



Asset Management Newsletter

FIFTEENTH EDITION – FALL 2015 ISSUE



Mayor Championed Asset Management for Sustainability

Christina Benty – Town of Golden



According to business and personal performance coach Jim Rohn, you will suffer two pains - the pain of discipline or the pain of regret. Jim was referring to personal assets such as health and wealth. I doubt he had public services in mind. However, this truism describes our current infrastructure deficit with disturbing veracity since we may very well be in the throes of regret. Why, you ask? We have been living off the backs of fifty.....seventy..... sometimes hundred year old infrastructure, allowing us to avail ourselves of a constructed prosperity that our grandparents, even in their wildest dreams, could not have fathomed.

Yet we are shocked and dismayed that water is not free, that snow isn't cleared instantly, and that property taxes are going up. We don't make it easy for politicians to ask "If you don't want to pay more, what are you willing to give up?" With municipal budgets being closely scrutinized and elected officials constantly telling staff "do more with less", the camel's back is about to break!

So how did we get here?

Local infrastructure provides the foundation for the health, well-being, and economic prosperity of communities across the country.

Dependable core services, such as water, sewer, transportation networks, fire halls, recreation amenities, and more, make up the built environment and exist to provide the basic necessities of life that residents rely on every day. Although citizens value the broad range of services provided by their local government, they have no grasp of the magnitude of the cost associated with providing those services.

Historically, local governments have built infrastructure and acquired assets with insufficient consideration for depletion, depreciation, and amortization. As a result, politicians and citizens lack a clear understanding of the cost implications of maintaining and renewing existing infrastructure. They continue to demand more and more without a willingness to pay more and more.

I get it. I was once one of those demanding citizens. When I ran for council in 2002, I believed the myth that I was not getting value for money and wondered where my hard earned dollars went. However, after 12 years of serving as both councillor and mayor, I went from complaining about those lazy bums at town hall to being amazed at the smok'n deal I was getting for my tax dollars. I became a passionate advocate for local government services ad nauseam and I did not care what this did to my political reputation.

Imagine how popular I was at cocktail parties saying "Actually, I don't mind paying my property taxes every year. It pays for the streets I drive on, the trails I run on, the pool I swim in, and the regulations that keep my community somewhat organized and safe to navigate around."

So where do we go from here?

With a national infrastructure deficit quoted as 300 BILLION, municipalities across the country are compelled to confront this challenge. The long-time practice of short-term decisions about investment, maintenance, and renewal is not sustainable. Managing public assets in a formalized process is no longer a luxury for local governments who have time and resources to put toward the process; it is an absolute necessity.

The time has come to quantify the true cost to provide, maintain, and renew, community-owned capital assets, and balance it against the community's willingness to pay for those services and assets. However, these discussions cannot afford to be addressed in a vacuum. Local governments and their citizens need to face their growing problems with aging infrastructure together. Residents must understand the magnitude of the problem and the financial implications so that everyone can work together to face these challenges.

Citizens can no longer demand a reduction in taxes and an increase in services because local governments cannot afford to do either.

How do we address the gap between expectations and resources?

It comes back to asking ourselves: What do we want and what are we willing to pay for together?

Governing bodies have a stewardship responsibility as custodians of the future. In turn, citizens have a reciprocal responsibility as those who are co-creators of the system. It is not an "us versus them" problem.

It is "our" problem, and therefore, it is important to build a "we" culture.

We must remember that we have inherited our prosperity and the responsibilities that go with it. Blaming past councils for deferring infrastructure investment is an exercise in futility. Now is the time for the leadership to assume the political risks, accept responsibility, and move forward.

Jim Rohn went on to say that the pain of discipline weighs ounces but the pain of regret weighs tons. May it be said of us in the future that yesterday's discipline saved us from tomorrow's regrets!

So ask yourself - how strategic or how painful will it be?

Editorial Comment: The Town of Golden is one of the most progressive small communities in BC endorsing and addressing asset management programs towards sustainability with scheduled asset replacement and renewal. The leadership of then mayor, Christina Benty was a major driving force in such progressive moves and the positive outcomes they achieved.

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CAO's, Asset Management and the New Paradigm

*David G. Allen, Chief Administrative Officer, City of Courtenay
David W. Love, Senior Advisor-Strategic Initiatives,
City of Courtenay*



David G. Allen, CAO

As a local government CAO and early adopter of Asset Management principles, my responsibilities for overall management of municipal operations have become less ethereal and menacing. With a degree of relief I can actually say that acceptance of Asset Management as part of my 'day job' has provided a strengthened foundation to meet those responsibilities.

But there's more to it than that

Following this path over the past five years has caused a few scuffs and bruises – most self-inflicted by my tendency to hold onto ‘proven’ ideas. However, with time I came to realize how local government Asset Management is linked to and influences most everything we do. That is to say, I came to see the “**New Paradigm**” and where Asset Management practices fit within and bolster it.

My first ‘aha moment’ came when I realized that resolving the pesky ‘infrastructure deficit’ isn’t the aim because that term isn’t meaningful, it’s just a punchline. Our fundamental role is to deliver services, and our large collection of tangible capital assets exists only to deliver on that aim.

The next important thing was relearning that the word “sustainable” is an adjective, not a noun. Since it is not a ‘person, place or thing’, how could we achieve that which we cannot see, hear, smell, touch, build, buy or steal? Clarity came when I realized the foolishness of attempting to achieve a buzzword. However, if used properly as an adjective, the phrase “**Sustainable Service Delivery**” makes sense: it is “a collection of practices that ensures current community services are **continuously** delivered in a socially, economically and environmentally responsible manner that does not compromise the ability of future generations to meet their own needs”.

Provision of Sustainable Service Delivery *is* the “New Paradigm”. It is our singular aim. Sound Asset Management practices prevent in-service failure of assets which consequently cause service delivery interruptions. Therefore, Asset Management is the means to achieve the aim. “Ta da”!

Shifting to this “New Paradigm” gives us an opportunity to align the *existing nature* of our services with the needs of future users. For example, a senior government social program can be turned on and off in less than an election cycle, as circumstances demand. However, most local government services depend upon creating expensive structures and hard linear assets with lifecycles lasting many decades. So, in the New Paradigm – if practiced diligently – we will be able to make service delivery decisions that balance social, economic and environmental concerns over the long-term.

Because our services are so asset-intensive, we must learn to make capital and operating budget decisions in unison rather than in isolation if we wish to achieve Sustainable Service Delivery. One way is to adopt the ‘20%-80% rule-of-thumb’. Suppose delivery of a desired

new service will require a new \$2M facility. The rule-of-thumb says the facility will also require \$8M for operations and maintenance throughout its lifecycle. So, \$2M in capital funding is not the issue, this is a \$10M lifecycle decision. I’ve convinced my staff to practice this rule-of-thumb by increasingly uttering the words: “Business Case”!

Another consideration in this decision is the need for ‘Capacity’ to deliver the service. By this I mean people, but not just staffing costs. Those are part of it, yes, but Capacity includes all the competencies necessary to operate and maintain the facility throughout its lifecycle. And, it is our responsibility to create those skills in order to care for the assets – which is why senior governments and agencies such as UBCM and FCM now provide grants to develop our Asset Management staff capacity.

Historically, we have operated within political confines of finite funding and statutory requirements for balanced budgets, and little has changed. While unfortunate, past practice has too often been to increase services (and build the requisite ‘new stuff’) while disregarding lifecycle considerations (and to pay for it by insufficiently maintaining and renewing the ‘stuff’ we already had). It may seem that the New Paradigm demands we no longer deliver new services (and build ‘new stuff’) unless we find new funding sources and more capacity. However, that isn’t necessarily the case.

Decisions to deliver (or eliminate) a local government service, and the intensity at which the service is delivered, rest exclusively with Council. These are called “Level of Service” (LoS) decisions. In the New Paradigm they can only be determined by a conversation between Council and the public with the principal question being: “**What services do you want, and how much are you willing to pay?**”

Therefore, what I have learned from my CAO perspective is that our professional responsibility is to use sound Asset Management practices to provide Council with the best possible information to have that necessary conversation.

Only if we practice the means may we collectively achieve the aim: Sustainable Service Delivery.

*For more information on this subject, I urge you to visit www.assetmanagementbc.ca and download the long-version of “**Asset Management for Sustainable Service Delivery: A BC Framework**”. I promise it will not disappoint.*

Feast AND Famine: Moving Towards “Sustainable Watershed Systems, through Asset Management”

By Kim Stephens, M.Eng., P.Eng.¹, Kate Miller, Manager², and Richard Boase, P.Ge.³

The ‘new normal’ in British Columbia is floods and droughts. The summer dry season has extended on both ends and we can no longer count on a predictable snowpack and reliable rain to maintain a healthy water balance in our watersheds. Annual volumes of water entering and exiting our regions are not necessarily changing; instead, what is changing is how and when water arrives – it is **feast AND famine!**

Watershed Systems as Infrastructure Assets

A watershed is an integrated system, is infrastructure, and must be viewed as an asset that provides municipal services. Watershed systems thinking covers the continuum from water supply to drainage, and encompasses human and/or ecosystem needs.

Where a local government regulates land use, a watershed is an integral part of the drainage infrastructure assets of the local government. More specifically, the three pathways (surface, interflow, groundwater) by which rainfall reaches streams are infrastructure assets. They provide ‘water balance services’. As such, protection and maintenance of the three pathways has financial, level-of-service and life-cycle implications for asset management.

Asset Management for Sustainable Service Delivery: A Framework for BC makes the link between local government services, the infrastructure that supports the delivery of those services, and watershed health.

This article provides context and describes why the **BC Framework** and two other provincial game-changers are drivers for **Sustainable Watershed Systems, through Asset Management**.

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Kim Stephens

Kate Miller

Richard Boase

It then introduces the ‘Water OUT= Water IN’ mind-map for looking at the Water Balance differently. Finally, the article enlightens how the Georgia Basin Inter-Regional Educational Initiative (IREI) would facilitate integration of watershed systems thinking and adaptation to a changing climate into asset management.

Over the next two years, the IREI program would progressively inform and educate an expanding network of practitioners, inside and outside local government.

What Happens on the Land Matters!

A systems approach to watershed health and protection recognizes that actions on the land have consequences for the three pathways to streams and hence the *water balance* of the watershed. Those consequences are felt in both dry weather and wet weather – too little or too much water, respectively.

Local governments regulate how land is developed, drained and serviced. This means local governments have the authority and ability to determine and implement **watershed-based volume targets** that would help to prevent drainage impacts in wet weather and also maintain an adequate water supply in dry weather for human and/or ecosystem needs.

Call to Action: A ‘teachable year’ heightens awareness, leads to a sense of urgency, and engenders political will to implement necessary changes in how communities service land and respect water.

Drought, forest fires, floods and pine beetle in 2003 created a teachable year for change in BC. It truly was a ‘watershed moment’ and led directly to the *Water Sustainability Action Plan for BC*, released in 2004. The subsequent response by provincial, regional and local government champions to a ‘call to action’ by former Premier Gordon Campbell gave BC a head-start on many other regions to include water supply sources, streams and aquifers as infrastructure assets.

The outcome? A decade later, provincial ‘game-changers’ are now in place that would enable protection and/or restoration of ‘water balance’ assets in the built environment. A key objective (desired outcome) for integration of watershed systems thinking into asset management is protection of hydrologic integrity.

Get It Right & Avoid Expensive Fixes: 2015 is yet another ‘teachable year’. The impact of the 2015 drought on public awareness has created a timely window of opportunity. The stage is set for BC to take a quantum step towards implementing a full-scale Water Balance approach.

This would go beyond traditional drainage infrastructure to encompass services that nature provides. It would connect land and water. We define this holistic approach as *Sustainable Watershed Systems, through Asset Management*. Benefits would accumulate over time and would include lower life-cycle costs for infrastructure assets. Also, communities would be more resilient during periods when there is either too much or too little rain.

What happens on the land does matter – for example, hardening the land surface short-circuits the water cycle (balance). The result: either too little or too much flow in watercourses. Consequences include avoidable and expensive fixes in an era when communities are challenged to fund and replace essential infrastructure services.

The 2015 drought could be the catalyst for widespread implementation of tools and experience gained by local government leaders over the past decade. Apply an understanding of watershed systems as infrastructure assets to turn the clock back, restore watershed health and build water-resilient communities.

Game-Changers Enable Action

The Province has long recognized that communities are in the best position to develop solutions which meet their own unique needs and local conditions. Viewed through a local government lens, a fundamental difference between BC and other provinces is that BC legislation enables ‘bottom-up’ solutions and action, whereas other jurisdictions prescribe ‘top-down’ requirements.

Furthermore, the emphasis in BC is on progressing towards a desired outcome. By comparison, the main focus in other regions of Canada is on compliance with

engineering criteria. This is a fundamental difference in approaches. It helps explain why integration of watershed systems thinking into asset management goes beyond engineering criteria.

In 2014, the *Across Canada Workshop Series on Resilient Rainwater Management: Adapting to a Changing Climate* introduced audiences in Alberta, Ontario, Quebec and the Maritimes to BC’s collaborative and adaptive approach. The series provided an informed basis for comparing BC’s ‘top-down & bottom-up’ approach with initiatives in other provinces.

Protect Hydrologic Integrity and Watershed Health: Three landmark initiatives came to fruition in 2014. All embody the enabling philosophy. Together they provide a platform for integrated and coordinated actions that would enable local governments to achieve *Sustainable Watershed Systems, through Asset Management*.

- **WHAT** – The ‘Water Sustainability Act’ connects land and water, and makes the link to desired water balance outcomes (that would be achieved by integrating watershed systems thinking into asset management).
- **SO WHAT** – ‘Develop with Care 2014’ makes the link between environmental function and resilience as communities grow.
- **THEN WHAT** – ‘Asset Management for Sustainable Service Delivery: A Framework for BC’ makes the link between local government services, the infrastructure that supports the delivery of those services, and watershed health.

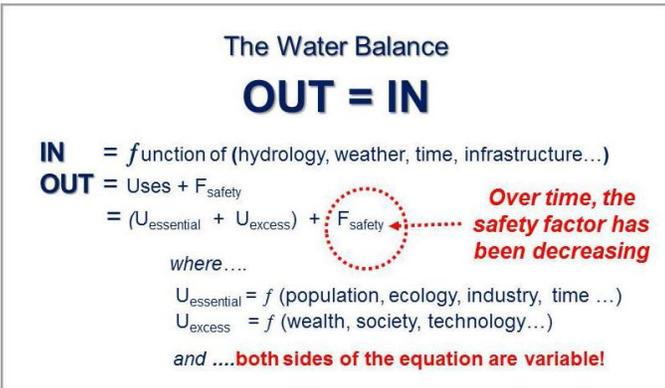


Money talks. The *BC Framework* is aligned with the asset management requirements for the Province’s capital grants program. This is the financial incentive for implementation of watershed systems thinking into asset management. Of the three drivers, this means the *BC Framework* is the lynch-pin for local governments to protect (restore) hydrologic integrity and watershed

health. Resilient communities will be the ones that can affordably manage the urban water cycle as a closed loop.

The BC Framework focusses on desired outcomes. It does not prescribe specific solutions. This allows local governments to develop and implement an approach that can be measured and incrementally tailored to the individual needs and capacities of individual local governments. This encompasses all aspects of the local government domain, including infrastructure and assets that relate to water.

**Build Resiliency to Achieve a Balance:
'Water OUT = Water IN'**



The figure above is a communication tool. Deceptively simple, the 'OUT=IN' equation embodies basic principles and concepts for dealing with uncertainty, managing risk, and implementing an integrated approach to land and water management.

Adapt to a Changing Climate: The equation is variable on both sides, and over time the safety factor has been decreasing in BC, in large part due to population growth. The 2015 drought shows that BC may be at a tipping point. One needs to think about and act in relation to newly experienced extremes in anticipation of these becoming potentially future norms. Something for the reader to mull over is that in mathematics one cannot solve for two variables with a single equation.

Population-support capacity and ecosystem needs are two of many variables. When water needs are small relative to the water resource, variability on the OUT side is not that noticeable and the safety factor is large. But when needs are large relative to the available water, a small variation on the IN side magnifies the perception of impact. The safety factor may be marginal or non-existent. In many cases, BC communities are operating on narrow margins.

Climate change is exacerbating an existing vulnerability (a seasonal water imbalance). When we are vulnerable on

the IN side of the equation, we then have to build in resiliency on the OUT side. But where will we do that, recognizing that everything is in flux? The answer is that we look for the little things that will yield cumulative benefits in the built environment. This is key to being able to mimic the seasonal Water Balance distribution and volumes.

Start with soil, vegetation and trees - protect and preserve the absorbency of the landscape in the built environment. Sustain the three pathways by which rainfall reaches streams – maintain the natural proportions of annual Water Balance volumes for surface runoff, groundwater and interflow (lateral flow in shallow soils).

Look at a Watershed as a Whole System: Protection of watershed health starts with an understanding of how water gets to a stream from individual sites, how long it takes, and whether there are impacts along the way.

Apply the Water Balance Methodology, adopted by the Province in 2002, to mimic the hydrologic performance of a watershed. Establish targets that maintain the Water Balance distribution, both by season and pathway. Urban hydrology is a compromise between accuracy and data availability. Avoid the pitfalls of Voodoo Hydrology. Include streams as assets that need protection from land servicing consequences.

Andy Reese, prominent American water resources engineer and author, coined the term Voodoo Hydrology in 2006 to describe the pseudo-science that characterizes drainage engineering and stormwater management practice. He cautioned:

"We must understand that urban hydrology is an inexact science where we are simply trying to get close to the right answer. We are dealing with probabilities and risk, a changing land-use environment, and many real-world factors that can alter the answer. The applications we may encounter can vary radically. Therefore, it behooves us to better understand the inner workings of the black boxes we commonly use."

The need to protect headwater streams and groundwater resources in BC means communities must expand their view from one that looks at the site by itself, to one that considers the site, watershed, stream and aquifer as an integrated system.

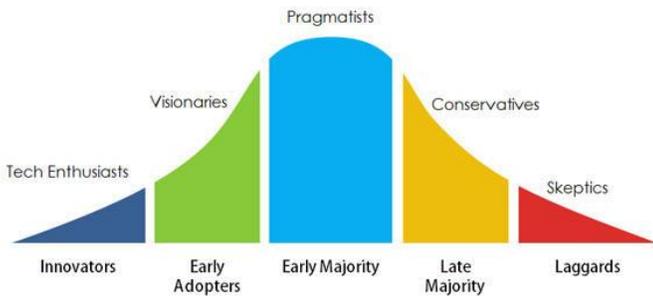
Integrate Watershed Systems Thinking Into Asset Management

Launched in 2012, the Georgia Basin Inter-Regional Educational Initiative (IREI) is endorsed by five Regional Boards representing 75% of the population of BC. In April 2015, all five – Capital Region, Metro Vancouver, Nanaimo Region, Cowichan Region and Comox Valley – recommitted through 2017. Program delivery is led by the Partnership for Water Sustainability in BC, which serves as the secretariat for the IREI.



By 2017, a program goal is that all local governments would **understand** how to achieve *Sustainable Watershed Systems, through Asset Management* (supply source, stream, aquifer). The goal is a modest one. It is achievable because it recognizes how an idea or innovation is adopted or accepted. Progress in leading and implementing change is incremental.

Implementing Change – from Genesis to Mainstream: The figure below illustrates the process of adoption of a new idea or innovation over time.



This understanding has guided implementation of the Water Sustainability Action Plan (including the IREI program) for the past decade. Everyone learns from stories and the most compelling ones are based on the experience of the champions who are leading implementation of watershed-based solutions.

Over the past decade, the Water Sustainability Action Plan has facilitated cross-pollinating of ideas and approaches in the local government setting. The ongoing

process of sharing and learning has influenced initiatives and outcomes within the five partner regional districts. Through 2017, IREI program objectives are four-fold:

1. **Build** on the existing IREI technical and educational foundation to further integrate the asset management lens.
2. **Develop** additional content and a *Sustainable Service Delivery Methodology* through a ‘demonstration application’ (with the Cowichan Valley Regional District taking the lead and the IREI Leadership Team serving as a sounding board).
3. **Communicate** the story of the content development process, outcomes and deliverables.
4. **Conduct** training to apply the *Sustainable Service Delivery Methodology* to water resources.

By 2017, it is envisioned that professional development provided by the IREI program would result in a common understanding among all departments within an organization about how they could align their efforts to achieve Sustainable Watershed Systems, through Asset Management.

Concluding Remarks

The rate of progress in implementing new ideas or standards of practice generally depends on the willingness of individual champions in local government to push the envelope in applying new approaches. The number of water sustainability champions throughout British Columbia is growing, and they are collaborating.

Asset Management for Sustainable Service Delivery: A BC Framework is a game-changer. It signifies the dawn of a new era for local governments in terms of how communities service urbanizing and redeveloping areas, and define how infrastructure is planned, financed, implemented and maintained. Watershed systems are infrastructure assets.

British Columbia local governments are sharing and learning from each other. The province is at a tipping point. Water balance tools and case study experience are in place. It is within the grasp of local governments to move beyond traditional infrastructure asset management. They can account for nature's services by implementing *Sustainable Watershed Systems, through Asset Management*.

Over the next two years, the IREI program would progressively inform and educate an expanding network of practitioners (inside and outside local government) on how to integrate watersheds systems thinking and climate change adaptation into asset management (to achieve hydrologic integrity and hence avoid expensive fixes).

Sustainable Watershed Systems, through Asset Management, and getting it right at the front-end, would apply to land uses that local governments regulate and/or can influence within settled areas of watersheds.

New international online course in AM Planning through the Institute of Public Works Engineering of Australia

Chris Champion, IPWEA

Online Professional Certificate in Asset Management Planning has proved increasingly popular with international participants since its launch last year in Australia.

More than 200 students have now undertaken the online course, including 13 international participants. Participants have originated from locations as diverse as Canada, Australia, United States, Malaysia, South Africa and New Zealand. A further 15 international participants including 8 from Canada are undertaking the current online course.

The online course is an adaptation of IPWEA's face-to-face workshops but delivered through 8 online modules over 3 months. The online modules include live and recorded events, online chat, and forum discussions between the course participants and the presenters. Participants are required to complete coursework assessments to achieve the accreditation.

The biggest feedback from participants is the interactive and engaging nature of the course. Also the helpful guidance to develop a draft asset management plan

using the NAMS.PLUS tools and templates and a personal qualification for those that successfully complete the course.



David Love

David Love from the City of Courtenay has completed the online Professional Certificate and has commented "We in Canadian local governments have only just begun adopting sound Asset Management practices. The reasons we have chosen NAMS.PLUS in Courtenay is because it is a mature method of practice designed by the public sector, for the public sector."

"The introductory three-day face-to-face NAMS workshops create a foundation that is well-suited to all practitioners. However, the Professional Certificate in Asset Management Planning provides further skills at the leadership level which builds on that foundation", commented David Love. "This new knowledge has initiated substantially improved stewardship of our assets. I fully endorse this advanced training."

Business Operations Analyst Troy Sykes is one of five from the City of Calgary to also complete the Professional Certificate. Sykes believes the course is well suited to international participants because it follows ISO 55001 standards and the asset management principles taught are universal.

Troy Sykes commented "Asset Management is a field dominated by engineer professionals. As a non-engineer it is difficult to find a designation to illustrate your skill set. The IPWEA Professional Certificate course not only provides a valuable asset management education opportunity; it also gives successful participants an asset management professional certificate."

"Take this course, not because it's easy, but because it is hard," said Sykes. "Participants will learn valuable asset management skills in a real life situation."

Course Structure

- Introduction: why, what, benefits of AM plan
- AM plan; data requirements
- Entering your data: asset register, asset values
- Interpreting the data, consequences; data confidence
- Service levels: customer & technical
- Risk: risk register, risk management plan

- Future demand: demand management, prioritization
- Building the AM & improvement plans

The online course commences each March & August. Each of the 8 'live event' sessions (recorded) is 90 minutes supported by online class participation over the following week. Refer <http://info.ipwea.org/professional-certificate-asset-management-planning>

For more information, contact Chris Champion

chris.champion@ipwea.org.



CNAM 2015 in Vancouver – Record Attendance

“A resounding success”... that’s the consensus from the 9th Annual CNAM conference. This year’s conference offered many opportunities for networking with the opening reception at the Vancouver Aquarium, trade show breaks, and the annual Tereo Awards Dinner.

Congratulations to the **City of Burlington and Riva Modeling recipients of this year’s Tereo Award.**

The Tereo winning submission, the City of Burlington’s Decision Support System, is a forward-looking tool used to project future renewal needs, and predict timing and cost for those needs. Under this approach, capital repair and renewal dollars are allocated based on an objective assessment of the current condition of the asset, projections of future renewal needs and optimum renewal methods. The system is configured for the roadway asset category and the facility asset categories, which comprise 90% of the City’s replacement value. The remaining 10% of assets are currently being configured, and the outputs will be used in the preparation of the 2016 capital budget and forecast.

The outputs from the Decision Support System were presented to committee; these include an infrastructure gap profile for the next 60 years. With the successful implementation of the Decision Support System, the City has the ability to drill down into a given-need year and get a detailed listing of what assets need to be rehabilitated, the rehabilitation treatment, and the cost

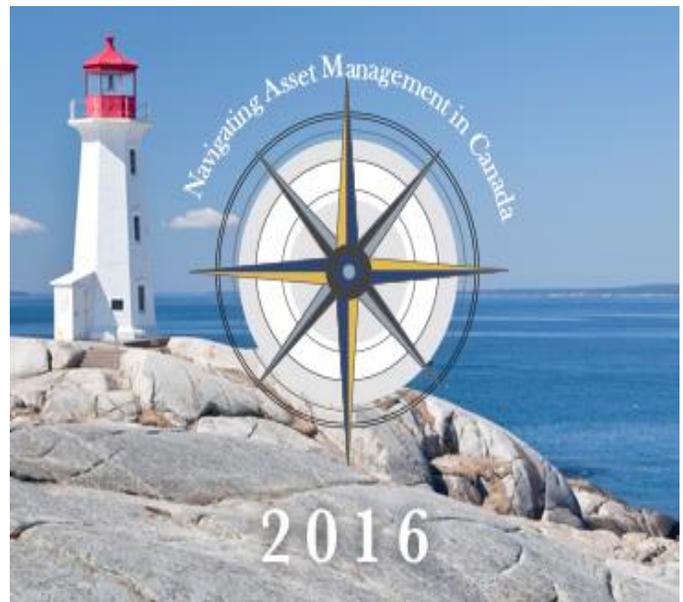
for that treatment. The City’s long-term financing strategy, based on the Decision Support System outputs, was presented and accepted by Committee. This commitment from Council will ensure that the City of Burlington’s Infrastructure will be sustainably funded and remain in good condition for future generations.

A wide variety of presentations and learning experiences, a valuable tradeshow and the opportunity to network with your peers across Canada led to a very successful *experience* for all. See you in Halifax in 2016



CNAM conference – Halifax May 2016 Celebrating 10 years! Navigating Asset Management in Canada

Mark your calendars! Reserve your time now to participate in the **10th Annual Canadian Network of Asset Managers Conference** from May 9-12, 2016



Join us on the east coast in the scenic city of Halifax for the 10th Anniversary of the Canadian Network of Asset Managers and chart the course for another decade of steering the asset management ship to clearer waters.

Prepare to walk the plan in May 2016.

Conference information will be posted on www.cnam.ca

First Regional Roundtable held at CNAM Vancouver

With Regional groups forming across Canada to address both the national and regional issues of asset management and share knowledge, programs and information, it was time to meet in person and chat. Two breakfast meetings were convened with discussion of approaches taken in each region, individual group activities and organizational structures.

Two significant outcomes came from these meetings:

- A commitment and agreement to share information and resources and formalize our communications network
- To make the 'Regional Forum' a regular annual meeting at the CNAM conference



In attendance l to r: Sudhir Jha, Govt. of NWT; Glen Brown, UBCM, Asset Management BC; Kevin Bainbridge, Director, CNAM; Donna Chiarelli, Federation of Canadian Municipalities; Dr. Gordon Sparks, Municipal Asset Management Saskatchewan; Darla Campbell, Executive Director, Ontario Coalition for Sustainable Infrastructure; John Murray, Director, CNAM; Andy Wardell, Co-chair, Asset Management BC; Wally Wells, Executive Director, Asset Management BC; Russell Crooks, Infrastructure Asset Management Alberta; David Allen, Co-chair, Asset Management BC. Missing from photo Elena Loukin, Infrastructure Asset Management Alberta.

People Need Pipes

'A discussion between Kim Fowler, Planner and Wally Wells, Executive Director of Asset Management BC. (AM BC)

Kim is a strong advocate for asset management and has provided significant guidance to integrating the planning discipline and function into asset management'

Kim: Is it true the Ontario Provincial government mandated local governments (LGs) to prepare asset management plans?

Wally: Yes, local governments, with \$60 million of funding provided, had 2 years to complete to submit asset management plans to the Province in order to qualify for future grants. We understand many communities are using some of our AM BC tools as models of best practice. The difficulty with mandating development of only plans is firstly, the asset management plan is only part of the larger continuous asset management process and secondly, the exercise becomes doing the plan instead of being inclusive of the culture change and major adjustments to the business processes that is needed.

Kim: Legislation isn't needed to have Local Governments provide asset replacement plans, is it? Assets are about 80-90% of their \$ value of a Local Government. When you own hundreds of \$millions to \$billions of roads, water pipes, sewer systems, buildings, bridges, parks and other assets, a replacement plan is a basic operating practice. How else can budgets be done? A community needs to define, then ultimately achieve, a sustainable cash flow with respect to scheduling of asset renewal.

Wally: FCM estimated a \$123 billion infrastructure deficit in 2007 going up at \$5 billion a year - that would bring the estimate to about \$158 billion for 2015. We are talking a change in business practices. Legislation is not the way to go.

Kim: And that estimate was before the PSAB 3150 standard came into effect in January 2009. Didn't the AM BC survey show the majority of BC communities weren't prepared to meet the new standard only a few months from the deadline?



Kim Fowler

Wally: Most BC communities did meet the deadline for accounting purposes only. The problem with many is the task stopped there except for yearly updates to the balance sheet. It has taken time to learn the value of that information, including the inventory, the asset register, to focus on strategic asset renewal planning. The financial and human capacity of local governments is increasingly being stretched from the downloading of social services, such as affordable housing, homelessness and emergency response costs.

Kim: This puts local government in an untenable situation between choosing pipes or people. But basic infrastructure in our communities is the economic backbone, the fundamental basis of social programs and elemental in environmental protection? Services can't be provided without infrastructure.

Wally: Federation of Canadian Municipalities have calculated local governments only receive eight cents of the total tax dollar but own 70% of the infrastructure. This amount seems to continually drop, though our communities are directed to provide more and more services, including those downloaded from senior governments.

Kim: That's unfair!

Wally: In addition, property taxes are linked only to real estate value. Local governments have very limited revenue generating opportunities outside of property tax with many of those opportunities, such as certain types of reserve funds, restricted as to their use.

Kim: It's unsustainable then, too. But without asset replacement plans, it would be like buying a house and then not maintaining it. When would you know when the roof needs to be replaced or the driveway patched or the foundation upgraded?

Wally: Also, to use your example, communities traditionally do not track maintenance costs separate from program and operational costs. So how do you know what to budget if you do not know your costs? How do you know when to replace something if you are not tracking your maintenance and use? As stewards of infrastructure, local governments should budget for the maintenance and replacement of its key assets as a separate item. Reporting would provide that information to the community for review and comment, plus provide accurate information for funding discussions with provincial and federal governments.

Kim: One local government estimated their deficit to be \$1.75 billion with 60% of their infrastructure past its useful life. These deficit values are only the partial cost of replacement, which may well be in the range of 3-5 times the depreciated value of an asset. So, their real deficit is likely closer to \$ 5-8 billion.

Wally: And they may only have a small fraction of that put away in reserves or other funding sources. One of the issues is that we are guessing at the number, plus we have very little knowledge of the cash flow requirements over time to meet this. Also the mandated municipal

budget process is 5 years of which we know, in many communities, no more than two years of that is really meaningful.

Kim: Another BC local government estimated the road maintenance budget contained only enough funds to maintain roads to 16 years of their 20-year life. So, the road would have to be replaced 4 years earlier than if you had properly maintained it.

Wally: It's a difficult task with 4-year election terms to look at 50-100 year infrastructure funding. Sinking funds, self-funding utilities and a percentage of the annual property tax revenue can be set aside by Council resolution or policy to be dedicated to AM replacement. Some communities already do this with very positive results. It makes a difference. GFOA – BC has developed a comprehensive approach along with training programs.

Kim: The sustainability and resilience of our communities depends upon it. But we don't really know the actual situation because local governments do not routinely report on asset replacement. Getting to an annual sustainable cash flow is the goal. That does not necessarily mean building hundreds of millions of dollars in reserves. With asset management reporting, we can all understand the actual situation in our communities.

Tips and Tactics:

Making Sense of Levels of Service

*by Bernadette O'Connor,
of Opus International Consultants (Canada) Ltd*

Historically organizations have focussed on two forms of level of service (LOS) statements;

- Customer Level of Service, and
- Technical Level of Service

The Customer LOS Statements communicate to the public, what customers can expect the organization to provide for them, explained using language and concepts that are relevant to the customers' perspective. Technical LOS Statements tend to be statements of technical performance targets that if achieved are expected to deliver the Customer LOS to the customers.

Very few organizations however, have recognized the critical role of **Operational Levels of Service** and the importance of connecting all three forms of Level of Service Statements.

Operational Levels of Service

Operational Levels of Service define what activities and tasks are completed to achieve the Technical Level of Service targets, and thereby deliver the expected standard of service to the customers. For example having a Technical LOS Statement such as “The Pavement Condition Index (PCI) for all Local Roads shall be within the range of 50-100”, does not make this happen, but the operational activities of road inspections and patching and pothole repairs does. The frequency of inspections and the level of effort and amount of resource assigned to patching and pothole repairs has a direct impact on the actual level of service delivered.



As organizations progress in asset management maturity they appreciate the relevance of Operational LOS. Some key principles relating to Operational LOS are;

- » If you want to change an existing level of service you have to change the existing activities that generate the level of service. This requires understanding of how operational activities are connected to Technical LOS targets. It is not sufficient to change the Technical and Customer LOS Statements without changing the **operational activities**.
- » Detailed understanding of Operational LOS will identify the relationship between asset outcomes, organizational risk, and customer outcomes. This is critical to finding the cost-risk-benefit balance for **sustainable service delivery**.
- » Some options to reduce service delivery can save costs initially and have little impact on current customers, but cause a longer-term adverse impact on asset lifespan. These longer-term impacts can greatly increase total costs incurred over the life of the assets. If an organization has only identified Technical and Customer LOS Statements, the **asset life impact and total lifecycle cost** may not be identified or fully represented.
- » Operational activities affect maintenance needs and timing for asset renewals and vice versa. Therefore they all impact the service delivered and the total cost of service. The process to define Operational LOS will also help to identify

the connections and **trade-offs between operations, maintenance, and renewals**, and to better understand this relationship.

Sustainable Service Delivery

Sustainable service delivery requires a comprehensive understanding of what impacts the delivered service and managing those impacts.

For local governments delivering asset-based public services, this starts with connecting operational activities to technical performance targets and customer levels of service. Each of these types or tiers of level of service have a purpose for the organization and for the customer and stakeholder. None can achieve their purpose without the connection to the others, and none can stand alone and achieve sustainable service delivery.



Practical Management of LOS

The Customer Levels of Service are primarily a communication tool. They are necessary for a good relationship with those who pay for the service. However to maintain a good relationship with customers, they have to be supported by measurable standards. The setting, measuring, and reporting on performance targets or Technical LOS provides confidence to both the customers and the organization that the LOS being paid for is indeed being delivered.

However, as discussed, neither the customer nor the technical LOS statements produce the delivered service. The **practical management of what LOS is delivered**, is in;

- the awareness and active management of operational activities
- understanding the whole-of-life (asset lifecycle) impacts of both current activities and any proposed changes, and
- understanding the relationship between operations, maintenance, and renewals.

Upcoming Events

Public Works Association of BC

September 21 - 23, 2015

Annual Conference and Trade Show

Penticton, BC

www.pwabc.ca

Union of British Columbia Municipalities

September 21 – 25, 2015

Annual Convention

Vancouver Conference Centre

Vancouver, BC

www.ubcm.ca

Government Financial Officers Association of BC

Sept. 29 – Oct. 2, 2015

Advanced Financial Leadership Academy

Victoria, BC

www.gfoabc.ca

BC Water & Waste Association

November 3 & 4, 2015

Yukon Water & Wastewater Conference

Whitehorse, Yukon

www.bcwwa.org

Centre for Advancement of Trenchless Technology

November 17 – 19, 2015

Conference and Trade Show

Executive Airport Plaza, Hotel & Conference Center,

Richmond/Vancouver, BC

www.cattevents.ca

Federation of Canadian Municipalities

February 9 - 11, 2016

Sustainable Communities Conference

Ottawa ON.

www.fcm.ca

BC Water & Waste Association

May 1 – 3, 2016

44th Annual Conference and Trade Show

Whistler, BC

www.bcwwa.org

Canadian Network of Asset Managers

May 9 – 12, 2016

10th Annual Networking Conference and Workshops

Halifax, Nova Scotia

www.cnam.ca

Planning Institute of BC

May 10 - 13, 2016

Annual Conference

Delta Grand Okanagan and Conference Centre

Kelowna, BC

www.pibc.bc.ca

Questions & Answers

Raising questions and making comment are strongly encouraged as this newsletter is provided for the advancement of Asset Management. You are invited to email the editor and note whether you wish your comment or question to be published.

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