Nebraska Administrative and Political Boundaries Program

Nebraska Information Technology Commission
GIS Council

PROJECT CHARTER

Project Title: Nebraska Administrative and Political Boundaries Program
Project Sponsor: Ed Toner, CIO and Chair, NITC
Date: Adopted on November 2, 2016

Major Participants: NITC GIS Council, Nebr. Office of the CIO, Nebr. Emergency Management Agency, Nebr. Dept. of Roads, Nebr. Game and Parks Commission, Nebr. Public Service Commission, Nebr. State Patrol, Nebr. Health and Human Services, Secretary of State, City/County Governments, Legislative Research Office, Nebraska Public Power District, and other political subdivisions of Nebraska.

Project Spokespersons: Casey Dunn, Clerk of the Legislature, Legislative Research Office
Nathan Watermeier, NITC / NE OCIO

Project Working Group: NE OCIO: Nathan Watermeier, Jeff Timm, Claire Inbody
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NE Public Service Commission: Kea Morovitz
NE Emergency Management Agency: Chad Boshart
NE State Patrol: Jon Kraai
NE Game and Parks Commission: Sudhir Ponnappan
NE Secretary of State: TBD
Wayne State College: Lesli Rawlings
University of Nebraska Omaha: Paul Hunt
University of Nebraska Lincoln: Joseph Stansberry
Nebraska Public Power District: Tim Cielocha
Nebraska Association of County Officials: TBD
Nebraska Tribal: TBD

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

Project Vision: The program participants envision an enterprise-level initiative, which upon completion, will enable and support the on-going collection from multiple sources, integration, and distribution of a “best available” statewide boundary layers. This will further support the Nebraska Spatial Data Infrastructure (NESDI) strategic initiative for the state.

With advancements to geodetic and survey control across the state, there is a need to update and improve our statewide boundary layers on an ongoing basis for use in GIS applications. In order to query and spatially analyze data within and among boundaries, proper attribution and standardization of data layers is important.

There is a need to properly aggregate local boundary layers to a statewide dataset to support other statewide or regional applications. The need for accurate and updated boundaries span a broad cross-section of application types for both public agencies and the private sector, including: public safety, emergency response, infrastructure management, natural resources management, economic development, human services, public revenues, electoral processes, to name a few.

Several state and federal standards have already outlined specific requirements for boundaries. The National Emergency Number Association (NENA) has provided standards for how emergency service boundaries should take shape from a geometric and attribution standpoint. Emergency dispatching centers and states sharing boundaries (i.e., municipality, county, and state boundaries) will need to determine where

"agreement" lines or geometric placement of that line will be located. This is important so that emergency services are dispatched specifically to the precise areas. Overlaps or missed areas can create problems with dispatching.

Many of our boundaries are derived from other NESDI data layers such as street centerlines, hydrography, and primary geographic areas such as municipalities and county boundaries. With ongoing advancements in software and analysis techniques, there is consideration for implementing topology rules or methods to address and keep up with geometric placement as certain boundaries rely on their placement from other data layers.

It is important to keep in mind that boundaries change over time due to policy, laws, and geographic changes. Many boundaries have legal definitions so it is important to understand the Statutes that define boundaries, and required procedures to create or change such boundaries. There will be some errors due to inaccuracies in the authoritative legal documents which require a legal process to update. There may be cases where two or more authoritative GIS boundary layers will need to exist due to needs or constraints of workflows and applications. At the very least, research and assessment carried out by this working group can reveal and expose some of these issues.

Local, state and federal agencies invest significant public resources in the ongoing development and maintenance of boundaries, many of which are treated independently of each other. These data layers may involve only certain areas of the statewide geography or they may involve only a few attributes of what might be included in a comprehensive, multipurpose, statewide set of boundaries. Yet while this data is widely needed and significant public funds are being invested in the development of its components, there is a need 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.

Project Overview: In order to establish a standard for boundary data and create an authoritative statewide dataset derived from governmental, administrative, statistical and other type boundaries across Nebraska, the Working Group will:

- Inventory existing data
- Identify boundary layer relationships to other NESDI layers
- Identify stakeholder requirements
- Identify data stewards
- Identify costs for maintenance
- Identify and recommend updates to statutory laws
- Establish standards
- Establish and create necessary workflows
- Identify appropriate attribution
- Identify necessary data schemas and data models
- Identify appropriate data distribution and transfer mechanisms
- Identify best practices for interoperability and use with applications
- Identify update frequency
- Identify maintenance frequency
- Standardize metadata

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Boundaries can have different meanings such as administrative units, political units, geographical areas bounded by legal or political limits, service areas or project boundaries. The Federal Geographic Data Committee (FGDC) has categorized boundaries in the following types and these will be used towards the context of this program.

Governmental Unit – This is a geographic area with legally defined boundaries established under Federal, Tribal, State, or local law, and with the authority to elect or appoint officials and raise revenues through taxes.

Administrative Unit - Administrative units is a geographic area established by rule or regulation of a legislative, executive, or judicial governmental authority, a non-profit organization, or private industry for the execution of some function.

Statistical Unit – These are geographic areas defined for the collection, tabulation, and/or publication of demographic, and/or other statistical data. The majority of these are U.S. Census derived unit areas.

Other Units – These are geographic areas that are not governmental units, administrative units, or statistical units as defined herein, and are not areas that are defined or described in other framework parts.

This program will work towards supporting current applications and partnership efforts going forward. A few examples include:

- Support emergency management, public health, public safety specifically Enhanced and NexGEN 911, or combinations thereof, who needs to be involved in the process of using emergency service boundaries.
- Updated statewide aggregated boundaries at the state level to support U.S. Census statistical units and other federal partner projects. For example, this can support the Census Boundary and Annexation Survey (BAS) project by replacing state's existing data in TIGER files for the 2020 Census and redistricting.
- Identify methods and linkages through NebraskaMAP and other data sharing mechanisms to communicate and provide users access to relevant boundary data.

This Working Group will take the lead to research and develop recommendations for standards, policies, infrastructure, and funding to support improvements to boundary layers led by state, local and federal agencies. As part of this process, they will actively pursue input and feedback on all aspects of the program from stakeholders not directly participating in the work. Members of the working group will act on behalf of their participating agencies/entities and will make recommendations to the NITC GIS Council. The Council may accept, modify, or reject those recommendations.

As part of this program, the Working Group will develop a business case outlining the general parameter and needs for commonly shared boundary layers and the justifications for the commitment of public resources for the on-going costs associated with the development, maintenance, and distribution of these "best available" datasets.

Specific project milestones can lead up to the delivery of a comprehensive business plan, that includes recommendations for implementation and maintenance activities, and

that adequate resources are provided for the sustainability of core boundary layers supporting governmental, administrative, statistical and other units.

Standards: The working group will provide recommendations to the NITC GIS Council for the development and maintenance of standards. The following federal and state standards are applicable to this project initiative.

Federal Geographic Data Committee – Geographic Information Framework Data Content Standard Part 5: Governmental unit and other geographic area boundaries https://www.fgdc.gov/standards/projects/FGDC-standards-projects/framework-data-standard/GI_FrameworkDataStandard_Part5_GovernmentalUnitBoundaries.pdf

National Emergency Numbering Association (NENA). 2016. NENA-STA-006.1-201X NENA Standard for NG9-1-1 GIS Data Model. *In Development.*

Nebraska Information Technology Commission Standards
NITC 3-201 Geospatial Metadata Standards. http://nitc.ne.gov/standards/3-201.html
NITC 3-201 Land Record Information and Mapping Standards
http://nitc.ne.gov/standards/3-202.html
NITC 3-204 Imagery Standards http://nitc.ne.gov/standards/3-204.html
NITC 3-205 Street Centerline Standard http://nitc.ne.gov/standards/3-205.html

Once recommendations are approved by the NITC GIS Council for newly developed or updates to existing 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. They will also be responsible for ensuring that standards and guidelines relative to development, meeting quality control standards, and approving boundaries for distribution are conducted according to subsections in relevant state and federal standards.

Entities or agencies that receive state grants or fund disbursements will be responsible for ensuring that these standards are included in requirements related to fund disbursements as they relate to governmental units, political, and administrative boundaries. Local government agencies that have the primary responsibility and authority for boundaries will be responsible for ensuring that those sub-sections defined in the standard will be incorporated in development efforts and contracts.

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 were 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.