



Public/Private Partnership Working Group

Update - Final Report

December 28, 2007

Background

The Public/Private Partnership Working Group was chartered by the GICC at the November 2006 meeting to explore the opportunities for public/private partnerships in order to achieve the vision of NC OneMap. Chaired by Susan Johnson, City of Charlotte and Herb McKim, McKim & Creed, membership included Ron York of Duke Energy, Andrew Vondrak of Piedmont Natural Gas, John Correllus of Commerce, Lee Mandell of the NC League of Municipalities, Tim Johnson of CGIA, George Glenn of NC One Call, Greg Thorpe of NC DOT and John Dorman of NCEM.

This report is a general recommendation of direction for moving forward to achieve the vision of a contiguous, robust base map of North Carolina. To move beyond general recommendations will require significant involvement of all the stakeholders across North Carolina to develop a process for moving forward with any recommendations adopted by the Geographic Information Coordinating Council.

Process

Five meetings were held over the winter, spring and summer. The work group focused on identifying the barriers to the use of the existing NC OneMap, explored the current data inventories, and discussed issues associated with educating decision makers on the importance of current and accurate spatial data.

In the fall, work group attention turned to addressing the barriers and exploring opportunities to pilot a partnership to demonstrate the value of public/private collaboration using the NC OneMap as the source.

Findings

1. Barriers do exist in provisioning the NC OneMap as a current, accurate and contiguous base map to the public and private sectors. These barriers include:
 - a. Lack of adherence to a common set of standards by mapping entities in both public and private sectors;
 - b. Critical assets are not geo-coded, creating expensive and difficult conversion processes to move them to a common base map;
 - c. Inaccurate, inconsistent or outdated data from sources resulting in data conflicts;

- d. Lack of geospatial referenced point data, attributes and, in some cases, inconsistent coordinate bases;
 - e. Privacy or confidentiality barriers created by the lack of a standard practice for protecting sensitive information and concerns;
 - f. NC Surveyor's Law requiring data to be certified by a licensed surveyor before sharing can occur from the private sector to public entities;
 - g. Lack of comprehensive "source book" of geospatial data across the state; and
 - h. Reliance on local funding streams for collection of key land base data sets (e.g., street centerlines) creating a "best effort" effect by each entity which results in an inconsistent and non-contiguous base map.
2. The private sector has a great interest in using the NC OneMap if the barriers can be overcome. Private sector work group members listed their top priorities as:
 - a. Coordination of public safety responses;
 - b. Opportunities to partner on application development efforts;
 - c. Reduction in the cost of doing business;
 - d. Economic development opportunities;
 - e. Education by the public sector on geospatial data and applications capability to be shared with private sector firms; and
 - f. Finding their role in educating key decision makers.
3. There is strong bi-lateral recognition of the value of having more formal partnerships, especially in the area of data sharing between the public and private sectors.
4. All recognize that public agencies and private firms place a priority on the use of GIS for public safety operations as well as normal business activities, individually and jointly.
5. There is mutual interest and priority to have the NC OneMap evolve to a contiguous map of the state, not just the individual counties.
6. Six key layers have been identified as a priority to the work group:
 - a. Cadastral;
 - b. Municipal boundaries;
 - c. County boundaries;
 - d. Building footprints;
 - e. Street centerlines; and
 - f. Aerial photography.
7. Major issues for these layers today include lack of currency, lack of data, cycle time for recordation of plats in different counties and a need for new aerials to include "leaf on".

8. Discussion with Google Earth and Microsoft's Virtual Earth representatives revealed their interest in dealing with a state-level entity to gain access to street centerlines, aerial photography and any 3-D representations of cities and towns. There was little interest in working with the public sector to address funding issues.
9. The value of having a contiguous, current and robust NC OneMap is difficult to calculate, but the Virginia Department of Transportation recently estimated the value of a similar effort at over \$7 million.

Recommendations

To achieve the vision of NC OneMap as an authoritative source of geospatial data to be used by both public and private entities will require close cooperation and dedication in both sectors. To facilitate this level of cooperation, it will be necessary to create the "infrastructure" to support such a wide scale effort. To provide this "infrastructure", commitments will need to be made by all interested parties to create the policy, the standards, the practices and the funding bases necessary to support a robust and ever changing geospatial repository.

It is essential that all decision makers understand that geospatial data requires on-going maintenance and investment in order to maintain its usefulness. The growth of the State over the next twenty-five years is going to be very significant. It is important to start laying the ground work today to support and perhaps enhance that growth to ensure North Carolina's prosperity and high quality of life.

The Public/Private Partnership Working Group makes the following recommendations for consideration by the NC Geographic Information Coordinating Council:

1. Confirm the NC OneMap as "the" trusted provider for distribution of authoritative, standards based geospatial data for the State of North Carolina and create requirements and incentives for all agencies and local governments to contribute their data to this source. The data originators are by definition the authoritative source of data. Article 76 § 143-725 (b) outlines the authority of the Center for Geographic Information and Analysis to serve as "a statewide data clearinghouse". This is also known as Session Law 2001-359, passed in the 2001 Session of the North Carolina General Assembly.
2. Require agencies and provide incentives for local governments to adhere to standards adopted by the GICC within five years. The Council, in concert with stakeholders, will need to identify current standards available across the various disciplines and may need to create and adopt new standards to achieve the vision of a contiguous base map for North Carolina.

3. Create a source of support, coordination and funding within the Center for Geographic Information and Analysis (CGIA) to enable the transition of agencies and local governments to standards. CGIA should be staffed to perform the role of central coordination for all data activities.
4. Create a dedicated funding model/mechanism to ensure that key data is collected and maintained both at the state and local government level.
5. Establish formal data sharing agreements between CGIA and utilities for the collection and exchange of data with appropriate privacy and security protections.
6. Change the current North Carolina Engineering and Land Surveying Act, GS 80-9.c requirement for surveyor certification of geospatial data to be exchanged between private sector entities and NC governments, allowing data collected under the industry exemption (which allows private companies to collect data without registered surveyors) to be shared.
7. Support the Secretary of State's efforts on digital recordation standards per GS 47-16.5 as such standards will significantly impact the currency of data. The Working Group further recommends that standards be expanded beyond PLATs to include electronic submittal of development plans that will eliminate the need to manually digitize street centerlines and other important constructed assets.
8. Promote the value of the NC OneMap to the Legislature to support the ongoing investment necessary for the maintenance and expansion of this important resource to maximize its value for economic development, public safety, education and tourism.

In addition to these recommendations, the Work group felt it important to lead the way. George Glenn, Executive Director of the NC One Call Center together with Ron York, Duke Energy, have been collaborating in a proof of concept effort to collect, overlay and transfer discrete data in the NC One Call Center for Mecklenburg County. Mecklenburg County underground locate requests represent approximately 15% of locate activity; therefore the proof of concept should provide significant results that will bolster the recommendations outlined above. Mr. Glenn expects to be operating off the new base map by February 2008. The Work group is willing to serve through the term of this experiment and report back to the GICC its outcomes.

APPENDIX A: LOCAL AND STATE AGENCY COMMENTS

NO.	SOURCE	ORGANIZATION	COMMENT/QUESTION	DISPOSITION
1	John Farley	NC DOT	Where did the need for "leaf on" aerials come from?	This was a specific request from GoogleEarth. To support their 3D, there is also an interest from the Dept of Agriculture and some State and Local agencies. Utilities would use this imagery to support their tree maintenance programs.
2	John Farley	NC DOT	What state was being referenced on the \$7M savings estimate of using a common base map?	Virginia DOT is the state. George will make inquiries for backup documentation. Tim will follow up with his Virginia GIS contacts.
3	John Farley	NC DOT	The discussion for standards touches almost every effort. Support for a more coordinated approach among all efforts would probably help move this along.	We agree.
4	John Farley	NC DOT	Recommendations made depend heavily on NC OneMap. I believe major changes need to be made to NC OneMap and its current business structure before it can be made as "the authoritative source of geospatial data for the State of North Carolina".	Request has been made for Mr. Farley to provide more specificity on issues with NC OneMap.
5	John Farley	NC DOT	A statewide standard for recordation of development plans is mentioned. This is a great idea, but very difficult to implement. Has any consideration been given to what phases) of constructions and platform would be recommended?	Recommendation was made to open the dialog of how this could happen. There will need to be many discussions involving state agencies and local governments as to the ability of this to be done. Only after there is consensus between the appropriate stakeholders would the construction phase be considered.
6	Bliss Kite	NCUC	It would be interesting to hear the general details of that \$7M situation.	The Working Group is making a request to VDOT for the report that substantiates the \$7M savings estimate.

7	Bliss Kite	NCUC	In recommendation 1, it might be helpful to site relevant statutory authority if it exists.	The GICC has authority to serve as a clearinghouse and repository for geospatial data. CGIA operating a "statewide data clearinghouse" is Article 76 § 143-725 (b). It is also known as Session Law 2001-359 (passed in the 2001 Session of the General Assembly)
8	Bliss Kite	NCUC	In recommendation 2, what are some suggestions for incentives?	The word incentives is being used in the broadest sense here. Incentives could range from enjoying the benefits of having a broad set of data available to you in a centralized source to something as discrete as financial incentives such as cost sharing. What incentives, if any, are developed will require significant dialog of all stakeholders as to what would be appropriate and doable.
9	Bliss Kite	NCUC	Are you aware of cases that might need to be mentioned where geospatial data sharing has caused harm/damages or been very close to causing harm/damages?	We are not aware of any issues arising from data sharing, however there have been issues raised about conflicting or misinterpreted data from time to time. Surveyors have encountered push back from the general public occasionally where the property owner has received incorrect maps or have misinterpreted a map from an online source. We do recognize that some data is not shared due to homeland security or proprietary protection.
10	Janet Lowe	Buncombe County	Recommendations Para 1: You can "confirm" all you want, but if there's no substance to the claims, there's no substance. Ultimately the local governments and agencies will have to get to the point where they know that it's the authority. That will take an awful lot of ambassadorship and success stories (aka pilot projects). Word of caution: creating "unfunded mandates" (aka "requirements") will turn people/organizations off. It's a lot of work, but partnerships are much more successful at getting folks to move in the direction that's best for all.	We agree.

11	Janet Lowe	Buncombe County	Recommendations Para 2: I would word this paragraph to specifically state adherence to standards for sharing data. The way that people use their data internally is not open for discussion, due to funding sources and differing requirements for all agencies. However, you can very explicitly state how it should be shared, and what data needs to be included.	Our intent is to have all the counties data available to be able to create and maintain a contiguous coverage map across NC. This is a central to the Workgroup recommendations. In order to achieve this, we envision that there will need to be a minimum set of standards that will need to be adhered to in the collection and publication/sharing of data.
12	Janet Lowe	Buncombe County	Recommendations Para3: "Create a source of leadership, support and funding within the ... CGIA to enable the publication of data from agencies and local governments to standards. CGIA should be staffed to perform the role of central leadership, coordination and support for all data activities."	We agree.
13	Janet Lowe	Buncombe County	Recommendations Para 5: "Establish formal data sharing agreements between agencies, local governments, CGIA and utilities [why not just say private industry?] ..."	Private industries is a better word.
14	Janet Lowe	Buncombe County	Recommendations Para 6 and 7" "Reconsider"??? "Consider"??? Haven't you been doing this already for a year? These statements either need to be beefed up or left out. Make a bolder recommendation! All that can happen is that someone will say "yes, we'll take that recommendation" or "no, we won't."	Recommendation 6 is intended to encourage data sharing between the private sector and the public sector. The requirement Recommendation 7 is a new issue for the NC GICC to consider. Support and encourage the development of a statewide
15	Janet Lowe	Buncombe County	Recommendations Para 8: "Demonstrate the value of NCOneMap to the Legislature..." Return on Investment is demonstrated through successful pilot projects. Let's do them! You'll end up with a portfolio of success stories that continue to make your case.	We agree.
16	Janet Lowe	Buncombe County	Last paragraph: Needs more concrete schedule and dates of the "experiment".	That North Carolina One Call Center has created on their test server the Mecklenburg Co. base map using Mecklenburg co data. The intent is to being operations by end of February 2008.

17	Janet Lowe	Buncombe County	Overall comment: There are a lot of recommendations for public organizations to be doing things here, but very little in the way of money or resources contributed in support of these efforts. Paragraph 8 in the findings section was pretty clear about this issue. How will the citizens benefit from private companies' reduction in costs? Better county/state services? Cheaper costs for private services? Better integration and ease of use? More jobs?	All of the above. Allows you do more with less.
18	David LaBranche	FIC	Although it has been many months now since we at the DoD staff level have participated in the FIC, I would like to offer the following unofficial comments.	
19	David LaBranche	FIC	Please see the attached files offering the DoD perspective on authoritative source.	
20	David LaBranche	FIC	I suggest to the group that while NC OneMap desires to be an authoritative source, it is probably more valuable at this stage of development to establish a consensus set of definitions and responsibilities required the various contributors to the Map. I think it is more important to define data content and data quality parameters at the state level, rather than attempting to declare something as the authoritative source. I suggest that a focus on establishing a reasonable, consensus-based data content standard is the most valuable thing to do.	We agree.
21	Keith Johnston & Charlie Brown	SMAC	The overwhelming majority of the work NCDOT Photogrammetry and Location & Surveys Units do is project specific and only covers a very small area, certainly not an entire county. The work is done for Transportation Improvement Project planning, environmental documents, and engineering design. The project specific nature of the work is also a characteristic of much of the work done by private sector photogrammetry and survey firms. Does this data of such a small area fall under the Private/Public Partnership Working Group Final Report for bolstering NC OneMap?	We're interested in the 37 data layers adopted by the Council. This is the first priority.

22	Keith Johnston & Charlie Brown	SMAC	<p>The Private/Public Partnership Working Group Final Report has some language that if taken literally to apply to the surveys and mapping Photogrammetry and Location & Surveys Units produce would have a significant impact on our operations. It would also have a similar affect on private photogrammetry and survey firms. I may be reading too much into the report wording, but I want to bring to your attention the following items.</p>	<p>This report is making general recommendations for the consideration of the GICC. Adopting any recommendations will require action of the GICC and a great deal of work by all stakeholders to create very specific requirements.</p>
23	Keith Johnston & Charlie Brown	SMAC	<p>1) The recommendation (#2) that states "Require agencies and provide incentives for local government to adhere to standards established by the GICC within five years" would be a new and additional requirement for the NCDOT Photogrammetry and Location & Surveys Units. The data collected and graphic files produced for NCDOT planning & design work are in a MicroStation format, not an ASCII or GIS format. The orthophotography that Photogrammetry produces is not color with a 0.5 foot pixel resolution (the current state standard). The file format issue is also the case with private photogrammetry and survey firms who typically use a CADD software such as Autodesk, Eagle Point, or several other small packages to produce their surveys and mapping. Producing these mapping products in a yet to be defined format (very possibly an ESRI GIS format) is not a requirement NCDOT is ready to fulfill. I would expect many of the private photogrammetry and survey firms to be in the same situation.</p>	<p>At this time we are interested in the countywide orthophotography, not individual project data.</p>
24	Keith Johnston & Charlie Brown	SMAC	<p>2) Another issue is the retention of the data. NCDOT Photogrammetry and Location & Surveys Units move the surveys and mapping data to archived storage (off line), and thus it is not readily available to be accessed remotely.</p>	<p>See above.</p>

25	Keith Johnston & Charlie Brown	SMAC	<p>3) The NCDOT Photogrammetry and Location & Surveys Units can provide our surveys and mapping in its native format to a state entity for inclusion in NC OneMap at such time it is appropriate for NCDOT to release the data. This could include orthophotography, planimetric mapping, DTM data, utility data, and property surveys within TIP study areas and TIP corridors. The DTM data could be used to by a state entity to enhance and update the existing statewide LiDAR elevation data. The utility data and property survey data also be used to update existing sources by such a state entity.</p>	
26	Gary Thompson	SMAC	<p>Finding 1.a. Lack of adherence to a common set of standards by mapping entities in both public and private sectors</p> <p>There are many statewide standards adhered to by both public and private entities, including statewide standards established by the following agencies:</p> <ul style="list-style-type: none"> • Land Records Management establishes standards used by counties for their mapping projects (imagery and land records management mapping). • North Carolina Board of Examiners for Engineers and Surveyors (NCBELS) establishes standards used by both Professional Land Surveyors and Professional Engineers. • North Carolina Floodplain Mapping Program (NCFMP) establishes standards used by both public and private sector companies to produce Digital Flood Insurance Rate Maps (DFIRMS). • North Carolina Geodetic Survey (NCGS) establishes standards for control surveys that are the framework for both public and private geographic information systems. 	<p>All of the sources of standards are important.</p>

27	Gary Thompson	SMAC	<p>Finding 1.f. NC Surveyor's Law requiring data to be certified by a licensed surveyor before sharing can occur from the private sector to public entities</p> <p>Recommend changing "NC Surveyor's Law" to "The North Carolina Engineering and Land Surveying Act" and cited as North Carolina General Statute 89C.</p> <p>Change "licensed surveyor" to "Professional Land Surveyor".</p> <p>Professional Engineers and Land Surveyors are free to share information with public agencies as long as the information (e.g. plats, drawings, and reports) includes the proper certification. Information provided by a Professional Engineer or Land Surveyor to a public agency can be shared with other agencies and the public, because G.S. 89C does not restrict the sharing of information once it becomes part of the public domain.</p> <p>Did the committee review Homeland Security rules to determine what restrictions are placed on private sector firms (utility companies) concerning data sharing?</p> <p>Other factors (Homeland Security regulations and company policy) may be contributing to the restriction of sharing data between the private sector and the public other than the Engineering and Land Surveying Act.</p>	<p>We recognize that there are some data sets that cannot be placed in the public domain due to restrictions from Homeland Security. We also understand that individual private firms also have internal restrictions. We cannot mandate that private industry firms share their data. Our goal is to encourage as much sharing as possible given existing restrictions.</p>
28	Gary Thompson	SMAC	<p>Finding 7 Major issues for these layers today include lack of currency, lack of data, cycle time for recordation of plats in different counties and a need for new aeriels to include "leaf on".</p> <p>In regards to the "cycle time for recordation of plats" issue, is this a recommendation for mandatory recordation of plats? If it is I would recommend that the GIOC should seek input and support from the following entities:</p> <ul style="list-style-type: none"> • County Register of Deeds • Professional Land Surveyors • County Review Officers • Lawyers • Real estate industry 	<p>We agree and our intent is to create an opportunity for this dialogue to occur.</p>

29	Gary Thompson	SMAC	<p>Recommendation 2 Require agencies and provide incentives for local governments to adhere to standards established by the GICC within five years.</p> <p>Recommendation 3 Create a source of support, coordination and funding within the Center for Geographic Information and Analysis (CGIA) to enable the transition of agencies and local governments to standards. CGIA should be staffed to perform the role of central coordination for all data activities.</p> <p>These two recommendations could have conflicts with existing North Carolina general statutes that instruct state agencies to develop standards and coordinate data activities.</p>	<p>The GICC recognized that standards are created from many sources and the intent is that the GICC adopt those standards as appropriate for supporting the vision of the NCOneMap. Will work with stakeholders to create new standards where needed.</p>
30	Gary Thompson	SMAC	<p>Recommendation 6 Reconsider the current NC Surveyor's Law requirement for surveyor certification of geospatial data to be exchanged between private sector entities and NC governments.</p> <p>Clarify the meaning of "Reconsider" in the recommendation. If the working group recommendation is for only specific sections to be modified, then the section(s) should be noted in the report?</p> <p>Recommended wording change for recommendation 6.</p> <p><i>Recommendation 6: Work with the North Carolina Board of Examiners for Engineers and Surveyors (NCBELS) to resolve issues related to "The North Carolina Engineering and Land Surveying Act" and any other issue within their jurisdiction.</i></p>	<p>We are rewording to say "change". This is a long term open issue.</p>

31	Gary Thompson	SMAC	<p>Recommendation 7 Consider the development of a statewide standard for the digital recordation of development plans. Such a standard would significantly impact the currency of data as well as provide a vehicle for the geo-codification of major assets.</p> <p>The Secretary of State has been working on digital recordation standards per GS 47-16.5. and has established the thirteen (13) member Electronic Recording Council, which is composed of seven (7) members from the North Carolina Association of Registers of Deeds and a single representative from each of the following other organizations:</p> <ul style="list-style-type: none"> • North Carolina Bar Association • North Carolina Society of Land Surveyors • North Carolina Bankers Association • North Carolina Land Title Association • North Carolina Association of Assessing Officers • North Carolina Department of Cultural Resources <p>In addition, NCEELS has established the "Standard Certification Requirements" board rule (21 NCAC 56 .1103), which reads as follows:</p>	<p>The Secretary of State is the recognized and appropriate authority for this process. The intent of the recommendation is to support and encourage the achievement of this standard. We are recommending that we move beyond PLATs to include submittal of electronic development plans that will eliminate the need to manually digitize street centerlines and other important constructed assets.</p>
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32			<p>21 NCAC 56 .1103 STANDARD CERTIFICATION REQUIREMENTS</p> <p>(d) Electronically transmitted documents. Documents, including drawings, specifications and reports that are transmitted electronically to a client or a governmental agency shall have the computer-generated seal removed from the original file, unless signed with a digital signature as defined in Paragraph (e) of this Rule. After removal of the seal the electronic media shall have the following inserted in lieu of the signature and date: This document originally issued and sealed by (name of sealer), (license number), on (Date of sealing). This medium shall not be considered a certified document. Hardcopy documents containing the original seal, signature and date of the licensee may be duplicated by photocopy or electronic scanning processes and distributed either in hardcopy or electronic medium. The scanned digital files of properly certified documents are not subject to the requirements of this Paragraph. The electronic transmission of CAD, vector or other similar files subject to easy editing are subject to the requirements of this Paragraph. Easy editing is based on the file consisting of separate elements that can be individually modified or deleted.</p> <p>(e) Documents to be electronically transmitted that are signed using a digital signature shall contain the authentication procedure in a secure mode and a list of the hardware, software and parameters used to prepare the document(s). Secure mode means that the authentication procedure has protective measures to prevent alteration or overriding of the authentication procedure. The term "digital signature" shall be an electronic authentication process that is attached to or logically associated with an electronic document. The digital signature shall be:</p> <ol style="list-style-type: none"> (1) Unique to the licensee using it; (2) Capable of verification; (3) Under the sole control of the licensee; and (4) Linked to a document in such a manner that the digital signature is invalidated if any data in the document is changed. <p><i>History Note: Authority G.S. 89C-10; 89C-16; Eff. February 1, 1976; Readopted Eff. September 29, 1977; Amended Eff. August 1, 2002; August 1, 2000; August 1, 1998; February 1, 1996; May 1, 1994; April 1, 1989; December 1, 1984.</i></p>	
33	James Armstrong, Richmond County	LGC	I think this report is well thought out and responsive to the issue identified. I do want to stress that all recommendations seems to be critical and if one is thrown out, it would damage the integrity of the remaining recommendations. Good Work!!!	

34	Jon Beck (and Joe McKinney, GICC member), Land of Sky Regional Council	LGC	It looks fine to us.	
35	Michelle Deese, Catawba County	LGC	We all agree that public/private partnerships can be very valuable and we appreciate the efforts involved in this complex project. After reviewing the report, we offer the following comments and questions.	
36	Michelle Deese, Catawba County	LGC	1. We agree with the list of key layers. When can we expect a list of the attributes of these layers to be published? Will there be time allotted to comment on the attributes identified as necessary?	This is work that needs to be done, and will be done through an inclusive process with all stakeholders.
37	Michelle Deese, Catawba County	LGC	2. Will the PIN length in the cadastral layer matter? We use a 12 digit PIN. We're aware that other counties have PIN's of various lengths. Can this be accommodated as is or is the expectation for the pin to be the same length throughout the State? (This would affect several applications we currently have in place.)	Details are yet to come and we will need to involve all stakeholders as we discuss these types of issues.
38	Michelle Deese, Catawba County	LGC	3. Is there a way to elaborate on (or clarify) the expectations or contributions of the private partners? The recommendations seem much more focused on the expectations for the public agencies.	It is difficult at this time to be more specific about the expectations for the private sector. These will need to be defined more clearly as opportunities for partnership arise. We are more focused on creation of the land base maps at this time. As we move to trying to share sensitive facility data we will have to establish protocols that will provide appropriate protection and security.
39	Katie Brewer, Henderson County	LGC	Overall this is a very exciting step towards bridging the gap between public and private. As a member of local government, I appreciate the effort that has been made in this arena. I was very impressed to know that a pilot project is starting. Congratulations and keep the good work going! General comments and questions:	

40	Katie Brewer, Henderson County	LGC	1) In my county government bias, I saw that NCACC was not on the list or any other County entity. I'm sure that those present represented County objectives as well, but I was wondering the reason for not having at least one County rep. (I'm not sure how things at this level work!)	Working Group members were selected from volunteers from the Council and was open to all. Counties are well represented on the Council and are involved in the process of reviewing the Work Groups recommendations. To move beyond any recommendation to action will require the involvement of all stakeholders.
41	Katie Brewer, Henderson County	LGC	2) Please further define 'Decision Makers' in the context of this mission/objective. I find it helps to know exactly who the target audience will be.	We are using the term decision maker in its broadest context-an individual who may have control over resources. The intent of that sentence was to communicate to those who may not be well grounded in understanding how geospatial data is created and must be maintained, be alerted to the fact that there is an ongoing commitment to keeping geospatial data accurate and current.
42	Katie Brewer, Henderson County	LGC	3) Under the priorities from the private sector, does the comment about 'reduction of the cost of doing business' refer to just the private sector or is that a goal for both?	Goal for both.
43	Katie Brewer, Henderson County	LGC	4) I stand up and applaud the recommendation for an 'infrastructure'. In my mind that maps out the flow between everyone and what it would take to make it happen. I still keep asking for a map of how all the organizations work together. I still haven't been able to get my head around it. It would be really helpful in defining GIS roles at the local government levels because most managers still don't know how to work with and/or fit GIS into the right fit for their organization. Direction for the future needs to come from somewhere! In my case, I never get to talk with county management about GIS and my boss (IT Director) just trusts me to make what we have work. I basically manage vendors for web and database items and dole out licenses. The departments run GIS however they want in their domain. Being IT, we just wait until we are asked to help. There's little inclusion of GIS in the vision talks for the County (unless other departments bring it up). I hope that I'm a singular case but I'm afraid that may not be the reality. I love the way the issues are the same no matter what scale you are playing on. Again, it would be most helpful to receive a vision of the future responsibilities of local GIS from someplace since it is not happening at the County management level (at least not here).	Right on. This is a common issue for many geospatial professionals.

44	Katie Brewer, Henderson County	LGC	5) We have all of the six layers identified as priority to the Working Group BUT Building Footprints. We have building sketch information in our tax office system and address points but no footprints. Will there be any hope of help creating and maintaining this layer similar to the ortho efforts?	Building footprints have been included in the NCOneMap 5 year plan. Unfortunately it has not been funded as of this report.
45	Katie Brewer, Henderson County	LGC	6) Are there plans to tie this to the National Map? If so, I'd ultimately like to see that build into the infrastructure map that I know someone will put together at some point. Hint, hint.	The NCOneMap was created on the basis of tying in with the National Map.
46	Paul Black	TJCOG	I think it looks fine. I assumed this was geared to Google Earth type "private" and not Progress Energy type "private." If that "isn't" the case, I would love to see utility data like pipelines, transmission lines, etc. as one of the data layers. I also like any breaches to the surveyors' law, which I think is grossly overarching and out of date.	Private industry is inclusive of firms like Google Earth as well as utilities, land developers and others.
47	Julie Stamper, Pasquotank County	LGC	My comments aren't specific to any of the points raised, but overall, this report makes me very uncomfortable as it relates to smaller, poorer local governments. I think promoting standards is good, but if we push too hard on that point to small, under-funded communities, it will either make them not want to collect data or outsource it to the private sector. Those communities would not be able to convert their data to standards without considerable help from CGIA – and that is mentioned, but I can easily believe that that funding would not come through, but yet the standards would still be pushed.	We are very sensitive to the ability of each local government to fund and support major GIS efforts. Dealing this this issue is going to be critical to establishing a contiguous base map for North Carolina.
48	Julie Stamper, Pasquotank County	LGC	I think the private sector is all over using our data to make money, but I don't see much gain for local government. We do all the work, do it like they want it to look, give it away, and someone makes a lot of money. I don't want to hold on to our data and make it secret, but it seems like we should be getting a little more from the private sector. We don't give away anything. The local citizen's can't even get an 8X11 aerial map of their house for free and we are going to primp our data for some of the richest companies in the world? It just makes me really uneasy.	

49	Julie Stamper, Pasquotank County	LGC	I know most counties give their data away and I'm fine with that. I'm probably fine with giving away my data, but if I'm going to do anything extra to make my data more attractive to private companies, I'm going to have to see some return.	Please keep in mind that providing data in a special format or enhanced form to a private sector company is something for which a county can be compensated.
50	Julie Stamper, Pasquotank County	LGC	I'd also like to see more local representation on the working group.	The Working Group is comprised of volunteers. Continuing work on this project will offer opportunities for others to become involved.
51	Beth Stagner, City of Raleigh		The report looks good; my only comment would be that maybe the last paragraph under recommendations actually breaks out into a new heading. You have 8 recommendations and then the last is a project/example/test...whatever. It just seems different than the 8 recommendations...maybe a recommendation in action.	
52	Steve Randone, Brunswick County, representing the NC Property Mappers Association Board.	NCPMA	Item 1. We do not agree with the term "authoritative source" in reference to NCOneMap. The counties that create and maintain the data are the authoritative sources for their data.	We agree..see above.
53	Steve Randone, Brunswick County, representing the NC Property Mappers Association Board.	NCPMA	Item 2. NCPMA and the NCLRM develop standards to be utilized by local governments. GICC does not establish mapping and ortho standards for our organization. GICC adopts standards that are developed by the previous mentioned agencies. Are they suggesting that this be changed?	We agree..see above.

54	Steve Randone, Brunswick County, representing the NC Property Mappers Association Board.	NCPMA	Item 3. What type of data activities are we speaking of?	The Working Group envisions CGIA as a source of support for the education of data originators on standards, good practices for geospatial data management, coordination or facilitation of multi-county data acquisition projects, management of private industry data sharing agreements, and other general data activities associated with building the NC OneMap.
55	Steve Randone, Brunswick County, representing the NC Property Mappers Association Board.	NCPMA	Item 6. Recommendations can only be made to the Board that governs this law. CGIA nor GICC can reconsider the law. NCBELS should be the agency doing the reconsideration on the advice of the GICC.	Understood.
56	Steve Randone, Brunswick County, representing the NC Property Mappers Association Board.	NCPMA	Item 7. There is a committee already designated to address these issues (Land Records Committee).	The Secretary of State is the recognized and appropriate authority for this process, per GS 47-16.5, in conjunction with the thirteen member Electronic Recordation Council. The intent of the recommendation is to support and encourage the achievement of this standard.
57	Colleen Sharpe, City of Raleigh		Based upon comments I've read, I think the definition of Private needs to be considered - is it all private companies or local private companies in NC. As Julie said, we've seen some private companies that just want our data to further their agenda/profit but not want to partner with us for the good of both, these have typically been the large, out-of-state mapping and internet companies.	

58	Colleen Sharpe, City of Raleigh		We tried contacting Google Earth about the use of our aerial imagery, which is updated each year, but they had recent satellite imagery and weren't interested (or so we were told). I wish we could get these companies to work more closely with us so the most current information is available to our citizens who are more and more looking to them as the source for mapping data. Until we can make NC OneMap as easy to use as their internet products, we aren't going to draw citizens. There has to be a reason to go to the site.	The Working Group has the impression that companies such as GoogleEarth are refining their business model associated with data acquisition. We found them interested in working with CGIA as a "single point" of data, but recognize that is not today's reality.
59	Colleen Sharpe, City of Raleigh		We really need to emphasize the ongoing nature of GIS data and application development - these are not one time costs!	Very true.
60	Colleen Sharpe, City of Raleigh		Before you can require use of standards, you have to make sure people know they have been adopted. The education and outreach functions need to be enhanced. Incentives will also be important but if we don't know there are adopted standards or incentives, how will we use them. Communication and outreach are critical. CGIA needs to be adequately funded in order to carry out these functions.	We agree.
61	Colleen Sharpe, City of Raleigh		In recommendation 5 are you talking about just private utilities or public as well? I'd like to see the guidelines for determining what data can be shared to be similar for public and private utilities and that a standard or model is developed statewide and education and outreach follows.	The Working Group's recommendation is inclusive of public and private utilities.
62	Colleen Sharpe, City of Raleigh		I'm not clear what recommendation 7 means. Are we talking about the recordation of subdivisions and recombinations that currently take place, just making them electronic? Or are you talking about recording as-builts of utilities and other infrastructure and preliminary plans? That seems more problematic if they aren't part of current City codes and requirements. It just could be the use of the word "development" that is throwing me since our development plans are not recorded, just the resulting lots - this may be a case of semantics.	Yes, we are including all of those things, but we recognize there is a great deal of work to be done before this can be achieved.

63	Jay Heavner, Gaston County (former GICC member)	GIS Community	I've read the report...and think it's great! I tip-my-hat to each of the working group members for all your time invested --- it will pay off.	
64	Al Gillikin, City of Rocky Mount	GIS Community	Excellent report. Very concise and addresses issues I have seen for many years. Anything the City of Rocky Mount GIS can help with please let me know.	
65	Paula Gee Davis, UNC Chapel Hill Mapping Manager	GIS Community	I read the report and it looks very thorough to me. I applaud the partnership for embracing this task – NC OneMap and Improving NC OneMap.	
66	Jason Mann, City of Asheville	GIS Community	It's really good to see the emphasis placed on the benefits of spatial data infrastructures (even if that term wasn't explicitly used) and standards. I do think that the value, importance, and visibility of issues like open (and/or shared) spatial infrastructures and standards really go beyond the realm of private/public partnerships. Once standards based (and open) spatial data infrastructures are well established, the importance of private/public partnerships will be much less of an issue.	
67	Dianne Enright, SGUG Chair	SGUG	Finding 1.0: What are the thoughts/meaning of "source book"? A listing? Metadata? Data depository?	The final definition of what a sourcebook would contain and how it would work needs more thought, but the Working Group found that many private sector firms had difficulty determining what geospatial data existed within State agencies, counties and municipalities. We envision creating a directory-like instrument which could assist everyone seeking geospatial data.

68	Dianne Enright, SGUG Chair	SGUG	Finding 4.0: Business Operations?	The Working Group felt that as GIS databases are fully more developed and private businesses of all types (service, retail, manufacturing, utilities, banking, insurance, etc.) become more digitally sophisticated, GIS will become a resource in many business activities such as customer service, sales and marketing, pricing strategies, deliveries, asset management, and others.
69	Dianne Enright, SGUG Chair		Finding 5.0: Of what? The NC OneMap vision has always been that the best data comes from the "owners/creators" of the data. Where it is feasible, the state does work to provide contiguous data layers.	We agree.
70	Dianne Enright, SGUG Chair	SGUG	Finding 7.0: Why are "leaf on" aerals mentioned?	See comment #1.
71	Dianne Enright, SGUG Chair	SGUG	Finding 9.0: Which state? How did they arrive at \$7million?	See comment #2.
72	Dianne Enright, SGUG Chair	SGUG	Recommendation 1: NC OneMap can not be "the" authoritative source. The source of the geospatial data are the entities that create and maintain it. We would recommend that the language just be changed to ...NC OneMap as "the" discovery and access mechanism or tool of geospatial data...	You are correct. The report has been updated.
73	Dianne Enright, SGUG Chair	SGUG	Recommendation 2: What type of standards? Geospatial data?	"Standards" is being used in the most inclusive form and is being used to refer to geospatial data.
74	Dianne Enright, SGUG Chair	SGUG	Recommendation 6: This should be done under other efforts ongoing through the GICC, dealing with the Surveyor's Law & SMAC.	The Working Group is concerned that the efforts to resolve issues associated with GS 89C have been lingering for many years without resolution, therefore we are making a strong recommendation to move forward specifically with resolving the issue of private sector firms being able to share non-certified data with the public sector.
75	Dianne Enright, SGUG Chair	SGUG	Recommendation 7: This falls under the Secretary of States' Office, either strike it entirely or add "through cooperation with the NC Secretary of State and the Digital Recordation Council" (Also stepping on the toes of the registrar of deeds)	We agree.

76	Secretary Elaine Marshall	Secretary of State	Recommendation 1: Through the emphasized use of the word "the", this recommendation suggests that the NC OneMap is the definitive and only authoritative source of geospatial data in the state; by extension, it also implies that the agencies that actually created the various data sets maintained in NC OneMap are not authoritative sources. Any agency that creates geospatial data should be considered as an authoritative source of the data.	We agree and the report has been changed.
77	Secretary Elaine Marshall	Secretary of State	Recommendation 2: Some agencies have general statute mandates to develop mapping standards used in the state (e.g., GS 102-17 and GS 147-54.3). This recommendation would appear to advocate the GICC circumventing those duties and responsibilities assigned to other agencies. The GICC should provide input and assistance to those agencies that have the legislative responsibilities to develop mapping standards, and the GICC should adopt the standards developed by those agencies rather than developing its own standards.	The GICC will need to adopt existing standards or advocate for new standards from agencies who carry mandates for mapping or other geospatially related standards.
78	Secretary Elaine Marshall	Secretary of State	Recommendation 3: As per the comments of Recommendation #2 above, some agencies have the legislative mandates to develop standards, provide grants and funding, and provide coordination for mapping activities (e.g., GS 102-15, GS102-17, and GS 147-54.3). The CGIA should provide input and assistance to those agencies that have the legislative responsibilities to develop mapping standards, provide grants and funding, and provide coordination.	We agree.
79	Secretary Elaine Marshall	Secretary of State	Recommendation 6: The NC Board of Engineers and Land Surveyors should be consulted before a recommendation to change GS 89C (state's surveyor laws) is included in the Final Report.	The Working Group is concerned that the efforts to resolve issues associated with GS 89C have been lingering for many years without resolution, therefore we are making a strong recommendation to move forward specifically with resolving the issue of private sector firms being able to share non-certified data with the public sector.

80	Secretary Elaine Marshall	Secretary of State	<p>Recommendation 7: - It is doubtful that the GICC has the authority/responsibility to set this type of standard, and this could be a duplication of effort of activities currently being undertaken for the digital recordation of maps. The Electronic Recording Council and the Secretary of State have been assigned the responsibilities for developing standards for the electronic recordation of documents including maps by GS 47-16.5. Also, the NC Board of Engineers and Land Surveyors currently has rules for maps drawn by surveyors for digital recordation per 21 NCAC 56. The decision to accept electronic documents and the type of documents to be accepted is ultimately the responsibility of the local Register of Deeds.</p>	<p>The Secretary of State is the recognized and appropriate authority for this process, per GS 47-16.5, in conjunction with the thirteen member Electronic Recordation Council. The intent of the recommendation is to support and encourage the achievement of this standard.</p>
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