

Geographic Information Coordinating Council
MANAGEMENT AND OPERATIONS COMMITTEE

March 29, 2018

1:00 to 3:00 PM

Center for Geographic Information and Analysis
301 North Wilmington Street, 7th Floor
Room 770A

MINUTES

1. Chair Alex Rankin called the meeting to order and welcomed Bob Coats, John Farley, Dan Madding, Scott Lokken, Tim Johnson, Jeff Brown and on the phone, Kathryn Clifton.
2. Minutes of the January 29, 2018 meeting of the Management and Operations Committee were approved for adoption as submitted.
3. Quick Updates

Census Geospatial Data

Bob Coats reported on Census programs. The Local Update of Census Addresses (LUCA) is in progress with materials continuing to go out to counties. He and the Department of the Secretary of State also did follow-up with jurisdictions that did not respond to the Boundary and Annexation Survey. Mr. Coats and Jeff Brown are supporting the Census Geospatial Support System (GSS) with address data and road centerline data for selected counties; *AddressNC* and NC Roads are useful sources.

Kathryn Clifton inquired about the workflow for a jurisdiction that has updated and/or improved address points to be included in *AddressNC*. Mr. Johnson explained that *AddressNC* and Next Generation 911 will require comprehensive address data and the workflows are to be determined. The hiring process for a project manager for *AddressNC* is underway. John Farley and Tim Johnson are involved with Next Generation 911 GIS effort where workflows will require frequent updates of address points (as well as other geospatial data).

Mr. Coats reminded the committee that, for purposes of budget development and budget submission in May, it is a convenient time to inform the Office of State Budget and Management (OSBM) about a level of effort and cost for CGIA technical assistance in the LUCA process. Also, longer term needs for *AddressNC* and NextGen 911 would be of interest to OSBM. Also, there will be a post-LUCA phase to accept address information from new residential construction before Census 2020 that could be informed by an *AddressNC* update. Mr. Johnson pointed out that the GICC needs to continue to be aware of address work and ways to avoid duplicative work and minimize the burden on local governments.

Statewide Orthoimagery

Tim Johnson reported flights are in progress in the Northern Piedmont and Mountains with some remaining acquisition in the mountains and overall acquisition at 80 percent for the

region. He briefed the NC 911 Board on next year's Southern Piedmont and Mountains phase. The Board voted unanimously to approve funding at \$3.3 million, roughly the same amount as in previous years. The Board is pleased with efforts and the availability of the imagery to the 911 community. He pointed out the benefits to state and local agencies for many purposes as well as the value to Next Generation 911. CGIA will propose the next four-year cycle (2020-2023) to the NC 911 Board early next year.

NC Parcels

Jeff Brown reported that the spring update of statewide parcels is underway with 27 counties completed to date. He encouraged members of the committee to communicate project needs for current parcel data in specific counties that could be moved ahead of other updates. Not all counties have received reminders to date, and some counties are still integrating January 1, 2018 tax data with parcel boundaries.

The plan for 2018 is to update all counties in the spring, make more progress on populating parcel use descriptions (53 to date) and present use value (61 to date), sustain the NC Parcels Transformer (annual approvals required by the Department of Information Technology), continue cost-share from NCDOT, NCDA&CS, and CGIA, and continue technical assistance from the Working Group for Seamless Parcels and CGIA.

In response to a question, Mr. Brown explained that the Transformer does not currently have a tool to calculate area of polygons; parcel area, deeded and calculated, are populated from source fields from county parcel data.

4. Summary of Council Discussions on Looking Ahead

Mr. Brown presented a summary of the Council discussions on November 7 and February 14. Based on a three-page document (distributed to the committee and attached to these minutes), he summarized answers to questions posed to Council members regarding geospatial data, applications of the data, information technology, and how the Council can help parts of the GIS community.

In discussion, Kat Clifton explained she is researching what is available for economic development data and applications. For example, buildings and sites are viewable in an ArcGIS Online application hosted by the Economic Development Partnership of North Carolina. She observed that the geospatial data behind the map application are not downloadable and a web service is not offered outside of the application.

On the topic of local government utility assets, Ms. Clifton explained that geospatial representation of a service area can be useful for planning purposes (e.g., public water is available within an area or within a certain distance from the boundary of an area). Mr. Madding added that site selection related to agriculture would benefit from knowing if a site is in or near a service area as a preliminary assessment. Mr. Rankin explained that details of the assets (e.g., sewer pipe diameter), exact locations of pipes, and available capacity of services are essential for land development purposes. He pointed out that a terrorist could damage a bridge, but transportation maps are not withheld from the public. Water supply lakes, hydrants, manholes,

and other above-ground features (connected to underground assets) are visible on imagery on public websites. Withholding infrastructure data does not ensure security if a terrorist is determined to do damage. Local government restrictions on use of infrastructure data is self-defeating; development may be deterred or delayed by time/costs of obtaining the data or by not getting access to the needed details.

Mr. Farley added that just the service areas would be worth a lot of money to NCDOT. Transportation project delivery is often delayed by utilities. Utilities do not want to move any infrastructure until NCDOT is certain of where it is building. If NCDOT knew where the utilities were located, the time and cost savings would be significant. NCDOT would be willing to pay for good utility data and its maintenance. Even part of the state would be valuable. NC 811, NC League of Municipalities, NC Association of County Commissioners, the Rural Economic Development Center and NCDOT divisions may be sources for public utility entities and contacts.

Mr. Johnson suggested the Council pursue both public water and sewer service areas (last mapped statewide in 2004) and a solution for access to data representing the location of infrastructure. Mr. Johnson pointed out that local system owners indicated in 2004 that they would furnish data for service areas annually if asked. Service areas would be a start. Given needs and potential funding, an organized approach is needed.

Mr. Rankin would like for the Council to hear a case for security of the data if someone from a local government can make a strong case that restricting access protects the public rather than frustrates the public. The Council reviewed and adopted a policy stated by the Federal Geographic Data Committee, Homeland Security Working Group in 2005: [Guidelines for Providing Appropriate Access to Geospatial Data in Response to Security Concerns](#). The document includes a decision tree for guiding data management. This provides a starting point for assessing current policies and requesting reasons that data managers have apparently departed from that guidance.

On the topic of the role of regional organizations (councils of government, regional commissions, regional planning organizations, and metropolitan planning organizations), discussion included acknowledgement that GIS capacity varies by organization which complicates a regional approach to compilation of local data such as street centerlines.

In discussion of next steps, the committee concluded that the Council has momentum and an opportunity to set an approach and priorities for next fiscal year. The Management and Operations Committee will develop and present to the Council a set of strategic elements as a proposed direction for the Council. This will be a topic of discussion at the May 9th Council meeting. The elements will include restrictions on public access to infrastructure data as discussed today. A brief summary, based on the three-page document, would precede presentation of the proposed direction at the Council meeting.

Thinking about implementation of Council priorities, the standing committees can integrate priorities in their respective workplans.

5. Unmanned Aircraft Systems

Mr. Rankin sees a need for an update on UAS. Applications in precision agriculture and other areas are moving fast. The last presentation to the Council was by Basil Yap, NCDOT Aviation Division, at the November 2016 meeting. An update would be informative about how UAS are being used in emergency response and transportation. This could include additional people from agriculture and local government to add perspectives. Mr. Farley will contact Basil Yap, and Ms. Clifton will seek a local government person with experience with UAS. Mr. Rankin will consider someone from a private firm using the technology.

6. Municipal Boundaries

Mr. Brown and Mr. Coats reported the State Demographer is organizing a meeting to review current processes for maintaining statewide municipal boundaries with intention to ensure boundaries are consistent and to make local-to-state data sharing more efficient. The meeting will include CGIA, NCDOT, the Land Records Management Program, Department of Revenue, NC League of Municipalities, and Office of State Budget and Management. Also, municipal boundaries and annexations have specific reporting requirements in statutes, changes to which may be needed to improve the quality of data submitted to state agencies. Timely reporting is important. Requirements of state agencies need to be integrated. Census data requirements are also factors to consider. Municipal boundaries have financial implications for the Powell Bill, sales tax collection and revenue distribution, and local taxation.

This is an opportunity for collaboration for a more efficient process, improved quality, simplified sharing, and simplified certification and maintenance of municipal boundary data. The Council can make a recommendation after a solution is specified.

7. National Updates

Geospatial Data Act of 2017

Mr. Johnson reminded the committee that the Geospatial Data Act of 2017 relates to the Federal Geographic Data Committee, accountability of federal agencies, and federal priorities. He learned the bill is likely to be heard in committee in May. The M&O Committee decided a letter would be appropriate and Mr. Johnson and Stan Duncan drafted a letter in support of the Geospatial Data Act of 2017 intended to go from the Council to congressional committee chairs. It was reviewed by John Correllus, Deputy State CIO and Chief Data Officer, and Nate Denny, NCDIT's Senior Advisor for Legislative Affairs.

Mr. Rankin pointed out that the Act in its previous version (before November) had some items that are not included in the current version. The national surveying community was more comfortable with the pre-November version. Mr. Rankin suggests signing the letter with an additional qualifying statement about the previous version. Mr. Johnson suggested working out the details in an upcoming introductory meeting between Mr. Rankin and Secretary Boyette.

National Agriculture Imagery Program (NAIP)

Dan Madding reiterated the NAIP issue—the USDA Farm Service Agency is considering a license and fee for access to future NAIP imagery to solve a funding problem. On February 14, the Council decided that “Mr. Madding will work with Ms. Halls and Council staff to draft a letter and request review and comment by Council members. The resulting letter may be submitted to the Secretary of Information Technology for approval to submit to the US Department of Agriculture.”

Council members were asked to find examples to help make a case for free access to NAIP imagery. Mr. Madding and Mr. Brown compiled a three-page document of examples of uses of NAIP by state, local, regional, federal, and university contacts. The examples can be boiled down to a page or attached to a letter. Mr. Madding found a letter from the GIS coordination group in Idaho addressed to the director of the NAIP program in a field office, but copied to many USDA officials. It can serve as a template. Mr. Madding suggested the Governor’s federal liaison in Washington, D.C. would be a funnel point for the letter.

Mr. Johnson added that the National States Geographic Information Council (NSGIC) is discussing the NAIP imagery issue and collecting information from states like the three-page document of NC examples. NSGIC may develop a statement on behalf of the states.

A draft letter is the next step.

8. Next Generation 911

Mr. Johnson reported that a selection process is in progress for a contractor that will build a database for statewide geospatial data (street centerlines, address points, boundaries, etc.) for Next Generation 911, in coordination with state agencies.

9. Committee Status Reports

Local Government Committee

Ms. Clifton reported the LGC met on February 28. She will continue to chair the LGC until the committee elects a new one later this year. Local governments see benefit in the quicker delivery of orthoimagery. Updated LiDAR is of interest as well as updated hydrography data. The committee was concerned about future availability of NAIP imagery in North Carolina.

There were a few examples of the importance of NC Parcels. For example, a regional transportation planning group was meeting with 8 or 9 counties and expressed the need for parcel data from each, not knowing of the statewide parcels available from NC OneMap. Ms. Clifton and Stephen Dew of Guilford County pointed them to the resource. Land cover data may be of interest to the regional planners as well. Also, Davidson County was attacked by ransomware and its parcel web map viewer was down; she pointed callers seeking Davidson parcels to NC OneMap for two days until her application was restored.

Another topic of LGC discussion was the Census Bureau announcement that data will not be published for traffic analysis zones as in previous decennial censuses. This will affect transportation planners.

The LGC discussed what local government GIS coordinators need from the GICC. Members identified brief communications, taking advantage of social media, as having value for coordination and professional development. In a related development, Carolina URISA has committed to compiling and maintaining a calendar of GIS training opportunities.

LGC discussed local utility data and Ms. Clifton will be happy to assist with work on that topic. The group talked about color infrared imagery and its value. They acknowledged that even a discount cost for purchasing color infrared imagery piggy-backed on the Statewide Orthoimagery Program is not affordable for some jurisdictions. Mr. Madding asked to be informed if there are specific counties interested in color infrared imagery. His agency did a cost share with Henderson County where DuPont Forest imagery was needed by the state and may be able to do a similar cost share elsewhere.

Federal Interagency Committee

Scott Lokken of the National Geodetic Survey reported the FIC Executive Committee met and reviewed its workplan. One of the items is to make priority federal datasets discoverable and accessible through NC OneMap (e.g., NAIP 2016 imagery service is connected). FIC will meet in Asheville to discuss how federal agencies apply GIS to wildfires to share experiences and resources, especially in western North Carolina. The 2022 Reference Frame will be a future topic for presentation. The 3D Nation study is in progress, led by USGS and NOAA. Silvia Terziotti and Ryan Wartick are the respective representatives of those agencies. Gary Thompson volunteered to serve as North Carolina champion for the study. A survey is expected in April for selected contacts. On April 12, National Geodetic Survey and Michael Dennis will hold a webinar on the status of 2022 state plane coordinates. Mr. Lokken encouraged state consideration of the impact of new state plane coordinates.

State Government GIS Users Committee

Mr. Farley reported the SGUC Executive Committee met with new Esri representatives this morning for a question and answer session about the Enterprise License Agreement (ELA). It was a good re-engagement and informative. The focus is on a new ELA to start in July. SGUC is doing a survey of state agency GIS uses to help the group understand needs, internal to the group, and to generate some usage estimates for Esri to consider.

Statewide Mapping Advisory Committee

In the absence of a SMAC chair, Mr. Brown reported that in January, SMAC voted to ask the GICC to develop an approach for an annual geospatial data request to county data managers that is consolidated to meet data needs for multiple state programs.

SMAC assigned a task to the Working Group for Orthoimagery and Elevation to assess the option of directing North Carolina data consumers to NOAA's Data Access Viewer that enables generation of contours in a user-defined area.

SMAC discussed municipal boundaries and Mr. Farley proposed what the State Demographer is proposing – opportunities and requirements for more efficient submission and maintenance of municipal boundaries.

Cam McNutt (NCDEQ) reported that the Environmental Management Commission has not released water quality rules for public review yet and a schedule for release is not available. The Stream Mapping Advisory Committee’s strategy continues to be to engage the GICC when the rules go out for public comment, especially if previous language about the GICC approving stream maps carries over to the new rules.

In the meantime, a county is inquiring about how to get a geospatial representation of surface waters (that is not derived from USGS topographic data) approved for compliance with Jordan Lake water quality rules. SMAC has an opportunity to provide guidance.

Among working groups, the land cover group has made notable progress on determining business requirements for land cover data. Sixty-seven responses from local, regional, state, federal, private, and university contacts will be analyzed and reported to SMAC in April.

Technical Advisory Committee

Mr. Madding suggested the two priority items for the TAC coming out of Council feedback are a white paper on the 2022 Reference Frame and State Plane Coordinates (to explain the basics to GIS practitioners with reference to National Geodetic Survey resources) and a paper on LiDAR and derived products to get the most out of LiDAR investments. The 2022 Reference Frame will be the first topic for TAC.

10. Council Meeting Agenda for May 9

The committee looked at a draft agenda based on the February meeting. NAIP need not be on the agenda in April, but the NAIP letter may be in the M&O report. More time may be spent on a proposed direction for the Council for next fiscal year.

11. Other Items

The Working Group for PLS and GIS continues to meet with the Surveyor’s Committee and will meet again the day of the Council meeting and have more to report then.

12. Future Meeting Dates

The next Management & Operations Committee meeting is scheduled for Monday, April 23.

The meeting adjourned at 3:05 PM.

Challenges and Opportunities in 2018 and Beyond - Summary

Members of the NC Geographic Information Coordinating Council offered observations and insights about challenges and opportunities in 2018 and beyond. During quarterly meetings on November 8, 2017 and February 14, 2018, the Council considered four questions to guide discussions.

1. *How can we collaborate to improve or expand statewide **geospatial data**?*

The challenges identified by Council members:

- Address data creation at the local level for administrative and E-911 purposes; consistency and quality are issues of concern.
- Aggregation of addresses, parcels, and roads into statewide standardized geospatial datasets, given a variety of formats and content among the local government authoritative sources, requires a significant effort.
- Documentation of local and state geospatial datasets as standard metadata records saves time and supports quality; metadata are not available from many jurisdictions.
- Comprehensive discovery of enterprise geospatial data—both state and locally managed—depends in part on metadata and its online accessibility; NC OneMap covers most but not all statewide geospatial resources; public access to local government data varies.

Constraints to collaborative improvement or expansion of statewide geospatial data discussed by Council members:

- Local government data managers may have security policies that withhold some geospatial data from public access. The most common concern is for geospatial representations of locations of public water supply pipes and facilities.
- Local data distribution policies vary from providing “open data” online as downloadable datasets and web services to making data available offline by request. Some local governments charge fees for offline copies of data.
- Local adoption of data content standards is difficult to achieve statewide; data management and business needs vary among local governments; converting local geospatial data to a standard model runs the risk of breaking local applications.

Opportunities identified by Council members concerning statewide geospatial data included:

- Expand the role of geospatial data in enterprise data management – collect location data with tabular data in business processes that have not taken advantage of location in analysis and reporting.

- Make data sharing local-to-state more efficient to meet the needs of multiple statewide datasets and not place undue burden on local geospatial data managers.
- Improve the quality of statewide datasets for jurisdictional boundaries and addresses to achieve consistency, currency, completeness, and reliability for applications.
- Municipalities are gaining experience and learning lessons about “Smart Cities” solutions; municipalities would benefit by communicating and sharing knowledge.
- Changes in technology for data management and data sharing provide opportunities to improve and expand statewide data and its discovery and access.

*2. How can the Council support **applications** of geospatial data to meet business needs and the challenges ahead?*

State agencies have developed and are maintaining statewide datasets, notably integration of state and local authoritative data (roads), aggregation and standardization of local data (parcels and addresses), and statewide collections (imagery and elevation). The next step is to apply statewide data in ways that inform business processes and decisions. Opportunities to create services that publish results through online applications include vehicle routing and address validation, from single requests to batch processing. These services could be alternatives for state and local agencies that individually purchase commercial address validation services from various vendors, with resulting cost savings.

Applications that would be useful to the GIS community and the public help answer the question: what jurisdiction am I in and who is a contact? For a user location of interest (point), what are the related jurisdictions (areas) in terms of voting, house and senate representation, local tax collection, business licensing requirements, municipal or county service provision, and other interests? Statewide applications would save local governments from developing individual solutions to answer the same questions.

An application that helps coordinate asset maintenance by state and local governments could save time and money. Asset maintenance can be complementary or work at cross purposes. An example may be road paving by NCDOT days before a city digs up the same road to install or repair a water line, followed by repaving. Collaboration could result in a statewide application that integrates state and local data to inform asset management planning.

On the topic of underground utilities and the scarcity of publicly accessible geospatial inventories of what is where, there would be great value in an application backed by a statewide database that would identify for a location of interest the utilities present, the service providers, and who to contact. This would supplement the NC 811 service. Security issues concerning data access would need to be solved.

Applications for economic developers doing site selection could be more informative about industrial parks, development plans, and availability of utilities. Again, infrastructure data would be valuable, but its availability is constrained. Use cases for site selection include the agriculture industry where, for a location of interest, information on utilities and capacity information, or at least utility providers would be valuable. Also, the quantity of water available to a new customer is important to know when evaluating a location of interest, not merely inclusion in a public water service area.

Applications related to data analytics represent opportunities deserving Council attention. North Carolina's Government Data Analytics Center is an example of planning and implementing ways to manage and apply large quantities of data. Part of the challenge to the GIS community is finding ways to derive value from a wealth of source data. Airborne and mobile sensors capture ever more quantities of data with increasing frequency. Issues of public safety may be involved. For example, autonomous vehicles will require large quantities of high quality data for signs, guardrails, road conditions, and other location information, analyzed and served by secure applications for vehicle operation and safety.

*3. What are ways to collaborate for more integration of geospatial data in **information technology** for expanded benefits?*

In North Carolina, GIS and IT could be better integrated. Some state agencies, as advised by the Department of Information Technology, include GIS in their respective IT plans. Some agencies do not. The Council continues to have opportunities to inform some state departments and divisions within departments about the potential to apply GIS to business processes. Decisions could be better informed with GIS applied to their business data. A survey and/or conversations could identify opportunities in departments and divisions not directly represented on the Council. DIT is available to assist in reaching out to department IT contacts.

On the local government level, municipalities are engaging in "Smart Cities" initiatives. In the absence of standards or guidance from a statewide perspective, the efforts are not integrating GIS and IT in some cases, lessening the quality and value of these initiatives. Knowledge sharing is needed to take advantage of GIS across the growing number of municipalities looking to apply technology for improved services.

*4. How can the Council benefit **your part** of the GIS community in NC and/or the **public**?*

In addition to the ways the Council may benefit members, as implied in answers to the first three questions, discussion included a regional perspective to local government roles and needs. Regional councils have GIS capacity and regularly interact with constituent local governments on planning, transportation, and other regional issues. Many of the local governments are small with little or no GIS capacity. Those with least resources could benefit

from more understanding of how GIS can generate benefits locally, and regional councils as well as the Council can play supporting roles. An opportunity for statewide geospatial initiatives is for regional councils to assist in aggregating local government data for multiple jurisdictions within their respective regions.

March 27, 2018

North Carolina Geographic Information Coordinating Council <https://it.nc.gov/gicc>

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