Making the Most of Survey Parcel Data

Best Practices Workshop

November 17, 2021

10:00a – 12:00p

Virtual Event

Organized by:

ParcelMap BC Adoption Working Group

Agenda

Welcome / Opening Remarks (10 min) - LTSA (Brian Greening)	10:00 am
Theme 1: Parcel Data Fundamentals (30 min) • Topic A: The Basics (Parcel Data Basics) - (Brian Greening) • Topic B: ParcelMap BC Overview & Advantages – (ParcelMap BC Operations) • Case Study: Outcomes & Benefits of ParcelMap BC Adoption at BC Assessment (Tom O' Brien/ Aren Scott)	10:10 am
Theme 2: Making Use of Parcel Data – Day to Day Use Cases (30 min) • Topic A: Parcel Data Access / Usage Patterns (Dave Horwood) • Topic B: Issues Associated with Effective / Appropriate Use (Brent Taylor) • Case Study: Real World Examples & Lessons Learned – (Brent Taylor)	10:40 am
Theme 3: Drawing on the Same Canvas – Aligned Data Sources & Use Cases (30 min) • Topic A: Emerging Trends & Leading Practices (Jason Hart) • Topic B: Challenges & Opportunities (Dave Gariepy) • Case Study: Building a Common Canvas (Jason Hart)	11:10 am
Open Moderator-led Discussion & Take-aways (20 min)	11:40 am

innovation. | integrity. | trust.

bc **Land**
Title & Survey

Welcome / Opening Remarks

Workshop Background

[ParcelMap BC Adoption Working Group](#) & part of the ICI Society Virtual Café Series

Panel & Facilitator Introductions

Brian Greening, Director, ParcelMap BC Products, LTSA	**Steve Mark**, Director, Operations, ICI Society
Tom O' Brien, Manager, Data Mgmt & Reporting, BC Assessment	**Irshad Jamal**, Parcel Fabric Technician, LTSA
Dave Horwood OLS, Land Info Systems Architect, Esri Canada	**Bill Johnstone**, Principal Consultant, Spatial Vision Group
Brent Taylor BCLS CLS, Managing Director, Polaris Land Surveying	**John Samulski**, Project Manager, Spatial Vision Group
Jason Hart, Owner, Harterra Spatial Solutions	
Dave Gariepy, Director, Land Information Solutions, Esri Canada	

Please head to the Chat panel:
It's Poll Question Time!

innovation. | integrity. | trust.

bc Land
Title & Survey

Theme 1:
Parcel Data Fundamentals

Theme 1: Parcel Data Fundamentals

What will we cover in this theme?

Topic 1A: The Basics (Parcel Data Basics)

Topic 1B: ParcelMap BC Overview & Advantages

Transition: Poll Question(s)

Case Study: Outcomes & Benefits of ParcelMap BC Adoption at BC Assessment

innovation. | integrity. | trust.

Topic 1A: The Basics (Parcel Data Basics)

Brian Greening, LTSA

innovation. | integrity. | trust.

bc Land
Title & Survey

Context of Land and Property in British Columbia

British Columbia is the 3rd largest province in Canada and covers a total area of 944,735 km² (364,764 sq mi)

~ 93% of land in BC is classed as Provincial Crown land

  ~ 90% is unsurveyed

  ~ 2% is covered by fresh water

  ~ 40,000 Islands

~ 7% of land in BC is privately owned land

  1% is Federal land (incl IRs, Defence Lands, Federal Harbours, etc…)

  Over 2,200,000 titled parcels

  Approx. 600,000 strata parcels (condominium)

  ~ 50% of new parcels are strata

Over:
2x California (424,000 km²)
3x United Kingdom (243,600 km²)

innovation. | integrity. | trust.

bc Land
Title & Survey

Describing Legal Property in BC

9 different Primary Survey Systems form basis of describing property in BC

First System 1851:   Hudson's Bay Company Sections

Second System 1858:   Sections and Ranges Vancouver Island

Third System 1858:   Sections, Ranges, Blocks

Fourth System: Variable Sized District Lots

Fifth System 1873:   Townships in New Westminster District

Sixth System: Provincial Townships

Seventh System: Island Townships

Eighth System: District Lot System

Ninth System: Dominion Lands

> **History Link:**
> [CROWN LANDS A History of Survey Systems W. A. Taylor, BCLS (1975)](#)

Survey Systems provide the root / basis for uniquely describing a survey parcel

A parcel's Legal Description: The unique identifier for each parcel of land in the province. It is a text description that may include lot number, plan number, survey system identifiers (Range, Block, Township, District Lot, District, etc.) and other text.

innovation. | integrity. | trust.

bc Land
Title & Survey

Property Boundaries in BC: Surveys, Plans and Parcels
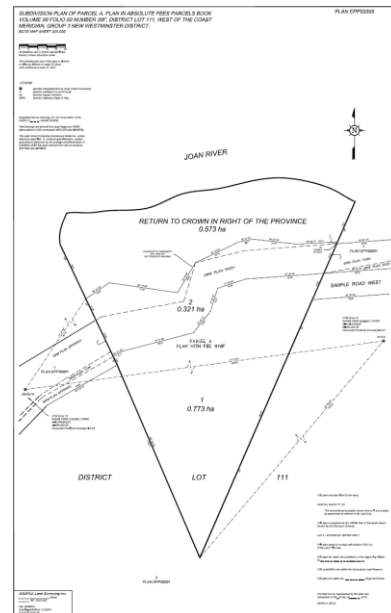
Surveys and Plans (ref. ABCLS)

Land surveyors in BC have an exclusive scope of practice which includes carrying out surveys and preparing plans for registration in the Land Title Office or Crown Land Registry which describe boundaries of interests in land…

Land surveyors may propose but do not make boundaries; boundaries are made by those who have an interest in the land (people, communities, organizations, the Crown) and by the courts. A land surveyor's establishment of a new boundary is not conclusive until affected owners consent to the survey and regulatory authorities sanction it.

Survey Plans

A graphical representation of a survey conducted by a BC land surveyor which shows the spatial extent, area, corner monuments and generally the geographic location of a specific area of land for the purpose of defining (or reposting) the boundaries of a parcel, pursuant to one of several statutory Acts: the Land Title Act, Land Act, Mineral Tenure Act, Coal Act or Oil & Gas Activities Act.

A Survey Plan represents pictorially the legal boundaries and dimensions (bearing & distances on the ground) of a surveyed parcel of land, identifying the type & location of survey evidence (monuments or survey posts set in the ground) defining its boundaries.

innovation. | integrity. | trust.

bc Land
Title & Survey

Property Boundaries in BC: Surveys, Plans and Parcels

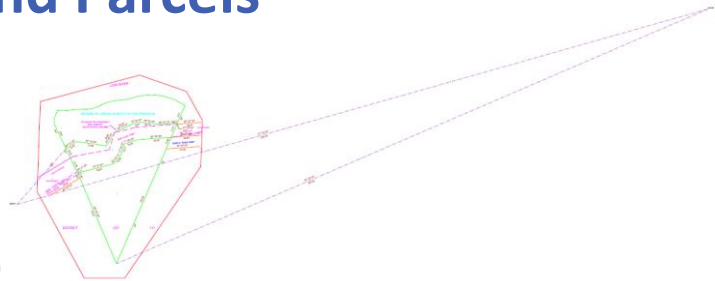## Geo-referencing of Survey Plans

Legal Survey Plan geo-referencing became mandatory in 2013:

Requirements defined in the Survey and Plan Rules (ABCLS)

Uses UTM Spatial Reference Grid (crossing 5 Zones: 7N, 8N, 9N, 10N, 11N)

Horizontal datum standard is NAD83 CSRS (per Circular Letter 463A)

Survey Plan Datasets

A digital representation of a legal survey plan, submitted by a BC land surveyor, supporting the maintenance of ParcelMap BC

Mandatory submission for most legal survey plans since September 2016 under Practice Bulletin #3
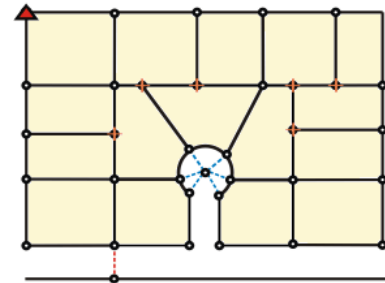
Cadastral Mapping (or Parcel Fabric)

A visual representation consolidating the records of survey (survey plans and other) for an area, resulting in a single, continuous network of boundaries stitched into a "fabric" of connected parcels

— Parcel line
• Parcel point
▢ Parcel polygon
▲ Control point
◆ Line point
- - - Radial line
- - - Connection line

innovation. | integrity. | trust.

Parcel Administration in BC

Parcels are administered in:

2 x Provincial land registries
- Crown Land Registry (has PINs)
- Land title register (has PIDs – generally…)

plus multiple Federal lands registries…
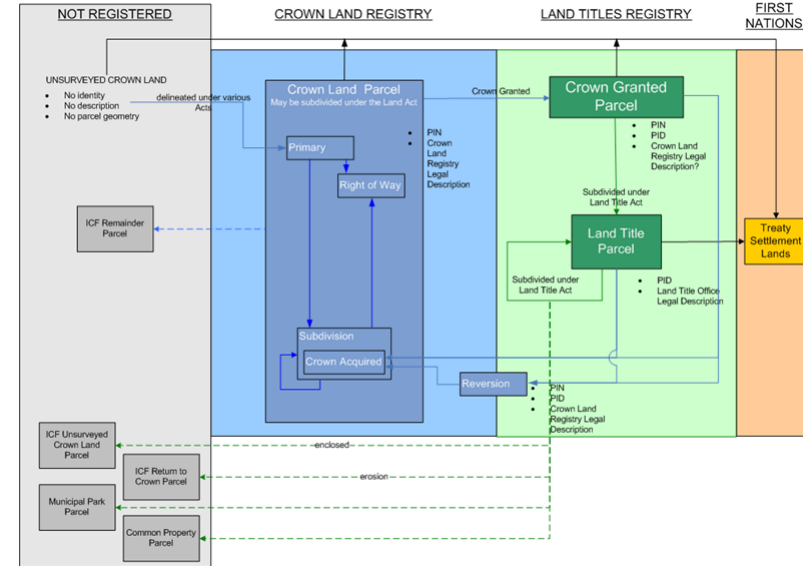- Indian Act, First Nations Land Management Act and others…

plus Treaty First Nation registries…
- Self-governed registries (Sometimes…)

plus Ownership/Assessment perspective…
- BC Assessment's JUROL (Jurisdiction & Roll)
- A different "view" of property coincident with survey view

innovation. | integrity. | trust.

bc **Land**
Title & Survey

Parcel Mapping in BC

Different sources of parcel mapping for BC:

Crown Land Survey Parcels (TANTALIS)
Crown tenures and Survey Parcels from the Crown Land Registry (has PINs)

Integrated Cadastral Fabric (ICF)
Titled parcels (PIDs but some Crown w/ PINs) mapped by GeoBC or sourced from ParcelMap BC

ICIS Cadastre
Titled parcels (PIDs) amalgamated from local governments, ICF and ParcelMap BC

ParcelMap BC
Both Crown and titled parcels (PIDs, PINs and JUROLS) plus other cadastral entities…
Used TANTALIS, ICF and ICIS Cadastre as seed source but maintained by LTSA

Assessment Fabric
BC Assessment's JUROL (Jurisdiction & Roll) keyed mapped representation providing an Ownership/Assessment view
Largely derived from ParcelMap BC Parcels but uses other sources

innovation. | integrity. | trust.

bc Land
Title & Survey

Topic 1B: ParcelMap BC Overview & Advantages

Brian Greening, LTSA

innovation. | integrity. | trust.

ParcelMap BC
Home Page

The *current, complete,* and *trusted* visual representation of titled and Crown land parcels across all of British Columbia.

A key piece of **data infrastructure** supporting **economic and social development** in the province.

ParcelMap BC: Continually Improved, Comprehensive Property Information

ParcelMap BC Data Products & Descriptions

innovation. | integrity. | trust.

bc Land
Title & Survey

ParcelMap BC: Operational Status

Spatial Improvements

Targeted:

Rock Creek	November 2021
Northwest of Okanagan Lake / West Kelowna	November 2021
Osoyoos	November 2021
Spallumcheen	December 2021
Kedleston	December 2021

Completed (***Latest*** only – full list here):

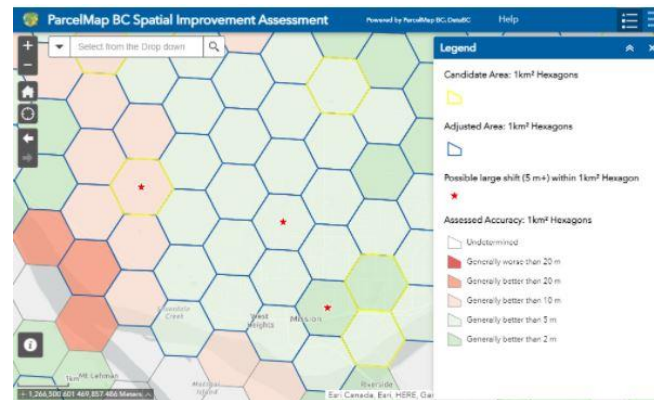|	
Agassiz / FVRD rural	July 2021
Eagle Bay (CSRD)	July 2021
Chilliwack / Sardis	August 2021
Oyster River (CVRD)	August 2021
Cumberland	September 2021
Fraser Valley Regional District	September 2021
Little River	October 2021
West Kelowna	October 2021

Adjustment Readiness Summary

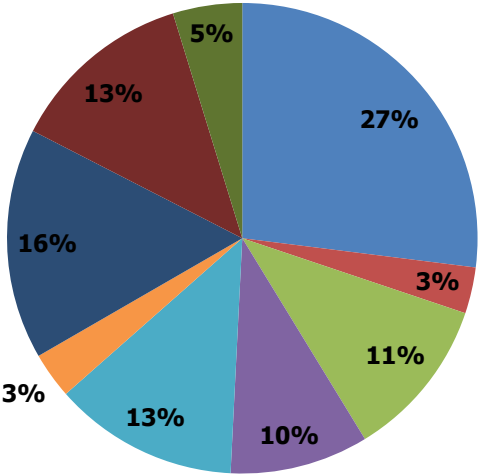|		
	Area of Interest	107
	Candidate Areas	2,933
	Adjusted Areas	6,019

Note: Since August 2018, the Spatial Improvements Team has adjusted over 125,000 parcels with a combined total area representing 3879 sq. km of the Province.

bc Land
Title & Survey

ParcelMap BC: Customer Support Requests

Number of Cases (October, 2021)	Median Turnaround Time (YTD - 2021)
63	1 day

Support Cases by Organization Type (October 2021)

- BRITISH COLUMBIA ASSESSMENT AUTHORITY
- Law Firm
- Local Government
- LTSA
- Ministry
- Other
- Regional District
- Survey Firm
- Utility

Support Cases by Type (October 2021)

- Attribute Update
- Geometry Update
- Inquiry (PMBC)
- Internal - SGD
- Spatial Improvement
- Survey Plan Dataset Submission
- Switched PIDs

innovation. | integrity. | trust.
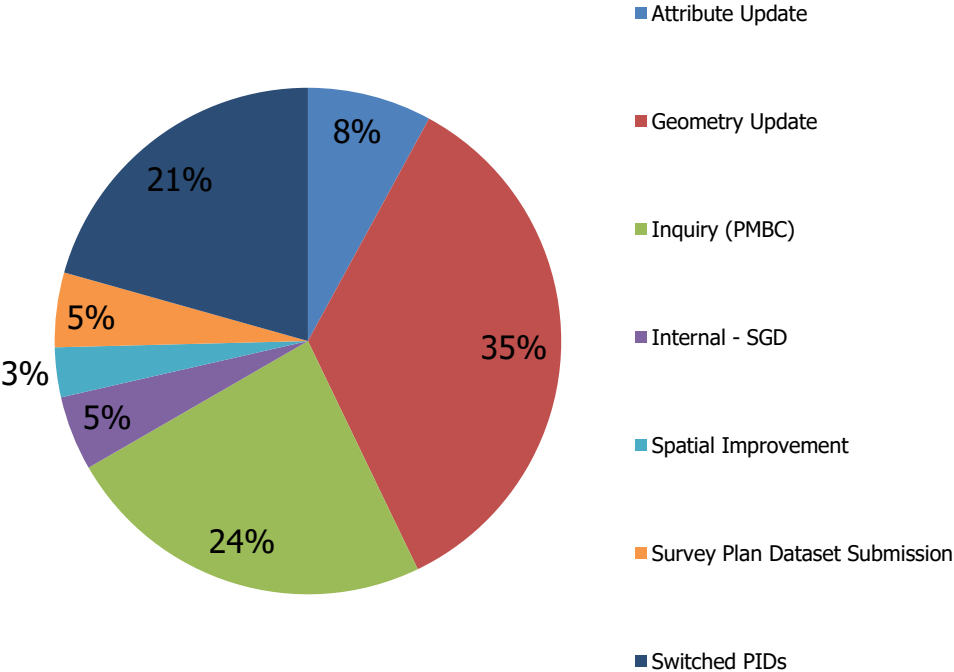
ParcelMap BC: Adoption Dashboard

ParcelMap BC
Adopters by State

- No Access
- Access
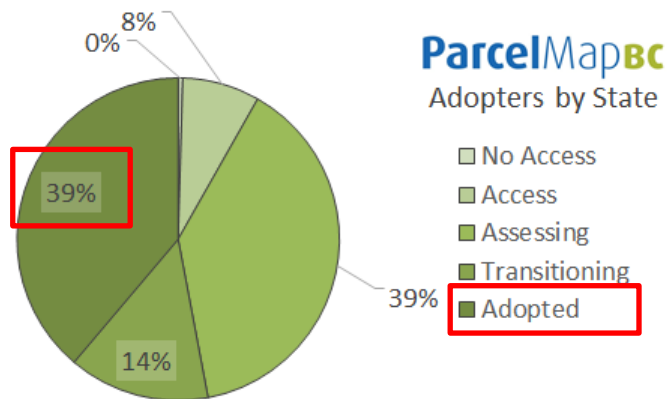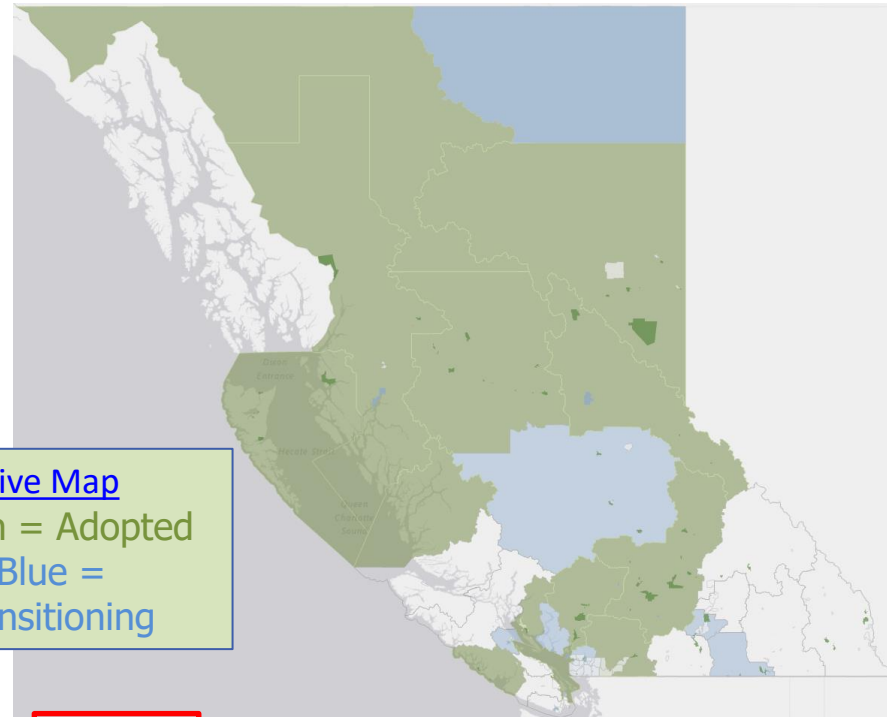- Assessing
- Transitioning
- Adopted

8%
0%
39%
39%
14%

Live Map
Green = Adopted
Blue = Transitioning

Monthly Dashboard
Published Here

Adopter Groups by State	No Access	Access	Assessing	Transitioning	Adopted	Total
Local Governments using ICF	0	1	17	6	48	72
Provincial Groups using ICF	0	0	2	4	2	8
Local Governments who Self Maintain	1	15	59	17	27	119
Parcel Consumers using ICIS Cadastre	0	1	7	2	6	16
ICI Society (Internal)	0	0	0	2	0	2
LTSA (Internal Use)	0	0	0	0	2	2
	1	17	85	31	85	219

bc Land
Title & Survey

ParcelMap BC: Using it to support your work

A map-based way to learn more about real property in BC:
Try ParcelMap BC Search for Guest users

A visual means to search & order records associated with real property in BC:
Have a look at ParcelMap BC Search for myLTSA users

To integrate ParcelMap BC data into your own applications:
Check out ParcelMap BC in the Data Catalogue or as Open Data

For property assessment mapping derived from ParcelMap BC:
Try BC Assessment Search

Property research "power tools" for professionals leveraging ParcelMap BC:
Check out AUTOPROP

As an _ICI Society_ member requiring parcel data:
Request a GeoShare package including ParcelMap BC products

ParcelMap BC: Benefits & Opportunities

Timely Updates

Published daily with service target of 2 day turnaround (consistently < 1 Day for nearly 2 years!)

Authoritative Representation

Updates from triggers & attribution from land title register and Crown land registry
Representation updated with survey plan datasets from land surveyors based on plan filings

Continual Improvement

Georeferenced surveys power adjustments and improvements to the parcel fabric

Single, shared point of reference to drive efficiency

BC Assessment, Province, Land Surveyors, ALC, other Local Governments, Utilities, Others...

Allows data maintainers to focus on value-add products

Development Plans: Surrey adopts Survey Plan Dataset standard
Change vector output and alignment resources simplify information alignment

Supported by resources to help your use and transition

Adoption Working Group and the Adoption Resources and Tools aide in making the most of your use!

innovation. | integrity. | trust.

bc Land
Title & Survey

Please head to the Chat panel:
Poll Question Time!

innovation. | integrity. | trust.

bc Land
Title & Survey

Case Study:
Outcomes & Benefits of ParcelMap BC Adoption at BC Assessment

Tom O'Brien, BC Assessment

innovation. | integrity. | trust.

bc Land
Title & Survey

BC Assessment – Cadastre Use History

Local Gov't

BC Assessment – Cadastre Use History

Local Gov't **+** ICF

BC Assessment – Cadastre Use History

Local Gov't	**+**	ICF	**+**	ICIS

BC Assessment – Cadastre Use History
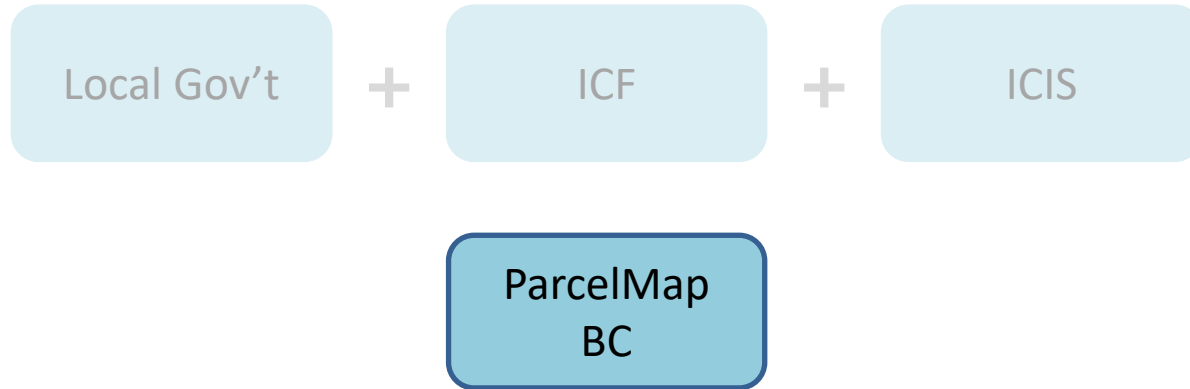
BC Assessment – Total Sources

Source	Count
PMBC	2130206
OIL AND GAS	46406
BCA	23128
NRCAN	19651
CROWN TENURES	18716
ICIS	5370
SURVEY PARCELS	3330
NISGAA	953
SPECIAL USE PERMITS	846
PORT METRO VANCOUVER	539
RIGHTS OF WAYS	279
NANAIMO PORT AUTHORITY	81

Count

- PMBC
- OIL AND GAS
- BCA
- NRCAN
- CROWN TENURES
- ICIS
- SURVEY PARCELS
- NISGAA
- SPECIAL USE PERMITS
- PORT METRO VANCOUVER
- RIGHTS OF WAYS
- NANAIMO PORT AUTHORITY
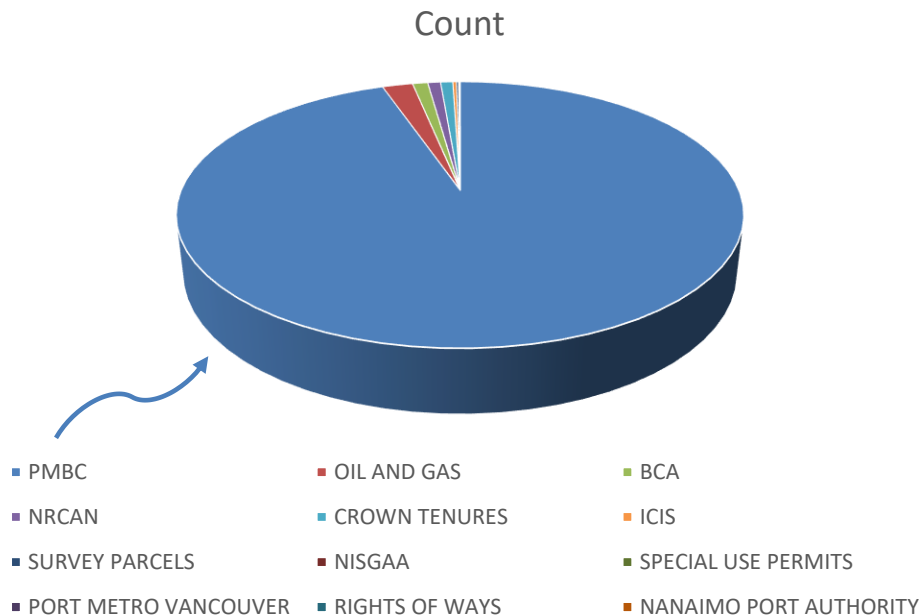
*some sources are authorized for internal use only and not published to ICI Society

innovation. | integrity. | trust.

BC Assessment – Adoption

- Automated processes developed
- Weekly and daily scheduled jobs run overnight
- Weekly manual processing for exceptional (aka difficult) properties

Tom O'Brien & Mark Harris
ParcelMap BC Adoption Certificate
June 2019

innovation. | integrity. | trust.

Assessment Fabric vs. Parcel Map BC Cadastre

...a comparison
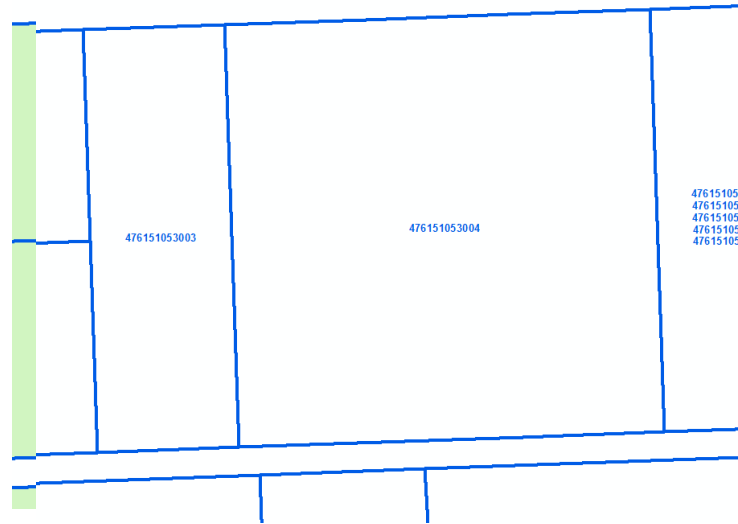
BC Assessment - Apps
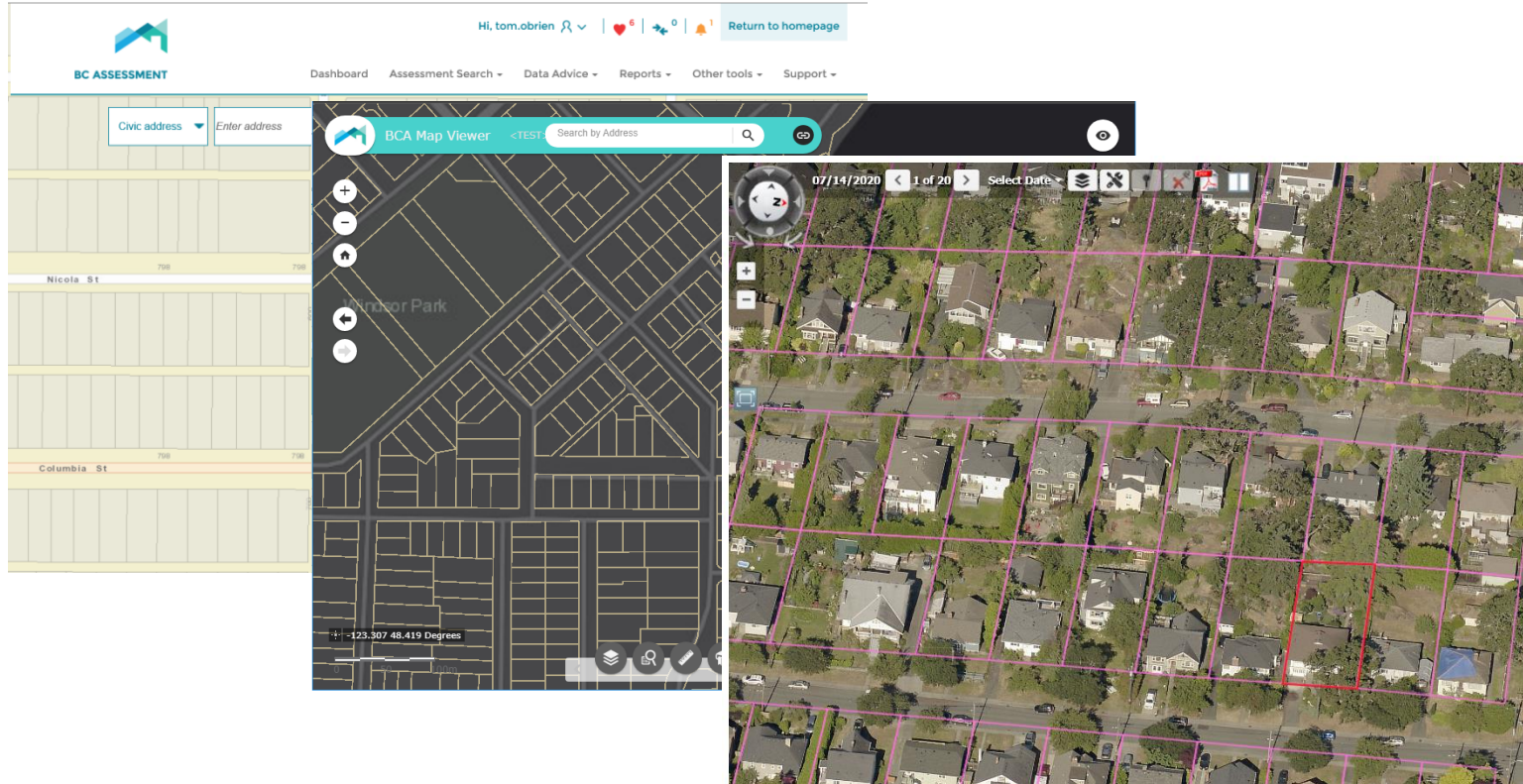
innovation. | integrity. | trust.

BC Assessment – Partnership

Mutually Beneficial Relationship

❑ BCA GIS works closely with the ParcelMap BC Operations team to continually improve the data.

❑ BCA has scripts running weekly identifying new and changed parcels, as well as spatial and attribute discrepancies

❑ BCA has both public and internal people using and validating the data.

❑ BCA and LTSA working together for continuous improvement of the ParcelMap BC data.

BC ASSESSMENT

innovation. | integrity. | trust.

bc **Land**
Title & Survey

Theme 2:
Making Use of Parcel Data - Day to Day Use Cases

bc Land
Title & Survey

Theme 2: Making Use of Parcel Data - Day to Day Use Cases

What will we cover in this theme?

Topic 2A: Parcel Data Access / Usage Patterns

Topic 2B: Issues Associated with Effective / Appropriate Use

Transition: Poll Question(s)

Case Study: Real World Examples & Lessons Learned

innovation. | integrity. | trust.

bc Land
Title & Survey

Topic 2A: Parcel Data Access / Usage Patterns

Dave Horwood, Esri Canada

bc **Land**
Title & Survey

Parcel Data Use Cases

Parcel as an index to other systems

Legal – title registry

Value – assessment

Use – zoning / official plan

Parcel as a background for other layers

Infrastructure (above / below ground)

Address and buildings

Topography / Imagery (hazards)

Parcel as a representation of legal boundaries

innovation. | integrity. | trust.

bc Land
Title & Survey

Parcel Data Users

Local Governments	Provincial Agencies	Utilities	Landowners
Land Development Professionals	Land Surveyors	GIS Professionals	General Public

innovation. | integrity. | trust.

bc Land
Title & Survey

Parcel Data Access Methods

- Custom Applications

- Feature Services

- Reports (free / paid)

- Update Workflow (digital submission)

- Mobile Workflow (future)

- Plan Review

- CAD / GIS workflows

innovation. | integrity. | trust.

Community Property Map of Canada

CPMC User (desktop, web, mobile)

CPMC App

Land Titles Web Sites

Assessment Web Sites

Municipal Zoning Web Sites

A modern, cloud-based gateway into Canada's authoritative land information systems

innovation. | integrity. | trust.

bc Land Title & Survey
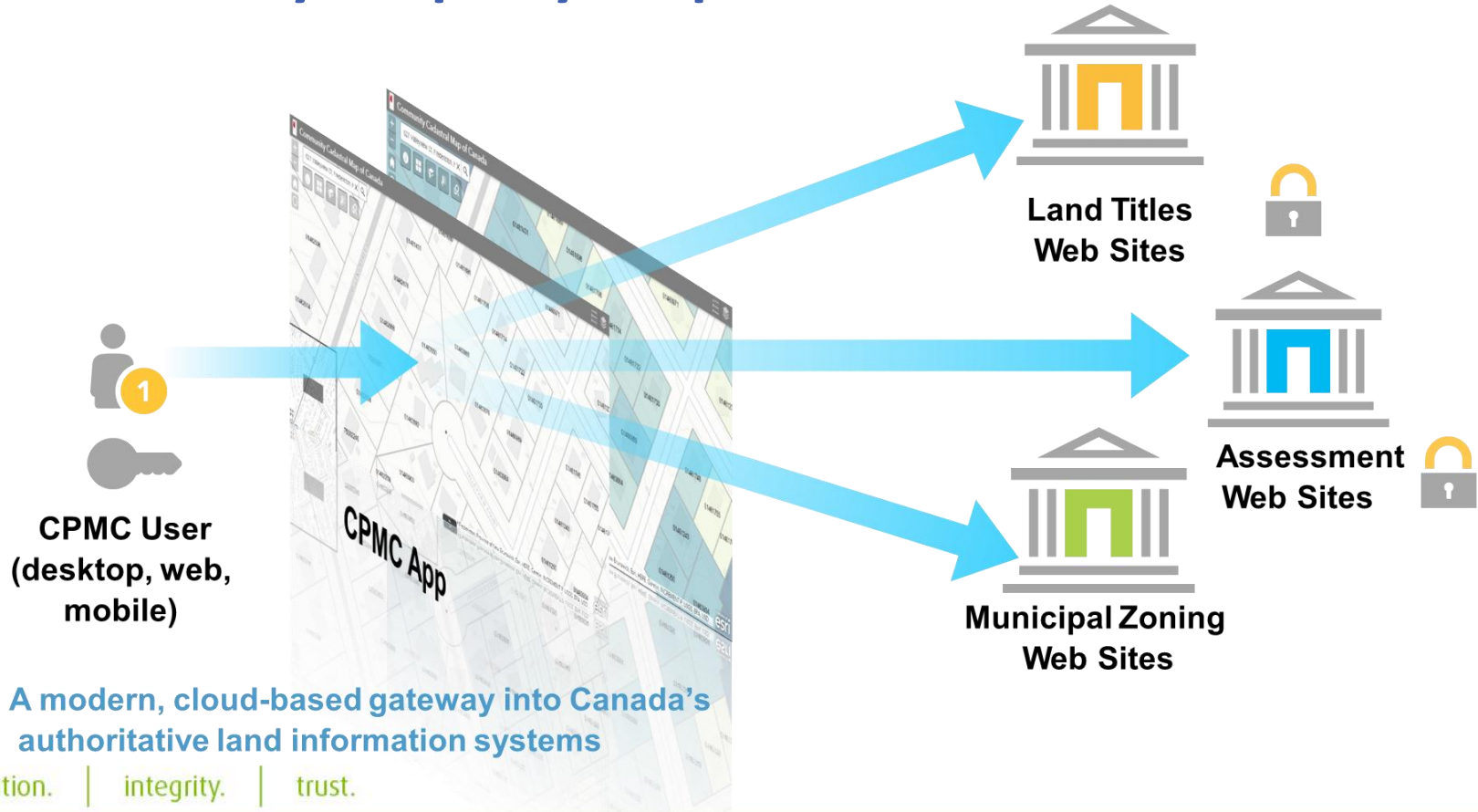
Canada Land Mapping Service

The Canada Lands Mapping Service

Users (desktop, web, mobile)

eRiP System

Reserve, Settlement, Village Detail

CLSR Survey Plan Details

ILRS, FNLRS, SGFNLRS

CLSS Map Browser

Authoritative Land Information Sources

A modern, cloud-based gateway service into authoritative Canada Lands information…
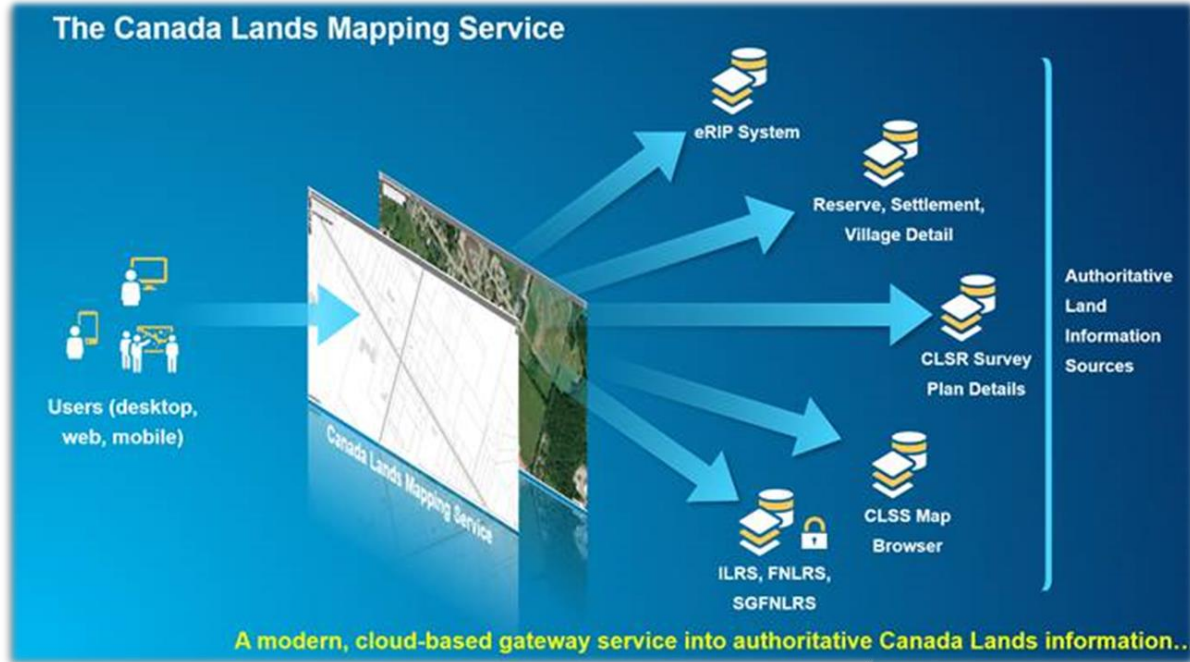
Access to a seamless, up-to-date, national Canada Lands map

Consuming as a service in desktop, web and mobile applications

Efficiently finding authoritative land information about specific Canada Lands Parcels

innovation. | integrity. | trust.

bc Land Title & Survey

Surveying versus Mapping

Surveying	Mapping
Legal tool	Information management tool
Created by surveyors to define extent of tenure	Created by mapping organizations to model limits of all interest as an index to land information
Project specific, customer oriented	Jurisdiction, operationally oriented
Independent files – unstructured information (text)	Continuous database – structured information (attributes)
Based upon legal surveying laws, principles and practices	Based upon mathematical principles and best practices
Snapshot in time	Continuously evolving through time with history

innovation. | integrity. | trust.

bc Land
Title & Survey

Parcel Data Access Issues

- Licensing / Cost

- Data download versus web services

- Different parcel definitions (survey / title / assessment)

- Parcel geometries (2D / 3D)
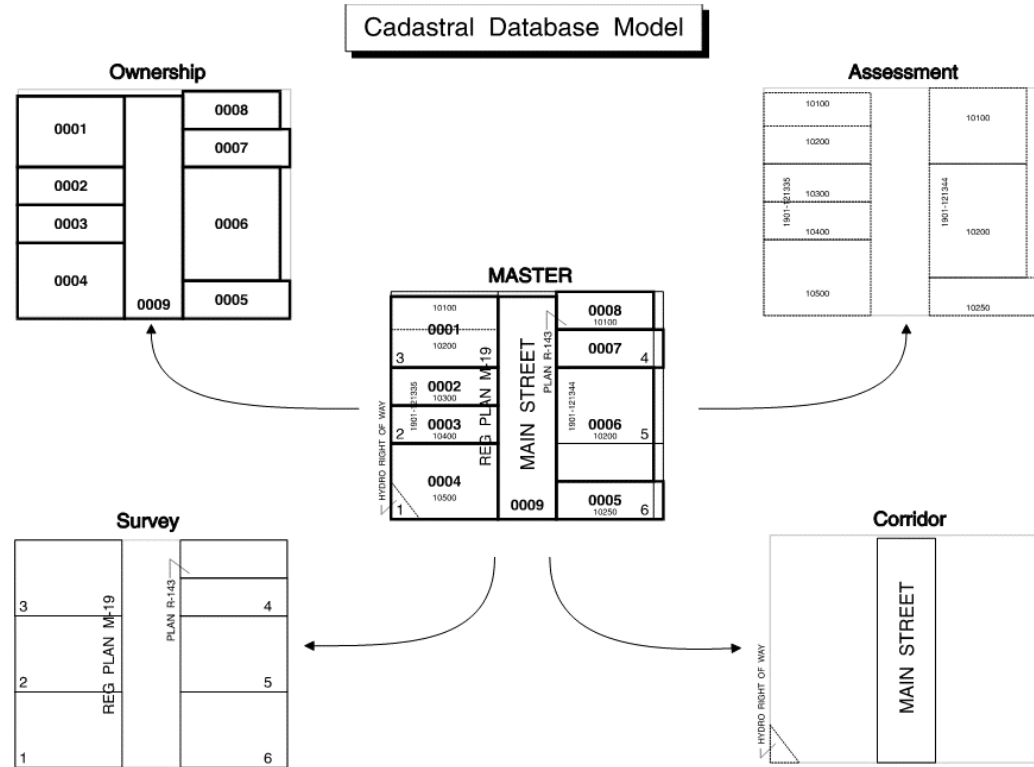
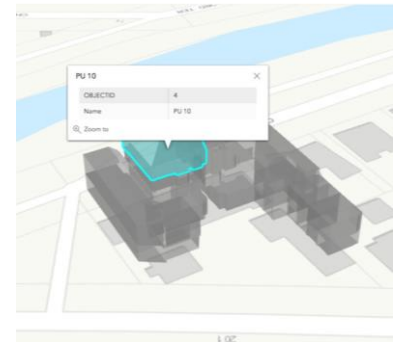- Cross-jurisdictional alignment

- Timeliness / Currency

- Accuracy

innovation. | integrity. | trust.
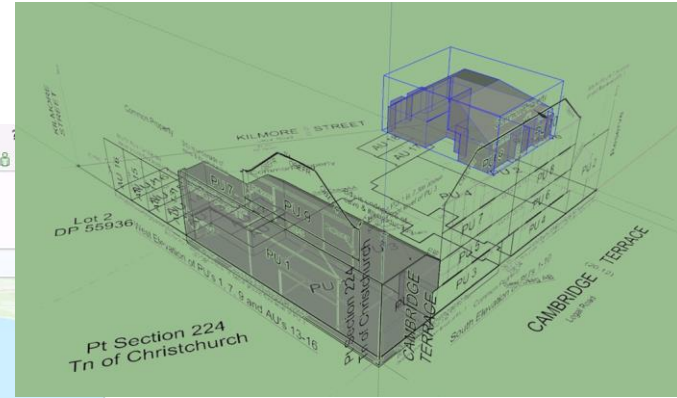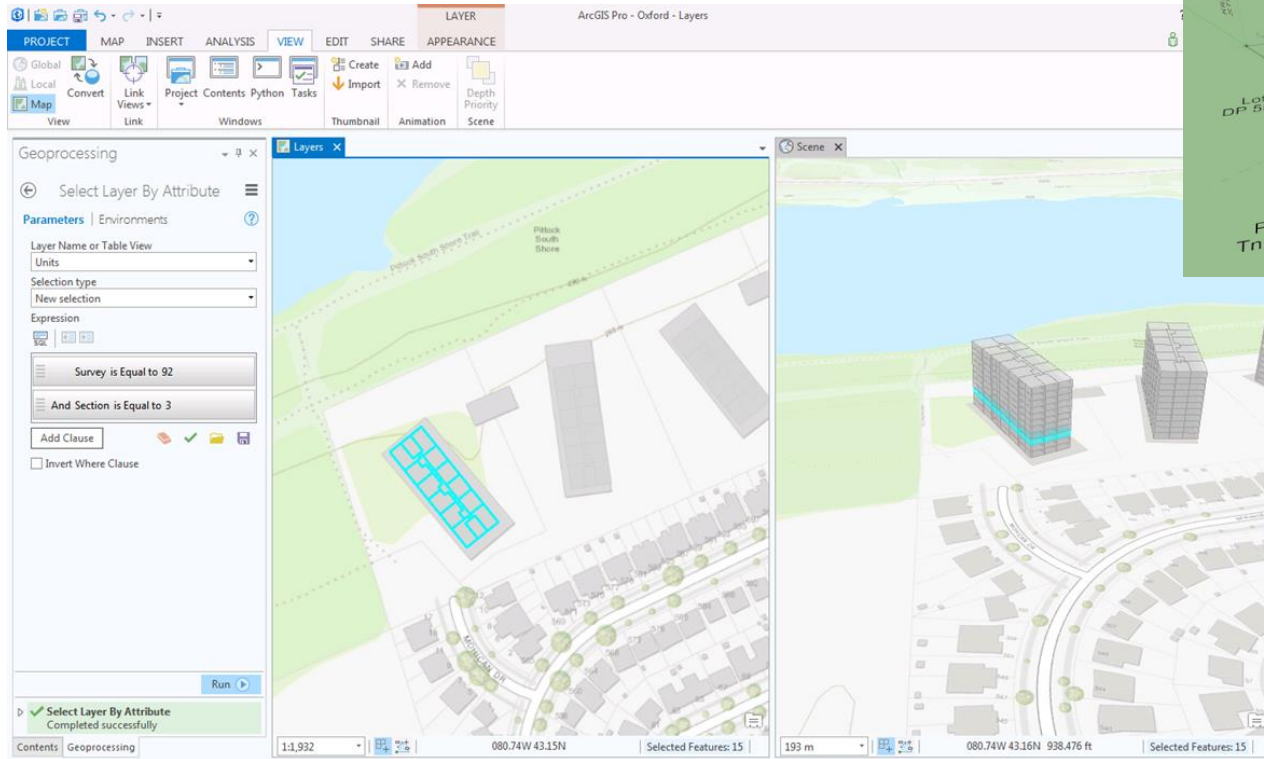
Parcel Definitions
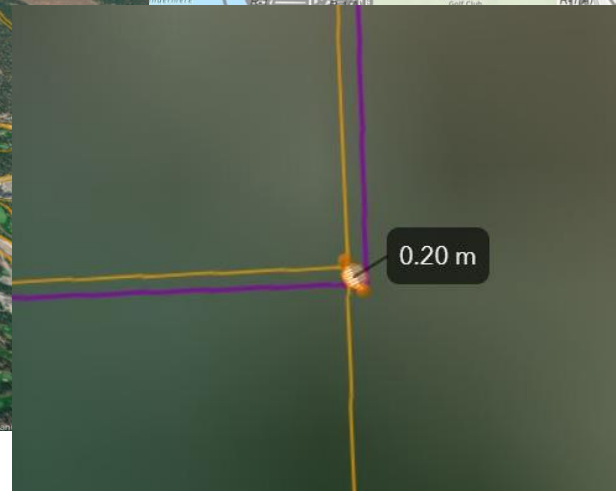
- Different definitions

  – property, assessment , survey, encumbrance, separated right, regulate use, leasehold

Parcel Geometries (2D / 3D)
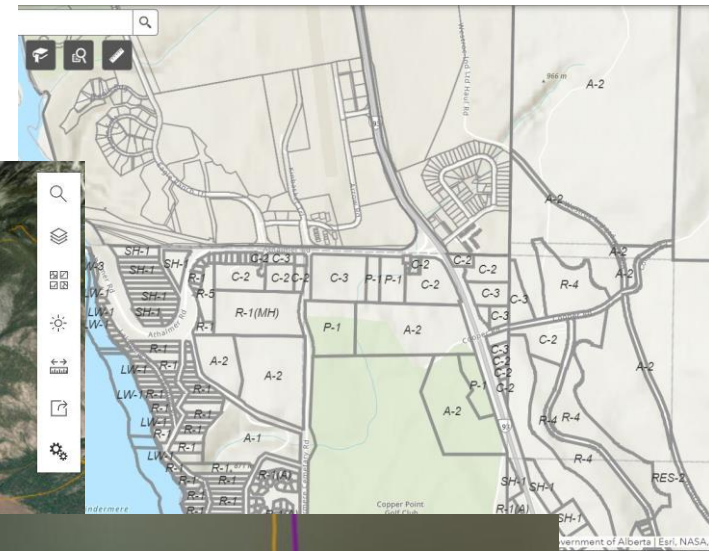
Cross-Jurisdictional Alignment

Parcel Life Cycle (Timeliness / Currency)
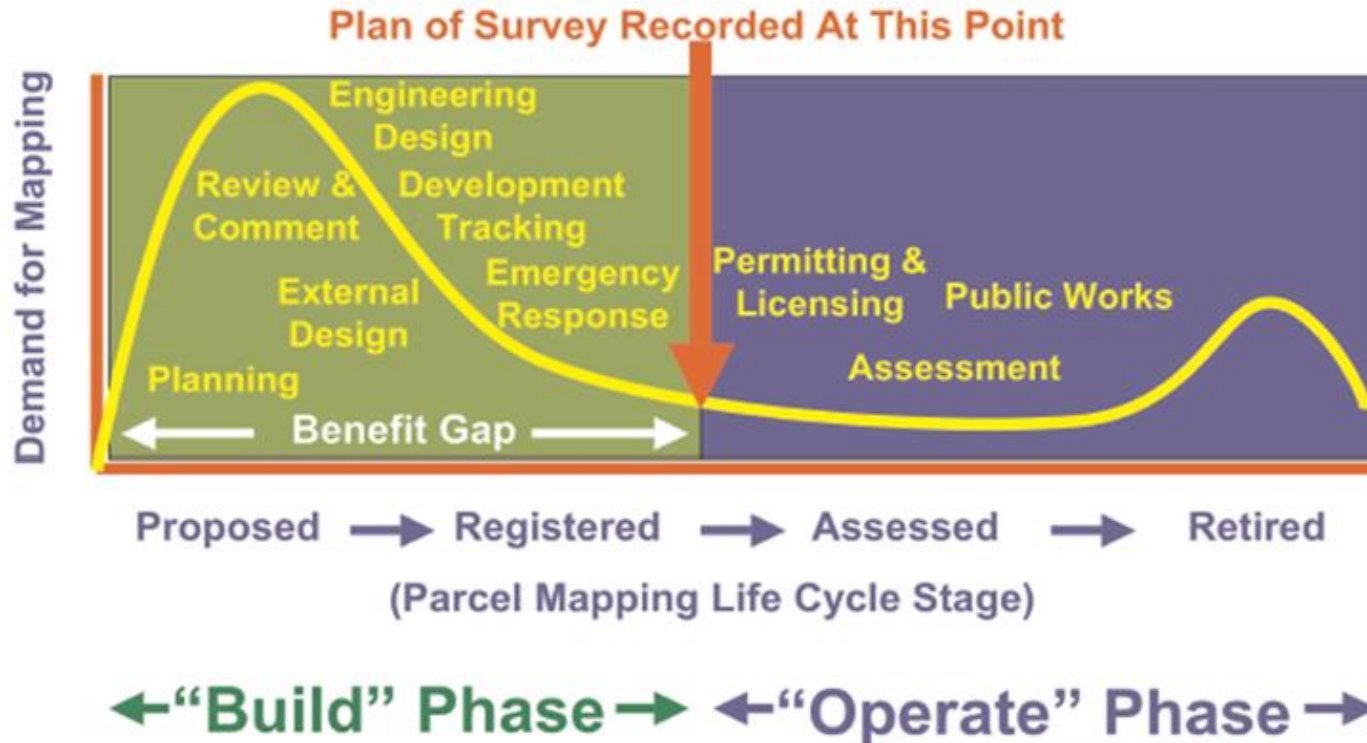
Parcel Data Accuracy

Modern GIS software allows Parcel Mappers to be anywhere on this cost/accuracy curve...

If your mapping is down here, your users will look elsewhere (and you may be an Assessor ☺)

If your mapping is up here, your costs structure will not be viable (and you may be a Surveyor ☺).

Sweet- Spot Majority of Applications (15- 50cm urban? 1m-5m Rural?)

Cost

Accuracy

innovation. | integrity. | trust.

bc Land
Title & Survey

Appropriate Use of Parcel Data

- Parcel is a "best fit" location based on source data

- Not a replacement of a legal survey

  - Surveys are in fact used to update parcel map

  - Interpretation is not purely mathematical

- Parcel should communicate estimated accuracy

  - Metadata

  - Line widths

- Parcel accuracy should be compatible with overlaid data

- Parcel reference (ID) generally more important than spatial accuracy

innovation. | integrity. | trust.

bc Land
Title & Survey

Topic 2B: Issues Associated with Effective / Appropriate Use

Brent Taylor, Polaris Land Surveying Inc.

What is a Property Boundary?

The answer lies in the following quote:

 "It is the actions of people, land owners, including the Crown, that create boundaries. The need for some kind of legal sanction is an essential step in the transformation of a surveyed line, as a mere line on a plan …. into a legal boundary. The legal sanction lies in the recognition that the ownership of rights is divided spatially by what is known as a boundary and thereby the transformation from a mere surveyed line to a legal boundary is accomplished."
(Lambden, de Rijcke, Survey Law in Canada)

innovation. | integrity. | trust.

bc Land
Title & Survey

Boundary Markers

Ancillary Evidence – Not a property corner

innovation. | integrity. | trust.

bc Land
Title & Survey

Hierarchy of Evidence – Case Law

1. **Natural Boundaries**

2. **Original, undisturbed survey post**

3. **Occupation dating back to original survey**

4. **Measurements on Plans**

innovation. | integrity. | trust.

bc Land
Title & Survey

Survey Plans
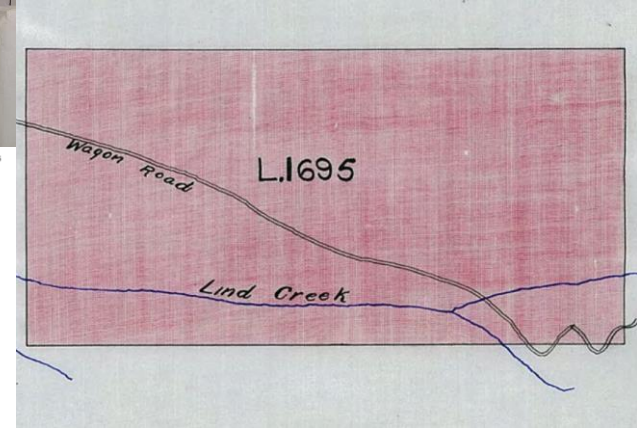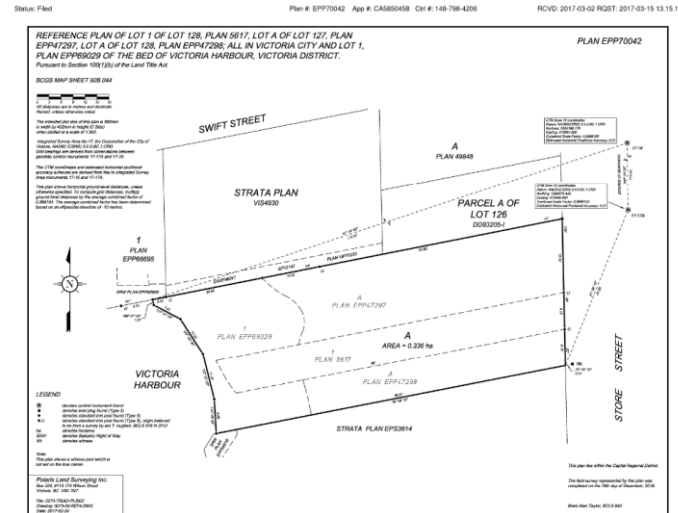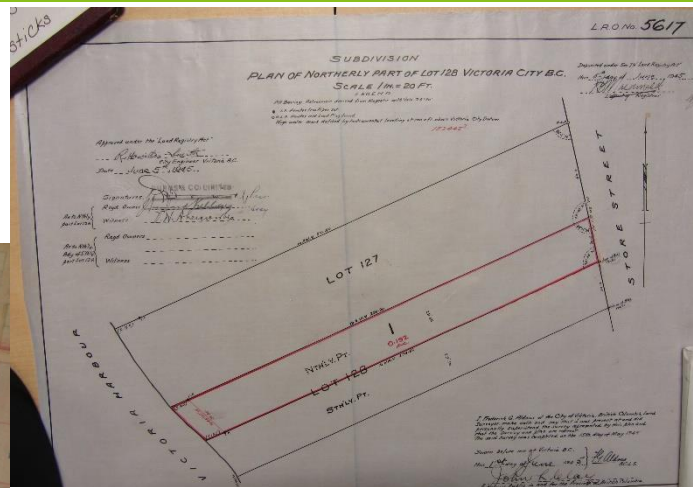
ParcelMap BC

ParcelMap BC Print Report
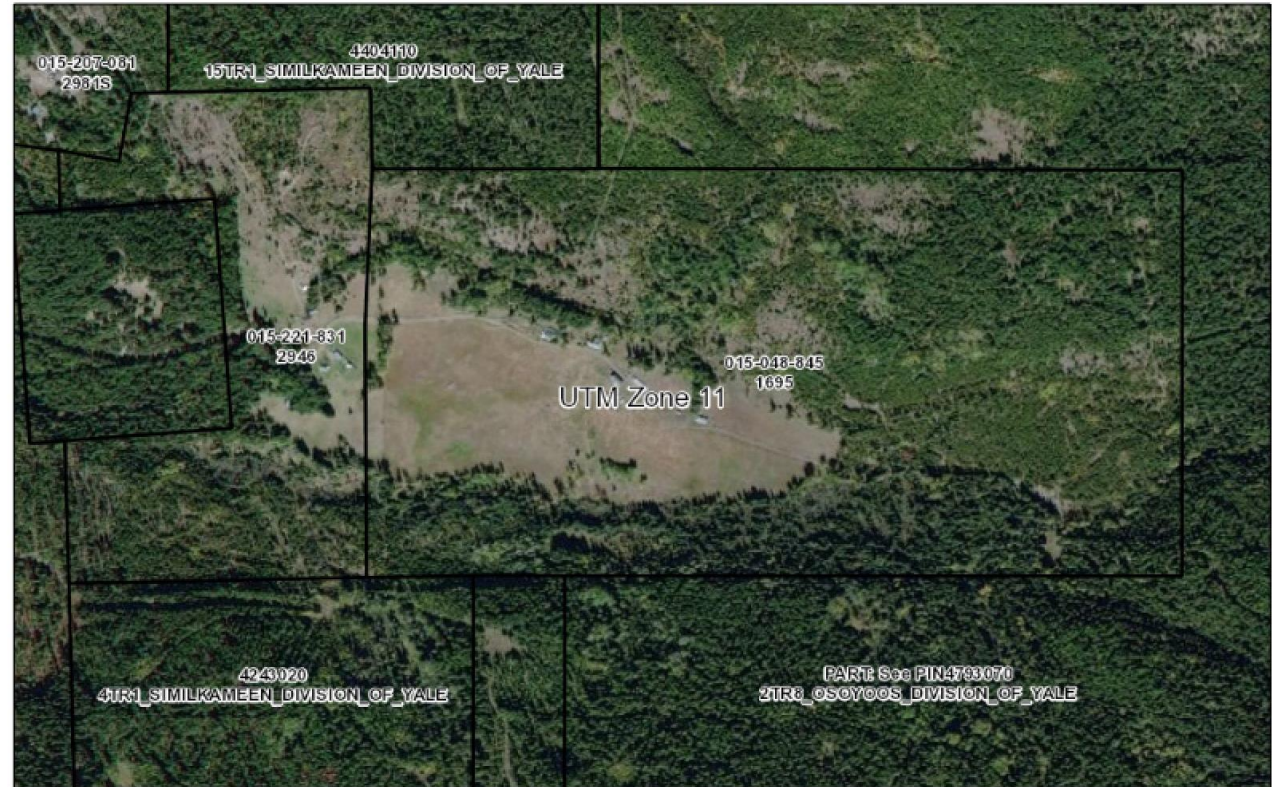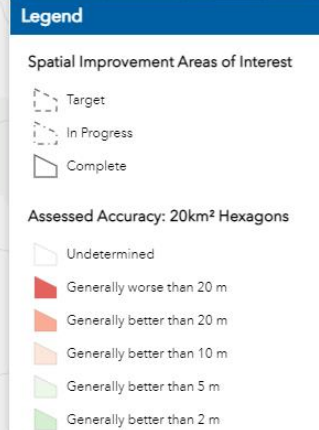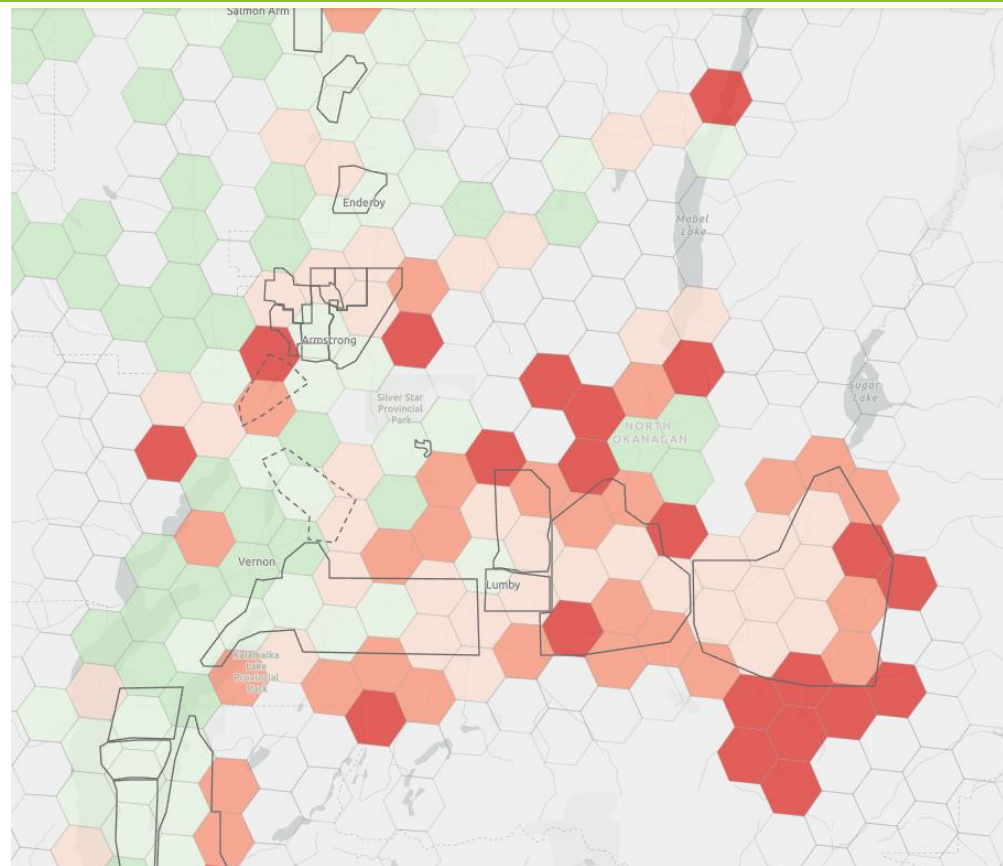
015-207-081
2981S

4404110
15TR1_SIMILKAMEEN_DIVISION_OF_YALE

015-221-831
2946

015-048-845
1695

UTM Zone 11

4243020
4TR1_SIMILKAMEEN_DIVISION_OF_YALE

PART: See PIN4793070
2TR8_OSOYOOS_DIVISION_OF_YALE

innovation. | integrity. | trust.

bc Land
Title & Survey

Spatial Improvement Assessment

innovation. | integrity. | trust.

Please head to the Chat panel:
Poll Question Time!

innovation. | integrity. | trust.

Case Study:
Real World Examples & Lessons Learned

Brent Taylor, Polaris Land Surveying Inc.

innovation. | integrity. | trust.

bc Land
Title & Survey

Case Study 1 – Castlegar Area
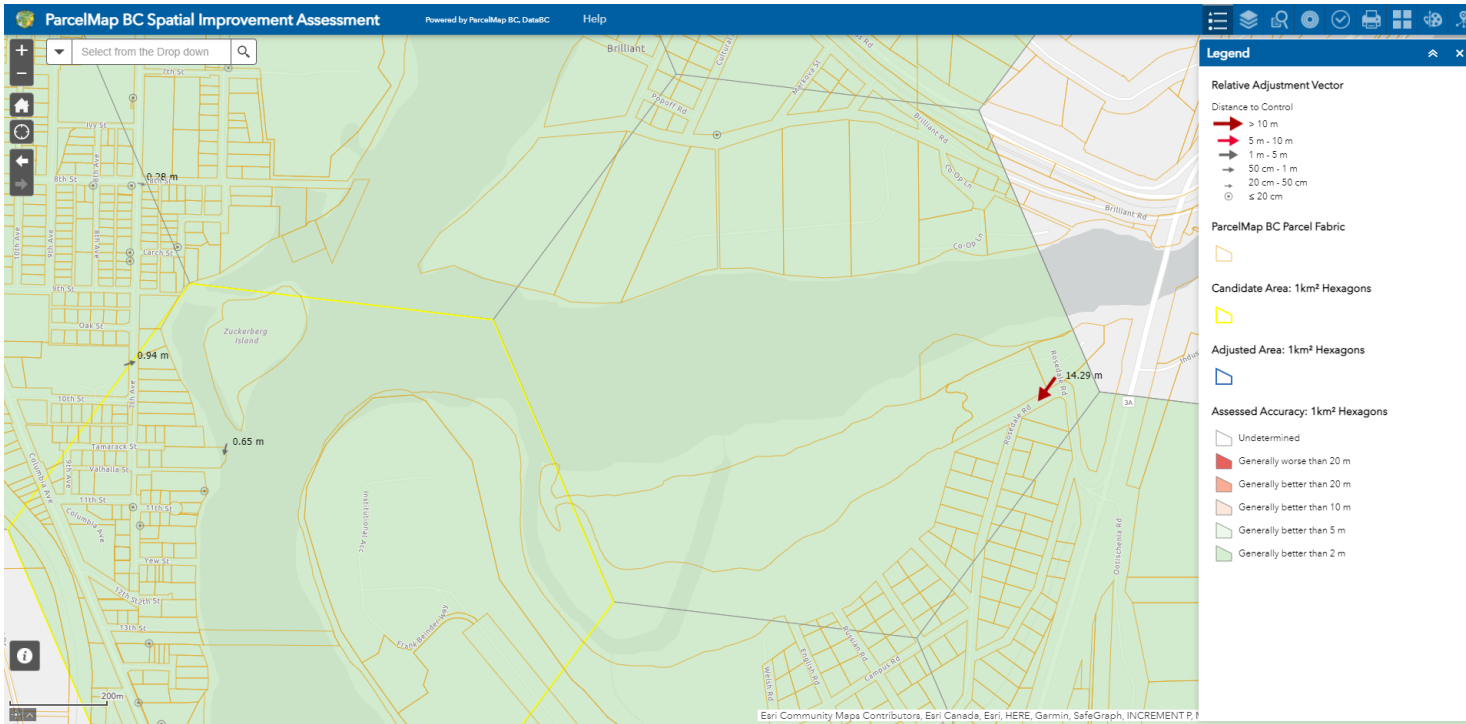
Expected to be better than 2m (green hexagon) and a known anomaly of 14m.

innovation. | integrity. | trust.

Parcel Point Estimates

innovation. | integrity. | trust.

PMBC vs Real World

14m difference plus PNB issue

bc Land
Title & Survey

Case Study 2 – North Saanich Area
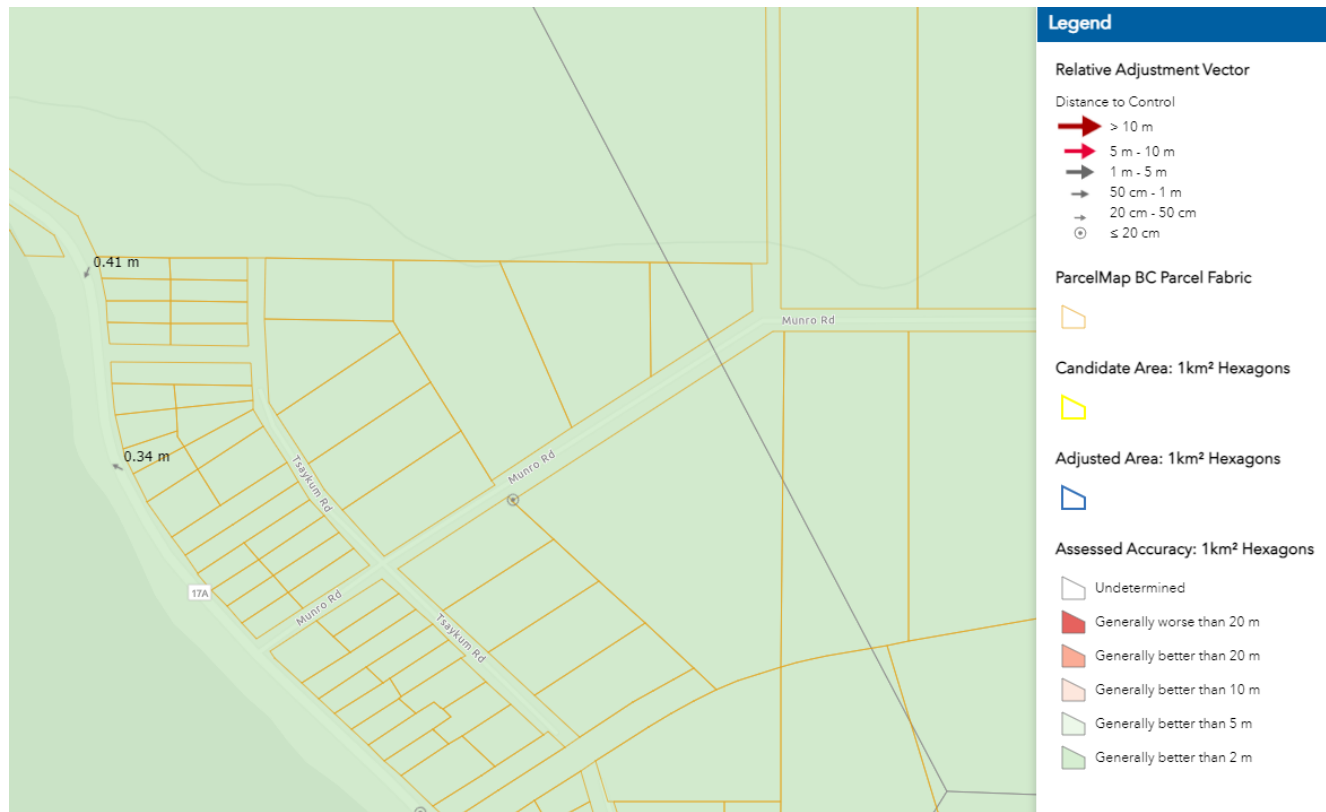
Expected to be better than 0.5 m (green hexagon) and a known anomaly of 0.4 m.

innovation. | integrity. | trust.

Parcel Point Estimates

PMBC vs Real World

Lot 4
Block 6
Plan VIP2276
006-425-631

0.49
+/- 0.07
+/- 0.07

0.4m difference plus PNB issue

innovation. | integrity. | trust.
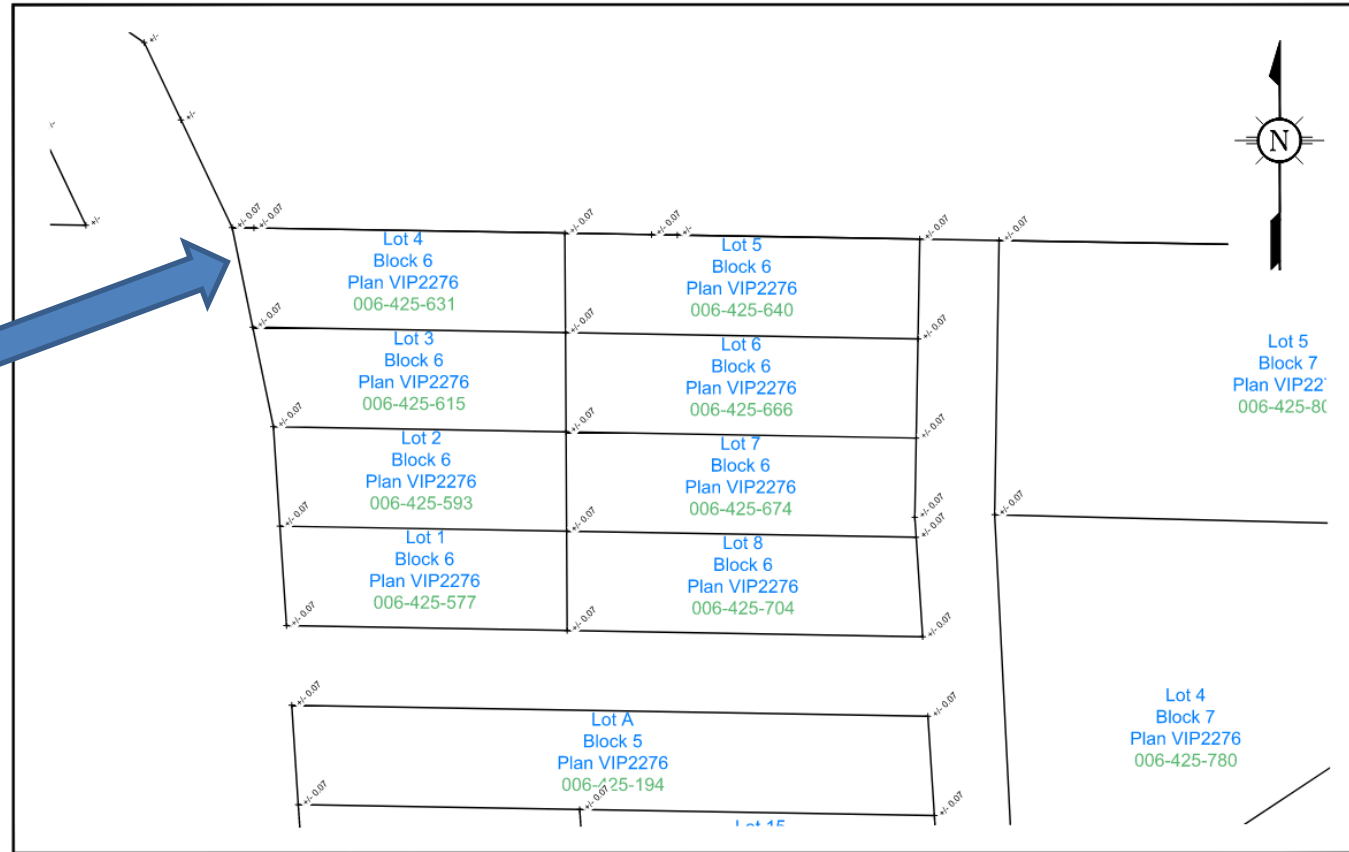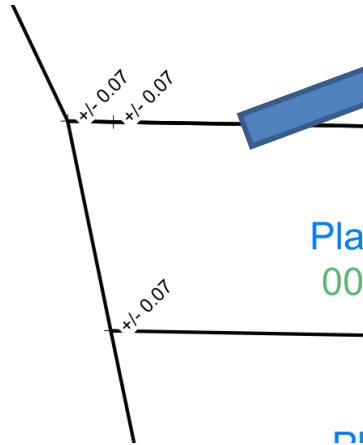
bc Land
Title & Survey
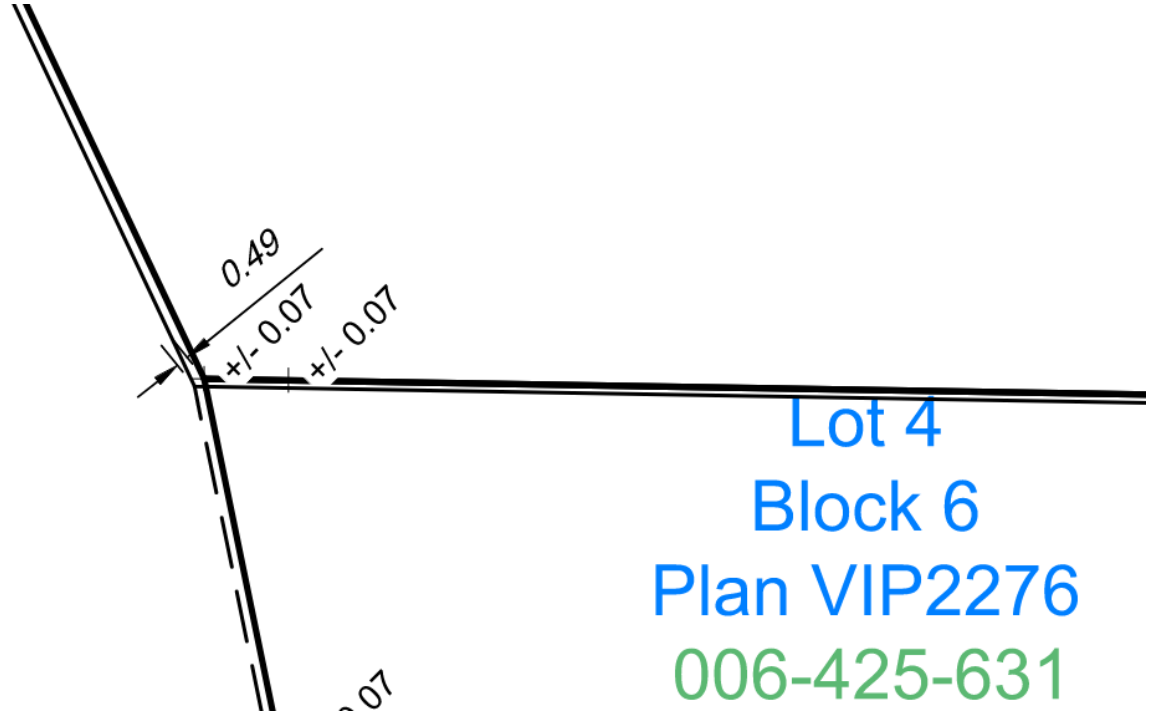
Conclusions

- **Consult the Spatial Improvement Assessment Tool to gain a sense of the accuracy of the parcel fabric**

- **Always obtain copies of the survey plans**

- **Always find the survey markers**

- **If in doubt contact a BC Land Surveyor**

bc Land
Title & Survey

Theme 3:
Drawing on the Same Canvas –
Aligned Data Sources & Use Cases

Theme 3: Drawing on the Same Canvas – Aligned Data

What will we cover in this theme?

Topic 3A: Emerging Trends & Leading Practices

Topic 3B: Challenges & Opportunities

Transition: Poll Question(s)

Case Study: Building a Common Canvas

innovation. | integrity. | trust.

bc Land
Title & Survey

Topic 3A: Emerging Trends & Leading Practices

Jason Hart, Harterra Spatial GIS Solutions

bc Land
Title & Survey

Drawing on a common canvas

- Many organizations start with parcel boundaries for designing, planning and creation of their information and data.

- Historically, the source parcel boundaries have come from different sources with varying accuracies, precision and completeness.

- Results in data generated with varying accuracies, precision and completeness.
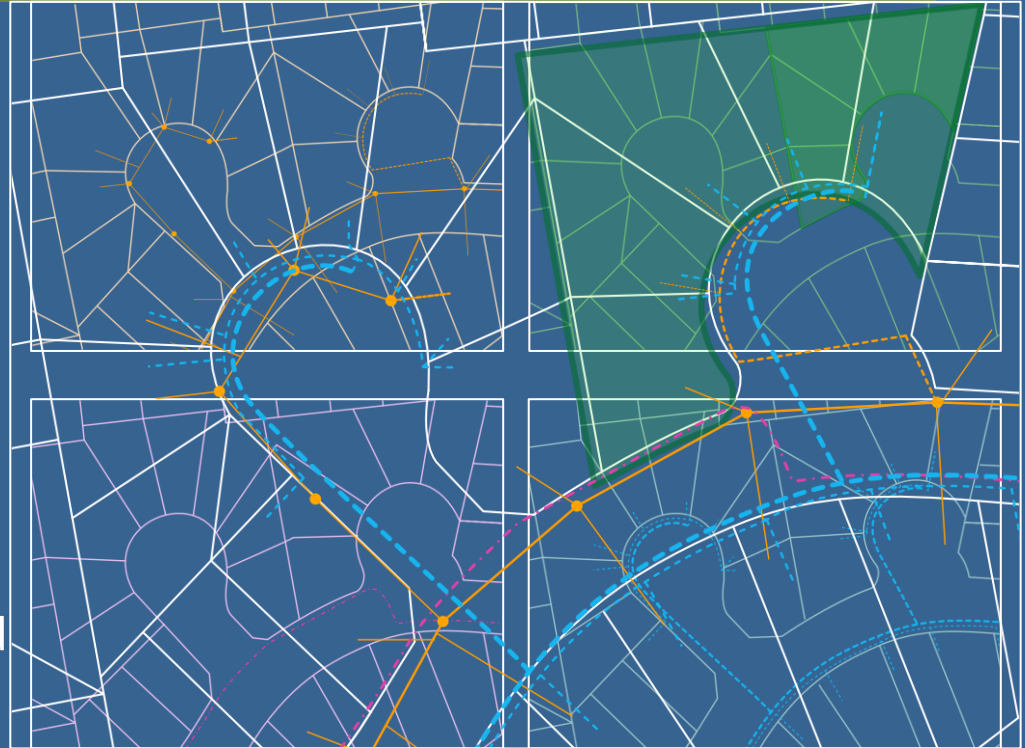
Benefits of a common canvas

- Use of a common parcel representation for design and planning has the effect of aligning datasets between and within organizations.

- Overall goals are to:
  - Reduce or eliminate errors
  - Increase confidence
  - Reduce duplication of information
  - Reduce costs
  - Provide new opportunities…

Future Trends and Leading Practices

- Design and engineering
  - Using ParcelMap BC as the starting point for designing infrastructure
  - Attempting to bring in other external data together for planning and design

- Administrative and or legal boundary alignment
  - Allows spatial overlay to determine attributes of associated polygon(s)
  - Support using parcel definitions rather than traditional metes and bounds description

- Planning and land-use
  - OCP, zoning, others

- Emergency Operations / Common Operating Picture

Future trends and leading practices

- Infrastructure operations
  - Confidence in the data when accuracies are known
  - Less visits to the field

- Management of rights-of-way and easement
  - Other interest surveys integrated into the ParcelMap BC fabric

- Automation of alignment to ParcelMap BC fabric
  - ParcelMap BC Data Alignment Tools

- Rapid changes in technology
  - Making it easier to access data and leverage data
  - Easier to integrate ParcelMap BC data with other data and systems
  - Tools like GNSS and drones for capturing geospatial data are much pervasive

Future trends and leading practices

- Business intelligence and decision support
    - Property information and management
    - Property reports
    - Ties to assessment information

- Open access and sharing of data
    - Data is becoming more accessible
    - ParcelMap BC data is publicly available

- Driving data quality improvements
    - Parcel data, but also the data that is associated and integrated with the parcel

Topic 3B: Challenges & Opportunities

Dave Gariepy, Esri Canada

bc **Land**
Title & Survey

Challenges associated with providing, accessing and using parcel mapping content

- The parcel map is not a survey!

- Spatial alignment across data sets and jurisdictions

- Massively increasing user base and demand

- Rapidly advancing technology

- Efficient access for developers and users

- Legacy content provisioning (both technology and business models)

- Open data vs licensed data
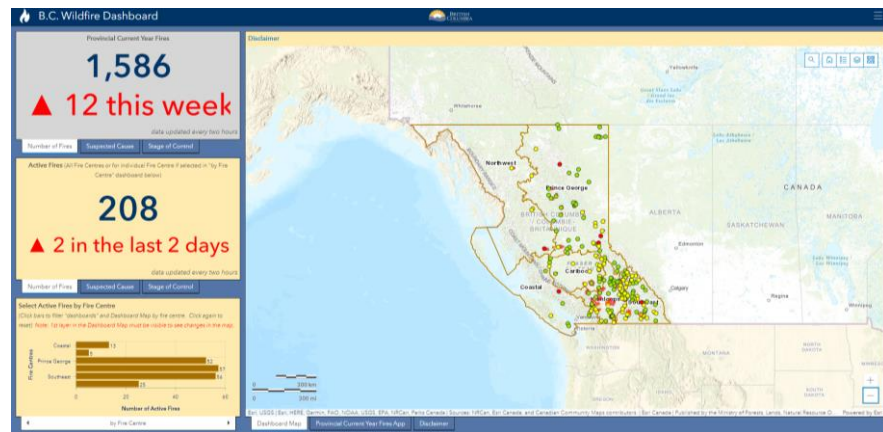
The BC Wildfire Dashboard: Example of a modern, collaborative, cloud-based mapping application leveraging multi-sourced services to provide a highly consumed, simple to use public service. Over 4.4 million visits in June 2021

innovation. | integrity. | trust.

bc Land
Title & Survey

Working Towards the "Common Canvas"

- Good spatial alignment across datasets and across jurisdictions increases user productivity and improves decision making – a "common canvas" for everyone to work on

  - BC Assessment parcels and Agricultural Land Commission boundaries have been spatially aligned with ParcelMap BC

  - The ParcelMap BC Adoption Working Group (AWG) has resources to help organizations align their data to ParcelMap BC

  - NRCan and LTSA are collaborating to improve spatial alignment and ties between their respective mapping datasets

Adoption Resources and Tools

Last modified on October 28, 2021

LTSA and ICI Society offer a number of resources and tools to allow organizations to adopt ParcelMap BC fabric as their base cadastre for operations. The following are the resources currently available.

Spatial Alignment Resources:

The geometric alignment of your spatial data with ParcelMap BC can be assessed and managed using the Spatial Alignment Resources summarized below. More information on these resources can be found at the Spatial Alignment Resources page.

Data Alignment Workflow Package

The Data Alignment Workflow Package (DAWp) is a collection of ArcGIS Desktop based workflows, available for ParcelMap BC users to assist with initial and ongoing alignment of data sets. The DAWp was developed in conjunction with Esri Canada ⧉.
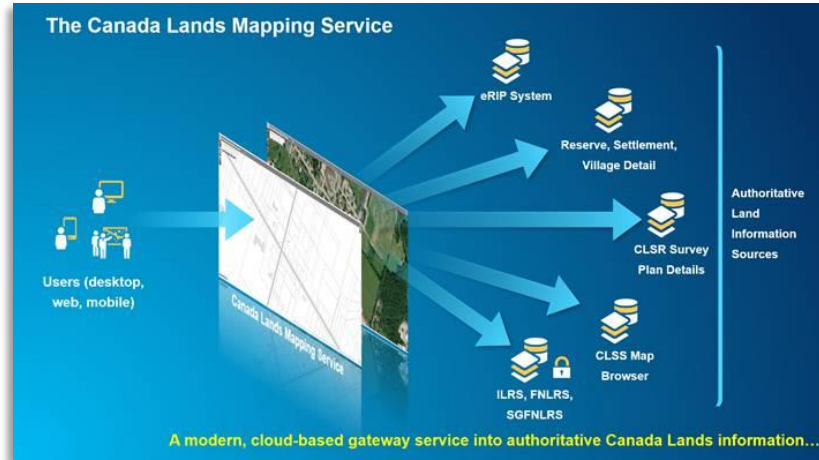
Cadastral Ties for Spatial Improvement

ParcelMap BC generally relies on new survey data including ties to known control provided in survey plan datasets to improve the spatial accuracy of the mapped representation. To provide additional inputs for spatial improvements, the ParcelMap BC Operations Team has defined submission guidelines for organizations to submit cadastral ties captured outside legal survey plans.

Third Party Datasets

Third party datasets that are aligned to ParcelMap BC to better support user workflows; Agricultural Land Commission boundaries and BC Assessment fabric.

innovation. | integrity. | trust.

bc Land
Title & Survey

Example: Challenge and Opportunity

The Canada Lands Mapping Service

Users (desktop, web, mobile)

Canada Lands Mapping service

eRIP System

Reserve, Settlement, Village Detail

CLSR Survey Plan Details

CLSS Map Browser

ILRS, FNLRS, SGFNLRS

Authoritative Land Information Sources

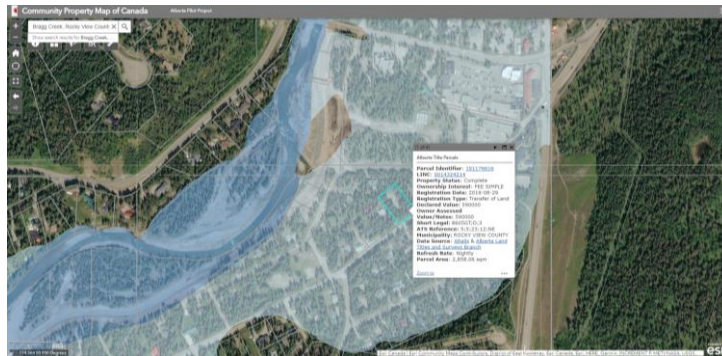A modern, cloud-based gateway service into authoritative Canada Lands information...
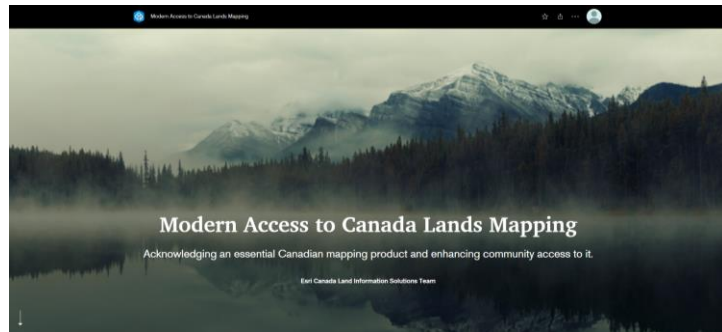
Significant and increasing demand across our customer base for the ability to:
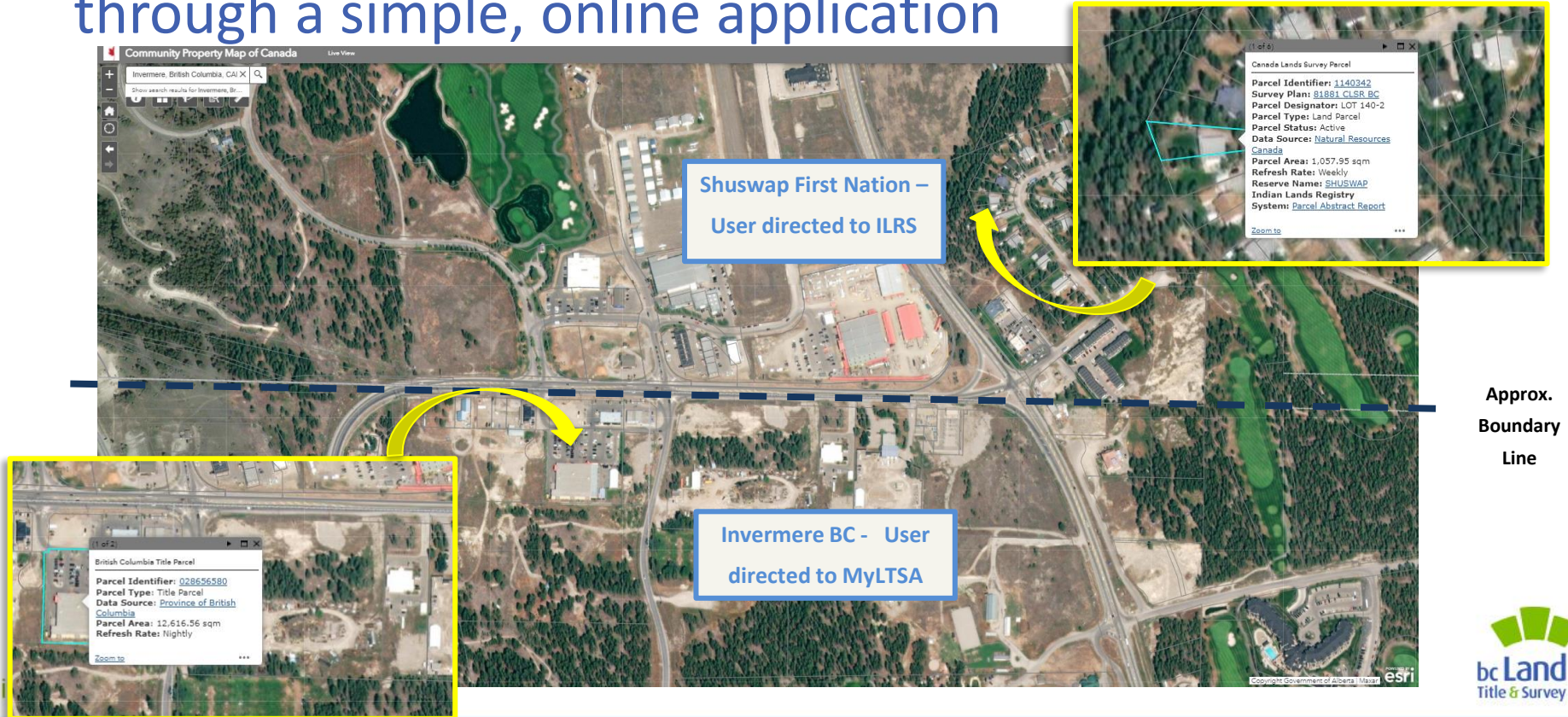
1. Access seamless, aligned, up-to-date, parcel mapping across Canada

2. Consume parcel mapping and related content as services in desktop, web and mobile applications

3. Efficiently find authoritative land information about specific parcels

innovation. | integrity. | trust.

bc Land
Title & Survey

Opportunities: Cloud, Online, Content, Apps, Open Data

- Parcel mapping content providers and their customers increasingly adopting cloud-based solutions

- Rapidly increasing ArcGIS Online usage (online usage up by over 50% year over year)

- Massively increasing Community Map (base map, parcel map, street map, imagery) consumption:

  - Apps (Real Estate, Wildfire, Assessment, others) - some over 6 million visits per app per month

  - Services – like the Canada Lands Mapping Service – over 350,000 requests per month

- Technology can now enable application developers with secure access to mapping services and related content through standard API's

innovation. | integrity. | trust.

bc Land
Title & Survey

Example: Combining services from multiple sources through a simple, online application

Shuswap First Nation – User directed to ILRS

Invermere BC - User directed to MyLTSA

Approx. Boundary Line

Example: Bundled Land Information Feature Service in the ArcGIS Marketplace

A premium feature service from CoreLogic. Consists of parcel mapping bundled with select ownership attributes. Aimed at the Real Estate, Banking, Retail & Insurance Sectors.

innovation. | integrity. | trust.

Opportunities for parcel mapping content providers, application developers and end users…

"Many interviewees mentioned the <u>need to become more productive</u> and the need for content providers to be more innovative when it comes to supporting the efficient access and use of our digital land information infrastructure…"

Executive Summary:
The Community Property Map of Canada – Alberta Pilot Project

September 8, 2021 | Esri Canadal
Authored by: **David Gariepy** (dgariepy@esri.ca)

esri Canada

"In addition to increasing productivity, services like this can spur innovation across the community – as new applications are developed that increase productivity and/or introduce entirely new solutions. This in turn, increases the demand for the basic land information contained in the services. The entire ecosystem benefits."

innovation. | integrity. | trust.

Source: CPMC Alberta Pilot Project Final Report

bc **Land**
Title & Survey

Summary thoughts…

- Land information is a critical digital asset for the Canadian economy and society. The land information provider community is currently being challenged by exploding demand for more efficient and higher volume access to land information.

- We're experiencing a fundamental shift in how parcel mapping and related information is being consumed.

- Modernized land information access provides an opportunity to spur innovation and increase productivity across the user community. It will also generate new business opportunities for land information providers, application developers and end users.

innovation. | integrity. | trust.

bc Land
Title & Survey

Please head to the Chat panel:
Poll Question Time!

bc Land
Title & Survey

Case Study:
Building a Common Canvas

Jason Hart, Harterra Spatial GIS Solutions

innovation. | integrity. | trust.

bc Land
Title & Survey

ParcelMap BC at the City of Penticton

- City of Penticton was an earlier adopter of ParcelMap BC

    o Replaced their existing self-maintained cadastral base

    o Integrated with other business systems

- Leveraging ParcelMap BC to support operations including:

    o Service cards for water and wastewater

    o Tree trimming notification

    o Buried infrastructure locate requests automation

    o Many others…

innovation. | integrity. | trust.

bc Land
Title & Survey

Tree trimming and notification

- Wanted efficient way to generate notifications of electrical interfering customer owned trees.

- Use field data collection to gather tree and trimming information.

- Spatial association of data collected in field with ParcelMap BC fabric


innovation. | integrity. | trust.
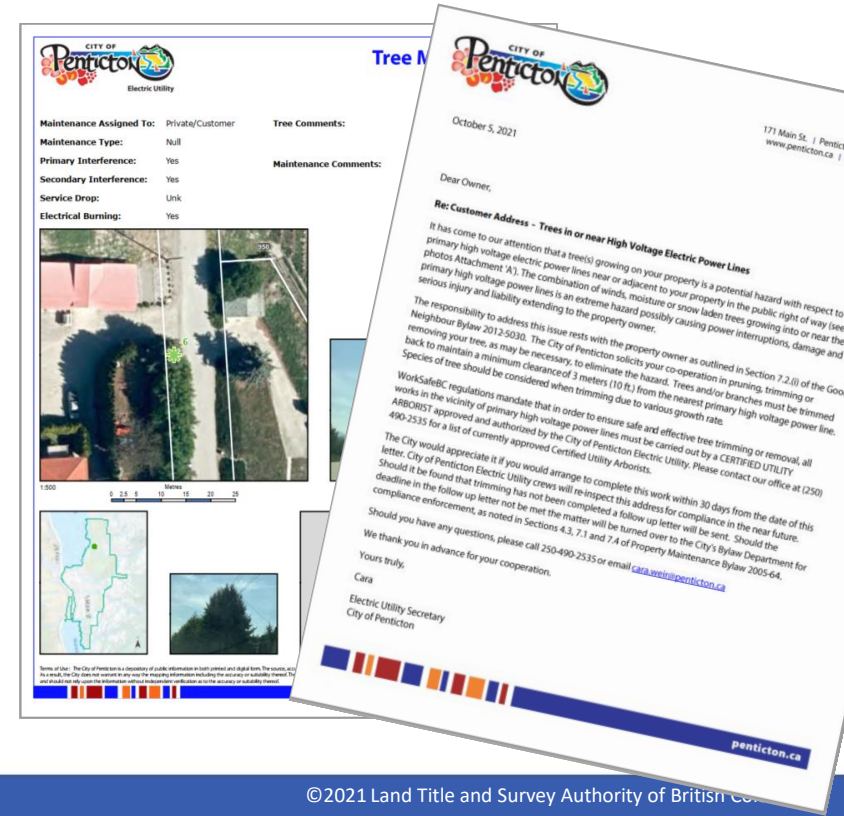
Service Utilities Report

- Historically used a non-spatial database for attributes about service and CAD for graphic representation.

- Migrated data into GIS along with ParcelMap BC parcel fabric.

- Developed automated report that automatically provides dimensions to ParcelMap BC property

innovation. | integrity. | trust.
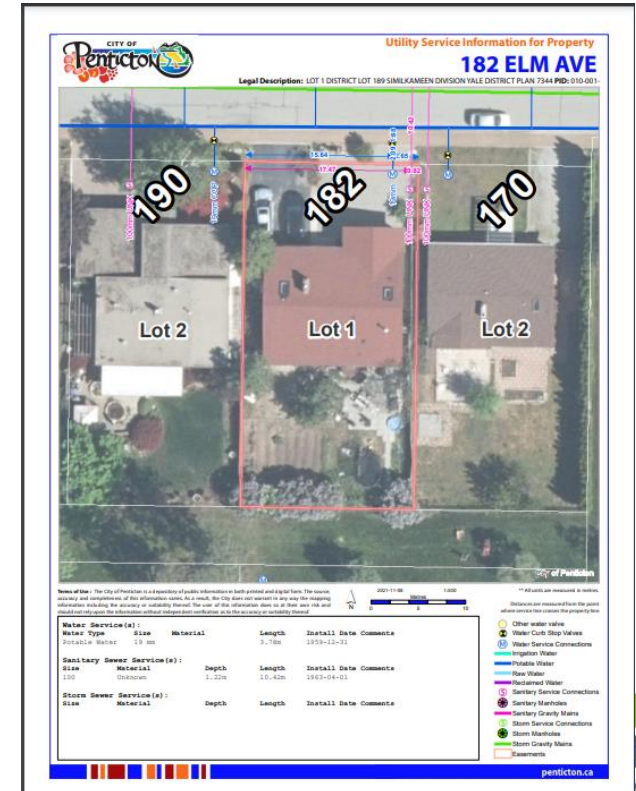
Underground locates

- City responds to BC1Call requests

- Historically a very manual process to create map for response and involved multiple departments.

- Leveraged ParcelMap BC data to automate mapping for locate response.

innovation. | integrity. | trust.
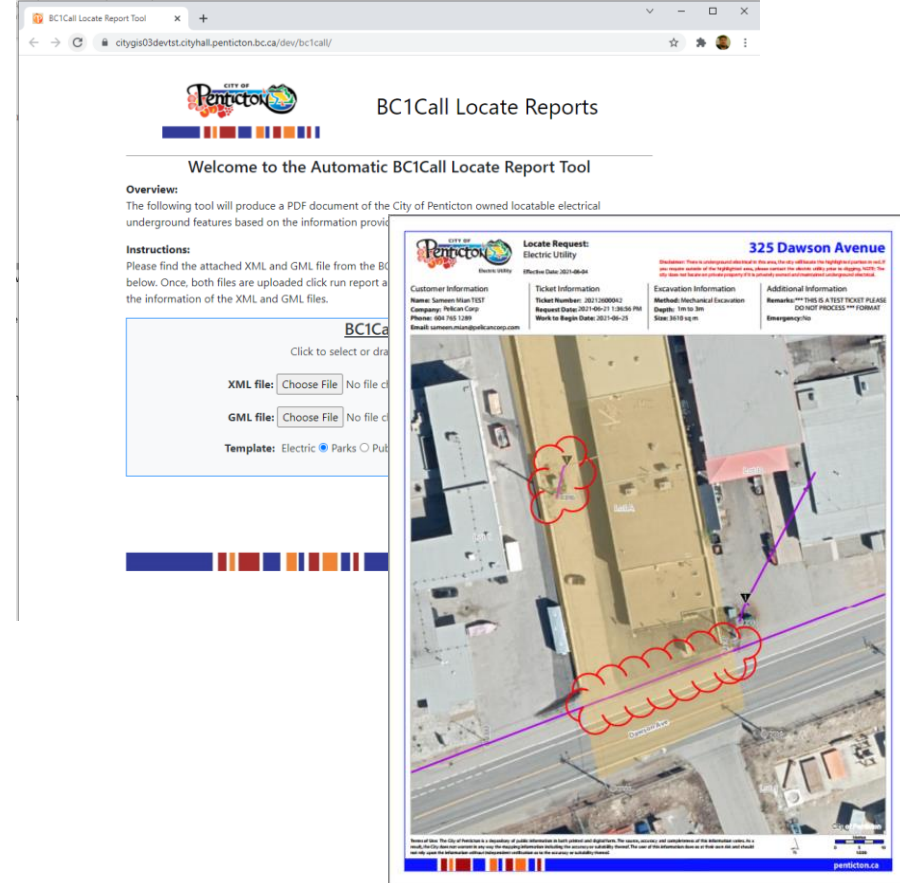
Moderator-led Open Discussion & Take-aways

Please use the Chat

or

Raise your Hand

Brian Greening, Director, ParcelMap BC Products, LTSA

Tom O'Brien, Manager, Data Mgmt & Reporting, BC Assessment

Dave Horwood OLS, Land Info Systems Architect, Esri Canada

Brent Taylor BCLS CLS, Managing Director, Polaris Land Surveying

Jason Hart, Owner, Harterra Spatial Solutions

Dave Gariepy, Director, Land Information Solutions, Esri Canada

Don't forget to email ParcelMapBC@ltsa.ca if you'd like to be entered in the draw for an *ArcGIS for Personal Use* license courtesy of Esri!

GIS day

innovation. | integrity. | trust.

bc Land
Title & Survey

Thank You For Participating!

Recording & Deck links will be sent out soon…

bc **Land**
Title & Survey