

Nebraska Statewide Elevation Program



PROJECT CHARTER

Project Title: Nebraska Statewide Elevation Program
Project Sponsor: Ed Toner, CIO and the NITC GIS Council
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Major Participants: Nebr. Dept. of Natural Resources, NITC GIS Council, Nebr. Office of the CIO, Nebr. Dept. of Roads, US Geological Survey, US Army Corp of Engineers

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** Working group members subject to change on an annual basis*

Project Vision: Surface elevation databases are a critically important geospatial database for a wide range of GIS applications and as such have been determined to be a priority database for development by the NITC GIS Council. LiDAR (Light Detection and Ranging) is a proven remote sensing technology that enables the efficient collection of highly accurate surface elevation data for large geographic areas.

There is a broad and growing need among public agencies (state, local and federal) for reliable, convenient access to accurate statewide GIS/geospatial data on digital elevation (LiDAR). This need spans a broad cross-section of application types for both public agencies and the private sector, including planning and management in: natural resources, infrastructure, transportation, environment, agriculture, and economic development.

Currently several local, state and federal agencies invest significant public resources in the ongoing development and maintenance of pieces of what could together constitute a comprehensive statewide Nebraska dataset. These pieces may involve only certain areas of the statewide geography or they may involve only certain attributes of what might be included in a comprehensive, multipurpose, elevation dataset. Yet while this data is widely needed and significant public funds are being invested in the development of its components, there is currently no single entity, which has the clear responsibility to ensure that this critical data is maintained, collected, integrated and reliably provided in a means that is convenient and useful to the wide range of users in Nebraska.

Elevation databases have been determined by the Federal Geographic Data Committee (FGDC) to be a Framework Database because their use by a wide cross-section of geospatial data users. The project participants envision an enterprise-level project, which upon completion, will enable and support the on-going collection from multiple sources, integration, and distribution of a "best available" statewide elevation dataset. Distribution of this "best available" elevation database will include the ability of public agencies to maintain easy online access, without charge, to the most current version of the database.

The NITC GIS Council's strategic database development goal states, "Actively coordinate the development, maintenance, and distribution of priority statewide digital

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geospatial databases," This involves a project design approach that incorporates the goal of supporting many applications related to infrastructure planning and maintenance.

Project Overview: This project has been identified as a Nebraska Spatial Data Infrastructure (NESDI) Strategic Initiative. It has been established to pursue objectives outlined in the Database Goal adopted by the NITC GIS Council this Working Group is charged with reporting to the NITC GIS Council on the following areas relative to the potential use of LiDAR technologies to develop enhanced surface elevation data for Nebraska:

- a. An assessment of the current status and perceived adequacy of existing Nebraska surface elevation data, relative to the perceived short and intermediate-term needs;
- b. An exploration and documentation of the likely costs and benefits of utilizing LiDAR technology to collect enhanced surface elevation data for large geographic areas of Nebraska;
- c. Recommendations related to possible future Nebraska LiDAR initiatives including technical standards, possible lead agencies, funding strategies, and timelines;
- d. Establish guidelines for the collection and quality control of data acquired for elevation acquisition projects and its derivatives;
- e. Implementation and sharing of the data through the Nebraska Spatial Data Infrastructure.

Any effort to create an enterprise solution to the growing need for a statewide elevation database must address an array of both technical and policy issues. The needs and expectations of the current data producers must be considered, as well as the needs of the broader community of data users.

Technical and Policy Issues

- Data model and standards
- Data distribution mechanisms
- Tools and processes for integrating data from multiple sources
- Tools and processes for notification of update availability
- Data sharing agreements, commitments, and restrictions
- Data development and maintenance plans/commitments
- Delineation of agency responsibilities and commitments
- Identification and empowerment of lead agency
- Funding strategies and justifications
- Business case development
- Plans/commitments for undeveloped data elements
- Plans/commitments for undeveloped areas

This Working Group will take the lead in identifying the issues, soliciting input, and recommending solutions. The Nebraska Department of Natural Resources will actively work with the NITC GIS Council to facilitate the convening and the provision of administrative support for the Working Group's work. As part of this process, the working group will actively pursue input and feedback on all aspects of the project from agencies not directing participating in the project team's work. The project team, acting on behalf of the participating agencies, will make recommendations to the NITC GIS Council. The GIS Council may accept, modify, or reject those recommendations.

As part of this project, the project Working Group will develop a business case outlining the range of needs for this dataset and the justifications for the commitment of public

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resources for the on-going costs associated with the development, maintenance, and distribution of this “best available” dataset.

Specific project milestones include the delivery of a comprehensive business plan, implementation and maintenance activities are underway, and that adequate resources are provided for the sustainability of the Nebraska Statewide Elevation Program.

Standards: The working group provides recommendations to the GIS Council for the development and maintenance of standards. The following standards are applicable to this project initiative.

NITC 3-201 Geospatial Metadata Standards. <http://nitc.ne.gov/standards/3-201.html>
NITC 3-203 Elevation Acquisition using LiDAR Standard <http://nitc.ne.gov/standards/3-203.html>

When recommendations are approved through the GIS Council for standards, the NITC shall be responsible for adopting minimum technical standards, guidelines, and architectures upon recommendation by the technical panel. Neb. Rev. Stat. § 86-516(6). The State of Nebraska, Office of the CIO (OCIO) will be responsible for assuring that metadata is completed and the data is registered and available for distribution through NebraskaMAP.

State granting or fund disbursement entities or agencies will be responsible for ensuring that these standards are included in requirements and regulations related to fund disbursements as they relate to LiDAR acquisition. Local government agencies will be responsible for ensuring that these standards are included in requirements and regulations related to fund disbursements as they relate to LiDAR acquisition.

Decision-making: It is the intent that this project Working Group will seek consensus on the best solutions and resolutions of the issues and present recommendations forward to the NITC GIS Council. The NITC GIS Council is charged with establishing guidelines and policies for statewide Geographic Information Systems and priority databases, and authorized to establish advisory committees from various levels of government, industry, or the general public pursuant to Sections 85-569 and 85-573, R.R.S. 1943. In cases where a consensus is not possible, the differing viewpoints and their rationale will be forwarded to the NITC GIS Council for further discussion and resolution.

Project Timeline: The timeline for completion of this project is ongoing until otherwise modified or terminated by the direction of the NITC GIS Council. Additional updates and changes to this charter can be made at any time by the NITC GIS Council.