

Convening for Action in British Columbia



Integrated Rainwater Management Planning: Move to a Levels-of-Protection Approach to Sustainable Service Delivery

Beyond the Guidebook 2010: Implementing a New Culture for
Watershed Protection and Restoration in British Columbia

Convening for Action in BC: Visualize What We Want Our Regions to Look Like in 50 years

Create a Legacy: Settlement Change in Balance with Ecology

1. *Influence choices by individuals and organizations*
2. *Use the term "sustainability" as a lens for considering approaches that influence choices*

Integrated Rainwater Management Planning: Move to a Levels-of-Protection Approach to Sustainable Service Delivery

Water Bucket Web Story #4 in the ISMP Course Correction Series

Preface

*This article is the fourth in a series that is designed to inform local governments and others about the paradigm-shift to landscape-based 'RAINwater' from pipe-and-convey 'STORMwater', and what this means for **Integrated Stormwater Management Plans (ISMPs)**.*

*This series is adapted from case study experience presented in **Beyond the Guidebook 2010: Implementing a New Culture for Watershed Protection and Restoration in British Columbia**, released in June. This guidance document sets the stage for an "ISMP Course Correction".*

*The 'course correction' starts with characterizing truly integrated plans as 'IRMPs' (**Integrated RAINwater Management Plans**). A holistic IRMP is a potentially powerful tool to achieve a vision for 'green' infrastructure, one that protects stream health, fish habitat and fish; and anticipates climate change.*

The first three installments in the series established the context for embracing a 'regional team approach' and making the change to IRMP from ISMP: Now, the spotlight shifts to Asset Management as a pathway to re-focus on desired watershed outcomes.

*This Story #4 introduces the 'infrastructure deficit' as a driver for the 'course correction', connects the dots to the Green Communities Initiative, views the **Levels-of-Service** concept through the land use planning and environmental lenses, and provides three examples to illustrate how local government leaders are moving forward with Sustainable Service Delivery.*



BRITISH COLUMBIA
The Best Place on Earth

Grants Foster 'Sustainable Service Delivery'

*"The reality of an increasing local government **infrastructure deficit** means that there will be even stiffer competition for available funding.*

*As a result, there is a greater incentive for local governments to demonstrate how their **innovation and integration** will be effective in meeting the program goals of both the **Green Communities Initiative and Living Water Smart.**"*



Glen Brown, Executive Director
Ministry of Community, Sport & Cultural Development
September 2009

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Sustainable Service Delivery Context for IRMPs

The time is now right to make the change to IRMP from ISMP. To facilitate the paradigm-shift, the first three installments in this series have addressed three themes:

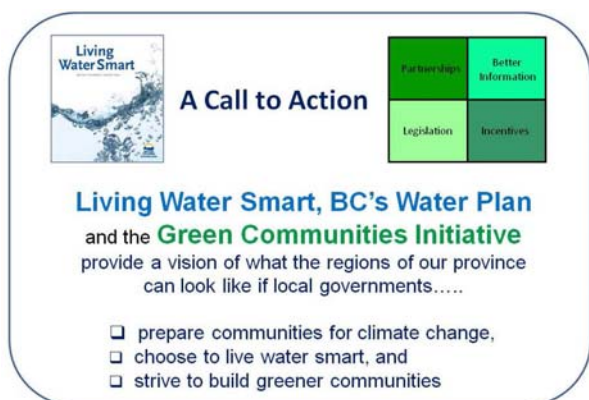
- re-focus on outcomes;
- capitalize on opportunities; and
- apply a knowledge-based approach.

Next, the ‘course correction’ spotlight shifts to the opportunity that IRMPs (ISMPs) can create for communities to also advance a vision for *Sustainable Service Delivery*. This term describes a new way of thinking about infrastructure needs and how to pay for those needs over time.

Infrastructure Deficit

A driver for the ISMP course correction is the *infrastructure deficit*. Simply put, this means the cost to renew or replace aging infrastructure exceeds taxpayer ability to pay the cost. This *unfunded liability* is increasing year after year.

Going forward, this means that there will be even stiffer competition for available funding; and there will be even greater emphasis on getting the most value out of every dollar spent. This reality provides an additional incentive to demonstrate how a ‘regional team approach’ and ‘doing business differently’ will meet the goals of *Living Water Smart* and the *Green Communities Initiative* to create the future desired by all.



A Call to Action

Living Water Smart, BC's Water Plan and the **Green Communities Initiative** provide a vision of what the regions of our province can look like if local governments.....

- prepare communities for climate change,
- choose to live water smart, and
- strive to build greener communities

Preparing Communities for Change

Living Water Smart presents the vision, and the Green Communities Initiative provides enabling tools to achieve the vision. They must be viewed as an integrated package. They are preparing communities for change: *start with effective green infrastructure and truly restore the urban fabric.*

Asset Management: The 45 actions and targets in Living Water Smart encourage ‘green choices’ that will be cumulative in creating liveable communities and protecting watershed health; and furthermore, will foster an holistic approach to *infrastructure asset management*.

“A life-cycle assessment helps us see the costs and benefits over the lifetime of the good or service. Developments and redevelopments that consider water efficiency, stream health, and smart growth principles will deliver better environmental health and economic returns.” (p.68)

GOVERNMENT POSITION: *Government will develop new protocols for capital planning that will look at the life-cycle costs and benefits of buildings, goods, and services.” (p.69)*

To achieve this desired outcome, the Province is both enabling and supporting the efforts of the *Local Government Asset Management Working Group* and *Asset Management BC*. (www.assetmanagementbc.ca).

The definition of Asset Management is holistic (see below) and provides financial context for the ‘ISMP course correction’. It emphasizes integration and connects the dots to ecology.



What is Asset Management?
(as defined by the National Asset Management Working Group)

Integrated approach involving planning, engineering and finance to effectively manage existing and new municipal infrastructure in a sustainable manner to maximize benefits, reduce risk and provide satisfactory levels of service to the community user in an environmentally and ecologically responsible manner.

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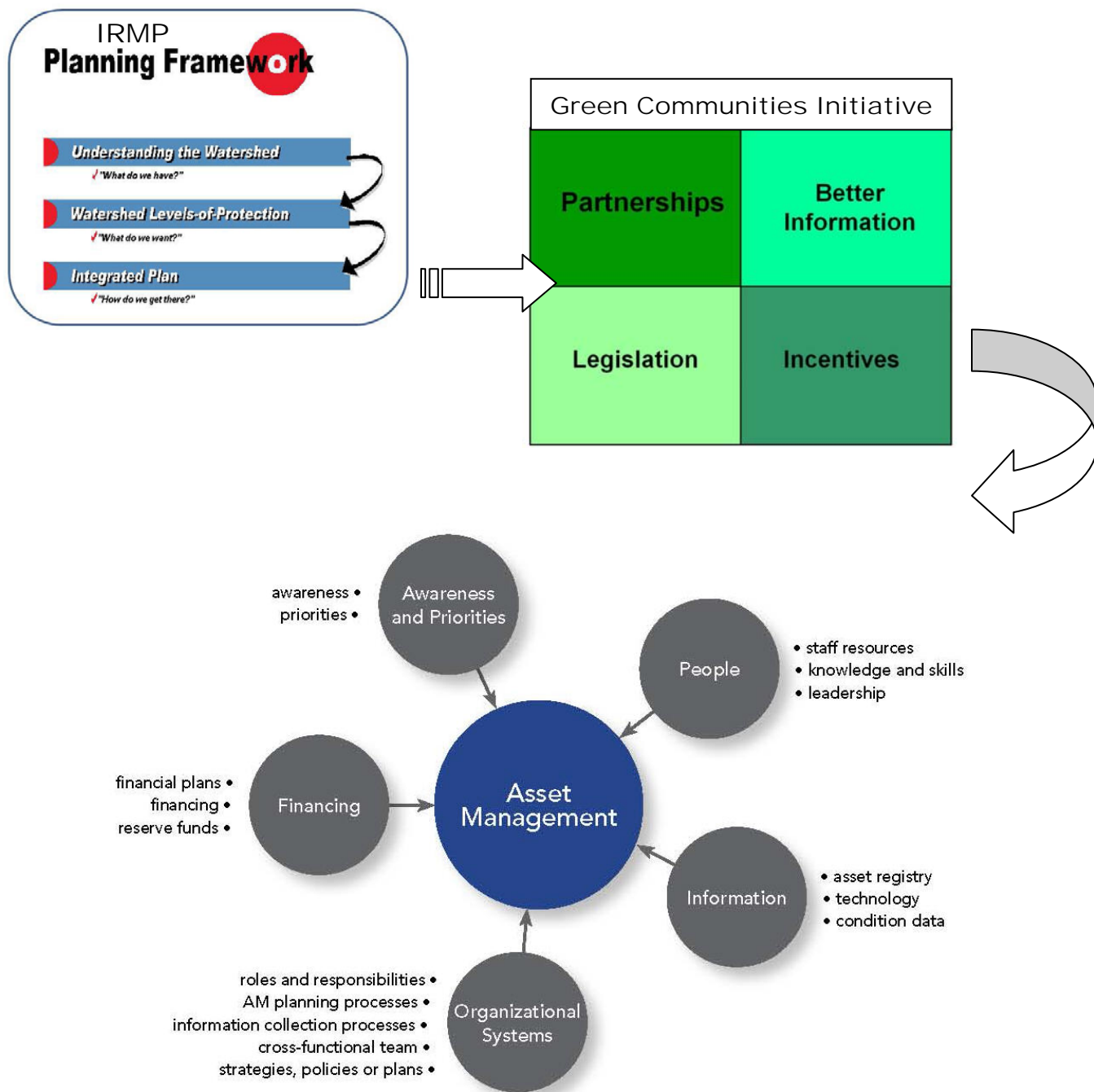


Figure 1 - Green Communities Initiative provides a Framework for 'Sustainable Service Delivery'

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Green Communities Initiative

The relationship between the provincial and local levels of government in British Columbia has evolved differently than in other provinces, with a history of recognizing and appreciating local autonomy. As a result, BC local government is among the most autonomous in Canada.

Historically, the Province has enabled local governments by providing policy and legal tools in response to requests from local government. This means the onus is on local government to take the initiative. The bottom-up approach enables communities to reach consensus on the need for action, and then align efforts to take action.

Framework for Action

Comprehensive in scope, the Green Communities Initiative is designed to help local governments create *integrated communities*. The initiative has four elements that complement and support Living Water Smart, namely:

- partnerships
- better information
- incentives
- legislation

Figure 1 conceptualizes the linkages and/or relationships between the IRMP mind-map, the four elements of the Green Communities Initiative, and the five core capacity areas of Asset Management. **Note:** by definition, *Levels-of-Protection* is a sub-set of *Level-of-Service*.

Incentives for Innovation and Integration:

“Provincial grant programs provide local governments with incentives for implementation of new ways of doing business. Grant programs will be leveraged to achieve both provincial and local government goals and objectives, such as Living Water Smart targets,” states Glen Brown, Executive Director with the Local Government Infrastructure and Finance Division.

“On the implementation side, it is how those incentives feed back into the planning side. More and more, good implementation relies on good planning.”

Implementing the Course Correction

Not all streams and watersheds are the same; nor should all targets and initiatives be established with a standardized prescription. It is equally important that the process of watershed evaluation and of creating a vision of the future watershed consider the effects of land use change, the environment, public needs and affordability.

Each watershed may have a different future, have different publicly accepted visions for the future, and require a very different set of management objectives from other watersheds. Each watershed is unique and the IRMP process should address the uniqueness; and provide recommendations and strategies that recognize those unique features.

Watershed Vision First, Engineering Second:

An outcome-oriented IRMP can provide a clear picture of how local governments can apply land use planning tools to create a future desired by all. Deferring detailed drainage engineering analyses until later would allow the desired future (vision) for watershed protection to be established with less cost.

A prime example is the pipe-by-pipe evaluation of drainage capacity. Is this really needed as part of an IRMP where the environmental impacts result from small events, and drainage systems are sized for the extreme? Some potential costs are associated with fixing existing capacity problems, applying new drainage standards to increase the level of protection, and to allow for potential impacts resulting from a changing climate. When assessing the acceptability of new standards, two questions must be asked:

1. *Is there sufficient will and funding to accomplish this?*
2. *Does this question require an answer as part of the IRMP process?*

If application of new standards would trigger an unaffordable upgrade of the existing drainage infrastructure system to provide greater capacity, one can question whether there is a value in the analysis; and ask whether different criteria might result in a lower cost solution. A shift to a ***‘Level-of-Service’*** approach would be a more rational way of providing community infrastructure with acceptable levels of service and cost. In short, attribute the costs to the infrastructure, not to the vision of the watershed and not to reduction of impacts to the stream.

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Sustainable Service Delivery

The 'ISMP course correction' provides the opportunity to develop a truly integrated Asset Management Strategy that views the watershed and the strategy through an environmental lens. This requires a paradigm-shift by practitioners.

In the past, the expectation by many was that the ISMP would identify infrastructure shortfalls and provide a capital plan for future implementation. This represents a divergence from what was originally envisioned a decade ago: *create a vision of a future watershed complete with intact environmental values, healthy streams and abundant fishery resources*. The linkage to asset management is a way to re-focus on outcomes.

Going forward it will be necessary to resolve the apparent divergence in expectations as a way to correctly attribute future costs to sustaining the environment versus infrastructure renewal. The distinction in direction and approach for the IRMP process, or 'ISMP course correction', may not be immediately obvious to some but it is critical to the future application and acceptance of IRMPs (ISMPs) by all stakeholders.

Asset Management

Asset management usually commences after something is built; and this historical way-of-thinking is reflected in the following definitions:

- **Asset:** A physical component that has value, enables services to be provided, and has an economic life of greater than 12 months.
- **Level of Service:** The defined standard for the provision of a particular service. Reflects quality, quantity, reliability, responsiveness, environmental acceptability and cost.
- **Life-Cycle Cost:** The total cost of an asset throughout its life including costs for planning, design, construction, acquisition, operation, maintenance, rehabilitation, and disposal.

The challenge is to think about what asset management entails BEFORE the asset is built. This paradigm-shift starts with land use planning and determining what services can be provided sustainably, both fiscally and ecologically.

Level-of-Service Approach

"Everyone needs to be thinking in terms of life-cycle costs, especially future recapitalization of the investment. This is not normally considered in traditional infrastructure decision-making," states Stan Westby, Chair of the Local Government Asset Management Working Group and Powell River CAO.

Avoid Building an Unfunded Liability: "While developers and new home purchasers pay the initial capital cost of municipal infrastructure under either greenfield or redevelopment scenarios, it is local government that assumes responsibility for the long-term cost associated with operation, maintenance and replacement of infrastructure assets."

"A rule-of-thumb is that the initial capital cost is about 20% of the life-cycle cost. The other 80% represents an unfunded liability. This underscores the vital necessity of making a sound front-end infrastructure investment decision. Don't build a liability!"

Establish a Sustainable Level: "When you think about it some more, you realize we really should be talking about *level-of-service*. This term is the integrator for everything," continues Glen Brown.

"What level does a community wish to provide, and what level can it afford. Everyone will have to make level-of-service choices. Thus, a guiding principle for an IRMP could be framed this way: *Establish the level-of-service that is sustainable to protect watershed health, and then work backwards to determine how to achieve that level of protection.*"

Transition into the Future: The framework presented in Table 2 (after page 6) envisions a level-of-service approach to setting watershed-specific runoff targets. It identifies the questions that need to be asked when evaluating the acceptability of targets.

From the stream health perspective, appropriate and effective green infrastructure is a way to increase the level-of-service. Expressed another way, green infrastructure that restores the rainfall absorption capacity of the watershed landscape will increase the level of ecological protection.

The process of establishing an acceptable '**Level-of-Service**' will require local governments to review, examine, and justify the existing standards and how to transition into the future where costs must be balanced against public needs and expectations.

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Integration of Land Use and Asset Management Planning

The link between asset management and the protection of a community's natural resources is emerging as an important piece in Sustainable Service Delivery – in particular, water-centric green infrastructure that maintains or restores the natural water balance has value because it also protects aquatic habitat and hence stream health.

To make the link, think in terms of the 'Level-of-Service' an urban tree canopy provides for rainfall interception. As trees grow, the interception capability increases; and the 'infrastructure value' of this natural asset appreciates. This contrasts with pipe assets that depreciate over time.

So, with respect to rainwater management, an IRMP is a vehicle for local government to strategically connect the dots between land use planning, development standards and asset management. Furthermore, a local government could make a very strong case for having a higher level of service - with 'assets' that appreciate, not depreciate, at a lower life-cycle cost. This is a strong argument to support what the District of North Vancouver, as profiled in Story #3, wishes to accomplish via its proposed strategy for watershed landscape restoration over time.

An Integrated Approach

"Land use planning in British Columbia may be significantly improved when integrated with asset management

planning in local governments," writes Kim Fowler, Director of Sustainability for the City of Victoria (and a member of the Local Government Asset Management Working Group) in her



recent paper titled "Local Government Land Use and Asset Management Planning in BC: Proposed Sustainable Service Improvements".

Land Use Planning is the Key Determinant: "If the necessity, goal, and best practice of asset management is an integrated approach involving planning, finance, engineering and operations effectively managing existing and new infrastructure, then how should this occur? How do local governments ensure the full service life is reached and have mechanisms to enable their replacement? And why are planners the least knowledgeable of the local government professionals about asset management when land use planning is the key determinant for infrastructure demand and servicing?"

"The legislative requirements for integration of land use planning and asset management, including financial management, are already mandated. So why is this not commonly happening?"

Need for Local Governments to Be Nimble, Collaborative and Integrated: "The accelerating pace of change in our communities will continue, requiring local governments to become much more nimble, collaborative and integrated with a long-term focus. Each local government may determine where to start based on its particular circumstances, whether that be an asset management policy or plan, corporate strategic plan or long-term financial plan but the longer these plans are delayed, the more drastic the following measures will be in order to survive financially:

- Lowering of service levels;
- Reduction or elimination of some assets;
- Challenging risk acceptance limits;
- More partnerships, particularly with private capital investment; and
- More user pay charges."

"The change is here, and it is accelerating. Local governments have an opportunity to adapt and mitigate these changes and improve resiliency of our communities within existing legislative authority and current best practices," concludes Kim Fowler.

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How to Move Forward

Municipalities such as the District of Saanich, City of Surrey and District of West Vancouver are demonstrating how to tackle the infrastructure deficit. Each has a vision for *Sustainable Service Delivery*, a long-term implementation plan, and an incremental approach to getting there.

District of Saanich

Saanich Council has committed to an overall plan to increase capital spending to sustainable levels by the year 2019. This includes capital spending for water, sewer, drainage, transportation, park and facility infrastructure.



The Saanich success story is told in an interview with Mayor Frank Leonard. This was published as a feature article in the Asset Management Newsletter in December 2010. Written by Glen Brown, the article follows this page.

“Our approach was not to describe the problem as if the ‘sky was falling’ or the result as poor management because it wasn’t, but rather as a problem that needed to be addressed and could be addressed over a longer period of time. The solution was an incremental, long term approach that would be achieved over a 15 to 19 year period,” Mayor Leonard states.

City of Surrey

Before the 1970s, comprehensive urban drainage planning was a rarity in British Columbia. By the early 1970s, however, drainage had emerged as an issue in the suburban areas. The City of Surrey was an early leader in embracing and/or pioneering new approaches.

Water resource management is a longstanding City priority. Now in its fifth decade of continuous implementation experience, the City continues to evolve and adapt a watershed-based approach that incorporates lessons learned in getting green infrastructure right.

Capitalize on Opportunities: Surrey’s vision is that watershed and development planning will be done together, and this will result in a 100-year strategy for sustainable infrastructure renewal that is directly linked to watershed health. Priority projects are rolled into a 10-Year Capital Plan. The guiding philosophy for project selection is to look at the ‘big picture’ for each watershed and capitalize on opportunities to leverage the beneficial impact of individual projects.

Because redevelopment is a 100-year process, there will be opportunities to incrementally make a difference when projects such as Robson Creek day-lighting can achieve multiple outcomes. This is similar to the approach taken in the Capital Regional District with the *Bowker Creek Blueprint* (refer to Story #3 regarding both).

District of West Vancouver

West Vancouver has enthusiastically adopted a coordinated approach to managing its assets. Early results related to the utilities infrastructure identified a shortfall in the resources required now, and a larger shortfall in the future. A key component to addressing this issue has been the effort to communicate with District stakeholders, primarily local residents and businesses. During 2010, staff attended numerous meetings with resident associations and also held public meetings. With the 2011 budget, District Council has embarked on a path towards responsible long term infrastructure management by adopting a 5-year plan to increase the utility capital budgets. Staff will continue to develop and fine-tune the asset management program to ensure the additional resources are implemented both effectively and timely.

The District currently has one ISMP completed and two ongoing with more to be completed in the future. Two of the key deliverables from an ISMP are recommendations for potential new infrastructure, and a prioritized list of work related to capacity enhancements for existing infrastructure. As such, these planning studies and the overall management of the infrastructure are intrinsically linked. The information developed in these studies is being used by the District both to assist in land use planning as well as in capital rehabilitation programming.

Recommendations for additional infrastructure are being reviewed with an eye towards reducing future liabilities, and opportunities for coordination of future rehabilitation work are being explored. Over time, this effort is anticipated to increase the long term sustainability of the District’s assets and integration throughout the municipality.



Asset Management Newsletter

FIRST EDITION – FALL 2010 ISSUE



Feature Article: Interview with Saanich Mayor Frank Leonard

By Glen Brown



Saanich Council has committed to an overall plan to increase capital spending to sustainable levels by the year 2019. This includes capital spending for water, sewer, drainage, transportation, park and facility infrastructure.

Mayor Frank Leonard

Glen Brown - At a recent Local Government Leadership Academy (LGLA) workshop, you mentioned the continued need to approach local government financial/funding requirements at 2 levels; (1) Continue to dialogue with senior government to improve local government funding opportunities (grants, alternative taxation approaches, etc), and (2) Look internally to your own organization to improve financial sustainability and service delivery. Saanich appears to be very proactive when it comes to looking internally and supporting best management practices like asset management. Can you provide an overview on your approach to Saanich's infrastructure replacement plan?

Mayor Leonard – *In the late 90's, staff had done considerable work in assessing our infrastructure assets, the services we provide and the long term costs associated*

with service delivery in order to identify our infrastructure gap or deficit. My concern with this information was how we presented this to the public. It was important to identify the needs, but at the same time maintain the public's trust and inspire confidence that their tax dollars are being spent wisely. So our approach was not to describe the problem as if the 'sky was falling' or the result as poor management because it wasn't, but rather as a problem that needed to be addressed and could be addressed over a longer period of time. As identified in the Saanich Infrastructure Summary¹, the solution was an incremental, long term approach that would be achieved over a 15 to 19 year period. Effective public consultation, as well as political consensus, allowed us to proceed with a yearly property tax increase of 0.75% to support the capital replacement of water, sewer, drainage, transportation and park infrastructure. This is now embedded as policy into the Saanich Strategic Plan and after 10 years of implementation, Saanich is very close to achieving our goal of sustainable levels of funding for these assets.

Glen Brown - At the LGLA, you effectively and simply articulated the importance of public awareness, consultation and education. To recall your words, "Never advance a solution to an issue prior to having public awareness of the issue, or the solution may become the issue." How did you proceed with public awareness/education with respect to the tax increase Saanich implemented to support the financial sustainability of your critical infrastructure (roads, water, sewer, drainage, parks and facilities)?

¹ http://www.saanich.ca/services/pdf/infrastructure_summary.pdf

Mayor Leonard – *It is important to look at this as a problem solving exercise. In the public sector/political governance sector, you have to take a different approach than that of small business or a big corporation. My approach is, when the solution will require time and/or money, you should follow 2 simple rules; (1) You can't solve a problem in advance of public awareness, and (2) You can't propose a solution in advance of political debate. Saanich spent considerable effort in ensuring all communications described the infrastructure gap- this included communications through the financial plan, the AGM, the Strategic Plan and all speeches. We focused on identifying what we need to spend, what we are spending, and how we will increase spending/taxation to solve the problem. It was also important how the information was provided – it was clearly understood that a 'Chicken Little' approach would not be effective with the public as we needed to ensure that the public maintained or built confidence in the job we were doing. This, over a period of a few years, addressed rule #1. During the same time, we also focused on rule #2, debating the issue at council, at all candidate's meetings and at community meetings. The implementation of the plan only began when there was a political consensus and public awareness.*

Glen Brown - *At a high level, asset management is really about looking at the services being delivered by a community, then balancing the public's expectation on 'level of service' with the public's expectation/ ability/ desire to pay for the service. Of course, there are certain services where the level of service is entirely or partially controlled by legislation, code, or bylaw. Do you think the average taxpayer is able to make this connection? Is there something collectively we (local governments, provincial government, LG associations such as BC Asset Management) can do to improve public awareness?*

Mayor Leonard - *In Saanich, I believe we have been successful in educating and making the public aware of this connection. Saanich has been able to do this through a number of different communication approaches. Through a more scientific approach, we have Public Opinion Polls, as part of our Strategic Plan. This provides input on the public's understanding of the issues and allows us to do some benchmarking. A less scientific approach for me occurs at tax notice time. There is a letter from the Mayor which is enclosed with the tax notices, highlighting the changes to taxes, what we need to do, what we are going to do, and the cost of doing it. We log the calls and complaints that come in, and over the last 10 years, complaints have steadily declined, to the present, where the majority of the complaints are focussed on assessment concerns, rather than how Saanich is utilizing the tax revenues to provide*

services. I believe our public, and certainly our community groups and associations, are well educated and aware of the issues affecting service delivery in Saanich. So for other local governments, I see the need for public awareness as a key to being successful. Any opportunity to support smaller communities, with resource and capacity issues, can only be seen as a benefit.

Glen Brown - *It is recognized that a significant challenge in managing service delivery and infrastructure is the time differences that exist between an elected official's 'life cycle' (3 years), a financial plan's 'life cycle' (5 years) and infrastructure's 'life-cycle' (25 + years). What do you consider your biggest challenge with respect to ensuring that the services provided to the taxpayers of Saanich are sustainable?*

Mayor Leonard - *The biggest challenge is something that Saanich has been successful in addressing – having stability with our Council. Saanich has had no radical shifts in the make-up of Council for the last decade. This does not mean that all members of Council agree on every issue before them, but it does eliminate Council being fearful of not being able to achieve their goals in a short time frame (3 years). It allows us to address issues with more confidence and look at issues with the long term view. A major key to our success has been the consequence of this stable culture, which also provides lots of political experience.*

Glen Brown - *Are there any other thoughts, or words of wisdom, you would like to share with the BC asset management community?*

Mayor Leonard - *It is important to understand that in the political world, change must occur incrementally. A good example of this is what Saanich has done with bike lanes. The key was starting small, but at the same time, taking the initial first step. Initially, getting something small in the budget for bike lane capital improvements provided the opportunity to continually grow the program. Politically, if we started big, it would never have been approved by Council. Now, with the budget line for bike lanes growing annually, we have an excellent biking network. We have taken the same approach with our critical infrastructure. While we have a long term plan, it was the incremental approach, year by year, that allowed us get to where we are today. In 2000, it looked overwhelming, in 2010, we are now close to reaching our goal of having our critical infrastructure services being sustainable. It all started with small, incremental steps. As I like to say, 'in Saanich, we specialize in happy endings!'*

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Table 2 (brought forward from Chapter 7 in 'Beyond the Guidebook 2010')

Developing Outcome-Oriented Watershed Plans: Framework for Moving from Planning to Action

| Action | Level of Commitment |
|---|--|
| <p>Complete and implement integrated rainwater/stormwater management plans that are affordable and effective in protecting or restoring Watershed Health</p> | <ul style="list-style-type: none"> ▪ Local governments, in collaboration with senior governments, develop Integrated Plans that enable implementation of integrated strategies for greening the built environment; and include establishing watershed-specific runoff targets (for managing the complete rainfall spectrum) that make sense, meet multiple objectives, are affordable, and result in net environmental benefits at a watershed scale. <p><i>(Note: To date, "integrated drainage plans" have typically been called "ISMPs" pursuant to the nomenclature established in Chapter 9 of the 2002 Guidebook. The time has come to describe truly integrated plans as "IRMPs" to reflect the paradigm-shift from pipe-and-convey 'stormwater' to landscape-based 'RAINwater')</i></p> |
| | <ul style="list-style-type: none"> ▪ Local governments, in collaboration with senior governments, establish watershed targets that are characteristic of actual conditions in watersheds, recognizing that there will be different strategies for already developed versus partially developed watersheds. |
| | <ul style="list-style-type: none"> ▪ Local governments, in collaboration with senior governments, evaluate the acceptability of watershed-specific runoff targets on the basis of an evaluation framed by these three questions: <ol style="list-style-type: none"> 1. What target will achieve the watershed health objective? 2. What needs to be done to make the target achievable? 3. Do the solutions meet the test of affordability and multiple objectives? |
| | <ul style="list-style-type: none"> ▪ Local governments, in collaboration with senior governments, implement green infrastructure solutions that result in effective rainfall management at the site, catchment and watershed scales. |
| <p>Embed "IRMP" landscape-based strategies in neighbourhood concept plans</p> | <ul style="list-style-type: none"> ▪ Local governments develop rainwater/stormwater and land use plans through an inter-departmental process that is collaborative and integrated. ▪ Local governments provide guidance as to how watershed-specific targets can be met at the development scale. |

Source: **Commentary on Effective Municipal Rainwater/Stormwater Management and Green Infrastructure to Achieve Watershed Health**, April 2008

Released jointly by the Green Infrastructure Partnership and the Inter-Governmental Partnership in conjunction with the consultation process for Metro Vancouver's *Integrated Liquid Waste & Resource Management Plan*

The Commentary is accompanied by a paper titled *Beyond the Guidebook: Establish Watershed-Specific Runoff Capture Performance Targets*, released at the 2008 Water Balance Model Partners Forum.