



North Carolina Geographic Information Coordinating Council

Minutes

August 8, 2018

PRESENT

Alex Rankin (Chair), Steve Averett, Paul Badr, Marc Burris, Jason Clodfelter, Bob Coats (for Nels Roseland), John Cox, Seth Dearmin, John Dorman, Stan Duncan, Dianne Enright, John Farley, Kristian Forslin, Chloe Gossage, Dean Grantham (for Michael Pjetraj), Pokey Harris, Debbie Joyner, Bliss Kite, Scott Lokken, Dan Madding, Elaine Marshall, Chris Nida, Sarah Porper (for Eric Boyette), Allan Sandoval, Tony Simpson, Lee Worsley and Ron York

Staff: Tim Johnson, CGIA

ABSENT

David Baker, Wesley Beddard, Kathryn Clifton, Greg Cox, John Gillis, Joanne Halls, Jason Hedley, Matt Helms and Sarah Koonts

PROCEEDINGS

A meeting of the Geographic Information Coordinating Council was held in Training Room 245 of the Albemarle Building in Raleigh, North Carolina.

Welcome and Chair Announcements

Alex Rankin, Chair, called the meeting to order and welcomed Council members and visitors.

Mr. Rankin welcomed a new Council member appointed by the Senate, Pokey Harris, the Executive Director of the NC 911 Board. He commented that Pokey has extensive knowledge and experience in 911, public safety communications, emergency management, and emergency medical services, as well as considerable experience in local government and private sector management.

The Senate reappointed John Gillis and Matt Helms to 3-year terms. Mr. Rankin congratulated them and thanked them for agreeing to continue their service on the Council.

The House reappointed Greg Cox, Stan Duncan, and Ron York to 3-year terms, announced by Mr. Rankin with congratulations and gratitude.

Mr. Rankin welcomed the new designee of the State Superintendent, Chloe Gossage, Senior Legislative Director and Chief Budget Advisor in the Department of Public Instruction. She formerly represented the Office of State Budget and Management on the Council.

The Local Government Committee (LGC) elected a new chair who now represents the committee on the Council. Mr. Rankin welcomed Jason Clodfelter, GIS Analyst with MapForsyth, the city/county GIS office for Winston-Salem and Forsyth County. Mr. Rankin commented on Mr. Clodfelter's experience with public and private organizations, and expressed gratitude for his willingness to serve as LGC chair.

Mr. Rankin also announced his appointment of John Dorman, designee of the Secretary of Public Safety, to serve as the Vice Chair of the Council.

Mr. Rankin recognized Bob Brinson for his service on the Council with a certificate of appreciation and a letter that included the following statement:

Your service on the Council 2002-2018 has been invaluable as you shared your insights and gave sound advice. Your service as Vice Chair of the Council and member of the Management & Operations Committee since 2010 is much appreciated. We are especially grateful for your steady hand and persistence in chairing the Working Group for Professional Land Surveying and GIS through its many months of deliberation.

Mr. Rankin also presented Mr. Brinson with an engraved tumbler to enjoy in his retirement from state government, to a round of applause. Mr. Brinson commented that his interest in operationalizing GIS started many years ago in state corrections. He thanked the Council for all he learned in the interesting field of GIS in interesting times, and wished all the best to Council members.

Approval of Minutes

The minutes of the May 9, 2018 meeting were approved for adoption with no changes.

I-9 Form Processing

Danny Stutzman, Human Resources Manager, Temporary Solutions, in the NC Office of State Human Resources, explained the reasons why Council members who are not State employees are required to complete Form I-9 and a State employment application. Paperwork was completed before today's meeting. The most compelling reason to complete the forms shared by Mr. Stutzman is that the Internal Revenue Service may do a random audit of a member of a state board or commission, and any remuneration requires inclusion in the payroll system and coverage under state workers' compensation. Even service on a voluntary basis with no remuneration must be in the e-Verify system of the Department of Homeland Security. State agencies overseeing boards and commissions are subject to fines and penalties for noncompliance, and fines have been issued to agencies in North Carolina.

Strategic Direction for the Council

Mr. Rankin called on Jeff Brown of CGIA to present elements of strategic direction and related tasks for standing committees. In setting direction for the Council in 2018 and beyond, the Council identified challenges and opportunities during Council meetings in November and February, and

developed elements of strategic direction in May. In June, the Management & Operations (M&O) Committee verified the elements, identified lead and assisting committees and defined related tasks. Mr. Brown summarized the following elements of strategic direction, organized in four categories, each with a proposed lead committee and tasks to include in committee work plans for 2018-2019 (see [meeting](#) presentations).

Category 1. Improve and/or expand statewide geospatial data

1.1. Promote free and open discovery of and access to geospatial data created and maintained by local governments.

Lead: Local Government Committee

Tasks: Summarize business needs and value; promote through professional organizations

1.2. Find solutions for consumers to discover and gain access to public geospatial datasets that local governments currently withhold from public access for concern about homeland security.

Lead: Statewide Mapping Advisory Committee

Tasks: Research and clarify federal, local, and public utility policies; summarize business needs and value versus risk; define alternative geospatial datasets (e.g., corridors, easements, service areas) and their appropriate uses and disclaimers; start a conversation with local data managers

1.3. Continue to support initiatives that compile and maintain statewide geospatial datasets that are priority data themes of the Council (including AddressNC, NC Roads, NC Parcels, Statewide Orthoimagery, county and municipal boundaries, LiDAR elevation, surface waters, and geodetic control).

Lead: Statewide Mapping Advisory Committee

Tasks: Prioritize efforts to improve municipal boundaries and surface waters; sustain working groups to advise data programs and projects; support the AddressNC project and the local government role

1.4. Find solutions to 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.

Lead: Statewide Mapping Advisory Committee

Task: Maintain data content standards

Assist: State Government GIS Users Committee

Task: Define common data requirements from multiple state agencies

Assist: CGIA and Next Generation 911 Project Team

Task: Define data requirements and a workflow in collaboration with contractor and the Local Government Committee

1.5. Request all state agencies to make the Council's priority geospatial datasets discoverable and accessible through the NC OneMap Geospatial Portal.

Lead: State Government GIS Users Committee

Tasks: Identify priority datasets currently not discoverable and accessible through NC OneMap and find solutions with host agencies, including web service formats

1.6. Promote geospatial metadata for standard documentation.

Lead: Statewide Mapping Advisory Committee

Task: Metadata Committee—reach out to local governments, promote online videos, and provide onsite training

Category 2. Support applications of geospatial data

- 2.1. Support creation of services that publish results through online applications that include vehicle routing and address validation, from single requests to batch processing.
 - Lead: Statewide Mapping Advisory Committee
 - Task: Assist in analysis of business requirements and benefits for application development and geospatial services related to NC Roads and AddressNC
 - Assist: Local Government Committee
 - Task: Help promote local government data sharing for statewide datasets for roads and address points
- 2.2 Support other applications that derive business value from geospatial data assets and analytics.
 - Lead: State Government GIS Users Committee
 - Task: Identify common opportunities and requirements
 - Assist: Local Government Committee
 - Task: Identify common opportunities and requirements

Category 3. Collaborate for more integration of geospatial data in information technology for expanded benefits

- 3.1. Identify opportunities to collaborate on GIS solutions in state departments and divisions not directly represented on the Council to add value to state business processes.
 - Lead: State Government GIS Users Committee
 - Tasks: Survey state agencies to learn more about GIS needs and opportunities; collaborate with the Department of Information Technology on optimization of IT resources.
- 3.2. Identify opportunities to collaborate and inform municipalities engaged in “Smart Cities” initiatives about potential for GIS in information technology solutions.
 - Lead: Technical Advisory Committee
 - Tasks: Engage local government and university resources to research and identify potential applications of GIS in support of “Smart Cities” initiatives
 - Assist: Local Government Committee

Category 4. Collaborate with all parts of the GIS community in North Carolina

- 4.1. Identify opportunities to collaborate on geospatial data and technical solutions on a regional basis, engaging councils of government.
 - Lead: Local Government Committee
 - Task: Representatives participate on SMAC and working groups to identify opportunities for regional solutions
- 4.2. Reach out to jurisdictions with the least resources to find ways to add value with geospatial data and applications.
 - Lead: Local Government Committee
 - Tasks: Identify jurisdictions in need, priority business needs and data needs, and practical ways to assist; engage professional organizations in outreach and solutions
 - Assist: Statewide Mapping Advisory Committee

Mr. Rankin invited comments and concurred with John Dorman who suggested prioritization of tasks to inform committee work plans as a next step. Mr. Johnson commented that a solution for maintenance of municipal boundaries stands out as a priority, with Secretary Marshall agreeing.

Stan Duncan observed that elements highlight collaboration between state agencies and local governments. He suggested attention as well to state and federal collaboration, pointing to data sharing between the state and the Census Bureau and federal initiatives to develop national address data and national parcel data. Mr. Johnson observed that data sharing with the Census Bureau is straightforward (e.g., through participation in the Geographic Support System Initiative, Local Update of Census Addresses, and Boundary and Annexation Survey) and coordinated by Bob Coats, the Governor's Census Liaison. Mr. Johnson's understanding is that a national parcels dataset is on hold in the absence of a federal department to take ownership. He commented that statewide datasets, produced by the state or aggregated from local data, are readily available to federal agencies through NC OneMap. Mr. Rankin commented that sending data up to federal programs is consistent with the elements discussed and complements efforts to support local jurisdictions that have the least resources, improving local data that can be combined and shared widely.

Mr. Rankin concluded that the Council previously adopted the strategic direction and the Council is comfortable with where we are headed in tasking.

Tornado Damage Assessment, City of Greensboro

(See [meeting](#) presentations).

Mr. Rankin called on Council member Steve Averett for today's technical presentation on tornado damage assessment. Mr. Averett is Manager of GIS and Special Projects for the City of Greensboro. He has implemented enterprise-wide GIS solutions for three organizations and has managed development of numerous applications.

On April 15th, 2018, an EF2 tornado struck east Greensboro. Tree damage was extensive. There was immediate response by Emergency Services, Field Operations, and Parks & Recreation. The first GIS task, by Chris Freeman (who happens to be a meteorologist) of the IT-GIS Department, was to define the path of the tornado to help staff focus their efforts. In the following days, multiple departments (Housing and Development, IT-GIS, Planning, and others) gave support to response and recovery. Thousands of volunteers from all over the region began showing up to assist with disaster relief. Emergency operations assessed which properties were affected and the level of damage, and began feeding that data to GIS to inform the rest of City staff via maps and applications.

In retrospect, GIS played a minor role compared to work that had to be done on the ground. GIS was constrained early on by damaged communications towers (all towers in the area were down) that minimized phone and data service. There was no back-up battery power for laptops and mobile devices, and no reserve of mobile devices to leverage Esri software capabilities. The biggest lesson learned – battery power is essential to take advantage of GIS.

Extensive debris made assessments difficult. Also, staff were not prepared for the influx of volunteers. It was hard to keep everyone safe and take advantage of all the volunteers. By day 3, the City Manager's Office had created a response team comprised of department heads and other key figures to meet daily for the next week to share information and find ways for the departments to work together on creative solutions.

IT-GIS follow-up included mapping the affected addresses after Emergency Operations finalized the address list and making the data available across city departments. IT-GIS also assisted Parks & Recreation in coordinating volunteers by creating hard copy maps for volunteers to perform door-to-door surveys related to relief needs and insurance status. A lesson learned is that organizing volunteers and keeping them engaged is a challenge.

To pull the information together, IT-GIS created the Damage Assessment Esri dashboard. Mr. Averett demonstrated the password-protected online dashboard. This was the most useful GIS product of the recovery period. Esri contributed voluntary technical assistance to implement the dashboard for Greensboro. It took less than 8 hours to customize the dashboard template. Interactive maps included an assessment area, points of damaged structures by type and levels of damage. Parcel data were conflated to structure points. Charts were displayed as well. Several departments used the applications to focus services on locations in greatest need. A lesson learned – Emergency Operations did not release the dashboard to the public to protect property owners from solicitations, but the login requirement turned out to reduce the potential use by city staff. For example, building permit staff were helping in the recovery effort and started to use the dashboard, but found the login a hinderance. More people would have used the dashboard if it had been a public site.

In response to a question about use of Unmanned Aircraft Systems (UAS) in damage assessment, Mr. Averett commented that the City of Greensboro does not have UAS to apply to damage assessment, but the fire department is leading an effort to look into UAS. Mr. Dorman added that the Guilford County emergency manager Don Campbell used a UAS right after the tornado to help figure out where to go to respond. A tall ladder on a fire truck was used to see over the trees and extend the line-of-sight for the UAS operator and get images from a larger area. Also, Mr. Duncan pointed out that oblique imagery providers may offer agreements where they will acquire new oblique imagery over an impact area to help in damage assessment.

In response to a comment by Mr. Badr about “blue skies/grey skies” preparedness in Florida, Mr. Dorman explained a potential pre-event application that uses algorithms based on past events and the latest imagery to calculate expected damage in preparation for state and federal disaster declarations. Mr. Badr observed that an FAA waiver to fly UAS in emergencies still requires line-of-sight operation.

Mr. Dorman pointed out another opportunity—data collected from insurance providers on homeowner insurance in the affected area can be conflated to structures as it has been in the Flood Risk Information System regarding flood insurance. This enables estimations of insurance claims. Mr. Averett is looking into a story map to display insurance information collected in Greensboro.

Pokey Harris added that from an emergency management perspective and her experience managing tornado events in Virginia, countywide GIS was a key element from initial response through long-term recovery. She would encourage all jurisdictions to engage with their GIS operations in preparation for emergencies.

Mr. Averett concluded that, should there be another tornado event, there needs to be more personal devices in reserve and more battery power. The dashboard is ready to apply again when needed. Mr. Rankin commended the dashboard as a visual tool and urged the City of Greensboro to reach out to other jurisdictions to share knowledge and lessons learned.

Committee Reports

Statewide Mapping Advisory Committee (SMAC). Paul Badr, SMAC Chair, reported on highlights of the July 18 meeting.

- The 2022 Reference Frame and implications for state plane coordinates are being discussed by the working group chaired by Gary Thompson.
- Statewide orthoimagery is on schedule for delivery of 2018 imagery in December. The Working Group for Orthoimagery and Elevation discussed additional products that a few local governments are purchasing by piggy-backing on state contracts.
- A new Working Group for Municipal Boundaries, co-chaired by Bob Coats and John Bridgers, is analyzing opportunities to make maintenance of statewide municipal boundaries more complete, consistent, timely, and efficient. A good collaboration is shaping up, including the Secretary of State, the State Demographer, NCDOT, the Census Bureau, the NC League of Municipalities, the Association of County Commissioners, and local governments.
- The Working Group for Land Cover submitted a report to SMAC in July on business needs for land cover data, currently under SMAC review.
- The Hydrography Working Group is making progress on a plan to improve statewide data representing surface waters. In collaboration with NCDOT's Advanced Transportation through Linkages, Automation and Screening (ATLAS) project, the group is reviewing current stream data, identifying and testing potential methods, estimating costs, and considering stewardship opportunities.
- Regarding statewide parcel data, Council members Steve Averett, Kat Clifton, and other county GIS coordinators pointed regional transportation planners in the Piedmont Triad area to NC Parcels for data for a 9-county region, therefore avoiding duplication of effort and providing timely updates from member counties in standardized format. Another benefit of statewide parcels discussed by SMAC was public access to copies of county parcels through NC OneMap in case of a natural disaster, ransomware attack, or other event that compromises a county's ability to serve parcel data.
- SMAC continues to give attention to statewide datasets that are required for implementation of Next Generation 911. Tim Johnson explained that NextGen911 changes the context for local sharing of required datasets including road centerlines, administrative boundaries, fire districts, public safety boundaries, emergency medical service boundaries, and Public Safety Answering Point (PSAP) boundaries.
- SMAC is in the process of updating its Work Plan for 2018-2019.

Mr. Averett commented on NC Parcels and its value to the Piedmont Authority for Regional Transportation in a land use planning process. He and Ms. Clifton assured the planners that the NC Parcels program would work with them to get what they need and, with assistance from Mr. Brown, now they are fully onboard. Mr. Rankin commented that advocates who communicate the value of the product are important in reaching more consumers.

In April, SMAC approved a revised data content standard for road centerlines, and Council members received a copy on June 26 for review and comment. Mr. Badr called on Nik Zisk of the Department of Transportation, a key member of the Working Group for Roads and Transportation, for a summary of the changes in the standard.

Mr. Zisk explained that the Council adopted the original standard in 2005. The document was 31 pages, with much of the content consisting of sample metadata. The new standard has been shortened to 10 pages by providing a link to a metadata example online. The revised standard consists of a preface, five data sections including an introduction, definition, general requirements, and attributes recommended by the National Emergency Number Association (NENA). The revised standard reflects changes in technology, has been adapted to reference NENA standards, and will serve as a template to promote the merger of road centerline and attribute data in North Carolina from various levels of government data sources and providers. Mr. Zisk concluded that the revised standard is not a mandate, but data providers are encouraged to make use of it. He acknowledged the collaborative effort of the Working Group for Roads and Transportation including representatives from NC Department of Transportation, Catawba County, NC Department of Health and Human Services, NC 911 Board, Currituck County, NC Department of Public Safety, the Capital Area Metropolitan Planning Organization, and the Center for Geographic Information and Analysis.

Mr. Badr recommended that the Council adopt the “Geographic Data Content Standard for Transportation Roads Data: Version 2” as submitted.

Voted: The Council approved adoption of the “Geographic Data Content Standard for Transportation Roads Data: Version 2”

Local Government Committee (LGC). Jason Clodfelter, LGC Chair, began by acknowledging the leadership of Kathryn Clifton and thanking her on behalf of the committee for her five years of service as LGC chair.

The LGC is very interested in geospatial data requirements for Next Generation 911. At the last LGC meeting in May, Tim Johnson briefed the committee about developments and opportunities to participate in the NextGen911 project as members of the project team or as advisors to the project. Guidance from local government will be vital to the success of this project.

Following the lead of the Council, LGC discussed elements of Council direction as presented at the May 9th GICC meeting, including statewide municipal boundaries and access to local utility data.

LGC also has high interest in Unmanned Aircraft Systems (UAS) as they emerge as tools for local governments and regional organizations. Some jurisdictions are gaining licensed operators and acquiring equipment. The committee discussed the value of a local government having a single point of contact among its agencies for UAS needs, and assigning work to a qualified contractor that has the necessary equipment, licensing, and insurance. The committee has begun documenting use cases of applications of UAS in local government. Uses to date include promotional videos, monitoring facilities, inspecting landfills, law enforcement, and emergency operations.

Regarding the 2018 orthoimagery project, local governments are involved in visual quality review. On behalf of local governments, Mr. Clodfelter thanked all the state agencies involved in various aspects of the NC Orthoimagery Program. He emphasized the importance of the opportunity for local governments to partner with the State in the orthoimagery review process, with appreciation.

The LGC meets next on August 22. Among many topics, the committee will update its Work Plan for 2018-2019.

State Government GIS Users Committee (SGUC). John Farley, SGUC Chair, reported that the committee consults with DIT on the limited services contract for GIS initiated last year. Instead of renewing that contract as written, a change in approach will take advantage of the firm CAI that is under contract with DIT. CAI's contract includes limited GIS services in the range of IT services it can manage, connecting service providers to state agency short-term needs.

The committee and DIT continue to work on the next Enterprise License Agreement with Esri for GIS software. Terms and conditions are near final. Pricing information from Esri is expected this week. SGUC will use results of a survey of state agencies to allocate annual costs of the next ELA.

The committee is also looking into a potential base map from statewide datasets as an alternative to commercial base map services in online mapping applications. For example, Esri has a "Living Atlas" program whereby state or local governments may submit datasets that may or may not be integrated in Esri base maps. NCDOT participated in the program years ago, but is not currently.

Also, an update to the SGUC work plan is in progress.

Federal Interagency Committee (FIC). Scott Lokken, FIC Chair, reported that the FIC met last week. He gave a presentation to FIC on modernization of the national spatial reference system. It will affect everyone using any geospatially referenced data. There will be a shift in the North Carolina state plane coordinate system. There is a Federal Register notice, with the public comment period ending August 31. Also, there is a National Geodetic Survey policy open for comment with the same end date. In a second presentation to FIC, Howard Butler, an open source LiDAR application developer, explained ways to apply open source software to elevation data.

Agency reports included NOAA reporting that it has acquired oblique imagery along the shoreline as a "before" picture to compare to imagery acquired in the event of a severe coastal storm. NOAA's Office of Coastal Management will release "topobathy" data (i.e., the combination of topography or land elevation and bathymetry or underwater depth) soon on its website. US Fish and Wildlife Service and US Army Corps of Engineers are partnering to look at soils, geologic data and wildlife habitat for species being assessed or reintroduced. US Geological Survey (USGS) is continuing its work on the 3D Nation Requirements and Benefits Study that seeks information about elevation data from states. Twelve of North Carolina's 15 selected survey recipients have responded. Silvia Terziotti of USGS and Gary Thompson, state champion for North Carolina, will hold a workshop this fall to review the findings about state needs.

Regarding uses of topobathy data, Mr. Dorman explained that data for the ocean floor is valuable for modeling waves in coastal floodplain analysis.

FIC seeks three new members for its Executive Committee and will hold elections to fill spots soon.

GIS Technical Advisory Committee (TAC). Dan Madding, TAC Chair, reported that guidance and information on the 2022 Reference Frame, a potential topic for TAC, is being well covered by the National Geodetic Survey, the NC Geodetic Survey and the 2022 Reference Frame Working Group. TAC is available to inform the Council in other ways this fiscal year. Mr. Madding invites requests.

Management and Operations Committee (M&O). Mr. Rankin reported that the committee met on June 18 and heard an update on Census 2020 status, Local Update of Census Addresses (LUCA), and

the Boundary and Annexation Survey (BAS). Mr. Rankin called on Bob Coats to summarize the status of Census activities. Mr. Coats explained that the LUCA process is wrapping up. The Census Bureau is notifying local governments about the Participant Statistical Areas Program that accepts proposals for sub-county and sub-municipal geographic boundaries for which statistics can be published. Also, the Census Bureau is reaching out to local governments to encourage counties to consolidate reporting of municipal boundary changes within their respective county boundaries (Consolidated BAS) in collaboration with the Secretary of State.

Mr. Rankin continued by reporting that Burke County requested the latest imagery (captured but not quality controlled and published) for an urgent public safety investigation. The Statewide Orthoimagery team received permission from the NC 911 Board to share images to meet the need and did so.

Most of the content of the M&O meeting has been covered this afternoon regarding elements of strategic direction and committee reports. M&O will meet next on September 17.

Geospatial Data Act Update

Tim Johnson gave an update on Senate Bill 2128, the current version of the Geospatial Data Act. The bill is assigned to the Senate Committee on Commerce, Science, and Transportation. The Geospatial Data Act was on the Council agenda for comment (November 2017) and the M&O Committee drafted a Council letter of support (December 2017). The M&O Committee approved the letter in April 2018, the Governor and Secretary Boyette approved, and letters signed by Mr. Rankin and Mr. Boyette were sent to the House and the Senate on June 21. Copies were sent to North Carolina's congressional delegation. No action on Senate Bill 2128 has occurred to date. A key sponsor is Senator Hatch. Mr. Johnson offered to share copies of the letters with Council members. In response to a question from Mr. Dorman, Mr. Johnson confirmed that after Council review and comment on Senate Bill 2128, the M&O Committee approved a letter on behalf of the Council.

NC GIS Conference 2019

Mr. Johnson reported that work on the 2019 NC GIS Conference is in progress. The event will be held February 26 through March 1, 2019 in Winston-Salem at the Benton Convention Center. The website will be released this month. The program committee has called for abstract proposals by September 7. Mr. Johnson would like to see ideas from all Council members about topics or proposals for presentations. The conference relies on a strong program. The conference hotels are the Marriott and the Embassy Suites adjacent to the renovated convention center. Registration will be available in about a month. The conference is working with NC State University's Office of Professional Development that has experience at the convention center.

Marc Burris commented that the State Board of Elections just held a conference at the Benton Convention Center with the Office of Professional Development as the event contractor and it went very well.

GICC Member Announcements

Mr. Madding announced that the US Department of Agriculture decided to acquire National Agriculture Imagery Program (NAIP) imagery over North Carolina this summer, not next year as

previously planned. He does not know what the future holds for that program, but the 2018 leaf-on 1-meter 4-band imagery will be available free of charge.

ADJOURNMENT

There being no other business, the Chair adjourned the meeting at 2:30 PM.

The remaining date for Council meetings in 2018 is November 7, Room 240 in the Albemarle Building.

Presentations and reports for this [meeting](#) are on the Council [website](#).