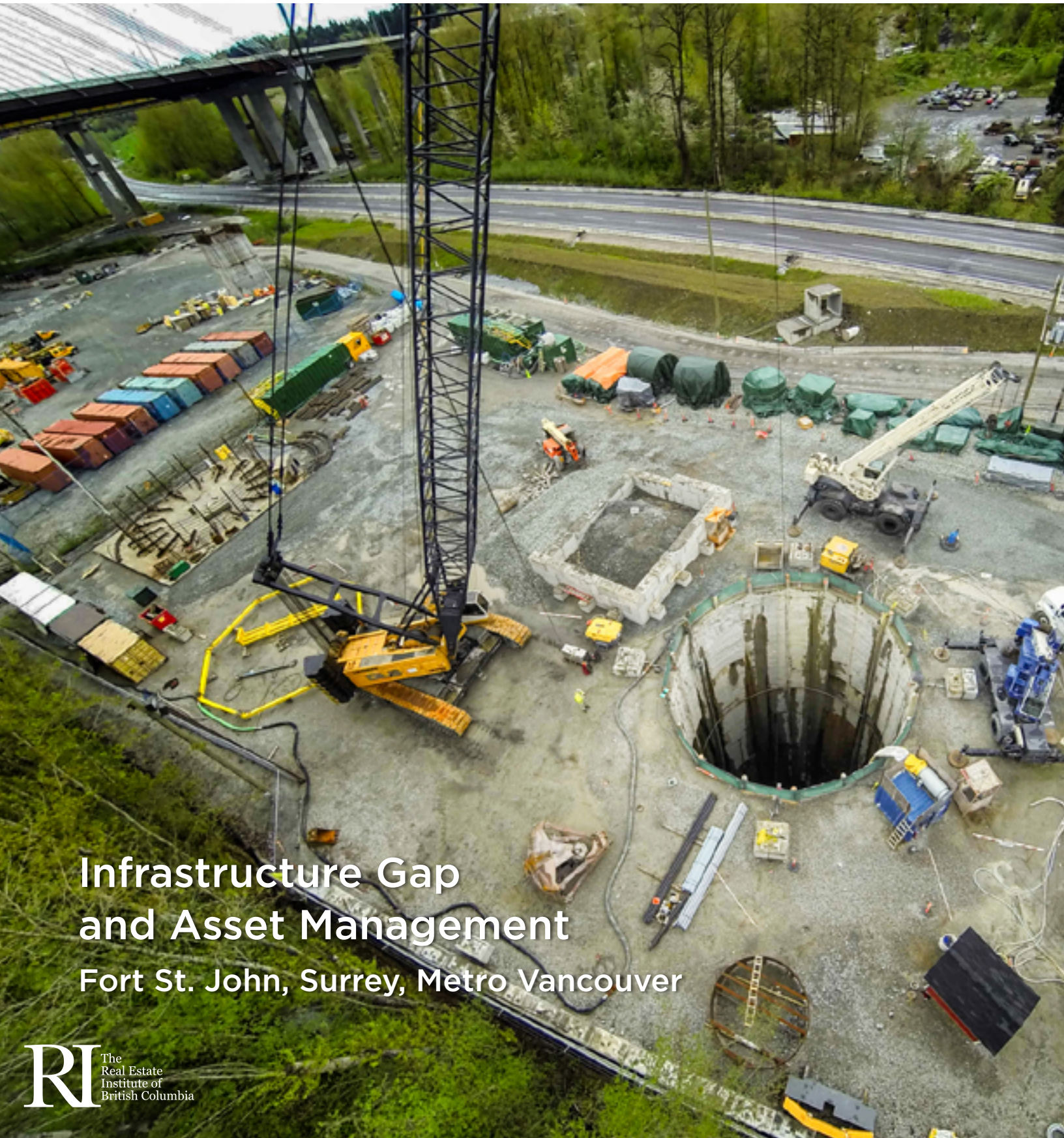
SPRING 2016 | VOLUME 44 | NUMBER 1

INPUT

LAND AND REAL ESTATE
ISSUES IN BRITISH COLUMBIA



Infrastructure Gap and Asset Management

Fort St. John, Surrey, Metro Vancouver

RI The Real Estate Institute of British Columbia

INPUT

Input is the official publication of **The Real Estate Institute of BC (REIBC)**.

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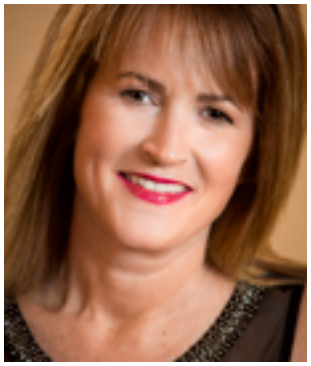
The Real Estate Institute of British Columbia

PRESIDENT'S MESSAGE



ANDREA FLETCHER, RI
REIBC PRESIDENT

Welcome to spring 2016! I sure can feel a buzz of optimism in the air.

With interest rates still at all-time lows, strategic capital is being invested in all sectors. Our low Canadian dollar is inspiring Canadians to spend at home. I see that as a huge benefit to our quality of life experience here in BC. The construction on almost every Lower Mainland block, whether it is in residential areas or downtown, reminds me of the ride up to the 2010 Olympics. Even people who don't work in real estate can see it with all of the tall skyscraper cranes in the air.

On a recent trip to the ICSC convention at Whistler I saw huge single-family dwelling construction cranes. The economy is showing off massive investment confidence. It's like a renaissance of building with all those modern mountain castles up there right now. This is interesting because we all know that the resort homes are the first to tank in value with a soft economy.

These visuals translate into evidence of investment in commercial, multi-family housing, and resort sectors of the economy. Home runs on enhancing values all around.

Month after month, BC Assessment is challenged to keep up with the exploding prices across all asset classes. The communities benefitting from all of this new construction love the increased tax base, which in a perfect world would be carefully invested into creating more infrastructure to support the increased demand for all municipal services. Wouldn't it be nice to have the infrastructure support grow in equal proportion to the development growth in each community.

Here's wishing you all massive success in this sweet 2016!

INPUT | INFRASTRUCTURE GAP AND ASSET MANAGEMENT

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COVER: Construction of a vertical shaft at the Port Mann water tunnel. See article on page 38. Photo by Metro Vancouver.

NOTES

ARTICLES

COLUMNS

DIRECTORY

NOTES

REIBC EVENT CALENDAR

May 5–7, 2016
AIC-BC & REIBC'S Valuing Diversity Conference
Tigh-Na-Mara Resort & Conference Centre
Parksville

June 9, 2016
Annual General Meeting
Sutton Place Hotel
Vancouver

June 9, 2016
Recognition Dinner
Sutton Place Hotel
Vancouver

June 22, 2016
23rd Annual Charity Golf Tournament
Richmond Country Club
Richmond

For more information on events, visit:

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Please let us know your ideas for upcoming issues and how you like the magazine—and check out our Facebook and Twitter pages for up-to-the-minute information on REIBC activities.

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CONTRIBUTORS

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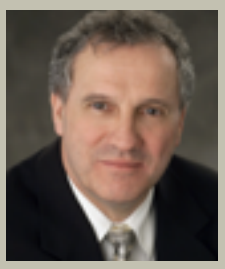 5

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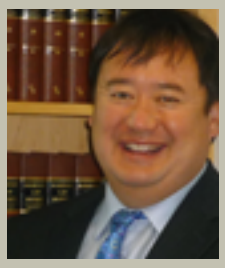
7 

GUEST AUTHORS

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3 Darrell Mussatto is serving his fourth term as the mayor of the City of North Vancouver, having previously served four terms as a councillor. Mayor Mussatto is a director of Metro Vancouver; he serves as the chair of the Utilities Committee and sits on several committees and the Regional Economy Task Force. Mayor Mussatto is committed to sustainable regional planning that strives to manage and structure the growth coming to our region, protect important lands, and ensure the efficient provision of infrastructure such as utilities, transit, and community amenities.
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4 Julie Rogers, BA, is the communications coordinator for the City of Fort St. John. Her role involves improving communications between the City and its citizens and communicating to the world that Fort St. John is an amazing place to boost your career, raise your family, and maximize your recreation opportunities. A former resident of Coquitlam, BC, Julie has fully embraced northern living. After her three-minute commute home you will often find her nordic skiing on the many community trails.
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5 Bruce Turner, MBA, AACI, P.App, is president of Heuristic Consulting Associates, providing property tax assessment, management consulting, and property advisory services. Prior to consulting, Bruce enjoyed a career with BC Assessment that included executive management, operational management, and technical roles. His volunteer interests include education, land-based economic development, and environmental leadership. Bruce received the Chancellor's Award with his master's degree in Business Administration from Royal Roads University in 2001.
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6 Wally Wells, P.Eng, is the executive director of Asset Management BC and a professional engineer with 48 years' experience predominately in public works in both the public and private sector. As president of the Canadian Public Works Association in 2000, Wally was a member of industry working groups that produced a National Framework for Asset Management, which included recommending regional networks. In 2008, he worked with various stakeholder groups to establish Asset Management BC as a community of practice or network for integrated asset management.
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WANT TO WRITE FOR AN UPCOMING ISSUE OF INPUT?

Contact Brenda Southam at info@reibc.org

UPCOMING ISSUES:
PROPERTY VALUE
HAZARD MANAGEMENT

FROM THE EO'S DESK

BRENDA SOUTHAM
EXECUTIVE OFFICER
AND EDITOR-IN-CHIEF

This edition of *Input* has us looking at infrastructure throughout the province and some of the challenges of maintaining, replacing, and increasing these assets. The particular challenge that all local governments share is figuring out how to fund it when infrastructure—roads, sewers, water filtration plants, and more—needs to be replaced or built new.

I think we can easily overlook just how much it takes to provide a community with water and take away and treat wastewater. As a regional district, Metro Vancouver is responsible for this great feat—servicing 2.4 million people and associated businesses, institutions, and industries in the Lower Mainland. Think of the planning involved to manage infrastructure assets at this scale—massive!

What happens when we throw property values into the mix? From an investment point of view, understanding the impact that community infrastructure has on property values can help to determine solutions to the challenge we're facing today—a giant infrastructure deficit.

Local governments need strategies to address the critical need to maintain infrastructure assets and service growing communities amidst financial constraint. Our municipal authors note the effects of growth and demand, including outside industry, on maintaining infrastructure assets. What is clear from reading our authors' stories is that managing infrastructure requires a plan. I think you'll read with interest about some of the planning frameworks and management strategies described herein, which include a behind-the-scenes look at Asset Management BC's *Asset Management for Sustainable Service Delivery: A BC Framework*.

Our hope with this edition of *Input* is to highlight the issue of BC's infrastructure deficit and spark discussion among the real estate industry's best and brightest. I look forward to hearing your thoughts.

>> LETTERS TO THE EDITOR

Dear Editor,

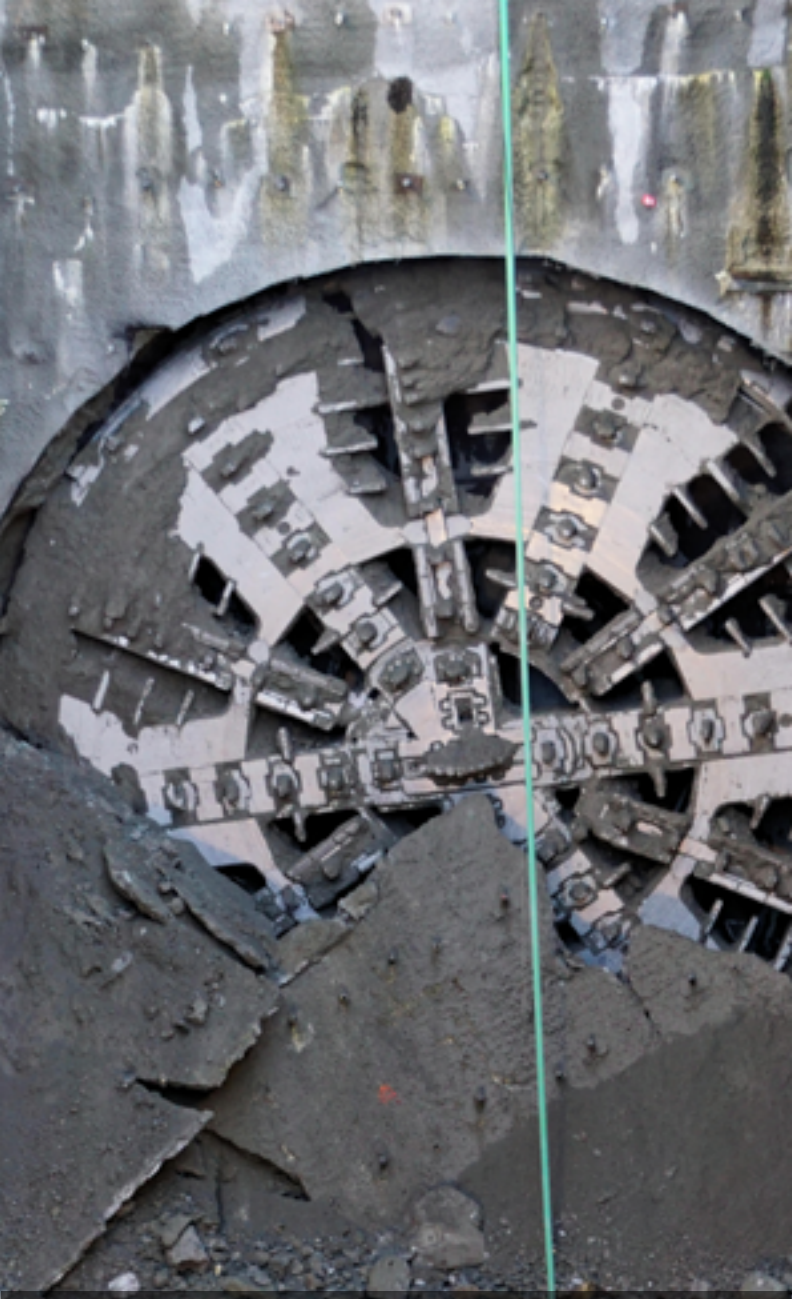
Um... WOW!

My *Input* has arrived and I had to do a double-take. It is so freaking amazing! Love the clean lines, fresh look... I bet I could resell this on eBay for $20!

Kidding aside, what an amazing job on this edition—kudos to you and the army of hundreds behind you!

Cheers,
Jeff Tisdale, RI

Letters will be considered for printing based on space constraints. Thank you for taking the time to share your ideas, kudos, opinions, and concerns with us. Submit your letter to the editor: info@reibc.org



LINKING INFRASTRUCTURE AND PROPERTY VALUE

TO AID INVESTMENT DECISIONS AND GAIN PUBLIC SUPPORT

Bruce Turner

The Organisation for Economic Co-operation and Development (OECD) states that infrastructure is key to economic and social development. "Infrastructure promotes prosperity and growth and contributes to quality of life, including the social well-being, health and safety of citizens, and the quality of their environments."[1] Residential and non-residential property values implicitly reflect these factors, and infrastructure investment decisions may be better informed by considering their potential impact on property values.

The current great concern over the need for whole-life asset management tends to create a public mindset focused on the massive cost of infrastructure. Real estate professionals can play a critical role in articulating the long-term benefits of infrastructure and their impact on property value. Developers, investors, homeowners, and municipalities gain from understanding the importance of infrastructure investment to preservation or enhancement of property values.

Tunnel boring for the Lower Mainland's Evergreen Line rapid transit project.

LOCAL GOVERNMENT'S CRITICAL ROLE

In 1793, Canada's first Assessment Act introduced a property tax that enabled local governments to pay for infrastructure, like roads, and property services such as fire protection. In that day, this made good sense as most wealth was in land and the provision of infrastructure and property services both preserved property value and grew wealth.

In modern Canada, we find that provision of property services related to wealth creation and sustainable prosperity continue to be embedded in local government finance—from development charges and property tax to user fees and the federal gas tax.

Taxpayer-funded infrastructure may often be controversial,[2] but it is essential to attract private investment necessary for economic growth and to preserve and grow the value of investments in our communities, our homes, and our businesses. Taxpayers benefit from increased

wealth and taxing authorities may adopt policy to benefit from tax-base growth; property tax continues to be the greatest source of municipal revenue across Canada.

It remains a primary function of local governments to enable sustainable prosperity and wealth building in their communities. Investing in service provision and infrastructure makes each municipality more attractive to private investment and to residents as a place to live. For example, local governments create infrastructure such as parks and recreation facilities that make a community more desirable for families and people of all ages. Roads connect neighbourhoods and provide access to amenities so that properties are more valuable than without those services. Utilities (water, sewer, hydro, gas, and telecommunications) are essential infrastructure that we may take for granted but their absence or significant deterioration makes homes less valuable.

Business value is enhanced and private investment for economic growth is encouraged through infrastructure investments. Transit and commercial core infrastructure ("downtown revitalization") attracts more people into business areas with the intent of increasing sales and reducing vacancy rates, and thereby enhancing property values and the tax base. Industrial and employment land is more valuable when provided with infrastructure necessary for competitive commercial and industrial operations.

THE PROBLEM

So, if infrastructure is critical to preserving our lifestyles and growing our community and individual wealth, why has infrastructure become so contested—debated in council chambers and reported in the media?

The Federation of Canadian Municipalities (FCM) describes the problem in the following terms:

> *For 25 years Canadians have watched the symptoms of the infrastructure deficit grow: rusting bridges, crumbling roads, crowded buses and subways, and thousands of drinking water warnings.*
>
> *How has this happened? Revenue imbalance. Municipalities own over 60% of the country's infrastructure but collect just eight cents of every tax dollar paid in Canada, with the other 92 cents going to federal, provincial and territorial governments.*

> *On their own, municipalities don't have the revenue tools to rebuild infrastructure, especially while they are expected to meet growing needs for policing, housing, the environment and immigrant settlement, including many responsibilities downloaded from other governments.*[3]

ADDRESSING THE CHALLENGE

An understanding of infrastructure's impact on property values can help in developing policy, testing options, and implementing solutions to the challenge of investing in and maintaining community infrastructure.

The infrastructure challenge has led to exploration of a number of financing innovations, emphasis on the need for long-term financial planning, and development of a whole-life perspective related to asset management. More effective asset management has been encouraged by changes to Public Sector Accounting Board standards, requiring municipalities to include asset depreciation allowances as well as acquisition or construction costs in their financial statements.

Concepts like sustainable prosperity, smart growth, and sustainable infrastructure are some of the policy and strategic asset management responses to date. Such concepts and related built-environment decisions may be better understood in the context of how they preserve

1 Organisation for Economic Co-operation and Development (OECD). *Strategic Transport Infrastructure Needs to 2030*, p13.

2 Frances Bula. "Vancouver-region voters reject sales-tax hike to fund transit projects." *The Globe and Mail*. July 3, 2015.

3 Federation of Canadian Municipalities. "Infrastructure: About the Issue." www.fcm.ca/home/issues/infrastructure/about-the-issue.htm (accessed January 8, 2016).

or put at risk the value taxpayers have invested in their homes and businesses.

SMART GROWTH

Smart growth arose out of the development pattern set out by Jane Jacobs 55 years ago in her book *The Death and Life of Great American Cities*. Smart growth promotes necessary growth in ways that leverage existing infrastructure and are less wasteful of resources. Advocates argue that smart growth developments conserve resources (land, infrastructure, and materials) and increase property values.[4]

Critics, on the other hand, contend that smart growth policies lead to higher house prices by rationing land (such as with urban growth boundaries). Higher house prices lead to less discretionary income for households, which means there is less money for other goods and services, which in turn lowers employment levels. Densification leads to more intense traffic congestion, resulting in economic losses and more intense air pollution.[5]

Such interesting debate could be made more persuasive and arguments more compelling were they supported by market evidence concerning the variables that influence property value.

4 Deborah Curran. *A Case for Smart Growth*. West Coast Environmental Law, 2003.

5 Wendell Cox. "Questioning the Messianic Conception of Smart Growth." *New Geography*. June 28, 2012. www.newgeography.com/content/002934-questioning-messianic-conception-smart-growth (accessed January 8, 2016).

Viewing natural assets as critical infrastructure offers the potential advantages of enhancing property value through green branding, reducing infrastructure costs (capital and operating), and preserving the environment.

ECO-ASSET STRATEGY

In 2014, the Town of Gibsons, BC, became the first municipality in North America to pass a municipal asset management policy that defines and recognizes natural (non-engineered) assets as an asset class and specifies obligations to operate, maintain, and replace natural assets alongside traditional capital assets.

Valuation is important to this process since the municipality needs to recognize what its natural assets are worth—generally in terms of civil services and substitution costs if replaced with engineered alternatives.

Viewing natural assets as critical infrastructure offers the potential advantages of enhancing property value through green branding, reducing infrastructure costs (capital and operating), and preserving the environment.

PROPERTY VALUE IS KEY

Infrastructure poses many challenging questions for decisionmakers and taxpayers. The answers to these questions are more complete when they address how each option preserves our property values and offers opportunities for sustainable wealth creation in our communities. Recognizing this, the following questions —each framed with property value in mind—can be used by decisionmakers when considering infrastructure investment.

- To what extent do existing policies and investments in infrastructure preserve and grow the value of investments in homes and businesses? To what extent might property values decline with deterioration of infrastructure?
- Is infrastructure investment in communities sufficient to provide opportunities for continuing wealth creation in a global marketplace? How does infrastructure investment (or lack thereof) affect local and foreign direct investment in our communities?

> When cities improve the energy efficiency of their buildings, they save their taxpayers money. When they invest in modern low-carbon infrastructure, they raise their residents' standard of living. Taken together, these actions make cities more attractive to businesses and investors.
>
> *"What Paris Talks Have Accomplished So Far" —Michael R. Bloomberg, former Mayor of New York City. December 6, 2015.*
>
> > *www.bloombergview.com/articles/2015-12-06/what-paris-talks-have-accomplished-so-far*

- If a community's sewage treatment system is old and does not meet current regulatory requirements, is the potential degradation in property value greater than the cost per property per year to upgrade the system? Should decision criteria focus on capital cost or include a quantification of potential loss to investments in homes and businesses? Does it make sense for a fringe community in a high-growth area to invest in a modern water system (or risk becoming the next Walkerton)?
- How will climate change affect the value of properties? Is infrastructure investment sufficient to preserve property values from climate change impacts? Should a community develop a risk profile for major drivers like climate change to help decisionmakers and taxpayers weigh costs against the potential impact on property values and the environment?
- Are there opportunities, such as was done in Gibsons, to incorporate nature's assets as an integral part of strategic asset management to reduce capital and operating costs, enhance, property investments, and protect the environment? To what extent might such green branding enhance property values and build the tax base?
- How might infrastructure investments on First Nations' lands complement neighbouring jurisdictions and encourage private investment, greater wealth, and increased property value for all communities?
- How might communities use information about impacts on property value to help prioritize infrastructure decisions in their asset management framework and better understand the distinctions between criticality, consequence, and risk?

WHAT TOOLS CAN ASSIST?

Generally accepted valuation practices for single-property appraisal are increasingly adapted to mass appraisal using technology that incorporates "big data" and employs methods like Hedonic price models, which are commonly used in mass appraisal throughout North America in applications ranging from property tax assessment to investment portfolio analysis and eco-system valuation. Their basic premise is simply that the price of a marketed good is related to its characteristics or the services it provides. So, as with traditional single-property appraisal, various property characteristics (e.g., physical, environmental, economical, legal/regulatory) are modelled and results analyzed to estimate the influence of various factors on property value.

CONCLUSION

Homeowners, investors, and taxpayers perceive property value through economic, social, environmental, and cultural lenses. Understanding the short- and long-term impact of infrastructure investments on property value can provide a logical lens and standard metrics to foster common understanding and more informed decision making.

Balancing the costs of infrastructure investment against the benefits of preserving property values can aid in prioritizing asset investment requirements. Knowledge of potential for loss or gain in property value may result in greater public support for infrastructure investment—to sustain livable resilient communities and leverage the beautiful BC environment in a competitive global economy.

Page 7 photo by Province of BC. Page 8–9 photo by Phil Tomlinson (flickr CC).

CITY OF SURREY:

INFRASTRUCTURE SERVICING IN AN AGING BUT GROWING COMMUNITY

Jeff Arason

Communities face a number of pressures related to their drainage, sewer, water, and transportation infrastructure assets. They need to operate, maintain, and eventually replace existing infrastructure to meet the needs of their existing residents, and they need to plan, design, and construct infrastructure to support growth.

Above: Grandview Heights water pumping station.

The City of Surrey has been using geographic information systems (GIS) since 1995 to inventory and maintain information on the infrastructure assets it manages and supports. Before then, this information was manually added to hardcopy maps, books, and tables. Hardcopy information made it difficult to analyze and understand the overall status and health of the infrastructure systems and to share and collaborate with interested stakeholders. Therefore, assets were not maintained as effectively in the past as they are today. While prior to 1995 the City had a program to replace some of its aging infrastructure, the City would often replace aging infrastructure as a reactive measure to asset failure and as a result many assets were replaced after their service life had ended.

With the advent of GIS, the City is now able to maintain all asset information in one common database. Besides being a central repository, GIS is a resource that provides information in real time to all, including residents and the development community, through a variety of platforms—desktop computers, tablets, and phones. Ready access to this data allows all interested stakeholders to be well informed on matters pertaining to the sustainability and management of the City's infrastructure and gives City staff the detail required to manage infrastructure maintenance and replacement in a proactive way.

AGING AND UNDERPERFORMING INFRASTRUCTURE ASSETS

There are two significant questions that each community needs to ask itself when planning to replace aging infrastructure: When do we replace it? And what do we replace it with?

Communities make general assumptions about the service life for infrastructure assets under their ownership. For example, pavement on arterial roads is expected to last 15 years, but it is expected to last 20 years on collector roads and at least 25 years on local roads. Water mains and sewer mains are expected to last anywhere from 50 to 100 years depending on the pipe material. Although every asset has an expected service life, it may be necessary to replace it before this date. Any type of information that can be collected on an infrastructure asset can be stored within a GIS database; this can include inspection results, maintenance history, and other service records (such as frequency of repair), all of which help to inform communities when a particular infrastructure asset is in need of replacement. In Surrey, the majority of City assets are relatively young as compared to their expected service life (as illustrated by the water main inventory in Table 1).

City of Surrey Mapping Online System (COSMOS).

Sanitary force main construction in Campbell Heights (above and near right) and at Port Kells pump station (far right).

Table 1: WATER INFRASTRUCTURE ASSET INVENTORY

Infrastructure Asset	Expected Service Life (ESL) (in years)	Quantity (in metres)	Inventory: less than 10 years of ESL remaining	Inventory: more than 50% of ESL remaining	Inventory: more than 75% of ESL remaining
Water main (asbestos cement)	50	218,695	100%	0%	0%
Water main (plastic)	80	686,386	0%	97%	35%
Water main (ductile iron)	100	1,075,701	0%	100%	41%
Total Water Main	**-**	**1,980,782**	**11% of total**	**88% of total**	**34% of total**

Some infrastructure assets, instead of being replaced at the end of their service life, may need to be replaced earlier if they are not providing the desired level of service to the community. Densification and climate change, or a desire to increase in the level of service to be provided may also trigger the need for an asset to be replaced. Such replacements are traditionally identified with computer modelling, which involves making assumptions such as population (for sewer, water, and transportation systems) or rainfall and imperviousness (for drainage systems) and then evaluating asset performance against the desired level of service. A replacement asset or a change in how the asset is operated or maintained can then be identified for each asset not providing the desired level of service.

Although its infrastructure is relatively young, Surrey completes a review of its infrastructure assets every two years. From this review of both the aging assets and those assets not providing the desired level of service for its existing residents, Surrey estimates that $610 million of investment is required to support existing residents over the next 10 years (Table 2).

With the investments required over the next 10 years identified, the works are then further reviewed in an effort to prolong the replacements until absolutely necessary and ideally until such a time as the replacement can be scheduled with other activities in the project area—as nothing will draw the justified scrutiny of residents more than replacing a water main and repaving the road only for the same road to be cut up two years later to replace the sewer main. While in some cases replacing multiple assets on the same street at the same time may result in one asset being replaced a few years in advance of its needed replacement, this approach generally reduces the total cost of the two replacement projects through reduced construction costs and reduced administration costs. This approach also ensures that the road pavement is not further degraded from multiple pavement cuts during installation and minimizes impacts to local residents and businesses from lane or total road closures.

FUNDING INFRASTRUCTURE ASSETS IN THE SHORT TERM

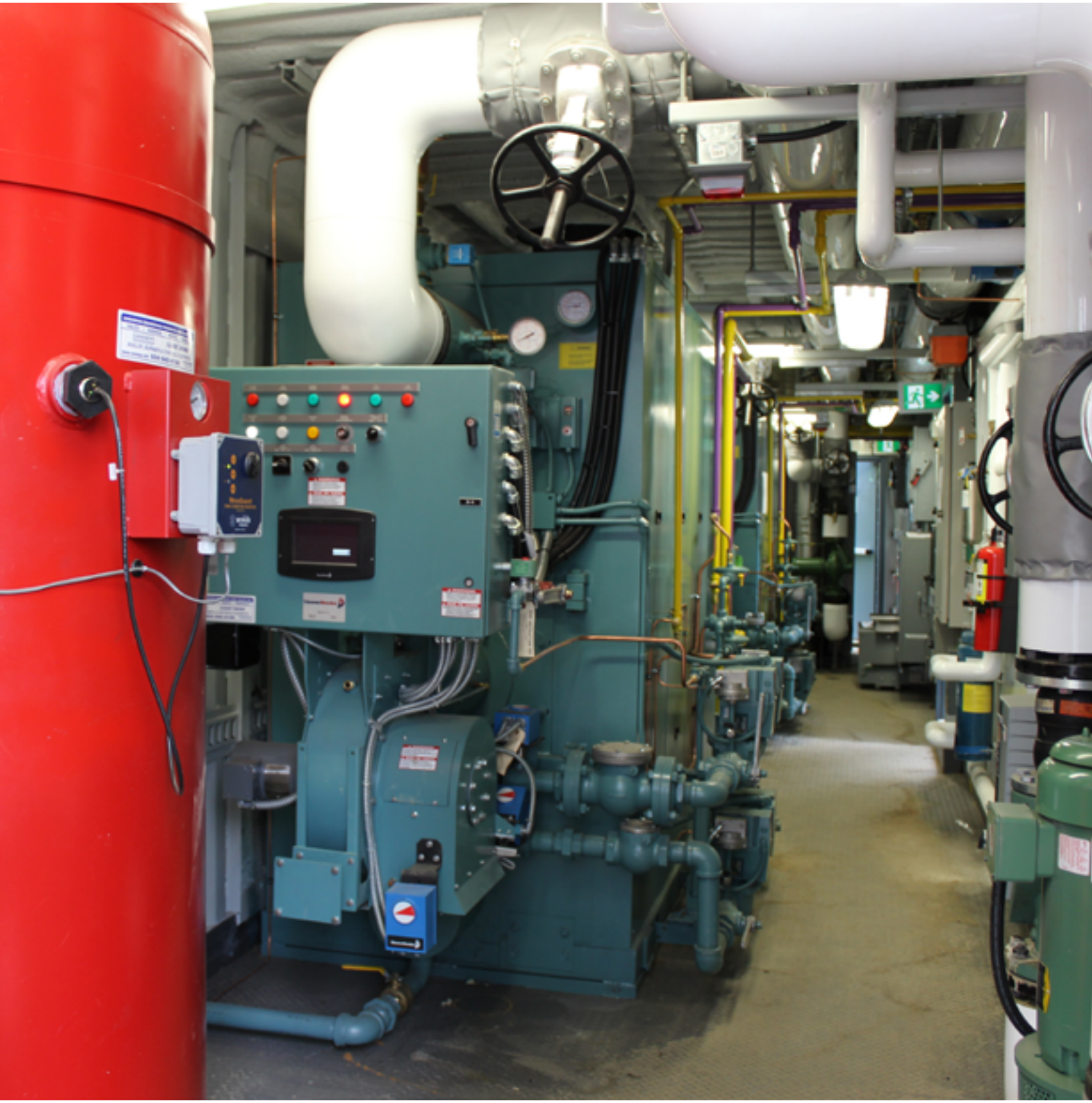
Costs to operate, maintain, and replace community infrastructure assets to service existing residents, including any costs necessary to fund regional activities (such as water supply and treatment and wastewater treatment), are funded by the community's existing residents in a number of ways. These include allocating a portion of property taxes, establishing a parcel tax for each infrastructure asset, or establishing a utility charge where both the parcel tax and utility charge can vary by a number of different factors—such as land class or usage. In Surrey, the revenue required to fund each type of infrastructure asset uses its own formula (Table 3).

Table 2: 10-YEAR SERVICING PLAN

Infrastructure Type	Expected Investments to Service Existing Residents (over 10 years)
Sewer	$62,964,570
Drainage	$128,733,386
Water[1]	$128,091,000
Transportation	$290,540,000
Total	**$610,328,956**

[1] Includes replacing majority of asbestos cement water main identified in Table 1

The revenues generated from these sources are sufficient to support operate, maintain, and complete 10% (representing one year) of the replacements identified in Surrey's 10-Year Servicing Plan. For Surrey's water utility,



Surrey City Energy's portable thermal energy plant.

Table 3: INFRASTRUCTURE REVENUE SOURCES

Infrastructure Type	Revenue Source	Amount Charged for Average Single-Family Residence in 2015
Drainage	Parcel Tax	$213 per parcel
Sewer	Utility Charge	For parcels on a water meter: $0.90625 per cubic metre consumed For parcels not on a meter: $580 per parcel
Water	Utility Charge	For parcels on a water meter: $0.8950 per cubic metre consumed For parcels not on a meter: $779 per parcel
Transportation	Tax (Road Levy)	$107, based on a rate of $0.16514 per $1,000 of taxable value, with the 2015 average single-family home being assessed at $648,000

revenue is sufficient to meet the City's current replacement needs, but as indicated in Table 1 only a small portion of the City's water main assets need to be replaced in the next 10 years. This is typical of most of Surrey's infrastructure assets, which means that a longer-term funding solution needs to be developed for when this infrastructure comes of age.

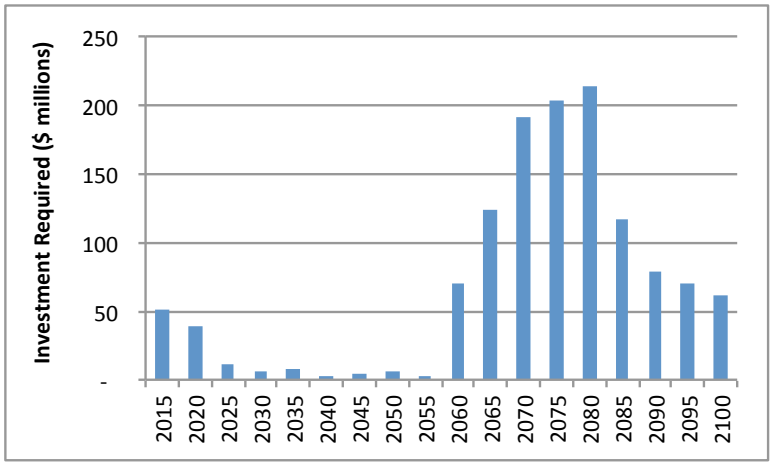
FUNDING ASSET REPLACEMENT IN THE LONG TERM

Some communities have embarked on the endeavour of planning for the replacement of aging infrastructure and have set the goal of generating revenue equal to 1% of their total asset value each year—on the basis that after 100 years, which is the expected service life on many infrastructure assets, they will have sufficient reserves to fully fund the replacement of each asset.

In Surrey, the replacement value for all infrastructure assets, as estimated at the end of 2014, was $4.2 billion. At this value, the City would need to allocate $42 million toward replacements each year—instead of the $9 million currently allocated. While this may seem like a large discrepancy, Surrey, which is just beginning to discuss its long-term financial strategy to replace its infrastructure assets, isn't as concerned as other communities are.

Why? First of all, the City's assets are relatively young, so Surrey can take some time to develop a well-informed plan. The expected cost, for example, to simply replace the existing water mains over the next 85 years is high, but the majority of these investments are not expected to occur for another 45 years. Second, the 1% savings approach assumes that each infrastructure asset is going to be replaced with a similar asset. This is not necessarily true as there are many redundant infrastructure assets and these can be decommissioned over time. Third, reductions in levels of service may result, which could eliminate the need for some replacements. Fourth, this approach assumes that the demand on each asset will remain the same over the entire life of each asset, which is actually unknown at this time. In the past few years Surrey has already found that in some situations expected demand on many of its water main assets has lessened thanks in part to advances in water conservation; other initiatives in the future may help to further reduce demand on many of the infrastructure assets. Finally, redevelopment may need to replace the aging asset in order to support growth, and the full cost or at least a portion of the cost will be borne by the development community.

ESTIMATED INVESTMENT REQUIRED TO REPLACE EXISTING WATER MAINS



> In coming years Surrey will be developing its long-term financial strategy for the replacement of its infrastructure assets—while the majority of its infrastructure assets are still in their infancy.

Tynehead pedestrian overpass.

In addition to likely generating more revenue than what may be required to replace the asset at the end of its service life, the 1% savings approach is considered by some as not entirely equitable. New developments are required to fund the cost of all infrastructure assets needed to support their development (for example, the local water main fronting a new single-family house), and generating revenue based on a 1% savings approach effectively asks the resident—who has just paid for the full cost of the asset—to already begin paying for its replacement, which is not likely to occur within the resident's lifetime.

In coming years Surrey will be developing its long-term financial strategy for the replacement of its infrastructure assets—while the majority of its infrastructure assets are still in their infancy.

SERVICING GROWTH

When servicing growth, communities rely on their official community plan (OCP), neighbourhood concept plans (NCPs), and local area plans (LAPs) to identify what infrastructure improvements are required to support the expected population, commercial floor area growth, and industrial floor area growth. Recently the City of Surrey completed its West Clayton NCP, which identified the need for approximately $107 million in infrastructure improvements to support the planned growth of almost 18,000 residents.

Most communities require that the cost of improvements that support growth be paid for by developers via development cost charges (DCCs). DCCs are an effective means to ensure that each development within the benefiting area pays its equitable share for the cost of improvements necessary to support growth (Table 4). The value of a DCC can vary significantly between communities since there is some flexibility in what works are included in DCC programs; in many cases it is not an apples-to-apples comparison when comparing DCC rates between communities.

Though using DCCs is an effective way to ensure that development pays for the infrastructure required to support growth in an equitable manner, there are some challenges with this approach. The primary challenge with charging DCCs is that they are payable, as established by the Local Government Act, at either the time of subdivision or with the issuance of a building permit, yet the infrastructure generally needs to be constructed—or at least some form of commitment needs to be in place to build the required infrastructure—in advance of the subdivision or issuance of a building permit. For example, the southern portion of the Sunnyside Heights NCP area in South Surrey has no sanitary sewer system. In order

Table 4: DEVELOPMENT COST CHARGES BY LAND USE (2014 BYLAW NO. 18148)

Land Use	DCC per Dwelling Unit
Single-Family Home (RF-12)	$28,691
Townhouse Dwelling Unit (RM-30 – 1,500 sq.ft.)	$24,630
Low Rise Apartment Dwelling Unit (RM45 – 900 sq.ft.)	$16,254
High Rise Apartment Dwelling Unit (RM135 – 650 sq.ft.)	$6,526

for this area to develop, a large sanitary sewer pump station is required. The estimated cost for this work is $11 million, of which approximately $8 million is to be funded by DCCs. While DCC charges would be sufficient to fund this investment, the City does not have the upfront funds necessary to do the work as no development has been permitted in this area, so no DCCs have been paid. As a result, developers are often required to front-end the required improvements, eventually being reimbursed by the City with the DCCs collected from the benefiting properties that develop after the works are constructed (through an agreement referred to as a DCC Front Enders Agreement (DCC F/E)).

While a DCC F/E addresses the cash flow problem that results from the timing of when DCCs are paid, it can be a challenge to undertake. In many cases, the developers that front-end the improvements will be reimbursed over many years and may have incurred a borrowing cost that is not recoverable.

Occasionally there are works that are required to service existing residents as well as the expected growth. In these situations the cost attributed to servicing the existing residents is funded by the existing residents (property taxes, parcel taxes, and/or utility charges) and the cost to service growth is funded by DCCs.

The OCP, NCPs, and LAPs are excellent processes to establish future land uses and the infrastructure necessary to support them, yet this approach can result in infrastructure that is not very accommodating to

Construction of a new rail overpass.

deviations from these plans. In the 1990s, Surrey completed the East Clayton NCP. In this NCP, property owners within a 50-acre rural area known as Aloha Estates insisted that their area would never redevelop, and so the infrastructure installed to support development of the NCP area was not sized or constructed to support the future redevelopment of Aloha Estates. Fifteen years later, thanks in part to significant escalation in property values, the property owners within Aloha Estates are now seeking to redevelop. Since the infrastructure assets were not sized to support the redevelopment of this area, improvements estimated at $2.1 million for just the sanitary sewer system are required. Upsizing the original infrastructure when it was installed could have been completed for a fraction of this cost. As a result, Surrey is exploring how, in NCPs, it can upsize the original infrastructure assets to support future redevelopment of the NCP area, including any planned rural areas within the NCP. While it is relatively easy to identify what improvements are necessary, the challenge will be funding these improvements. It is doubtful that the first developer seeking to develop an NCP area will be keen to front-end the cost of upsized infrastructure given that it's possible the rural area may never develop, which means there is a risk they may never be reimbursed for the investment.

FUTURE CHALLENGES

One common challenge to servicing existing and future residents is rightsizing infrastructure to address the impacts of climate change. At this time, climate change science is not specific enough to inform Surrey how its stormwater system requirements should be adapted, and therefore the City has not introduced any changes to its design criteria. Over the next two years Surrey hopes to have a number of studies completed that will help to inform the development of new design criteria for drainage and sanitary sewer systems that will ensure the appropriate sizing of drainage and sanitary sewer infrastructure so that climate change does not reduce their expected level of service.

CONCLUSION

Advances in technology are allowing communities to keep better records on their infrastructure. These improvements help to ensure that assets are replaced before they fail. As communities grow and age and the impacts of climate change are realized, the cost of replacing infrastructure assets is increasing. While Surrey has yet to establish a long-term funding strategy for all of its infrastructure assets, the City is well aware of the challenges that lie ahead and the considerations that need to be taken into account to ensure the long-term funding strategy is sufficient and equitable.

Photos, tables, and chart by City of Surrey.

ON THE JOB

>> ROD ADAM, RI, FRI

PRESIDENT
ARBOR COMMERCIAL REAL ESTATE SERVICES

WHAT DO YOU DO IN YOUR PROFESSIONAL POSITION?

I provide professional real estate asset management services to a select group of real estate investors and other users. As the president and owner of the practice, I handle client reporting and relations, staffing, and management. My team and I provide the investor with a bundle of professional services to meet and sustain their real estate investment objectives. We represent the client investor, assisting them by identifying, acquiring, developing, or repositioning their assets in the real estate marketplace, and professionally marketing and managing their assets to realize the required return on investment.

HOW DO YOU SPEND YOUR DAY?

My days are spent participating in the hands-on management and marketing of our clients' assets and the programming of the investment resources required. I monitor real estate investment trends and day-to-day events and demands in the international, national, and regional real estate marketplace, interpreting how trends and events will influence clients' real estate assets and reporting to and counselling clients accordingly. I also spend time providing direction, service education, and training for staff and contractors.

WHAT PREPARED YOU FOR THIS ROLE?

My father was an entrepreneur who encouraged me at an early age to become an independent professional and provide for myself not only by having a job but also by getting involved in a business where I could learn how value was created and how to invest resources wisely. After graduating from high school, I identified the real estate business at that time as short on professional expertise, which afforded me an opportunity to participate and hone my skills as a real estate professional. My formal education included completing the AACI Appraisal program at the University of Winnipeg, the CPM program in the United States, and the Urban Land Economics program at UBC. I have been fortunate to hold senior management positions early in my career with national and international real estate investment organizations and financial institutions, prior to opening my professional practice in 1975. (On March 1, 2016, I will commence my fifty-first year in the real estate profession.)

WHAT DO YOU FIND CHALLENGING ABOUT YOUR WORK?

World events influence decisions related to investment real estate: we now function in a world market with daily political and economic influences. One of the greatest challenges is interpreting and assimilating the abundance of news available daily about the local, national, and international market trends, influences, and capital movements that drive real estate investment.

ARE THERE COMMON MISUNDERSTANDINGS ABOUT THE WORK YOU DO?

The marketplace thinks property managers and asset managers are the same thing, but they are different roles. In commercial real estate management, the property manager is usually employed by the owner but paid by the tenants to manage the day-to-day operation of the asset. Though also employed, usually, by the owner or investor, the asset manager is responsible for managing the net rent collected from the tenants. The asset manager deals with the financing of the investment and the long-term planning and programming of the owner's or investor's resources to sustain the investment and generate an acceptable return on investment. Informed professional investors know they need a professional asset manager.

WHAT TYPES OF ORGANIZATIONS EMPLOY ASSET MANAGERS?

Real estate investment trusts, pension plans, developers, real estate financing providers, investment real estate brokers, private investors, commercial corporations, facility providers, educational institutions, and non-resident investors.

WHAT CHARACTERISTIC OR PERSONALITY TRAIT WOULD BE BEST FOR THIS TYPE OF CAREER?

The ability to really listen to clients, define their needs and objectives, and involve them in the process.

FORT ST. JOHN:

A LITTLE CITY WITH BIG INDUSTRY

Julie Rogers

Located in the heart of majestic Peace River country, Fort St. John supports a trading area of more than 69,000 people in the city and outlying service region. The population is dynamic, young, and energetic. With a median age of 30.6, Fort St. John is one of the youngest municipalities in Canada.

City of Fort St. John from the air (left) and its outdoor hockey rinks (above).

Fort St. John offers top-notch recreation facilities and as the "Energetic City" offers hundreds of events all year long to entertain people of all ages and interests. Annual events include the High on Ice Winter Fest, Chocolate Festival, Theatre Festival, Canada Day Parade, moto-cross and stock car races, and farmers' markets every weekend. The city boasts myriad indoor and outdoor recreation facilities and the natural setting offers adventure year round. In Fort St. John, *quadding* is a verb; riding trails on a quad is both sport and transport.

Fort St. John is focused on being a strong, vibrant, and sustainable community. In the midst of high growth and an inspiring list of major projects, the City remains focused on its key values and vision. Our vision statement is "Fort St. John will become a community where nature lives, businesses prosper, and families flourish." We will get there by embracing our core values of transparency, responsiveness, innovation, and integrity.

A GROWING CITY

Fort St. John is experiencing unprecedented growth. In 2014 the city had the second highest growth rate in the province at 4.7%, and growth is expected to continue in the decades to come due to some major projects: the provincial government recently announced its support of BC Hydro's Site C Dam and has indicated its support for a Liquid Natural Gas (LNG) pipeline. And, according to the BC Major Projects Inventory, Fort St. John could see $1.9 billion in major projects in the next few years in addition to BC Hydro's $8.3 billion Site C Dam. These major projects affect job growth and population, which could double by 2040.

The data on population in the region is exclusive of its shadow population. There are possibly 2,000–4,000 uncounted people living in suites or rooming houses. Local industry requires transient workers and provides housing for approximately 15,000 workers in the field just outside the municipal boundary.

To prepare for growth, the City has spent time identifying future needs and doing long-term planning. An emphasis on community objectives has been maintained through consultation with citizens. For example, in preparation for the Site C Dam, the City launched "Let's Talk Site C" and engaged citizens over several months to discuss what would be most important to them if this major project—only 7 km from the city, employing several thousand people in the community and in camps—were to be launched. Our mayor and council met with citizens at public town hall meetings, in the parks, and in coffee shops. These conversations provided council with

direction for the development of a legally binding Community Measures Agreement with BC Hydro.

Development of plans and implementation of strategies will continue through the next few years. The City will continue to take measures to ensure the community is not adversely affected by the project and is in fact better off where possible. In the coming weeks the City will be taking the proposed Community Measures Agreement with BC Hydro back to the community for its feedback before signing.

OFFICIAL COMMUNITY PLAN

To guide Fort St. John's growth, decisions are made based on the following four guiding principles:

1. **Economic Prosperity** refers to an economy that balances local employment with a healthy and vibrant quality of life. Fort St. John's economic prosperity is directly linked to the health of the oil and gas industry as well as the innovation and opportunities that are prevalent in the region. A prosperous economy has a diverse cross-section of employment sectors, including industry, agriculture, forestry, retail, and tourism; however, it must also recognize and support existing industry and business.

2. **Environmental Sustainability** refers to living within the means (or carrying capacity) of the local, regional, and global ecosystems. For Fort St. John, this means understanding the city's contribution to regional water and air quality and linkages between the city's green space and natural environment. This is essential for creating a healthy and livable community.

3. **Social Inclusion** encompasses the notion of community. It is the essence of a safe, healthy, accessible, and friendly city. Social inclusion recognizes and values diversity and emphasizes individual belonging by increasing social equality and the participation of diverse and disadvantaged populations.

4. **Cultural Diversity** describes a rich and diverse culture that has thriving traditions, heritage, and arts. Another aspect of culture is inherent in the nature of residents, many of whom are renowned for their ability to be innovative and seize opportunities. This cultural environment creates a key sense of place and is what gives Fort St. John its heart.

Fort St. John is taking a proactive approach to the anticipated increasing level of industrial activity by making some strategic decisions and alliances. The City is developing a strategic approach to growth needs within its own boundaries and is working closely with neighbouring municipalities on shared priorities.

Some examples of the City's planning processes:

- Official Community Plan, 2012
- Municipal Facilities Master Plan, 2014

Indoor recreation facilities (left); outdoor recreation encounters local industry (above); Devon Oil and Gas (right).

> Fort St. John is taking a proactive approach to the anticipated increasing level of industrial activity by making some strategic decisions.

- 50 Year Growth Study, 2015
- Energize Downtown Plan, 2015
- Development Services Process Review, 2015
- Transportation Master Plan, 2015

AN INDUSTRIOUS ECONOMY

The community of Fort St. John has grown with industry and because of industry. The Northeast region of BC has been involved in resource extraction for over 60 years. In 1955 the Westcoast Transmission Company (now Spectra Energy) began construction on a 24-inch pipeline from Taylor, BC, to the US, and in 1957 began construction of a pipeline across Canada. Fort St. John is BC's "Energy Capital," with energy production in oil and gas, hydro, solar, wind, and geothermal.

Natural gas is and will continue to be one of the drivers of Fort St. John's economy in the coming decades; demand for LNG in BC is projected to increase by 121% from 2015 to 2045. Fort St. John is an "upstream" community—where LNG is extracted—and the city provides all of the services needed to produce the product, from roads and pad construction to drilling and biologists.

Agriculture remains an integral part of the Northeast regional economy. With close to 2.5 million acres in production, the Northeast is the largest agricultural region in BC and home to some 1,800 farms, producing well

Peace River agriculture (above); sharing the road with industry requires road maintenance (right).

over $100 million worth of product annually. The region produces 90% of grain crops and 95% of canola in BC. The Peace River region produces some of the world's highest rated honey, and with average honey yields of 200 pounds per colony, it is one of the most productive regions in the world. Livestock activity is dominated by cattle ranching. Areas of growth and diversification for the sector include livestock finishing, dairy and eggs, and expanded game farming.

Northeast BC is active in the forestry sector. Three timber supply areas have a combined annual allowable cut of 5.6 million dry cubic metres, and the region is home to multiple processing mills that produce lumber, pulp and paper, and oriented strand board (OSB).

Northeast BC has 2% of the province's workforce but is responsible for 9% of its GDP annually.

CAPITAL FUNDING

Municipalities in the Peace River region receive BC Government funding through the Peace River Agreement, which was signed in 2015. This agreement replaces the former Fair Share Agreement and recognizes that municipalities provide infrastructure in the form of policing, water, sewer, roads, and hospitals to industries outside city borders without the benefit of being able to tax them. The new agreement provides funds to bridge this gap. In 2016 it is estimated that Fort St. John's portion of this funding will be $23.3 million.

Most capital projects are funded by the Peace River Agreement. However, some growth-related capital expenses are funded in part by municipal development cost charges. Water is funded by user fees, and Fort St. John uses water meters in a user-pay system. Water rates have been increasing steadily for the last five years in order to reach the goal of full cost recovery for the water and sewer systems, funded by users. We anticipate reaching this goal in 2018.

The City also regularly applies for federal grants in the form of the Gas Tax grant and the Building Canada grant.

INFRASTRUCTURE DECISIONS

In 2016 the City will spend over $16.3 million on roads and related infrastructure, $7.1 million on facilities, $10.8 million on water and sewer projects, $4 million on equipment, and $3.8 million on other miscellaneous capital projects. Fort St. John has a significant infrastructure deficit and allocates the majority of the Peace River Agreement funds to infrastructure upgrades.

Council has developed a vision for Fort St. John through our Strategic Plan, which is further supported by the Official Community Plan as well as Master Plans (Transportation, Liquid Waste Management, Water, Recreation, Facilities, etc.). The public is engaged in the development of these plans and assists council by providing input. In addition, council, through the administration, has developed decision-making matrices for annual capital projects and staffing needs. The matrices address such items as legislative requirements, risk management, the environment, corporate and community needs, whether a project leverages other funds, and more. These processes are considered best practices within local government.

The City also has a 50 Year Growth Study outlining future infrastructure and land requirements. This study also maps the useful life of current assets and predicts future community needs.

LONG-TERM ASSET MANAGEMENT

To manage infrastructure assets over the long term, tangible capital assets are inventoried, full lifecycle costs assigned, and funds put into reserve for future replacement. However, Fort St. John has only just started this asset management program and has 60 years of built-up need plus new infrastructure being brought on board every year.

The City is responsible for streets within the municipal boundary (though the Ministry of Transportation and Infrastructure is responsible for provincial highways that run through our boundary). Eighteen years ago the Province of BC was responsible for some municipal roads, and at that time 50% of city roads were gravel. When the Province downloaded this cost to local government, the City inherited years of work to catch up on. Using funding from the previous Fair Share Agreement, some roads have been paved every year and now there are only a few roads left to pave. Due to cold northern winters our roads take a beating and are in constant need of repair. Once the last of the city roads are paved, more funds will be allocated to replacement or overlay on existing roads.

Fort St. John is responsible for potable water for our residents. The City currently makes potable water available outside the municipality at the Rural Water Station, but a strategy for providing water outside city boundaries will soon be needed because of capacity and location issues.

The City's current water supply is at capacity during the maximum day-demand scenario. A projected 50-year capital plan for water infrastructure has been developed that includes major water system upgrades and future network mains.

Major items included in the capital plan:

- Upgrades to the existing water treatment plant, wells, and high lift pump station, which can currently service a population of only 24,000.
- Upgrade to Charlie Lake water treatment plant to service future growth (up to a population of 41,500) until Site C construction is complete and another Peace River water source can be established.
- A new Peace River/Site C reservoir water source, treatment plant, and reservoir (to serve a population up to 62,000).
- Major future trunk mains in new growth areas to supply water and fire flows.

The 50 Year Growth Study estimates that in 50 years, future (new) capital projects required to meet the growth demands of the day will total $846 million. In keeping with the requirements of the Community Charter, and in accordance with best practices, the City now prepares a Five Year Financial Plan that includes a capital plan component. The results of the 50 Year Growth Study provide an opportunity to extend this short-term capital plan out over a longer horizon.

OUR APPROACH

Historically, councils did not put funds away for the future replacement of infrastructure and it is doubtful that the City will ever be able to put enough money in reserves, as we are 60 years behind. Senior levels of government used to provide substantial grant support for water, sewers, and roads. Those days are gone and there is now limited support from senior levels of government, so the City relies predominately on the local tax base. The current city council has passed a policy that requires 10%–15% of the Peace River Agreement funds to be put into reserves to fund future infrastructure needs. The amount specified allows for some flexibility to manage current needs while ensuring that a minimum of 10% will be allocated to reserves. Will this be enough? Probably not, but it is a start.

In addition to the capital reserves, the City is maximizing the life of existing infrastructure. Potholes are filled quickly to get as many years as possible out of our roads before replacement or overlay become necessary. Water system maintenance efforts are ongoing and include well rehabilitation, raw water supply-line cleaning, and water treatment plant filter cleaning. Short-term upgrades could include adding another high lift pump, adding filters at the water treatment plant, and possibly adding or modifying wells.

Photos by City of Fort St. John.

ASK A LAWYER

John McLachlan, LLB

Q: *How do local governments raise funds for infrastructure, and what provision allows for the Peace River Agreement?*

A:

Roads, bridges, sewers, water supply, and transit—these basic infrastructure services are the building blocks for economic growth. In order to grow and thrive, municipalities need solid infrastructure; however, given the limited means by which municipalities can raise funds, municipalities have struggled to maintain the current infrastructure in place, much less plan for future infrastructure needs and potential growth.

Over the years there has been a dramatic shift between the various levels of government in the allocation of responsibility for infrastructure costs and maintenance. In 1955, municipalities owned just 22% of public infrastructure, with the federal and provincial governments owning 44% and 34%, respectively. The burden has since shifted such that municipalities now own 52% of public infrastructure but collect only eight cents of every tax dollar.[1] In 2007 the national municipal infrastructure deficit stood at $123 billion.[2]

Though the infrastructure burden has shifted to the municipalities, there has been no adjustment to allow for municipalities to have greater control over funding sources. Municipal governments are creatures of statute and their ability to fund and operate their infrastructure projects are restricted to those powers granted to them by the Province.

Municipal governments primarily get their funding from property taxes, user fees, and transfers from the provincial and federal governments. The ability to raise funds through property taxes and user fees is limited in smaller communities, particularly those without a large industrial tax base. In addition, municipalities that are primarily dependant on a single resource sector often struggle with maintaining infrastructure as the sector goes through boom and bust cycles, and many of these communities find themselves with an infrastructure deficit that they are unable to address without provincial or federal grants.

The difficulty with having to seek provincial or federal grants is that they are not guaranteed and are often tied to specific conditions or programs, which limit the municipalities' flexibility to determine which projects take priority and to fund them.

The Local Government Grants Act [RSBC 1996] Ch. 275 and the associated Local Government Grants Regulation BC Reg. 221/95 (the "Regulation") give the Province the discretion to make both conditional and unconditional grants to municipalities and regional districts. The Regulation sets out the criteria for the awarding of grants and the maximum amounts available based primarily on the population and a formula related to the size of the property assessment base or as a percentage of the capital costs of the particular project for which the grant is given.

1 John Broadhead, Jesse Darling, and Sean Mullin. *Crisis and Opportunity: Time for a National Infrastructure Plan for Canada.* Canada 2020, 2014.

2 *2007 FCM-McGill Municipal Infrastructure Survey.* The survey found that the infrastructure deficit (2007) stood at $123.6 billion and the additional cost to account for new or expanded facilities to meet new needs and additional capacity was $115 billion.

> Though the infrastructure burden has shifted to the municipalities, there has been no adjustment to allow for municipalities to have greater control over funding sources. Municipal governments are creatures of statute and their ability to fund and operate their infrastructure projects are restricted to those powers granted to them by the Province.

There is also a provision in Part 4, Division 5 of the Regulation that allows the Province to provide special conditional grants to municipalities or regional districts that, in the opinion of the minister, are: 1) needed to assist in the resolution of municipal or regional district problems that are unusual or unique and for which the minister considers no other means of providing assistance is available; and 2) needed to assist in the provision of services in regional districts that are sparsely populated and financially disadvantaged.

Recently, pursuant to the authority granted under the Regulation,[3] the Province entered into a new agreement with Peace River Regional District and various constituent municipalities to address the historic infrastructure deficits in the area and to allow for further infrastructure development to facilitate economic expansion. This Peace River Agreement replaced a prior agreement between the parties that had been in place since 2005.

Section 6 of the Peace River Agreement sets out that the objective of the MOU is to address issues respecting historic infrastructure deficits, parity, responsiveness, local autonomy, accountability, certainty, industrial competitiveness, economic development, and regional infrastructure needs while having limited precedent effect with other local governments in British Columbia. In addition, the MOU states that the parties have a mutual interest in ensuring that the parties have the resources to upgrade, maintain, and expand the services and infrastructure necessary to facilitate economic expansion of the oil, gas, forest, and other industries within the region.

The Peace River Agreement creates a conditional grant fund that the regional district and participating municipalities can use to address their respective infrastructure needs. For 2016 through 2019, the annual grant fund will be $50 million. Starting in 2020 the fund will increase annually by 2%.

In order to be eligible to receive its portion of the grant, each party must meet the eligibility requirements set out in the Agreement. In particular, each party must submit to the Province a Long-Term Development Plan (LTDP) that outlines the intended policies, operational activities, and capital investments for the ensuing five-year period and must identify how the annual grant will contribute to enhancing the region as a service centre for industry and its workers. The LTDP must be revised every five years.

In addition, each party must submit an Annual Development Plan (ADP) that outlines the anticipated policies, operational activities, and capital investment the party intends to undertake in the upcoming year. Further, there is a requirement that each party provide the Province with an Annual Progress Report (APR) that reviews the policies, operational activities, and capital investments that the party has undertaken in the previous two years. These reports must be submitted to the Province by January 31 each year.

The Province has the discretion to approve or reject each application for the grant funds depending on whether or not the applicant has met the eligibility criteria and where the applicant has reasonably demonstrated through the ADP that the grant funds will contribute to the implementation of policies, operational activities, or capital investments consistent with that party's LTDP. Additionally, the Province will review the APR to determine whether the applicant has reasonably demonstrated that the annual payments provided during the previous year have contributed to the implementation of policies, operational activities, or capital investments consistent with the LTDP and the prior year's ADP. The Province may withhold payments if it determines that the above criteria have not been satisfied.

At the end of the day, many municipalities (smaller ones in particular) are faced with the daunting task of maintaining existing infrastructure and developing new infrastructure while faced with the limited ability to independently raise funds. As a result, municipalities are forced to come looking, hat in hand, for provincial and federal grants that may or may not materialize depending on provincial or federal policies in place at the time and may come with conditions attached. In light of these issues, it is difficult for municipalities to address their infrastructure issues and still maintain autonomy over municipal affairs and planning.

3 The preamble to the Peace River Agreement states that pursuant to Part 4, Division 5 of the Local Government Grants Regulation, the Province is authorized to make special assistance grants to assist in the resolution of municipal or regional district problems that are unusual or unique.

MEMBER PROFILE

SCOTT RUSSELL, RI

GENERAL MANAGER
SUTTON GROUP – SEAFAIR REALTY

Scott Russell got his start in real estate at age 20, in sales. Scott's mom, Caroline Russell, a Realtor® for 39 years, was his mentor—and according to Scott was pretty darn patient with him. Today Scott is the managing broker and owner of Sutton Group–Seafair Realty, where he enjoys the variety his work offers. Days are spent solving problems, training staff, and coaching. "It is very gratifying to watch people gain confidence and skills to grow in their careers," he says.

Scott serves the real estate community as president of BCREA. He chose to support this organization with his time because of its dedicated staff and solid group of board members. He finds it particularly rewarding to meet others involved with BCREA and feels that together they act as caretakers of the organization. "My goal in this work is to leave the profession better than when I started," he says.

Scott credits his success in the industry to having opportunities to work with many great leaders over the years and benefit from their knowledge and guidance. Paying this forward, he is focused on developing the real estate industry's future leaders. "We have some terrific, engaged new associates that will contribute immensely to our business and the growth of the industry," he notes.

Family is very important to Scott, who lives in Ladner and loves to travel with his wife, Kathy Russell, go fishing with his daughter, and "play cars" with his sons—with whom he shares a passion for hot rods, muscle cars, and pretty much anything with horsepower attached to it. It's not surprising, then, that Scott's perfect day off would be spent either boating or flying (with a little fishing thrown in).

WHAT ARE WE DOING ABOUT AGING INFRASTRUCTURE?

Wally Wells

Asset management is a term we hear regularly today but do we really know what it is and why it is an issue? Simply put, asset management is an ongoing planning process to bring our communities to financial and physical sustainability. With physical infrastructure supporting everything we do in our communities, deteriorating infrastructure significantly affects our economic health and quality of life.

Local governments have existed for over 125 years. The annual budget process was set up to deal with current operations, not long-term planning and financing, and has not changed much over that long time span. After the Second World War, major population growth and urbanization took place for several decades, supported by development of significant physical infrastructure. Major capital infusion came from senior governments but local governments assumed all operating, maintenance, and renewal costs of built infrastructure. Operating and maintenance were part of the annual budget process with little or no thought or attention paid to longer-term renewal and replacement. Unfortunately, that infrastructure is now between 30 and 70 years old and needs replacing in order to function and provide necessary and, in many cases, essential services. This deficiency in the business process has now left communities facing huge renewal expenditures in excess of current capacity to meet them. Worse, we do not really know the magnitude of the expenditures or when they are needed.

The Government of Canada supported shared infrastructure investment starting about 25 years ago and continues today with Gas Tax rebates and the Building Canada fund. The current Liberal government has committed to running a deficit to increase funding for infrastructure. While these programs are significant and include funding for major infrastructure like the Translink Canada Line and Port Mann Bridge projects in the Lower Mainland, there is still a large funding gap for municipal needs. The 2016 *Canadian Infrastructure Report Card*, based on 2015 municipal data, indicates the total

ASSET MANAGEMENT FOR SUSTAINABLE SERVICE DELIVERY: A BC FRAMEWORK

> The Framework was developed to recognize the diversity of BC communities and local governments, recognizing that asset management, and the best practices that support asset management, must be scalable to community size and capacity.

replacement value of municipally owned infrastructure is $1.1 trillion. Approximately 12% of the infrastructure is in poor or very poor condition, triggering an immediate need of $141 billion for replacement.[1]

TOWARD PROACTIVE MANAGEMENT

Integrated asset management is the business process that will bring communities into a proactive instead of a reactive working environment to identify infrastructure needs, timing, costs, and strategies. In 2009 the accounting profession required municipalities to account for their assets on their balance sheets. This was a first. Communities finally had an inventory of their assets and at least some understanding of their age, condition, depreciated value, and annual depreciation. The next steps require using this information to determine replacement value, a timetable for renewal, and the financial plans and programs needed to reach sustainability. This work is ongoing, with virtually all communities somewhere on the continuum and none yet at the end of the road.

In 2003 a national framework for asset management was published that outlined what asset management is and why it is necessary. Because of the diversity of the 4,000 communities across Canada, how to do asset management was left to regional areas to define in a manner consistent with provincial and territorial responsibilities for local governments.

In line with the national framework, in 2009 a network now known as Asset Management BC was formed with the specific mandate of pursuing integrated asset management and providing knowledge and information transfer to BC communities. Asset Management BC brought together several public sector professional associations representing the political, administrative, technical, planning, and financial skill sets required to successfully develop and implement integrated asset management strategies and long-term financial plans. All forms of local government that exist in BC are represented in a "Working Group," which is equivalent to a board of directors. The provincial government through the BC Ministry of Community, Sport and Cultural Development, the federal government through Aboriginal Affairs and Northern Development Canada, and First Nations through Nisga'a Lisims Government are all active partners in the Working Group.

More recently, the Municipal Insurance Association of BC has become a partner, as has the national group Canadian Network for Asset Managers. We are not membership driven, which ensures information is available to all at no charge. We work routinely with and through our partners; Asset Management BC is a network—a community of practice—of and for BC communities. Though Asset Management BC is not incorporated, direction is given through the Working Group, with David Allen, chief administrative officer at the City of Courtenay, and Andy Wardell, director of financial services at the District of North Vancouver, as co-chairs.

After initial research on the state of asset management in BC, our organization developed a number of tools to help undertake the components of asset management. The Asset Management BC "network" has been established not only in BC but across the country, as the model has also been followed by Alberta, Saskatchewan, and Atlantic Canada, and has refined an existing Ontario group. The Yukon and Northwest Territories have collaborated with us and are developing local networks. The network and its information sharing has truly become national.

Besides producing tools for asset management, we publish a newsletter; edition 15 is currently in preparation. We carry out training sessions and workshops, both directly and with our partners, in support of asset management activities. We provide an information base and a "place to go" for practitioners. We are recognized nationally and internationally for the work we do.

1 The report card is available at www.canadianinfrastructure.ca/en/index.html (accessed February 17, 2016).

Creative work is currently underway to evaluate effects of climate change on the asset stream and to integrate the natural environment into the overall asset management program. Our communities routinely come up with new areas of inquiry and new questions to be addressed.

A FRAMEWORK FOR ASSET MANAGEMENT

With funding coming from senior governments, federal and provincial agreements now include the requirement to carry out asset management to qualify for grants. To meet that requirement the Union of British Columbia Municipalities, with Asset Management BC, developed *Asset Management for Sustainable Service Delivery: A BC Framework*. This document, produced by a multidisciplinary team, establishes the overall process for communities to follow to achieve positive results for asset management. The summary version of the framework is specifically written as a communications tool with non-technical, non-financial language so that politicians and taxpayers can understand, in simple terms, what it is and what it entails. The full version is directed at the practitioner and contains many tips and resources for all facets of asset management, supported by additional content available on the Asset Management BC website (*assetmanagementbc.ca*).

Asset Management for Sustainable Service Delivery: A BC Framework (the Framework) establishes a high-level, systematic approach that supports local governments in moving toward service, asset, and financial sustainability through an asset management process. The Framework addresses what asset management is, why it is necessary, and how it can be implemented. It recognizes there are many components within the asset management process and so provides a circular, continuous pathway to link all components of the process together. As long as we own assets, the process continues and will never end.

The Framework was developed to recognize the diversity of BC communities and local governments, recognizing that asset management, and the best practices that support asset management, must be scalable to community size and capacity. The Framework focuses on desired outcomes rather than prescribing specific methodologies; this allows local governments to develop and implement an approach that can be both incremental and measured, tailored to their individual needs and capacity.

The Framework guides practitioners from initial inventory through the steps and processes to deliver sustainable service delivery, including effectively communicating the process, needs, and rationale to the public and throughout the political process.

Besides getting to financial and physical sustainability, other shorter-term benefits have become apparent from the asset management process, which

- provides the community with a complete inventory of assets, condition, and value not previously available
- focuses on integration of activity and trade-off of service levels among different asset streams and costs
- brings increased attention to maintenance as a tool to defer capital replacement and get the most out of an asset
- helps the community recover from disaster
- provides a basis for risk assessment and criticality, for insurance
- draws attention to the role of assets in the community, including the risk and consequences of failure
- sets a baseline for the community to deal with funding options and operational and planning decisions

Managing assets and delivering services to the public is what local government staff and politicians do. With this change in business process moving from reactive to proactive, we can create some degree of sustainability in communities. What is the future of asset management? Within several years, we will not be talking about it. We will just do it as part of our jobs, as an accepted and routine practice.

Graphic by Asset Management BC.

ORGANIZATIONAL PROFILE

INTERNATIONAL RIGHT OF WAY ASSOCIATION

Gary Holisko

BC is crisscrossed by highways, railways, power lines, pipelines, and other linear forms of utility infrastructure that cross private property. Electric, gas, railway, and telecommunication companies as well as government agencies have specialized staff who acquire property rights that allow for the construction, operation, and maintenance of this infrastructure. Many of these folks are either members of the International Right of Way Association or have taken our courses.

When buying a portion of a property for a linear project, the compensation for these rights can be affected by a number of factors. We must consider whether all the rights are required (fee purchase creating a severance) or only a portion are required (statutory easement), whether the use of the remainder of the property is affected (injurious affection), whether access to the right of way is required, and whether expropriation is an option.

The International Right of Way Association (IRWA) started out in southern California in 1934 as a small group of highway right-of-way acquisition agents. Since then we have grown to become an international organization that reflects a significant contribution of members from Canada—who currently make up 12% of the association membership, distributed across eight chapters.

BC is home to Chapter 54, a group of about 100 professionals who deal with rights of way and other property rights issues. Members work in fee appraisal, property negotiation, and law, among other professions, and may work as independent practitioners or are employed by utilities, provincial government ministries and agencies, or local government departments.

IRWA recently reviewed its vision, mission, and core values. Our vision is to be the central authority for global infrastructure and real estate, which we will realize

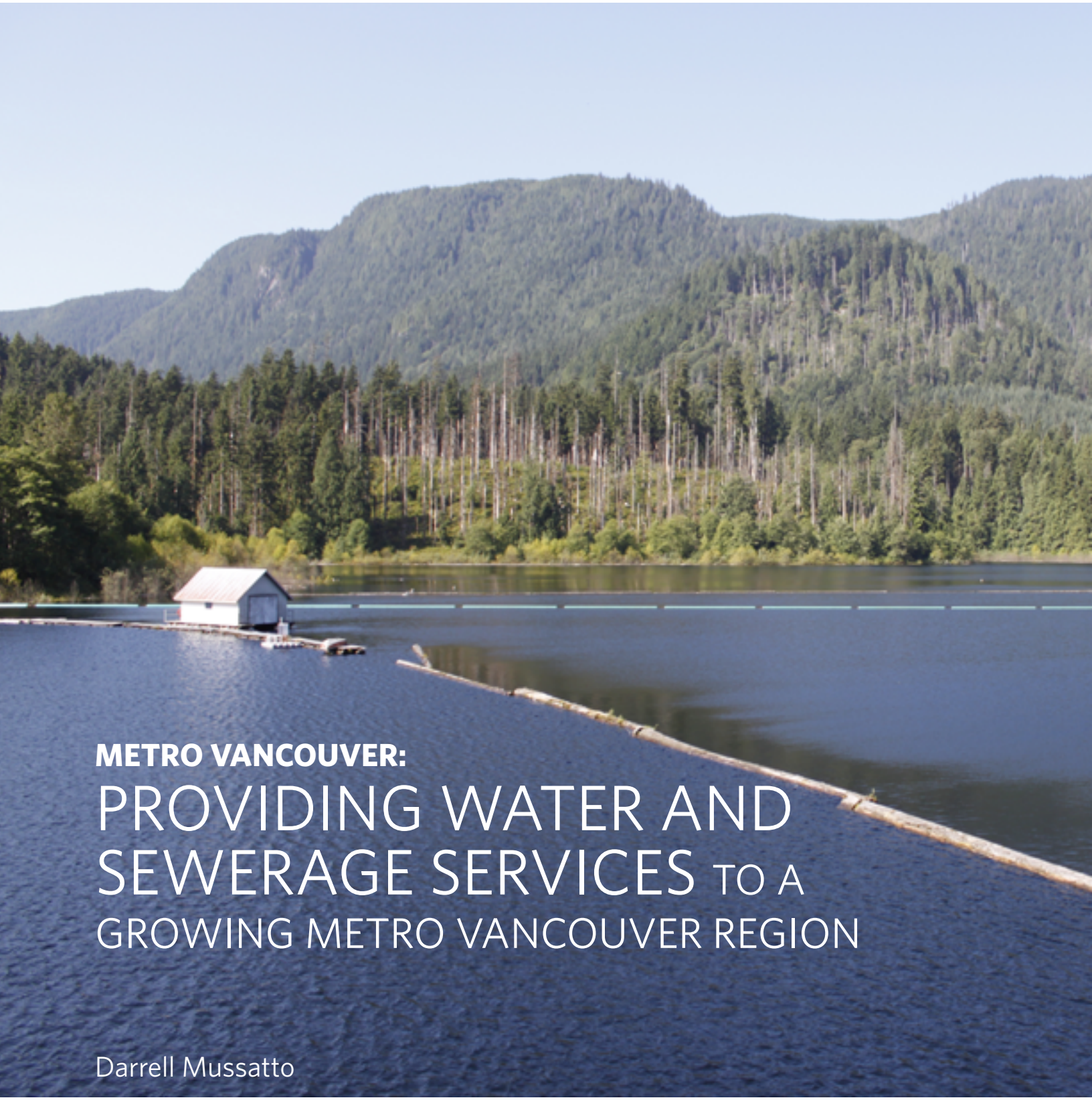
through our mission to create a community that fosters ethics, learning, and a standard of excellence within our industry. Informing our work are our core values of integrity, excellence, flexibility, collaboration, and leadership.

This sounds ambitious, but I believe it is both ambitious and achievable. One of the key ways in which we accomplish our mission is through education. One route many members have taken is to obtain designation through our credentialing process. Credentialing demonstrates a specialized industry-based knowledge and skill set as well as a commitment to professional development and performance excellence. IRWA offers a curriculum pathway of progressive credentialing options: Transportation, Electric and Utilities, Oil and Gas, and Industry Generalist.

IRWA offers a number of courses, workshops, and seminars in order to help our members achieve a high level of excellence in what they do. Topics include property negotiations and communications, appraisals, environmental considerations, real estate law, engineering, and property management. Courses are offered both online and through in-class sessions. Larry Dybvig, AACI, MAI, FRICS, is our course coordinator and is also a certified instructor.

We are proud of our organization and believe it has a lot to offer the community of land use professionals who have an interest in this area or work. Visit us at *irwaonline.org*.

Photos by BC Hydro (previous page) and Gary Holisko (above).



METRO VANCOUVER:

PROVIDING WATER AND SEWERAGE SERVICES TO A GROWING METRO VANCOUVER REGION

Darrell Mussatto

Metro Vancouver holds water licences on the Coquitlam Reservoir, which is owned by BC Hydro.

Water and liquid waste are among the broad range of services that Metro Vancouver provides to its member municipalities, Tsawwassen First Nation, and Electoral Area A.

Metro Vancouver and its members work together to supply clean, safe drinking water to more than 2.4 million people and associated businesses, institutions, and industries in the Lower Mainland. Operating our vast drinking water system requires constant upgrades, improvements, maintenance, and expansion, and Metro Vancouver develops long-range plans for water storage, treatment, and distribution, regularly reporting on progress in these areas.

Through our Liquid Waste Services department, Metro Vancouver collects, treats, and recovers resources from the region's wastewater before returning it to the Fraser River, Burrard Inlet, and the Salish Sea. Our goals include protecting the environment and public health, minimizing treatment costs, and using wastewater as a resource.

WATER SERVICES

Metro Vancouver owns and operates the regional water supply system while local governments own and operate the local water distribution systems that deliver water to residents, businesses, institutions, and industries. Home and building owners, industries, commercial businesses, and institutions must ensure that their piping systems are in good repair once water enters their property.

Drinking water in our region comes from rain and snowmelt from three watersheds: the Capilano and Seymour on the region's north shore, and Coquitlam to the east. The watersheds receive about 3.5 metres of rain each year, which is more than what falls in our urban areas.

Each watershed reservoir supplies approximately one third of the region's drinking water. The Capilano Reservoir is contained by the Cleveland Dam, and is the most westerly reservoir. The Seymour Reservoir is located north of the Lower Seymour Conservation Reserve (LSCR). Unlike the closed, protected Seymour Watershed, the LSCR to the south is an extremely

Cleveland Dam on the Capilano River (above); Seymour-Capilano Filtration Plant (right); looking into a shaft during construction of the Port Mann water tunnel (far right).

popular forested area available for hiking, walking, cycling, and horseback riding, and its trails connect with many other popular trails on the North Shore. The Coquitlam Reservoir is owned and operated by BC Hydro. Metro Vancouver holds water licences on this reservoir and also has an agreement with BC Hydro to purchase additional drinking water.

In addition to rainfall there is, on average, approximately 4.5 metres of snowpack annually in the mountains' higher elevations. The rain and melting snow flow downhill in creeks and streams into the reservoirs where water is stored for future use and is subsequently treated and distributed to local governments.

With the exception of Metro Vancouver's carefully managed guided tours, our watersheds are closed to the public to prevent risks associated with water contamination or wildfire threat.

Metro Vancouver delivers about one billion litres of water each day to our members using a network of dams, treatment facilities, water mains, pumping stations, and storage reservoirs. The drinking water flows seamlessly from the regional system into local governments' distribution systems where it is then delivered to businesses, residences, industries, and institutions.

Water Treatment

Our drinking water is treated in modern, world-class facilities, and meets or exceeds federal and provincial quality standards. We test over 30,000 samples of our water annually, and water is treated both at the source and at further points in the distribution system as it travels to homes, businesses, institutions, and industries.

Metro Vancouver has two state-of-the-art water treatment plants. Filtration at the Seymour-Capilano Filtration Plant improves drinking water quality by removing particulates, organic matter, and micro-organisms. This facility also uses ultraviolet light and chlorine disinfection. Water entering the Coquitlam Water Treatment Plant is disinfected with ozone, ultraviolet light, and chlorine. The pH of the water from all three sources is also adjusted for corrosion control before it enters the distribution system.

Water from the Capilano Reservoir flows through a seven-kilometre-long tunnel to be treated at the Seymour-Capilano Filtration Plant, located in the LSCR. The water is then returned through a treated water tunnel for distribution in the Capilano water system. These twin tunnels running beneath Grouse Mountain and Mount Fromme are 3.8 metres in diameter, situated 160 to 640 metres below ground level.

Commissioning of the Twin Tunnels in May 2015 was the final element in a decade-long regional water system enhancement project to ensure that our water meets or exceeds the highest standards in quality and supply for generations to come. The Seymour-Capilano Filtration Project included the Seymour-Capilano Filtration Plant, the Twin Tunnels, and the Capilano Pump Station, Break Head Tank, and Energy Recovery Facility. In recent years,

Metro Vancouver has also undertaken infrastructure improvements and upgrades to the Coquitlam Water Treatment Plant.

Our members operate in-system reservoirs, a network of underground pipes, pump stations, and other water services infrastructure as well as collect water samples for quality control.

Drinking Water Management Plan

Metro Vancouver's Drinking Water Management Plan was updated in 2011 and sets the direction and priorities for drinking water in our region. We are responsible for developing long-range plans for managing the region's drinking water and our three reservoirs.

The primary goal of these plans is to provide clean, safe drinking water while ensuring the region's water needs are met affordably and sustainably for years to come. The Drinking Water Management Plan also addresses the future, particularly how we will supply water to a growing population, and anticipate impacts due to climate change. Metro Vancouver regularly reports on statistics, monitoring programs, and the progress of implementing our plans in order to be transparent about meeting our responsibilities.

We use a risk-management multi-barrier approach from source to tap to ensure the safety of our water. We also manage the region's water infrastructure proactively in accordance with water utility best practices to ensure a cost-effective, reliable, and sustainable water supply. This includes renewing and replacing the region's aging water infrastructure in an affordable way.

Water Services continuously assesses our infrastructure to ensure that expected levels of service are being met. When repairs or replacements are required, such works are undertaken considering resiliency to major adverse events, such as earthquakes and weather, and cost-benefit priorities.

Water Shortage Response Plan

Metro Vancouver sets the regional regulations governing lawn sprinkling and other outdoor summer and fall water uses—like vehicle and boat washing, pressure washing, and park activities. Individual local governments enforce the regulations through their bylaws.

Even though our population continues to increase, the average daily water use in the region has been fairly constant in recent years thanks in part to region-wide water conservation initiatives. Lawn sprinkling regulations and our Water Shortage Response Plan have been effective at reducing demand on Metro Vancouver and local government water distribution systems.

The Water Shortage Response Plan is designed to ensure that Metro Vancouver has sufficient water in the summer when demand is highest and rainfall is lowest. During summer, outdoor water uses such as lawn watering and vehicle and boat washing cause water consumption to

Coquitlam Water Treatment Plant UV reactors (above); installation of a three-metre-diameter Metro Vancouver sewer in Surrey to service growth in the city and township of Langley, and in Surrey (right).

almost double. To encourage public support for these water conservation measures, each summer we develop water conservation campaigns that we implement with our members.

Metro Vancouver staff deliver public outreach and educational programs to highlight water conservation and sustainable watershed management practices. Staff deliver sustainability education resources and watershed field trips through Metro Vancouver's kindergarten to Grade 12 educational program and also offer guided bus and walking tours of the Capilano and Coquitlam watersheds to the public. With help from our members, we have mapped public drinking fountains in the region to encourage more people to drink tap water instead of buying single-use water bottles; the app is available for iPhones and other smart phones and devices.

Following an extremely hot, dry spring and summer in 2015, Metro Vancouver is reviewing the Water Shortage Response Plan. The two-phase consultation program with local government and private-sector stakeholders, as well as a technical review and adoption process, commenced in November 2015 and will be complete in April 2017.

Because of the 2015 drought conditions, the Greater Vancouver Water District Board voted to activate Stage 1 of the plan two weeks earlier in 2016 than in previous years (starting on May 15 instead of June 1) and to extend the restrictions by two weeks (ending on October 15 instead of September 30).

Funding

Metro Vancouver bills local governments monthly for the amount of water used by each jurisdiction, which charge their local residents, businesses, industries, and institutions. Some members use water measured by cubic metres charged at set water rates for different sectors to determine the billing for the end user; others charge a flat fee or a combination of both.

Metro Vancouver determines the regional water rates annually based on the operating costs for the regional water system, debt servicing for capital costs, and estimated regional water consumption levels for the upcoming budget year. The peak period rate (from June to September) is 1.25 times the off-peak rate from October

to May to reflect the cost of service and encourage water conservation.

LIQUID WASTE SERVICES

Metro Vancouver collects, treats, and recovers resources from the region's wastewater before returning it to the Fraser River, Burrard Inlet, and the Salish Sea. We own and operate five wastewater treatment plants, maintain a region-wide network of sewers and pumping stations, manage the regional drainage areas, and conduct regular environmental monitoring to ensure regulatory compliance and minimal environmental impacts. Our main goals are to protect public health and the environment and to use wastewater as a resource.

Metro Vancouver manages the sewer collection and treatment infrastructure in an effective and affordable manner to ensure that it meets the region's growth demands, mitigates environmental impacts, and improves resiliency to natural hazards like climate change and earthquakes. Our Integrated Liquid Waste and Resource Management Plan identifies actions for the region and its members to better protect the environment and public health, use liquid waste as a resource, and minimize treatment costs. This plan is reviewed once every two years.

Metro Vancouver treats about 440 billion litres of wastewater (or sewage) every year. Drinking water becomes wastewater once it has been used in some way. Wastewater contains a number of different pollutants and waste products, including human waste, soap, food scraps, grease, and other chemicals. About 80% of wastewater comes from our homes when we use toilets, sinks, showers, washing machines, and anything else that sends water into a drain or pipe. Each person produces an average of 500 litres of wastewater daily.

Wastewater flows from homes, businesses, industries, and institutions into municipal sewer pipes and then into larger, regional trunk sewers. Pumping stations keep wastewater from low-lying areas moving through the system until it reaches one of our region's wastewater treatment plants. In older parts of the region, combined sewers carry both wastewater and stormwater. Metro Vancouver manages the regional drainage areas in Vancouver, Burnaby, Port Moody, Coquitlam, and at the University of British Columbia.

Most of the wastewater collection in our region is handled by local governments, which collectively have more than 8,500 km of sewer pipes. Metro Vancouver is responsible for about 530 km of trunk sewers, which are larger-diameter pipes, and 33 sewage pumping stations that convey wastewater to the five wastewater treatment plants.

Metro Vancouver maintains and upgrades the wastewater collection system on an ongoing basis. Regularly scheduled maintenance includes: using remote video cameras to inspect and locate defects in trunk sewers as part of the condition assessment program; repairing or replacing trunk sewers and other infrastructure in the regional wastewater collection system; and performing sewer cleaning and preventative maintenance work.

We work with members to set priorities for inspecting, upgrading, and repairing local government sewer systems.

Some of the things we put down our sinks and toilets can cause serious problems for local and regional sewers. Grease, disposable wipes, dental floss, condoms, hair, tampons, and other items can clog sewers, damage pumping equipment, and cause sewage to overflow into the environment. We should only flush human waste and

Annacis Island Wastewater Treatment Plant (above); cogeneration engines at Iona Island Wastewater Treatment Plant (next page, above); analyst at work with a Metrohm instrument, which automatically analyzes pH, alkalinity, and conductivity of liquid samples (next page, below).

toilet paper. Disposable wipes, even those marked "flushable," do not easily break down and could clog sewers.

In addition to safeguarding public health, the goal of wastewater treatment is to protect and maintain healthy rivers and oceans. Wastewater treatment effectively removes pollutants that can threaten fisheries, wildlife habitat, recreation opportunities, and ultimately our quality of life.

Treating, Recovering, and Monitoring Wastewater

We use two types of wastewater treatment: primary and secondary. Metro Vancouver's five treatment plants meet or exceed their operating permit requirements, which are regulated by the BC government.

Primary treatment uses various mechanical processes to remove materials that settle or float. Metro Vancouver's Iona Island and Lion's Gate wastewater treatment plants provide primary treatment in our region. Secondary treatment is an additional step that takes place after primary treatment. It is a biological process that uses aerobic bacteria to consume suspended solids and dissolved organic materials in wastewater. The Lulu Island, Annacis Island, and Northwest Langley wastewater treatment plants provide secondary treatment. New federal and provincial regulations require the Lion's Gate and Iona Island treatment plants to be upgraded to secondary treatment by 2020 and 2030, respectively.

Wastewater is no longer considered a waste product, and Metro Vancouver is finding new and innovative ways to use wastewater to produce heat, electricity, nutrients for fertilizer and topsoil, and other products. We reduce greenhouse gas emissions from our operations by utilizing biogas, produced by the treatment process, to generate electricity and heat for use at treatment plants.

Metro Vancouver is responsible for environmental monitoring of wastewater. We conduct regular environmental monitoring to ensure the system is working well and that the level of treatment provided protects human health and the environment. This involves collecting and testing over 200,000 samples annually.

We monitor beaches and recreational waters from May to September. Both swimming and non-swimming beaches are tested at least once a week to ensure the water is suitable for swimming and other recreational activities. Water is taken from 40 locations across the region and analyzed at Metro Vancouver's Quality Control Laboratory. The tests measure the levels of E. coli bacteria, an indicator of fecal contamination that is used to determine the safety of recreational waters.

Metro Vancouver provides the test results to regional health authorities and local governments, and based on this information and Health Canada guidelines, local health authorities recommend whether beaches should have notices posted to inform swimmers of possible risk.

> Information on our assets, from both internal and external sources, is used to assess risks, identify issues and opportunities, and make decisions regarding the assets as they are managed through their life cycle to deliver services to the region.

Operational Funding

Metro Vancouver comprises four sewerage areas (Fraser, Lulu Island West, North Shore, Vancouver), and there is a cost-allocation mechanism for each area. The levy charges are based on sewer flows from each municipality, and costs are billed annually. For the end users (residents, businesses, industries, and institutions), the regional sewerage costs are most likely included as part of their property tax bill in the form of annual utility charges.

Depending upon the operation and the quantity and quality of the discharge, wastewater disposal permits are required and fees are levied for non-domestic discharges from businesses, industries, and institutions. For restaurants and food industry businesses that must dispose of commercial quantities of grease, Metro Vancouver has resources available to help them comply with the Grease Interceptor Bylaw, which is designed to prevent grease from entering the sewer system.

Funding Wastewaster System Expansion

Metro Vancouver applies development cost charges (DCCs) from new developments to pay for capacity upgrades such as new trunk lines, pumping station upgrades, and wastewater treatment plant expansion. This is usually done at the subdivision approval stage for single-family residential developments and at the building permit stage for other types of development. DCCs are calculated based on the type of development and the location, and local governments are responsible for collecting the charge.

The Greater Vancouver Sewerage & Drainage District Development Cost Charge Bylaw includes provisions to waive DCCs for a number of types of affordable housing. The bylaw is consistent with the Regional Affordable Housing Strategy, which is intended to complement and support efforts by local governments to create more affordable housing.

ASSET MANAGEMENT

For Water and Liquid Waste Services, Metro Vancouver staff inspect and assess our infrastructure on a regular basis to determine whether to repair, rehabilitate, or replace our assets to maximize their effective life and to ensure continuous delivery of services to the residents and businesses of the Lower Mainland.

Knowledge of and information on our assets, from both internal and external sources, is used to assess risks, identify issues and opportunities, and make decisions regarding the assets as they are managed through their life cycle to deliver services to the region. The decision-making process begins with clearly defined organizational goals that are tied to service requirements. In order to meet these goals, infrastructure needs and opportunities are continuously identified, and options are then

Columbia Pump Station is designed to integrate with Vancouver's historic Gastown neighbourhood.

developed and evaluated. The preferred options are prioritized to create a portfolio of capital projects and non-capital solutions that are then funded and implemented.

Metro Vancouver continuously reviews and updates its long-range capital investment plan. Projects in the 10-year capital plan are categorized into one of five capital programs: growth, upgrade, risk, maintenance, and opportunity. Population growth is the largest driver of future capital investments for both Water and Liquid Waste Services.

A number of guiding documents are used to manage regional Water and Liquid Waste Services assets. The Board Strategic Plan provides high-level direction. The regional growth strategy, Metro 2040: Shaping Our Future, provides members with guidance regarding growth. The Liquid Waste Management Plan and Drinking Water Management Plan synthesize these guiding documents and incorporate each utility's regulatory requirements; the result is plans that are used in the development and management of the utility systems.

Divisions within each utility are responsible for environmental monitoring and quality control, policy and planning, delivery of infrastructure projects, operations and maintenance, and performance management, all of which contribute to effective asset management with support from Finance and Information Systems departments. The Water and Liquid Waste utilities have practiced elements of asset management for many years, and Metro Vancouver continuously works toward formalizing, integrating, and improving its asset management work processes to be consistent with international standards (such as ISO 55000) and other best practices.

Like many local governments and regional districts in BC and across Canada, Metro Vancouver looks to partner with other levels of government to finance the necessary infrastructure enhancement projects to best serve residents and businesses in a rapidly growing region. We are encouraged by the new federal government's commitment to enhanced infrastructure spending, and we will continue to work with the Union of BC Municipalities and the Federation of Canadian Municipalities to address the infrastructure needs of our members. Metro Vancouver's top priority is securing funding for secondary treatment at the new Lion's Gate Wastewater Treatment Plant.

Photos by Metro Vancouver.

PRESIDENT'S LUNCHEON

REIBC's annual President's Luncheon was held on December 3, 2015, at the Four Seasons Hotel in downtown Vancouver. As they arrived, president Andrea Fletcher greeted our many distinguished guests—city officials, including Mayor Buhr of the Village of Lions Bay, industry leaders, past presidents of REIBC, and our members.

Peeter Wesik, president of Wesgroup Properties, was REIBC's special guest, presented with an honorary RI membership by president Andrea Fletcher. Peeter has over 30 years' experience in corporate law, corporate acquisitions, real estate investing, mortgage lending, and structuring and negotiating complex transactions. He has a BA and LL.B. from UBC and previously practiced law as a partner at Russell & DuMoulin (now Fasken Martineau DuMoulin). Peeter is involved in numerous industry associations.

Wesgroup was started as a family business more than 50 years ago. Today it is one of Western Canada's largest private real estate organizations, with a diversified portfolio spanning residential and commercial real estate in most asset classes. Wesgroup owns and manages over 2.2 million square feet of commercial property and has built more than 6,000 homes in 100 communities. Wesgroup has also invested in the equipment sales and service business under the brand names Williams Machinery and Westerra Equipment, and has eight branches located throughout BC.

Also joining us at the event was the second-year class of BCIT's Professional Real Estate Studies program. The President's Luncheon is now a part of the program's curriculum. This would not have been possible without the backing of our sponsors who supported the students' attendance.

President-elect Greg Steeves hosted the event as our emcee, introducing guest speaker Connie Fair, then-president and -CEO of BC Assessment. Her presentation, Property Assessment to Property Information, gave guests some insight into the changes that have been taking place at BC Assessment to make the organization more transparent and consumer focused. Connie joined BCA in 1993 and has witnessed many changes in the organization. She has been instrumental in BCA's adoption of new information technology that now makes property assessments accessible to everyone. Connie announced that she would soon be taking on a new role and is now CEO of Land Title and Survey Authority.

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The BCCSA is a not-for-profit association that provides training, resources and consulting services to over 40,000 construction companies employing over 190,000 workers. We are funded by construction, select aggregate and ready-mixed industries.

bccsa.ca
info@bccsa.ca
1-604-636-3675

Canadian Association of Home & Property Inspectors of BC (CAHPI (BC))
CAHPI (BC) is a not-for-profit self-regulating body of professional home inspectors with over 300 members in BC. CAHPI represents the oldest and most respected organization of home inspectors in Canada.

cahpi.bc.ca
executivedirector@cahpi.bc.ca, 1-855-224-7422

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Institute of Real Estate Management British Columbia Chapter No. 50
IREM links local members to counterparts around the world. Our mission is to educate members, certify their proficiency and professionalism, advocate on issues that affect the industry and enhance members' competence.

irembc.ca
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LandlordBC
LandlordBC is BC's top resource for the owners and managers of rental housing. We are the largest landlord professional industry association in BC. Our mission is to provide rental housing providers with the support and resources needed to make doing business easy and successful. Contact Kimberly Lachuk.

landlordbc.ca
kimberlyL@landlordbc.ca, 1-888-330-6707 ext. 203

PAMA - Professional Association of Managing Agents
PAMA is focused on the creation and delivery of continuing education for professional residential property managers, including the mandatory relicensing courses for rental and strata managers. Education is provided in a variety of formats throughout the year at seminars, workshops and member luncheons.

pama.ca
admin@pama.ca, 1-604-267-0476

Real Estate Board of Greater Vancouver
The REBGV is a not-for-profit professional association that represents more than 12,000 REALTORS®. It provides a range of services, including the MLS®, education and training, business practices and arbitrations, advocacy, research and statistics and technology solutions.

realtylink.org
rebgv.org, 1-604-730-3000

Real Estate Council of British Columbia
The Council is a regulatory agency established by the provincial government in 1958. Its mandate is to protect the public interest by enforcing the licensing and licensee conduct requirements of the *Real Estate Services Act*.

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