Spatial Data Warehouse
SDW/ADP Stakeholder Consultations

November 17, 2014
Radisson Hotel and Conference Centre

1. What is the impact of Open Government and Open Data on your organization?

Current State	Desired Future State	Roles
- AltaLIS ATS Grid - Geobase - NRCAN - Licensing issues - Business opportunity collect open data and value-add (1) - Limited - Multiple sources - Different business models (1) - No clarity (open) - Not enough access, difficult to make available - Challenging administrative requirements (licensing) - Some view as a lost revenue stream - FOIP - Fear of giving out restricted info can cause inaction - Easier to say 'no' - Liability issues drive fear - Limited - Spotty - Disorganized - Scattered around - Source of truth - Database consolidation - Accuracy levels - Populate update data - when the data was lost - No projected plan of data updates - Integrate/communicate w/ other gov. agencies - Poor metadata quality - Important - Baseline data for many projects - Not so open or equal for all - Negatives?	- More data leads to better decision making (2) - Want raw source data - Transparent – legislated - Readily available - Free and accessible (2) - Uniformity (1) - Regulated - Make more data available via open gov/open data - Clear process r.e. licensing, liability - Remove redistribution restrictions - Single data source hub (warehouse) (6) - Transparent - Available - Regulated - Datasets could be more indexed, and better described - Needs centralizing - Should be a plan for brood updates of land fabric - More meaningful metadata - More datasets required - Equal for all - Open for all - Can the province and the stakeholders build a place where municipalities, industry, etc. can freely submit their	- GoA - GoA - Municipalities - Federal - Association: - AAMDC/AUMA/AMDSP - Industry - Data made available to taxpayers as needed (free) ex. Remove admin fees - Gov or SDW should provide framework for fully open data for all parties - Industry, as stakeholders, must participate in this framework (where applicable) - GoA - Utilities - Industry - We can then redistribute data our clients are asking for without fees that hinder this. We do not charge for this data as clients expect it for free. This then allows for us to provide better data. We would like access to more of this data. - Allows us to redistribute data important to our clients (at no cost) - municipality

- Cost recuperation - Security of information - Positives? - Evens playing field - Frees GoA staff - Streamlined access - One-stop shopping - Quality confidence - OGC - BC – not all data has been reviewed must check metadata for accuracy – tremendous amount of info available - Good – but still too many restrictions on redistribution on certain data sets - An excellent opportunity for data vendors to make the data available to clients - Cadastral * - Private DID's – not available	data and use data without restriction? - Remove restrictions on extractability - Add more data sets to HE Open Gov list - Expanding to private lands DID's	

Notes

- Disorganized (needs more centralising) (4)
- More integrated data sets
  - b/n regions, Gov'ts
- Data set consolidation (mult. Access pts. To same info)
  - Sole truth dataset?
- Transparency in update cycles and actual features
- More communication (maybe more effective) in divulging published data/info or dataset development plans
- More meaningful meta data (3)
- (arrow up) for smaller company
  - Evens the playing field (3)
  - Standardization of info & better communication
  - Frees GoA staff with data sharing agreement to [] on other tasks
- Streamlined access (no worry about budget)
- One stop shopping (3)
- Confidence in quality of data you access (2)
- (arrow down) ?cost recuperation?
- Security of information in the business sector
- positive

2. How can we improve the DIDs product to meet your business needs?

Current State	Desired Future State	Roles
- Good quality currently - Application - Historic - Conflict - not enough utilities info available - first call will not respond to Land Surveyor's requests for top survey location requests. Only "we are digging calls - how does the engineer/architect /planner do a good planning job?	- Add more attribution, like private ownership o Disposition info o TFAs o Construction station o Web viewer - Application - As built * - Historic - Conflict - All utilities <u>must</u> be on DIDS and must be shared with industry for pre-planning utility location - Locate the as-builts and publish - Add Private Lands DIDS	- Required to id lands applied for us. Lands developed - Required to locate deviation & why that happened o Required for footprint o Cumulative effects - Utility companies land surveyors

Notes

- ADD Private lands (8)
- Short term dispositions (TFS's) (5)
- Construction status
- WEB ACCESS (VIEWER)

(Question 2 and 3 combined)
- Mandatory as-built to allow tracking/status (add attribute to data set) (3)
- Title mapping with ownership ("private") e.g. separate dataset (6)
- Time, cost and efficiency gains will occur with a private lands DIDs
- Automate mapping of private lands (1)
- Canada Lands DIDs (1)

- Continue maintenance

3. How important is a Private Lands DIDs to your organization?

Current State	Desired Future State	Roles
- None/unknown (formal) - Various independent efforts - Does not exist	- Private version of DIDs (3) o Ownership/interest? - Current footprint of interest - Effort governed by GoA (1) - Include private lands (1) - Include for private (1)	- Stakeholders – Roles o Goa – Facilitator o O/G – creator o Utilities – creator

- Not available – other than special areas
- DID crown
   o Well site
   o Pipeline row
   o Roads
- None/unknown
- Not taxed
- Nothing
- Assessment driven
- Repetitive
- 213 hours per plan
- Time consuming
- AER
   o by title
   o HIS
- Not available
- Very important to assessment – not started yet!
- Oil and gas
	- Preplan knowledge
	- Reduce rework
	- As –builts (1)
	- Better validation
	- Private version of DIDst
	- Collaboration across provincial industries
	- Based on what is being used/not entire parcel
	- Needs to come from GoA
	- Provincial maintained dataset
	- Current footprint digitized
	- Based on caveats on title
	- Digital submission – attributed
	- Level playing field with AER
	- Provincial coverage
	- Beneficial
	- Complete set and updates regularly
	- DIDs & private
		o Municipalities – user
		   o Suveyors – user
		   o Land owners – user
		- GoA – ATS for private land system
		- GoA
		- GoA
		- Land titles
		- Land surveyors
		- Municipalities
		- Engineers
		- Provincial data
		- Collected and mandated

Notes

(Question 2 and 3 combined)
- Mandatory as-built to allow tracking/status (add attribute to data set)
- Title mapping with ownership ("private") e.g. separate dataset
- Time, cost and efficiency gains will occur with a private lands DIDs
- Automate mapping of private lands
- Canada Lands DIDs

- Time consuming/repetitive
- Unlock data that is in GofI
- Consolidation of various sources w/in GoA
- Benefits – access/trespass
- Desired state – digital submission + served data
- Reduced footprint
- Consistent w/ public land
- Responsible
  - AER to open up system
  - Stakeholders to submit/register digitally
- Very important
  - Could be huge time saver
  - Enable efficient stakeholder engagement
- A lot of agencies + companies have this data "on the shelf"(1)
  - Can we get it into one public container?
  - Digital submission standard
- Privacy issues
- Who holds the private land disposition data now? (which gov't agency, if any)
- Low for municipalities, high for O & G

-	Very, as it is just as important for planning purposes

4. What is your vision for a provincial wide road and addressing network?

Current State	Desired Future State	Roles
- Federal Government – Road Network - City of Calgary – Addressing - City of Lethbridge – Addressing - GDM (Resource Roads) - ARC GIS – community maps - GeoBase road network v.11 - Many difference sources who provide it - Need to pay to contribute to sharing groups - Difficult to find an up to date, standardized version of the data	- Provincial addressing (1) - Resource roads statuses (6) - Source Documents (1) - Integrated various levels of government data for our source of truth - Complete topology - Current, accurate - Roulable network - Includes Privateland - What is future of geo-base - Add hazards such as narrow bridges, steep grades, school zones, speed limits, sharp corners, etc. - Develop a standard - Communicate the standard to municipalities - Have them submit and contribute their data on a scheduled basis - Give the data away as open data - Lease roads – new and reclaimed - Forest roads – new and reclaimed - Road names, and highway numbers, as an integrated shape file for the entire province - From and oil/gas perspective, rural areas as a priority	- Roles GoA working with Industry and municipalities - Federal? - Provincial? - Who's mandate? - Municipalities partner to discuss and develop the standard - Province needs to play a role in providing a place to collect and distribute this info to public - EMS services need timely access to this information the present keeper(Telus) is doing a bad job supplying up to date info

Notes

- Municipal involvement – ultimate responsibility
- Other stakeholders
    o AB. Health
    o 911
    o AB Ed. – Every Ministry
- Examine the + and - of the BC ICIS model
- Complete, topologically correct
- Includes private resource roads/private lands (2)
- Ownership, restrictions (2)
- Cartographic, metadata standards
- Data submission standards
- Industry version of open street maps
- Integrate various Levels of Govt data for one source of truth (1)
- Addressing – huge safety component (2)
- Statement of accuracy (1)
- Road features (7)
    o Culverts, size, etc.
    o Road class (winter, gravel, paved)
    o Clearances, load capacities
    o Radio fre 2.5
    o Ownership
    o Bridge & info
- Open data (subset) WMS
- Be able to download portions
- Necessary for emergency purposes and should be open data for all

5. How can we better support your business processes with Cadastral and Titles mapping?

Current State	Desired Future State	Roles
- CAD only (not GIS) cadast. - Some areas unsurveyed - Complicated process to use the data - Dwq. – shp. - Polylines vs. polygons - Cod only - We pay a yearly subscription to AltaLIS to get a monthly updated dataset	- Density-based accuracy (more dense more accurate)(1) - Improved accuracy/consistency - Include all areas - Separate ROW data from cadastral if DIDs is completed (simplify process) - One-stop-shop, packaged GIS product (4) - Web map services - Formalized parcel IDs - Make cadastral a GIS dataset	- GoA - Municipalities - Industry - public

	- GIS web map service - Higher accuracy in density developed - User friendly no duplicate parcels - Add ownership to private titles - Add basements, Row's caveats - We need to be able to provide feedback on errors or make a better connection back to Alberta Land Titles - We need a better quality control process - Accuracy of info needs to be improved	

Notes

- How could the Cadastral/Title product evolve with the county land ownership data
- Delta's data set on land ownership changes within your AOI
- Create a new Cadastral/Title product which includes land ownership data defined by a limited AOI (9)
- Need them tied together; up to date efficient access; not cost prohibitive to obtain (1)
- Continue with QC process Cadastral improvement – triggered with sale of property (4)
- Add caveats & easements. Continue to support survey confirmation and correction programs

6. How should spatial data be delivered?

Current State	Desired Future State	Roles
- Mixed/multiple formats - Multiple sources gov't/private - Unaware, lack of awareness/inventory - Multiple tools + redundancy - Lack of ownership/usage - Unknown quality/varied costs - Multiple websites, place to get data - F+P - VoD - No ownership	- Centralized distribution/custodianship (3) - Standardized data/metadata/cost (3) - Delivery methods (WMS/data) (1) - Basemap through open data/gov't - As-built location - Known source of truth - Up to date (1) - WMS (4) - WFS - Multiple format friendly - Proper attribution (standards) - Look at BC (other) Mode (Geodiscover) (3) - Multiple platform support	- GoA/Feds - municipalities - industry - all stakeholders need to work together to decide and deliver on this - look where good examples practices exist and replicate or use those models - GoA - AltaLIS

- Quality?
- Non-standard ad hoc interfaces
- Registered easement in Shp/90B with doc#
- Web mapping services
- FTP access/syn solutions: security issues
- Large contiguous data sets e.g. prov. Huys
- Need opportunity for special quieries (BC already does)
- AOI
- Contiguous data set
- Data set standardized throughout province e.g. "wildfire"
- Searchable data base e.g. "moose"
- One stop shop
- On the web from AltaLIS
	- Currency must be known
	- Intelligent cadastral data
	- GIS ready cadastral data (1)
	- Request mechanism for GoA data
	- One stop shop (2)
	- One stop for all data (14)
	- Graphically web based service (1)
	- Multiple formats (4)
	- Everything needs to be tagged, attributed, searchable
	- A google map maker platform to submit authoritive info
	- Web mapping service
	- Keep F+P
	- Centralized distribution
	- Acknowledge source meta data
	- Web service (logged access)
	- Downloadable by AOI
	- Title enabled
	- Ability to select/build a package
	- Self serve options
	- Download tracking system
	- Reusable formats
	    o Shp
	    o Sdb
	    o Lpk
	- Select datum & projection for download
	- Embed metadata
	- Web-based
	- Upload a shapefile – download data
	- Features services (not just map service which can't be queried, clipped, etc.)
	- Need to be able to extract info
	- Without barriers users shouldn't have to sign license agreements, or sign up for a log in
	- Give it away freely
	- Why don't the have no municipalities get together and hire the technology and resources they need to fill	

	their data needs. This seems to me something that could be centralized across the province.	

Notes

- open standards (2)
- open services (standard – OGC) (2)
- std delivery method
- need to know what is available in AOI – discovery service
    - need to know cost
    - need to know quality
- mechanism for sharing 'open' or free data that is created/obtained elsewhere
    - where multiple organizations can collaboratively share data
- automated indexing, searching able streaming; downloadable (no manual delivery/DVD etc.)
- open BC front end for air photo
- multiple formats (not just one)
- compulsory metadata meeting a useful standard (FGDC; ISO etc.) (4)
- value added std evolve from WMS to WFS – need to be able to analyze the data not just view it!!!
- Web service (logged access)
- Downloadable by AOI
- Filter enabled
- Ability to select/build a package
- Self-serve options
- Download tracking system
- Automatic notifications of updates (2)
- Reusable/acceptable formats
    - Shb
    - Glb
    - Lbk
- Select datum & projections of download
- Embed metadata
    *still keep it simple
- Registered casement in SNP/GDB with doc #
- Web mapping services (2)
- FTP access/sync solutions
- Cloud solutions: security issue?
- Deliver from spatial query as option
- i.e. 10 Township for Title = 1 CAD instead of 10 CAD files
- searchable database for products – wildlife biodiversity i.e. moose
- database hub (direct connection) i.e. HIS energy (3)
- website
- IHS "database hub" – direct connect to their database alternative to FTP site

7. What does Human Footprint mean to you and your organization?

Current State	Desired Future State	Roles

	- How does this tie to oil + gas "play based regulations" initiative?	

Notes

- EIA's
- provides common look for all operates
- Common data model
- Cumulative effects reporting
- Industry
    - o Oil & gas
    - o Forestry
    - o Electrical
- NGO's
    - o Metrics
- Governments
    - o Setting limits
- Voluntary submission of location info to AB 1 call
- Reduction in the number of times a surface has to be accessed
- Minimize ultimate impact on land
- Have a means to collect manage and distribute data that is added over time
- All branches of GoA need to be involved & committed to sharing info (3)
- Enable coordination of footprint minimization efforts
- Maintain current status of lease (2)
- The public records of ownership + responsibility are not in sync with who is responsible for an asset (2)
- The actual use and impact on the land, or human occupation and industry

8. In your view, what authoritative datasets (public or private) provide the greatest value to Albertans?

Current State	Desired Future State	Roles

- 15m DEM
- Multiple place & formats for roads
- Localized flood data – ESRD
- Localized
  o Census
  o School district
  o Voting district
- Cadastral data
- any dataset that could improve "safety" should be <u>free</u> and readily available e.g. underground utilities
- currently accessed privately through "one call" and "abadata"
- TID network – who maintains?
	- 1 m DEM (3)
	- Road network, address – standard, complete quarterly update frequency(2)
	- Flood data province wide (2)
	- Province wide private and public lands freely available
	- Census data (2)
	- School district map layer (2)
	- Voting district maps (1)
	- FOIP that provides meaningful protection
	- Public & private railway networks
		- Mun
		- Prov GoA
		- SDW to manage?

- Road network
- MD boundaries
- City, Town, Bds.
- Wetland areas mapping – LIDAR capture – derived hydrography
- Geo-admin boundaries (currency)
- Hydrography (out of date)
   o Single live networks
   o Polygons
- Pipelines/wellsites
- Ownership – land/crown 87
- Dem/Contours/LIDar
- Powerline data
   o Distribution lines needed
   o Transmission lines
- DIDs
- ATS 4.1
- HIS
- AltaLIS
- SRD
- Data distribution
	- Live incident map for province (2)
	- Expanding to private lands DIDs (7)
	- Water bodies (6)
	   o Wetlands
	   o Muskeg
	- Addressing
	- Open data accessible online
	- IHS – GDM product "enhanced" super pipes – out of date?	

Notes

- Road network (5)
- Geo-admin boundaries (municipalities/communities) (1)
- Wet areas data (4)
- Hydrography (single line network, hydro polys) (1)
- Pipelines/well sites (4)
- Ownership (+crown vs. private) (3)
- DEM/contours/LIDAR (2)
- Power/distribution lines (2)
- DIDS
- ATS4! (1)
- land titles

- AER	
- Environmental Law Centre	
- Abadata	
- IHS	

9. Industry constantly creates data. Is there data that you'd like to access on a provincial wide basis?

Current State	Desired Future State	Roles
- Where is Alberta Energy Regulator data? o Pipelines o Oil sands leases - Powerlines - Communication - Shaw	- Environmental - Bore hole & geotechnical - Hydrography - Historical resources - Land history - Building footprints - Water license/navigable waters - Medical and emergency facilities - Protected areas, species at risk - Cellular coverage network map - GPS RTN coverage areas - Should be "open" - Transmission and distribution (power and communication) - We often need buried facility locations but they are not available i.e. Shaw - Free title mapping (like ICIS ICF data) - Like MLI data - Utilities – powerlines, pipelines, railway - Power lines - Cut lines - One call data - The Telus trench data - Residential gas lines - One call data - Water crossings - Her majesty the queen	- SDW should have access GoA data?

	- Tendancy group for free hotel - Power grid (lines) - Roads - Alt lines - Telus trench data (updated)	

Notes

- Crown v. freehold
- AGR pipeline data
- Sour gas wells
- Private land ownership information
- Residences
- Metis Land (1)
- Utilities
    - Telus
    - AESO
- Long range planning information – inventory (1)
- Seismic line data
- Relating disposition # to P/L #
- Fish & wildlife data
- Roads (3)
- Env. Monitoring networks
- Access isn't as big of an issue as having a single authoritative source
- Raster (1)
- High accuracy cadastral (3)
- Other spatial data sets we'd like to have access to
- Easements, ROWs, caveats (2)
- Complete the wet areas mapping and wetland inventory for all of province
- Flood areas mapping (1)
- Residences structures (3)
- LIDAR…updated regularly
- Water wells – needs to evolve to batch downloads (2)
- Accurate (location) pipeline data set
- Geometric road network (2)
- Addressing data set (2)
- Historical resources (3)
- Land history (3)
- BH & Geotechnical data
- Buildings footprints (residences, school, industrial…) (9)
- Medical & emergency facilities (3)
- Water licenses/navigable waters (1)
- Animal types & protective areas, species at risk (1)
- Cell coverage areas & GPS real time coverage areas (4)
- Canadian geodetic network
- Resource access & ownership
- Municipal boundaries

Custom Wishlists

1. Centralized distribution for spatial data (the iTunes of spatial data) (4)
   - Regulated quality /metadata
   - GoA (all departments)
   - Centralized collection/submission
2. Commitment to updating base features
   - Hydro!
3. DIDst is overpriced ($6500 pa vs $1200 pa)
   - A join from LSAS/GLIMPSE with DIDS
4. Include STl04 (AER) company Abbr. with DIDs
5. Track historic owner/lessor and not just historic geometry
6. Accurate as-built pipeline database (2)
7. Provincial-wide cost-sharing aerial imagery (6)

New Session Topic

"Partnerships/Products/Alliances we would appreciate SDW (ADP) entering into."

- Municipalities (1)
- Shaw cable (any/all communication companies) (3)
- Dept. of Agriculture (crop/soils)
- Utility companies (6)
- Forest companies
- City of Calgary & Edmonton
- Board of Education & Post-Secondary
- Health Authority (1)
- HIS Energy (3)
- Abacus (Red Deer)
- Fortis Epcor
- Shaw
- Gas coops
- Counties/municipalities
- Land use
- Local road names
- Agricultural – crops, soils
- Buried utilities/communications
- Forest data – cutblock locations
- Calgary & Edmonton city records
  - Schools, residences, health
- Orthoshop records (go to Calgary now?)
- Academic research data
- Structures e.g. cell towers, wind turbines
- IHS Abacus (Abadata 2)
- Environmental Law Society
- Oil field reclamation records

Additional Notes:

- Improve accuracy of title/cadastral mapping in density populated area
- Each parcel with accuracy attribute
- Floating line work in unsurveyed territory by 66 feet is unacceptable
- Railways
- Roads & centrelines
- Address points
- Census
- New distribution channels – seems somewhat contradictory to the aim of setting things standardized and easily accessible to users. It may create confusion like we currently have – users not sure where to go to get authoritative data – are users going to be sure that the data is exactly the same when getting it from different channels. Can we not build one complete source (build up AltaLIS)? One stop shopping!
- As per Wade Ewen – consolidate data distribution)don't create multiple new ones!)
- Need to have formal & consistent feedback loop for users to identify errors or omissions from the data and provide those back to the mappers (e.g. road network, parcels, cadastral, DIDS, etc.) – as mentioned by Bryce today