaboratively towards protection of the asset in a way that doesn’t usually exist for physical assets,” he said. “Hydro power generation, fish habitat, recreation, forestry, cultural significance—natural assets can have overlapping interests. By inventorying and quantifying/qualifying those areas where our interests align with other stakeholders, we build capacity that can be used to reduce shared risks to the natural asset,” he said.

But despite this additional complexity, La Rose thinks valuation of natural assets has an extraordinary upside—and it’s altered how local governments think about assets and services in general. “We definitely see the value in the long run for valuing natural assets,” he said. “The principle is that [natural assets] provide value that, if [the asset] is allowed to degrade, would severely compromise our ability to deliver the service.”

We [the CVRD] have been at the table [with other stakeholders] working to start the process of valuing our key natural assets. The Watershed is our current priority, but over time the approach developed for this watershed is likely to be applied for other watersheds around the region – and other types of natural assets.”

Brooke thinks this change in thinking is bound to spread. “I think [natural asset management] is unquestionably a growing trend,” he said. “I think we will have a very clear line of sight, maybe within a decade. This [approach to asset management] is applicable anywhere in the world. The fundamentals are the same.”

To learn more, visit egbc.ca/innovation.

“Operationalizing” Asset Management

‘OPERATIONALIZATION’ It is a big word with big meanings. Yes, meanings, plural. Doing some research on the meaning, it appears to mean different things depending on the field of study and the context in which you use it. It is hard to find a universal meaning for the word. We need to look at its use within the context of what are we trying to achieve in asset management.

For the past few years, there has been major emphasis on creating asset management plans with many incentives and funding programs and, in some cases, Regulations requiring and directed to this one activity. Now we have many communities asking ‘what do we do now?’ The

context we use in ‘operationalizing asset management’ is based on the document, “**Asset Management for Sustainable Service Delivery: A BC Framework**”. The Asset Management Plan is just one box of many and, of itself, is not operationalizing asset management.



The ‘**Framework**’ has four Primers supplementing the core document. These are:

- Land Use Planning and Asset Management
- The Role of Maintenance and Operations in Asset Management
- Integrating Natural Assets into Asset Management
- Climate Change and Asset Management

Access to all these documents is via the AMBC website www.assetmanagementbc.ca

Following this article is an article on sustainable infrastructure and two cases study articles on aspects of operationalizing asset management. These compliment our feature articles starting on page one.

The first article is the ‘Story behind the Story’ of the development of a “Sustainable Infrastructure Replacement Plan” in Oak Bay. In September 2021, Christopher Paine, Chief Financial Officer of the District of Oak Bay presented to Council a draft “Sustainable Infrastructure Replacement Plan”. The preparation of the plan was a corporate effort linking technical, operations and finance to achieve the program presented to Council.

Here is the link to the plan www.oakbay.ca/municipal-hall/plans-and-reports/sustainable-infrastructure-replacement-plan.

Following this are two case studies in “Operationalizing” Asset Management. These case studies are from two local governments, the City of Prince George and the City of Terrace, both of whom had staff actively participate in the Operationalizing Asset Management Workshop. The case studies reflect their experiences. Happy reading.

Profile in Courage: Oak Bay’s Sustainable Funding Plan for Infrastructure Replacement

By Kim Stephens, M.Eng., P.Eng, Executive Director Partnership for Water Sustainability in BC, in collaboration with the District of Oak Bay’s Daniel Horan, Director of Engineering & Public Works, and Christopher Paine, Director of Financial Services.

The District of Oak Bay is leading by example with its inter-departmental approach to embedding a life-cycle lens, along with a sustainable service delivery culture, into a local government finance vision. Moreover, the Oak Bay experience is a powerful illustration of how the overarching vision for [Living Water Smart, British Columbia’s Water Plan](#) is influencing behaviour and outcomes at the local scale.

Hence, the Partnership for Water Sustainability believes that the Oak Bay infrastructure story is an important one to showcase and celebrate. In a sentence, the Oak Bay story is a profile in courage. It is a downloadable document in the Partnership’s [Living Water Smart in British Columbia Series](#).

Christopher Paine and Daniel Horan bring a fresh approach, energy, and innovative thinking to the sustainable infrastructure mission. The story of their collaboration is inspirational. Their enthusiasm is contagious!

After reading and reflecting upon the consequential insights that Christopher Paine and Daniel Horan share in their “story behind the story”, our hope is that Councils and staffs with other local governments would recognize the opportunity to reach out and learn from the Oak Bay experience. The Oak Bay story is powerful for two interconnected reasons.

Local Government Finance Vision

First, it demonstrates what a local government can achieve when it chooses to be proactive. The Local Government Act is “enabling” legislation such that: a) the provincial government provides local governments with policy and legal tools; and b) it is up to local governments whether they choose to use those tools.



Oak Bay has chosen to tackle its infrastructure funding gap (liability), take an intergenerational perspective, and develop a **local government finance vision**. This demonstrates what the financial situation would be if the municipality increased funding, used debt, and caught up on replacing assets.

Secondly, the Oak Bay story illustrates how an idea seeded as a policy objective in Living Water Smart is playing out in practice as [Asset Management for Sustainable Service Delivery in Oak Bay](#).

Living Water Smart has 45 actions and targets, one of which states that: “Governments will develop new protocols for capital planning that will look at the life-cycle costs and benefits of buildings, goods and services.” This is the backdrop for the “story behind the Oak Bay story”.

Embed a Life-Cycle Lens, along with a Sustainable Service Delivery Culture

The “story behind the Oak Bay story” is compelling. Christopher Paine and Daniel Horan are forthright in sharing their experiences. Through a conversational interview process, they provide a window into consequential insights that have influenced their collaboration.

Through its [Sustainable Funding Plan](#), Oak Bay is demonstrating what a difference it makes when municipal staff have clear direction from Council to achieve two outcomes:

1. stem the incremental erosion of levels of service in the short-term; and

- translate an intergenerational perspective into a life-cycle plan of action for perpetual infrastructure renewal.

Inter-departmental collaboration has produced a Council-supported plan of action for perpetual renewal of infrastructure. Oak Bay’s driver for action is the \$463 million **cumulative infrastructure funding gap** which includes an infrastructure gap of \$297 million for assets past their recommended useful lives. The two are different.

To do what is right and necessary, Oak Bay has embraced a life-cycle way of thinking about asset longevity and is transitioning to “asset management for sustainable service delivery”.

Oak Bay's **Sustainable Funding Plan** for infrastructure renewal shows how the municipality could "bridge the funding gap" by 2076. Achieving the vision for **Sustainable Service Delivery** requires an intergenerational commitment.

It takes courage to embrace an intergenerational ‘Finance Vision’

To do what is right and necessary to bridge the infrastructure funding gap for constructed assets requires an intergenerational commitment. It takes courage on the part of a Council or Regional Board members to look beyond the short-term, understand what sustainable funding entails over the long-term, and direct staff to get on with the job.

“Anybody who is going to hear or read about the Oak Bay story, the thing that they really must understand is the role of Council. There is a special type of courage that Council needs to have to say, “give us the naked truth”. There is not a lot of political up-side to shining a light on infrastructure challenges,” emphasizes Christopher Paine.

“Oak Bay Council did that, no holds barred. They wanted to know what the situation was. And so that clearly demonstrates a strong commitment to an asset management culture in Oak Bay which is growing day by day.” “A couple of key policy decisions that were completely outside of Oak Bay’s control contributed to

this culture,” continues Daniel Horan. “The first related to a change in reporting requirements by the Public Sector Accounting Board. The second was the rollout of **Asset Management for Sustainable Service Delivery: A BC Framework** in 2015.”

“It was game-changing when the provincial government said that local governments will need asset management plans in place to apply for grants. Oak Bay Council and staff saw the writing on the wall. They could already see evidence of the level-of-service challenge around older infrastructure. So, they took the first steps to ensure Oak Bay would qualify for infrastructure grant programs.”

“Those steps, combined with savvy Councillors and senior staff knowing what Oak Bay needed to do, influenced Council’s strategic priorities process as well as updating of the Official Community Plan (OCP). Through these processes, Council communicated the message that we want to do these things because we want the community to be sustainable. Residents bought in.”

Why communities must focus on ‘Service Levels’

District of Oak Bay experience is helpful in gaining perspective on what is involved in building trust and facilitating a process that results in everyone pointing in the right direction strategically. A unique aspect for Oak Bay is that the engineering and finance departments are so much in lockstep on a unified vision for sustainable service delivery.

“Communities that have not embedded sustainable service delivery concepts into their funding structure are playing major catchup. And this is at a cost to the community of foregone investment revenues and debt servicing costs,” states Christopher Paine.

“In the first phases of a community’s development, it feels like you have free infrastructure. When someone moves into a new neighbourhood which has all these wonderful capital services, it feels free because the maintenance costs on those services are so much less than they are at the end of their life-cycles.”



“We must provide life-cycle information to Council and the community – as to how far we are through the life cycles of assets; what is the cost of replacement; whether we are saving, or not, for that future expense – so that policy makers can provide direction and vision.”

“A slow incremental erosion of our capital service levels happens when staff cannot demonstrate the impact in the long-term in a financial way. That is why forward looking long-term financial statements are so important to good decisions. Council is in control. They can choose to accept a slow erosion of service levels and increased risk, or not. But they cannot make that judgement in the absence of information.”

In Closing

“If a community is happy with what it has today, static funding is not going to sustain that. The levels of service are going to decline over time. Unless we increase funding, the negative impacts of system failures are going to be felt by residents,” concludes Daniel Horan.

“Think about it from a business perspective. Discussion of the service municipalities provide really comes down to whether our customers, our residents, are happy.”

“Council and community are always asking questions about why the utility rates are what they are, or why the rates are increasing, what does that get you and so on. Answering these questions comes down to educating them about levels of service and their willingness to invest in sustaining a desired level of service.”

Case Study: The City of Terrace

Our Asset Management Journey and My Journey within that process.

*Khalie Genereaux, CPA, CMA,
Deputy Director of Finance, City of Terrace*

The City of Terrace is known as the hub city of Northwest British Columbia, it has an estimated population of 12,700 in 2020. The cities, and villages that surround it include Kitimat, Prince Rupert, the Nisga’a Valley, and Kitwanga. Each of these are within a 200-kilometer radius of the city. Terrace also often attracts residents of the Hazelton, Smithers and Telkwa because we are approximately 200 to 300 kms away from each of these places. Each place named has a smaller population; therefore, less amenities, shopping, and services to choose from. This puts additional pressure on the City’s assets and reinforces the need for municipalities, such as ours, to put increased focus on Asset Management planning.

Terrace is among a large group of municipalities that need to develop an asset management plan for the future. With our estimated infrastructure replacement costs of over \$283 million and an average remaining useful life of only 40%, now more than ever, the City needs to look at how to best meet the needs of the future so that we are not leaving a large deficit for generations to come.

My Asset Management journey with the City of Terrace started two years ago, when I was hired on as the Deputy Director of Finance. During my time here, I have discovered that the City has numerous qualified staff that make asset management decisions all the time and, through time, have built their knowledge and skills to make informed decisions on the City’s assets. They do it without even realizing they are doing it; it is imbedded into their train of thought and daily procedures. But what happens with these staff leave due to other opportunities, retirement, etc.? The knowledge leaves with them. This is a major dilemma that the City of Terrace is currently in and has opened our eyes to having good practices in place to ensure that our assets remain in good working order for generations to come and is not fully dependent on the current staff that manage them.

Where are we on the journey?

Our asset management journey in the last two years has been data collection and cleanup in order to check the boxes on grant applications or other governmental requirements. And how could it be any different? Small municipalities, such as Terrace, have limited resources to be able to take on something like Asset Management wholeheartedly and with focus. For most of us it is a corner of the desk project that we get to when we have time. We are now trying to change that, bit by bit. Although our level of human capital has not changed, our lens of how to view Asset Management has. The more we learn within the process and the results, it is no longer a matter of getting to it when we have time, but rather making the time to do it. Put simply, **we cannot afford NOT to make this a priority.**



In early to mid-2021, we developed our Asset Management Leadership Team (AMLT) Terms of Reference and had the team sign off and commit to the development of our Asset Management Program. By October 2021, we had our Asset Management Policy adopted by Council. The organization culture is shifting as we see the benefits of having a plan in place for future generations to follow, tweak and adapt to changing environments.

Our AMLT is continuously seeking different learning opportunities to ensure that we are thinking about Asset Management from many different lenses and equipped with the tools necessary to move things in the right direction. We undertook the Operationalizing Asset Management Workshops this summer/fall with that motivation in mind. We initially went in thinking that we needed to create a general Process Map to give step by step instructions on how we do things here at the City of Terrace, but quickly realized that we needed to take one step back and look at creating a Strategy and Road Map. This makes sense, how do you tell people what to do or how to do things if you don't quite know what it is you are trying to achieve and by when? The City of Terrace AMLT is now engaged and committed to completing the Strategy and Road Map as one their priority next steps on their Asset Management journey.

Why Operationalizing Asset Management training benefited us?

The workshops gave us tools for evaluating the challenges we face. In particular, regarding our Road Map creation, our dilemma was this: do we hire externally or keep the task internal? There are many things to consider in what seems to be a very basic question, for example:

- What is our budget?
- Will we be building our internal capacity at the level we want if the knowledge is with something else?
- How much time does it take to get a consultant up to speed on our community?
- Several additional considerations and we keep thinking of more.

Ultimately, we ended up with an outcome that was much closer than you would think. It is with the SWOT/PESTLE tool, as part of the Operationalization workshop, that helped us take the above and many other factors into consideration for the evaluation. This tool evaluates the Strengths, Weaknesses, Opportunities, and Threats of your organization as well as the Political, Economic/Financial, Socio-Cultural, Technological, Legal, and Environmental components to decision making.

The tool can be used for any challenge you need to evaluate as they come up. The tool is very flexible and allows you to adjust the information as your environment changes and give weight to the priorities in the organization to fully analyze the challenge from all angles. As the workshop was recently completed, the City of Terrace has not used it again since, but plan to keep it in our toolkit for future considerations.

Where are we going?

We have not lost focus on succession planning. We know that having good succession plans in place is paramount to keeping the knowledge moving through the organization as key people leave. This is just one piece of the much greater puzzle. As we move along our Asset Management journey, a Strategy and Road Mapping is just one of the many things that we will need to consider. As part of this process, we will need to evaluate what our priorities are going forward and in what length of time we think is reasonable to achieve them. This piece ensures accountability, and that Asset Management remains at the forefront of our minds. We also need to address the large funding gap that we CANNOT ignore to ensure that our community remains sustainable well into the future. ***At the risk of sounding repetitive, we cannot afford NOT to make this a priority.***

Case Study: City of Prince George

Operationalizing Asset Management – the City of Prince George Experience

*Kristy Bobbie, ASCT Asset Manager,
Asset Management Division, City of Prince George*

When you think of operationalizing, what comes to mind? This was the first question posed to the group during our AMBC Operationalizing Asset Management Cohort program. Words like; action, planning, and implementation made their way to the top of the word cloud as most popular.



The City of Prince George's Asset Management Team knew we were in the right place in beginning our journey to operationalize our artifact for this workshop; our newly developed Transportation Levels of Service (LoS) framework.

Change is hard and there are always risks to consider when asking someone to make changes to the way they do their work. As we went through our first exercise, a Change Risk Assessment, it was apparent that the artifact we chose to operationalize is going to be moderately risky from a change management point of view. Technology is one of the key tools identified within our requirements in order to collect the data we need to report on our service levels. Some of our Transportation staff are already familiar with using our Computer Maintenance Management System on mobile devices (cell phones and tablets), while others are not. There are also automated ways in which we currently capture the data needed to report on services like snow clearing, which uses a system integration between our CMMS and our fleet-tracking tool. The best way to move through change is to make sure we are always trying to answer a few of these fundamental questions for our staff:

1. Why is change happening now?
2. What is the risk of not changing?
3. What's in it for me?
4. What will the change mean to me?

The next exercise the Cohort went through was the PESTLE-SWOT analysis. By identifying the strengths, weaknesses, opportunities, and threats for each political, economic, socio-cultural, technological, legal, and environmental parameter, it gave us insight into which areas we needed to focus on the most. For example, the City of Prince George has an asset management policy and strategy in place and is well supported by our Council; however, some of our greatest weaknesses are related to a lack of documented processes. The PESTLE-SWOT analysis has helped us focus on what we should work on first in our journey to operationalize Transportation LoS.

I found our third exercise to be the most valuable; the Pairwise Sandbox. Throughout my time in asset management, there has always been debate on how best to weight the importance of different criteria against each other to prioritize tasks. What's more important; cost, reliability, quality, safety? It can't be only one person determining which factors are critical when making decisions. It needs to be a cross-functional group of people having input into the importance or weighting of the various criteria. The Pairwise Sandbox tool used during

our Cohort program provided a way for us to compare a bundle of different criteria in pairs and calculate a weight percentage for each. For example, we compared the importance of data quality to documented procedures and after some discussion, determined it was more important to have documented procedures first in order to gain good data quality.

All three Cohort exercises fed into a final Business Case. The Business Case tool provided a way to compare three different scenarios in order to calculate which scenario would result in the most successful implementation of our Transportation LoS. Scenario 1 focused on Staff & Procedures, Scenario 2 focused on Data & Technology, and Scenario 3 focused on Council & Public Engagement. Scenario 1 and 3 scored about the same. The business case has provided us with a roadmap for the tasks that need to be done to operationalize Transportation LoS. First task being the updating and formal documentation of our procedures.

This Cohort program gave us the opportunity to learn from other municipalities and really hone in on the first steps we need to take to operationalize our Transportation LoS framework. Having skilled facilitators guide us through the exercises allowed us to stay focused on our target and not get distracted by preconceived notions, bias or having to develop this tool. It's already been developed and we, like many municipalities, prefer to use proven techniques like the Operationalizing Asset Management Cohort to guide us in our continuous improvement objective.

Thank you to AMBC and FCM for sponsoring this learning and knowledge sharing initiative.

CNAM Hosting Annual Conference



The **Canadian Network of Asset Managers (CNAM)** is hosting its first Hybrid Annual Conference from **Monday, May 2nd - Thursday, May 5th, 2022 in London, Ontario** at the DoubleTree by Hilton Hotel. The conference theme will be **CONNECTIONS: Building an Asset Management Community**. The hybrid conference format will allow us to connect with industry peers from across Canada and Internationally, as well as ensure accessibility for all.

The past year has seen its fair share of high points, low points and unique challenges with the continuation of a worldwide pandemic. Many municipalities across the

country, and the world over, are still struggling to do more with less in terms of Asset Management.

This year will be a first for The Canadian Network of Asset Managers (CNAM) with the launch of our hybrid conference format. This unique opportunity will allow for attendees to register to attend the conference in-person in London, Ontario or purchase a virtual registration.



You will not want to miss out on our in-person Monday Social, Welcome Reception and Awards Gala. We will have a virtual option for our Awards Gala.

Get back out there and take this opportunity to elevate your Asset Management knowledge and expand your personal network by participating in presentations, workshops, networking and visiting exhibitors in an in-person or virtual environment. This will be a unique conference to collaborate and grow with our peers and to celebrate the small victories of the last year, while charting for a brighter future!

What's in a WORD:

The word 'Plan'

*'Opinion' by: Wally Wells P. Eng.
Executive Director [Asset Management BC](#)*

This column addresses our language of asset management and the use of terms. Do we use them correctly or are we creating a new language and meaning when it is not necessary? Is this part of our communications problem? I think so. Based on dialogue with many, this article reflects the writer's opinion of what we see and hear.

"Asset Management", itself, is an awkward term. We have managed assets for decades and understand what that is and what we are doing. Suddenly we took two very simple words, reversed them, and went from managing assets to asset management. The result? We confused everyone.

Too much attention is given to only the Asset Management Plan as opposed to all elements of the process. Even then, should we be calling the outcome the 'Asset Management Plan'? It is likely too late to change our words, but we do

need to be careful in how we communicate what we do and what the expectations are for positive results.

A Plan usually talks about things in the future with choices on both potential services, assets to provide the service, costs and timing premised often on growth assumptions. These are usually called Master Plans and are related to specific services or asset classes. For decades, we have trained our elected officials to understand the decision process and flexibility available for them when presented with a Master Plan. In a 'futures' document, based on existing inventory and services premised on growth and growth strategies of what MIGHT be needed, the Master Plan defines and documents the options and cost to do so and when the service/ assets will be required to be operational. Councils have choices of doing or not doing the recommended activities based on growth and service needs. There is often few consequences and little risk in doing or not doing the suggested activities outside of accommodating growth.

The same flexibility, risk and consequences of a decision are not the same with the Asset Management Plan. The plan, other than based on "futures", is based on existing services and service levels. So why call it a plan? The AM plan addresses life cycle assets related to the service they provide and the basis for capital replacement and/or upgrade over time, a very different set of circumstances. The risk and consequences of not taking action are substantially higher and more consequential than the Master Plans referenced above

An AM plan is not the same as a master plan. There are two parts to an AM Plan. The first part is the inventory, condition assessment and estimated life of assets translated into the cost both in dollars and time to renew, upgrade or decommission. At this point it does not deal with resources available and the ability to pay. It just deals with what is needed to continue to provide EXISTING services at existing level. The second part of the 'plan' is not a plan but a strategy document. Instead of choices, it really, at least implicitly, deals with the risk and consequences to the community of doing or not doing things.

For decades we have trained our elected officials how to think and what to do with a plan. But now, with the Asset Management Plan, we want them to do something completely different. No wonder they are confused. The decision from the AM plan and strategy are tested against service with risk and consequences.

Our approach to communicating with Council what to do with the plan and recommendation is extremely important as we are really retraining them. Keep this in mind when you present your "PLAN" to Council.

FCM-funded MAMP Program through Asset Management BC a Success and NEW TRAINING OPPORTUNITIES

With funding under the Municipal Asset Management program from the Federation of Canadian Municipalities, Asset Management BC offered three training opportunities. The program has now concluded with very positive results.

The overall program under the title, *'Advancing your Asset Management Practices'* had three streams:

- (1) Awareness Building
- (2) Operationalizing Asset Management
- (3) Working with Levels of Service

The **Awareness Building** program was aimed at Councils and Boards of our local governments and First Nations to assist them in understanding asset management and their role in decision making. The basis of each presentation to elected officials was: *What services do we provide and WHY do we provide each service? What services does our community want and need now and into the future? AND What is our community willing and able to pay for?*

The response to those questions allows Council to test implementation strategies against each service and service level with performance and costs, risk and consequences information. There were 13 sessions held with different communities.

The **Operationalizing Asset Management** workshops were for staff across each local government and First Nations. At a minimum two people from each local government participated with some having as many as 5 staff members. The interactive learning process extended over 4 workshops with assignments for participants between sessions. One-on-one sessions was held with each cohort to discussion and assist with the specific off their selected artifact to work through the process. 14 local governments and First Nations participated in two sessions with 7 in each session and a combined total of 58 participants. The response to learning the process for assessing and working through alternative solutions applicable to any artifact or barrier was extremely positive.

The **Working with Levels of Service** workshops were delivered in 4 cohort groups in a series of interactive workshops. 28 local governments and First Nations participated with 91 active participants and observers. All

reported positive results in understand the applications of level of service principles to defining assets use and asset management.

Asset Management BC will continue in 2022 with the workshops on **Operationalizing Asset Management and Working with Levels of Service**. These will be offered through 2022 as the demand dictates. As each cohort group is limited in size to provide for an effective working group, an Expression of Interest will be requested by each interested organization to be submitted to AMBC via e-mail: info@assetmanagementbc.ca. There will be a charge for the workshop and grants to assist with the cost will be available.

WATCH SOCIAL MEDIA and the AMBC website (assetmanagementbc.ca) in the very near future for the announcement and program details.

Asset Management BC to hold quarterly Workshops including Annual Conference

Our 2022 program will include a series of on-line workshops in March, June and September followed by our Annual conference in November. After two years of Covid cancelling or limiting in-person events, we expect to hold the November conference in person.

Our 2021 AMBC conference, held on three Thursday mornings in November by hosting morning on-line workshops, provided a sound basis for information dissemination plus the opportunity for many, who could not otherwise travel, to participate. We intend to provide you opportunities for more training and information in 2022 by a combination of on-line workshops followed, in November, with our annual conference in person.

For the on-line workshops, we will follow the broad themes we did last year and bring you presentations and discussions within that theme. Here is the schedule:

- March 10 - Physical Capital
- June 16 – Natural Capital
- September 22 - Human Capital

Program details will be posted on the AMBC website (assetmanagementbc.ca) plus you will regularly receive social media notices and updates via primary social media platforms. So, follow AMBC on your social media accounts. Registration for each workshop will be via CivicInfo and will be open approximately one month prior to the workshop.

November will be our Annual [Asset Management BC](#) conference. A call for presentations will be issued shortly as will sponsorship opportunities. The conference will include networking events over breaks and meals plus a reception. Stay tuned for more information over the next several months.

Asset Management BC Presents the 2022 AMBC Conference:

People, Places and Purpose

Building Resilient Communities Through Sustainable Service Delivery



Westin Wall Centre Hotel, Vancouver
November 2-4, 2022

Register through CivicInfo



EGBC offers workshop on Natural Assets Guide

*Stuart Nash, P. Eng. Manager,
Individual Audits and Practice Reviews,
Engineers and Geoscientists British Columbia (EGBC)*

Workshop - **Natural Assets Management Consideration for Engineering and Geoscience Professionals** - will be presented by Engineers and Geoscientists BC and MNAI on Wednesday, Feb 16, 9:00-11:00 AM

<https://www.egbc.ca/Events/Events/2022/22FEBNAM>

Registration: \$35

This webinar on Natural Asset Management will provide an overview of the Companion Guide to the Engineers and Geoscientists BC Professional Practice Guidelines - Local Government Asset Management that the Municipal

Natural Assets Initiative (MNAI) co-developed with Engineers and Geoscientists BC and Asset Management BC. The Companion Guide is intended to provide more guidance to engineers and geoscientists on the integration of natural assets into local government asset management programs.

The webinar will include a panel of presenters sharing their experience with Natural Asset Management (NAM), including representatives from Engineers and Geoscientists BC, MNAI, UBC School of Civil Engineering, and an asset management consultant. Attendees can expect to learn from the experiences of natural asset practitioners and hear discussion on how to use the Companion Guide to advance NAM practice in their organization.

Tips and Tactics: Demystifying Multi-Criteria Decision-making (MCD)

*Bernadette O'Connor, IAM Dip, CAMA, NZCE(Civil)
Asset Management Specialist, WSP*



One method for “Operationalizing” some aspect of asset management is to embed the consideration of it into the decision-making process. And one method of managing what gets considered in a decision is to use a multi-criteria decision-making (MCD) tool or matrix.

Simply put, an MCD matrix requires consideration of several criteria to determine an overall rating that decision-makers can use to prioritize projects or choose between options. It is a structured, repeatable, approach, but it is also highly flexible and customizable to any organizations needs and priorities.

With a little discipline and thought in the construction of the MCD matrix, it can greatly assist decision-makers and improve the transparency and defense of decisions. The following provides an example for a useful matrix and some advice on dos and don'ts.

A typical MCD matrix is a rating grid. That is, it has several criteria, and each criterion has a range of score options. Most typically, using a 3, 4, or 5-score range, representing scores for a variation of very high, high, medium, low, very low, or not applicable for each criterion.

The selection of criteria to be scored can be unique to each organization. However, I recommend for local government and service-oriented organizations, that two groups of criteria are used.

The **first criteria group** should be a measure for how well the project or proposal aligns with the corporate strategic goals. Is the thing you are deciding on (i.e., the capital project, program, or different options for a project) going to help the organization meet its objectives or is it going to distract the organization from its objectives.

Common options for this group of criteria include high-level generic categories such as:

- Health & Safety
- Environment
- Economy
- Governance
- Community & Culture
- Risk & Reputation

They can also be more customized and relatable to the organization’s goals for example:

- Natural Disaster Mitigation
- Environment & Climate Change
- Responsible Governance
- Healthy Communities
- Culture and Engagement
- Partnerships & Economy

Many organizations only use this group of criteria in their MCD matrix. **This is a problem** for local government and service-oriented organizations. Because the corporate strategic goals frequently presume but do not specifically include the responsibility to continue to provide the existing services and maintain their assets in a state of good repair. For organizations that do have corporate objectives for maintaining levels of service, this is not a problem. For the majority however, I would recommend including a **second criteria group** for service delivery. For example:

- Infrastructure Sustainability
- Service Reliability
- Capacity
- Safety
- Risk & Reputation

This allows an organization to find the appropriate balance between keeping the business going (delivering the current level of service) and providing for the future (corporate strategy).

Another feature of an MCD matrix is the ability to “weight” the criteria. There are many ways to establish appropriate “weightings”, but the decision on which criteria are more important than others should be approved by the decision-makers who use the MCD to guide their decisions.

This is important because it is not the MCD matrix that makes the decision, **it is people who make the decision** guided by the scores from the MCD matrix.

Next, I want to discuss the scoring mechanism. A range of scores need to be provided for each criterion. Two common options are a 4-score and 5-score range, for example:

4-Score Range		5-Score Range	
0	None / Not Applicable	1	Very Low
1	Low	2	Low
2	Medium	3	Medium
3	High	4	High
		5	Very High

Once you have determined the score range to use, the matrix is completed when you provide guidance to the user for selecting the appropriate score for each criterion for the project (or thing you are deciding on). Commonly this is done with a narrative describing what a low environmental rating is or a high safety rating.

Reference	Infrastructure sustainability	Reliability	Capacity
Weighting	30%	20%	10%
0-None	Has no impact on infrastructure sustainability goals	Has no impact on reliability goals	Has no impact on capacity goals
1-Low	Does not contribute to lifecycle cost minimization although there may be some minor lifecycle management or budget planning benefit from project	Does not contribute to reliability goals although there may be some minor improved reliability effect from project	Does not contribute to capacity goals although there may be some minor improved capacity effect from project
2-Medium	Project will moderately support infrastructure sustainability, or reduce lifecycle costs, or increase expected asset life, or reduce organizational liability and risk.	Project will maintain or achieve a moderate reduction in the number or severity of preventable events causing loss of service	Project will maintain current capacity and reduce the frequency or degree of impact of overloading/under-capacity events
3-High	Project will significantly support infrastructure sustainability, or reduce lifecycle costs, or increase asset lifespan, or reduce organizational liability and risk.	Project will significantly improve reliability of service delivery, or reduce number of loss of service events, and/or reduce adverse impacts of service outages.	Project will contribute significantly to maintaining capacity and reduction or mitigation of any adverse impacts from overloading or under-capacity events.

The guidance provided for users to select the appropriate score determines how objective or subjective the scoring will be. **This can make or break the MCD matrix** as a useful tool to support decision-makers.

Poor guidance will generate opinion-based scores that are not transparent, easily repeatable, nor easily defensible.

To avoid this, use measured values wherever practical (similar to what you would do for performance measures for level of service) to determine if a project should be scored high, medium, or low for each criterion. Where a measured value is not practical, provide a clear descriptive narrative that will increase the likelihood of two different people coming up with the same score and decrease the opportunity for people to manipulate scores to suit an agenda other than alignment with corporate goals.

Upcoming Events

Note: COVID-19

Due to COVID-19 requirements for social distancing, many events have moved to 'virtual' platforms.

Check Association websites to confirm details.



[Asset Management BC \(AMBC\)](#)

Upcoming workshops (On-line workshops)

March 10, 2022 - Physical Capital

June 16, 2022 – Natural Capital

September 22, 2022 - Human Capital

assetmanagementbc.ca

[Engineers and Geoscientist BC \(EGBC\) and MNAI](#)

February 16, 2022. On-line

Workshop: Natural Assets Management Consideration for Engineering and Geoscience Professional

egbc.ca

[Municipal Insurance Association of BC \(MIABC\)](#)

April 12 – 14, 2022

Annual Risk Management Conference

Build Back Better - Adapting to Risk and Leveraging Opportunities

JW Marriot Parq Hotel, Vancouver BC

miabc.org

[Canadian Network of Asset Managers \(CNAM\)](#)

May 2 - 5, 2022

Annual conference and Trade (in-person and on-line)

CONNECTIONS – Building an Asset Management Community

DoubleTree by Hilton Hotel, London, Ontario

cnam.ca

[Government Finance Officers Association of BC \(GFOABC\)](#)

June 1-3, 2022

Annual Conference

Leadership and Transformation. Next Level Finance

Penticton Lakeside Resort, Penticton, BC

gfoabc.ca

[Federation of Canadian Municipalities \(FCM\)](#)

June 2 – 5, 2022

Annual Conference and Trade Show

Regina SK

fcm.ca

[Local Government Management Association \(LGMA\)](#)

June 21 – 23, 2022

Annual Conference and Trade show

Penticton Trade and Convention Centre, Penticton, BC

lgma.ca

[Union of British Columbia Municipalities \(UBCM\)](#)

September 12 - 16, 2022

Annual Conference and Trade Show

Whistler Convention Centre

Whistler BC

ubcm.ca

[Asset Management BC](#)

November 2-4, 2022

Annual Asset Management Conference

Theme: People, Places and Purpose

Westin Wall Centre Hotel, Richmond BC

(Vancouver airport area)

assetmanagementbc.ca

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