



ParcelMap BC Adoption Working Group

Workshop #22

October 21st 2020

9:30am to 12:00 pm

Remote Session

Brian Greening

AWG Chair

AWG Vice-Chair

Director, ParcelMap BC Products, LTSA

Steve Mark

Stakeholder Engagement Coordinator

ICI Societ

Welcome / Opening Remarks	9:30 am
 Housekeeping Workshop Survey: Results & Next Steps Sub-Group Updates: Team Land Records: Updates Team Alignment: Updates Team Province (GeoBC): New Lead Introduction & Updates Implementation Partners: Updates 	9:35 am
 ParcelMap BC Status Update Operations Status & Projects / Initiatives Update Spatial Improvements (See Completed & Targeted Areas and latest Assessment) Adopter Status Update (See Latest Report) 	10:00 am
Large Municipality Focus Group (LMFG): Deep Dive Review & Summary (1 hr) Approach Findings Patterns of Adoption Next steps Tying LMFG to the AWG (30 min) Aligning of Findings w/Issues Log AWG discussion / feedback	10:15 am
Adopter Issues Log: Triage / Issues Update	11:45 am
Future Workshops: Workshop #23 – November 18 th 2020: Session Focus / Topic(s)	11:50 am



AWG Housekeeping

Workshop Survey

Results & Next Steps

Sub-Group Updates

- Team Province (GeoBC): New Lead Introduction & Updates
- Team Land Records: Updates
- Team Alignment: Updates

Implementation Partners: Updates



Survey of Workshops to Support Use of ParcelMap BC

Purpose:

To help plan and prioritize bringing valuable content to support organizations with making the most of what ParcelMap BC has to offer.

- Survey designed by LTSA and distributed by ICI Society
- 187 members polled
- 38 responses collected approximately 20% response rate



Survey of Workshops to Support Use of ParcelMap BC

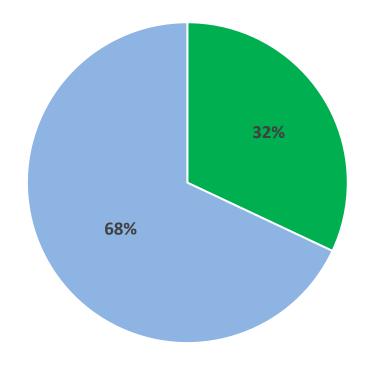
4 main questions were asked:

- 1. Contact Information
- 2. Prioritize your interest based on the applicability of the workshop in helping you use ParcelMap BC in your organization:
 - a. Land Records Workshop Using Tempest software to link to spatial information conducted by CentralSquare Technologies.
 - b. Data Alignment Workshop Using the Data Alignment Workflow Tools developed by Esri Canada.
 - c. ParcelMap BC Deep Dive Understanding the data products and workflows being published by ParcelMap BC.
 - d. Not Interested
- 3. Would a nominal fee for any workshop dissuade your attendance? (Note: Workshops will be at least partially subsidized by the AWG)
- 4. Are there other workshop topics that may help you use ParcelMap BC in your organization?



Respondents Adoption Status

12 Adopted26 Not-Adopted

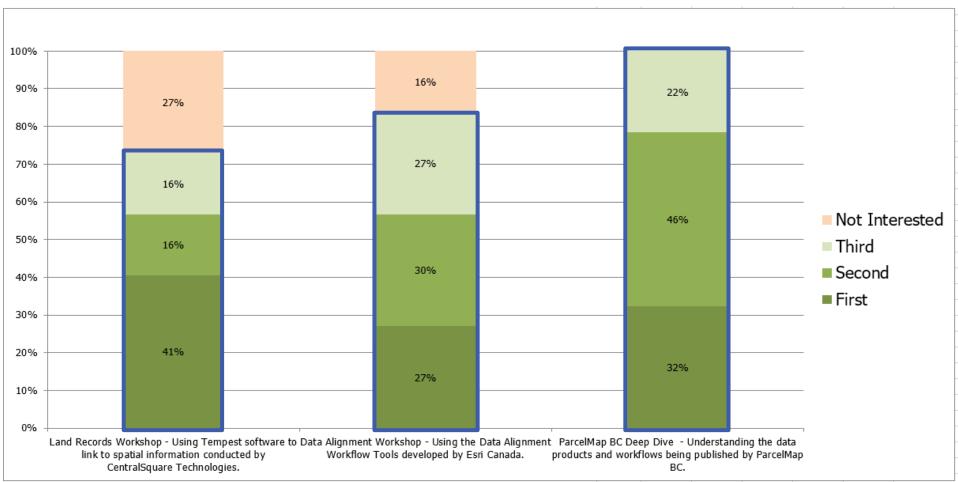




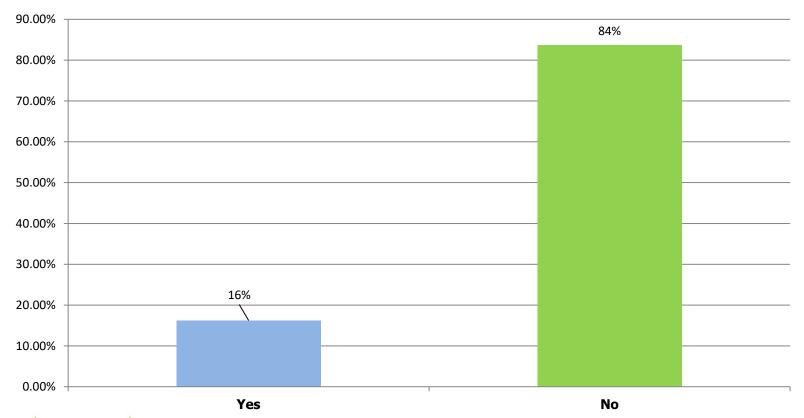
Adopted

Not-Adopted

Q2. Prioritize the workshops according to your interest:



Q3. Would a nominal fee for any workshop dissuade your attendance?





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Are there other workshop topics that may help you use ParcelMap BC in your organization?

"I'd like to understand how other communities are integrating PMBC. I'd like a better opportunity for shared learning among peers (i.e. local gov). " "Sharing and documentation on scripts to update/replace parcel data on a defined schedule."

"yup. use cases and examples for adjoining data - building related tables using PMBC primary keys - how have folks who've adopted this dealt with this and maintain/manage on-going..."

"We use CityView not Tempest, as do many around the Province, so something related to integrating with that would be useful."

"Understanding the Parcel Map data model for dummies - roll number, PID, stratas, mobile homes, docks, etc..."

"Workflows for Vadim data. Sharing experience."



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Sub-Group Updates

Team Province (GeoBC)

- New ICF Retirement Working Group Lead Introduction to Jay Bradley
- June 24th Workshop: Actioning Discussion Items
- Next Steps & Other Updates

Team Land Records

Updates

Team Alignment

Updates

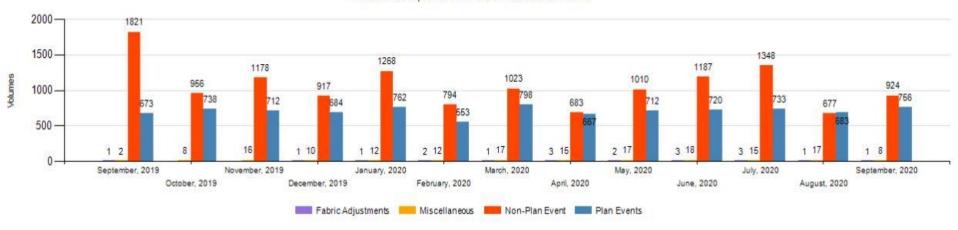
Implementation Partners

Updates

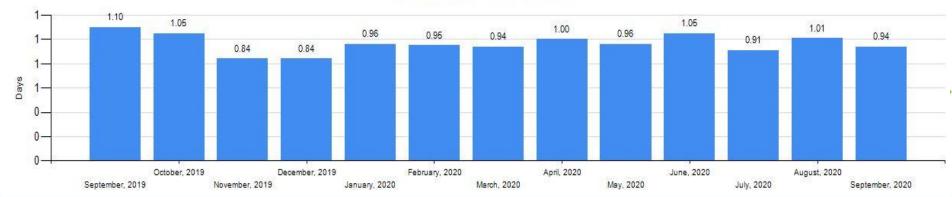


ParcelMap BC Ops: Current Stats

Workitem Completed Volumes - Previous 13 months



Work Item Turnaround - Previous 13 months



ParcelMap BC Ops: Current Stats

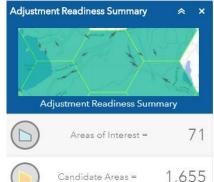
Spatial Improvements: Latest assessment to Oct. 13th, 2020

Targeted:

Completed (*Latest* only – full list <u>here</u>):

AREA OF INTEREST	TARGET MONTH	PITT MEADOWS	July 20, 2020
BLUE SPRINGS	Done October 2020	STAVE LAKE	July 27, 2020
BRACKENDALE	October 2020	NEW DENVER	August 6, 2020
LOON LAKE	October 2020	CASSIDY	August 26, 2020
PRESSY LAKE	October 2020	CRANBROOK - PART 1	September 18, 2020
ARMSTRONG AND SURROUNDING AREA	October 2020	JORDAN RIVER AND SURROUNDING AREA	September 23, 2020

Note: To date, the Spatial Improvements Team has adjusted over 110 000 parcels with a combined total area representing 2833 sq. km of the Province.



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Active Road Parcels Project

Background:

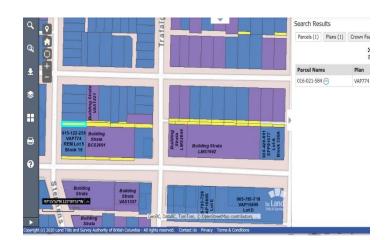
During the build of PMBC, active PIDs that were identified as 'road' through assessment by the LTSA were excluded under the premise that they would be mapped later. This project seeks to represent those PIDs in ParcelMap BC that were initially excluded.

Operational Update:

Month	Total Completed	Total Outstanding
May-20	1100	31900
Jun-20	1060	30840
Jul-20	2071	28769
Aug-20	1415	27354
Sep-20	1627	25727

- Initial Projection assumes ~33000 'Titled Roads' initially.
- Estimated completion date April, 2022.





Remai

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Titled Roads

Initial

Projec

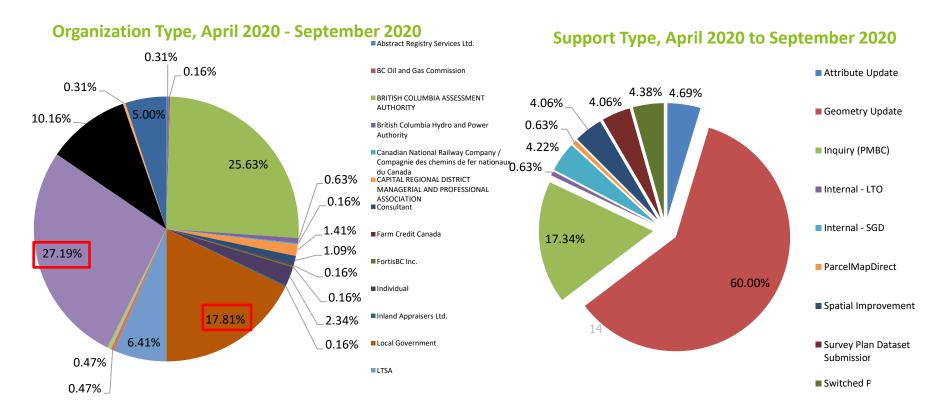
tion -

1.5

FTE



ParcelMapBC: Tier 2 Customer Support



Adopter Dashboard: September 30th 2020 Footprint



Current Adopters (59):

NEW Local Governments

NEW Other Adopters

District of Lake Country

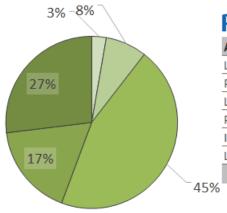
Full list available **here**



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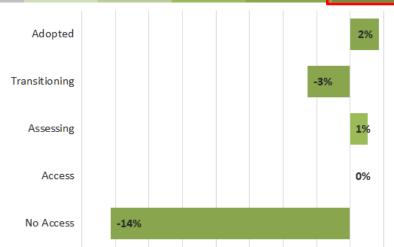
Adopter Dashboard: September 30th 2020 Report



ParcelMap**BC**

Adopter Groups by State	No Access	Access	Assessing	Transitioning	Adopted	Total
Local Governments using ICF	4	1	24	4	39	72
Provincial Groups using ICF	0	0	4	2	2	8
Local Governments who Self Maintain	1	15	63	27	13	119
Parcel Consumers using ICIS Cadastre	1	1	7	2	5	16
ICI Society (Internal)	0	0	0	2	0	2
LTSA (Internal Use)	0	0	1	1	0	2
	6	17	99	38	59	219

Full details **here**





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Large Municipality Focus Group (LMFG): Deep Dive

Review & Summary (1 hr)

- Approach
- Findings
- Patterns of Adoption
- Next steps

Tying LMFG to the AWG (30 min)

- Aligning of Findings w/Issues Log
- AWG discussion / feedback



LMFG Review and Summary: Participants



Large Municipality Focus Group: Top 15 Municipalities by Population in BC

				2016 Census of Population		ation
	Name	Status	Regional District	Population (2016)	Land area (km²)	Population density
1	Vancouver	City	Metro Vancouver	631,486	114.97	5,492.6/km ²
2	Surrey	City	Metro Vancouver	517,887	316.41	1,636.8/km ²
3	Burnaby	City	Metro Vancouver	232,755	90.61	2,568.8/km ²
4	Richmond	City	Metro Vancouver	198,309	129.27	1,534.1/km ²
5	Abbotsford	City	Fraser Valley	141,397	375.55	376.5/km ²
6	Coquitlam	City	Metro Vancouver	139,284	122.30	1,138.9/km ²
7	Kelowna	City	Central Okanagan	127,380	211.85	601.3/km ²
8	Langley	District municipality	Metro Vancouver	117,285	308.03	380.8/km ²
9	Saanich	District municipality	Capital	114,148	103.78	1,099.9/km ²
10	Delta	City	Metro Vancouver	102,238	180.20	567.4/km ²
11	Nanaimo	City	<u>Nanaimo</u>	90,504	90.76	997.2/km ²
12	Kamloops	City	Thompson- Nicola	90,280	299.25	301.7/km²
13	North Vancouver	District municipality	Metro Vancouver	85,935	160.76	534.6/km ²
14	<u>Victoria</u>	City	Capital	85,792	19.47	4,406.4/km ²
15	Chilliwack	City	Fraser Valley	83,788	261.65	320.2/km ²





LMFG Review and Summary: Participants

LMFG Organization	LMFG Team Members				
Project Management and Technica	lTeam				
 Land Title and Survey Authority of BC 	 Brian Greening, Director, ParcelMap BC Products [BG] Irshad Jamal, Customer Support Specialist, Parcel Fabric Operations [IJ] 				
Spatial Vision Group	Bill Johnstone, Principal Consultant [WMJ] John Samulski, Principal Consultant, Rabbitwerx Consulting [JCS]				
City of Kamloops	Adam Chadwick, GIS Manager				
Stakeholder Organizations					
City of Burnaby	 Chad Huntington, Manager, GIS and Engineering Systems Jenny Li, Supervisor, Business Info Systems Chris Tait, GIS Technician Andrew Yao, Planning Analyst 				
City of Surrey	Bill McKay, GIS Manager Elizabeth Mittelstaedt, GIS Analyst				
City of Vancouver	Martin Tilt, GIS Technical Team Lead Rob Glass, British Columbia Land Surveyor				
District of North Vancouver	Krista Heinrich, Section Manager, Business Applications				
Township of Langley	Derik Woo, Manager, Geomatics Services Kerrie-Anne Martin, GIS Technician II				





LMFG Review and Summary: Approach

Month / Date	Activity		IMEG	Partic	inant		Management
Wolter / Date	Activity					/ Technical Team	
		City of Burnaby	City of Surrey	City of Vancouver	District of North Vancouver	Township of Langley	LTSA, Spatial Vision Group, A. Chadwick (Kamloops)
April / May 2020	LMFG scope definition and planning.						•
May 2020	Invitations to participate / responses	•	•	•	•	•	•
May 2020	Team preparation for kick-off session.						•
June 2, 2020	Kick-Off Session	•	•	•	•	•	•
June 2020	Participants complete worksheets, analyse their parcel fabrics using X-Ray	•	•	•	•	•	
June 2020	Compilation of participant inputs						•
July 6, 2020	Preliminary Findings Review Session	•	•	•	•	•	•
July 2020	Prepare for detailed 1-on-1 interviews						•
July 27, 2020	1-on-1 Interview			•			•
July 29, 2020	1-on-1 Interview					•	•
July 29, 2020	1-on-1 Interview		•				•
August 10, 2020	Review meeting with Adam Chadwick						•
August 12, 2020	1-on-1 Interview				•		•
August 19, 2020	1-on-1 Interview	•					•
August	Compilation and development of draft report (findings and transition plan)						•
August 26, 2020	1-on-1 Follow-Up Session			•			•
August 26, 2020	1-on-1 Follow-Up Session					•	•
August 26, 2020	1-on-1 Follow-Up Session		•				•
September 18, 2020	1-on-1 Follow-Up Session				•		•
September 22, 2020	1-on-1 Follow-Up Session	•					•
September-October 2020	Finalize draft reports (Findings and Transition Plans)				•		
October 20, 2020	Final Group Session	•	•	•	•	•	•
October 2020	Close-out activities and report delivery						•



Observations

- Key support on lessons learned from Adam Chadwick
- High level of engagement by the LMFG participants and delegated staff



LMFG Review and Summary: Approach



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Parcel Fabric Discovery Framework

0. Parcel Fabric **Fundamentals** A. Attribute 1. Primary Cadastre **Data Comparison** B. Spatial 2. Data **Dependencies** 3. Program A. Programs **Dependencies**



Discovery:

Parcel Fabric Fundamentals

ParcelMap BC Large Municipality Focus Group

Organization: Name:
<organization name> contact name>

Please bring the following information to the kick-off session relevant to your organization to support the round table discussion

Topic	Description	Response	Notes
Parcel "Methodology"	What is the primary business identifier you use to uniquely identify parcels?	Possible answers are: Survey/Legal (PID-centric) Tax/Assessment (Folio-centric) Hybrid (mix of both) Other (describe)	<additional by="" organization="" provided="" text=""></additional>
Parcel Timelines	What parts of the parcel lifecycle do you represent: Only active legal parcels? "Proposed / planned" parcels? Historic (inactive) parcels?	Possible answers are: Active only Proposed & Active Proposed, Active & Historic Active & Historic Other (describe)	<additional by="" organization="" provided="" text=""></additional>
Parcel Types	Besides basic lot boundaries what other types of parcels do you represent? Road parcels? Interests (SRW, easements, etc)? Crown parcels? How do you map volumetric parcels (Building Strata and Airspaces)? Any other "things" as parcels?	<description by="" organization="" provided=""></description>	<additional by="" organization="" provided="" text=""></additional>
High-level Dataflows	What information flows (sources) inform your parcel maintenance? Ex. LTSA feeds, BCA Feeds, Internal triggers (from who/where)? Other?	<description by="" organization="" provided=""></description>	<additional by="" organization="" provided="" text=""></additional>
Top 3 Challenges	What are the biggest challenges with your current parcel maintenance workflows?	1) <challenge description=""></challenge>2) <challenge description=""></challenge>3) <challenge description=""></challenge>	<additional by="" organization="" provided="" text=""> <additional by="" organization="" provided="" text=""> <additional by="" organization="" provided="" text=""></additional></additional></additional>





Discovery Worksheet 1 of 3:

Compare Municipal Fabric with ParcelMap BC

ection	Title & Description				
		Q#	Column Title	Description	Example
1	Primary Cadastre Data C	ompari	son (Attribute and Spatial)		
				y cadastre layer (and relevant n schemas will be identified a	
		Q1-01	Primary Cadastre Data Issue Identifier (PK)	Unique identifier (DATAxx) for the gap / issue being described. Can be used in the next table.	DATA01
		Q1-02	Primary Cadastre: Geodatabase Name	Name of your geodatabase that contains the primary cadastre data	
		Q1-03	Primary Cadastre: Feature Dataset Name	Name of feature dataset that contains the primary cadastre data	
		Q1-04	Primary Cadastre: Feature Class or Table Name	Name of feature dataset that contains the primary cadastre data. Table may be standalone.	
		Q1-05	Primary Cadastre: Attribute Name	Name of feature attrbitute / field.	
		Q1-06	Primary Cadastre: Domain	Name of domain.	
		Q1-07	ParcelMap BC: Feature Class / Table Name	Name of PMBC Feature Class or Table associatd with the gap / issue described below.	
		Q1-08	ParcelMap BC: Attribute Name	Name of PMBC Feature Class or Table associatd with the gap / issue described below.	
		Q1-09	ParcelMap BC: Domain Name	Include a domain name if applicable.	
		Q1-10	Gap Number	Simple sequential id	
		Q1-11	Gap Name	Name of the gap/issue that has been identified	
		Q1-12	Gap Description	Description of the gap/issue that has been identified	



Discovery Worksheet 2 of 3:

Parcel Intake,

GIS Dataset Derivations,

Business System Integrations

Section	Title & Description		Questions				
		Q#	Column Title	Description	Example		
2	Data Dependencies (Da	taflows	, System Integrations, Other	Datasets)			
	This worksheet focuses	on data	a flows, systems integrations	, and other dependencies tha	t either directly or		
		•	cadastre data set, including d	erivative data sets or value-ac	lded artifacts (e.g.		
	map production, report	ing).					
		Q2-01	Data Dependency ID (PK)	Unique identifier, primary key (DEPxx)	DEP02		
		Q2-02	Data Issue IDs (FK)	List of relevant primary cadastre issues from Table 1 above (DATAxx), 1: many	DATA03, DATA06, DATA07		
		Q2-03	Workflow Title	Workflow Title (2-3 words)			
		Q2-04	Workflow Description	Workflow description (1-2 sentences)			
		Q2-05	Workflow Type	Create / Maintain / QA / Disseminate / Report			
		Q2-06	Business Areas / Stakeholders	Which business areas / stakeholders affected?			
		Q2-07	Frequency	Daily / Weekly / Monthly / Quarterly / Annually / As required			
		Q2-08	Importance	Criticality of successfully executing the workflow (critical/high/med/low)			
		Q2-09	Task Complexity	Complexity of workflow (high/med/low)			
		Q2-10	Related System(s)	Interfaces / integrations with other systems required to support the workflow (list systems or NA)	-		
		Q2-11	Integration Type	Application / Data			
		Q2-12	Integration Complexity	Complexity of integration(s) with cadastre data (high/med/low)			



Discovery Worksheet 3 of 3:

Program Dependencies

Section	Title & Description			Questions		
		Q #	Column Title	Description	Example	
3	Program Dependencies					
	This component focuses on higher-level program dependencies which could influece the adoption of					

This component focuses on higher-level program dependencies which could influece the adoption of ParcelMap BC within each Municipality. Considerations include:

- a. Other related or dependent IT/GIS initiatives that may impact timing of ParcelMap BC adoption.
- b. Resource opportunities/constraints associated with adoption.
- c. Requirements for justification/business case to proceed with adoption.

Q3-01	Program Dependency ID	Unique identifier, primary	
	(PK)	key (PROGxx)	PROG01
Q3-02	Program / Initiative Name	Name of initiative / project	
Q3-03			
		Brief description of the	
	Relationship to Cadastre	relationship to cadastre data	
	Data	and ParcelMapBC adoption	
	Status	Planned / Approved / In	
Q3-04		Progress	
Q3-05	Start Date	Planned or actual start date	
Q3-06	Completion Date	Expected completion date	
Q3-07	Resource Considerations	Key resources required	
		(roles)	
	Priority Relative to	Higher / Lower / Equal	
Q3-08	ParcelMapBC Adoption		
Q3-09	Approval requirements	Business Case, Charter,	
		Other Justification?	





Other Tools: X-Ray for ArcGIS / ArcGIS Pro

Geodatabase Documentation Date: Friday, November 06, 2015 Time: 4:36:33 PM Summary Information and Links 24 Feature Datasets and 263 Feature Classes 1 Topology Dataset contained within Feature Datasets

3 Geometric Network contained within Feature Datasets

59 Tables (Object Classes) 46 Relationship Classes 302 Domains

Feature Datasets and Child Classes

Address - Feature Dataset

AdditionalLocation - Simple
AddressPoint - Simple
SiteAddress - Simple

AdministrativeArea - Feature Dataset

AdministrativeAreaBoundaryLine - Simple
CountyBoundary - Simple
FederalAreaBoundary - Simple
MunicipalBoundary - Simple
MunicipalBoundary - Simple
NeighbourhoodBoundary - Simple
PostalCodeBoundary - Simple
ProvincialAreaBoundary - Simple
ProvincialAreaBoundary - Simple
SchoolBoundary - Simple
SchoolBoundary - Simple
SchoolBoundary - Simple

CapitalPlanning - Feature Dataset

CIPPoints - Simple CIPPolygons - Simple CIPPolylines - Simple CIPProjects - Simple CIPProjects Locations - Simple

BridgePo	oint - F	eature	Class
----------	----------	--------	-------

Description

Name BridgeFont
ShapeType Point
FeatureType Simple
AliasName Bridge Points
HasAM true
HasZ true
HasAttachments false

A structure that allows people or vehicles to cross an obstacle such as a river or canal or railway etc.

Field	DataType	Length	AliasName	Description	Domain	Defaul
GlobalID	GlobalID	38	GlobalID	A unique identifier.		
FACILITYID	String	50	Facility Identifier	The Facility Identifier		
NAME	String	255	Bridge Name	The name of the bridge		
BRIDGETYPE	String	50	Bridge Type	The type of bridge	<u>BridgeType</u>	
BRIDGENUM	String	50	Official Bridge Number	The assigned bridge number		
BRIDGEDESGN	String	50	Bridge Design	The design style of the bridge	BridgeDesign	
TRAFFICTYPE	String	50	Traffic Type	The primary type of traffic allowed across the bridge	<u>BridgeTrafficType</u>	
DESIGNLOAD	String	20	Design Load Rating	The bridge's design load rating		
SPANTYPE	String	50	Span Type	The type of bridge span	<u>SpanType</u>	
SPANLENGTH	Double	8	Span Length	The length of the bridge span		
DECKTYPE	String	50	Deck Type	The material used to construct the bridge deck	<u>BridgeDeckType</u>	
DECKTHICK	Double	8	Deck Thickness	The thickness of the bridge deck		
DOWELLENG	Double	8	Dowel Length	The length of the bridge dowel		
DOWELSIZE	Smallinteger	2	Dowel Size	The size of the bridge dowel		
INSTALLDATE	Date	8	Install Date	The date the bridge was installed or resurfaced		
CONDITION	String	50	Condition	The condition of the bridge	Condition	
LNONSTR	SmallInteger	2	Lanes on Bridge	The number of lanes on bridge		
LNUNSTR	Smallinteger	2	Lanes Under Bridge	The number of lanes under bridge		
MEDIAN	String	5	Median on Bridge	A flag that indicates whether a median is present on the bridge	<u>YesNo</u>	
APPWIDTH	Double	8	Approach Width	The width of the bridge approach		
NUMSPAN	SmallInteger	2	Number of Spans	The number of spans		
AVGTRAFFIC	Integer	4	Daily Traffic Volume	The daily traffic volume on the bridge		
YRTRAFFIC	Date	8	Year Traffic Counted	The year the traffic volume count was observed		
OWNEDBY	Smallinteger	2	Owned By	Indicates which organization owns the asset	AssetOwner	
MAINTBY	SmallInteger	2	Managed By	Indicates which organization maintains the asset	<u>AssetManager</u>	
LASTUPDATE	Date	8	Last Update Date	The date the feature was last updated		
LASTEDITOR	String	50	Last Editor	The person who performed the last update		

Ruilding - FeatureClass



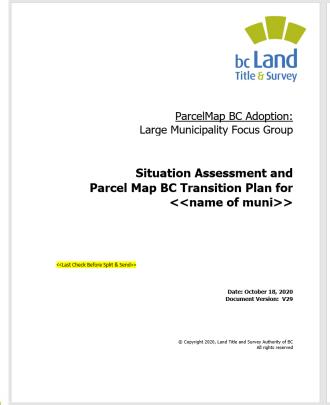
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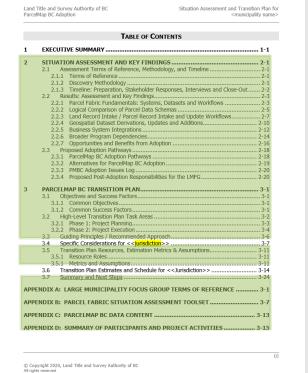
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LMFG Review and Summary: Findings



Deliverable: Situation Assessment and Transition Plan: Five Reports



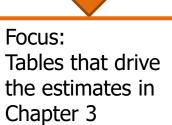




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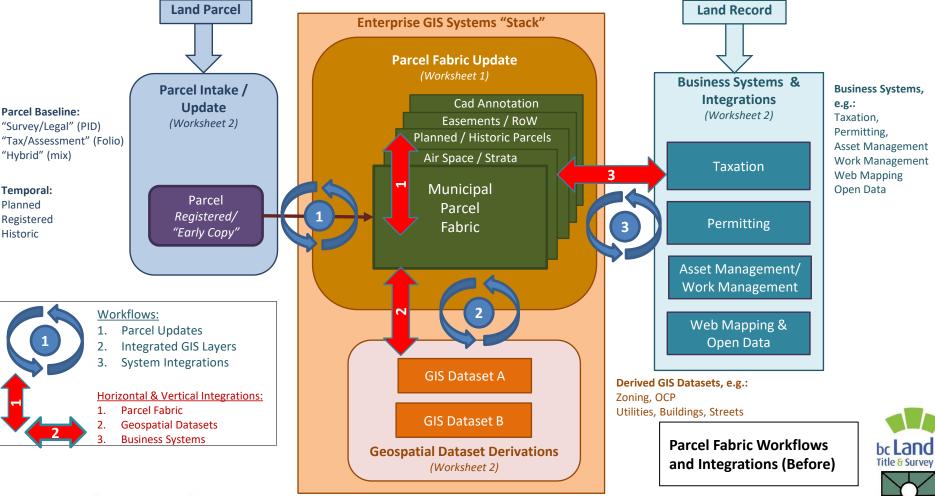
Chapter 2 - Findings

2 SITUATI	ON ASSESSMENT AND KEY FINDINGS	2-1
2.1 As	sessment Terms of Reference, Methodology, and Timeline	2-1
2.1.1	Terms of Reference	2-1
2.1.2	Discovery Methodology	
2.1.3	Timeline: Preparation, Stakeholder Responses, Interviews and Close	e-Out 2-2
	sults: Assessment and Key Findings	
	Parcel Fabric Fundamentals: Systems, Datasets and Workflows	
2.2.2	Logical Comparison of Parcel Data Schemas	2-5
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	Alternatives for ParcelMap BC Adoption	
2.3.3	PMBC Adoption Issues Log	2-20
2.3.4	Proposed Post-Adoption Responsibilities for the LMFG	2-20









Temporal:

Registered

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Planned

Historic

V2020-10-20 integrity. trust.

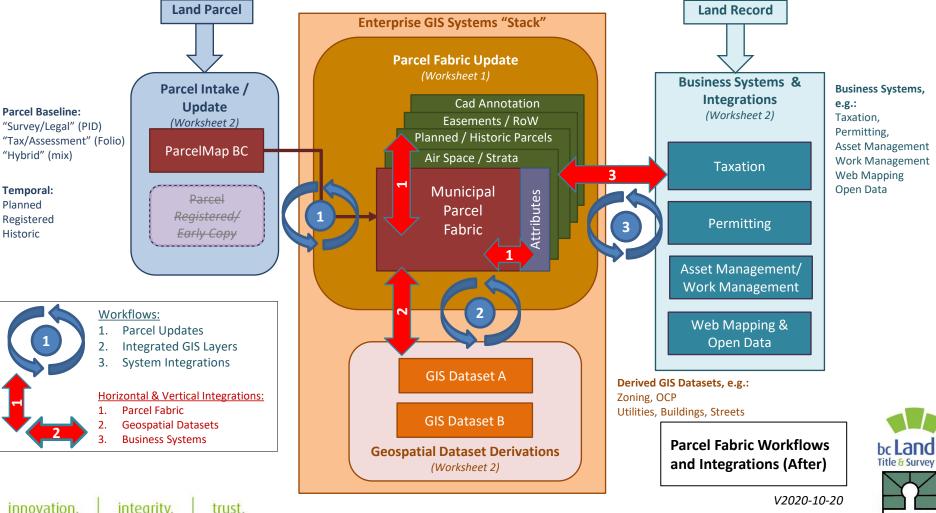


Table 1 – Mapping of PMBC Logical Content to Municipal Parcel Fabric Content

PMBC Content: Feature Classes, Geometries, Attributes, Domains		LMFG Participant Uses Content Similar to PMBC Content				
Feature Dataset, Feature Class, or Table Name	Geometry or Table	Muni A	Muni B	Muni C	Muni D	Muni E
ParcelFabricExtract	Feature Dataset	Υ	Υ	Υ	Υ	Υ
CommonOwnership	Table	Υ	Υ	Υ	Υ	Υ
ControlPoint	Point	Υ	Υ	Υ	Υ	Υ
Jurol_PID_X_Reference	Table	Υ	Υ	-	Υ	-
ParcelLine	Line	Υ	-	-	-	Υ
ParcelPoint	Point	Υ	-	-	-	Υ
ParcelPolygon	Polygon Feature Class	Υ	Υ	Υ	Υ	Υ
Plans	Table	Υ	Υ	Υ	Υ	Υ
Shared_Geometry	Table	Υ	Υ	Υ	Υ	-

Y = PMBC content has a logical equivalent in the parcel fabric maintained in the participant's systems.



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^{- =} PMBC content does not have an equivalent in the participant's systems.

Table 2 – Key Properties of Municipal Parcel Fabric Content

Properties of Municipal Parcel Fabric Datasets	LMFG Participant				
	Muni A	Muni B	Muni C	Muni D	Muni E
# of Feature Datasets ¹	1	0	0	5	0
Total # of Feature Classes ¹	6	22	22	26	19
# of "Key" Feature Classes ^{1,2}	4	6	3	4	NK ³
# of Topology Datasets	0	0	0	0	0
# of Tables ^{1,4}	10	0	0	0	2
# of Relationship Classes ¹	0	0	0	2	0
# of Fields (in feature classes or tables, estimated)	~350	~128	~290	~285	~365
# of Domains ¹	1	11	18	10	7
# of Subtypes	0	8	8	0	NK ³
Uses Esri Parcel Fabric	N	N	N	N	n/a

Notes:

- 1 The number of feature datasets, classes, etc. were taken from the X-Ray outputs. For City of Vancouver, the numbers were taken from the survey schema spreadsheet that was provided.
- 2 "Key" feature classes are geometry layers that were named by the participant in Worksheet 1 of the situation assessment workbook.
- 3 Not known.
- 4 For participants who indicate zero tables, the attribute content is maintained instead using fields in feature classes.





Table 3 – General Use Case for Parcel Record Add/Delete/Modify Workflow

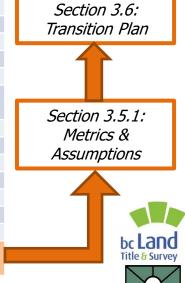
ID / Name:	Use Case: Parcel Record Add / Delete / Modify Workflow		
Goal:	Add, Delete or Modify One or More Parcel Fabric Records		
Actors:	1. CAD Technician		
	2. GIS Technician		
Description:	A workflow for updating the parcel geometry and attribution based on the subject plan. This may one or more of the activities listed here in a single plan update:		
	1. Addition of a new parcel record when a new title is created		
	2. Deletion of an existing parcel record when a registered title becomes inactive.		
	3. The change in an attribute such as parcel status, legal description or owner, etc.		
Pre-Conditions:	 Land Title Plan is registered at the Land Title Office or Land Act Plan is confirmed at the Surveyor General Division 		
	2. The land record for the parcel to be updated already exists in municipality's Tempest system.		
	 CAD software (ex. AutoCAD, MicroStation) and GIS Software (ex. ArcGIS) has been installed on the workstations. 		
	4. A drawing file (DWG) of the registered plan is available.		
Main Flow of	1. The CAD Tech opens the current DWG base map file using the CAD software.		
Events:	2. The CAD Tech appends the newly surveyed DWG to the DWG base map and saves the file.		
	3. The CAD Tech submits the DWG file to the GIS Tech.		
	4. The GIS Tech launches the GIS software and converts the DWG file into a GIS dataset.		
	5. The GIS Tech merges the newly created GIS dataset into the actively maintained GIS database.		
	6. The GIS Tech enters the attribution related any newly added records.		
	7. The GIS Tech commits the changes to the current GIS database.		
Post-Conditions:	1. The geometry and attribution of the newly completed survey has been merged into the GIS database.		
	2. Additional modifications to fabric-related geometries and attributes have been merged.		
	 The updated features are available for linking with business system integrations such as taxation, permitting and asset management (see diagram) and for possible publication to front- facing webmap for general public use. 		
Alternate Flows:	 COGO Parcel Input / Update: If a PDF file of the registered plan is available instead of a DWG file, in Steps 1 to and 3, the CAD tech will COGO the dimensions off the plan, commit the changes to a DWG file, submit to the GIS tech, and continue from Step 4 of main flow. 		
	 Heads-Up Parcel Input / Update: If a PDF file of the registered plan is available instead of a DWG file; GIS tech will used heads-up digitizing to add / delete the parcel. 		





Table 4 – Parcel Intake / Update Workflows

Land Record Intake / Parcel Record Intake and Update Workflows	LMFG Participant				
Workflow Characteristics	Muni A	Muni B	Muni C	Muni D	Muni E
Temporal					
Planned Parcels	-	-	Y	-	-
Current / Active Parcels	Υ	Υ	Υ	Υ	Υ
Historical Parcels	-	-	-	Υ	-
Required Update Effort	Low	Low	Medium	Medium	Medium
Format of Registered Plan Used for Geometric Updates					
Digital (DWG)	-	Υ	Υ	-	Υ
PDF	Υ	-	-	Υ	-
Additional Parcel-Related Content					
Airspace	Υ	-	Υ	Υ	Υ
Strata	Υ	Υ	Υ	Υ	Υ
ROWs	Υ	Υ	Υ	Υ	Υ
Annotation	Υ	Υ	Υ	Υ	Υ
Nominal Complexity of Land Record Intake / Parcel Record Intake and Update Workflows	Low	Low	High	High	Low



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Table 4 - Detail

Y = Scope of Parcel Intake/Update Workflows include this content.

- = Scope does not include this content.

An assessment of the complexity of the parcel intake / update workflows provides a basis for providing a qualitative estimate of the effort that would be required to update these workflows to adopt ParcelMap BC. The complexity can be defined by the rows in the table above.

Three levels are used to indicate the rate of change in the parcel fabric:

- Low = The update takes no more than 4 hours (one half day) each week.
- Medium = The update takes up to two days each week.
- High = The update requires more than 1 FTE a year to maintain the fabric.

Three levels of complexity for parcel intake/update workflows are defined as follows:

- Low = Only updates current/active parcels using DWG as the primary parcel input.
- Medium = Includes two of: Planned and Historic parcels, PDF as primary parcel input, and Develops additional content.
- High = Includes all of: Planned and Historic parcels, PDF as primary parcel input, and Develops additional content.



Table 5 – Geospatial Dataset Derivations ("Vertical")

Geospatial Dataset Derivations		LN	MFG Participa	nt	
Derivations Characteristics	Muni A	Muni B	Muni C	Muni D	Muni E
Direct Geometric Derivations	Υ	Υ	Υ	Υ	Υ
Integrations Between Geometric Layers and Business Systems	Y	Y	Y	Y	Y
Derivations are Generally Manual, Automated or Both	А	В	В	В	В
Nominal Complexity of Geospatial Dataset Derivations	High	Low	Medium	High	High





Table 5 - Detail

An assessment of the complexity of the parcel intake / update workflows provides a basis for providing a qualitative estimate of the effort that would be required to update these workflows to adopt ParcelMap BC. The complexity of each participant's parcel fabric can be defined by: the number of geospatial layers and tables being maintained, how many related tables are used, and the level of complexity and automation of the update process.

Three levels of complexity for these fabric-related geometries are defined as follows:

- Low = 0 to 10 derived parcel layers, 0 to 10 related tables, parcel update process more straightforward or automated
- Medium = 10 to 20 layers, 10+ related tables
- High = 20+ layers



Table 6 – Business System Integrations ("Horizontal")

Business Systems	LMFG Participant				
Integrations Characteristics	Muni A	Muni B	Muni C	Muni D	Muni E
Taxation					
Tempest	Υ	Υ	Y	Y	Υ
Permitting					
Tempest*	-	-	-	-	-
Energov	Υ	-	-	Υ	-
SAP Land Use Management (LUM)				Υ	
POSSE	-	-	-	-	Υ
GeoSource	-	Υ	-	-	-
Amanda	-	-	Υ	-	-
Asset Management / Work Management					
Hansen	-	Υ	-	Υ	Υ
SAP (FM, building maintenance)	-	-	-	Υ	-
CityWorks	-	-	Υ	-	-
Web Mapping / Portal(s)	Y	Υ	Υ	Υ	Υ
Open Data	Υ	Υ	Υ	Υ	Υ
Nominal Complexity of Business System Integrations	Low	Medium	Medium	High	High

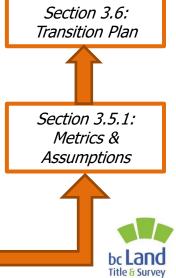




Table 6 - Detail

Y = Scope of Business Systems Integrations include this content.

- = Scope does not include this content.
- * Tempest not identified for permitting during interviews.
- ** Trend for DNV is towards high nominal complexity as they add more data and functional capabilities to their webapps (GeoWeb - external, GeoTools - internal)





LMFG Review and Summary: Patterns of Adoption



Table 9 – Four Adoption Pathways

	Replace	Realign
PID-centric	1A	1B
Folio-centric	2A	2B

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Adoption Pathway	Geometric Alignment Option 1 ("ParcelMap BC Replace"): Completely replace the current internally maintained parcel fabric dataset with ParcelMap BC. The required minimum set of attributes would be included in this data set by default.	Attribute Alignment Implicitly achieved by replacement approach.
"PID-centric" Or Legal Property based	Option 2 ("ParcelMap BC Realign"): Collaborate with LTSA to reconcile and realign the geometry of the current internally maintained parcel fabric with the current state of the ParcelMap BC dataset.	The following attributes should be present in the local parcel fabric and the attribute values should align with ParcelMap BC: PID PIN Legal Description Plan Number Owner Type Parcel Status Regional District Parcel Class Municipality Designation 1, 2 and 3

Adoption Pathway	Geometric Alignment	Attribute Alignment
	Option 1 ("BCA Replace"): Completely replace the current internally maintained parcel fabric dataset with BCA's Assessment Fabric, which is based solely on geometry sourced from ParcelMap BC.	Attributes utilized will be based on organizational need and will be sourced from BCA data advice.
"Folio-centric" Or Tax Entity based	Option 2 ("BCA Realign"): Collaborate with BCA to reconcile and realign the geometry of the current internally maintained parcel fabric with the current state of the BCA's Assessment Fabric, which is based solely on geometry sourced from ParcelMap BC. Post adoption, any concern with the accuracy or correctness of BCA's representation is first compared for consistency with ParcelMap BC for shape and attribution before raising an issue with the LTSA.	Attributes utilized will be based on organizational need and will be sourced from BCA data advice. Is there a fifth option: PID & Folio Hybrid?

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Post-Adoption Responsibilities

1. Municipal Value-adds and Maintenance Tasks:

- Manage address information;
- Maintain connections to land records and permitting databases;
- Manage unique identifiers for parcels that don't have a PID or a PIN;
- Manage internal language and attribute alignment for different conventions, i.e., parcel class and owner types;
- Manage "planned" or "early copy" parcels, although this is under consideration at the LTSA as a new offering under a larger Survey Plan Services Modernization initiative;
- Map non-legal property information such as building footprints.

2. Joint Resolution of Fabric-Related Issues:

- Joint working relationship
- If fabric-related issues arise after adoption, participants work together to resolve.

3. LTSA Undertakings (current work in progress):

- Maintain operational standards and commitment to continually improve ParcelMap BC
- Explore UPI
- Planned Parcels
- Historic Interest Parcels



Chapter 3 – Transition Plans

3	PARCELMAP BC TRANSITION PLAN	3-1
	3.1 Objectives and Success Factors	3-1
	3.1.1 Common Objectives	
	3.1.2 Common Success Factors	
	3.2 High-Level Transition Plan Task Areas	3-2
	3.2.1 Phase 1: Project Planning	3-3
	3.2.2 Phase 2: Project Execution	
	3.3 Guiding Principles / Recommended Approach	
	3.4 Specific Considerations for << jurisdiction>>	3-7
	3.5 Transition Plan Resources, Estimation Metrics & Assumptions	
	3.5.1 Resource Roles	3-11
	3.5.1 Metrics and Assumptions	3-11
	3.6 Transition Plan Estimates and Schedule for << Jurisdiction>>	
	3.7 Summary and Next Steps	3-24



Guiding Principles / Specific Considerations

Guiding Principles:

Based on lessons learned from AWG and City of Kamloops' adoption process

- 1. Take an iterative approach
 - a) Combined waterfall / agile
- 2. Deploy automation where possible
- 3. Engage internal knowledge workers
 - a) Transition Plan execution
 - b) Ongoing support / sustainment

Specific Considerations:

Issues specific to each organization with a recommended approach / next steps



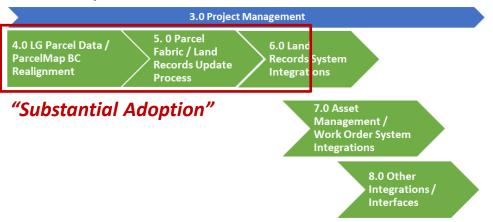
High-Level Transition Plan Task Areas

Phase 1: Project Planning

1.0 Approvals

2.0 Project Planning

Phase 2: Project Execution





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Phase 1 - Planning

ID	Task Area / Name	Description / Comments
Phase	1: Project Planning	Tasks related to obtaining approval to proceed and planning
		detailed project activities.
1.0	Approvals	Obtain internal permission / sponsorship
1.1		Includes:
	Assessment / Approvals	- Development of Business Case (if required) and/or
		Project Charter.
		- ParcelMap BC technical specification review,
		organisational risk assessment and mitigation plan (if required).
		- HR considerations: "Who" and "what" will change to
		achieve the Future State. Execution of changes to be
		addressed as part of Change Management Plan.
2.0	Project Planning	Project-related Planning and Administration
2.1	Detailed Transition Plan	Elaborate the high level LMFG Transition Plan to a detailed,
		"workable" project plan.
2.2	Communications Plan	Develop a Communications Plan for transition to ParcelMap BC, targeted primarily at internal participants. This
		Communications Plan should be aligned with the "Change
		Management" below.
2.3	Change Management Plan	Develop a Change Management Plan for ParcelMap BC
		transition that includes, at a minimum, the following key focus
		areas:
		- Training plan associated with transition to PMBC -
		likely focussed on PMBC Product Technical Specs and interfaces w/LTSA.
		- Changes to workflows associated with PMBC intake
		and parcel layer "staging" for downstream
		consumption.
		- "When" and "how" any changes to HR Future State
		(roles, responsibilities) will occur.
		- Touch points / alignment with the Communications
		Plan specifically related to the changes above.





Phase 2 Tasks – Substantially Adopted

ID	Task Area / Name	Description / Comments
Phase	2: Project Execution	Tasks related to the execution of the Transition Plan.
3.0	Project Management	Project Management associated with execution of the Transition Plan.
3.1	Ongoing Project Management	Ongoing Project Management throughout the remaining duration of the project.
4.0	LG Parcel Data / ParcelMap BC Realignment	Achieve Realignment between LG parcel fabric data and ParcelMap BC
4.1	Geometric Data Analysis / Confirm Adoption Path	Determine, via collaboration with LTSA and the use of available LTSA-provided Alignment Resources, where there are significant deviations in geometry due to LG non-plan adjustments or other factors. Confirm the Adoption Path most suitable for the organisation.
4.2	Horizontal Data Integration Analysis: Parcel Fabric and Business System Integrations	Develop/confirm the approach to support required ParcelMap BC attribution while supporting other required parcel attribution (e.g. business data / foreign keys).
4.3	Vertical Data Integration Analysis: Parcel Fabric	Develop/confirm the approach to supporting vertically integrated parcel-based data (e.g. easements, air space, RoWs, strata, historical parcels).
4.4	Vertical Data Integration Analysis: Geospatial Dataset Derivations	Develop/confirm the approach to supporting existing Geospatial Dataset Derivations.
4.5	LG Parcel Data / ParcelMap BC Processing	Engage in a collaborative effort with LTSA to realign geometric features of LG parcel fabric with ParcelMap BC as required.
4.6	Implement Horizontal Data Integration Updates	Implement any changes to supporting required ParcelMap BC attribution while supporting other required parcel attribution (e.g. business data / foreign keys).
4.7	Implement Vertical Integration Updates	Implement any changes to the approach to supporting vertically integrated parcel-based data (e.g. easements, air space, RoWs, strata, historical parcels).
4.8	Implement Geospatial Dataset Derivations Updates	Implement any changes to the approach to supporting Geospatial Dataset Derivations.
5.0	Parcel Fabric / Land Records Update Process	Update processes / workflows associated with parcel fabric and land records updates
5.1	PMBC Land Parcel Intake Process(es)	Develop and implement new intake process to accept PMBC data from LTSA and update parcel layer(s).
5.2	BC Assessment Land Record Intake Process(es)	Confirm and implement the approach for accepting BCA advice in parallel with accepting PMBC updates.
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Phase 2 Tasks – Integrations

ID	Task Area / Name	Description / Comments
Phase	2: Project Execution	Tasks related to the execution of the Transition Plan.
6.0	Land Records System Integrations	Update integrations with land records systems (if required)
6.1	Taxation / Assessment System	Confirm and implement any required process(es) to maintain integrations to taxation / assessment systems.
6.2	Permitting System	Confirm and implement any required process(es) to maintain integrations to permitting system(s).
7.0	Asset Management / Work Order System Integrations	
7.1	Asset Management System	Confirm and implement any required process(es) to maintain integrations to asset management system(s).
7.2	Work Order System	Confirm and implement any required process(es) to maintain integrations to work order system(s).
8.0	Other Integrations / Interfaces	
8.1	Open Data	Address any impacts to Open Data content currently being provided.
8.2	Others	Assess and address impacts to other downstream users or participants (e.g. Web based viewers/portals, data exchange with external participants)



Section 2.2.7 – Opportunities and Benefits

Opportunities / Benefits Themes:

- 1. HR Capacity
- 2. Data Quality / Completeness
- 3. Timeliness / Efficiency
- 4. Improved Integrations / Collaborations
- 5. Improved Decision-Making / Risk Mitigation



LMFG Review and Summary: Next Steps



What Else? / What's Next?

General

- LTSA & ICI Society:
 - Continue to raise awareness
 - Technical workshops
 - What else do you suggest?
- LMFG Participants:
 - Issues Log
 - Join the Adoption Working Group (AWG)
 - Join an AWG Team
 - Team Alignment (close to complete)
 - Team Province (not LMFG)
 - Team Land Records

Specific

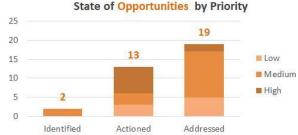
- LTSA:
 - Answer LMFG questions about the analysis & Transition Plan
 - Respond to requests for additional information and support related to adoption
 - What else?
- LMFG Participants:
 - Self-paced: Techs work through online materials
 - Techs meet with LTSA Operations Team
 - What else?



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Tying LMFG to the AWG: Aligning of Findings w/Issues Log

- One goal is the LMFG exercise is to identify candidates for the Adoption Issues Log that reflect the opportunities & challenges of Large Municipalities.
- Two existing Issues raised to date during the LMFG sessions.
 - Historical ROWs
 - Fees
- What else on behalf of LMs?
 - Ask for LMFG participants to identify other issues / opportunities not captured yet







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Tying LMFG to the AWG: AWG **Discussion/Feedback**

Value?

... of LMFG work to AWG

... of AWG to LMFG

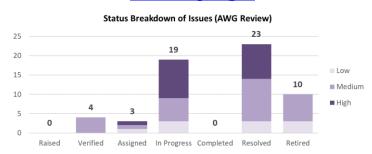
What do the findings / results mean to you?

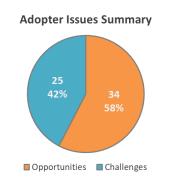
What should/could the AWG do with these outcomes?

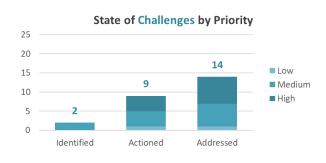


Adopter Issues Log: AWG Priorities Recap & Review

Status see AWG page:







Changes / Updates:

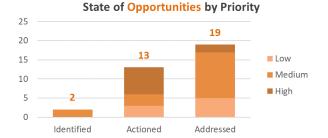
No New Issues This Session

Issues with Status Change / Update – *In Progress*

#59 "Incorrect Municipality Update Delays"

#5 "Historic Charges and RoWs"

#55 "Uncertainty whether in future there may be a cost to access ParcelMap BC"







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Future Workshops

Workshop #23 Date & Logistics

```
Wednesday November 18<sup>th</sup> (10:00a 12:00p November 25<sup>th</sup> 1:00 – 3:00p November 25<sup>th</sup> 10:00a – 12:00p December 2<sup>nd</sup> 9:30a – 12:00p (and skip Dec 16<sup>th</sup>??)

Possible Topics:

Customer Insights: Real Estate Industry & Data Usage ??

BCA / LTSA workflows ??

Someone do an "Adopter Story" ??

Other ??
```

Subsequent Workshop Dates

December 16th, January 20th, February 17th ...



Wrap-Up

Group Feedback?
Open Questions?

