

January AIMS Coordinators meeting

1/13/22

Attendees

Aaron Baumgarden	Ron House	Chris Sims
James Cline	Jason Hrabe	Jeff Simons
Jordan Cline	Ken Ivey	Kevin Skridulis
Bryan Dyer	Dustin Keltner	Sarah Smith
Amanda Edmondson	Kate Kennedy	Travis Smith
Ben Ehrlich	Karie Kneller	Dan Steen
Kirk Eidson	Cheryl Muller	Mark Steger
Tim Fitzgibbons	Mike Nelson	Matt Steging
Tom Freeman	Terrol Palmer	Lauren Voelker
Dave Fullerton	Betsy Pike	Travis Wagner
Ryan Geiter	Shannon Porter	Jin Yao
Chris Gralapp	Brian Scott	Steve Yoder
Doug Hemsath	Keith Shaw	
Matt Hoehn	Meg Shoffner	

Announcements

- Planimetric data capture from 2021 imagery is complete; data being published by end of week.
- Front elevation project is underway. Continuous image rather than stop and capture. Started in Dec but dependent on weather so there may be small breaks when it rains/snows.
- Eagleview ortho/oblique flight scheduled for Spring 2022.
- Covid cases are up.
- Chris Simms new employee at OP.
- Matt Steging recently joined the Public Works department at Johnson County.
- WaterOne has summer intern position open.
- Shawnee has open internship position.
- OP is also looking for Asset Management specialist, posting should be up soon.

Notes

Shawnee – Doug Hemsath

Recently signed new enterprise license agreement (ELA) with Esri which helped increase licensing, basically unlimited now. It also provides them with access to apps like Insights and Tracker and other tools like City Engine, etc.

Getting more serious with Pro so trying to do a lot more with it. Most ArcMap power users are retiring. Took 1 day instructor-led online class to get jumpstarted with the tools in Pro.

LiDAR – Zlas files (compressed) are smaller and make things easier to work with. 74 files about 200MB each (for Shawnee). The only thing you can't do with these is edit the classification (you could un-compress, edit and the re-compress). Contains about 2 billion points. About 60% are ground. Nearly 40%

is low-high veg. Seemed like buildings and trees were in the same classification so somewhat difficult to separate them.

May try building pyramids to help speed up drawing on virtual machines (VM) which is what most staff are using across the city. The big thing is they don't have dedicated graphic cards. At first, staff were not able to open the files and view them until they beefed up the resources and added a graphics blade. Each VM is shared by a small group of users.

The DEM and DSM were pulled from what AIMS published. First thing he created was a digital height model. This process takes the tallest areas and subtracts out the elevation model so you can better identify trees and buildings.

To create a tree canopy layer, all values higher than 7 feet were selected out of the raster layer and then converted to polygons. Took about 4 hours to create. This still captured buildings so he used the building footprints layer and clipped them out (still left some outlines).

Also tried generating 3D buildings. Took footprints and extruded based on the height added. Sometimes if a tree overhangs the building it makes structure look taller than they should be. Model contains about 22,000 buildings and works well on virtual machine. You can also create multi-patch file based on the lidar. Doing this gives a more accurate presentation of roof lines with gables and other rooftop structures. Biggest issue was with trees over buildings. AIMS mentioned using the # of returns to help either filter out trees or specifically pick them out.

Someone at the city asked if they gave a hypothetical building footprint and height if they could model it so he did that for the Empire State building and added it to the model. He also did this for a new proposed apartment complex. You can also do hand drawn buildings.

Mission asked if the buildings can be drawn directly on the elevation contours. Yes.

Doug also added a scene viewer to AGO with one zlas tile. You have the capability to add shadows to do analysis and you can do a line of sight analysis directly in the web viewer. You can also set up bookmarks or "slides" so people can zoom directly to a site you want them to view.

Kirk at WaterOne mentioned they have a VM that runs Pro with dedicated GPU. They have done some 3D but they use SiteScan to process the point clouds from the drone. They would like to compare the accuracy of the lidar with the data captured by the drone.

Shawnee used to use Location Technologies company to track AVL. This was great for supervisors but those in the trucks did not get anything. They procured 5 Tracker licenses and gave iPads to the drivers. Using Field Maps they could turn on the location data so they could see where they were at on the routes. This made it easier for other drivers to take over and quickly understand what had/hadn't been plowed. They also added steel plates to the map as a layer so plow drivers can see where these are and help avoid damage to these and the trucks.

Brought snow tracker data into Pro to animate a time series.

What type of GPS are they using? Are they just using an iPad or are you using a high accuracy GPS unit? Just using the iPad. They had initially tried with Workforce but the accuracy wasn't as good. Seems to be much better using Tracker.

AIMS asked if the complaints were less since the truckers could see a street was missed. Doug said that was a good idea because they have complaints in CityWorks so they could overlay them and see if the street had in fact been plowed or not.

Currently, everything is internal but they may plan to put maps out showing what has been done. There is some concern about showing live locations.

AIMS also asked if they could look at live views to show what was missed and reroute drivers. Doug said they should be able to do that during the next "big" storm.