



The State of Asset Management in British Columbia

SEPTEMBER, 2010







Prepared by:

Urban Systems Ltd.
Andrew Wood, District of Maple Ridge

Prepared for:

Asset Management B.C. in partnership with the Ministry of Community and Rural Development and Infrastructure Canada.

Production of this report has been made possible through a financial contribution from Infrastructure Canada and the Province of British Columbia.

The views expressed herein do not necessarily represent the views of the Province of British Columbia or the Government of Canada.

Members of Asset Management B.C.'s Steering Committee:

- Association of Professional Engineers and Geologists of British Columbia – Municipal Engineers Division
- BC Water and Waste Association
- British Columbia Institute of Technology – Centre for Infrastructure Management
- City of Powell River
- City of Prince George
- District of Lake Country
- District of Maple Ridge
- Fraser Valley Regional District
- Government Financial Officers Association of British Columbia
- Indian and Northern Affairs Canada
- Local Government Management Association
- Master Municipal Construction Documents Association
- Ministry of Community and Rural Development
- Planning Institute of British Columbia
- Public Works Association of British Columbia
- Town of Ladysmith
- Union of British Columbia Municipalities



Acknowledgments

Asset Management B.C. gratefully acknowledges the support and involvement of the following local governments that provided valuable input into the development of this report:

District of 100 Mile House

City of Campbell River

City of Castlegar

District of Central Saanich

District of Chetwynd

Comox Valley Regional District

City of Cranbrook

Village of Cumberland

City of Dawson Creek

City of Fernie

City of Fort St. John

District of Hope

City of Kamloops

City of Kelowna

City of Langley

Township of Langley

Village of Lumby

District of Maple Ridge

City of Merritt

City of Nanaimo

City of Nelson

District of Peachland

City of Penticton

City of Port Coquitlam

City of Port Moody

City of Powell River

City of Prince George

City of Quesnel

City of Rossland

District of Saanich

Village of Salmo

Town of Sidney

Town of Smithers

District of Sparwood

District of Taylor

Thompson-Nicola Regional District

District of Vanderhoof

City of Vernon

City of Victoria



Table of Contents

Acknowledgments	ii
Table of Contents	iii
Definitions	v
PART 1 Introduction	1
PART 2 Asset Management Interviews	3
PART 3 Five Core Capacities for Asset Management	5
PART 4 Awareness and Priorities	7
PART 5 Organizational Systems	11
PART 6 People	15
PART 7 Information	19
PART 8 Financing	23
PART 9 Conclusions	27
APPENDIX A	29





Definitions

For the purposes of this report, the following definitions have been used:

ASSET

A physical component of a system that has value, enables services to be provided, and has an economic life of greater than 12 months.

ASSET MANAGEMENT

An integrated approach involving planning, finance, engineering and operations to effectively manage existing and new infrastructure to maximize benefits, reduce risks and provide satisfactory levels of service to community users in a socially, environmentally, and economically sustainable manner.

ASSET MANAGEMENT PROGRAM

A program to identify asset management needs, establish longer term financing means, and regularly schedule maintenance, rehabilitation and replacement works for the long-term sustainability of the asset.

ASSET RENEWAL

Works to upgrade, refurbish or replace existing facilities with facilities of equivalent capacity or performance capability.

GIS

Geographic Information System.

LEVEL OF SERVICE

The defined standard for the provision of a particular service. Component of defining these standards include: quality, quantity, reliability, responsiveness, environmental acceptability and cost.

LIFECYCLE

The life of an asset, from the point when a need for it is first established, through its design, construction, acquisition, operation and any maintenance or renewal, to its disposal.

LIFECYCLE COST

The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation, and disposal costs.

LOCAL GOVERNMENT

Municipalities and Regional Districts.

MAINTENANCE

All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal.

PS 3150

A standard issued by the Public Sector Accounting Board related to accounting for and reporting of a local government's tangible capital assets.

Asset Management B.C. defines asset management as:

“An integrated approach involving planning, finance, engineering and operations to effectively manage existing and new infrastructure to maximize benefits, reduce risks and provide satisfactory levels of service to community users in a socially, environmentally, and economically sustainable manner.”



Introduction

Local governments are the stewards of a substantial amount of British Columbia's (B.C.) infrastructure assets. These assets provide important services such as drinking water, sanitation, transportation, buildings and recreation, all of which contribute significantly to the vitality of B.C.'s communities. Together, these assets represent investments made over multiple generations.

Over time, B.C. local governments have focused on creating new infrastructure to support their growing populations. As these infrastructure assets age, communities face challenges related to operating and maintaining, and ultimately renewing or replacing their existing assets. Asset Management B.C. (AMBC) was established in 2009 to help local governments address these challenges. Asset Management B.C.'s mission is "to provide leadership and support for the management of community infrastructure assets."

Asset Management B.C. is a group of B.C. associations and local governments who came together to identify and integrate the political, administrative, technical, operational, financial, and planning aspects of asset management.

One of Asset Management B.C.'s first initiatives was to determine how local governments in B.C. currently manage their assets. To that end, the Ministry of Community and Rural Development, as a member of Asset Management B.C., and with funding from Infrastructure Canada, commissioned this study to assess the state of asset management in the province.

Approximately 150 interviews with staff from 39 local governments throughout the province were conducted to provide a comprehensive picture of how asset management is currently understood and implemented by local governments in B.C. Part 2 provides an overview of the interview process. Interview questions are in Appendix A.

Asset Management B.C. recognized that to truly understand the status of asset management in British Columbia a broad, "holistic" view of asset management would be required. In keeping with Asset Management B.C.'s broad approach, this study provides a summary of the state of asset management in terms of five core capacity areas:

- 1. Awareness and Priorities**
- 2. Organizational Systems**
- 3. People**
- 4. Information, and**
- 5. Financing.**

PART 1

Introduction



These five core capacity areas form the basis of this report and are discussed in Part 3. Parts 4 through 8 provide interview results in terms of each of these five core capacity areas. Each of these Parts includes:

- a description of the core capacity area;
- identification of key aspects within that core capacity area, and criteria for assessing capacity in each of these key aspects;
- a graphical summary of the current level of capacity;
- lists of strengths, challenges, and opportunities; and,
- a related case study.

Although all assets were broadly considered in this survey, the focus was on water, sewer, roads and drainage assets. For the purposes of this report these assets were established as the core assets for a local government.

The final part of this report, Part 9, provides a summary discussion that integrates the interview results from all five core capacity areas.

This study is intended to address the state of asset management – not to address the state of assets. In addition, this study is not intended to deliver a “report card” on the state of asset management, but rather provide a “snapshot” of where B.C. local governments are in terms of asset management knowledge, understanding and implementation. This information will help Asset Management B.C., its member organizations, and B.C. local governments understand how best to improve asset management capabilities in British Columbia.



Asset Management Interviews

Key representatives from 39 local governments were interviewed, between September and November of 2009, in an effort to determine the state of asset management in the province. This study focused on medium and smaller-sized local governments - which collectively represent the majority of local governments within B.C.. Small and medium-sized local governments were defined as communities with populations under 50,000.

Interviews were conducted with key staff from administration, finance, engineering, and planning departments. Where possible, elected representatives were also interviewed. The interview topics explored each of the five core asset management areas; Awareness and Priorities, Organizational Systems, People, Information, and Financing. The list of questions used during the interview process can be found in Appendix A.

The framework for the interviews and the topics covered were developed in consultation with Asset Management B.C.. In-person interviews were determined to be the most suitable way of collecting information as it allowed the interviewer to clarify responses and to explore new topic areas based on the response to previous questions. Interviews were conducted with staff from the local governments listed on page 4.

These municipalities and regional districts were selected to ensure:

- a wide geographical distribution;
- varying population size;
- different corporate structures;
- varying degrees of complexity and resources in place to address asset management; and,
- varying experience with asset management programs.

Due to the broad scope of the interviews, a modest level of interpretation was required by the interviewers in order to summarize the results in a meaningful way. The summarized results reflect common themes from across the province and do not refer to any specific local government.

Local governments in B.C face many similar challenges when it comes to asset management. However, every local government is unique and faces its own circumstance-specific issues.

The interview data was broken down into four categories (populations less than 5,000; 5001-15,000; 15,001-50,000; and, 50,001 and larger) as local governments of a similar population size often face similar issues.

The table below illustrates the number of communities interviewed in each of the four population categories.

The interview results are based on the individual responses of those interviewed and may not reflect the view of the particular local government for whom they represent.

POPULATION	NUMBER OF COMMUNITIES INTERVIEWED
< 5,000	11
5,001 – 15,000	9
15,001 – 50,000	10
50,001 +	9

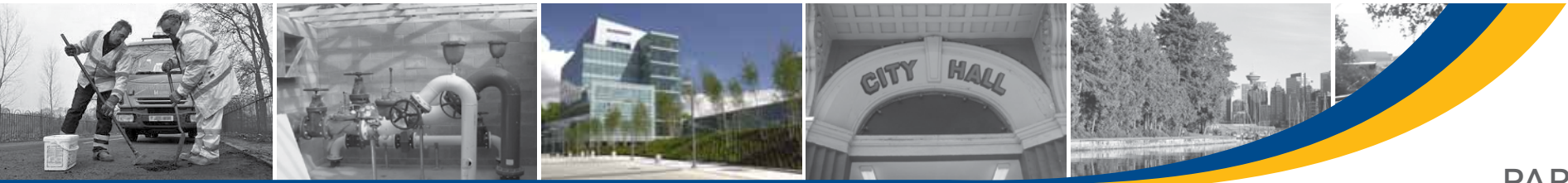
PART 2

Asset Management Interviews



District of 100 Mile House
City of Campbell River
City of Castlegar
District of Central Saanich
District of Chetwynd
Comox Valley
Regional District
City of Cranbrook
Village of Cumberland
City of Dawson Creek
City of Fernie
City of Fort St. John
District of Hope
City of Kamloops
City of Kelowna
City of Langley
Township of Langley
Village of Lumby
District of Maple Ridge
City of Merritt
City of Nanaimo

City of Nelson
District of Peachland
City of Penticton
City of Port Coquitlam
City of Port Moody
City of Powell River
City of Prince George
City of Quesnel
City of Rossland
District of Saanich
Village of Salmo
Town of Sidney
Town of Smithers
District of Sparwood
District of Taylor
Thompson-Nicola
Regional District
District of Vanderhoof
City of Vernon
City of Victoria



Five Core Capacities for Asset Management

Managing community assets is a multi-faceted challenge that requires the integration of people, resources, and information from across organizational departments (e.g., administration, engineering, planning, finance, and operations). Local governments need capacity in a number of different areas in order to effectively manage their assets because the scope of asset management is so broad.

For the purpose of this study asset management has five core capacity areas: **Awareness and Priorities, Organizational Systems, People, Information, and Financing.** Each core area has been broken down into “key components” in order to provide detailed information on each core capacity area. For example, the core capacity area *People* is made up of three key components: *Staff Resources, Knowledge and Skills, and Leadership.*

Having a basic level of capacity in each of the five core capacity areas was determined to be critical to the success of an asset management program.

There is a high degree of inter-dependence among these five areas given the integrated nature of asset management. For example, building capacity in *Organizational Systems* relies on building capacity in *Information* – without good information, it would be challenging to make sound decisions, and in turn, without sound decision-making processes, technical information would remain unused.

As local governments move through the various stages of developing and implementing asset management programs, they may choose to emphasize certain core capacities over others to suit their particular circumstances. Local governments new to asset management may

initially focus on building capacity in *Awareness and Priorities*, as this is a critical first step, and then build capacity in other areas as overall support for asset management grows within the organization. The relationship between the five core capacity areas, their corresponding key components and asset management is illustrated in the diagram below.



PART 3

Five Core Capacities for Asset Management



Local government capacity in each core area has been measured using the following three categories:



The interview results suggest that the majority of local governments in B.C. are in the early stages of asset management.

LEVEL 1 there is a clear need for increased asset management capacity. In general, infrastructure assets are managed on a reactive basis and little or no formalized roles, responsibilities, processes and plans are in place.

LEVEL 2 is defined as having a basic level of asset management capacity in place, including some formalized roles, responsibilities, processes and plans in place.

LEVEL 3 is considered a demanding but achievable capacity for today's circumstances. In general, Level 3 capacity means that the local government is effectively managing all of its water, sewer, roads, and drainage assets. These assets are considered to provide core services and represent the majority of a local government's infrastructure assets.

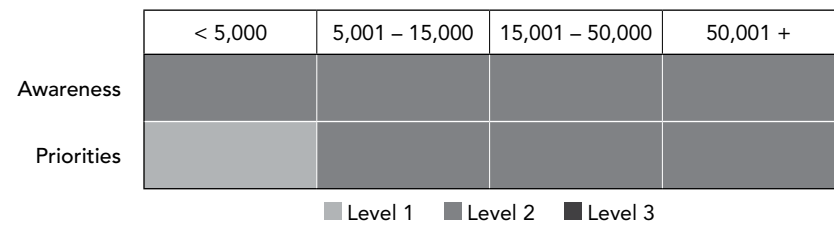


Awareness and Priorities

Basic awareness of the scale and importance of asset management is required in order for it to become a community and Council board priority. Building awareness around, and prioritizing, asset management is the foundation of an effective asset management program.

To be successful in this core capacity area, local governments will need to build awareness of asset management among all stakeholders. Stakeholders include the general public -those who utilize and pay for the services provided - elected

ASSET MANAGEMENT CAPACITY BY COMMUNITY POPULATION



KEY COMPONENTS	LEVEL 1	LEVEL 2	LEVEL 3
Awareness	Significant disparities in terms of asset management awareness and support among key staff members.	There is asset management awareness and support among key staff. Basic asset management communication with elected representatives has occurred.	There is awareness and support among key staff and elected officials. Asset management communication with the user has occurred.
Priorities	Management of assets is not a priority and is not planned for. Existing infrastructure is repaired on a reactive basis.	Management of core assets is planned for. Financing is often redirected due to changing priorities.	Management of core assets is a priority and is planned for. Financing is rarely redirected due to changing priorities.

PART 4

Awareness and Priorities

representatives and staff. Awareness among all of these stakeholders is needed to establish asset management as a worthwhile investment and a community priority.

Once asset management has been established as a priority, local governments will be in a better position to balance short-term financial pressures and maintain a sustainable long-term approach to infrastructure.

STRENGTHS	CHALLENGES	OPPORTUNITIES
<ul style="list-style-type: none"> • PS 3150 has helped raise local government awareness of asset management • Key staff members have a level of awareness of asset management • Elected representatives generally recognize the need for asset management • There is a desire to increase public awareness of asset management • Establishing asset management as a local government priority has advanced on some asset classes 	<ul style="list-style-type: none"> • Limited understanding of asset management among elected representatives and the public • Difficult for effective long-term asset management strategies to compete with short-term priorities • Local government services compete with one another for priority • Term of elected officials make long-term planning challenging • Some communities defer asset renewal in favour of lower priority projects that fit current grant programs 	<ul style="list-style-type: none"> • Provide further education to elected officials on asset renewal and sustainable fiscal management • Increase public education/reporting on asset renewal • Build on processes/policies already developed for visible assets • Highlight available and emerging tools/information to further increase awareness among all stakeholders • Document and share case studies of asset management

Local government awareness of asset management has increased in recent years largely due to the introduction of the new accounting standard PS 3150. In 2009, the Public Service Accounting Board developed PS 3150 which requires local governments to amortize their tangible capital assets. In order to fully implement PS 3150, local governments have had to undergo a total revaluation of their tangible capital assets, as well as their estimated service lives. This process has led local governments to a better understand the condition of their tangible capital assets, such as how close an asset is to the end of their estimated service life.

Of the 150 local government staff interviewed, most acknowledged that awareness and dialogue among staff and elected representatives has increased with regards to the use, value, and condition of local government capital assets as a result of having to comply with PS 3150.

While the interview results show that local government staff have a general understanding of asset management, it is unclear the level of asset management knowledge elected representatives and the general public hold.

Generally, when elected representatives and the public have awareness and understanding of asset management, communities are more successful in advancing asset management programs.

Long-term planning initiatives such as asset management must compete with short-term priorities. Currently, Councils and Boards are in office for a short time, which can make it challenging for local governments to prioritize long-term initiatives. Furthermore, many of a community's assets are not visible (e.g. water and wastewater pipes). As a result, asset management may not be a top priority in many communities.

PART 4

Awareness and Priorities

BUILDING PUBLIC AWARENESS IN QUESNEL

Like many B.C. communities, the City of Quesnel has experienced occasional infrastructure failures that have resulted in unexpected costs and service interruptions. These infrastructure failures have been attributed to a lack of long-term infrastructure planning and investment. City staff recognized that greater awareness of current infrastructure challenges and support for infrastructure renewal was needed. In 2002, City staff launched an education campaign aimed at addressing these concerns.

Staff held workshops for Council to increase their knowledge of municipal infrastructure and to emphasize Council's role as asset management champions. Communication with the public was established through newsletters and publications highlighting the importance of infrastructure renewal. In addition, relevant Council meetings were covered by the media and made available

to the public. These initiatives significantly raised the profile of infrastructure renewal within the community. The campaign was so successful that in the following municipal election both incumbent and new candidates expressed support for infrastructure renewal.

The success of the campaign allowed the City to establish a Capital Reinvestment Program (CRP) in 2007 which included a dedicated levy for funding infrastructure renewal. From the onset of the program, Council was engaged and involved, providing guidance and direction at key points throughout the process. When projects are completed using funds from the CRP, signs are erected indicating that the project was a direct result of the CRP levy. These signs create a tangible connection between the CRP and public works projects and demonstrate the positive impact of the levy.



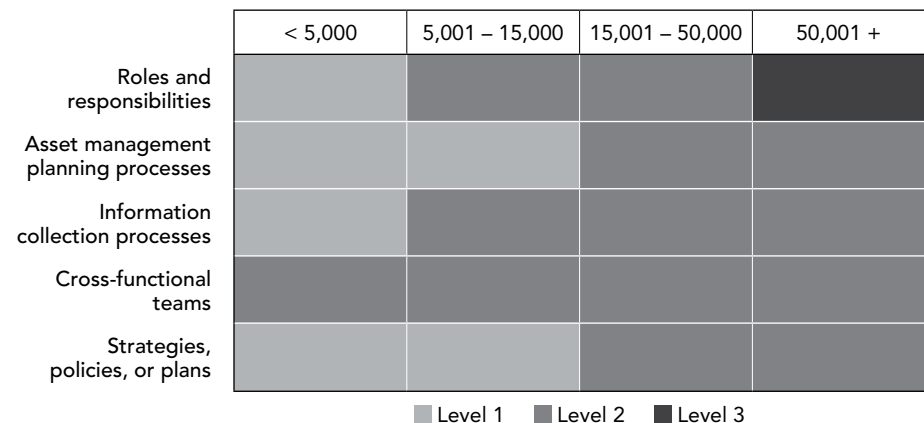
Organizational Systems

The cross-functional nature of asset management requires the effective collaboration of multiple local government departments. Local governments need to be more proactive about promoting collaboration, and establishing inter-departmental teams to address asset management.

Formalized planning processes that consider lifecycle costs, risk and level of service will also need to be established to succeed in this core capacity area.

In addition, clearly defined asset management roles and responsibilities are required in order to develop and implement the strategies, policies and plans that comprise a successful asset management program.

ASSET MANAGEMENT CAPACITY BY COMMUNITY POPULATION



KEY COMPONENTS	LEVEL 1	LEVEL 2	LEVEL 3
Roles and responsibilities	No formal roles or responsibilities are defined and there is a general lack of clarity across the organization.	Roles and responsibilities are not formalized, but are well understood across the organization.	Roles and responsibilities are formalized and are well understood across the organization.
Asset management planning processes	Planning processes rarely consider lifecycle costs, risk, and level of service.	Planning processes sometimes consider, in an informal way, lifecycle costs, risk, and level of service.	Formalized planning processes that consider lifecycle costs, risk, and level of service are in place for core service areas.

PART 5

Organizational Systems

KEY COMPONENTS	LEVEL 1	LEVEL 2	LEVEL 3
Information collection processes	No processes are in place for collecting required information for asset management planning.	Processes exist for collecting some necessary asset management information for core service areas.	Processes exist for collecting all necessary asset management information for core service areas.
Cross-functional teams	No cross-functional team exists for asset management.	A cross-functional team for asset management exists, but meets infrequently.	A cross-functional team for asset management exists and meets regularly.
Strategies, policies, or plans	No formal strategies, policies, or plans for asset management are in place.	Formal strategies, policies, or plans for asset management exist for at least one core service area.	Formal strategies, policies, or plans for asset management exist for core service areas.

Of the 39 local government staff interviewed only a few said their local government had the necessary organizational systems in place to support an asset management program. However, some local government staff interviewed indicated that their Council or Board had developed policies for asset management or had initiated processes to create documented asset management plans. The majority of those interviewed did indicate there was a desire to be more systematic about the approach to asset management within their local government.

Creating and implementing asset management within a local government can be challenging because asset management spans multiple departments. Traditionally local governments have evolved in a compartmentalized manner where multiple business lines (administration, finance, public works, planning and engineering) work well individually with limited interaction or collaboration occurring between departments.

Two of the fundamental asset management concepts, level-of-service and risk, are not generally well understood, or integrated into decision-making processes, according to those interviewed. The interview results illustrate that local governments rarely incorporated these concepts into budgeting processes, or if they did, it was on an ad hoc basis. Considerations related to level-of-service are particularly lacking in the 39 local governments interviewed. In the majority of cases there were

no formalized policies for level-of-service and little or no information communicated with the public. There is a general lack of clarity about what should be included in an asset management strategy or an asset management plan. Local government staff reported needing specific, practical, and clear examples of how to move forward on developing and implementing an asset management program.

STRENGTHS	CHALLENGES	OPPORTUNITIES
<ul style="list-style-type: none"> • There is a desire to address asset management in a more systematic manner • Cross-functional teams are starting to form in some local governments • There is a desire to establish formal plans for asset management • Local government staff are adept at addressing new challenges 	<ul style="list-style-type: none"> • Lack of clearly defined roles and responsibilities for asset management • Level of service, risk, and how to integrate data into decision-making not well understood • Team collaboration is often limited to the annual budget process • In general, local governments are organized on a functional basis whereas asset management requires a cross-functional approach • Need for asset management tools and/or guidelines 	<ul style="list-style-type: none"> • Define roles and responsibilities within local government departments. Identify processes and tools available for integrating data into decision-making processes • Establish teams for long-term asset management planning – may include elected representatives • Develop templates for asset management policies, strategies, and plans • Develop guidelines for defining level of service and assessing risk

LONG-TERM PLANNING IN SPARWOOD

For many years the District of Sparwood has taken a “sustainability” approach to long-term planning. This approach has enabled the District to build up significant reserve funds which will ensure the community remains financially stable well into the future.

In 2003, the Province introduced provisions in the *Community Charter* and *Local Government Act* that require local governments establish five-year financial plans. These requirements were intended to help local governments set out financial policies and objectives and incorporate public consultation into the budgeting process.

District Council and staff took this opportunity to further extend existing capital and reserve plans to 20 years. Increasing the time horizon enabled both staff and Council to better understand and demonstrate what the long-term impacts of depleting reserve funds would be.

The District developed a series of working documents that provide asset information over a 20 year horizon. While these plans are considered to be “works in progress” they have been quite effective in highlighting the need for proactive asset management in Sparwood.

Each plan incorporates available engineering information (such as service calls and failure risks) which is then used to determine the useful life of any given asset. The District currently has 20 year planning documents in place for: equipment; re-paving; and recreation facilities. In 2010, a new infrastructure management report was completed which will significantly improve the long-term planning for water, sewer, and storm services within Sparwood.

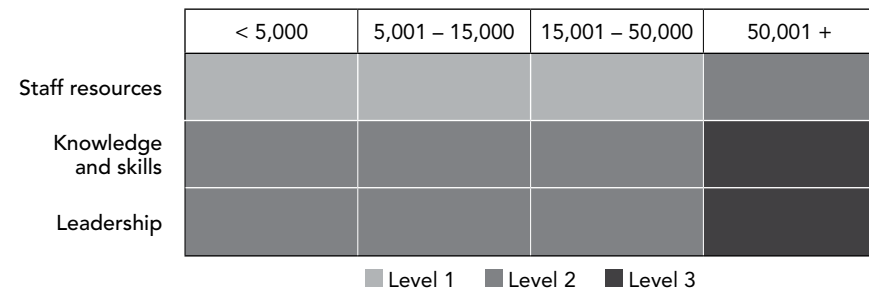
The District continues to integrate engineering, operations and maintenance, planning, and financial information into its planning documents and better incorporate risk assessment into long-term planning processes.

People

People are at the core of all local government services. Without skilled, experienced and professional staff, local governments would not be in a position to provide the range and quality of services their residents expect on a continuing basis.

Ensuring adequate staff is available and have received the necessary education, expertise, and experience is key to the development and implementation of an asset management program.

ASSET MANAGEMENT CAPACITY BY COMMUNITY POPULATION



KEY COMPONENTS	LEVEL 1	LEVEL 2	LEVEL 3
Staff resources	No staff resources available for asset management.	Additional staff resources are needed or funding for external support is needed for asset management.	Adequate staff are available either internally or external support is funded by the organization.
Knowledge and skills	Most staff members have limited asset management knowledge and skills.	Most staff members have some asset management knowledge and skills, however additional training and development is required.	Most staff members have the necessary asset management knowledge and skills.
Leadership	No clearly defined leader(s) for asset management.	Asset management leader(s) exists, however they lack influence across the organization.	A clear asset management leader(s) exists and has influence across the organization.

PART 6 People

In addition, some staff will need to assume asset management leadership roles and be responsible for gaining buy-in within the organization and across multiple departments. Other staff

will be needed to implement the program on an ongoing basis. Implementation requires capacities in several areas, including finance, engineering, operations and maintenance, and planning.

STRENGTHS	CHALLENGES	OPPORTUNITIES
<ul style="list-style-type: none"> • Staff members involved in asset management want to expand their knowledge and understanding • Some local governments have staff with a high degree of competence in asset management • Some local governments already have the diverse set of skills required for asset management 	<ul style="list-style-type: none"> • Lack of assigned staff responsibilities to develop and implement an asset management program • Training opportunities are limited in remote areas • Leaders do not always have the necessary influence over resources and decision-making to effect change • Small local governments find it difficult to justify and hire appropriate asset management staff • Some knowledgeable staff are nearing retirement and there is a lack of succession planning to capture and transfer that knowledge 	<ul style="list-style-type: none"> • Integrate asset management responsibilities into existing job descriptions • Provide asset management networking and training opportunities across B.C. • Develop recognition/reward for excellence in asset management and asset management leadership • Provide multi-disciplinary training opportunities to help encourage an integrated team approach • Encourage succession planning to “download” knowledge from senior staff who are nearing retirement



A lack of staffing resources was identified as one of the greatest barriers local governments face with respect to asset management. Communities have difficulty both financing additional human resources and finding professionals with the right skills and experience necessary for asset management.

These issues are particularly acute in smaller local governments with few staff; staff from these communities acknowledged that it was difficult to stretch their human resources any further by adding new asset management responsibilities to existing positions. Larger communities also experience similar challenges, but are generally better able to attract and finance required human resources. A number of larger communities have recently hired asset managers to spearhead asset management planning, while other communities have incorporated asset management responsibilities into existing positions throughout the organization.

Local government staff is generally eager to learn more about asset management to improve their skills and knowledge in this area. However, local government staff reported a need for additional training opportunities. Some local governments were not aware of available training programs, and indicated a need for more effective communication on educational opportunities. Others felt that there were a good number of educational opportunities already available on asset management. However, this training is generally conducted in larger urban centers, making attendance difficult for those working in remote communities.

AN ASSET MANAGER FOR PRINCE GEORGE

In 2004, asset management became a priority for the City of Prince George. This decision led to the creation of an asset management program and eventually the hiring of a full-time Asset Manager.

The program began when an independent consultant was hired by the City to provide a baseline assessment on the state of asset management across individual departments. Findings from the assessment, along with several internal reviews and studies, identified the need for a more systematic approach to managing the City's assets.

In 2007, the Asset Manager became responsible for overseeing, coordinating and championing the City's asset management program.

The Asset Manager position is unique within the organization as they work with all departments. This has allowed the Asset Manager to identify strengths and weaknesses in the City's asset management program and provide guidance and direction towards possible solutions.

Prince George's Asset Manager has worked closely with City staff to develop inter-departmental dialogue and processes, which has significantly advanced the state of asset management within the organization. The Asset Manager was responsible for coordinating the implementation of new software to assist with estimating the funding gap for core linear infrastructure over the next 100 years and assisted the City in meeting Section PS 3150. The Asset Manager is expected to continue to play the lead role in the development and implementation of the City's asset management strategies.

Information

Interview results suggest that accurate and reliable information is a key component of any asset management program. This information includes identifying what assets a local government owns and where those assets are physically located. In addition, information regarding each asset's condition and performance history does contribute to a local government's decision to replace, repair or renew an asset.

ASSET MANAGEMENT CAPACITY BY COMMUNITY POPULATION

	< 5,000	5,001 – 15,000	15,001 – 50,000	50,001 +
Asset registry	Level 1	Level 1	Level 2	Level 3
Technology	Level 1	Level 1	Level 3	Level 3
Condition data	Level 1	Level 1	Level 2	Level 3

Level 1
 Level 2
 Level 3

KEY COMPONENTS	LEVEL 1	LEVEL 2	LEVEL 3
Asset registry	Asset registry is neither complete nor spatially accurate for most assets.	Asset registry is complete and spatially accurate for some core assets.	Asset registry is complete and spatially accurate for all core service areas.
Technology	Limited technology in place.	Some technology in place. There is a clear need for additional technology.	Required technology is in place.
Condition data	Limited asset condition information exists and/or information is not in a useable form.	Sufficient asset condition information exists in a useable form to enable asset management for some core service areas.	Sufficient asset condition information exists in a useable form to enable asset management for all core service areas.

PART 7 Information

Asset information needs to be stored in a form that is accessible and useful to stakeholders, including the public. Information is of little value if staff do not know it exists or do not know how to access it.

Furthermore, information must be accurate, reliable and current to be of value.

STRENGTHS	CHALLENGES	OPPORTUNITIES
<ul style="list-style-type: none"> • Asset inventories have been created to comply with PS 3150 • There is a high level of appreciation for technology and its role in supporting asset management • Some local governments have a GIS or expect to implement a GIS in the near future • Data have multiple uses beyond asset management • Some staff are very adept at applying new technologies • Some staff have an in-depth knowledge of existing assets 	<ul style="list-style-type: none"> • Missing data or data is not spatially accurate • Data may exist, but is not readily accessible for decision-making • Lack of condition data • Difficult to assess and identify appropriate software programs – risk that too much will be invested in data collection and technology with little return on investment • Documenting the knowledge of key staff • Maintaining and operating IT data management systems 	<ul style="list-style-type: none"> • Develop guidelines on collection, analysis and use of asset management data • Develop platforms to share asset information regionally • Provide guidance on how communities can manage their assets without necessarily purchasing new technology • Share expertise and technological resources at the regional scale, where appropriate • Provide guidance on the strengths of various information management tools to help local governments make the best technology decisions



Accurate and reliable asset information is a component of any successful asset management program. Local governments require up-to-date and accessible information to support decision-making.

Due to PS 3150 local governments are now well into the process of collecting and organizing data into a useful form. However, some local governments reported having difficulties with incomplete records, due to the shift from paper-based drawings to digital data.

Compliance with PS 3150 requires all local governments to build accurate inventories of their assets, including the age of the asset and historical cost. The majority of local governments interviewed have basic information on their assets (e.g., length, size, age, and material); however, all local governments interviewed lacked information regarding the condition of at least some of their core assets.

Some of the local governments interviewed use a GIS to manage their asset data, or plan on establishing a GIS in the near future. However, building the internal capacity to operate and maintain systems is a key challenge, particularly for smaller communities.

Some of the larger local governments interviewed intend to implement specialized asset management systems. While such systems may not be appropriate for smaller communities, local governments of all sizes indicated the need for guidance on the collection, analysis and use of asset management data.

BUILDING AN ASSET INVENTORY IN MAPLE RIDGE

In 2002, the District of Maple Ridge decided to improve the way infrastructure assets were managed, planned for and financed. The District already had a capital assets inventory, however only a portion of that information was contained in the District's Geographic Information System and little was known about the condition of those assets.

To improve its asset information and meet pending accounting requirements, a long-term program to assess, acquire, warehouse, link and manage data for each asset class was developed. City staff determined which assets were first assessed and documented based on available asset information and the priorities of the District of Maple Ridge.

Initially, information was collected on the condition of roads to create a pavement management system. This was followed by a bridge management system and inspection program. A water main break analysis and condition assessment strategy was then developed, followed by condition assessments of key civic facilities and the establishment of a program to assess and repair civic buildings.

Currently, storm sewer and sanitary system information is being created and digitized into the District's GIS and will be assessed in the future.

The District's asset inventory has led to support from Council for infrastructure renewal and many asset management initiatives including targeted replacement programs and energy retrofits.



Financing

Sufficient and dedicated financing is needed to ensure the established level of service over the life of the asset. Without sufficient resources, local governments cannot effectively meet infrastructure needs, which could lead to decreases in service level and exposure to unacceptable risk.

Successful financing for asset management requires a long term financial plan which fully considers the renewal of existing assets.

ASSET MANAGEMENT CAPACITY BY COMMUNITY POPULATION

	< 5,000	5,001 – 15,000	15,001 – 50,000	50,001 +
Financial plan	Level 1	Level 2	Level 3	Level 3
Funding	Level 1	Level 2	Level 3	Level 3
Reserve funds	Level 1	Level 2	Level 3	Level 3

Level 1
 Level 2
 Level 3

KEY COMPONENTS	LEVEL 1	LEVEL 2	LEVEL 3
Financial plans	No long-term plan exists or plan does not fully consider asset renewal.	Long-term financial plan exists and partially considers asset renewal.	Long-term financial plan exists and fully considers asset renewal for all core assets.
Financing	Financing approaches do not consider long-term asset renewal.	Financing approaches only partially consider long-term asset renewal.	Financing approaches are in place to adequately fund asset renewal for all core assets.
Reserve funds	Reserves are minimal with no current plan for how to increase them.	Moderate reserves exist with plans in place to increase them.	Sufficient reserves are available for all core assets.

PART 8 Financing

A long term financial plan helps ensure that adequate funds will be available to replace infrastructure assets once they have reached the end of their useful life.

STRENGTHS	CHALLENGES	OPPORTUNITIES
<ul style="list-style-type: none"> • The implementation of Section PS 3150 has brought attention to the value of existing assets • There is a desire to secure dedicated funding for asset management • Local government staff are aware of the financial need for implementing an asset management plan or for the 'infrastructure gap' 	<ul style="list-style-type: none"> • Perceived affordability concerns limit ability to increase taxes and charges for financing asset management • Utility rates do not typically include a renewal component • Financial plans are generally short-term and do not reflect true long-term infrastructure requirements • Taxes/charges often determined through comparison with other communities rather than actual investment needs • Required level of financing to sustain assets has not been quantified • Assets funded through general taxation compete with many other priorities • Link between cost of service and level of service is not well understood 	<ul style="list-style-type: none"> • Establish dedicated funding sources for assets currently funded by general taxation • Incorporate asset renewal into existing utility rates • Promote minimum reserve levels for long-term asset management. • Encourage local governments to adopt policies on reserves for asset management • Encourage new Federal/Provincial planning grant programs for asset management • Establish public education programs to increase awareness of the true cost of providing a service



Some local government staff interviewed acknowledged that some/all of their assets are underfunded. Due to PS 3150 and the recently compiled asset inventories most of the interviewed local governments have a sense of the magnitude of the gap between the state of their assets and their current financing levels. However, much work is yet to be done to establish detailed estimates based on replacement costs, risk, condition, and level of service expectations. Once complete, this data will help local governments identify the financing levels they need to sustain their assets over the long-term.

Based on the interview results most local government staff do not believe their local government can maintain affordability of services for their taxpayers while also adequately financing asset renewal. This situation is more common in communities with less diverse economies, where financing immediate needs often takes priority over financing long-term asset management. While the situation may be somewhat improved in communities with diverse economies, even staff from these communities believe there is little “tax room” remaining. At present, most local governments fund their asset renewal and replacement through taxation, user fees borrowing, and senior government grants.

Increasing taxes and user fees are expected to continue to be a part of the financial solution. However, other sources of on-going revenue will also need to be found.

Many local governments recognize that reserves for asset renewal need to be increased and that they need to prepare long-term financial plans to do so. However, few communities prepare financial plans beyond the required five-year time frame or plan explicitly for asset management.

FINANCING ASSET RENEWAL IN PORT MOODY

City of Port Moody staff recognized that many of the City's infrastructure was aging and would need to be rehabilitated in the near future. In order to ensure that adequate funds would be available for infrastructure renewal the City developed an asset renewal reserve fund.

Three key components for the implementation of the asset renewal reserve fund were identified: build up and use reserves for aging assets; establish a sustainable Life Cycle Reserve (to extend the useful life of assets); and establish a base level of funding through a levy for asset renewal.

In 2009, the City implemented a two percent tax levy dedicated to the renewal of aging infrastructure. The levy was shown as a line item on property tax notices, informing taxpayers that monies collected by the levy would be set aside in a reserve dedicated to asset renewal, not to

supplement shortfalls in the City's general revenue. This was done to promote transparency and raise awareness on the issue of infrastructure renewal.

To date the levy has generated approximately 1/3 of the required funding to ensure that all City assets are sufficiently funded. In the interim, additional revenue sources such as borrowing will be needed to make up the current funding gap. However, it is expected that the levy will generate enough revenue to ensure that the Cities infrastructure is sustainably funded.

The levy helps to ensure that future residents of Port Moody are not unfairly burdened with higher taxes to cover asset renewal costs, and that they will be able to enjoy the same level of services that residents currently enjoy.



Conclusions

Interview results of the 39 local governments suggest the state of asset management in British Columbia varies widely across communities. The interviews also revealed that asset management practices can vary across services within the same local government.

The interviews showed that no two local governments have identical circumstances or take identical approaches to asset management. Although the survey did reveal common themes within the five core capacity areas of *Awareness and Priorities, Organizational Systems, People, Information, and Financing*, the conclusions of the survey do not necessarily reflect each community's specific experience.

The interview results suggest that local government staff have a general understanding of asset management. However, it is unclear the level of asset management knowledge elected representatives and the general public hold. To address the challenge further education opportunities for elected officials and the public on asset renewal and sustainable fiscal management could be provided.

Once all stakeholders understand the true cost of maintaining current service levels it will be easier for local governments to increase financial support for asset management. In order to further asset management, building awareness with elected representatives and users should be a priority for local governments in coming years.

Interview results with the 39 local governments suggest local government organizational systems could be better adapted to support the long-term planning that is required by asset management.

Although, many local governments already have effective organizational systems in place, these systems are in many cases designed to respond to immediate or short-term needs. The effective and successful management of local government assets requires long-term financial and infrastructure planning. To achieve this, community support will be needed at all stages to maintain asset management as a priority over the long-term.

In addition to enhancing the long-term planning process to support asset management, the interview results identified the need for the integration of local government departments or functional areas.

To be successful, asset management cannot be viewed as the responsibility of a single department. Instead, asset management requires strong collaboration and a holistic approach. This is an area that may require additional emphasis if local governments wish to achieve a high level of asset management capacity.

Interview results of the 39 local governments revealed a need for assigned staff responsibilities in order to develop and implement an asset management program. One way to address this challenge is to incorporate asset management into existing job descriptions and responsibilities.

In the meantime, as local governments begin to implement asset management, there may be increased pressure on staff due to a potential skill gap. However, these pressures will likely decrease as staff acquire the knowledge and skills necessary to run a successful asset management program.

PART 9

Conclusions

Due to PS 3150, most of the local governments interviewed currently have enough information to provide a basic picture of the state of their assets. Local governments can begin making asset management decisions with the level of information available. More detailed and comprehensive asset information can be added incrementally over time.

As local governments enhance their information base they will need to assess the suitability of computer-based tools such as GIS for asset management. While computer-based tools can be very useful, they are intended to be viewed as support to asset management processes rather than the focal point. Local governments can certainly move forward with asset management without acquiring new technology.

Interviews of the 39 local governments revealed that the key challenge facing local governments with respect to asset management is the limited amount of financial resources. Some local government staff believe that increased taxation and utility rates will trigger pushback from the taxpaying public. This highlights the need for further public education programs aimed at increasing awareness of the true cost of providing a service.

The survey has demonstrated that all levels of government have a role to play in asset management and collectively these parties will continue to build asset management in British Columbia.

Asset Management B.C. is in a unique position to engage its member organizations and guide a coordinated effort to help B.C. communities manage their assets. Local governments within British Columbia are actively seeking ways to build their asset management capacity and are looking to groups such as Asset Management BC for direction.

A next step for Asset Management B.C. is to prioritize the opportunities identified in this report and work with the membership to develop and deliver initiatives that will help B.C. communities improve their asset management capacity.

Local governments and asset management practitioners are encouraged to share their asset management knowledge and experiences with Asset Management B.C. and the broader asset management community in order to further strengthen, develop asset management in B.C.

Further Information

Visit Asset Management B.C. on the internet:
www.assetmanagementbc.ca or contact: info@assetmanagementbc.ca



Asset Management Interview Questions

CAO SECTION

1. How important do you believe the funding of rehabilitation and renewal of existing infrastructure is to the economic health of your community?
2. Are there specific Asset Management Policies in place for council and staff?
3. How well is Asset Management understood within your organization?
4. Does your organization have a specific leader or champion responsible for Asset Management?
5. Is Asset Management a corporate function or is it dispersed to the different departments/areas responsible for delivering the service?
6. What barriers does your municipality face with respect to implementing and maintaining an Asset Management Program? Please indicate the most significant ones.
7. What can be done to help your community overcome these barriers? Please indicate the most significant ones.
8. Do you establish levels of service in any of the following areas? (examples of levels of service are Pavement Condition Index, % of time out of service for the water system.
9. Has the concept of Asset Management been communicated or discussed with council and the public?

10. Asset Management programs rely on having and retaining, skilled and trained staff (or equivalent resources) if you are taking specific actions to keep appropriate resources please outline them.
11. What type of funding mechanisms might work in your community to better fund Asset Management?
12. What impact do you believe the implementation of PSAB 3150 will have or already has had on Asset Management?
13. If there was one thing that would help you with Asset Management what would it be?

ENGINEERING/PUBLIC WORKS SECTION

1. How would you characterize engineering / public works' understanding and application of Asset Management?
2. Does your department (or division) have a leader or champion responsible for Asset Management?
3. What areas do you have Asset Management Programs in?
4. Do you consider the risk of asset failure when establishing maintenance and rehabilitation/replacement budgets?
5. Which of the following information sources do you use for making Asset Management decisions?
6. What are the barriers/challenges to implementing and maintaining an Asset Management Program in your organization?

Appendix A: Asset Management Interview Questions

7. What actions would help overcome these barriers?
8. For staff training are you aware of what programs or opportunities there are for training in Asset Management?
9. What information do you keep in the inventory of your infrastructure?
10. Have you or your organization established Levels of Service for any of the following? (i.e. Pavement Condition Index, % out of service time for the water system etc.)
11. Do you use Levels of Service to establish funding levels when setting budgets?
12. What proportion of infrastructure do you anticipate rehabilitating or replacing over the next 10 years?
13. If internal consultation on Asset Management and infrastructure related issues takes place between departments could you briefly outline the process including which groups are involved? Could the process be improved?
14. Will you be building on all the data gathering and analysis needed for PSAB-3150 to develop an Asset Management Program? If so for what services?
15. If there was one thing that would help you with Asset Management what would it be?

FINANCE SECTION

1. How would you characterize the Finance Department's understanding and application of Asset Management principles?
2. How does your community fund the rehabilitation/replacement of existing assets?
3. Does your community have an accurate long term capital and financial plan(s)?
4. To what level do your long term capital and financial plan(s) fund the renewal of existing assets?
5. If internal consultation on Asset Management, and how this relates to Financial Planning issues, takes place between departments could you briefly outline the process including which groups are involved? Could this process be improved?
6. What approach is your organization taking with respect to PSAB 3150 reporting requirements?
7. If you are building on the existing PSAB work what do you see as the next steps?
8. If there was one thing that would help you with Asset Management what would it be?

PLANNING SECTION

1. How would you characterize the Planning Department's understanding and application of Asset Management principles?
2. Do Asset Management considerations influence/affect the following planning processes?
3. If internal consultation on Asset Management, and how this relates to Community planning issues, takes place between departments could you briefly outline the process including which groups are involved? Could this process be improved?
4. If there was one thing that would help you with Asset Management what would it be?

ELECTED REPRESENTATIVES

1. How important does Council believe the funding of the rehabilitation and renewal of assets to be?
2. To what extent do you believe that Council is prepared to fund the rehabilitation and renewal of assets?
3. Is it possible for council to prioritize the funding of asset renewal compared with other community services?
4. To what extent has Council had discussions with staff on the importance of funding asset renewal and Asset Management in general?
5. How well do you think the issue of infrastructure renewal and Asset Management is being handled in your community?
6. What are the barriers to Council making decisions related to funding of infrastructure renewal and Asset Management?
7. If there were one thing that would help your community with Asset Management what would it be?

