




  
**State of Nebraska  
GIS/Geospatial  
Strategic Planning**  
**STAKEHOLDER WORKSHOP**  
 February, 2012  
  
 Michael Turner, Exec. Vice President  
 Kate Hickey, Senior Project Manager

## Agenda

- Introductions
- Project description
- Background on CAP grant & NSDI
- Nebraska geospatial strategic planning context
  - Maturity of GIS program, NSGIC 9 criteria
  - The role of Nebraska’s GIS Council
  - Status of “Framework” data layers
- Preview of results from geospatial stakeholder survey
- Discussion, questions and answers

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## Introductions


- **Applied Geographics, Inc. project team**
  - **Michael Turner**, Principal in Charge
  - **Kate Hickey**, Senior Project Manager
- **Nebraska’s Team**
  - **Nathan Watermeier**, State GIS Administrative Mgr
  - Strategic Planning Steering Committee Members
  - Nebraska GIS Council Members
- **Who’s in the room**

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## Definition of Strategic Planning

*It’s pretty simple...*

- Figure out what you want and need
- Decide what you’re going to do about it

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## Project Goal

- To produce a high quality Geospatial Strategic Plan for the State of Nebraska
- Presents a vision for moving forward
- Identifies goals for realizing the vision

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## Scope of Work

- **Stakeholder Outreach**
  - Online **survey**
  - Stakeholder **meetings** – *here we are*
  - Conduct **interviews** with key stakeholders
- **Report Authoring**
  - Synthesize what we hear into SWOT
    - Strengths, Weaknesses, Opportunities & Threats
  - Develop a **Vision Statement**
  - Identify & prioritize key **programmatic goals**
    - Aka recommendations
  - Develop Strategic Plan
  - Support **education and advocacy** for the plan

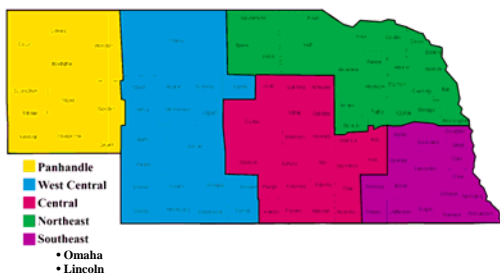


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## Six Regional Workshops *Held across the state*



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## Roles & Responsibilities

- **AppGeo: *Facilitator & Scribe***
  - Facilitate planning process
  - To keep the ball rolling
  - Lend our experience
  - Author the documents
- **NE Strategic Plan Steering Committee: *Direction & Ideas***
  - It's **your plan** not *our* plan
  - Identify priorities
  - Identify the target audience

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### The National Spatial Data Infrastructure (NSDI)

*What is it?*

- **Common data** requirements everyone shares; **Baseline data**
- Compilation and integration of consistent, high-quality **nationwide data** for **7 framework layers**
  1. Geodetic Control
  2. Cadastral (parcels)
  3. Political Boundaries
  4. Hydrography
  5. Imagery (orthos)
  6. Elevation
  7. Transportation (Air, Roads, etc.)

**The Federal Vision for NSDI and Statewide Spatial Data Infrastructures**

Data sharing between levels of government:  
 - The best data are local  
 - Local rolls up to regional/state  
 - NE SDI linked to other state SDI's  
 - NE SDI linked to National SDI

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### History Behind Federal Funding for this Project

- Current approach relies on State data as “puzzle pieces”
  - Strong states = Strong national fabric
- **50 States Initiative:**
  - Effort to **catalyze** creation of common data
  - Provide \$\$ for projects like this one
  - Strategic Planning will **help strengthen states geospatial efforts**
    - Nebraska is the 48<sup>th</sup> state
- But, FGDC wants strategic plans to be *similar* in structure
  - The one string that is attached to the grants: use **NSGIC guidelines**
  - Allows state-by-state comparison/contrast

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### Statewide Spatial Data Infrastructure

*The state is in the center; must be locally relevant*

- Data sharing between levels of government
  - The best data are local
  - Local rolls up to regional/state
  - NE SDI linked to other state SDI's
  - NE SDI linked to National SDI

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### The NSGIC Templates

*The one-two punch of Strategic & Business Plans*

- **One Strategic Plan**, potentially **many Business Plans**
- **Strategic Plan**
  - **What and Why**
  - Vision & Goals
  - The “big picture” and overall context
- **Business Plan**
  - **How, When, and How Much**
    - The “What are you going to do about it?”
  - Aimed at those that approve and fund
  - Details of initiative(s) emerge
  - Presented as a business case


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## The Planning Process Matters!



**“Plans are nothing; planning is everything”**  
Dwight D. Eisenhower

<http://www.whitehouse.gov/history/presidents/6034.html>



**“Plans are of little importance, but planning is essential”**  
Winston Churchill

[http://en.wikipedia.org/wiki/Image:Winston\\_Churchill.jpg](http://en.wikipedia.org/wiki/Image:Winston_Churchill.jpg)

- Establish enduring relationships
  - A strong, cohesive GIS community is an important asset
  - Initiate advocacy
- Recognize that planning is an ongoing activity
  - Recalibrate plans over time

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## Nebraska Geospatial Maturity

### Planning context

1. Maturity of GIS program, NSGIC 9 criteria
2. Status of “Framework” data layers
3. The role of Nebraska’s GIS Council

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## FGDC/NSGIC 50 States Initiative

### 9 Criteria for Evaluating Effectiveness of Statewide GIS Programs

- Commonalities among more successful states
- States often identify and address their shortcomings through the planning process
- Let’s see how Nebraska scores

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### How does Nebraska rate on NSGIC 9 Criteria?

Criterion	Status
1. A full-time, <b>paid coordinator position</b> is designated and has the authority to implement the state’s business and strategic plans	<b>PARTIALLY MEETS CRITERION</b> NITC has a <b>full time GIS Administrative Manager, Nathan Watermeier</b> . Business and strategic plans are being planned and authority aligned for implementation through NITC and the Office of the CIO.
2. A <b>clearly defined authority</b> exists for statewide coordination of geospatial information technologies and data production	<b>PARTIALLY MEETS CRITERION</b> NITC GIS Council provides governance to statewide coordination efforts along with the Office of the CIO based on statutory authority.
3. The statewide coordination office has a <b>formal relationship with the state’s Chief Information Office (CIO)</b>	<b>MEETS CRITERION</b> The GIS Administrative Manager is positioned in the Office of CIO.

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### How does Nebraska rate on NSGIC 9 Criteria?

Criterion	Status
4. A <b>champion</b> (politician, or executive decision-maker) is aware and involved in the process of geospatial coordination	<b>DOES NOT MEET CRITERION</b> There does not appear to be a strong active champion.
5. Responsibilities for developing the National Spatial Data Infrastructure and a State Clearinghouse are assigned	<b>PARTIALLY MEETS CRITERION</b> Not all data framework layers have been developed. The NebraskaMap state clearinghouse exists, has limited capability, and lags behind other states.
6. The ability exists to work and coordinate with local governments, academia, and the private sector	<b>PARTIALLY MEETS CRITERION</b> Some evidence of local government involvement on state web-site, but overall GIS adoption across the state remains low.

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### How does Nebraska rate on NSGIC 9 Criteria?

Criterion	Status
7. Sustainable funding sources exist to meet project needs	<b>PARTIALLY MEETS CRITERION</b> There is funding for the state GIS Administrative Manager and various funding through other agencies on projects. However, long-term and concerted efforts for sustainability is still needed.
8. GIS Coordinators have the authority to enter into contracts and become capable of receiving and expending funds.	<b>MEETS CRITERION</b> The GIS Coordinator in the Office of the CIO can enter into contracts.
9. The Federal government works through the statewide coordinating authority	<b>PARTIALLY MEETS CRITERION</b> The Federal Government recognizes the Nebraska GIS Council and efforts and has worked with the state (e.g. via NAIP, Homeland Security, FEMA).

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### Nebraska in comparison to other states

Criterion	NE	KS	AR	DE	MA	UT
Full-time paid coordinator (FTE)	1	1+ UK	6+4 contractor	1/2	8+3 contractor	15
Clearly defined authority for coordination	P	Y	Y	Y	Y	Y
Formal relationship with the CIO	Y	Y	Y	P	Y	Y
Champion exists	N	Y	Y	N	P	P
Responsibilities for NSDI & clearinghouse are assigned	P	Y	Y	Y	Y	Y
Ability to coordinate with local government	P	Y	Y	Y	Y	Y
Sustainable funding	P	Y	Y	N	Y	Y
Contracting authority exists	Y	Y	Y	Y	Y	Y
Federal government works through coordination group	P	Y	Y	Y	Y	Y

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### Status of Framework Layers

- Geodetic Control** (NOAA National Geodetic Survey)
  - All current data has been submitted to NGS.
  - NDOR, NDNR, and County Surveyors maintain records of monuments but are not submitted for inclusion in the NGS set. Much is difficult to locate and not available in digital form.
- Cadastral (parcels)**
  - No seamless parcel and/or land records modernization exists in the state.
  - Local County Assessors and State Records Board Land Record Information and Mapping Projects
  - Two low-resolution Public Land Survey System (PLSS) Databases
    - NDNR – early 1990s, US BLM – 1997
    - Different methodologies, both derived from digitizing section corners on the USGS 1:24,000 topographic quad maps
    - Both crosschecked & adjusted for errors beyond ±50 ft.



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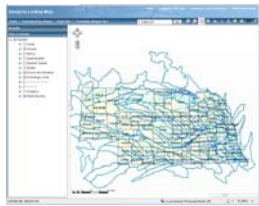
### Status of Framework Layers

#### 3. Political Boundaries

- **Updated** redistricting for various city and state intergovernmental boundaries **with Census data in 2010-2011.**

#### 4. Hydrography

- Streams and Water Bodies (NDNR/USGS)
- **National Hydrography Data Set (NHD)** - Statewide high-resolution digital mapping of Nebraska's surface water features
  - Database design incorporates numerous intelligent features, including river and stream addressing schema
  - USGS migrating to new data model and NHD Community working on value-added attributes (VAAs)
  - User group promotes and facilitates use of new database



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### Status of Framework Layers

#### 5. Imagery

##### Nebraska-Iowa Regional Orthoimagery Consortium (NIROC)

- Latest acquisition in 2010, organizing for 2013
- Focused on acquiring high-resolution imagery (6" & 12")
- Local government led consortium of cities, counties, NRDs, state, and federal agencies
- Core NE-IA urbanized area but open to others
- Three year acquisition cycle -2010 4<sup>th</sup> cycle
- Contact: Mike Schonlau, Douglas County GIS



##### Central Nebraska Consortium

- Eight cities and two counties in 2010
- High-resolution imagery (6" & 12")
- Contact: Pat Larson, City of Grand Island

##### USDA Farm Services Agency NAIP

- Acquired for Years 2003 1m, 2004-2005 2m, 2006 m, 2007 2m Partial, 2009 1m 4-band, 2010 1m 4-band
- Contact: Jim Langtry, USGS

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### Status of Framework Layers

#### 6. Elevation

- **Statewide from USGS 10-foot contours** (1:24,000-scale DEMs, 1998 - NDNR and USGS)
- Lincoln – Enhanced DEM in 2004 LIDAR (USGS project), 2-foot contours from digital terrain model (DTM) in 1997
- NIROC area - Enhanced DEM and multi-resolution DOQs in 2004
- South Central Nebraska LIDAR project

#### 7. Transportation

##### Road Centerline Data

- **NDOR Transportation Network Database** meets 1:24,000 National Map Accuracy Standards
  - Incorporates NDOR feature identifiers and attributes
- **Public Service Commission** developed E911 centerline data to fit 2003 statewide 1-meter DOQs
- Nebraska State Patrol database conversion effort through their Computer-Aided Dispatch system.
- Omaha, Lincoln, and other cities centerline data collected from other sources
- No comprehensive and integrated statewide transportation database

##### Nebraska Framework Layers

- Groundwater Features – Wells
- Soils – SSURGO
- Street addresses database
- Watershed Boundary Dataset (incorporated into NHD)

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## Nebraska GIS Council

- Nebraska Geographic Information System Steering Committee established by legislation in 1991
  - Changed name to **Nebraska GIS Council** in 2008
- Statute-based Advisory Committee to the Nebraska Information Technology Commission (NITC) (*Statutory Reference: 86-570*)
- NITC nominated and Governor appointed representation
  - By statute state, cities, counties, NRD, public power, federal, and professional are included
- Affiliated with FGDC and NSGIC

<http://nitc.ne.gov/gisc/>
<http://www.NebraskaMAP.gov>

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## GIS Council Website

<http://nitc.ne.gov/gisc/>    <http://www.NebraskaMAP.gov>



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## Nebraska GIS Council's Mission

*The mission of the GIS Council is to encourage the appropriate utilization of GIS/geospatial technology and to assist organizations to make public investments in GIS/geospatial technology and spatial data in an effective, efficient, and coordinated manner.*

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## Nebraska GIS Council

- Primarily a **policy making** body
- **Recommendations through NITC** to Legislature for standards, program initiatives and funding
- **Coordinates** statewide **GIS enterprise operations** and management
  - Data sharing, database development, hardware/software, setting standards, and general GIS development
- **Subcommittees** and **Working Groups** provide technical expertise and recommendations to GIS Council

<http://nitc.ne.gov/gisc/>    <http://www.NebraskaMAP.gov>

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## GIS Council Initiatives and Working Groups

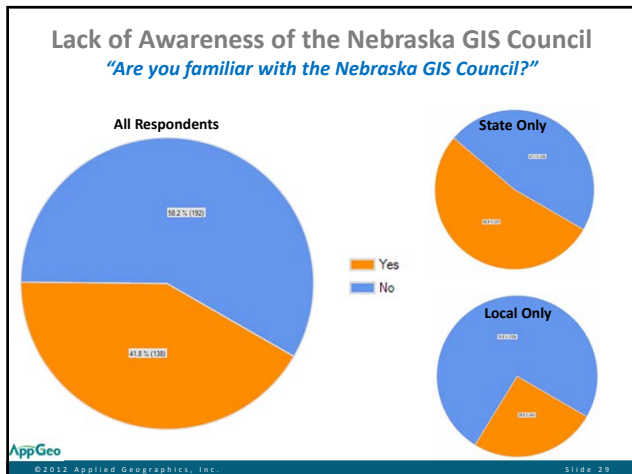
- NebraskaMAP.gov
- Statewide street centerline-address data
- Land Records
- Aerial imagery acquisition and historic imagery collaboration
- Nebraska NHD development
- LIDAR

<http://nitc.ne.gov/gisc/>    <http://www.NebraskaMAP.gov>

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### Nebraska GIS/LIS Association

- Private, professional membership organization
- Original development facilitated by GIS Council
- Elected Board of Directors
- Primary Foci
  - Professional development
  - Biennial GIS Symposium
  - Networking

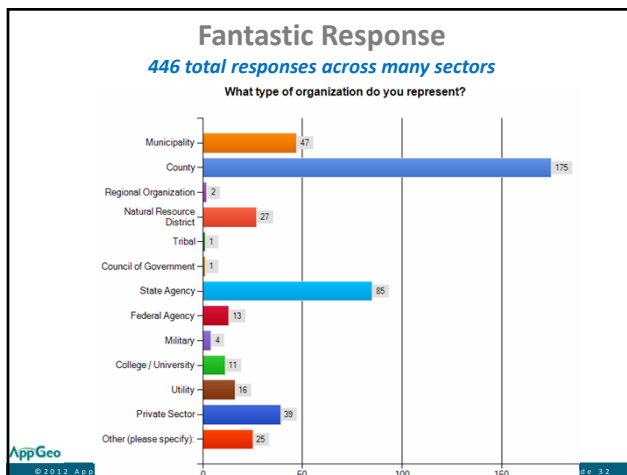
<http://www.gislis.org>

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### Survey Results

*Preliminary observations*

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### “Other” Organizational Types Include

- State Legislature
- School District
- Regional Health Department
- Governor’s Office
- Non-profit
- Public Power District
- Individual
- Combined City/County Entity

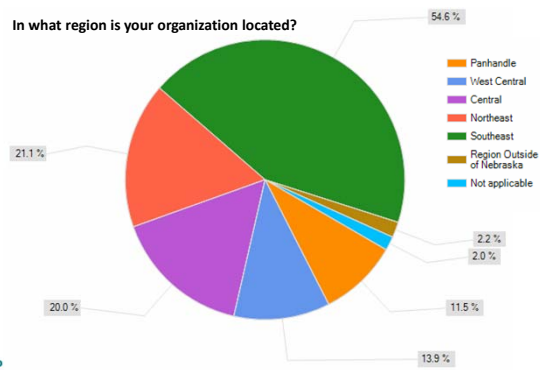
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### Fantastic Response Regional Distribution

In what region is your organization located?



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### Survey Respondent Characteristics

- **Business focus of organization:**
  - 22% engaged in Environmental/Natural Resources
  - 13% are elected officials
- **Good cross section represented:**  
*(Respondents could select more than one answer)*
  - 39% “GIS Users” (professional using GIS for job function)
  - 33% “GIS Managers” (focused on GIS budget, strategic planning)
  - 29% “GIS Analysts” (focused on hands-on GIS, data maintenance)
- **GIS has been in use for a long time!**
  - 38% of organizations have been using GIS >10 years
  - 21% of organizations have been using GIS 5-10 years
  - 17% of organizations have been using GIS 2-5 years

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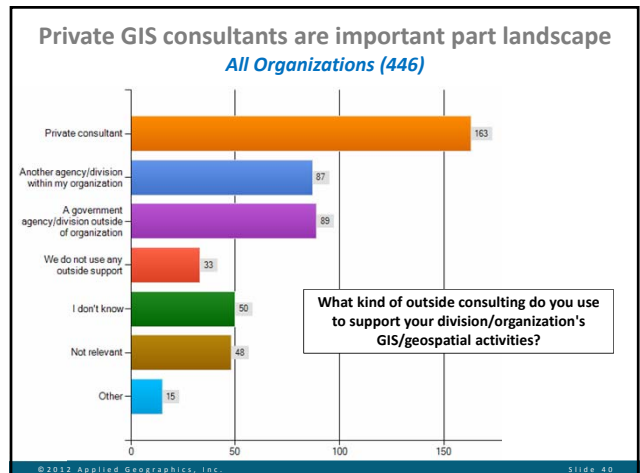
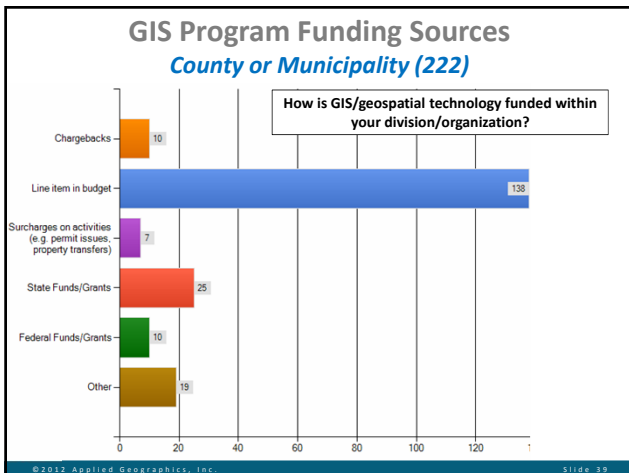
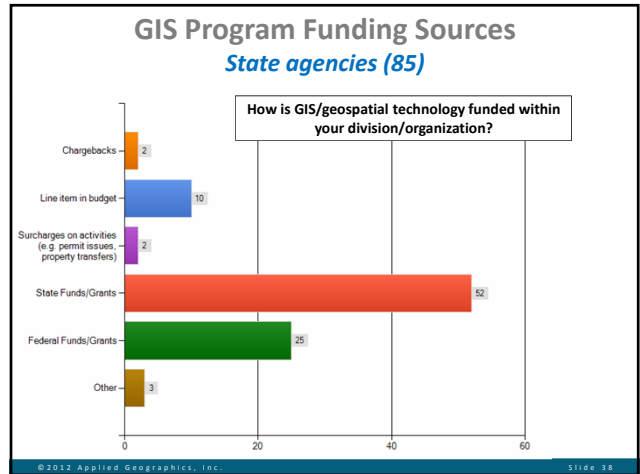
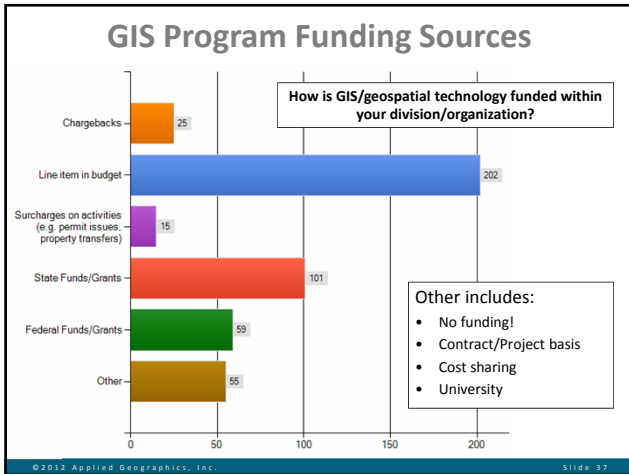
### Primary Business Uses of GIS

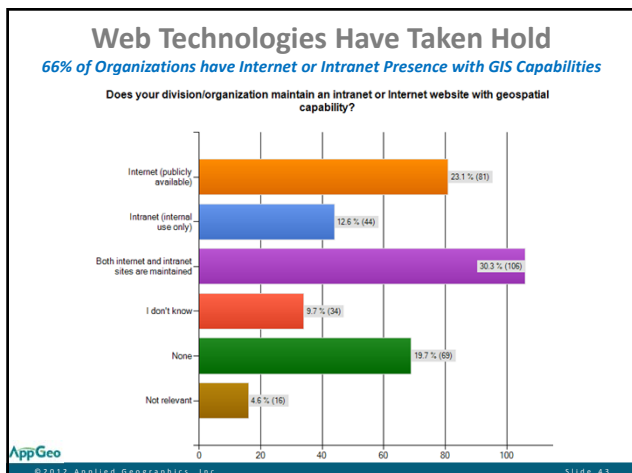
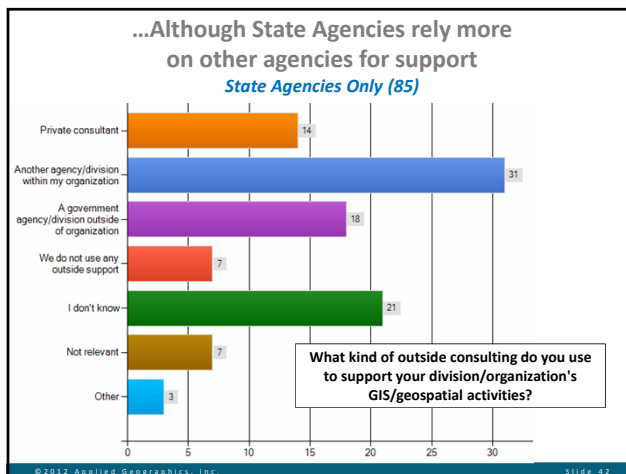
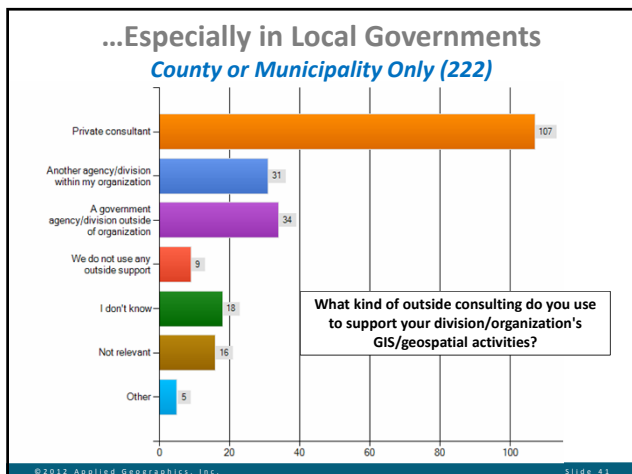
Top 5 Primary Uses	All	State Only	Local Only
Environmental/Natural Resources	49%	80%	20%
Parcel Recording	38%	24%	54%
Community Infrastructure/Asset Mgmt	31%	25%	32%
Engineering	28%	38%	19%
Tax Assessment, Valuation, Equalization	28%	0%	46%

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### Geospatial Data Sharing is Prevalent

Geospatial Data Sharing	All	State Only	Local Only
Sharing with Counties	55%	51%	60%
Sharing with Local Municipalities	51%	51%	51%
Sharing with State Agencies	42%	64%	28%
Sharing with Private Sector	42%	46%	40%
Sharing with Citizens	42%	40%	45%
Sharing with Federal Agencies	31%	57%	16%

But, less so with "data clearinghouses"

Geospatial Data Sharing	All	State Only	Local Only
Sharing with DNR NE GeoSpatial Data Center	21%	40%	10%
Sharing with NebraskaMAP	13%	32%	7%

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### Top 5 Barriers to Geospatial Use

Top 5 Barriers to GeoSpatial Use	All	State Only	Local Only
Cost of data collection	39%	52%	37%
Need for more GIS/geospatial training	39%	39%	36%
Data availability	32%	49%	18%
Lack of adequate or stable funding	29%	22%	33%
Data sharing issues	27%	31%	19%

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### Benefits of GIS

All organizations

Question	Major	Minor	Total
Facilitates decision making	67%	27%	94%
Provides efficient information and services	65%	30%	95%
Helps communicate mission or project goals	50%	41%	91%
Provides cost savings through efficiencies	50%	37%	87%
Enables better collaboration	53%	29%	82%

- Other benefits (paraphrased):
  - Public access to data (property data)
  - Protection of public health and environment
  - Coordination & collaboration in disaster response
  - Support for obtaining grant money

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### “Top Priorities” for the State

Top Priorities for the State	All	State Only	Local Only
Support for collaborative aerial image acquisition	54%	67%	43%
Online geospatial data sharing services	46%	53%	34%
Funding and grants to support local GIS	43%	43%	46%
Training and technical support	38%	46%	38%
Standards/policy development	32%	38%	25%

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### Extent of Sharing/Coordination

Sharing Resources	All	State Only	Local Only
Coordinate activities or share resources with nearby municipalities or counties	32%	30%	33%
<b>Of those 32% that share:</b>			
See an associated cost savings from coordination/sharing	29%	14%	31%

- Examples of cost savings from coordination/sharing include:
  - Aerial imagery acquisition
  - Shared servers
  - Shared web applications
  - Shared data maintenance costs

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### Some Additional Feedback

*Paraphrased from freeform answers*

- **State assistance with local coordination**
  - State can help improve local coordination
  - State should work with closely with **County GIS Coordinators**
- **Preserve status quo**
  - Leave it **privatized**
  - Allow locals to contract for GIS services
  - Happy with the “way things are”
- **On data management**
  - Better **data maintenance/update coordination** needed between agencies
  - Don’t assume status quo represents best management practices
- Need **Training/GIS education**
- Requirements for **Esri products are cost prohibitive** to users
- There is **lack of collaboration among state agencies**
- **State should** enact legislation that **promotes/funds GIS**



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### Some potential themes for discussion

- **First and foremost, consider this a form of Open Microphone**
  - What is on your mind?
  - What do you need?
  - What do we need to hear to get the vision and the strategic plan “right”?
- Further communications and messaging
  - Lack of awareness of state and council efforts
- Concerns about state encroaching on private sector
  - State vs. local government interests
    - State business requirements for local data
    - State role in facilitating and coordinating statewide GIS activity
  - Two different perspectives, but lots of common ground



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### State Agency Requirements for Parcels

*From New York*

Agency	Parcel Use
Criminal Justice	<ul style="list-style-type: none"> <li>• Geocoding</li> <li>• Crime prevention analysis</li> </ul>
DEC	<ul style="list-style-type: none"> <li>• Property management</li> <li>• Abutters notification</li> </ul>
DEC Water	<ul style="list-style-type: none"> <li>• Natural resource modeling</li> <li>• Drought management</li> </ul>
Fish and Wildlife	<ul style="list-style-type: none"> <li>• Wetlands notification</li> <li>• Identifying land access for wildlife survey</li> </ul>
NY Canal Corporation	<ul style="list-style-type: none"> <li>• Management of activities in right-of-way</li> <li>• Abutter notification</li> <li>• Economic development opportunities</li> </ul>
NY Thruway Authority	<ul style="list-style-type: none"> <li>• Land holdings assessment</li> <li>• Land disbursement opportunities</li> </ul>
NYS DOT	<ul style="list-style-type: none"> <li>• Right of way assessment</li> <li>• Abutters determination</li> </ul>
Public Health Research	<ul style="list-style-type: none"> <li>• Land use mix assessment</li> <li>• Walkability determination</li> </ul>
Secretary of State, Division of Coastal Resources	<ul style="list-style-type: none"> <li>• Identification of non-point source pollution</li> <li>• Open space acquisition</li> </ul>
State Museum	<ul style="list-style-type: none"> <li>• Identifying owners of oil and gas wells</li> </ul>
State Parks	<ul style="list-style-type: none"> <li>• Open space land acquisition</li> </ul>



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## Thank you!

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