



NEW YORK STATE ASSOCIATION OF MPOs
GIS WORKING GROUP MEETING
June 5, 2017
10:30 AM – 2:30 PM
321 Main Street, Utica, NY 13501 – Conference Room

MEETING NOTES

Participating

- A/GFTC – Jack Mance
- CDTC – Teresa LaSalle
- ECTC – Michael Perry
- GBRNRC – Kimberly Smith (via Skype)
- GTC – Chris Tortora
- HOCTS – Jeff Quackenbush (Chair)
- HOCTS – Erin Tylutki
- OCTC – Lauren Burns
- OCTC – Zachary Coleman
- SMTC – Jason Deshaies (Co-Chair)
- SMTC – Andrew Fraiser
- UCTC – Robert Leibowitz, (via Skype)
- UCTC – David Staas
- NYSDOT-Main Office – Kevin Hunt
- NYSDOT-Main Office – Andrew Sattinger,
- NYSDOT – Korey McAllister
- NYSDOT-Main Office – Steve Wilcox
- NYSDOT-Main Office – Mike Rossi
- Agile Assets – Patrick Warren

1. Introductions/Sign-in

Quackenbush reminded the group that Deshaies is the Co-Chair taking over for Perry who previously served in that position. Moving forward, both Quackenbush and Deshaies would jointly lead this group's activities.

2. ESRI's ArcGIS Pro and Licensing

Quackenbush discussed ESRI's new licensing approach based on his recent experience purchasing concurrent licensing for two users. He explained ESRI's new approach was driven by their intention to establish one-to-one ratio between ArcGIS Online user accounts and ArcGIS Pro. For each ArcGIS Desktop "seat," ESRI will provide an ArcGIS Pro and ArcGIS Online account. In essence, to accomplish the *one-to-one ratio*, ESRI was systematically eliminating concurrent licensing. However, for existing concurrent use license holders, ESRI was allowing to tem add licensed users up to a certain time and for the current levels only. Quackenbush cautioned everyone to be aware of ESRI's new approach when renegotiating new contracts.

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

Q1. What is the cost of license and maintenance?

A1. The price for each license is \$1,200 to \$1,500 with an annual maintenance cost, which is 25% of the total cost. The cost of a server license is \$26,000. ESRI is moving toward a unique user-based account system that was somewhat similar to Adobe Suite – a general price structure trend for software companies.

Q2. When to invite ESRI to the GIS Working Group meeting to provide ArcGIS Pro training?

A2. There was discussion about a variety of new tools being available and the impact of using these tools on “credits.” A timeframe was not decided for ESRI instructor-led training.

Q3. Is NYSDOT aware of the new ESRI licensing approach?

A3. Hunt mentioned that he would inform the GIS group at the state level to make them aware.

3. HOCTS ArcGIS server: An Approach to Data Sharing

Quackenbush provided a demonstration of three different web applications hosted on the HOCTS ArcGIS Server: traffic counts, agriculture districts, and agricultural tourism. With regard to the application setup, he informed the group that the data resides on the server inside the firewall which the users access from outside the “firewall” via a web adaptor through a specific port (Port 6080). This enables the user to view the data without getting into HOCTS server, keeping the data secure.

Traffic Counts: This specific application allows traffic count data on HOCTS server to be pushed out to ArcGIS online using an online basemap for display. The application is capable of displaying the latest traffic data on the server with a few seconds delay, as it is edited and manipulated.

Agriculture District: This application display maps that are referred to as “story maps” and allows users and landowners to see their parcels, associated renewal information, etc.

Agricultural Tourism: Color-coded maps displaying a variety of information are generated by this application. It was useful in sharing data and will be further developed to add more features since elected officials were particularly interested in disseminating information to the public.

Quackenbush also shared an internal application that was developed in collaboration with the county Department of Public Works (DPW) for maintenance decision making.

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

Q1. Is HOCTS planning to prepare annual pavement reports like the one in 2016?

A1. HOCTS is not preparing long reports with narratives but instead generating graphs, charts, and data summaries for analysis. Both the MPO and DPW are keen on the multiple uses of this data.

Q2. Are you using the HOCTS server or a cloud-based one to store data?

A2. We are using Enterprise Geodatabase on the HOCTS server.

Q3. Is it an Oracle or SQL server?

A3. The server set up comprises three SQL servers – to house data, to host software, and for the ArcGIS web adapter.

Q4. Is every department responsible for their GIS?

A4. Not necessarily. Most of the departments such as DPW, health, water pollution control etc. have applications and are more of consumers while Quackenbus's group is responsible for GIS data.

4. NYSDOT's AgileAssets Update/Demo

Warren, Wilcox, and Rossi provided an update on NYSDOT's AgileAssets, an enterprise (level) asset management system for pavement management, structures management, roadway inventory, and maintenance functions. All of the assets in the database are stored using a linear referencing system (LRS), which simplifies tracking and updating data.

The Bridge Data Information System (BDIS) includes inspection, flagging, load rating, vulnerability analysis, field data collection, and federal reporting as well as a web content capability for uploading photos. The bridge modeling is being done outside of AgileAssets. Integration with ESRI's LRS is being done as part of the pavement management module, which is anticipated to go live at the end of July.

The structures management system scheduled to go live at the end of June is essentially used for bridge needs modeling that accounts for condition of various bridge elements and how they are deteriorating. It has logic built into the application for synchronizing improvements and conducting ranking and optimization analysis. The structures management system also includes secondary structures such as noise walls and overhead sign structures.

The asset trade off analysis component of AgileAssets is called *Portfolio Analysis*. The portfolio analysis can be conducted at "program level" as well as "project level" using social utility functions that help determine overall best value for investing in pavement improvement versus bridge improvement. The same logic can be applied at "project level" to prioritize individual projects. The "program level" asset trade off analysis capability is anticipated to be available starting fall 2017.

The maintenance management module contains labor data used for federal reporting purposes. The salt model uses all the information collected via the maintenance management module (except order status) and this model is used to allocate resources (i.e., salt for stockpiles). An automatic vehicle location (AVL) and telemetric component pilot is being tested and will be implemented in the near future that will track locations of trucks, application rate, and other factors, which will give an indication of materials needs.

Traffic signals and ITS, cartography, and facilities management (500 buildings and 250 personnel) will also be included in the maintenance management module.

Maintenance management will also be available via map-based *Mobile Solution* so that data inventory and inspection reporting can be conducted using tablets and smart phones. It will have GIS/GPS capability, allowing information to be updated in real time. This *Mobile Solution* will include non-structural items/secondary assets.

NYSDOT is currently in the process of replacing its Roadway Inventory System (RIS) to align different datasets in a more rational manner. Currently, the Pavement Management

System has 720 tables while BIDS has 2,400 tables. Eventually, AgileAssets - the enterprise system will contain approximately 6,000 tables. Therefore, to make this system more user-friendly, the NYSDOT will develop individual apps for specific purposes.

Pavement management system: With the next contract, about two years from now, pavement condition data (e.g., ruts, raw crack data, etc.) will be collected for local federal-aid eligible roads and included in AgileAssets. NYSDOT will make this data available to local jurisdictions so that all of the agencies are working from a consistent database to evaluate projects.

Currently, the Pavement Management System includes a decision-tree for roadways with 8,000 AADT or higher to conduct scenario planning for funding analysis in various pavement improvement categories – preventative maintenance, corrective maintenance, and renewal over 5-, 10, 15- and 20-year timeframe corresponding to a specific objective. A lower tier with 2,000 AADT would be added to the decision-tree to allow for local analysis. This tool has reporting functionality in terms of generating color-coded bar charts, maps, or tables.

Each MPO would have a unique user account to maintain data security and confidentiality. AgileAssets and NYSDOT envision using a SaaS model for local jurisdictions to pay per seat. Local jurisdictions would have to use metrics and modules available in the model. These models provide a common platform and data to evaluate projects. Municipalities could customize but that would likely increase the cost substantially. A conference on June 20, 2017 is scheduled with municipalities discuss the application, including cost.

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

Q1. What is the timeline for replacing the RIS and converting into AgileAssets?

A1. Approximately 12 to 18 months.

Q2. Is NYSDOT going to pay for collecting data on local roads?

A2. Yes, but only those that are federal-aid eligible.

Q3. What centerline or LRS is the pavement management system application using?

A3. AgileAssets will use the LRS from Milepoint Network Management in Roadway and Highway with appropriate adjustments.

Q4. Can you export segment level data such as PCI?

A4. Yes.

Q5. Does the Maintenance Management use ESRI Collector?

A5. No, NYSDOT uses a customized application. The ESRI Collector will be used for developing an inventory.

Q6. What is the smallest geographic unit will NYSDOT make the models available to?

A6. Spatial resolution is not an issue since users would be charged on a per seat basis. The model is scalable to small towns or municipalities. A larger deterioration model is expected to cost a few thousand dollars.

Q7. Will data be available at town or local road level?

A7. Local roadways on the federal-aid system will be included. It is possible to add other local roadways but the local jurisdiction will have to create the line work and associated dataset.

Q8. Can local jurisdictions add other modules such as, BDIS, structures management, etc.?

A8. Pavement and maintenance modules are included. Other models and modules can be added at additional cost.

Q9. When will these models be available to local jurisdictions?

A9. Not before July or August 2018.

5. General Update: NYSDOT/ITS Activities

Hunt explained current process for milepoint network management in Roads and Highways and its relationship to RIS as well as AgileAssets. He also informed the group about new ESRI "Organization" and shared new ESRI customer numbers as well summarized current activities at NYSDOT. He pointed out that NYSDOT hosts several GIS data web services, which are available at <http://gis.ny.gov/webservices/>.

A copy of the PowerPoint presentation is attached.

6. ALIS Internet Database

Sattinger discussed the statewide intersection inventory web-based GIS application's unique features. A copy of the PowerPoint presentation is attached.

Using screenshots of the software application, Sattinger explained functionality of various components including data collection and data maintenance user interfaces as well as intersection analysis and reporting capabilities. He noted that the auto-generated nodes from 2008 were updated to 2012. He explained the process for creating nodes and assigning master IDs as well as how it would change with the RIS transition to AgileAssets. However, at this point the intersection database is static. Further, any additions or modifications have to be incorporated through the maintenance tab.

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

Q1. Are the red points (slide 4) in the database?

A1. Yes, eight unique IDs are in the database. However, these individual data points were grouped using buffers (33 feet) and assigned a master ID.

Q2. From the ALIS dataset sent out in May 2017, the master intersection table was missing. Can this data be sent out again?

A2. Users due to file transfer issues (possibly large file size) did not receive the master intersection table. It was agreed that T.Y. Lin would use its FTP site to assist with sharing GIS databases.

7. Using GTFS Data in ArcGIS Network Analyst

Frasier shared an innovative application of GIS analysis for SMTC's Work Link Project that used General Transit Feed Specific (GTFS) data and *BetterBusBuffers* tool available on "Yay Transit". Andrew explained the technical process and steps, key input datasets, and outputs. One of the unique aspects of this analysis included understanding temporal availability of transit and more meaningful spatial analysis from a bus stop accessibility standpoint. A copy of the PowerPoint presentation is attached.

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

Q1. How quickly can you get GTFS data?

A1. Latest GTFS data is available for free if the transit agency has prepared it and uploaded on Google.

Q2. Have you thought of sharing this with Transit Working Group?

A2. A presentation is scheduled for the NYSAMPO conference.

8. Open Discussion/Wrap Up

There was general discussion about type and number of attributes users would like to incorporate on milepoint network – speed limits, bike suitability, traffic counts, and functional classification. Further, how does pavement management, roads and highways, and safety data networks compare in AgileAssets.