March 27, 2014

**To:** NITC Commissioners

**From:** Nathan Watermeier, State GIS Coordinator
Josh Lear, Chair, GIS Council
Bill Wehling, Vice-Chair, GIS Council

**Subject:** GIS Council Report

A new chair (Josh Lear – Nebraska Department of Natural Resources) and vice-chair (Bill Wehling – Nebraska Department of Roads) took office of the GIS Council for 2014. The GIS Council outlined goals for 2014 and are listed as follows:

1. Standards and Guidelines
   I. Street Centerline (new)
   II. Addressing (new)
   III. Elevation (new)
   IV. Imagery (new)
   V. Land Records Information and Mapping (update)
   VI. Metadata (update)
2. Defining the Nebraska Spatial Data Infrastructure (NESDI)
3. Geodetic and Survey Control Action Item
4. NG9-1-1 GIS and Geospatial Data Recommendations
5. Complete Business Plans
   I. Elevation
   II. Imagery
   III. Land Records
   IV. Street Centerline Address
   V. NebraskaMAP

**Nebraska Spatial Data Infrastructure (NESDI) Strategic Initiative Action Item Updates**

<u>Survey and Geodetic Control</u>

An ad hoc group of state agency representatives led by the State Surveyor has a report drafted and will be submitted to the GIS Council for review at the April 16 meeting. The report provides an inventory and assessment of the current survey and geodetic control data based on various criteria for its use in the development of other NESDI framework layers. It further provides recommendations on use and further development of survey and geodetic control data, education and training needs, and methods and linkages through data sharing to communicate and provide access to relevant data to users and stakeholders.

Defining the Nebraska Spatial Data Infrastructure (NESDI)

A document is currently in development defining NESDI. The GIS Council Chair, Vice Chair, and State GIS Coordinator have been meeting weekly since the start of the year to discuss and develop a draft white paper for the NESDI. The definition and role for the NESDI is more than just data layers. A priority effort for the successful implementation of the NESDI is to define the specific datasets that comprise the NESDI, associated standards, their relationships to all of the other layers in the NESDI, and how they will be presented for public consumption. The document has been broken into the following components:

- Policies and Institutional Arrangements - Governance, management, data privacy, security, data sharing, financial and resource allocation, cost recovery
- Data Stewardship – Roles, responsibilities, cooperation
- Infrastructure - Data framework layers, technology, and networks
- Education – training, education outreach, technical assistance

**Standards Update**

Standards have been drafted for Elevation Acquisition using LiDAR, Street Centerline, and Address points. They will be submitted to the GIS Council for approval at the April meeting. The standards provide a consistent structure for data producers and users to ensure compatibility of datasets within the same framework layer and when used between other Nebraska Spatial Data Infrastructure (NESDI) framework layers.

NITC 3-203 Elevation Acquisition Using LiDAR

These standards are intended for entities participating in collaborative efforts to acquire airborne LiDAR (Light Detection and Ranging) elevations that may contribute to a comprehensive statewide elevation dataset in Nebraska. The basis for the standards are derived from the U.S. Geological Survey (USGS) National Geospatial Program's (NGP) LiDAR Base Specification Version 1.0. In addition, it emphasizes particular requirements and needs for Nebraska that are not available in USGS standards and where additional clarity is needed.

NITC 3-205 Street Centerline and NITC 3-206 Address

These standards provide requirements necessary for the creation, development, delivery, and maintenance of a statewide Nebraska Street Centerline Database (NSCD) and Nebraska Address Database (NAD). Both standards have a direct correlation to one another. There are many applications that use street centerline and address point data. These standards will enable the data to be integrated not only with 9-1-1 but with existing state road network and address databases, routing services, emergency management, and public safety. Address points furthermore support state agency needs in contact database, tax assessment and enhancing the state's enterprise geocoding application databases. The standards are compatible with the National Emergency Number Association (NENA) standards for NG9-1-1 and are backwards compatible to enhanced 9-1-1. These standards are also being recommended in another GIS Council goal to develop NG9-1-1 GIS and Geospatial Data Recommendations.

3-204 Imagery

A draft specifications document has been completed and will be modified for a standards document. The Imagery working group has currently established guidelines for future statewide aerial imagery (i.e.,

Digital Ortho Quarter Quadrangles (DOQQs)) acquisition that meet verified minimum horizontal accuracy requirements for a spatial resolution of twelve (12) inch, preferably flown during the “leaf-off” period for trees. Currently, there is little available imagery in much of the rural areas in the state that meet this requirement. The latest version of free imagery provided by the USDA Farm Services Agency in 2012 is at one (1) meter. Many larger municipalities and other cities in Nebraska have collected nine (9) inch or better in 2013. The requirements from NENA are also driving the need for greater spatial accuracy of imagery in order to meet needs to develop and create street centerline and address points.

Other Standards

There are currently two other standards that were originally developed and will be updated following the other standards completion. These include 3-201 Geospatial Metadata (http://nitc.ne.gov/standards/3-201.html) and 3-202 Land Record Information and Mapping (http://nitc.ne.gov/standards/3-202.html).