SUMMER 2017 | VOLUME 45 | NUMBER 2

INPUT

LAND AND REAL ESTATE
ISSUES IN BRITISH COLUMBIA

Data and Land Use Planning

Transit-Oriented Development, Neighbourhood Planning, Food System Scenarios, Public and Private Sector Consulting

The Real Estate Institute of British Columbia

INPUT

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The Real Estate Institute of British Columbia

PRESIDENT'S MESSAGE

GREG STEVES, RI
REIBC PRESIDENT

Welcome to this edition of *Input*, and the last you'll hear from me as president of the Board of Governors.

In the last issue I wrote about the new Mission, Vision, and Values for REIBC. I invited your feedback and I received it. Your comments have been incorporated into the revised vision statement that will now guide this year's strategic planning process. Thank you for your consideration.

Over the past year I've had the chance to meet many, many members and I am continually impressed by the experience and professionalism of all of you. When I see someone innovating, leading the real estate sector, chances are they have an RI after their name.

Like many professional organizations, REIBC is a member-based organization. The health of the organization is directly related to our ability to recruit and retain members. While the Institute is in good health today, our membership is aging. A priority over the coming years must be to ask ourselves if we are doing enough to attract new professionals. I am increasingly convinced that the best recruitment tool available to REIBC is the members themselves. Each of us, the entire membership, has a role in supporting, promoting, and growing the Institute. Someone encouraged us, pushed us, or flat out told us to join, and now is our time to reciprocate. For me it was Dyne Torgeson, who just received his 35-year certificate: on my first day of a new job, Dyne walked up to me and told me to join. It was non-negotiable.

I would like to thank the Board of Governors, for the support I have received from them over the past year, and the staff of REIBC, Maggie and Brenda, for their assistance and guidance. It has been very rewarding to be the president of the Board of Governors and a pleasure to serve REIBC members across the province.

INPUT | DATA AND LAND USE PLANNING

SUMMER 2017 | VOL. 45 | NO. 2

COVER: Brentwood illustration.

Credit: TransLink

NOTES

ARTICLES

COLUMNS

DIRECTORY

FROM THE EO'S DESK

BRENDA SOUTHAM
EXECUTIVE OFFICER
AND EDITOR-IN-CHIEF

Data has many uses in the making of land use decisions, and we've only scratched the surface with the stories in this edition of *Input*. Whether updating multiple neighbourhood plans or addressing Metro Vancouver's transit issues, data plays a key role in making smart decisions, and we hear from City of Victoria and Translink about how they collect and use data to advance their projects.

Mandy Hansen provides a detailed perspective on using data for public and private sector decisions, discussing different project scales and noting some particular data challenges. And speaking of data-related challenges, Ask a Lawyer columnist John McLachlan tackles the particularly thorny issues of access to data and liability for incorrect or misused data.

Sometimes, the data just isn't available. What happens then? Research! The Institute for Sustainable Food Systems at Kwantlen Polytechnic University has recently finished a multi-year research project with the goal of providing scenario-based data that we can use to make good decisions about the future of our food systems.

Data gatherer and supplier Land Title and Survey Authority of BC discusses its new initiative, ParcelMap BC, an electronic map of active titled parcels and surveyed provincial Crown land parcels in BC.

We have some particularly great stories about our members in this edition. Two of them are regular columns, Member Profile and On the Job, and the third is about a member who was recognized by The Counselors of Real Estate for his leadership and vision in a Vancouver redevelopment project.

As *Input* goes to print we have officially entered the summer season and are recovering from another successful Charity Golf Tournament. We'll have tournament results in the Fall 2017 edition of *Input*, along with an introduction to our new Board of Governors. Enjoy the summer!

CONTRIBUTORS

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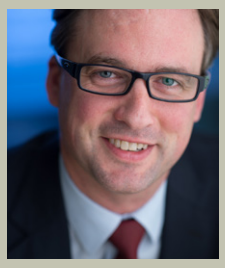
3 

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LETTERS TO THE EDITOR

Dear Editor,

I was really impressed by the latest *Input*. The coverage of the issues related to the Site C dam project were both fair and balanced.

Andre Gravelle, RI
Director, Diploma and Certificate Programs, Real Estate Division, Sauder School of Business, UBC

GUEST AUTHORS

1 Mandy Hansen, RI, MSc, of Insight Specialty Consulting is a senior professional with almost 20 years' experience in real estate, project management, and management consulting. Working along the continuum from high-level strategy and governance through portfolio and program development to tactical project execution, Mandy is able to address client needs holistically. She has experience within the public, private, and non-profit sectors, which allows for multiple perspectives and best-in-class approaches from each of these areas. She proudly carries her RI and PMP project management designations. She will soon be starting her doctorate.
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2 Devon Miller, MSc, LEED AP ND, is the community energy planner at City of Victoria. He works on a variety of long-range sustainable community planning projects, including neighbourhood plans and climate action planning. Prior to working at City of Victoria, he was a sustainable building advisor for Perkins+Will in Toronto, Ontario.
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3 Guy Akester, RI, MBA, is the director of Real Estate Programs and Partnerships with TransLink, and has a master of business administration in international business from University of Edinburgh. Previous to his work at TransLink, he managed the global real estate portfolio for Telus, which included putting together the $750-million mixed-use Telus Garden project. Recently, he helped negotiate the sale of TransLink's Oakridge Transit Centre lands in Vancouver, a structured transaction sale that will see payments to TransLink totaling $440 million by 2022—one of the largest real estate transactions in BC history.
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4 Caitlin Dorward, MSc, AAg, is the former senior research associate at the Institute for Sustainable Food Systems and was a lead researcher on the Southwest BC Bioregion Food System Design Project. She currently works as a land use planner at the provincial Agricultural Land Commission and serves as co-chair of the Vancouver Food Policy Council. The opinions expressed in this article are hers and do not necessarily represent those of her employer.
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5 Kent Mullinix, PhD, PAg, is the director of the Institute for Sustainable Food Systems at Kwantlen Polytechnic University. He conceptualized the Southwest BC Bioregion Food System Design Project and was the principal investigator leading the study team. Formerly, Kent held the Endowed Joint Chair in Pomology at Washington State University. He has worked in and with agriculture and agricultural communities his entire 40-year academic career. The Mullinix family owned and operated their own small orchard in eastern Washington. *kpu.ca/isfs/swbcproject*
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COLUMNISTS

6 John McLachlan, RI, BA, LLB, is a lawyer at Lex Pacifica Law Corporation in Vancouver. His practice is focused on civil litigation with an emphasis on real property matters. John has appeared as counsel before the British Columbia Court of Appeal, the Supreme Court of British Columbia, the Provincial Court of British Columbia, the Federal Court, and various Administrative Tribunals.
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WE WANT TO HEAR FROM YOU

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.

reibc.org

info@reibc.org

Search Over 2,000,000 Parcels in British Columbia Using **ParcelMap BC**

Did you know that you can now search a complete province-wide electronic map of over two million active titled parcels and surveyed provincial Crown land parcels?

It's as simple as clicking on the map or entering a specific address or other identifier.

Visit https://ltsa.ca/parcelmapbc to try it for yourself.

ParcelMap BC is owned and maintained by the Land Title and Survey Authority of British Columbia (LTSA). The LTSA is a publicly accountable, statutory corporation responsible for operating the land title and survey systems of British Columbia.

esri Special Achievement in GIS 2017 Award Winner

www.ltsa.ca

bc Land Title & Survey

DATA FOR LAND USE DECISIONS IN PUBLIC AND PRIVATE SECTORS

Mandy Hansen, RI

Data is an important resource and a required tool for good decision making. Land use decisions are no different, and the depth and breadth of data that can be helpful in the process can be vast. Starting at the strategy level all the way through to execution, data guides the decision making and at any time can reveal an issue or opportunity that changes the outcome.

DATA CHALLENGES

Data integrity is a significant hurdle in land use decision making. In consulting assignments, information is provided by the client to the consultant with the expectation—on both sides—that it is sufficient and vetted. Often this is not the case and the consultant must identify gaps where the information is lacking. In a surprising number of engagements, the gaps cannot be filled—the data doesn't exist—so assumptions must be made. The land use decision must still be made, however. If organizations waited for perfect data, nothing would ever happen.

Data gaps in land use decision making often relate to performance management. Building owners do not often track energy usage, for example. Or they combine financial statements for several assets into one report, so individual asset performance is not readily established. This makes it difficult to determine which assets, if any, should be redeveloped, sold, or retained. It is also difficult to compare assets within a portfolio to rank and prioritize optimization initiatives.

In a private sector context, financial performance is a paramount metric and closely monitored. In a public sector context, financial performance is not as important; an asset is a means to an end, so the performance relates to the use of the asset in the execution of a service. Those with a private sector mindset may find this hard to grasp—after all, even in government value for money is an important metric. This is different than financial performance, though. A homeless shelter may offer excellent value for money insofar as it is less expensive to serve this vulnerable group of people in a shelter environment than in an emergency health care or correctional environment. However, looking at financial performance of the shelter itself is misleading since the users don't pay rent and therefore there isn't an income line to offset the expenses at this granular level. This type of value for money performance is hard to manage through quantified metrics, and therefore the data for land use decisions becomes more qualitative and subjective.

An interesting challenge in land use decision making is establishing ownership. For smaller assets held by private companies this is straightforward; the land title document shows the owner's name. There may be some underlying trusts, but these are usually contractually based and known to the named owner. For larger assets with more complex ownership structures, stratified assets, or assets held within the public sector, it can be more complex. Land use decisions in a stratified environment have become more accessible with recent changes to legislation allowing for non-unanimous decision making for sale and redevelopment opportunities,

> Data integrity is a significant hurdle in land use decision making. In consulting assignments, information is provided by the client to the consultant with the expectation—on both sides—that it is sufficient and vetted. Often this is not the case and the consultant must identify gaps where the information is lacking.

but determining ownership of stratified units can be a challenge, as can disseminating proper information to the owners in ways that are accessible to them.

In the public sector, ownership lies with the Crown, but stewardship lies with many ministries, agencies, and organizations. In this context, land use decision making can be difficult to execute if the agency responsible for the asset does not have authority to act. There have been some notable examples where considerable negotiation and coordination between government organizations were required to align official titles to meet the operational needs of the asset. The additional requirement for consideration of First Nations in a public sector environment can add significant complexity to a land use decision, yet it is an important aspect in the creation of trusting relationships between those parties.

PORTFOLIO DATA

Land use decision making can occur at a very strategic portfolio level, a programmatic level for groups of like assets, or at the individual site level.

Strategic questions may include: Does this asset fit the needs of current and future tenants? Is it in the correct location, given the expected densification of this neighbourhood? Is there a rationale for the retention of ownership of the asset, as opposed to retaining access through a leasehold? Demographics play a significant role in these decisions as this data will indicate where population densities will shift, how generational changes may impact regions, and the requirements for the suite of land uses to meet those changing needs. Major landowners such as governments can have significant impact on the communities around them through their land use decisions. Municipalities and regional districts use extensive planning and land use guidance to structure the changes within their communities.

For portfolio-level land use decisions, the data needs are aggregated and forward looking. Land use relates to aligning the portfolio with the organization's mandate and overall vision. This is where an organization will consider whether it is in the business of ownership, and

PORTFOLIO DATA EXAMPLES

Data requirements for portfolio-level decisions are forward looking and at a high level:

Mission / vision / mandate

- Strategic goals
- Alignment to purpose

Demographics

- Population shifts
- Target markets

Macro-economic factors

- Interest rate expectations
- Geopolitical climate
- Industry changes

Land use plans

- Transportation corridors
- Neighbourhood renewal

if not, why is it an owner? There may be good and valid reasons to retain asset ownership besides mandate fulfilment, but these need to be articulated and rationalized. There is also the opportunity to roll assets into another organizational structure to effectively manage them.

Data for portfolio-level land use decisions looks at changes and opportunities—demographics, neighbourhood gentrification, economics. For example: Are assets positioned in emerging neighbourhoods where redevelopment may be viable in the medium to long term? Can these apartment buildings accommodate the rising senior population? Is this office building attractive to the budding tech sector? Are assets well located relative to future transportation corridors? Depending on an organization's vision and mission, these high-level factors will impact its land use decisions. It may choose to acquire lands in emerging neighbourhoods in anticipation of a new transit corridor, or it may limit its risk exposure by divesting out of areas prone to flooding as water levels rise as a result of climate change. At a portfolio level, generally, land use decisions result in realignment over time rather than a wholesale change in portfolio composition.

PROGRAM DATA EXAMPLES

Program-level data requirements are more granular, for relative evaluation within the portfolio:

- Building energy performance
- Outstanding capital requirements
- Financial metrics
- Benchmarks and standards
- Operational costs

PROGRAM DATA

Decision making at a programmatic level requires more granular data and identification of trends among assets within the portfolio. Capital asset management programs will utilize comprehensive building performance data to capture energy usage and efficiency as well as scheduled and deferred maintenance requirements. This type of analysis requires considerable data, not just for the asset itself, but for benchmarks against which performance is measured. Presented as a program of work, the data can provide for symbiotic scheduling of projects, or common procurement processes for several buildings. It also provides for objective prioritization of projects across a portfolio.

The ongoing operating costs and capital requirements feature prominently in land use decisions relating to redevelopment. Generally, assets that cost more to repair than to replace inspire larger discussions of land use to determine what the future state of the asset may be—should it be redeveloped, perhaps? The caveat to this relates to heritage or special purpose assets. Many municipalities have designated specific properties or areas for heritage conservation, which limits the land use options available. Data requirements become more complex for the maintenance of a heritage asset as repair and replacement options must conform to specific guidelines established by the municipality or by a specialist consultant.

SITE DATA

For individual assets, there is a direct relationship between the data and the land use decisions being made. In a private-sector context, considerable effort is expended to capture financial performance metrics for the asset. Once the highest and best use is no longer the current use, owners and their consultants will start the process of identifying alternative uses for the property. Owners will develop a business case or feasibility study to determine viability of an alternative development. In creating this document, they will look to public planning guidance (zoning, OCP), market metrics (rents, vacancy), construction costs, interest rates, and a variety of other information sources.

In a public sector context, site-specific land use decisions are focused on fulfilling a need. For example: Is this school site still needed? Does this hospital need a new wing? What lands need to be acquired in anticipation of a new highway? There is less of a focus on the traditional highest and best use; however, data such as construction costs, interest rates, and demand all are used to determine the value for money and the need that must

be fulfilled. Negotiations will be required with municipal officials for public service land use decisions. There are many examples of housing developments for vulnerable people that have been squelched by municipal officials because they did not conform to the neighbourhood's wishes. Even with pronounced need, public sector agencies are still required to meet planning requirements set by their communities.

SITE DATA EXAMPLES

The data requirements for site-specific decisions are granular and can be extensive:

- Financial performance
- Operational costs
- Short-term land use guidance
- Market indicators
- Interest rates
- Construction costs

DATA AS GUIDE

Land use decisions, good ones at least, are data-driven decisions. Whether they are at a regional or site level, the decisions being made have generational impact and significant financial ramifications. To ensure that these decisions are the best ones, the data used to make them must be comprehensive, accurate, and relevant. Each level of decision making has a different data focus, yet each feeds the next level. Site-specific decisions that don't fit into the portfolio strategy become ad hoc. Program decisions that don't consider the site particulars will not be implementable. Using data as the guide and foundation for decision making ensures each decision is the best it can be.

RI

MEMBER PROFILE

DAVID W. FRANKLIN, RI

PRESIDENT,
CMLS FINANCIAL

David Franklin grew up in the Vancouver area and, except for a few years in Toronto, has lived here his entire life. He enjoys his family—a wife of 34 years and two sons, ages 21 and 26. His sons, in fact, are following his career path quite closely. His elder son works in the commercial mortgage business, and his younger son is completing a university degree in business.

David is in the commercial mortgage investment business. He started his career as a commercial real estate appraiser but gravitated to the finance side of commercial real estate early on, working for CMHC, trust companies, a private mortgage insurance company, and a publicly traded mortgage investment corporation.

The growth and success of CMLS Financial is a source of pride for David. He joined CMLS in 1994 when the company had less than 10 employees and operated as a small commercial mortgage broker. The company has since grown to over 200 employees, six Canadian offices, assets under administration exceeding $18 billion, and operations in commercial and single-family real estate financing, software development and design, and consulting and analytics services. "CMLS is an employee-owned company," says David, "so the team work and shared success is a very satisfying thing for me."

David loves the outdoors and particularly enjoys back-country skiing, road and mountain biking, jogging, and boating. "I crave cardio exercise," he admits. "It helps me relax and think things through."

Travelling is one of David's favorite things, and southern European destinations are his current passion. His recent bike trip in France's Provence region posed only one challenge: where does one find that critical morning americano?

CITY OF VICTORIA:

THE USE OF DATA IN NEIGHBOUR-HOOD PLANNING

Devon Miller

The City of Victoria is undertaking an accelerated neighbourhood planning process across the city, carrying out 10 neighbourhood plans over the course of three years. The process is designed to be data driven and led in collaboration with the community, with working groups established within each neighbourhood planning process. Data plays an important role in each of the phases of a neighbourhood planning process.

Large-format maps and sticky notes help to capture a range of feedback and ideas in the Fairfield and Gonzales neighbourhoods.

WHAT DATA CHARACTERIZES A NEIGHBOURHOOD?

Information and data typically captured in neighbourhood baseline reporting include:

- existing land use designations and zoning
- population density and distribution
- recent development statistics, showing net housing units approved per year and broken down by type and tenure
- assessment of projected future housing growth, based on recent development trends and citywide growth projections
- greenhouse gas emissions by sector (solid waste, commercial/institutional, residential, transportation, industrial)
- pertinent demographics for the neighbourhood, taken from census data, such as:
    - » median age
    - » average household size
    - » # residents and households in the neighbourhood
    - » % households that have children at home
    - » % households that are one-person households
    - » % low-income households
    - » median household income
    - » average number of children at home for households with children
    - » population growth
    - » population and age distribution
    - » current housing types and proportion of housing stock
    - » age of housing
    - » housing affordability
    - » housing tenure
    - » commuter mode splits
    - » area walkability
    - » ICBC collision data
    - » job type held by residents
    - » unemployment rate, self-employment rate, % of residents in the labour force

Neighbourhood plans are created to provide a framework for the development of an area of the city over a 20- to 30-year timeline. They generally provide detailed block-by-block guidance on the location and types of housing, shops, offices, and other types of development and land uses that are envisioned for an area, providing guidance on what the buildings and private and public spaces should look like.

In addition to land use and urban design considerations, neighbourhood plans provide details on what the future transportation network, parks and open spaces, and community facilities will look like, and they identify topics and issues that are important to the people who live, work, and visit the neighbourhood.

Neighbourhood plans include both long-term policies and short-term actions, and often include areas beyond neighbourhood boundaries to consider connections with the surrounding city. They work hand in hand with a community's Official Community Plan (OCP), by detailing how the OCP's high-level policies apply to a local area or neighbourhood.

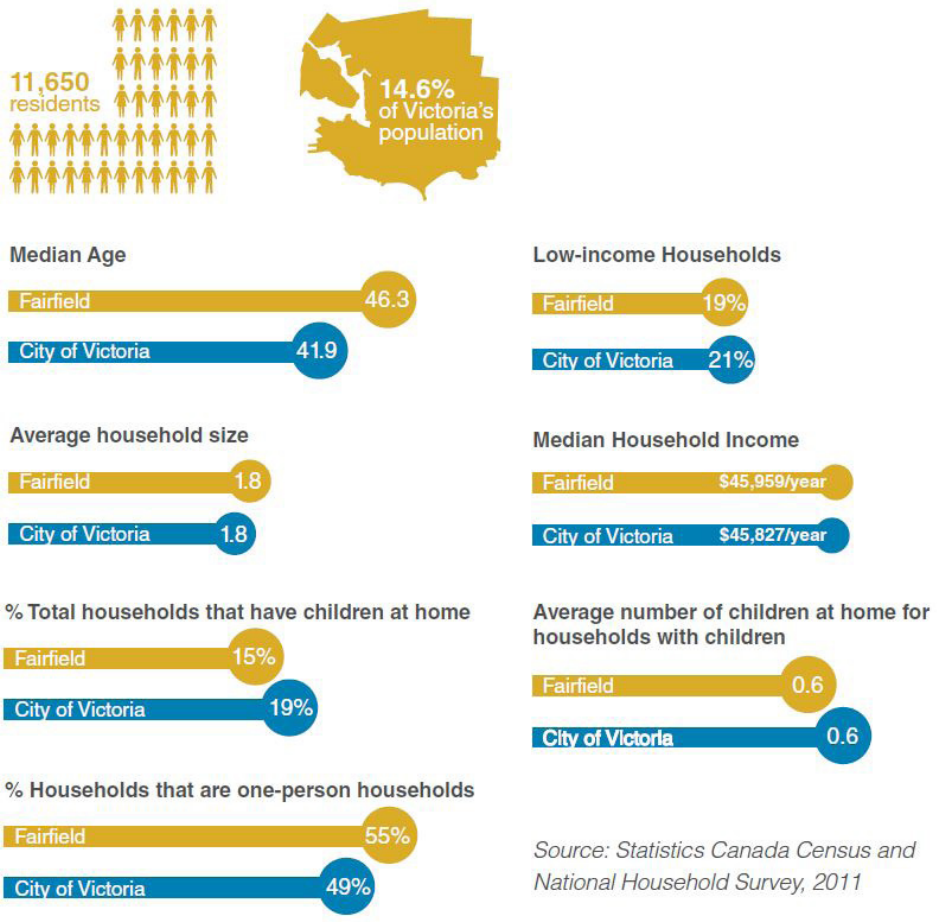
In addition to the above, a neighbourhood plan can assist with several important community objectives. They can:

- Help residents and business owners to identify key issues and establish a common vision for their neighbourhood
- Assist developers and residents to understand the types of development changes envisioned for an area
- Provide community associations, City staff, and council with more information to evaluate the suitability of development applications
- Identify future capital investment for capital projects and infrastructure—physical and social—needed in an area

The process for undertaking neighbourhood plans at the City of Victoria typically involves three key phases, and data plays an important role in each phase. Data plays a particularly prominent role in Phase 1, where it sets the stage for the neighbourhood plan.

PHASE 1: COMMUNITY PROFILE AND BASELINE

A successful neighbourhood plan needs to understand the trends, market opportunities, and challenges that the neighbourhood currently faces. Such an overview provides the grounding to balance community needs with market reality for the neighbourhood plan policies and strategies.



Sample infographics included in baseline reports.

To provide this overview and kick off each neighbourhood plan, we create a community profile and baseline conditions report. These reports highlight key baseline information and unique features of each neighbourhood. They are meant to be a starting point to help inform initial community discussions on various planning issues that will be addressed through the process. Each report outlines the policy context for the neighbourhood plan, analyzes and presents demographic data and development trends, examines transportation issues and the character of the built environment, and helps identify any other key issues that will inform the development of the vision for the area.

Data sources for the report include the City's building permit data, census data, regional and city population projections, climate change projections, ICBC collision data, BC Assessment data, commuter and travel survey responses, and more. Some of the data is collected in-house, and some is provided by outside organizations and consultants. For example, the Capital Regional District provides the City with census data broken down by neighbourhoods, which provides us with a large and important trove of data for use in neighbourhood planning. (See sidebar for a breakdown of information and data typically captured in the City's baseline reports.)

By providing a snapshot of the neighbourhood as it is today, the information gathered and presented in Phase 1 provides a basis for the next phase of the neighbourhood plan, which is geared toward gathering an inventory of issues and assets from the community.

PHASE 2: ISSUES AND ASSETS ANALYSIS

Through multiple workshops and other engagement events, this important phase builds upon baseline information to capture what residents see as the key issues and assets in the community. This will establish the guiding principles and goals of the neighbourhood plan.

Qualitative and quantitative data is captured in this phase through online surveys, questionnaires, open houses, and design workshops. As well, data is analyzed to confirm information we hear from the public.

Gathering ideas for the vision and goals from residents at the Vic West Street Fest.

Visual preference surveys are an example of a data collection method used in this phase. These are often conducted by providing residents with photos or sketches of different housing typologies (e.g., townhouses, garden suites, apartments, etc.) and asking them to rate how appropriate each would be in the neighbourhood. Results of these visual preference surveys are then used to help formulate new housing policies for the neighbourhood, with the overarching goal of promoting the growth of smart, walkable, and compact communities with good access to transit.

Types of data analysis used in this phase may include survey response analysis, policy alignment assessment, and "ground truthing" issues raised by residents and business owners. As an example of ground truthing, community members may suggest that a particular intersection is not safe for pedestrians and requires immediate improvements, and based on that feedback our engineering team assesses factors at the intersection, such as posted speed versus actual speed, number of collisions based on ICBC data, and traffic volume. This analysis will inform the most appropriate design solution.

PHASE 3: OPTIONS ASSESSMENT, FEEDBACK, AND PLAN

Taking the information gained in Phase 1 and Phase 2, and combining it with further discussion and interdepartmental analysis, land use plan options are then created that reflect the guiding principles and goals of the community.

These options are accompanied by robust data analysis such as future housing unit projections, retail square footage projections, economic analysis, and retail studies that result from the directions proposed in these options. Some of these studies will be conducted in-house, and others will be conducted by consultants or consultant teams. This phase also includes extensive community engagement, capturing resident views on the different options and considerations for adjustments, in order to strike a balance that achieves the goals for the plan set forth in Phase 1. As well, feedback is captured and the plan is refined through an iterative inter-department review process before presenting it to council for adoption and undertaking final public engagement to confirm the plan.

CONCLUSION

As the City embarks upon this exciting and challenging accelerated neighbourhood planning process, it is important that staff, residents, and stakeholders are all on the same page when it comes to assumptions and goals related to the neighbourhood plan. Data sources, such as those described in this article, are needed to ensure we are carrying out a process that is both data driven and collaborative with the community.

Photos and graphics provided by City of Victoria.

ASK A LAWYER

John McLachlan, LLB

Q: *We rely on data for all manner of land use and development decisions. But who has access to it, and what happens when the data is wrong?*

A:

With the rapid advances in technology over the last 40 years, large amounts of data have become readily available. In the past, much of the information that was gathered was stored on paper and was not easily searchable or accessible. With the advances in technology, older data is being scanned and digitized; meanwhile, new data is being collected electronically and brought online. As more and more data becomes available, both public and private agencies have grappled with how to organize, analyze, and use the massive amount of data that is available.

Geographic information systems (GIS) have been developed as one way to collect and analyze data. A GIS is a computerized database system that combines maps and other types of information into a unified format so that users can view and analyze various pieces of data on one map or on layers of maps. Examples of GIS at work can be found on many city websites that allow the public to view aerial photographs, roadways, property lines, water and sewer connections, zoning districts, building outlines, and property tax information. These items can be sorted, manipulated, and symbolized to help the user understand important information of which they may not have previously been aware.

Land developers and planners use GIS to help them conceptualize and plan developments based on large amounts of data, such as population growth, median income, information on adjacent properties, geotechnical data, water quality, and potential sources of contamination. Governments and corporations use GIS to gather and analyze information such as potential crop yields and soil quality for farming, lumber yields from a forest, and floodplain and landslide areas.

The collection of data is pervasive in today's society. Applications such as Google Maps and even Yelp use GIS to allow users to find local places and avoid traffic congestion. They can even determine which stores you have shopped at and what you have bought. More recently, companies are developing systems and databases to assist with the development of self-driving cars; collecting and updating maps in real time will allow the self-driving cars of the future to deal with temporary obstacles such as potholes and construction sites.

The development and uses of GIS have rapidly expanded and with that expansion myriad issues have arisen. These large public and private databases create many practical and legal issues—for the suppliers of the data and GIS and also for the end users—of privacy and access as well as accuracy and liability.

All levels of government gather and disseminate data from a variety of sources, including from private citizens who have had to provide this data through the operation of various bylaws, statutes, and regulations. GIS databases hold all kinds of information related to individuals. They may include property titles, data on building permits, occupancy permits, residency, water use, and even tax and land records. Governments compile this data in various GIS systems to fulfill their own mandates, promote efficiencies, and provide public access to that data. One issue that arises from this is what limits, if any, should be placed on access to this information: how much information do private citizens have the right to demand?

> The proliferation of uses to which the data can be put makes it difficult for data and information system suppliers to anticipate the risk associated with new uses of data.

Even as recently as a few years ago, a typical government GIS would not contain enough data layers to identify individual people or businesses. However, as more and more data is collected from a variety of sources, it becomes much more difficult to anonymize the data to ensure individuals are not identifiable.

As technology has developed and more data has become available, governments have tried to introduce legislation to protect privacy rights and place boundaries on what data can be produced. As such, access to government records are governed by both federal and provincial laws, including the Freedom of Information and Protection of Privacy Act, the Personal Information Protection Act, the Personal Information Protection and Electronic Documents Act, and the Privacy Act. The object of these acts is to balance the competing interests of access to information with the protection of individual privacy rights.

Another access issue arises from the commercialization of data. Given the substantial costs required in establishing GIS, how can the various levels of government recover these costs or should they simply bear the costs? This choice requires a balancing of the competing interests of open access on the one hand, and on the other the commercialization of data and generating public revenue—whether it be through user fees or by selling the data to private parties for their own information systems.

With the proliferation of readily available data, data providers and information system providers are facing increasing potential for liability for the accuracy and reliability of the information stored in their databases and sold or issued to the public. Given the multiple data sources available and differing standards between data producers, errors can be made not only in the data itself but also in the way that various data sets are merged. Issues arise when data points represent different scales or different expectations of accuracy, and data providers can be held liable if the information they distribute leads to damage or loss.

Damages, both physical and economic, can arise through mistakes made in a GIS data set, or by a mistake that once discovered was not changed, or even through the faulty analysis of GIS data. Even simple errors can have profound effects. For example, an error as to the height of the flood line that leads homeowners to build on a floodplain, or an error as to the location of a broadcasting tower on or off a flight path, can lead to massive damages. Similarly, an address incorrectly tied to a phone number could lead to emergency services attending at the wrong place, and a mistake as to the location of a gas pipe or shut-off valve on a map of underground utilities could lead to an explosion when contractors unknowingly cut into it.

The proliferation of uses to which the data can be put makes it difficult for data and information system suppliers to anticipate the risk associated with new uses of data. Compounding the problem and the potential exposure for data providers is that the data may be used or interpreted by the end user in unanticipated ways. Problems are not always caused by incorrect data but by the user adopting the data without considering whether the data was designed for, or compatible with, the user's intended purpose.

While many datasets and systems are now issued with disclaimers, it is uncertain as to how effective those disclaimers are. Given the rapid developments in the area and the new ways in which the data and GIS are being used, it is difficult to anticipate the ways in which liability could arise and whether the disclaimers would be effective in shielding the data providers from all liability.

Advances in data production and analysis have had many beneficial effects, yet there are also potentially damaging consequences that can arise when the data is blindly relied upon without consideration of its accuracy or the purpose for which it was originally intended.

TRANSLINK:
COLLECTING DATA TO SUPPORT TRANSIT-ORIENTED DEVELOPMENT

Guy Akester, RI

You've no doubt heard the numbers: Metro Vancouver expects to welcome about a million more people over the next 25 years.

That's a lot of people in a region hemmed in by mountains, the sea, and an agricultural land reserve, and this rush on space goes a long way to explaining the drive toward high-density development that we're seeing.

How well that high-density development succeeds depends in large measure upon its proximity to what we at TransLink call the Frequent Transit Network. Easy access to transit means more options for people in how they get around, it means there's a great alternative to driving, and it helps ensure our growing region's economy is not crippled by gridlock. The Metro Vancouver region's prosperity depends upon a number of things, but high on the list is the flow of transportation. By building on frequent transit, developers are meeting the demand of people who want the option of using transit and the financial and lifestyle benefits that can result.

TransLink works closely with Metro Vancouver and municipalities to plan the future growth of the region and ensure the region retains its status as one of the most livable corners of the planet. The chief guides to this planning are the Regional Growth Strategy and its companion the Regional Transportation Strategy, which together aim to ensure growth unfolds in a way that is thoughtful and efficient.

Understanding people's needs today and how they are getting around currently helps TransLink plan for future transit behaviour and demand.

We've always strived to have a good understanding of who is using transit and how, through a variety of means. You may recall answering questions about your travel around town the last time you filled out your Canadian census form. This information gives TransLink planners a better idea where people live, where they work, and how they're getting there. TransLink also distributes Trip Diary surveys every few years asking similar questions, including the purpose of respondents' trips, occupations, incomes, and more.

Other tools at the disposal of our planners are the growth projections calculated at both the provincial and regional district levels. Each year, BC Stats releases total population estimates for 29 regional districts, including Metro Vancouver. Statisticians use various models to project how population will grow as well as what employment trends will emerge. Metro Vancouver planners take the figures from BC Stats and fine tune them for the needs of the region. They use these projections to map future growth. TransLink uses regional, census, and Trip Diary data to predict future demand for transit.

This important planning work is now benefitting from a project we rolled out to the general public last year—the Compass Card. When it comes to data, this smart card

Top: Compass mobile validator. Above: Fare gates at Olympic Village.

and fare gates at SkyTrain stations allow TransLink to see with great precision where, how, and when our customers are travelling.

This bounty of data means TransLink can more accurately target transit service today to meet demand, and also give the development community a more detailed picture of the sheer volume of people that passes through transit exchanges each day and how much capacity is available on the transit system.

While the trip surveys have been helpful, the tap-in, tap-out technology behind Compass shows our planners how customers are making their trips. The important benefit is now being able to understand complete journeys made—where people begin on a journey, the transfers they make, and where their journey ends. TransLink can collect this data on all of its customers, every day, instead of for only the small segment of customers that completes Trip Diary surveys every few years.

My colleague Susanne Bell, a senior geographic information systems administrator with TransLink, says this additional data allows planners to more accurately pinpoint where service will be well used. "Compass is a whole new world for us," Bell says. "Not only do we have the numbers all over the system for the first time, because we never had passenger counts, for instance, on SkyTrain, but we're now seeing the segments of the trips. So we're able to align that information with population trends over time, employment trends, and where we are seeing shifts in those trends."

LAND USE AND TRANSIT

Developers and municipalities are looking for more ways to support transit-oriented communities, and the data TransLink is collecting is shaping which projects move from plan to reality.

The Regional Transportation Strategy is a key foundation against which official community plans (OCPs) are measured. Legislation supporting this strategy stipulates that TransLink will evaluate any changes to a municipal OCP to ensure it fits with the Regional Transportation Strategy (RTS). Ignoring this strategy can lead to too little transit in densely populated areas and too much service going unused in sparsely populated neighbourhoods. The legislation allows us to say, "This proposed land use change does not support the objectives of the Regional Growth Strategy or the Regional Transportation Strategy, there won't be the transportation or transit investments made to support the proposed development, and therefore we recommend against it."

MARINE GATEWAY PROJECT

One of the more prominent recent examples of a transit-oriented development supported by TransLink is the development around Marine Drive Canada Line Station, which includes a bus loop, at the corner of Marine Drive and Cambie Street in Vancouver. Marine Gateway, the mixed-use development surrounding the Marine Drive station, consists of retail, office space, and residential towers. The proposed plan had real potential, but there was a reluctance to rezone the area for high density.

The data, however, backed up the push for density. The arrival of the Canada Line provided the capacity needed to accommodate the additional residents: the data showed that the extra transit network capacity was there to support the increase in population and services.

From a transit perspective, the efficiency of the system is increased by encouraging more two-way travel. With jobs and services located at Marine Gateway, this area is a commute destination, rather than just a home for people heading downtown each day. This helps to spread out transit demand so there isn't the dynamic of trains heading in one direction full and coming back empty.

Housing people directly above transit infrastructure supports sustainability by reducing the number of private vehicles on the road. Creating mixed-use development with a combination of residential, office, and retail space provides not only easy transportation access for residents, but also the majority of everyday services they need right at their doorstep.

The Marine Gateway project absolutely changed both the development community's and homebuyers' perspectives on being close to transit and whether transit was "cool." Marine Gateway went on the market in 2011, at a time when condos could take months to sell. It sold in about three hours, and at a premium when compared to projects not directly connected to transit.

Marine Gateway effectively launched the transit-oriented development trend in Vancouver, a trend that shows no sign of flagging. Before that time, most construction was done at a distance from stations. Suddenly, developers started seeing stations as the place to be.

BRENTWOOD PROJECT

A major transit-oriented development in the works is Shape Properties' multi-use development on a 28-acre site at Brentwood Town Centre in Burnaby (see cover illustration). TransLink and the City of Burnaby worked with Shape for over two years to enable the vision. More

Tower at Marine Gateway.

than 10,000 new homes, spread out over four development projects, are either in construction or planned within 400 metres of the station. This includes 9.2 million square feet of new construction, comprising 7.1 million square feet of residential, 1.3 million square feet of retail, and about 750,000 square feet of office space. The data that TransLink is gathering has confirmed that the Millennium Line running through the Brentwood project can accommodate the population growth and employment growth the redevelopment will create.

DATA HELPS

The data from the Compass Card program is significantly bolstering the credibility of the data TransLink collects. It is expected to help government, developers, and retail tenants pinpoint exactly which areas will work best for new transit-oriented communities.

Such data will help municipalities as they shape and approve projects and TransLink as it plays its part in shaping and approving projects, and whether we push for different types of density at locations based on that data. And when it comes to prospective office and retail tenants, that data is going to go a long way in helping them understand how to shape their businesses. What are their opening hours going to be? Do they want to be on the inbound platform or the outbound platform? What is their catchment area for prospective employees and customers? Compass can help them make those decisions with more confidence.

Today, TransLink is assisting with dozens of transit-oriented developments across the SkyTrain network—with total construction valued in the billions. More than 80 projects combining density and transit are in the works around the region. Developers are planning something similar to the Brentwood project near Lougheed Town Centre Station. This venture is not as far along as Brentwood, but it will be of comparable scale and density once complete.

Municipalities along the new Evergreen Millennium Line Extension are seeing successes surrounding other SkyTrain stations and are considering their own transit-oriented communities. In Port Moody, work is underway on its Coronation Park neighbourhood plan on a site about 400 metres from Inlet Centre Station on the Barnet Highway. This city expects to add 4,000 residents in the coming years and is contemplating significant transit-oriented development around Moody Centre Station as well. The City of Coquitlam is expecting to welcome 25,000 to 30,000 new residents to the Coquitlam Centre neighbourhood in the next quarter century. It also sees its three Evergreen Extension stations as prime locations for dense communities.

TransLink's overarching goal is to make this region a better place to live, built on transportation excellence. That means creating sustainable, livable communities. Data is helping TransLink and its partners achieve this objective by putting the density where people and businesses want to be.

Photos provided by TransLink.

Real Estate Division Professional Development

The Real Estate Division at UBC's Sauder School of Business offers a series of short online continuing professional development (CPD) courses aimed at real estate practitioners' continuing education needs. The course topics range from property valuation and financial analysis to sustainability and business development. Completion of a CPD course earns you a UBC award of completion and may also earn you continuing professional development credits for the Appraisal Institute of Canada's Continuing Professional Development Program.

Reserve Fund Planning Program (RFPP)

The RFPP is two-course national program designed to provide real estate practitioners with the necessary expertise required to complete a diversity of reserve fund studies for condominiums/stratas and other properties across Canada.

The RFPP program comprises two courses:

CPD 891: Fundamentals of Reserve Fund Planning

A comprehensive overview of the underlying theory, principles, and techniques required for preparing reserve fund studies and depreciation reports.

CPD 899: Reserve Fund Planning Guided Case Study

Guides the student through the process of completing a comprehensive reserve fund study report.

Find out more about our courses:

realestate.ubc.ca/CPD

tel: 604.822.2227 / 1.877.775.7733

email: info@realestate.sauder.ubc.ca

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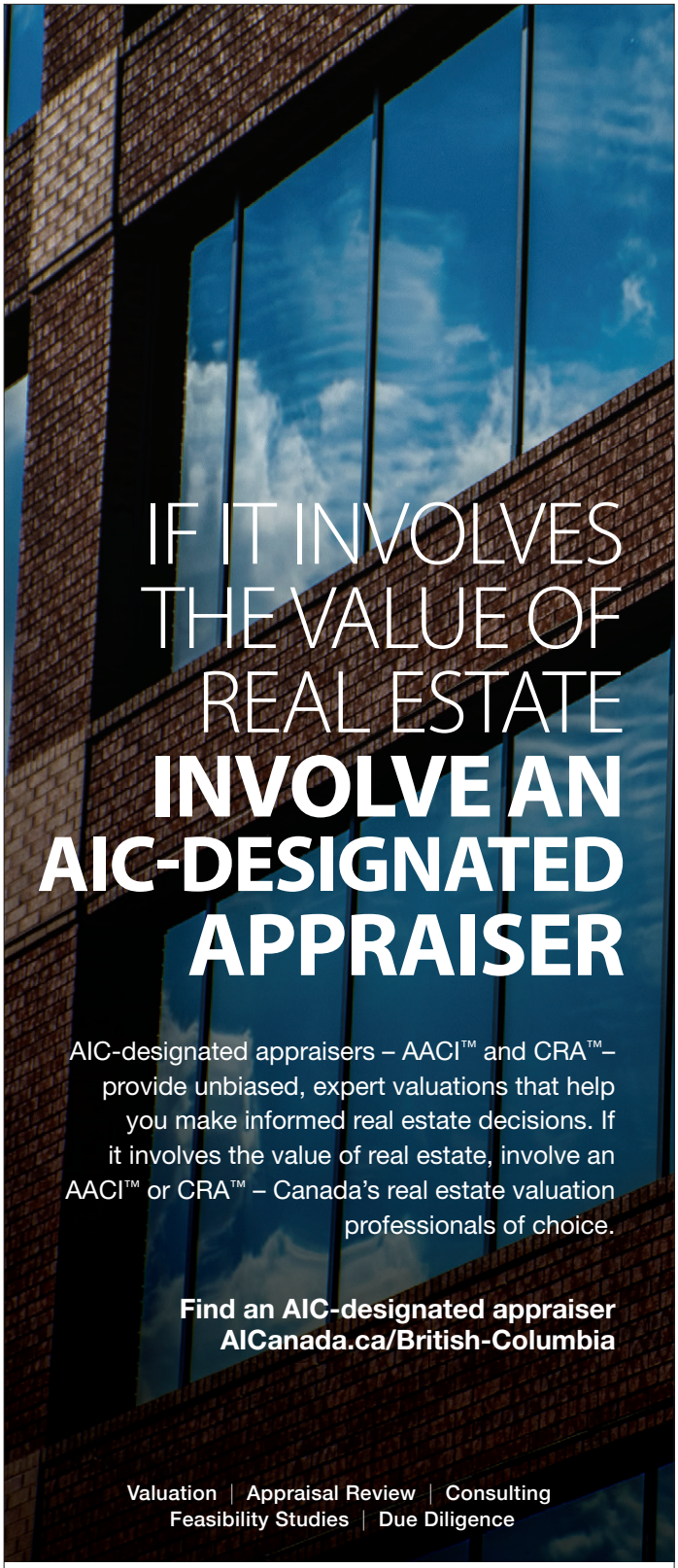


Appraisal Institute of Canada

British Columbia

ORGANIZATIONAL PROFILE

LAND TITLE AND SURVEY AUTHORITY OF BC

The Land Title and Survey Authority of British Columbia (LTSA) is a publicly accountable, statutory corporation responsible for operating the land title and survey systems of British Columbia. LTSA owns and maintains ParcelMap BC, a sustainable mapping infrastructure that brings information to life in a visual way. Completed with province-wide coverage in June 2017, ParcelMap BC was recently recognized by Esri Canada, a leading geographic information system (GIS) software provider, with its Award of Excellence in GIS Innovation. Esri Canada selected ParcelMap BC for successfully addressing and overcoming significant data verification and management challenges to create a single, complete, trusted and sustainable electronic map of active titled parcels and surveyed provincial Crown land parcels in BC.

ParcelMap BC offers an easy-to-use and reliable source of extensive spatial infrastructure data that can improve the speed and efficiency of land-related research, planning, and business decisions. It enables developers, realtors, utility companies, local governments, and other stakeholders to quickly view a given parcel of land, its relationship to adjacent parcels, and extensive information about the parcel. ParcelMap BC is currently available through multiple service channels: as a dataset in the Province of BC's Data Catalogue, through a variety of public access channels delivered by DataBC, on the LTSA website (*ltsa.ca*), and through the myLTSA portal (*https://myltsa.ltsa.ca/myltsalogin*).

ParcelMap BC can be searched by clicking on the map or by searching for a specific address or other identifier such as plan number, parcel identifier, jurisdiction and roll number, or legal description. On top of a contextual base map showing roads and terrain, ParcelMap BC includes layers of data that provide context for and other views of the land parcels. The layers include information about parcel classes (ownership and interest), Crown features such as undersurface, transportation, and statutory right-of-way, and administrative boundaries, including municipalities, regional districts, treaty First Nation lands, parks, and protected areas.

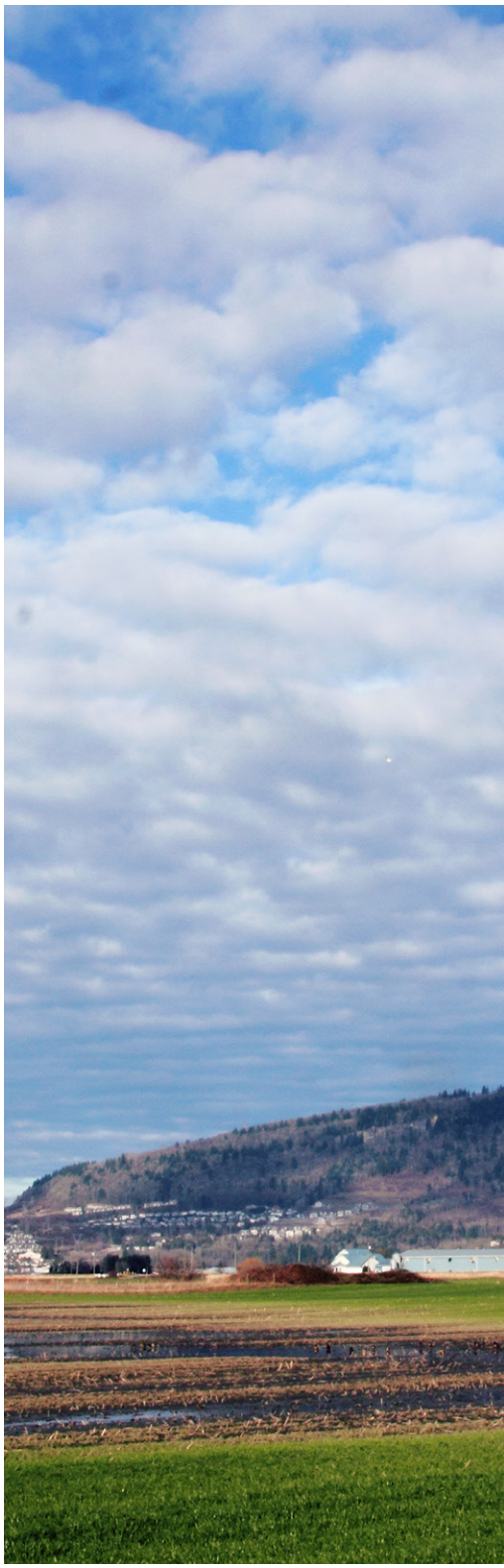
ParcelMap BC provides accurate and timely data for real estate development projects. On the electronic map, all surveyed parcels are represented with building strata lots linked to their parent parcel shapes. In the case of phased strata, the phase extent is mapped as part of the parent, with the strata lots of a particular phase associated with it. The map is updated with each phase of the development until the project is complete. Strata lots in bare land strata parcels are mapped individually and include any common property. Air space parcels are also included, represented by overlaying the parcels, and new survey charges are mapped as "interest" parcels.

To develop ParcelMap BC, LTSA involved stakeholders with a comprehensive understanding of cadastral data management and its applications, working in partnership with the Province of BC, the Integrated Cadastral Information Society, the Association of BC Land Surveyors, and BC Assessment. Learn more about ParcelMap BC on the LTSA website (*ltsa.ca/parcelmapbc*).

INSTITUTE FOR SUSTAINABLE FOOD SYSTEMS:

AGRICULTURAL LAND USE CHOICES AND OUR FOOD SYSTEM FUTURE

Caitlin Dorward and Kent Mullinix



There is increasing concern that our food system is not sufficiently resilient and our food security is vulnerable. Issues including climate change, rising food costs, speculative valuation and non-farming use of farmland, global economic instability, population growth, resource depletion, and loss of arable land elevate this concern. At the same time, agriculture is increasingly economically marginalized, the farming population is aging, and the lack of economic reward dissuades young people from taking up the profession. Without a doubt, our food system must evolve in response to these challenges. But what does that mean, and what should we do?

Winter in BC's west coast. Photo by Modfos (Thinkstock).

FOOD SELF-RELIANCE

Many contend that we should re-localize our food systems and shorten the supply chain that brings food from producer to consumer. Although "local" is defined variously by proponents of local food systems, all contend that such systems will confer social benefits, reduce negative environmental impacts, improve nutrition and food safety, strengthen local economies, and increase food self-reliance (the degree to which a community's diet is satisfied by locally produced food).

In British Columbia, increasing food self-reliance has been identified as a key climate change adaptation strategy and it has been suggested that increasing local production capacity "makes sense in a future where produce from California [the main source of fruit and vegetable imports to BC] may not be as available as it is at present nor at prices as low as they are at present."[1] The public is increasingly supportive of localization: many social sector organizations advocate for food system re-localization and nine in ten respondents to a 2008 survey of BC residents agreed "it is important that BC produce enough food so we don't have to depend on imports from other places."[2] In the same survey, 95% of respondents indicated their support for BC's Agricultural Land Reserve (ALR), a provincial zone that protects land for farming, and agreed "the government should limit urban development in farm areas to protect farmers and agricultural land."[3]

But making real changes to adapt to the food system challenges we face requires more than grassroots advocacy and support: it requires strategic policy change. And although many local governments are taking action with policy and land use planning to support local food systems, they have been doing so in the absence of accurate information to inform their decisions.

1 A. Ostry, C. Miewald, R. Beveridge, *Climate Change and Food Security in British Columbia*, Pacific Institute for Climate Solutions, 2011, http://pics.uvic.ca/sites/default/files/uploads/publications/Food%20Security_2011.pdf.

2 Ipsos Reid Public Affairs, *Poll of Public Opinions Toward Agriculture, Food and Agri-Food Production in BC*, Investment Agriculture Foundation of BC, 2008, http://www.alc.gov.bc.ca/assets/alc/assets/library/audits-and-surveys/poll_of_public_opinion_toward_agriculture_food_and_agri-food_production_in_bc_ipsos_reid_2008.pdf.

3 Ibid.

ADDRESSING A DATA VOID

Identifying this as a troubling information void, researchers in the Institute for Sustainable Food Systems at Kwantlen Polytechnic University's Richmond campus developed an unprecedented methodology to model and assess the economic, environmental stewardship, food production, and food self-reliance potentials of regional food systems, in order to provide critical data for land use and social planners, economic development officers, policy analysts, and other decision makers. Our model utilizes the best provincial and national data available to assess 14 indicators related to food production and food self-reliance, environmental impacts of farming, and the contribution the food system makes to the provincial economy. It includes over 120 individual food commodities and reflects a typical Canadian diet and Canada's Food Guide recommendations for all five food groups.

The model facilitates "what if" analysis—an invaluable tool for decision making that allows for a better understanding of the implications of making one choice versus another. In this case, the choices are regarding land use, habitat enhancement, or diet. It allows for the exploration of questions such as: How could changes to agricultural land utilization affect food production to meet regional demand and serve local markets? To what extent could increasing food production for the local market improve food self-reliance, benefit the economy, and create jobs? How will mitigation of region-specific detrimental environmental impacts affect food production?

In a report just released, *The Future of Our Food System: Report on the Southwest BC Bioregion Food System Design Project* (*kpu.ca/isfs/swbcproject*), we discuss the findings of our first application of this methodology to model possible food system futures for the five contiguous regional districts of the Lower Mainland, which we refer to as the Southwest BC bioregion. This study compares contemporary food production and land use in the Southwest BC bioregion to what-if scenarios of our food system in the year 2050, when the Southwest BC population is projected to increase by nearly 60%, from 2.7 to 4.6 million people.

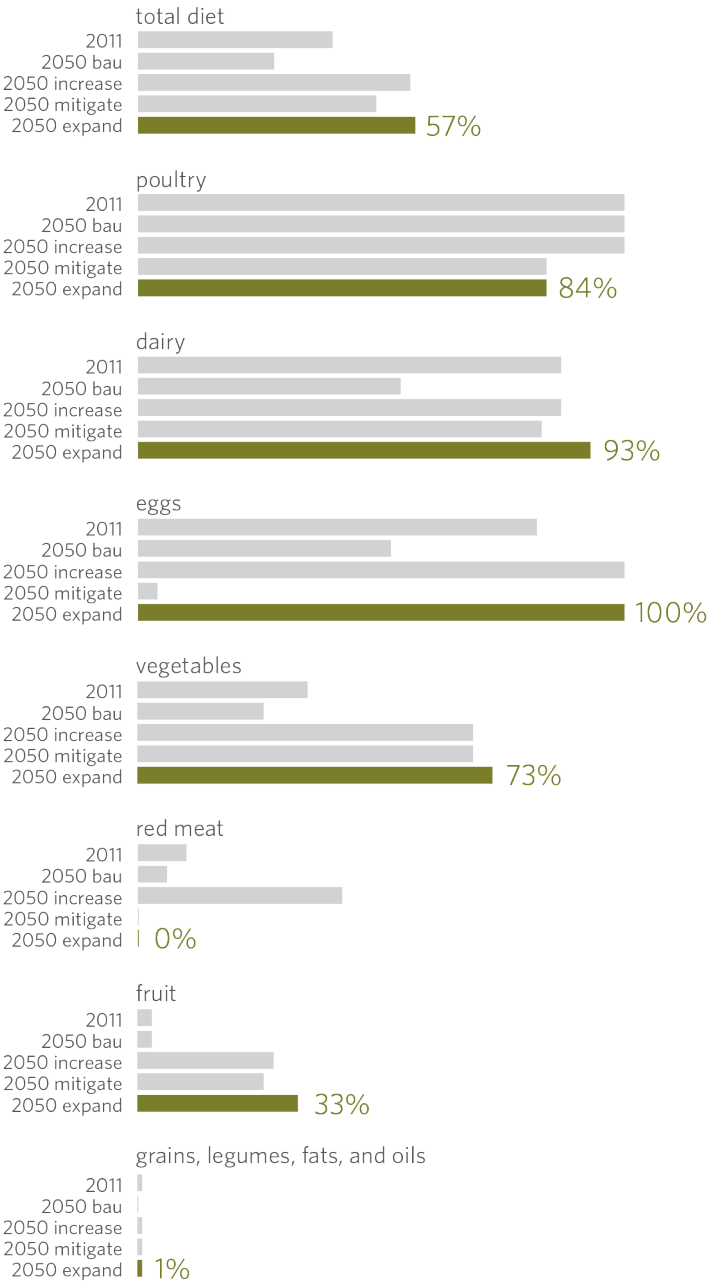
STUDY HIGHLIGHTS

So what was the outcome, and what did we learn?

Assuming that all foods produced in Southwest BC first go to satisfy local demand (this data is not tracked formally or informally, hence the assumption), and accounting for the fact that grains used for livestock feed are

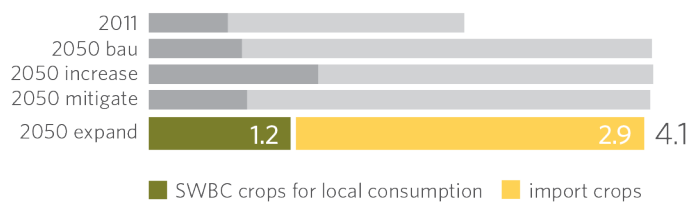
Food Self-Reliance

Percentage of diet that could be satisfied by locally produced foods



Ecological Footprint

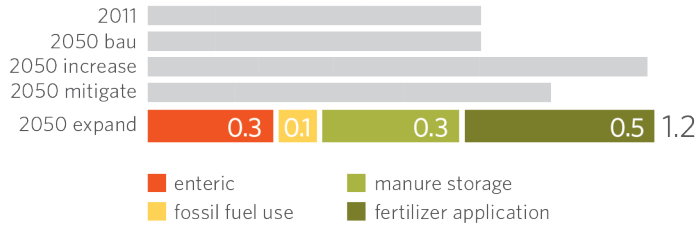
Global hectares required to meet the food need of SWBC's population, in millions



Indicators were tracked in future scenarios for 2050. This scenario shows the impact of 25,000 ha of ALR land brought into production for the local market and, simultaneously, several environmental stewardship measures.

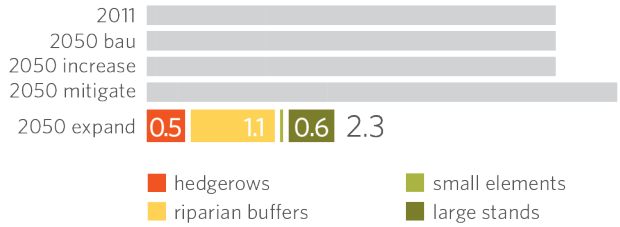
Greenhouse Gas Emissions

Tonnes of CO_2e emitted annually from SWBC agricultural production, in millions



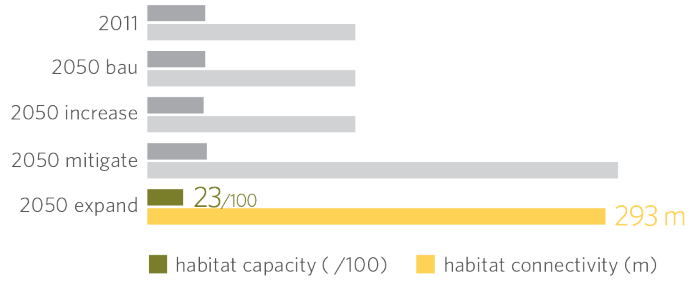
Carbon Stocks

Tonnes of carbon stored in non-production perennial vegetation, in millions



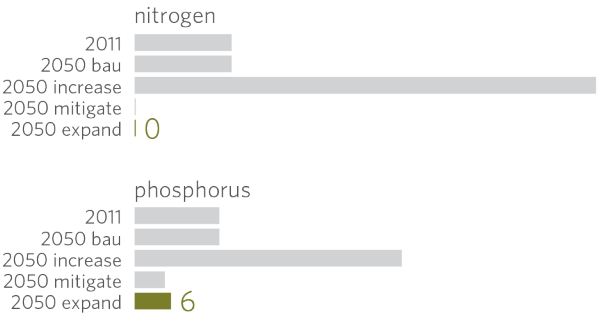
Habitat Capacity and Connectivity

Quality of land cover for wildlife



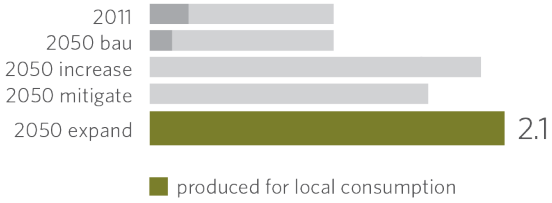
Nutrient Surplus

Surplus nitrogen and phosphorus from animal manure, in kilograms per hectare



Food Production

Tonnes of food produced in SWBC, in millions



Food Imports

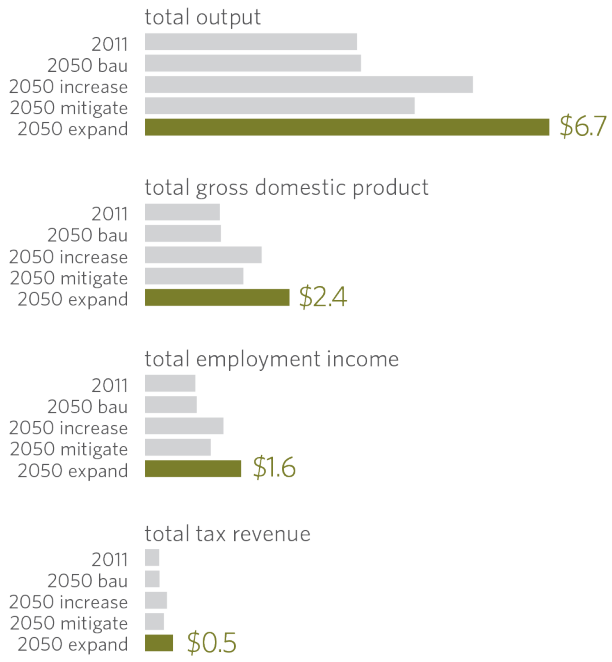
Tonnes of food imported to meet outstanding food need in SWBC, in millions

Total Employment

Number of full-time equivalent positions in agriculture and related industries

Financial Impacts

Dollar value of estimated impacts, in billions (2011 value)



imported to Southwest BC, we estimate the region's contemporary food self-reliance to be 40%—and by extension that 60% of the food needed to feed the region's population is being imported. The estimated value of this imported food is $1.6 billion. That's a lot of "economic leakage"—money leaving and not benefiting Southwest BC's economy. In reality, we know that not all food produced in Southwest BC goes first to satisfy local demand since some is certainly exported, so our estimate of food self-reliance is high and the value of imported food low.

In a "business as usual" hypothetical scenario for the year 2050, in which the same amount of land is farmed (101,000 hectares) and the same crops are grown as in 2011, food self-reliance falls to 28%. Food imports nearly double and the associated economic leakage increases to $2.9 billion. The total amount of money spent on food in the region increases due to population growth, but that expenditure is largely outside BC, and so the contribution of Southwest BC's food system to BC's economy does not increase over 2011 levels.

However, in a "localized" scenario where crops are grown to satisfy the local market first, even with using the same agricultural land base (101,000 hectares), food production in the region increases by nearly 80% and an overall food self-reliance level of 56% is achieved. The farm gate value of this food is $2.1 billion. Compared to 2011 levels, job creation, total economic output, and the contribution of Southwest BC's food system to provincial GDP increases by 50%, and income generation increases by 64% to $1.3 billion.

We also modelled a localized scenario in which 25,000 hectares of additional, currently available ALR land in Southwest BC are brought into production for the local market and, simultaneously, several environmental stewardship measures are taken to reduce environmental impacts of farming (see graphics on previous page). These measures include establishing riparian buffers along all waterways on farmland and establishing hedgerows along all ALR parcel boundaries (these features improve wildlife habitat and protect water), and balancing nitrogen from livestock manures with nitrogen needed by crop plants (nitrogen is an essential nutrient for plants and a waste contaminant from livestock production). In this scenario, food self-reliance of 57% is twice that achieved in the "business as usual" scenario (28%), even with the imposition of hedgerows and riparian buffers that take land out of production, the nitrogen balance that limits livestock production, and a doubling of the population. The need for imported food is the lowest of all 2050 scenarios we modelled, and economic impact increases between approximately 90% and 100% over 2011 levels. Total output is $6.7 billion, GDP contribution is $2.4 billion, 30,670 jobs are created, and total employment income is $1.6 billion.

WHAT THIS MEANS

Results from this research clearly indicate the substantial potentials of a localized food system.

Higher levels of bioregional food self-reliance are achievable with the resources we have available, if we use them wisely. But that's not all. Increasing food self-reliance makes good economic sense as well. For all measures of economic contribution we evaluated, increasing bioregional food production specifically for local consumption is superior to using the land per status quo food production with its focus on export markets. This is because devoting land to food production for local consumption entails converting some land from lower-value crops (e.g., hay and pasture) to higher-value crops (e.g., fruits and vegetables). Doing so generates more farm income, more tax revenue, higher GDP, and creates many jobs and business opportunities in farming and post-production (food processing). And in addition to benefiting the economy as a whole, increasing agriculture's contribution to the economy will attract government and community support for and investment in the sector over the long term.

WHAT WE NEED TO DO

Informed decision making leading to policy development and implementation is key, and is assisted by the data generated in our study.

We can indeed achieve substantially greater levels of food self-reliance than we currently have. And we can do so even when Southwest BC's population nearly doubles. It will require different patterns of agricultural land use and a different mix of crop and livestock production.

To complement shifting food production from an export focus to a focus on the local market, we also must develop the requisite food processing, storage, and distribution infrastructure. The highest economic contributions from food are achieved when there is a supply chain to aggregate financial gains from agriculture suppliers to primary producers and then to processors and distributors.

Agricultural land must be protected through prudent land use planning and utilized for agriculture. The levels of food production, self-reliance, and economic gain modelled in our study are predicated on optimal

Project reports from this study were prepared as a resource for elected officials, municipal and regional planning and economic development staff, and community members. They can be downloaded, free of charge, at *kpu.ca/isfs/swbcproject*.

utilization of Southwest BC's available agricultural land. Any diminution of this land base reduces regional food system potential and will increase reliance on imported foods and reduce our food security. Therefore it is incumbent upon us to preserve all of this precious non-renewable resource, and necessary for local and provincial governments to take a strong stance to protect agricultural land. Lower levels of food self-reliance will result from using farmland to grow food for export markets, or from not farming it at all.

A VISION OF THE FUTURE

We are facing a number of pressing local challenges: an increasing population, environmental degradation, threatened farmland, and the need to ensure BC's economic vitality and the strength of its agricultural sector. Many Southwest BC residents are motivated to support a regional agriculture and food system sector that brings the food economy and supply home. Our study investigated the potential of such a food system to address these local challenges and indicates that, although not a panacea, such a food system could play an important part of a comprehensive vision of a sustainable future for Southwest BC.

Our food system can and should operate to achieve what we want it to. It should build community and contribute more substantially to our local economies, creating jobs and business opportunities. It should buffer us from the uncertainties of global economics and climate change. It should better position us to address critical environmental issues. And our food system should provide appropriate, nutritious food for all residents of our communities.

Such a preferred food system future won't be achieved by its own volition or leaving it to the free market—which does not really exist in our food system. Laws, policy, and regulation such as the ALR, the supply management system, and trade agreements significantly determine its character, function, and outcome both regionally and globally. But our food system is of our making, and we can choose the food system we want for our future.

The Institute for Sustainable Food Systems (ISFS) intends to conduct similar studies for all of British Columbia's bioregions. These studies will report regionally relevant data-driven information on the potential economic, food production, and resource/environmental stewardship outcomes of a sustainable food system for each bioregion. In doing so we can investigate appropriate agriculture and food system relationships between the province's bioregions that will best advance wise land use as well as the resiliency and sustainability of BC's food system.

Photos and graphics provided by Institute for Sustainable Food Systems.

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ON THE JOB

>> JOHN MCCARTHY, RI

PROPERTY MANAGER AND LEASING AGENT, W.P.J. MCCARTHY AND COMPANY LTD.

WHAT DO YOU DO IN YOUR PROFESSIONAL POSITION?

I'm a property manager and a leasing agent. I take care of all day-to-day management and operational aspects of a real estate portfolio and also do all leasing within the same portfolio. Additionally, I provide consulting and brokerage services to certain clients.

HOW DO YOU SPEND YOUR DAY?

Throughout the day there is a great deal of email and phone correspondence. I will typically visit a couple of sites to review property management work with various contractors and to oversee tenant improvement projects. I meet with clients and prospective tenants throughout the day for showings and to review and or sign offers. And I spend a fair amount of time drafting and reviewing various documents, usually offers and lease renewal agreements.

WHAT DO YOU FIND CHALLENGING ABOUT YOUR WORK?

From a leasing perspective, I find it most difficult to achieve desired results while staying within the respective budgets of both the tenant and landlord.

WHAT DO YOU ENJOY ABOUT YOUR WORK?

The best part of my work is finding solutions and working creatively on a lease that makes the landlord happy and sets the tenant up for-long term success—this gives me the most satisfaction.

WHAT DO YOU WISH PEOPLE KNEW ABOUT THE WORK YOU DO?

As a leasing agent I spend most of my time working with small businesses. Although I am usually representing a landlord, our approach is that tenants are partners. Therefore, I take great pains to make sure the tenants I work with have a lease and a premise that allows them to be successful. As a property manager, I service these tenants. And these small businesses wind up making great contributions to their communities.

IS THE WORK YOU DO TYPICAL FOR YOUR TYPE OF POSITION?

Most positions have a narrower focus than mine. I handle property management and leasing. I do almost all my work for a single landlord but I also do consulting and brokerage work for selected third parties. I work in all real estate asset classes—office, retail, industrial, residential. And the company I work for is small and family owned, so everyone has to pitch in and do miscellaneous chores, so to speak. We also spend a great deal of time on long-term planning and strategy.

WHAT TYPES OF ORGANIZATIONS EMPLOY YOUR POSITION?

Any organization that has a real estate department. My position is also hired by professional management firms and professional brokerage firms.

WHAT GOALS ARE YOU WORKING TOWARD?

I have many short-term, medium-term, and long-term goals that I'm working toward. Too many to list! But I keep close track of them and am always recalibrating. The overarching goal is to keep our firm's real estate portfolio in the best position possible and this will eventually include some fairly ambitious redevelopment goals. I have some educational goals, too. I'm working on the CPM and FRI designations from REIC and one day would like to complete an MBA.

RI

SPECIAL REPORT:

WILLIAM P.J. MCCARTHY, RI, RECOGNIZED FOR SCHOOL PROJECT

William McCarthy at Notre Dame Regional Secondary School.

The recent Notre Dame Regional Secondary School rebuild represents the largest, most complex and expensive capital project in the 105-year history of the Roman Catholic Archdiocese of Vancouver. William P.J. McCarthy, RI, CRE, a private real estate owner, developer, consultant, and president of W.P.J. McCarthy and Company Ltd., led the project from 2002 to 2016, from its conception through its construction and occupancy. As a result of the initiative, an obsolete 60-year-old building built for an enrolment of 200, which was in peril of closure, was revived into a thriving 800-student modern campus. Today Notre Dame operates as a true high school collegiate: students are offered a wide range of projects and extracurricular activities and athletics. Notre Dame is also a "green" and seismically designed building, boasting the only geothermal heating, ventilating, and air conditioning system for any school, public or private, in the province.

The 14-year pro bono project to conceive, plan, design, fund, and rebuild Notre Dame Regional Secondary School into a state-of-the-art co-educational Catholic high school in Vancouver has earned McCarthy the coveted James Felt Creative Counseling Award from The Counselors of Real Estate (CRE) professional association. The award celebrates outstanding achievement and ingenuity in real estate counselling by a member of the CRE organization. McCarthy accepted the award at the CRE annual convention held in October 2016 in Washington, DC.

The project involved coordination and leadership of multiple stakeholder groups, including the Archdiocese of Vancouver, the City of Vancouver, contractors and sub-trades, and numerous representatives of the ten individual parishes from which student enrolment is drawn. McCarthy is credited with saving the Archdiocese and school millions of dollars during the project and building the facility at about 60% of the cost projected for a public school designed and finished to the standard achieved at Notre Dame. In addition to leading fundraising efforts and personally underwriting many costs, he developed feasibility studies, overcame non-conforming land zoning obstacles, created business and financing plans, oversaw drafting of construction blueprints, and created multiple budgets and business processes. His financing models provided positive and sustainable cash flow for the school and helped provide tuition assistance to students of families in need.

In addition to McCarthy's visioning, planning, and oversight throughout the project, his overall personal commitment can be demonstrated by his office having logged 1,800 meetings, 250 site visits during construction, 100 major presentations, 3,500 sign-offs on construction budget and design decisions, and more than 1 million pages of documentation drafted or reviewed. His hands-on approach to leadership by example is further demonstrated by his work to personally design and install all new landscaping, a grotto, and gardens for Notre Dame.

Pat Waslen (ND '83), who served alongside McCarthy as a vice-chairman of the Notre Dame Building Committee from the start, notes that "Notre Dame was to be expanded and totally rebuilt within twenty years of its opening. Despite the best intentions of many, over fifty years passed before Bill was appointed by Archbishop Roussin to lead the project. Within two weeks we were building, using his original proforma. From start to finish, he led by example."

McCarthy was initially appointed by then Archbishop Adam Exner in 2002, the same year he was appointed to the Archdiocese of Vancouver Finance Council where he still serves. Archbishop Exner immediately engaged him to assist Notre Dame in its planning and deliberations. This appointment was critical to the very survival of Notre Dame. At the time, the school was in severe disrepair and enrolment and morale were steadily dropping. McCarthy outlined three possible business case scenarios for Notre Dame: The first option would be to expend about $5 million in repairs and upgrades to extend the life of the school, but this was rejected as a poor use of limited funds. The second was to decommission the school—effectively close Notre Dame, which had been operating in temporary facilities since its opening in

NOTRE DAME REGIONAL SECONDARY SCHOOL AT A GLANCE

- Within a budget of approximately $30 million, it is the largest capital project in the Archdiocese of Vancouver's history. Built at 60% of the cost of public school facilities, it yet achieves a higher standard and finish.
- There are 102,126 square feet of state-of-the-art educational facilities, designed to accommodate extensive academic, technical, and fine art programs and athletics.
- It has the largest gymnasium and adjoining multi-purpose facility in Greater Vancouver.
- The Father Joe Cuddy performing arts auditorium is a professional-quality theatre and is connected to the school's custom-designed music, choral, and staging rooms.
- Notre Dame's stunning school chapel is adjacent to comprehensive campus ministry and counselling facilities.
- The school is a seismic-designed building, built to high "green" environmental and operational standards. Notre Dame also boasts the only geothermal heating, ventilating, and air conditioning system for any school facility in the province of British Columbia.
- The soon-to-be-completed all-weather athletic field and stadium has seating capacity for the entire student body and completes the collegiate campus design of the school.
- With an 800-student capacity, Notre Dame's finances will be perpetually solid, generating a significant operating surplus, which will ensure the school's future economic viability, operations, and capital reserves.
- As an independent school, Notre Dame is 100% responsible for all of its capital costs, including the total redevelopment costs of this project and any and all current and future operations and upgrades. It receives only 50% of the monetary grant each student attending a public school generates for the institution. Independent schools save the provincial taxpayers millions of dollars each and every year.

1953. The third option was to rebuild the school, and in doing so set a new standard for the design and operation of state-of-the-art educational facilities and create new building and financing proformas that would ensure the school's ongoing financial and operational viability. The development, business, and financing models that were ultimately implemented in the Notre Dame project were all those prepared by McCarthy in 2002 when he first analyzed the project.

"The then existing design and construction and financing plans and executions were simply not sufficient for a modern education system," says McCarthy. "You cannot serve the spiritual mission of the church without first addressing the temporal requirements. There has to be a business plan to support the mission plan."

McCarthy is very proud of this award because he was nominated by the Notre Dame Alumni, who worked with him on the project and know its history. The award also recognizes the tremendous skill, commitment, and faith of the entire Notre Dame Building Committee and community. "This was the best volunteer group I have ever worked with," says McCarthy. "It shows how much talent there is within our community."

The Counselors of Real Estate, established in 1953, is an international group of high-profile professionals that includes members of prominent real estate, financial, legal, and accounting firms as well as leaders of government and academia who provide expert, objective advice on complex real property situations and land-related matters. Membership is selective, extended by invitation only. The organization's CRE (Counselor of Real Estate) credential is granted to all members in recognition of superior problem-solving ability in various areas of real estate counselling. Only 1,100 people in the world hold the CRE credential. McCarthy was invited to membership in 1995 at the relatively young age of 35.

Press release, photos, and graphics submitted by CRE. Edited by REIBC.

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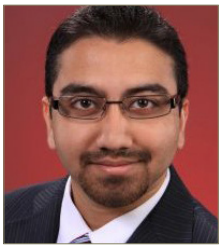

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