

NEW YORK STATE ASSOCIATION OF MPOs

GIS WORKING GROUP MEETING May 23, 2019 10:00 AM – 2:00 PM HOCTS 321 Main Street, Utica, NY 13501 – Conference Room

MEETING NOTES

Participating

- Barth Jeff, NYSDOT (*by phone*)
- Coleman Zachary, OCTC (*by phone*)
- Chau Maria, FHWA (*by phone*)
- Deshaies Jason, SMTC (Co-Chair)
- Fraiser Andrew, SMTC
- Hunt Kevin, NYSDOT Main Office
- Kemble Patrick, NYSDOT (*by phone*)
- LaSalle Teresa, CDTC
- Patel Munnesh, NYMTC (by phone)
- Perry Michael, ECTC
- Quackenbush Jeff, HOCTS (Chair)
- Smith Kim, GBNRTC
- Tortora Chris, GTC
- Weber Allison, FHWA (by phone)

1. Introductions and sign-in/Opening Remarks

After introductions and sign-in, Quackenbush opened the Spring 2019 GIS Working Group meeting.

2. ArcGIS Online Account – Experience and Lessons Learned

Quackenbush and Deshaies informed the group that they have had no issues with managing the ArcGIS Online account and granting MPOs' staff access to ArcGIS Pro through the NYSDOT licensing agreement with ESRI. Based on the demand for ArcGIS licenses to date, it appears there is adequate supply. Quackenbush clarified that ArcGIS Pro will require an ArcGIS Online account and that NYSDOT's ESRI agreement will be crucial. NYMTC shared their experience of using both their organization's ArcGIS Online account for migrating maps and apps as well as NYSDOT's ArcGIS Online account to add more users.

Based on the experience of some of the GIS Working Group members there was general discussion on how certain functions and capabilities of ArcGIS Pro was enhanced with an ArcGIS Info license. Users also pointed out issues related to symbology, line type and other layout elements when creating maps in ArcGIS Pro and publishing them on ArcGIS Online.

A list of key questions and discussion items on this agenda item follow:

- Q1. Is there a desire to obtain more licenses?
- A1. It was reported that approximately 100 licenses (ArcInfo level) were made available and only 27 or so are currently in use.
- Q2. Even when select MPO staff have been assigned a lead role by the administrators they could not use ArcGIS Pro to its "full" extent or capabilities. How should this issue be resolved?
- A2. It appears that ESRI is still experimenting with the ArcGIS Online account and it is likely that something changed. To resolve this specific issue, there was a suggestion to delete the user profile and reset it.
- Q3. If user profile is deleted, will data associated with that account be also deleted?
- A3. It should be assumed that the data associated with the user profile will be lost.
- Q4. When will ArcMap go away?
- A4. There was consensus that ArcMap will not completely phase out but will only be available with reduced capabilities with current or future ERSI products. It will probably be easy to go back and forth between ArcGIS Online and ArcGIS Pro compared to Desktop.
- Q5. Has credit usage been an issue?
- A5. It was reported that approximately 10,000 credits were made available and only 100 credits had been used at the time. Therefore, credit usage is not an issue at this time. Quackenbush pointed out that geoprocessing data consumes credits but publishing online maps and other functions would not impact credit usage significantly.
- Q6. Can anyone sign in and edit an online map published via ArcGIS Online?
- A6. Editing capabilities were driven by user-defined settings in the publisher app as opposed to the map per se. For public facing apps, it was suggested that a viewer license could be purchased for as little as \$100 as a data sharing solution.

3. ArcGIS Pro Training Needs Discussion/NYSAMPO Conference

Deshaies and Quackenbush discussed ArcGIS training needs and associated logistics and format. They mentioned that Mark Scott, a well-respected GIS expert in the industry had agreed to conduct a training session but there wasn't a critical mass to make it feasible. Everyone recognized and agreed on the need for training. It was also pointed out that the MPO directors are in support of providing necessary technical training. Hunt stated that MPO staff could access NYSDOT training modules available online. Quackenbush volunteered to contact Gerard Aiken with ESRI to get more information on a training session.

A list of key questions and discussion items on this agenda item follow:

- Q1. Is there a preference for in-person training or online training?
- A1. Preference was for an instructor-led training session so that questions could be answered. Further, hands-on training would be more beneficial as opposed to a demonstration.
- Q2. Are virtual classes available?
- A2. Quackenbush and Deshaies agreed to check availability for instructor-led classes since it would be cost-effective and would remove the issues associated with travel

for a multi-day course. It was agreed that technology/technical requirements would be checked in advance if an online training session was to be scheduled.

- Q3. Who will participate in the training?
- A3. Priority would be given to MPO GIS staff. However, depending on the training structure, fee and technical requirements an optimal class size can be determined, and other attendees considered.

4. SMTC Pavement Rating Process/Open Discussion

Fraiser discussed SMTC's upcoming pavement data collection effort. He emphasized that this task was significantly bigger compared to the previous years since SMTC was rating all federal aid-eligible (FAE) roads in Onondaga County as well as all City of Syracuse roads (an additional 415 miles approximately). The rationale for STMC to assist the City was primarily to ensure consistency between pavement rating systems. Fraiser also clarified that SMTC was going to rate all FAE roads even though the NYSDOT was going to conduct their assessment. This is being done for two reasons, 1) To overcome time lag with the NYSDOT's release of its data and 2) NYSDOT is implementing a new pavement rating system using a process that SMTC was not yet comfortable with.

Fraiser explained SMTC's current process for collecting pavement data as well as pros and cons of the process. He opened the discussion and requested others to share their experiences with pavement data collection as well as highlight best practices that SMTC could consider using. Smith, Quackenbush and Perry briefly discussed the GBNRTC, HOCTS and ECTC pavement data collection methodologies, respectively. Some of the unique features discussed included the use of GPS to traverse the roads and assign ratings and creating a video log of roadways using photos taken automatically every five seconds. There was also discussion about the NYSDOT Highway Data Workshop and types of data that would be released. In addition, everyone was cognizant of the need for pavement rating on good, fair and poor scale for National Performance Measures reporting but recognized the disconnect with conventional rating systems. Attached is a copy of the PowerPoint presentation prepared by SMTC.

A list of key questions and discussion items on this agenda item follow:

- Q1. Will SMTC collect pavement data for all state and local roads?
- A1. SMTC will collect for all facilities (roads), except state touring routes that may or may not be owned by the state.
- Q2. Who is going to do the conversion from 1-100 scale to 1-10 scale?
- A2. The NYSDOT Pavement Management Unit will be responsible for converting data back to 1-10 scale.

5. General Update: NYSDOT Activities

Hunt provided a status update on current NYSDOT activities, including NYSDOT Roadway Inventory System (RIS) replacement – Smart Entry Engine (SEE), NYSDOT Oracle Primavera Portfolio Manager (OPPM), and NYSDOT's System of Engagement, as well as CLEAR application and ShareGIS.

Roadway Inventory System (RIS) replacement – Smart Entry Engine (SEE): The new RIS system was anticipated to go live in fall 2019. All pavement condition data from RIS has been migrated to AgileAssets PMS.

Oracle Primavera Portfolio Manager (OPPM): This project was wrapping up and OPPM application was scheduled to go live in summer 2019.

NYSDOT System of Engagement – Hunt explained that NYSDOT would release web apps and data services through a web store. The concept was to create a geospatial warehouse to provide reusable services/web apps and authoritative project data. Hunt informed the group that NYSDOT will develop a front page with ESRI's assistance with all the geospatial data stored in a datacenter with an SQL Server and made available via web apps. Some of the apps may be made available to the public.

Crash Location Engineering & Analysis Repository (CLEAR) – This application was scheduled to be released at the end of 2020. The Department was planning on extending the use of the Accident Location Information System (ALIS).

ShareGIS – Hunt reported that ShareGIS was experiencing significant demand with approximately 30 million hits per month. He explained that NYSDOT was developing a proof of concept for Phase II, which includes cloud based open source data to expand GIS services in real time.

6. Drone2Map Demo, Oneida County

Quackenbush provided a demo of Drone2Map – a standalone application that runs alongside ArcGIS Map and ArcGIS Pro and creates mapping products using photogrammetry captured through drones. The County Planning Department (GIS Division) used Drone2Map software application to develop a variety of maps and geospatial datasets of a former 200-acre military base that was being considered for redevelopment opportunities. These datasets helped staff evaluate existing conditions and create orthomosaic digital terrain mapping of contours. The County Planning Department used this technology in-lieu of traditional survey that would have consumed more resources from both time and cost standpoints.

Quackenbush discussed some of the technical details of the drone equipment (DJI Phantom 4) as well as the process to set up user-defined overlap (for flight paths). He explained that once the ground control points were established and the drone was calibrated, a trained pilot flew the drone using a controller mounted on an iPad. The drone collected millions of data points to generate a cloud point. This data was processed seamlessly using ArcGIS Pro algorithms to make a variety of mapping products. Quackenbush stressed that it was critical to for the user to define vertical reference inputs along with a horizontal coordinate system since the software uses that information to process data accurately. Further the altitude for the drone was measured in ellipsoidal height, which should be included in the settings for all the algorithms to work error free. There was general discussion on the demo.

7. Open Discussion/Wrap Up

There was general discussion regarding following up on ArcGIS Online and ArcGIS Pro training.



SMTC Pavement Data Collection Strategy

ANDREW FRASIER, SMTC TRANSPORTATION ANALYST



MPA

- 3 Counties
 - Onondaga (R3), parts of Oswego (R3) and Madison (R2)
- 1 City
- 23 Towns
- 18 Villages
- 1 Tribal Nation
- Approx. 4,200 roadway centerline miles
 - +/- 1,000 FAE miles

Data Collection Responsibilities (2015-2018)

- All use the same 1-10 rating scale developed by NYSDOT
- SMTC Rates:
 - FAE Onondaga County Roads
 - FAE City of Syracuse Roads
- Local Region 3 Staff Rates:
 - FAE Roads in Madison and Oswego Counties
 - All Town- and Village-Owned FAE Roads
- NYSDOT MO Data:
 - All Interstates, US Routes, State Touring Routes (one year behind)



Source: NYSDOT Pavement Rating Manual



Street: 600 block Grand Ave. × Condition rating (1-10): 5 Last rated: Jun. 2014 Last paved: 2001

W Onondage St

RUS

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Street: 2900 block James St. × Condition rating (1-10): 10 Last rated: Dec. 2013 Last paved: 2013

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2 Very Poor

Very Frequent

Impaired Travel

Source: <u>https://www.dot.ny.gov/divisions/engineering/technical-services/technical-services-repository/pavement/nlp_cond_assess_manual.pdf</u>

Data Collection Responsibilities (2019)

- SMTC Rates:
 - FAE Onondaga County Roads
 ALL City of Syracuse Roads
- Local Region 3 Staff Rates:
 - FAE Roads in Madison and Oswego Counties
 - All Town- and Village-Owned FAE Roads

NYSDOT MO Data:

 All Interstates, US Routes, State Touring Routes (one year behind)



NYSDOT MO Data

- State System collected every year
- Non-State FAE System will be collected over the course of two years (R2 and R3 in oddnumbered years)
- Collected data will be used for National Performance Measures, but also translated back to 1-10



Previous Method

- Each segment assigned to a route
- Database developed, organized by route
- Directions written for each individual route
- 2015-2016: Database Form
- 2017-2018: Excel printout

City Routes Baldwin								
Segment Detail								
BPID SYR3770 Length 0.05 Road Name E Willow St	miles							
From N. State To Pearl								
Block 300 Road Width 40 feet	Rec. No. 1							
Score	<u>Comments</u>							
Year Pavement Dominant Distress								
2016 6								
2015 6 🗸								
2013 7								
2012 7								

ID	BPID	Dir	ROAD_NAME	From	То	BLOCK	Len_10mi	COND 2013	COND 2015	COND 2016	COND 2017	COND 2018	Comments
1	SYR3770	E	Willow St	N. State	Pearl	300	0.05	7	6	6	6		
2	SYR2717		Pearl St	Willow	Hickory	100	0.08	5	5	5	5		
3	SYR2718		Pearl St	Hickory	E. Belden	200	0.03	6	5	6	6		

Previous Method Pros

- Limited prep needed print and go
- Low-tech solution, easy to train others, no power or software issues
- Paper trail

Previous Method Cons

- Interns (or staff) needs to enter all ratings into database
- Rater has to navigate location, driver unfamiliarity with roads can lead to issues
- Prep time to develop routes (2015) was extensive

Adding 400 miles of new roads to rate will complicate old rating process.

What now?

- Looking for new solutions to road rating process
 - GPS-based?
 - Direct-to-GIS or database?
 - Other ideas?
- Working with City of Syracuse to find interest in other data collection possibilities
- Potential for Photo / Video log

FLOOR DISCUSSION

How many MPOs perform some kind of pavement data collection for their member agencies?

What methods do you use?

Do you regularly report pavement condition data?

What are your plans regarding NYSDOT MO's data release schedules?



THANKS!

