

District of Columbia GIS Steering Committee Meeting

July 18, 2018

2:00 PM – 3:30PM

Office of the Chief Technology Officer
200 I Street SE, Washington DC 20003
Lobby Conference Rooms 1001A & B

Agenda

- **Welcome, Data Program News & Updates**
Matthew Crossett, Office of the Chief Technology Officer
 - Lidar Pilot QC Results
 - Maps2 Migration to 10.6
 - Esri ELA Changes (ArcGIS Hub)
 - Public Safety Portal to 10.6
 - NearMap Imagery
- **Local Update of Census Addresses**
David Jackson, Office of the Chief Technology Officer
- **MAR 2.0 Testing Results / Systems & API Team Updates**
Julie Kanzler, Office of the Chief Technology Officer
- **Use Cases & Needed Product Solutions – Both Current and Future Considerations**
David Koehler, Department of Public Works
- **GIS 2.0 Database @ Oracle 12c**
Agency Data Submission Process for Publication
Newly Published or Updated Data Report
Mario Field, Office of the Chief Technology Officer

Voting member agency representation: DDOT, DPW, OCTO, HSEMA, OP, DCOZ, DOEE

Non-voting agency representation: DFHV

Presenter: Matthew Crossett – Welcome, Data Program News & Updates

- 2018 Lidar Update
 - Flown April 5, 2018
 - 24 flight lines with usual secret service redaction
 - Second of a five-year contract
 - We did get vegetation classifications
 - Received 4 tiles for pilot
 - Expected deliverable for late August 2018, sharing out late September

- QC Results
 - Issues with DTM around redaction areas
 - Issues with elevation water and bridges where cars/boats are present
 - Issues with some signage and cars captured as vegetation on bridges
 - Also issues with classification of stadium seating
- Nearmap
 - Recently flew new sites
 - Usually only one catalog per year but they did three on June 29th, July 2nd & July 7th
 - Contact OCTO for access
- Pictometry
 - Another partnership with OCFO. They've committed to funding new obliques Fall 2018
 - Question: Are there still issues Nearmap and the new active directory logins for AGOL.
 - Users may need to be added to the Imagery Apps group owned by DDOT
- ELA
 - DC is at the end of its current contract. New contract in Fall
 - Hoping to enter a new 3-year ELA deal by September
 - Changes include,
 - EDN licenses from 10 to 7
 - Removing ArcGIS Data Interoperability
 - InSight licenses with some in Portal and some in AGOL
 - Note the big changes that are in AGO
 - Number of user accounts. They are no longer unlimited. However, we are getting more credits and will increase the individual credit allotment.
 - We will be using credits to host some of our larger datasets – example, parking and moving violations
 - HUB is an optional one year – mostly a collaboration initiative tool. Lots of interest from DDOT's UFA and performance analytics group. DDOT is interested in helping purchase. Also DOEE.
 - Comment – open data is part of HUB. Hub gives organizations a “community” organization for public users.
- ArcGIS Server (Maps2)
 - We've been running AGS 10.3.1 for at least two years
 - Now moving to AGS 10.6
 - We've asked for testing from everyone.
 - Heard from DOEE, DCOZ, DPW, OP, DDOT
 - Waiting for HSEMA, MPD, DCPS, OUC
 - If an agency here has not tested their desktop/web apps, contact OCTO
 - One issue
 - Images links in AGS – images are really stored as static images. Issue is you're your client “asks” for these images.
 - If your apps are linking to images, contact OCTO for guidance
 - If you're working with AGOL, no worries, it's transparent.
 - There is no set “go-live” date. Trying for late July or mid-August
 - ArcGIS Portal was already updated to 10.6 in June 2018

Presenter: David Jackson – Local Update of Census Addresses

- A US Census Bureau project that allows local governments to review and update the Census Bureau's Master Address File in preparation for the 2020 Census
- Project due August 3rd for DC to submit edits to Census Bureau's Edge file
- Process
 - 120 days to complete
 - Partnership with Office of Planning
 - Data sources include: Department of Corrections, Board of Elections, DMV and DCHA
- Data is protected by Title 13 privacy regulations. Even if DC sees new addresses in the Census Edge file we are not allowed to add to MAR
- Our teams are erring on the side of *inclusion* – meaning we will give Census addresses that are invalid because there are too many for us to sort through in time allotted. Census Bureau can do this.
- Image: fort Lincoln development, also here in capitol riverfront
- Main goal is to add new addresses that do not exist in Census such as,
 - New construction
 - Group quarters (university dorms, nursing homes, halfway houses)
 - Subdivided row homes
 - Locations changed from non-resident to now residential
- Now we can add lat/long to Edge file
- Findings
 - See slide presentation for detailed findings <https://octo.dc.gov/node/705432>
- Benefits
 - The way Census counts people is by counting addresses locations
 - DC will again be redistricting in 2021 – this will help
 - Federal government spending relies on Census counts – potential to increase millions of extra federal spending
 - Useful for planning purposes
- Question: how many addresses is DC adding
 - Between 10,000 to 15,000 new addresses
- Comment: In 2020 Census Bureau will have a lot less reliant on field work. Now they will be using online sources
- Question: how are they counting people?
 - They are now asking people how many live in a location
 - There are also group quarters that are counted separately
- Comment: this is a really important project for DC government. For each address it can be \$10,000 to \$13,000 per year. Also good to note that we are still doing this work successfully with older, maintained, tools
- As of now, there are about 50,000 address we need to look closer at before submitting to census.

Presenter: Julie Kanzler – Master Address Repository 2.0

- What is it? – fully normalized in RDBMS. It is our system of reference. We use the mar maintenance tools
- We are reshaping the data to better work with search engines. So, we get better results like we do with other searches like Google.
- From search engine it fits into restful GeoJSON and into an API gateway
- We are replacing the MAR web service to a MAR 2.0 API
- We will be re-developing the MAR sample client with things like responsive design.
<http://dcatlas.dcgis.dc.gov/mar/>
- We are going to re-develop the desktop geocoder so that it works better – like dropping dependencies on Microsoft office. It will just provide CSV file.
- Stages – see presentation slide 19 for details <https://octo.dc.gov/node/705432>
 - MAR database is in testing
 - We are currently re-developing the online search tool (sample client)
 - We are planning to next re-develop the MAR maintenance tool in ArcGIS Pro. Same thing with any ArcGIS custom tool – all will be in ArcGIS Pro (also good with integration with ArcGIS Online)
- Testing
 - We have been doing load testing. Truthfully it was slow. Changed configuration and works better.
 - API is written in .Net
 - We have ramped up our vulnerability testing
- Functional tests results
 - Findlocation2 is the most popular
 - Fixed 20+ issues
 - Performance is similar to MAR where comparator baselines exist
- Known remaining issues
 - Special characters – fix in four weeks
 - Expanding list of abbreviations
- Load test results
 - Passes for 17,000 users with concurrency of 200 on a single node
 - This will be doubled or tripled for production
- We will set rate limits hitting MAR services to ensure stability. We do not currently support intense scripting.
- What OCTO needs from you: managers versus developers
 - Managers – begin planning for re-development of anything that uses MAR web service
 - Developers – test with us to improve by requesting access to postman collection
 - Everyone else – tell your managers and developers
 - Don't worry, MAR 2.0 and 1.0 will run in parallel for FY2019
- Reminder of why to upgrade
 - GeoJSON for mapping – both Esri and Mapbox support
 - You can write some HTML and CSS and quickly create an app
 - Get any and all information about an address – not just what we've traditionally provided.

- Your code will be easier to maintain – lighten code. Won't require specialized clients
- Handle larger addressing loads – even up to 10,000
- OCTO would like to host a WebEx training for developers on how to do switches
- We will definitely be using keys for customer service purposes. So that we can communicate when users are scraping. Usually it's not on purpose.

Presenter: David Koehler - Use Cases & Needed Product Solutions – Both Current and Future Considerations

- Applications, workflows we use and the challenges presented
- Breaking presentation down into two categories
 - *Vehicle based tracking* – tend to use AVL application. It will show where a truck goes but it doesn't show what work is being done. We need ways to track the work that is being performed – not just the location passed. How do we do this? Maybe pictures?
 - *Manual labor tracking* – like street alley cleaning with on the ground work. Crew never knows what work will be required.
- Managers want to know what is going on as it happens. Why? Because service requests come in throughout the day.
 - It used to be that service requests were handed out beginning of day with little modifications as requests come in from public
- We want to be able to adjust crew assignments on the fly.
- We need to be able to prove that work was completed. Residents often complain that some service did not happen. Then crews say, yes, they did it. How to prove this.
- We use three types of apps: AVL, mobile device, pictures/video
 - AVL, just because vehicle was there it doesn't prove work was done. We want to take AVL inputs and minimize the manual written process.
 - Mobile devices – limitations are that it requires a lot of specific field worker tasks. Remember they are out there to perform the work, not fill out mobile app forms. It needs to be very easy because field works are not always computer savvy. Other challenges are adoption of use and cases of signal dead zones.
 - Pictures – do not always show what needs to be worked on. For example, if worker takes picture mid-work.
- We've been using sales-force based application to collect data in the field and have real time dashboards.
- Sometimes difficult to geocode areas that do not use or have an address. What we've realized is that now we have to put a point for every patch of grass that crews are mowing. Used to have one point that represents an entire area. Soon we will be changing these points to digitizing polygons.
- Question: how are you able to determine responsibility between Department of General Services and Department of Public Works?
 - We have a new GIS analyst on our team who compared imagery, current data, definitions of public space and also the contracts with contractor's responsibility to mow. We want to get to a system of scheduling based on square footage.
- Comment: another resource you could use is Office of Planning's new *small parks* layer.

- Beginning to use ArcGIS Online (and tools). We have a recent project funded by a federal grant for Ward 8 beautification. We used ArcGIS Collector for this.
- AVL will be expanding to street sweeping soon. We currently use it for operations like snow removal.
 - Showing AVL for where operations have been. But some limitations are when it comes to what kind of operation? Are the trucks collecting trash or recycling? Problems occur when for example field crew switch trucks.
- What we want,
 - An automated system of taking pictures and not relying on field crews. One product we are looking at is Mapillary. Managers and agency set the timing of these pictures.
- What we want,
 - Accessing through the field with dispatching and closing service requests.
- Questions: do those service requests go back to sales force?
 - Yes, it's an integration between sales force
- Question: How do you take bread crumbs from points to passes as lines? Does it consider directionality?
 - We are using buffers to capture points along centerlines
 - Yes it does include directionality but it does not show completeness. It is near real-time.
- Question: can DPW share picture data for emergency events such as storms that occur? For example, with HSEMA.
 - Yes, we can speak with using that
- Question: are you using Cyclomedia imagery?
 - No

Presenter: Mario Field - GIS 2.0 Database @ Oracle 12c

Agency Data Submission Process for Publication

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- The committee did not hear this presentation because the meeting ran over time. It will be covered at a later date.