NYSAMPO Association
GIS Working Group Meeting
Thursday, November 20, 2014

Participating:

- A/GFTC – Kate Mance
- BMTS - John Sterbentz☎
- CDTC – Teresa LaSalle
- ECTC – Mike Perry
- GTC – Chris Tortora
- HOCTS – Maureen Bishop, Jeff Quackenbush
- OCTC – Matt Ryan☎
- PDCTC – Janet Tissiere☎
- SMTC – Jason Deshaies
- UCTC – David Staas☎
- NYSDOT – Michael Fay, Kelsey Hansen
- RSG –Erich Rentz ☎

Agenda:

1. Update from Michael Fay on NYS GIS and data activities
2. ArcGIS Pro and its implications for ArcMap
3. Functional Class change process as it stands today
4. ArcGIS 10.1/10.2 – who is running what versions and our (HOCTS) experience with ArcGIS 10.1 Server and desktop.
5. Traffic Count Program – Status of this program at DOT Regions and what are our options to get counts in the future
6. Pavement condition reporting – expansion of programs and data collection
7. GIS Working Group 2015 program goals
8. Training needs?

Proceedings:

1. Update from Michael Fay on NYS GIS and data activities [MF and KH].
   - JQ: Kevin will not be joining us as he has been deployed to Western New York to help with the recent snowstorms
   - MF: The DOT is currently undergoing an effort to update the local highway inventory:
     - ♦ The effort is to review the local highway inventory data against alternate sources including the roadway inventory and aerial photography to ensure accuracy.

- The effort stems from a federal mandate that the roadway inventory system lengths must match the LRS data.
    - The matching tolerance is 1 mile statewide.
- The review involves an initial comparison of datasets, a check of the comparison, and then a check by Kelsey and her team of facilities that display disagreement.
- We would like to get the MPOs involved in the process if possible
- JQ: What is the source data and process that has been used to do this review?
    - We are using the mile points route system
    - Kelsey: We are using route building tools to attach the RIS data to the Streets data. The review involves comparing the datasets to ensure lengths and names are accurate.
- Federal highway requires an inventory of every institutional road.
    - This means that only public roads are documented unless a private road is integral to the roadway network system.
- JQ: Be sure to contact the MPOs as we are intimately familiar with our road systems due to the road scoring process that we undertake.
- The data will end up in the route mile point system.
    - The final data reliability will be as good as the people doing the review.
    - We are trying to fix the data as best that we can.
    - We are reaching out for local knowledge where appropriate.
        - When we get a local listing of the roads, we check it against what we have, and then write a detailed explanation of differences to be returned to the local source for review.
        - We typically send out notes on roads we think are public but don't exist in the database.
- Where changes are made, roads are often losing distance as the mileage was originally rounded up. The review is making changes due to the need for higher accuracy.
    - This means that some people will be losing funding as mileage is reduced. We will wait to release the data until it has all been reviewed.
    - JQ: What's the ultimate decision making tool for naming?
        - We trust the signage. We want to document what common sense calls the road; we don't need the legal name.
- MP: Is there a plan for the MPOs to help the DOT maintain this data?
    - We are working on a plan to incorporate GeoLinks crowdsourcing software) to assist in the maintenance process.
        - In this way, Counties will be responsible for providing updates.
        - Counties will have "trusted users" who will be allowed to make changes.

- • Kevin Hunt and Cheryl Benjamin are working together to make this happen.
  - ♦ JD: It will be great to have a common mile point file. I use it to join data.
    - ◊ Yes, we are using the federal mandate to finally get this done.
  - ♦ JQ: When do you think you'll be done?
    - ◊ Already behind, but the estimate for completion is less than two years.
    - ◊ There are continual staffing issues as the team continues to gain and lose people.
  - ♦ JQ: Once this is completed, what will the review process entail?
    - ◊ Same as now: prove us wrong. Just provide us with the evidence dictating a change and we will make the change.
    - ◊ Most legitimate errors stem from road ownership (jurisdiction) and road name.
    - ◊ Every county and municipality will have access to review this data.
  - ♦ Every municipality's LHI is on the internet in PDF form.
  - ♦ CT: Do the data reflect divided highways?
    - ◊ Second part of this project is to split the dual carriageways for representation.
  - ♦ JQ: Kelsey, how many state staff do you have that are permanent?
    - ◊ Five for the foreseeable future.
  - ♦ MP: Will there be an internet viewer in the future so that the towns can go in and do review? Or will it continue to be paper based?
    - ◊ Yes and no. For instance, GeoLinks will support this review. Still paper based.
      - • The eventual big change is to build everything in GIS before sending it to the LHI.
      - • Need to get the resolution correct so that everyone reviews roads for just their domain.
      - • The solution is way down the road.

2. ArcGIS Pro and its implications for ArcMap [JQ and MB].
   - • JQ: I was recently made aware of ArcGIS Pro and watched some of the videos to acquaint myself with the product. A couple of observations:
     - ♦ It's clear that Esri intends to replace (down the road) ArcMap with ArcGIS Pro.
     - ♦ This software is finally taking advantage of advanced computing technology: dual cores, multiple threading, and 64-bit program functionality.
     - ♦ Pro uses a ribbon menu that makes it look and feel like a Microsoft Office program.
     - ♦ You need to have an ArcGIS Online license to use ArcGIS Pro.
     - ♦ In general, this is a huge departure from the direction that Esri was headed with ArcMap.

- JQ: Decided to have Maureen investigate ArcGIS Pro to try to get the software up and running.
- MB: [Demo]
    - To get started I needed to:
        ◇ Setup an ArcGIS Online account.
        ◇ Assign myself a role
            - JQ: Esri is very particular about "who" has what roles and permissions
        ◇ Assign myself an ArcGIS Pro license
        ◇ Download the ArcGIS Pro software.
            - The software has a long list of requirements, the most important being that you use a 64-bit machine.
        ◇ Install the software and install an update.
    - Once the program was started I:
        ◇ Figured out how to add data.
        ◇ Discovered that loading and panning was much faster than in ArcMap.
        ◇ Learned that a user can operate a project with several tabs going at once.
            - You can split the windows so you can see multiple layouts side by side.
        ◇ Found that symbology and other properties are all a lot more intuitive to manage.
- JQ: Philosophically, it's more akin to older Esri versions, specifically the Arc 3 series.
- JQ: Pro is also much more aligned with the move to cloud computing.
    - They have streamlined the process for sharing data with the cloud.
- MP: What's the License structure?
    - JQ: the licensing structure is tied to the level of other licenses (ArcGIS Basic, Standard, and Advanced, etc.).
        ◇ Will need to work with Kevin to figure out how the ELA licensing plays into ArcGIS Pro availability.
- JQ: It sounds like Esri will continue to support ArcMap, but there is a clear push to ArcGIS Pro.
- TS: It sounds like the learning curve moving from Atrc 10 to ArcPro is similar to that from the move between Arc 3 to 8.
- MP: Will ArcGIS Pro support the same data as ArcMap?
    - JQ: It seems to use the same data as ArcMap.
- JQ: This should be a way to help do more external facing work.
    - TS: It would be great if ArcGIS Pro helped to streamline sharing maps online.
- MP: Does anyone use the Collector App? It sounds like it would be a great tool to use.

- ♦ ER: I know that some of the municipalities in the Salt Lake City area use the Collector App. I will do some research and try to get some testimonials.

3. Functional Class change process as it stands today [JQ].
- JQ: At the regional level, it seems like there is nobody to talk with about functional class change. Is there a formal change in the procedure?
  - ♦ MF: No. As long as the MPO provides the data and justification, the state office can handle the change.
  - ♦ MF: There is a new person at the DOT who is taking over this task.
  - ♦ MF: There are two main changes:
    - ◊ Two new rural functional classes.
    - ◊ Urban collectors have changed, now any rural minor collector that has been absorbed by the new urban boundary is an urban minor collector.
  - ♦ MF: Will try to find a way that is best to document changes.
  - ♦ JD: I will need to make several changes. I have been emailing with my Regional Office for a process and I was told that I won't need one map for each change.
  - ♦ Would like a more comprehensive way to get these changes accomplished.
    - ◊ Do we need to provide traffic counts on roads that should be changed?
      - MF: Yes, traffic counts are good, but they aren't the whole story. There are three things to look at for classification changes:
        - ♦ Traffic volume
        - ♦ Service Area
        - ♦ Road Access
    - ◊ MF: get a new count on those roads for which you want changes and do a relative comparison to other facility counts.
    - ◊ KM: Can we get an update on the effects of the Urban Area Boundary on functional class changes?
      - MF: The process is just getting started on the new coding.
      - CT: We found some illogical stuff in the functional class viewer when going through for our review process.
    - ◊ JQ: Chris, how did you find the process for making functional class changes with GTC and your local municipalities?
      - CT: Every change went through a system and was brought before the policy committee.
      - JQ: Never gone through the full system to make changes.
        - ♦ MF: Some superintendents prefer their roads to not be federal aid designated.
  - ♦ MF: There is an issue with the FC viewer: if there have been changes to the data, the road looks like it's symbolized as local.
  - ♦ KM: I've had some issues with disagreements in the functional class designations across different databases. Will stand by RIS data for decisions.

- ♦ MF: Added about 700 miles of federal aid roads to the system.
- ♦ JQ: Does the change process still, formally, suggest that we go through the regional office?
  - ◊ MF: You can always send it through me.

4. ArcGIS 10.1/10.2 – who is running what versions and our (HOCTS) experience with ArcGIS 10.1 Server and desktop [JQ].
   - JQ: We are working with ArcGIS 10.1 and Arc Server 10.1.
     - ♦ Esri is really slow at startup. This, combined with the general latency of ArcMap, has HOCTS ready and hopeful for a move to ArcGIS Pro.
       - ◊ MP: The slow startup might be related to internet speed.
       - ◊ KM: I got a new laptop and increased internet connection and ArcMap sped up a lot.
   - JQ: Has anyone made the move to ArcGIS 10.2?
     - ♦ MP: Yes, I made the move. Nothing major to report.

5. Traffic Count Program – Status of this program at DOT Regions and what are our options to get counts in the future [JQ].
   - JQ: HOCTS takes traffic counts seriously:
     - ♦ We have 302 stations, and get about 90% return.
     - ♦ It's important for us to do the counts because the region does not do counts anymore.
       - ◊ We took all the traffic count equipment from the region when they stopped doing the counts.
   - MP: Our region still does all of our counts.
   - JQ: Each year we do about 10 to 20 counts based on citizen complaints because citizens can no longer go to the DOT for counts.
   - JD: We contract out all of our counts. Unsure if they all get sent to the DOT.
     - ♦ JQ: Is there a good way to control the contractors work?
   - MP: There is a state DOT format for counts.
   - MP: Are all of the DOT counts done with tubes?
     - ♦ MF: No, but tubes are relied on as they are fairly accurate.
       - ◊ JQ: There are some companies that do intersection counts that aren't tube based. These companies tend to be very expensive.
   - JQ: Most people who want counts want AADT, bi-directional count, and truck percent.
   - JQ: We did 203 counts this year and 204 last year. We don't count everything every year. We try to do everything on the federal aid list once every 3 years.
   - JQ: Will there be a mechanism to go straight to the main office with count data in the future?
     - ♦ MF: Yes.
   - KM: We do counts on a random sample of streets.
     - ♦ MF: There is a potential issue of citizens getting confused about why there are counts being done in their neighborhood.

- ◊ JQ: We make sure to communicate to everyone in the neighborhood that counts are being done. However, this does not avoid all conflict.
- ◊ MF: Some people feel threatened because they don't know what's happening when counts are being done.
- JQ: What's the turnaround for an MPO giving a count to the DOT and the DOT posting the count?
  - ♦ MF: The count system is down for a little while due to issues with the contractor.
  - ♦ MF: The traffic count viewer is available but it takes longer to update and goes through a different aggregation process.
  - ♦ MF: In general, counts are updated annually.
    - ◊ Will probably have a new system in a few years.
    - ◊ Undergoing a database upgrade that has been taking a long time.
- MP: Who is doing the actual counts if they are done in-house?
  - ♦ JQ: For us, if interns are available and competent, we will use them. We usually make teams of 2, light the vehicles, and send them out into the field. One person lays out the equipment while the other watches for vehicles.
    - ◊ MP: Sounds similar to the workflow we used to identify culverts.
  - ♦ JD: How are you tying the traffic data to spatial data? Manually?
    - ◊ JQ: Yes. The software does not provide a good digital export.
      - JD: Counters don't give exactly what we're looking for it to provide either.
      - MF: The next system will hopefully address much of what the MPOs want.
    - ◊ JD: I just want something which facilitates automatic transfer and does not involve manual entry of traffic numbers from a PDF into an access database.
- KM: Our County does not do counts often and the counts that are sent are provided in an excel spreadsheet with no station IDs. I need to use mile point IDs to identify the count location.
- MF: The station number system is going to change as part of the database upgrade.
  - ♦ JQ: We maintain our counts to stations relationship spatially.
6. Pavement condition reporting – expansion of programs and data collection [JQ].
- JQ: We haven't changed much over the years.
  - ♦ We would like to implement Mike's system.
  - ♦ MP: I spent $1,000 for a top of the line camera, but that might not be necessary as there are cheaper cameras that will do the same. Regardless, GPS tags on photos are really helpful.
    - ◊ JQ: I think coupling the photo log with pavement scoring should be really useful. It should definitely be helpful for decision making.
      - JD: Sounds useful because you can also get other data.

- MP: It's been great to have the photo log because you never know who might want that data. Easy to share a jpeg.

7.   GIS Working Group 2015 program goals [JQ].
- JQ: There have not been any changes to the goals made two years ago and I think that we are doing well achieving these goals.
- JQ: GIS Working Group goals include:
  - ♦ Meet 2x a year.
  - ♦ Share techniques, share ideas.
  - ♦ Coordinate with other Working Groups when necessary.
  - ♦ Get DOT to sit at the table.
  - ♦ Regularly poll the members for training needs.
- JQ: Will take feedback on the existing goals and on whether anyone believes we should include additional goals.
  - ♦ MP: My only comment is on the licensing. Our licensing varies from MPO to MPO and I wonder if we could share information about the benefits of different Esri licensing? Is there a way to inventory this information?
    - ◊ JQ: I can speak to this a bit. Going to an enterprise licensing structure helped us consolidate and overcome versioning issues.
      - JQ: One of the goals for any MPO is outreach to the citizens. Having the ability to push our data out to as many people as possible is the right thing to do. Having ArcServer has helped us to accomplish this goal.
    - ◊ MP: I feel like the biggest change over the years has been software and licensing. Do we need to do anything to ensure that we are all on the same page for licensing?
      - JQ: We need to keep up our relationship with the state to ensure our input on the ELA.
        - ♦ MF: I need to stress that Kevin is no longer at State DOT. Kevin's time is no longer devoted solely to State DOT.
  - ♦ KM: Did anyone else attend the statewide vulnerability talk?
    - ◊ Culvert analysis is an important piece of the vulnerability picture. For the future we will need to know where they are and whether they are in good condition.
      - Under whose domain does this fall? Should we (as GIS folks) get involved?
        - ♦ JQ: I am interested in staying involved, but not sure what we can do. Should we get trained on culvert analysis?
          - ◊ KM: Yes, I think so.

- ♦ MP: There is a highway rating system (1-7 rating system?). I do some work on monitoring culverts each year.
- ♦ KM: Culverts are very important and they need to be taken into account. I'll try to pass along training information for anyone who is interested.
  - ◊ MP: ECTC's justification for maintaining a database of culverts was because culverts can significantly increase the price of a road projects if they are in disrepair.
  - ◊ JQ: Culverts are definitely the most overlooked thing in our highway system.

8. Training needs?
   - JQ: Does anyone have any training needs?
     - ♦ JD: Maybe some ArcGIS Pro training?
       - ◊ We will try to address this down the line as ArcGIS Pro develops.