

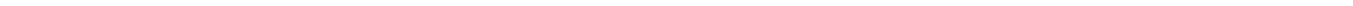
November 15, 2016

# Progress Report to the Governor and Legislature





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## **NITC Commissioners**

**Ed Toner**, Chief Information Officer, Office of the Chief Information Officer, State of Nebraska, Chair

**Senator Curt Friesen**, Nebraska Legislature (ex-officio)

**Shane Greckel**, Owner/Operator, Greckel Farms, LLC

**Dr. Terry Haack**, Superintendent, Bennington Public Schools

**Dorest Harvey**, USSTRATCOM/AFLCMC-HBCC

**Randy Meininger**, Mayor, City of Scottsbluff

**Dan Shundoff**, Chief Executive Officer, Intellicom

**Daniel Spray**, President, Precision Technology

**Gary Warren**, President of Services Corporation, Hamilton Telecommunications

**Walter Weir**, Chief Information Officer, University of Nebraska

## **Staff**

**Ed Toner**, Chief Information Officer

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## Executive Summary

The Legislature established the Nebraska Information Technology Commission (NITC) in 1998 to provide advice, strategic direction, and accountability on information technology investments in the state. This progress report highlights many of the significant accomplishments of the Commission and fulfills the requirement of Section 86-518 to submit a progress report to the Governor and Legislature by November 15 of each even-numbered year.

In particular, significant progress has been made on the following priority areas designated as strategic initiatives by the NITC.

- **State Government IT Strategy.** The objective of this initiative is to develop and implement a comprehensive strategy for the use of information technology by Nebraska state government. The strategy will utilize a hybrid centralization model combining elements of both the centralized and decentralized IT management models. Enterprise technologies will be centralized with agency-specific activities remaining with the agencies. Recent accomplishments include migration to a new help desk solution at the OCIO, implementing a phased migration to a consolidated domain, implementing a phased migration to a consolidated data center, and implementing an active/hot standby network.
  - **Cloud Strategy.** This initiative will develop a comprehensive strategy for the use of cloud-based services by Nebraska state government. Research shows that organizations with an enterprise-wide cloud strategy are far more successful at using the cloud to reduce costs, improve efficiency, and increase business agility.
  - **State IT Spending Analysis.** The objective of this initiative is to gain a better understanding of information technology spending by Nebraska state government. Recent accomplishments include creating new accounting codes to better capture IT-related spending and rolling those codes out to cabinet agencies.
  - **IT Security.** This initiative will define and clarify policies, standards and guidelines, and responsibilities related to the security of the State's information technology resources. Recent accomplishments include conducting a gap analysis on NITC standards and identifying items needing to be addressed to bring the standards up to NIST framework criteria, completing a Cyber Resilience Review (Security Assessment) performed by the Department of Homeland Security for six State of Nebraska Agencies, deploying Albert monitoring system from MS-ISAC to measure anomalies in netflow, completing an inventory of Personally Identifiable Information, and sponsoring the Annual Cyber Security Conference.
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- **Nebraska Spatial Data Infrastructure.** This initiative promotes coordination of geospatial data and GIS programs, guides policy, provides guidance on data accuracy requirements, coordinates dissemination of data through NebraskaMAP, and strengthens data sharing through partnerships to ensure access to quality geospatial datasets for governmental business needs and the public. In 2016 the NITC GIS Council and the Office of the CIO launched the [NebraskaMAP.gov](http://NebraskaMAP.gov) website which serves as a gateway to Nebraska's geospatial data and information. The system integrates with the State's GIS Enterprise platform and has more than 150 data sets. The site had over 10,000 visitors in the first three weeks of its release. Partnerships and more than \$4 million dollars in contributions have been finalized to complete LiDAR elevation acquisition for the state to be completed in 2017.
  - **Digital Education.** The primary objective of the Digital Education Initiative is to promote the effective and efficient integration of technology into the instructional, learning, and administrative processes and to utilize technology to deliver enhanced digital educational opportunities to students at all levels throughout Nebraska on an equitable and affordable basis. In 2016, a University of Nebraska-Kearney agreement with a cloud videoconferencing vendor was scaled to serve over 15,000 K-20 licensees which yielded significant savings for those purchasers. The Education Council and the Community Council created a joint work group to research and recommend interventions to improve the equity of access for digital learners.
  - **Network Nebraska.** Participants in Network Nebraska are reducing costs and stimulating investment in Nebraska's telecommunications infrastructure. During the 2014-2016 time period, Network Nebraska grew its membership by 13 school districts, 1 Educational Service Unit, 33 nonpublic schools, 1 public library system, and 1 municipality. The demand for Internet has increased by 128% as the unit cost has decreased by 69% over this same period.
  - **Community IT Planning and Development.** The NITC Community Council continues to work with the University of Nebraska, Nebraska Public Service Commission, Nebraska Department of Economic Development, and AIM as part of the Nebraska Broadband Initiative to help communities understand the importance of broadband. Over the past two years, the initiative has developed a broadband planning workbook for communities, recognized outstanding broadband projects, and co-sponsored two broadband conferences. The Nebraska Public Service Commission updated the state broadband map in the spring of 2016, giving policymakers and consumers access to more current information on broadband availability. The NITC Community Council has also worked with the initiative to produce a bimonthly newsletter to highlight best practices and success stories.
  - **eHealth.** On July 27, 2015 the Nebraska Information Technology Commission/Office of the State CIO was awarded a two-year \$2.7 million cooperative agreement from the U.S. Department of Health and Human Services' Office of the National Coordinator for Health IT. The grant is supporting the adoption of health information exchange by Critical Access Hospitals, long-term care facilities, public
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health and researchers. The grant is also supporting the implementation of additional functionalities through the Nebraska Health Information Initiative (NeHII).

Over the past two years, the NITC has also realized significant achievements in each of the seven criteria set forth in Section 86-524(2).

- The NITC's vision is being realized and short-term and long-term strategies have been articulated and employed. The NITC has developed a vision statement, goals, and strategic initiatives to articulate its vision and to highlight technology projects which have strategic importance to the State of Nebraska.
- The statewide technology plan prepared annually by the NITC has been an effective vehicle for identifying key projects, building stakeholder support, coordinating efforts, and communicating with policy makers.
- The NITC website serves as an information technology clearinghouse. In addition, the Community Council produces a newsletter to inform stakeholders of new research and developments. The Community Council is also using social media to share information about broadband development in Nebraska.
- In order to encourage interoperability and standardization, the NITC has adopted over 40 standards and guidelines. Within the past two years, six new or revised standards and guidelines have been adopted.
- Recommendations made by the commission to the Governor and Legislature have assisted policy and funding decisions. The review process and prioritization of new IT projects provides policy makers with information about the objectives, justification, technical impact, costs, and risks of proposed systems.
- The NITC encourages and facilitates input and involvement of all interested parties by engaging in collaborative processes, involving five advisory councils, the Technical Panel, and numerous workgroups and subcommittees. Additionally information is publicly distributed and public input is encouraged.
- The NITC is addressing long-term infrastructure innovation, improvement, and coordination through Network Nebraska and related initiatives.

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## Introduction

The Nebraska Information Technology Commission (NITC) was established by the Legislature in 1998 to provide advice, strategic direction, and accountability on information technology investments in the state. Chief Information Officer Ed Toner currently serves as the governor designated chair of the NITC. Commissioners are appointed by the Governor, approved by the Legislature, and represent elementary and secondary education, postsecondary education, communities, the Governor, and the general public.

The NITC conducts most of its work through six advisory groups: the Community Council, Education Council, eHealth Council, Geographic Information Systems Council, State Government Council, and Technical Panel. Each council establishes ad hoc work groups to prepare recommendations on specific topics. The Office of the Chief Information Officer provides support for the NITC, its councils, the Technical Panel, and ad hoc groups.

Section 86-518 directs the NITC to submit a progress report to the Governor and Legislature by November 15 of each even-numbered year. This report fulfills this requirement. Over the past two years, the NITC has realized many significant achievements in each of the seven criteria established by the Legislature in Section 86-524(2). This report details those achievements.

## Realization of Vision and Employment of Strategies

***The vision has been realized and short-term and long-term strategies have been articulated and employed.***

The NITC has developed a vision statement, goals, and strategic initiatives to articulate its vision and to highlight technology projects which have strategic importance to the State of Nebraska. The NITC continues to make progress toward the realization of its vision. However, because technology constantly presents new challenges and opportunities, the NITC's vision will continually evolve.

**Vision.** The NITC vision statement is to “promote the use of information technology in education, health care, economic development, and all levels of government services to improve the quality of life of all Nebraskans.”

**Goals.** The NITC has established four goals:

1. Support the development of a robust statewide telecommunications infrastructure that is scalable, reliable, and efficient;
  2. Support the use of information technology to enhance community and economic development;
  3. Promote the use of information technology to improve the efficiency and delivery of governmental and educational services, including homeland security;
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4. Promote effective planning, management and accountability regarding the state's investments in information technology.

**Strategic Initiatives.** In 2004 the NITC began identifying priority areas as strategic initiatives. Each strategic initiative includes measureable action items. The development of the action items has been a collaborative effort involving many individuals and entities. These efforts have been successful in gaining cooperation of many stakeholders. The strategic initiatives form the core of the NITC's annual Statewide Technology Plan ([http://nitc.nebraska.gov/documents/statewide\\_technology\\_plan.pdf](http://nitc.nebraska.gov/documents/statewide_technology_plan.pdf)).

The current list of strategic initiatives includes:

- State Government IT Strategy
- Cloud Strategy
- State IT Spending Analysis
- IT Security
- Nebraska Spatial Data Infrastructure
- Network Nebraska
- Digital Education
- Community IT Planning and Development
- eHealth

The past two years have brought significant progress in each of the strategic initiatives. A summary of each strategic initiative follows.

### **State Government IT Strategy**

This initiative focuses on the development and implementation of a comprehensive strategy for the use of information technology by Nebraska state government. The strategy will utilize a hybrid centralization model combining elements of both the centralized and decentralized IT management models. Enterprise technologies will be centralized with agency-specific activities remaining with the agencies. Top priorities include:

- Security
- Consolidation
- Availability

The following graphic illustrates the priorities of the OCIO:

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## OCIO Top Priorities



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Action items supporting this initiative include:

- Single help desk solution incident management implementation;
- Service catalog implementation;
- Change management solution implementation;
- Enhance information security;
- Enhanced operations center;
- IT cost efficiencies;
- Operationalize IT and project governance;
- Consolidate on STN domain;
- Data center consolidation—agency server migration; and
- Initiate active/hot standby solution—enterprise apps.

Recent accomplishments include:

- Migrated to a new help desk solution at the OCIO and began the migration of other agencies;
  - Implementing a phased migration to a consolidated domain;
  - Implementing a phased migration to a consolidated data center; and
  - Implementing an active / hot standby network.
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## Cloud Strategy

Research shows that organizations with an enterprise-wide cloud strategy are far more successful at using the cloud to reduce costs, improve efficiency, and increase business agility. There are three categories of cloud services: private cloud, public cloud, and hybrid cloud. Descriptions of these services follow:

- **Private Cloud** (The OCIO provides private cloud services.) A private cloud can be built and managed by either internal IT or an external service provider, typically on-premise inside the organization's firewall. IT services are offered to the organization's internal customers via chargeback capabilities. These services are critical to the core business functions and contain highly confidential and sensitive information.
- **Public Cloud.** Best suited for applications that tend to have low strategic value and high operational flexibility requirements such as archive storage.
- **Hybrid Cloud** (A viable option especially for SAAS [Software as a Service] and currently in use.) Best suited for applications that have low strategic value with workloads that are unpredictable and require flexibility and scalability for spikes in demand.

This initiative will focus on researching and developing a comprehensive strategy for use of cloud-based services by Nebraska state government. Topics for consideration include:

- Examine the potential benefits of moving services to the cloud;
- Determine infrastructure needed to implement the strategy;
- Identify security, legal and other restrictions;
- Research best practices for use of the cloud by governmental agencies;
- Identify the appropriate uses for of the various types of cloud services -- public cloud, private cloud, and hybrid cloud;
- Develop a framework for categorizing functions/applications based on appropriateness for using cloud services;
- Examine dimensions such as strategic value and operational flexibility for categorization of functions/applications;
- Identify and prioritize initial projects; and
- Identify metrics for measuring successful implementation of the strategy.

## State IT Spending Analysis

This initiative is focusing on researching and preparing an analysis of information

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technology spending by Nebraska state government. Action items for this initiative include:

- Creating new accounting codes to better capture IT-related spending;
- Developing reporting tools using the new accounting codes; and
- Preparing an analysis of information technology spending by Nebraska state government.

This initiative will support the following objectives of the OCIO:

- Institute a central governance model for technology purchases and roadmap;
- Identify and consolidate and/or eliminate disparate technology including hardware and software within and across State agencies to include enterprise software agreements;
- Standardize personal workstation platforms reducing complexity, cost per unit and cost of end user management;
- Consolidate and optimize IT infrastructure support staff where appropriate. Services requiring agency-specific competencies will remain at the agency;
- Define model and process for governance and standardization around shared services and shared infrastructure.

Recent accomplishments include creating new accounting codes to better capture IT related spending and rolling those codes out to cabinet agencies.

## **IT Security**

This initiative focuses on defining and clarify policies, standards and guidelines, and responsibilities related to the security of the State's information technology resources, including:

- Reviewing security settings on State hardware and software;
  - Reviewing security requirements for IT purchases;
  - Conducting security awareness training and education;
  - Conducting security assessments and risk assessments on data and facilities;
  - Conducting vulnerability management scanning;
  - Conducting application vulnerability scanning;
  - Complying with Federal regulations for PCI, HIPAA, IRS, CJIS, SSA; Following the NIST Framework;
  - Implementing a statewide reporting mechanism for security related events;
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- Implementing a statewide Security Operations Center in cooperation with the University of Nebraska System;
- Implementing a statewide Computer Emergency Response Team (CERT).

**Recent Accomplishments:**

- Gap analysis performed on NITC standards identifying items needing to be addressed to bring the standards up to NIST framework criteria.
- Cyber Resilience Review (Security Assessment) performed by the Department of Homeland Security for six State of Nebraska Agencies.
- Deployed Albert monitoring system from MS-ISAC to measure anomalies in netflow.
- Completed inventory of Personally Identifiable Information.
- 10<sup>th</sup> Annual Cyber Security Conference was held.

**Nebraska Spatial Data Infrastructure**

Mapping and geospatial data support the economy, safety, environment and overall quality of life for Nebraskans. More than \$35 million has been invested to date in core framework data throughout local, state and federal stakeholders. Coordination and management of these activities are essential to reduce duplication of efforts and provide cost savings to our taxpayers.

The GIS Council develops strategies, standards and policies as it relates to the creation and use of geospatial data and geographic information system technologies for Nebraska. The council's interagency and intergovernmental coordination efforts focus on facilitating data sharing, coordinating joint database development, developing GIS enterprise services, data and system standards, and education. The council represents interests among state, local and federal government agencies and other stakeholders needing access to data. The council is affiliated with national coordination efforts through the Federal Geographic Data Committee and the National States Geographic Information Council.

### GIS Council Mission

Encourage the appropriate utilization of GIS technology and to assist organizations to make public investments in GIS technology and geospatial data in an effective, efficient, and coordinated manner.

*Nebraska Revised Statute - §86-569 through §86-573*

*“Geospatial technologies incorporate geographic information systems (GIS), global positioning systems (GPS), remote sensing such as imagery and Light Detection and Ranging (LiDAR), and other geographic data and information systems. GIS is a tool to capture, store, manipulate, analyze, manage, and present all types of geographic data.”*

This initiative promotes coordination, guides policy, provides guidance on Nebraska Spatial Data Infrastructure (NESDI) data accuracy requirements, and strengthens data sharing through partnerships to ensure access to quality geospatial datasets for governmental business needs and the public.

The objective of the NESDI is:

*“To develop and foster an environment and infrastructure that optimizes the efficient use of geospatial technology, data, and services to address a wide variety of business and governmental challenges within the state. Geospatial technologies and data will be delivered in a way that supports policy and decision making at all levels of government to enhance the economy, safety, environment and quality of life for Nebraskans.”*

The major components of this initiative include:

1. Facilitating the creation, maintenance, analysis and publishing of quality NESDI data and information systems.
2. Encouraging data sharing and provide widespread access to data and services through NebraskaMAP.gov.
3. Developing and implementing NESDI layer standards and guidelines.
4. Facilitating technical assistance and education outreach opportunities for furthering the adoption of the NESDI and geospatial applications.
5. Achieving sustainable and efficient allocation of resources to support the implementation and wise governance of GIS services and geospatial data.

#### NESDI Data Layers for Nebraska

- Survey and Geodetic control
- Transportation (roads, rail, air, etc.)
- Cadastre/parcels
- Elevation
- Aerial imagery
- Hydrography
- Political and administrative boundaries
- Addresses
- Soils
- Groundwater features
- Watershed boundaries
- Land use/land cover

**NESDI Framework Layer Assessment.** The NESDI comprises of geospatial data layers that have multiple applications and are used by a vast majority of stakeholders. They are consistent with the Federal National Spatial Data Infrastructure (NSDI) “7 framework layers” and provide additional layers of particular importance to Nebraska stakeholders. The current priority layers for the state include imagery, elevation, street centerlines, address points, and land records.

The Nebraska Boundary Assessment Project started in 2016. This effort evaluates all political and administrative boundaries in relation to the NESDI framework layers. Many boundaries are derived from other datasets such as survey and geodetic control, imagery, street centerlines, parcels, and other authoritative data layers such as municipalities, counties, and state boundaries.

The results of this project will assist in developing best practices and minimum set of standards to be used towards standardization of data schemas, statewide data aggregation, and develop agreements to be used for geometric placement of boundaries to support Enhanced/Next Generation 9-1-1, U.S. Census 2020 Boundary Validation Program and other uses.

Metadata standards (NITC 3-201 Geospatial Metadata) have been developed specific to the needs of Nebraska stakeholders while maintaining compliance with the metadata standards from the Federal Geographic Data Committee (FGDC).

The following are other accomplishments for the priority data layers.

**Survey and Geodetic Control.** Survey and geodetic control need to be taken into consideration for good quality data to exist in the future for several of the NESDI framework layers—particularly if multiple data sets are used in combinations for

analysis and decision making. Some of the State's current data sets were created for specific purposes with given budgets. As the use of geospatial data has grown, there are now other needs for the data. Some of these additional uses require a greater level of spatial accuracy.

Recommendations are being implemented including the need for control in standards and data acquisition plans. Survey and geodetic control recommendations have been identified and are included into recent NITC standards for elevation, imagery, street centerline, and address points.

A low-distortion projection (LDP) project has begun under the direction of the State Surveyor's office with assistance with other registered land surveyors of Nebraska. The LDP will create the best ground to grid solution with control established using recognized local control. This will eventually lead to a better source data for all GIS horizontal calculations that improves all of our spatial data sets. Survey and geodetic control recommendations have been identified and included into ongoing data collection projects.

**Elevation (LiDAR).** This action item establishes the Nebraska Statewide Elevation Program. It is led by the Elevation Working Group which facilitates the acquisition, maintenance, and sharing of a statewide elevation dataset by developing standards and specifications for LiDAR point clouds and derivative products. It further develops alternatives for systematic and cost-effective acquisition of these products and defines a program of stewardship for managing and publishing the data.

The Elevation Business Plan was approved by the GIS Council on March 26, 2015. The plan outlines the business case for LiDAR statewide. The plan takes a comprehensive approach and details the organizational needs, technology and human resource requirements, required product deliverables, funding requirements, legislative support, implementation plans, and a marketing and outreach strategy.

#### **Light Detection and Ranging**

LiDAR is a technology that is used in conjunction with GPS technology, an aerial collection platform, and a processing computer to collect data points that can be used to define the location of objects that reflect near infrared light, including the land surface, structures and vegetation.

Progress has been made in acquiring LiDAR data for priority areas of Nebraska. The working group was successful in receiving two cost-share contracts with the United States Geological Survey (USGS) to begin acquiring LiDAR data in western and eastern Nebraska. The western state project finished data acquisition in April 2016. The eastern urban-area project is still being planned for flight acquisition.

A plan is in place to complete LiDAR acquisition for the remaining part of the state. This coincides with additional flight acquisition project areas being planned by the USDA Natural Resources Conservation Service (NRCS). Since 2008, the group, its members, and partner agencies have worked to collect LiDAR data over more than 75% of

Nebraska's land area. The remaining area is predominantly the Sandhills region consisting of 18K square miles. The NRCS is providing the majority of the assistance to the final coverage area. Other partners involved in this project include the Natural Resource Districts (NRD), Department of Natural Resources, Nebraska Department of Roads, Department of Environmental Quality, Federal Emergency Management Agency (FEMA), and USGS.

More than \$4 million in seed funding has been identified from federal, state and local partners in order to start the final project in 2017. Once complete, the remaining project area is expected to have a benefit to cost ratio of five to one, with a project value of \$23 million to taxpayers in Nebraska.

**Imagery.** This action item establishes the Nebraska Statewide Imagery Program which sets out to coordinate the acquisition, delivery, and data sharing of imagery products and services. All government entities can participate with the program.

The core product is a statewide aerial ortho-image that meets the minimum horizontal accuracy requirements and a spatial resolution of 12 inch or better, preferably flown during the "leaf-off" period for trees. Obliques and other value-added products and services will also be included in the program. The requirements from federal standards (i.e., National Emergency Number Association) 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 for Enhanced/Next Generation 9-1-1.

The business plan is in its final draft and will begin implementation in 2017. Data requirements and program needs were identified the past year through a Request for Information (RFI) to obtain information on advancements in technology and related costs for data acquisition and services. A webinar on remote sensing was hosted by the UNL School of Natural Resources in June 2016. This webinar was used to help gauge stakeholder input on questions and additional needs of the program. The Imagery Working Group has identified a need for preserving historical aerial photographs. The needs assessment and additional stakeholder input are included in the business plan.

**Land Records.** This action item enables the integration of different local government land records information into a statewide dataset.

A Nebraska Statewide Parcel Geodatabase Development and Implementation Plan was finalized in 2015 with input from several county assessors. The plan outlines expectations of the State's public records request and a timeline going forward to obtain core parcel data and GIS files on an annual basis. The state has developed statewide data aggregation workflows, a data schema/model, and appropriate map services to extend data for business operations. All counties that have digitized parcel data have been collected and aggregated into the statewide database for 2015. This effort has also leveraged a data sharing partnership effort by working together and identifying state level data that can also go back to counties to support their needs.

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Currently 95.8% of all parcels in Nebraska are digitized in some form. The Nebraska State Records Board has provided more than \$924,485 in grant assistance to digitize and create geodatabases utilizing the data. In 2013, five counties were awarded State Records Board grants totaling \$117,065 for digitizing land parcel information. This leaves five counties remaining to obtain digitized land records for the database.

**Street Centerline Address Database.** This action item is designed to develop and maintain a statewide seamless street centerline and address referencing system used for various transportation, emergency management, public safety (i.e., NG9-1-1), economic development and other related applications.

Efforts started in 2015 to communicate the recent street centerline and address standards to those involved with public safety and emergency management. The standards were presented to the State Enhanced 9-1-1 Advisory Board to address questions and to begin to develop partnerships to further build recommendations to transition to Next Generation 9-1-1. A Statewide Street Centerline and Address Data model with data definitions have been developed. This will be used to further communicate to participants who use state funds for projects developing street centerline and address data for the state in order to begin standardizing efforts going forward.

A business planning effort started in 2016 to begin defining data stewardship roles and responsibilities, data processing and workflows, costs, and plans with current E-911 and future NG9-1-1 coordination efforts. A review of federal requirements and national efforts has been completed and will be included in the business plan.

The Statewide Nebraska Street Centerline Database (NSCD) and Nebraska Address Database (NAD) have been developed with coordination between the Nebraska Department of Roads and the Office of the CIO. Both databases have relationships in attribution and geometric placement. The Department of Roads finished a federal street centerline project with US Federal Highway Administration and is beginning to incorporate the geometric framework to improve the existing street centerline data for the state. The NAD is currently being implemented at the Office of the CIO with available address data in the state.

Until seamless address data becomes available to the state, several state agencies have partnered towards a shared service for a statewide enterprise license agreement to acquire statewide address and demographic data for the state. It is available to any state agency, city/local government, other state eligible political subdivision, college, or university (except University of Nebraska Medical Center). The state has leveraged the data to be made available in several formats and map services. This data will also assist the development of addressing points to be used in combination with the street centerline database.

**NebraskaMAP.** NebraskaMAP (<http://www.NebraskaMAP.gov>) is the online gateway to get access to Nebraska's authoritative geospatial data. The



NebraskaMAP metadata clearinghouse was replaced in 2016 with a new and improved platform to deliver data and information on various platforms. The system integrates with the State's GIS Enterprise platform and has more than 150 data sets. The site had over 10,000 visitors in the first three weeks of its release.

All state agencies that use geospatial data are working together to reduce duplicated datasets and streamline the data sharing process. This also involves accessing data in a sole location for the most current information. The new system formalizes communication with all statewide data stewards to keep data current while exercising the importance of authoritative and quality data for public consumption. The following are recent updates to this initiative:

- Metadata is required for data sets to be included through NebraskaMAP. New modifications to the existing Metadata Standards (NITC 3-201) have been adopted by the NITC in 2016. The new changes provide clearer definitions on minimum and complete metadata categories for use with creating and maintaining geospatial data sets.
- A data content and management policy has been approved through the GIS Council to outline expectations for open geospatial data to be made available through NebraskaMAP. This policy serves as instructions on what kind of data is acceptable and the necessary requirements when submitting data.
- A new NebraskaMAP Data Subcommittee has been formed to peer-review data requests. A workflow is in place to accept requests, review metadata, and publish data to the clearinghouse.
- A data management system has been developed and is tied to metadata standards using the ISO 19115 categories. This allows for content to be found by searching standardized tags and types of content. It also provides a mechanism to feed our holdings into the national clearinghouses such as GISInventory.net and data.gov
- The new web site incorporates search capabilities, featured datasets, news feeds for new data submissions and other news. The site also extends data through a map gallery on various applications and ISO topics.

The next phase of the project is to partner with other data stewards who share public data through local and county governments and other political subdivisions. The website will eventually include a component to provide an easier way to view and access available imagery, LiDAR and other raster and large file size datasets for Nebraska.

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## Network Nebraska

Participants in Network Nebraska are reducing costs and stimulating investment in Nebraska's telecommunications infrastructure. Network Nebraska is represented as a compilation of three major sub-networks: The University of Nebraska Computing Services Network, State and County Government Network, and the K-20 Education Network. Each network has its own management staff, but takes advantage of co-location facilities, Internet and telecommunications contracts, and shared infrastructure wherever possible.

In order to develop a broadband, scalable telecommunications infrastructure that optimizes quality of service to public entities, the State of Nebraska and the University of Nebraska began aggregating their backbone network services into a core network backbone in 2003. In 2006, the Nebraska Legislature passed LB 1208 which named the statewide network as Network Nebraska, and tasked the Chief Information Officer (assisted by the University of Nebraska) with "providing access to all education entities as soon as feasible, but no later than July 1, 2012." Network Nebraska is also expected to "meet the demand of state agencies and local governments...Such network shall provide access to a reliable and affordable infrastructure capable of carrying a spectrum of services and applications, including distance education, across the state."

Network Nebraska has succeeded in lowering the unit cost of Internet service to participating entities through aggregated purchasing power. By combining Network Nebraska's K-20 Internet purchases into two state contracts of over 30Gbps, the K-12 E-rate-eligible price has gone from \$2.55/Mbps/month on July 1, 2014 down to \$.77/Mbps/month on July 1, 2016, a 69% decrease in unit cost. This will benefit all current and new Network Nebraska schools, ESUs and colleges that purchase their Internet service from the statewide master contract.

Benefits of Network Nebraska also include flexible bandwidth utilization, Intranet routing, lower network costs, greater efficiency, interoperability of systems providing video courses and conferencing, increased collaboration among educational entities, new student learning opportunities, enterprise network management software, and better use of public investments.

Network Nebraska has also stimulated investments in telecommunications infrastructure. As the State bid connectivity to large regional areas of schools and colleges, the telecommunications companies responded with new network technologies such as metropolitan optical Ethernet, multi-protocol label switching (MPLS), and Ethernet "clouds" which have provided benefits for other nonpublic entities.

The development of the K-20 education network has increased the number of distance education courses available to Nebraska students. Through interactive videoconferencing, Nebraska high schools and community colleges exchange over 450

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courses per year (2016-17). World languages, mathematics, social sciences, and business courses continue to be popular offerings leveraged by rural students.

Due to advances in WAN Ethernet technology, Network Nebraska-Education is now able to reach every education entity in the State through five core aggregation points: Grand Island, Lincoln, Scottsbluff, and two locations in Omaha.

The development of the K-20 education sub-network has increased the number of customers served by Network Nebraska. Data and Internet customers currently include the three state colleges, all six community colleges, the University of Nebraska system, half of the private colleges, and 245 school districts under 17 different educational service units. The number of K-12 educational entities increased as the remaining K-12 districts in suburban Omaha elected to participate in 2015. The Nebraska K-20 Education sub-network is completely funded by Participation and Interregional Transport Fees from its 291 members.

Network Nebraska has been made possible through a cooperative effort of the Collaborative Aggregation Partnership (CAP). CAP is composed of several operational entities: Office of the CIO, University of Nebraska, and Nebraska Educational Telecommunications with policy assistance from the Nebraska Department of Education, Public Service Commission, and the NITC.

In 2009, the NITC Education Council chartered the Network Nebraska Advisory Group (NNAG). These 16 members, representing all of the major K-12 and higher education communities, have been instrumental in helping guide OCIO decisions concerning network infrastructure, services, and fees.

Network Nebraska is not a state-owned network. Facilities and circuits are leased from private telecommunications providers in the state, allowing the State of Nebraska and members of Network Nebraska to act as anchor tenants.

## **Digital Education**

The primary objective of the Digital Education Initiative is to promote the effective and efficient integration of technology into the instructional, learning, and administrative processes and to utilize technology to deliver enhanced digital educational opportunities to students at all levels throughout Nebraska on an equitable and affordable basis.

The initiative is dependent upon adequate Internet connectivity and transport bandwidth for learners, instructors, administrators, and for educational attendance sites. A minimum acceptable level of classroom technology will have to be established for the initiative to be successful.

The primary components of the Digital Education Initiative include:

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- A statewide telecommunications network with ample bandwidth capable of transporting voice, video, and data between and among all education entities (See Network Nebraska.);
- Distance insensitive Internet pricing for all Nebraska education entities;
- Development of a statewide eLearning environment so that every teacher and every learner has access to a web-based, digital curriculum;
- Development of a statewide digital resource library so that any teacher or learner will be able to retrieve digital media for use in instructional and student projects;
- Synchronous videoconferencing interconnections between all schools and colleges;
- The means to coordinate and facilitate essential education opportunities for all students through a statewide student information system; and
- Regional Pre-K-20 education cooperatives that vertically articulate educational programs and opportunities.

Establishing a Digital Education environment is critical to Nebraska's future. Internet has gone from a "nice to have" educational application of the 1990's to the "must have" mission critical application of the 2010's. So much of what teachers, students, and administrators do today is dependent upon Internet-based information and communication. Nebraska has continued to make progress in the ratio of students per high speed, Internet-connected computers in the classroom. However, it still makes it challenging for students to complete their digital assignments when they are expected to share two or three students to a computer, or to wait their turn to be able to use a computer. Educators and administrators are urged to work to achieve the goal of attaining 1:1 computer (or Internet-connected device) availability.

The benefits of the Digital Education Initiative would include:

- Greater technical capacity for schools and colleges to meet the increasing demands of a more diverse customer base;
  - More equitable and affordable Internet access for Nebraska schools and colleges;
  - A comprehensive web-based approach to curriculum mapping and the organization and automation of student assessment data gathering and depiction;
  - The availability of rich, digital media to the desktop that is indexed to Nebraska standards, catalogued, and searchable by the educator or student;
  - A more systematic approach to synchronous video distance learning that enables Nebraska schools and colleges to exchange more courses, staff development and training, and ad hoc learning opportunities.
-

Network Nebraska will be undergoing a significant backbone upgrade that will begin in July 2017. By moving to a higher bandwidth, flexible IP network, participating education entities will be able to:

- Have more bandwidth for local and regional transport to accommodate present and future education technology applications;
- Take advantage of nationwide Internet2 routing and resources;
- Purchase some of the lowest Internet access pricing in the country;
- Participate in a statewide, standards-based IP videoconferencing system between all schools and colleges;
- Post their course offerings and unfilled curriculum needs to a statewide clearinghouse and scheduling system for all synchronous and asynchronous distance learning;
- Position themselves to develop new and exciting regional and statewide applications of digital content to serve all students and teachers.

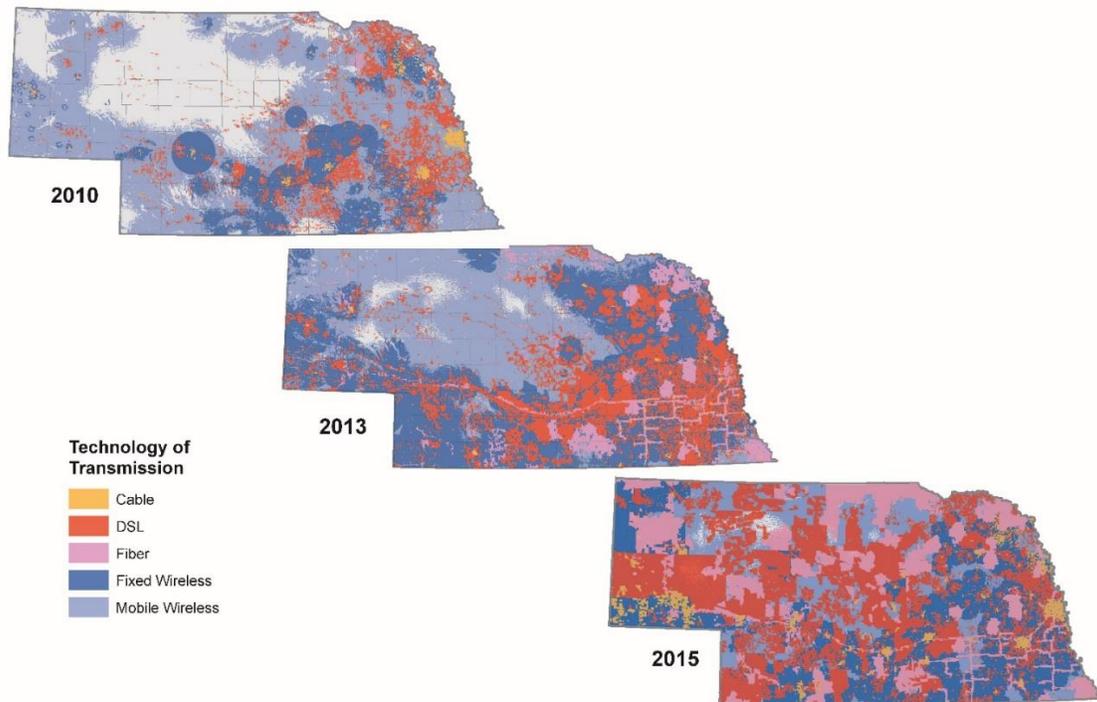
The furthering of the Digital Education initiative and completion of the Digital Education action items requires the participation of many education-related entities. The Educational Service Unit Coordinating Council (ESUCC) and the Nebraska Department of Education (NDE) are cooperating on a comprehensive instructional improvement plan that includes a 2017-2019 biennial budget request.

## Community IT Planning and Development

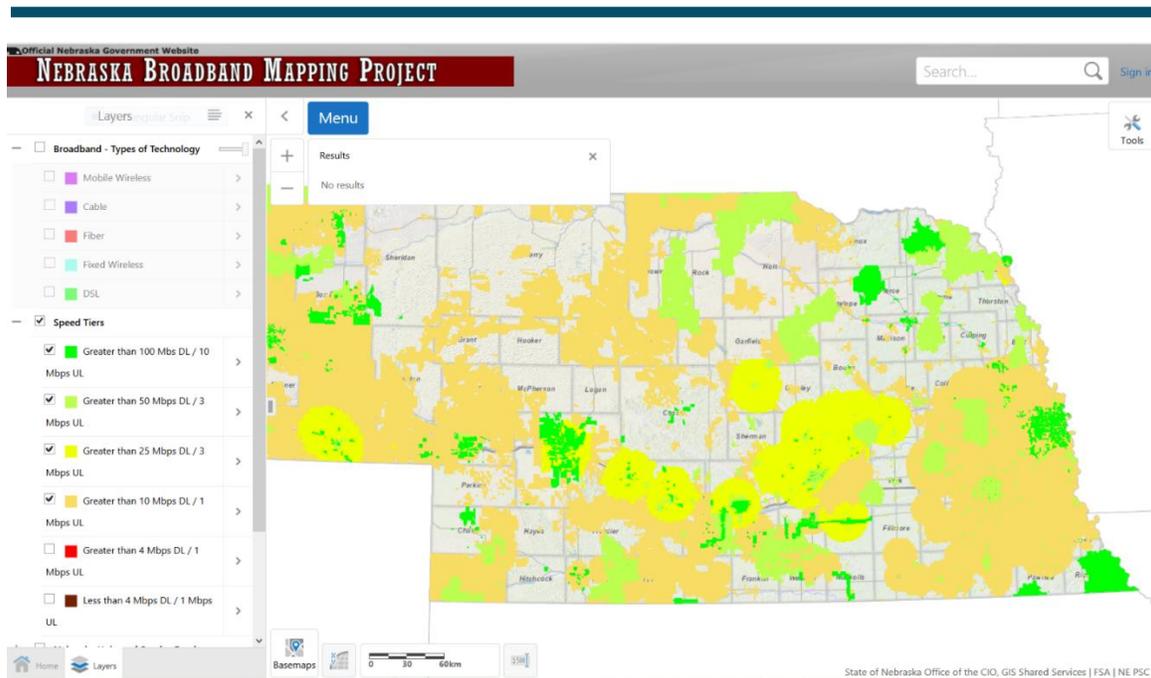
The NITC Community Council continues to work with the University of Nebraska, Nebraska Public Service Commission, Nebraska Department of Economic Development, and AIM as part of the Nebraska Broadband Initiative to help communities better understand the importance of broadband. Over the past two years, the initiative has developed a broadband planning workbook for communities, recognized outstanding broadband initiatives, and co-sponsored two broadband conferences. The Nebraska Public Service Commission updated the state broadband map ([broadbandmap.nebraska.gov](http://broadbandmap.nebraska.gov)) in the spring of 2016, providing valuable information for consumers and policymakers. The NITC Community Council has also worked with the initiative to produce a bimonthly newsletter to highlight best practices and success stories.

**Broadband Availability.** Broadband provides high-speed access to applications such as the Internet. Broadband availability in Nebraska continues to improve. The following map from the Nebraska Public Service Commission's broadband map ([broadbandmap.nebraska.gov](http://broadbandmap.nebraska.gov)) shows improvements in broadband coverage from 2010 to late 2015.

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Some areas of the state remain under or unserved, however. The FCC estimated that 16% of Nebraska's population lacks access to broadband of 25 Mbps or greater down and 3 Mbps or greater up as of December, 2014. Those living in rural areas outside are more likely to be under or unserved. The FCC estimated that 51% of Nebraska's rural population lacked access to broadband of 25 Mbps or greater down and 3 Mbps or greater up as of December, 2014. The map below shows areas in which broadband of 25 Mbps or greater down is available as of December, 2015. Additional information on broadband availability in Nebraska can be found at [broadbandmap.nebraska.gov](http://broadbandmap.nebraska.gov).



Mobile connections are becoming increasingly important to residents and businesses. Although mobile broadband data coverage is improving in Nebraska, mobile coverage in some areas of rural Nebraska is still a challenge. Mobile coverage limitations in rural areas of Nebraska may impact the adoption and utilization of some precision agriculture technologies which rely on mobile broadband services.

**Broadband Adoption.** Most households in Nebraska have broadband service. In 2014, 82% of Nebraskans subscribed to internet service at home. However, there were significant rural-urban differences with subscription rates of 90% in Lincoln and 87% in Omaha, compared to 72% to 77% in other regions of the state.<sup>1</sup> More recent data on rural Nebraskans indicates that rural subscribership in Nebraska has increased to 82%.<sup>2</sup>

<sup>1</sup> Vogt, R., Byers, A., Hancock, C., Narjes, C., & Terry, R. (April 2014). Internet connectivity and use in Nebraska: A follow up study. Retrieved from <http://broadband.nebraska.gov>

<sup>2</sup> Vogt, R.,Burkhart-Kreisel, Cantrell, R., Lubeen, B., & McElravy, L. (2016). Broadband and Mobile Internet Services in Nonmetropolitan Nebraska: 2016 Rural Poll Results. Retrieved from <http://ruralpoll.unl.edu/pdf/16broadband.pdf>

## eHealth

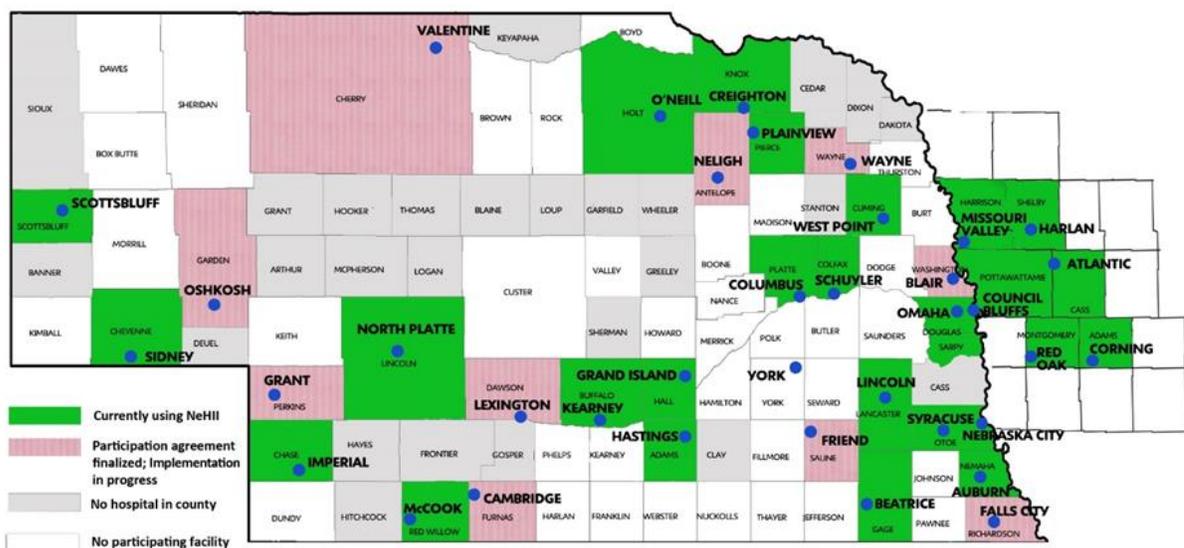
The NITC eHealth Council has worked to support the adoption and utilization of health information exchange in Nebraska. In July 2015, the Nebraska Information Technology Commission/Office of the State CIO was awarded a two-year \$2.7 million cooperative agreement from the U.S. Department of Health and Human Services' Office of the National Coordinator for Health IT. The grant is supporting the adoption of health information exchange by Critical Access Hospitals, long-term care facilities, public health and researchers. As of September 30, 2016, the following have been implemented with grant funds:

- Three facilities have been implanted to share data with NeHII and three more are in progress.
- One hospital is sending data to the State's syndromic surveillance system through NeHII
- 11 long-term care facilities are using Direct secure messaging to send and receive patient information.

In order to facilitate the use of health information, grant team members from UNMC are working with health care providers in two Nebraska communities to identify use cases, implement appropriate technologies, and integrate new technologies into the provider workflow. Training modules are being developed to share lessons learned from the project.

The grant is also supporting the implementation of additional functionalities through the Nebraska Health Information Initiative (NeHII), including population health analytics.

The map below shows participating hospitals in NeHII:



The following table shows the growth of health information exchange through NeHII since 2010.

### Health Information Exchange Metrics

NeHII	March 2010	March 2014	Sept. 30, 2016
<b>Number of Clients</b>			
• Number of Clients in the Master Patient Index	1,544,570	2,703,439	3,292,492
• Total Patients That Have Opted Out	27,032	69,020	76,420
• Total Patients Opting Back In	2,092	4,372	5,253
<b>Provider Information</b>			
• Total Number of Users	464	3,590	7,136
<b>Hospital Information</b>			
• Number of Nebraska Hospitals Participating	8	22	32
• % of Nebraska Hospitals Participating	8%	23%	31%
• Percent of Nebraska Hospital Beds Covered	36%	52%	64%
<b>Public Health Information</b>			
• State Public Health Systems Connected to NeHII	0	1 <sup>3</sup>	1
• Local Health Departments Participating in NeHII	0	2	2
<b>Payers</b>			
• Number of Payers Participating	1	2	2
<b>Total Number of Results Sent to Exchange</b>			
• LAB	6,633,699	38,411,495	65,222,917
• RAD	1,838,874	7,399,077	11,713,759
• Transcription	947,739	16,623,562	55,106,378

<sup>3</sup> In 2011, NeHI implemented the immunization gateway.

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## Improved Coordination and Assistance to Policymakers

*The statewide technology plan and other activities of the commission have improved coordination and assisted policymakers.*

The statewide technology plan annually prepared by the NITC has been an effective vehicle for identifying key projects, building stakeholder support, coordinating efforts, and communicating with policy makers.

The current plan was approved in 2015 with minor updates made in 2016. The plan focuses on nine strategic initiatives:

- State Government IT Strategy
- Cloud Strategy
- State IT Spending Analysis
- IT Security
- Nebraska Spatial Data Infrastructure
- Network Nebraska
- Digital Education
- Community IT Planning and Development
- eHealth

These initiatives were identified by the NITC and its advisory groups. These groups include representatives of a wide array of entities, including health care providers, education, local government, the private sector, and state agencies. This process has proven to be effective in building stakeholder support. These initiatives are collaborative projects involving many entities both inside and outside of state government. The statewide technology plan provides a method of communicating the importance of these initiatives, progress made, and plans for further implementation. The plan is submitted to the Legislature and the Governor. The primary role of the NITC in these initiatives has been facilitation and coordination. The success of these initiatives testifies to the NITC's effectiveness at facilitation, coordination, and communication with policymakers.

Chief Information Officer Ed Toner has met with senators at their request and has testified at hearings and given briefings to legislative committees five times over the past two years.

The Chief Information Officer and the staff or advisory groups of the NITC are occasionally called upon to provide analysis or review of technology initiatives, explanation of state-specific information technology data, and other requests as needed by the Governor and Legislature.

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## Policy and Funding Recommendations

*Recommendations made by the commission to the Governor and Legislature have assisted policy and funding decisions.*

Section 86-516 (8) directs the NITC to “make recommendations on technology investments to the Governor and the Legislature, including a prioritized list of projects, reviewed by the technical panel,” as part of the biennial budget process. Prior to budget submissions, agencies submit IT plans which are reviewed by the Office of the CIO and the NITC Technical Panel. This information provides a context in which to better review IT projects submitted by agencies. Technical reviews of information technology projects are conducted by a team of reviewers. With input from the NITC State Government and Education Councils, the Technical Panel further reviews the project proposals. Using information from the review process, the NITC makes funding recommendations to the Governor and the Legislature by November 15 of each even-numbered year. The review process and prioritization of new IT projects provides policy makers with information about the objectives, justification, technical impact, costs, and risks of proposed systems. The agency comprehensive information technology plans and the project proposal forms for budget requests of new IT spending provide policy makers with far more information in a more consistent format than before. The Technical Panel also conducts voluntary review of IT projects and projects awarded funding through the NITC Community Technology Fund and Government Technology Fund.

In 2016, nine IT budget requests for new projects were reviewed. Recommendations on these requests were submitted to the Governor and the Legislature.

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## **Policies, Standards, Guidelines, and Architectures**

*Policies, standards, guidelines, and architectures have been developed and observed.*

In order to encourage interoperability and standardization, over 40 standards and guidelines have been adopted. The development of standards and guidelines has helped the State of Nebraska achieve greater interoperability and efficiency. The process encourages public input from all involved constituents. Most standards are developed by a work group consisting of stakeholders from state government agencies and other interested entities. The Technical Panel recommends approval of standards and guidelines to the NITC. All standards are approved at open NITC meetings after a 30-day comment period.

A full listing of the NITC Standards and Guidelines are listed at this website:

<http://www.nitc.ne.gov/standards/index.html>

## Information Technology Clearinghouse

*An information technology clearinghouse has been established, maintained, and utilized of Nebraska's information technology infrastructure and of activities taking place in the state involving information technology, and the information flow between and among individuals and organizations has been facilitated as a result of the information technology clearinghouse.*

The NITC's website ([www.nitc.nebraska.gov](http://www.nitc.nebraska.gov)) serves as an information technology clearinghouse, providing access to information including resources for communities, health care providers, and educational entities, the GIS community, and state government. The NITC website is the official repository for agenda, minutes, and documents for the NITC, its councils and their workgroups. The section on "Standards and Guidelines" provides access to all technical standards and guidelines adopted by the NITC or under development. The Community Council also publishes an electronic newsletter which is available from the NITC website and uses social media to share information on broadband development. Network Nebraska has its own project website, with information designed for current and prospective participants (<http://www.networknebraska.net>). The NITC website also includes a link to NebraskaMAP (<http://www.NebraskaMAP.gov>) which provides public access to geospatial data in Nebraska. Additionally, NITC staff members handle requests for information on technology projects and development and facilitate the exchange of information.

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## Input and Involvement of Interested Parties

*Input and involvement of all interested parties has been encouraged and facilitated.*

The NITC engages in collaborative processes, involving five advisory councils, the Technical Panel, and numerous workgroups and subcommittees. Additionally information is publicly distributed and public input is encouraged through the NITC's website and through e-mail distribution. NITC staff also present information on NITC initiatives at conferences, workshops, and meetings across the state. The list of NITC Commissioners, council members, and Technical Panel members is included in this document.

Active work groups and subcommittees over the past two years include:

- State Government Council—Open Data Work Group
- State Government Council—Security Architecture Work Group
- State Government Council—Webmasters Work Group
- State Government Council—Cloud Standard Work Group
- Technical Panel—Accessibility of Information Technology Work Group
- Technical Panel—Learning Management System Standards Work Group
- Technical Panel—Intergovernmental Data Communications Work Group
- GIS Council—Street Centerline-Address Database Work Group
- GIS Council—Imagery Work Group
- GIS Council—Land Records Work Group
- GIS Council—Elevation Work Group
- GIS Council—Geospatial Data Sharing and Web Services Work Group
- GIS Council—Strategic Planning Work Group
- Education Council—Network Nebraska Work Group
- Education Council—Digital Education Work Group
- Education Council—Network Nebraska Advisory Group

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## Infrastructure Innovation, Improvement and Coordination

*Long-term infrastructure innovation, improvement, and coordination has been planned for, facilitated, and achieved with minimal barriers and impediments.*

The NITC is addressing long-term infrastructure innovation, improvement, and coordination through Network Nebraska and related initiatives.

Network Nebraska has aggregated statewide telecommunications to a common infrastructure, generated considerable cost savings to public entities, and decreased the unit cost of Internet service by leveraging the consolidated demand of all participating entities. Since September 2003, Network Nebraska has grown to serve the data and Internet service needs of all state agencies with outstate circuits, the University of Nebraska's four campuses, all six of the state's community colleges, all three state colleges, and all of the 245 school districts under 17 different educational service units. The number of customers is expected to continue growing due to the favorable Internet rates and the high quality of service offered by Network Nebraska. The Network Nebraska K-20 sub-network is one possible alternative for them to interconnect with each other and purchase less expensive Internet.

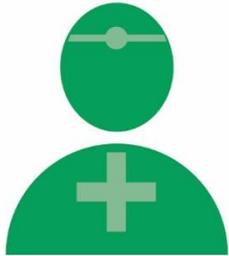
Network Nebraska has been made possible through a cooperative effort of the State of Nebraska Office of the CIO, University of Nebraska, and Nebraska Educational Telecommunications, with policy assistance from the Nebraska Department of Education, Public Service Commission, and the NITC. This partnership is known as the Collaborative Aggregation Partnership (CAP).

The first phase of the multipurpose statewide backbone became operational in September 2003, serving Omaha, Lincoln, and Grand Island with the second phase following in February 2004, extending service to Norfolk, Kearney, North Platte, and the Panhandle. In July 2008, the Network Nebraska K-20 backbone interconnected Grand Island, Lincoln, and Omaha, and Scottsbluff was added in 2012. The Office of the CIO and the University of Nebraska each have statewide Internet contracts for Network Nebraska that have dramatically reduced the unit cost of Internet access to Network Nebraska participants. By leveraging Internet2 and InterExchange peering relationships, an additional 40 Gbps of Internet egress has been made available at substantially lower costs than commodity Internet.

Network Nebraska is not a state-owned network. Facilities are leased from private telecommunications providers in the state. In this way, the state hopes to stimulate private investment into Nebraska's telecommunications infrastructure.

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## Awards and Recognition



The NITC received a \$2.7 million cooperative agreement from the U.S. Department of Health and Human Services, Office of the National Coordinator for Health IT to advance health information exchange in Nebraska in July 2015.



The State of Nebraska's Web portal, Nebraska.gov, was awarded the Center for Digital Government's "Best of the Web" awards for 2016.



Nebraska received a grade of "B" in the Center for Digital Government's Digital States Survey in 2016.



Network Nebraska-Education was recognized in December 2015 as one of the "Bright Ideas" of the Innovations in Government Program, by the Ash Center for Democratic Governance and Innovation, Harvard University-Kennedy School of Government.

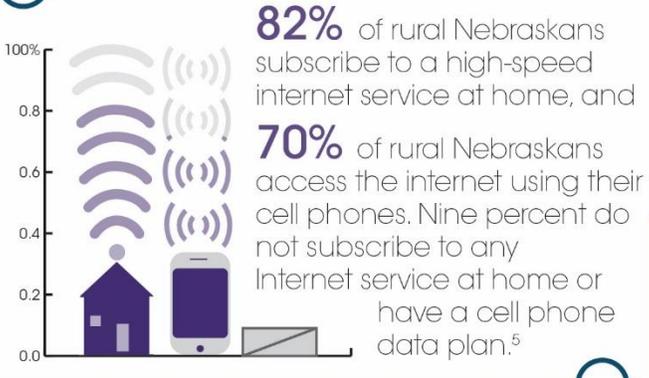
# 12 Fun Facts about the NITC

6 advisory groups have assisted the NITC. (Community Council, Education Council, eHealth Council, GIS Council, State Government Council, and Technical Panel)



Over **40** standards and guidelines have been adopted by the NITC.

**84%** of Nebraskans have access to broadband services of at least 25 Mbps down and 3 Mbps down as of December 2014.<sup>4</sup>



**Surescripts ranked Nebraska #2 in e-prescribing controlled substances for 2015.**

Nearly 3.3 million patients from Nebraska and neighboring states have information in NeHII's master patient index.



Over 7,000 physicians and health care providers are participating in NeHII. NeHII now covers 62% of the state's hospital beds.

The proportional **reduction** of the unit **price** of Internet since the State and University began cooperatively bidding the State's Internet (2007-2016) is **99%**



**291** education entities are currently served by Network Nebraska. Network Nebraska-Education daily serves over 425,000 students and staff with Internet and distance learning courses.



The proportional **increase** in length and **bandwidth capacity** of the statewide education backbone, from 2012-2016 is **300%**

Nebraska K-12 entities pay \$.2432/Mbps/month for Internet access after E-rate discounts are applied.

<sup>4</sup> Data from the FCC's 2016 Broadband Progress Report available at [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-16-6A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-6A1.pdf)  
<sup>5</sup> Vogt, R.,Burkhart-Kreisel, Cantrell, R., Lubeen, B., & McElravy, L. ( 2016). Broadband and Mobile Internet Services in Nonmetropolitan Nebraska: 2016 Rural Poll Results. Retrieved from <http://ruralpoll.unl.edu/pdf/16broadband.pdf>

## Advisory Group Members

Technical Panel	Community Council	Education Council
<p><b>Walter Weir, Chair</b>, University of Nebraska Computer Services Network</p> <p><b>Michael Winkle</b>, Nebraska Educational Telecommunications</p> <p><b>Ed Toner</b>, Office of the CIO</p> <p><b>Christy Horn</b>, University of Nebraska Central Administration</p> <p><b>Kirk Langer</b>, Lincoln Public Schools</p>	<p><b>Rod Armstrong, Co-Chair</b>, AIM, Lincoln</p> <p><b>Phil Green, Co-Chair</b>, City of Blair</p> <p><b>Pam Adams</b>, American Broadband</p> <p><b>Chris Anderson</b>, City of Central City</p> <p><b>Jay Anderson</b>, NebraskaLink</p> <p><b>Brett Baker</b></p> <p><b>Randy Bretz</b>, TEDxLincoln Curator</p> <p><b>Jessica Chamberlain</b>, Norfolk Public Library</p> <p><b>Shonna Dorsey</b>, Interface</p> <p><b>Steve Fosselman</b>, Grand Island Public Library</p> <p><b>Connie Hancock</b>, University of Nebraska-Lincoln Extension</p> <p><b>Steve Henderson</b>, City of Lincoln</p> <p><b>Jacob Knutson</b>, Department of Economic Development</p> <p><b>David Lofdahl</b>, IT Consultant</p> <p><b>Monica Lueking-Crowe</b>, Furnas Harlan Partnership</p> <p><b>Marion McDermott</b>, Kearney Area Chamber of Commerce</p> <p><b>Megan McGown</b>, City of Sidney</p> <p><b>Joan Modrell</b>, Department of Labor</p> <p><b>Jerry Vap</b>, Nebraska Public Service Commission</p> <p><b>Holly Woldt</b>, Nebraska Library Commission</p>	<p><b>Mark Askren</b>, University of Nebraska-Lincoln</p> <p><b>Dr. Mike Baumgartner</b>, Coordinating Commission for Postsecondary Education</p> <p><b>Derek Bierman</b>, Northeast Community College</p> <p><b>Burke Brown</b>, District OR-1 Palmyra/Bennet</p> <p><b>Mike Carpenter</b>, Doane University</p> <p><b>Matt Chrisman</b>, Mitchell Public Schools</p> <p><b>Dr. Ted DeTurk</b>, ESU 2-Fremont</p> <p><b>John Dunning</b>, Wayne State College</p> <p><b>Brent Gaswick</b>, Nebraska Department of Education</p> <p><b>Stephen Hamersky</b>, Daniel J. Gross Catholic High School</p> <p><b>Dr. Dan Hoelsing</b>, Schuyler Community Schools</p> <p><b>Steve Hotovy</b>, Nebraska State College System</p> <p><b>Dr. Mike Lucas</b>, York Public Schools</p> <p><b>Greg Maschman</b>, Nebraska Wesleyan University</p> <p><b>Gary Needham</b>, ESU 9-Hastings</p> <p><b>Mary Niemiec</b>, University of Nebraska</p> <p><b>Alan Moore</b>, ESU 3-LaVista</p> <p><b>Tom Peters</b>, Central Community College</p> <p><b>Gary Targoff</b>, Nebraska Educational Telecommunications Commission</p> <p><b>Ed Toner</b>, Office of the CIO, Nebraska Department of Administrative Services</p>

eHealth Council	GIS Council	State Government Council
<p><b>Dr. Delane Wycoff</b>, Co-Chair, Pathology Services, PC</p> <p><b>Marsha Morien</b>, Co-Chair, UNMC College of Public Health</p> <p><b>Kevin Borcher</b>, NeHII</p> <p><b>Kevin Conway</b>, Nebraska Hospital Association and NeHII</p> <p><b>Kathy Cook</b>, Lincoln-Lancaster County Public Health Department</p> <p><b>Joel Dougherty</b>, OneWorld Community Health Centers</p> <p><b>Marty Fattig</b>, Nemaha County Hospital</p> <p><b>Kimberly Galt</b>, Creighton University School of Pharmacy and Health Professions</p> <p><b>Cindy Kadavy</b>, Nebraska Health Care Association</p> <p><b>Rama Kolli</b>, Blue Cross Blue Shield of Nebraska</p> <p><b>Dr. James McClay</b>, Nebraska Medicine</p> <p><b>Dr. Shawn Murdock</b>, Midlands Family Medicine, North Platte</p> <p><b>Dave Palm</b>, University of Nebraska Medical Center</p> <p><b>Jenifer Roberts-Johnson</b>, Nebraska Department of Health and Human Services, Division of Public Health</p> <p><b>June Ryan</b>, Retired</p> <p><b>Todd Searls</b>, Wide River</p> <p><b>Brian Sterud</b>, Faith Regional Health System</p> <p><b>Robin Szwaneck</b>, AARP</p> <p><b>Max Thacker</b>, UNMC</p> <p><b>Anna Turman</b>, Chadron Community Hospital</p> <p><b>Linda Wittmuss</b>, Nebraska Department of Health and Human Services, Division of Behavioral Health</p> <p><b>Bridget Young</b>, Visiting Nurse Association</p>	<p><b>Timothy Cielocha</b>, Chair, Nebraska Public Power District</p> <p><b>Jon Kraai</b>, Vice-Chair, Nebraska State Patrol</p> <p><b>Josh Lear</b>, Department of Natural Resources</p> <p><b>Bill Wehling</b>, Department of Roads</p> <p><b>Chad Boshart</b>, Nebraska Emergency Management Agency</p> <p><b>Karis Bowen</b>, Department of Health and Human Services</p> <p><b>Lash Chaffin</b>, League of Nebraska Municipalities</p> <p><b>Erin Northwall</b>, Governor's Policy Research Office</p> <p><b>Steve Cobb</b>, State Surveyor</p> <p><b>Nancy Cyr</b>, Clerk of the Legislature</p> <p><b>Eric Herbert</b>, Sarpy County GIS</p> <p><b>Les Howard</b>, Conservation and Survey Division – UNL</p> <p><b>Kim Wessels</b>, Harlan County Assessor's Office</p> <p><b>Cullen Robbins</b>, Public Service Commission</p> <p><b>James Langtry</b>, US Geological Survey</p> <p><b>Pat Larson</b>, Grand Island Public Schools</p> <p><b>Jeff McReynolds</b>, City of Lincoln, Lancaster County</p> <p><b>Chuck Wingert</b>, Nemaha Natural Resources District</p> <p><b>James W. Ohmberger</b>, Office of the CIO</p> <p><b>Sudhir Ponnappan</b>, Nebraska Game and Parks Commission</p> <p><b>Mike Preston</b>, Nebraska Geospatial Professional Association</p> <p><b>Mike Schonlau</b>, Omaha/Douglas County</p> <p><b>Ruth Sorensen</b>, Department of Revenue</p> <p><b>Gary Morrison</b>, Department of Environmental Quality</p> <p><b>Todd Whitfield</b>, Lamp, Ryneason and Associates</p> <p><b>Todd Wiltgen</b>, Lancaster County Commissioners</p>	<p><b>Ed Toner</b>, Chair, Office of the CIO</p> <p><b>John Albin</b>, Department of Labor</p> <p><b>Dennis Burling</b>, Department of Environmental Quality</p> <p><b>Mike Calvert</b>, Legislative Fiscal Office</p> <p><b>Byron Diamond</b>, Department of Administrative Services</p> <p><b>Darrell Fisher</b>, Crime Commission</p> <p><b>John Gale</b>, Secretary of State of Nebraska</p> <p><b>Brent Gaswick</b>, Department of Education</p> <p><b>Rex Gittins</b>, Department of Natural Resources</p> <p><b>Dorest Harvey</b>, Private Sector</p> <p><b>Chris Hill</b>, Department of Health and Human Services</p> <p><b>Rhonda Lahm</b>, Department of Motor Vehicles</p> <p><b>Kelly Lammers</b>, Department of Banking and Finance</p> <p><b>Jim Ohmberger</b>, Office of the CIO, Enterprise Computing Services</p> <p><b>Gerry Oligmueller</b>, DAS—Budget Division</p> <p><b>Bradley Rice</b>, Nebraska State Patrol</p> <p><b>Jayne Scofield</b>, Office of the CIO, Network Services</p> <p><b>Len Sloup</b>, Department of Revenue</p> <p><b>Robin Spindler</b>, Department of Correctional Services</p> <p><b>Corey Steel</b>, Supreme Court</p> <p><b>Rod Wagner</b>, Library Commission</p> <p><b>Tamra Walz</b>, Workers' Compensation Court</p> <p><b>Bill Wehling</b>, Department of Roads Governor's Policy Research Office</p>

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## Appendix

### Policy Objectives and Review Criteria

Section 86-518 directs the NITC to submit a progress report to the Governor and Legislature by November 15 of each even-numbered year. This report is offered in fulfillment of that requirement.

Section 86-524 further directs the Appropriations Committee and Transportation and Telecommunications Committee to conduct a joint review of the activities of the NITC by the end of the calendar year of every even-numbered year. Section 86-524 also provides three objectives and a list of criteria for evaluating progress. This report is intended to provide information to assist the Legislature in conducting its review.

### Policy Objectives

Section 86-524 states: "It shall be the policy of the state to:

1. Use information technology in education, communities, including health care and economic development, and every level of government service to improve economic opportunities and quality of life for all Nebraskans regardless of location or income;
2. Stimulate the demand to encourage and enable long-term infrastructure innovation and improvement; and
3. Organize technology planning in new ways to aggregate demand, reduce costs, and create support networks; encourage collaboration between communities of interest; and encourage competition among technology and service providers."

### Review Criteria

Section 86-524 states: "In the review, the committees shall determine the extent to which:

1. The vision has been realized and short-term and long-term strategies have been articulated and employed;
  2. The statewide technology plan and other activities of the commission have improved coordination and assisted policymakers;
  3. An information technology clearinghouse has been established, maintained, and utilized of Nebraska's information technology infrastructure and of activities taking place in the state involving information technology, and the information flow between and among individuals and organizations has been facilitated as a result of the information technology clearinghouse;
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4. Policies, standards, guidelines, and architectures have been developed and observed;
5. Recommendations made by the commission to the Governor and Legislature have assisted policy and funding decisions;
6. Input and involvement of all interested parties has been encouraged and facilitated; and
7. Long-term infrastructure innovation, improvement, and coordination has been planned for, facilitated, and achieved with minimal barriers and impediments.”