Nebraska’s Statewide Technology Plan

Transforming Government, Education, Healthcare and Communities

Nebraska’s Statewide Technology Plan
Approved March 8, 2018
Foreword

Transforming Government, Education, Healthcare, and Communities, the Nebraska Information Technology Commission’s annual statewide technology plan, focuses on seven strategic initiatives which promote the effective use of technology both within the State of Nebraska’s operations and throughout the state.

Three strategic initiatives—State Government IT Strategy, IT Security, and Nebraska Spatial Data Infrastructure (NESDI)—address the need to take an enterprise approach to IT in order to achieve the State’s IT priorities of security, availability, and consolidation.

The statewide technology plan also addresses the use of technology in education, economic development, and health care. Access to technology and broadband service is becoming increasingly critical for students, businesses, and health care. Four strategic initiatives—Network Nebraska, Digital Education, Rural Broadband and Community IT Development, and eHealth—promote the effective use of technology, while also highlighting the need to address the divide between those with access to technology and the skills to effectively use it and those without.

I would like to thank the NITC Commissioners, members of the NITC’s advisory groups, and the NITC staff for their contributions to the statewide technology plan.

Ed Toner
Chief Information Officer
Chair, Nebraska Information Technology Commission
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NITC Commissioners and Staff

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Senator Bruce Bostelman, Nebraska Legislature, Ex-officio member

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Rick Becker, Government Information Technology Manager

Anne Byers, eHealth and Community Information Technology Manager

Tom Rolfes, Education Information Technology Manager

John Watermolen, State GIS Coordinator

Lori Lopez Urdiales, Administrative Assistant
Executive Summary

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. The NITC is chaired by Ed Toner, Chief Information Officer for the State of Nebraska. Commissioners are appointed by the Governor and represent elementary and secondary education, postsecondary education, communities, the Governor, and the general public. Much of the NITC’s work is conducted through its advisory groups: the Technical Panel, the Community Council, the Education Council, the State Government Council, the eHealth Council, and the GIS Council.

The vision of the NITC is to improve the quality of life of all Nebraskans by promoting the use of information technology in education, health care, economic development and all levels of government. To achieve this vision, the NITC has identified five goals:

• Support the development of a robust statewide telecommunications infrastructure that is scalable, reliable, and efficient;
• Support the use of information technology to enhance community and economic development;
• Promote the use of information technology to improve the efficiency and delivery of governmental and educational services, including homeland security;
• Ensure the security of the State’s data and network resources and the continuity of business operations;
• Promote effective planning, management and accountability regarding the state’s investments in information technology.

In accordance with the Legislature’s directive (Neb. Rev. Stat. § 86-516) to “annually update a statewide technology plan,” the NITC, with input from its advisory groups and other stakeholders, has identified seven areas on which to focus. These initiatives are projects that are of strategic importance to the state and require an enterprise approach, involvement by the NITC, and/or cooperation of multiple entities for their success. The strategic initiatives and the action items which support them are the core of the statewide technology plan. The NITC’s current strategic initiatives are:

• State Government IT Strategy
• IT Security
• Nebraska Spatial Data Infrastructure (NESDI)
• Network Nebraska
• Digital Education
• Rural Broadband and Community IT Development
• eHealth
NITC Overview

The Office of the Chief Information Officer provides support for the NITC, its Councils, the Technical Panel, and ad hoc groups.

Mission

The mission of the Nebraska Information Technology Commission is to make the State of Nebraska’s information technology infrastructure more accessible and responsive to the needs of its citizens, regardless of location, while making investments in government, education, health care and other services more efficient and cost effective.

Vision, Goals

The vision of the NITC is to improve the quality of life of all Nebraskans by promoting the use of information technology in education, health care, economic development and all levels of government. To achieve this vision, the NITC has identified five goals:

• Support the development of a robust statewide telecommunications infrastructure that is scalable, reliable, and efficient;
• Support the use of information technology to enhance community and economic development;
• Promote the use of information technology to improve the efficiency and delivery of governmental and educational services, including homeland security;
• Ensure the security of the State’s data and network resources and the continuity of business operations.
• Promote effective planning, management and accountability regarding the state’s investments in information technology.

Core Values

• We strive to know our customers and stakeholders and understand their needs.
• We inspire cost-effective solutions.
• We encourage collaboration for the sharing of resources.
• We encourage public participation in the technology development process.

NITC Staff (Left to Right): Lori Lopez Urdiales, Tom Rolfes, Rick Becker, John Watermolen, Anne Byers
Advisory Groups

Much of the NITC’s work is conducted through its advisory groups:

- The **Technical Panel** provides analysis and recommendations to the NITC on technical issues.
- The **Community Council** is composed of representatives from business and economic development, work force development, public libraries and local government. It was formed to identify, prioritize, and coordinate user needs with respect to community information technology.
- The **Education Council** is a 16-member advisory committee composed of representatives from K-12 and postsecondary education. It identifies, prioritizes, and coordinates user needs with respect to educational information technology.
- The **State Government Council** is a 23-member advisory committee composed of agency directors, state IT professionals, and a representative of the private sector. It provides direction and oversight for the development of vision, goals, and policy related to the use of information technology in state government.
- The **eHealth Council** is composed of representatives from public health, consumers, state and federal government, employers, eHealth initiative groups, health care providers, and other resource providers. It was formed to identify, prioritize, and coordinate issues within the realm of healthcare and technology.
- The **GIS Council** is composed of representatives from federal, state, local government, education and private individual and associations. They provide statewide coordination of GIS initiatives.

Strategic Initiatives

In order to advance its vision and goals, the NITC, with input from its advisory groups and other stakeholders, has identified seven key initiatives which promote the effective use of technology within the State of Nebraska, as well as education, economic development, local government, and health care. By emphasizing selected strategic initiatives, the NITC hopes to encourage funding of these initiatives and to encourage state agencies to work together to advance these initiatives.

The first three strategic initiatives—State Government IT Strategy, IT Security, and Nebraska Spatial Data Infrastructure (NESDI)—address the need to take an enterprise approach to IT in order to achieve the State’s IT priorities of security, availability, and consolidation.

The last four strategic initiatives address the use of technology in education, economic development, and health care. Access to technology and broadband service is becoming increasingly critical for students, businesses, and health care. Four strategic initiatives—Network Nebraska, Digital Education, Rural Broadband and Community IT Development, and eHealth—promote the effective use of technology while also highlighting the need to address the divide between those with access to technology and the skills to effectively use it and those without.
A brief description of each strategic initiative follows:

**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, and agency-specific activities will remain with the 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.

**Nebraska Spatial Data Infrastructure (NESDI).** The objective of this initiative 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.

**Network Nebraska.** In order to develop a broadband, scalable telecommunications infrastructure that optimizes the quality of service to every public entity in the state of Nebraska, the Office of the CIO and the University of Nebraska engaged in a collaborative partnership that used existing and new resources to aggregate disparate networks into a multipurpose core backbone extending from Omaha, Lincoln, Grand Island to Scottsbluff.

Benefits of Network Nebraska include lower network costs, greater efficiency, interoperability of systems providing video courses and conferencing, increased collaboration among educational entities, new educational opportunities, more affordable Internet access, and better use of public investments. All of the Nebraska public school districts (244), Educational Service Units (17) and all public higher education entities (13) participate in Network Nebraska, benefitting from one of the lowest commodity Internet rates in the entire country. Network Nebraska’s low commodity Internet rates are made possible through aggregation of demand and statewide bidding. Network Nebraska’s new action item focus will be on better performance metrics and more effective communication to participants and stakeholders.

**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. This initiative will involve the coordination and promotion of several major systems and applications that have either been developed mostly at the local level or have not been replicated statewide. Action items will focus on the technical challenges for students in the transition from secondary to post-secondary education, and addressing the need for equitable broadband access for students and their families to access digital education resources.

**Rural Broadband and Community IT Development.** Broadband availability, widespread adoption of broadband technologies, and a skilled IT workforce have become requirements for communities wishing to grow their economies. This initiative is being refocused to address the need for better broadband availability in unserved and underserved rural areas of the state. As gigabit broadband has become available in an increasing number of communities in Nebraska and in the United States, the gap in service availability has grown between areas with access to very high speed broadband and those areas without access to internet at speeds of 25 Mbps down/3 Mbps up which is the FCC’s current definition of broadband.

**eHealth.** Electronic health information exchange (HIE) allows doctors, nurses, pharmacists, other health care providers and patients to appropriately access and securely share a patient’s vital medical information electronically—improving the speed, quality, safety and cost of patient care. This initiative supports the adoption of health information exchange technologies in Nebraska and the use of health IT to help patients access their health information and better manage their care. Health information exchange in Nebraska is primarily conducted through the Nebraska Health Information Initiative (NeHII), which is one of the largest statewide health information exchanges in the country with over 9,700 users and data on over 3.5 million individuals. NeHII now covers 68% of the Nebraska’s hospital beds (excluding psychiatric hospitals).
State Government IT Strategy

Overview

Objective:
To develop and implement a strategy for the use of information technology by Nebraska state government.

Description:
Develop and implement a comprehensive strategy for 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:
- Security
- Consolidation
- Availability

Strengths/Assets:
- Leadership support.
- Use of a hybrid centralization model allows the OCIO to handle enterprise technologies while agencies maintain authority over agency specific activities and functions.

Challenges/Issues:
- In order for the hybrid structure to work, there has to be strong cooperative and collaborative management between OCIO and agency IT management.

Collaborators:
- OCIO
- State Government Council
- Technical Panel
- State Agencies
**Recent Accomplishments:**
- Single Help Desk Solution has been implemented for initial group of agencies.
- Enhanced operations center by establishing process for change management, problem management and service requests.
- Resource consolidation completed for network support, server support, and site support.

**Metrics**

![Data Center Consolidation](chart.png)

**Action Items**

1. **Action: Single Help Desk Solution - Incident Management Implementation**
   
   **Lead:** OCIO
   
   **Participating Entities:** OCIO; State Agencies
   
   **Timeframe:** June 2018
   
   **Funding:** None
   
   **Targets/Deliverables:**
   
   1.1 Migrate participating agencies in phases.
2. **Action: IT Cost Efficiencies**
   - Lead: OCIO
   - Participating Entities: OCIO; State Agencies
   - Timeframe: December 2018
   - Funding: None
   - Targets/Deliverables:
     - 2.1 Enhance server virtualization and optimization.
     - 2.2 Implement a configuration management database (CMDB) and full asset management processes.

3. **Action: Operationalize IT and Project Governance**
   - Lead: OCIO
   - Participating Entities: OCIO; State Agencies
   - Timeframe: June 2018
   - Funding: None
   - Targets/Deliverables:
     - 3.1 Establish enterprise project governance at the agency level.

4. **Action: Consolidate on STN Domain**
   - Lead: OCIO
   - Participating Entities: OCIO; State Agencies
   - Timeframe: June 2018
   - Funding: None
   - Targets/Deliverables:
     - 4.1 Implement phased migration.

5. **Action: Data Center Consolidation**
   - Lead: OCIO
   - Participating Entities: OCIO; State Agencies
   - Timeframe: December 2018
   - Funding: None
   - Targets/Deliverables:
     - 5.1 Implement phased migration.
6. **Action: Network Migration (New World)**
   
   **Lead:** OCIO  
   **Participating Entities:** OCIO; State Agencies  
   **Timeframe:** December 2018  
   **Funding:** None  
   **Targets/Deliverables:**
   6.1 Implement phased migration.  
   6.2 Implement active/hot-stand-by configuration.

7. **Action: Enterprise Tool Consolidation**
   
   **Lead:** OCIO  
   **Participating Entities:** OCIO; State Agencies  
   **Timeframe:** June 2019  
   **Funding:** None  
   **Targets/Deliverables:**
   7.1 Consolidate use of an enterprise Kronos tool.  
   7.2 Consolidate use an enterprise file sharing tool.

8. **Action: Application Process Maturation (DevOps)**
   
   **Lead:** OCIO  
   **Participating Entities:** OCIO; State Agencies  
   **Timeframe:** December 2018  
   **Funding:** None  
   **Targets/Deliverables:**
   8.1 Identify a single job scheduling tool.  
   8.2 Create a job scheduling team.  
   8.3 Identify a single software configuration management tool.  
   8.4 Create a configuration management team.  
   8.5 Identify a single application scanning tool.  
   8.6 Create a DevOps team.  
   8.7 Consolidate DBA team.  
   8.8 Identify .NET and Java programmers.  
   8.9 Develop process and procedures.
12th Annual Cyber Security Conference Offers Learning Tracks for Professional Community

This year marked the 12th anniversary of the Annual Nebraska Cyber Security Conference. Conference-goers reported it an overall success and a great opportunity for IT employees and business owners in Nebraska’s local communities to network and learn how to better protect business data.

During his morning welcome, Ed Toner announced a record attendance: Over 275 people participated in the event, more than any other year. Not surprisingly, a number of people from previous years returned, but this year students from the new SCC career academy were present and part of the networking focus. If anything, the attendance at this conference provided a unique profile view into our local cyber community.

One of the biggest themes from not just the breakout sessions, but the conference as a whole, was that cyber security is everyone’s job. Conference planners aim to develop different tracks of interest as the conference continues to grow each year. Team work and communication is key to providing a business with proper security measures. Throughout the day, conference participants enjoy activities from breakfast to vendors to lunch, and breakout sessions with a good variety of topics.

This year’s 12th conference offered 23 different lecture topics including the FBI, Dell, University of Nebraska-Lincoln College of Law, the State of Nebraska OCIO and many others. Each session aimed to communicate with Nebraskans about a unique approach to Cyber Security. Lessons included such topics as “Modern Attacks Against Our Corporate Networks” and “Whither Quantum Computing and Cryptography”.

The 2018 Cyber Security Conference will take place Thursday, September 27, at Southeast Community College, located at 8800 “O” Street.
IT Security

Overview

Objectives:

To define 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 statewide reporting mechanism for security related events;
• Implementing statewide Security Operations Center in cooperation with the University of Nebraska System;
• Implementing statewide Computer Emergency Response Team (CERT).

Challenges/Issues:

• Lack of funding
• Lack of staff
• De-centralized IT structure for the State including agency information security officers

Collaborators:

• Security Architecture Workgroup
• University of Nebraska System
• Southeast Community College
• Department of Homeland Security
• Federal Bureau of Investigation
• Nebraska Information Assurance Center
• OWASP

Recent Accomplishments:

• Cyber Resilience Review (Security Assessment) performed by the Department of Homeland Security for 6 State of Nebraska Agencies.
• Deployed Albert monitoring system from MS-ISAC to measure anomalies in netflow.
• Completed inventory of Personally Identifiable Information.
• Annual Cyber Security Conference was held.
• New information security policy adopted.
• SIEM tool installed.
Action Items

1. **Action: Deploy mobile device management.**
   - Lead: OCIO
   - Participating Entities: State Agencies
   - Time Frame: June 2018
   - Funding: Charge back to agencies
   - Targets / Deliverables:
     1.1 Implement phased deployment of mobile device management.

2. **Action: Perform a complete IT hardware inventory of all state agencies.**
   - Lead: Chris Hobbs, State Information Security Officer
   - Participating Entities: State Agencies
   - Time Frame: June 2019
   - Targets / Deliverables:
     2.1 Itemized list of IT-related hardware used within the State of Nebraska network

3. **Action: Perform a complete IT application inventory of all state agencies.**
   - Lead: Chris Hobbs, State Information Security Officer
   - Participating Entities: State Agencies
   - Time Frame: June 2019
   - Targets / Deliverables:
     3.1 Itemized list of applications used within the State of Nebraska network

4. **Action: Complete Nebraska Security Operation Center.**
   - Lead: Chris Hobbs, State Information Security Officer
   - Participating Entities: University of Nebraska, Central Administration; University of Nebraska, Lincoln; University of Nebraska, Omaha; University of Nebraska, Kearney; University of Nebraska Medical Center; Third Party Vendors; Multi State Information Sharing and Analysis Center (MS-ISAC); Department of Homeland Security (DHS)
   - Time Frame: June 2018
   - Funding: To be determined
   - Targets / Deliverables:
     4.1 Enterprise security operations centers in multiple locations 24 x 7 for redundancy
     4.2 Service level agreements with all participants
     4.3 Written charter
5. **Action: Qualys scan tool implementation and enhancement.**

   Lead: Chris Hobbs, State Information Security Officer
   Participating Entities: State Agencies
   Time Frame: June 2018
   Targets / Deliverables:
   
   5.1 Establish vulnerability scans for entire state network.

   5.2 Feed Qualys scan results into QRadar.
GIS Grant Funds Workshops for Nebraska’s Public Schools

In November 2017, State GIS coordinator, John Watermolen approached Nebraska Education Service Units to start helping teachers and students to learn Geographic Information Systems (GIS). Classroom training is funded by a grant which Watermolen covers in six hour workshops designed to help teachers understand how to use GIS technology while students learn alongside. Teachers are allowed to bring students with them to attend each workshop. The grant reimburses the school for the cost of the sub (up to $150), pays for morning snacks and breakfast (up to $10.00 per person) for the teachers and the kids.

The material targets Middle School and High School teachers who are interested in training to bring GIS Technology into the classroom as a teaching tool. Subject covered during a typical workshop include Social Studies, Science, Agricultural Science. Gifted Program Coordinators, Curriculum Administrators, Technology and Staff developers have all attended.

2017 Workshops were held in Sydney, Scottsbluff, Ainsworth and Lincoln.

While Watermolen reported, “Middle and High School students and teachers have always liked the workshop,” the age level definitely factors in to students comfort in learning the material. Watermolen continues, “Fifth and Sixth Grade teachers generally have felt it was grade appropriate, Fourth grade teachers have loved it, and some have said it was not appropriate for that grade level.”

The bottom line is that it really depends on the technology comfort level of the teachers.

Most workshop class sizes are from 15 to 36 in attendance. “The largest GIS workshop we have had is 38 – we had two administrators attend in addition to the 36 teachers and students,” Watermolen added.
Nebraska Spatial Data Infrastructure (NESDI)

Overview

Objectives:

- 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.

- Facilitate the creation, maintenance, analysis and publishing of quality and authoritative data and information systems. Priority layers include: imagery, elevation, street centerlines, point addressing, and land records.

- Formalize data stewardship and encourage data sharing and provide widespread access to data and services through NebraskaMAP.gov.

- Facilitate technical assistance and education outreach opportunities for furthering the adoption of the NESDI and geospatial applications.

- Achieve sustainable and efficient allocation of resources to support the implementation and wise governance of GIS services and geospatial data

Collaborators:

- The State of Nebraska
- Local and County Government
- League of Municipalities
- Nebraska Association of County Officials
- Nebraska GIS LIS Association
- Natural Resources Districts
- Public Power Districts
- Federal Agencies
- Private Industry
- K-12, College, and University of Nebraska

Strengths/Assets:

- The GIS Council, established by Neb. Rev. Stat. § 86-572(2), provides an existing governance structure, representing a broad range of stakeholder interests.

- Standards which are foundational to the NESDI are in place or in development

- Existing State GIS Coordinator and three GIS staff member in CIO GIS Shared Services Office. There are 2 GIS staff members that are shared resources with other state agencies.

- Several strong state agency and local county-based GIS programs.

- Several NESDI data layers and applications exist with coverage in priority areas or statewide.
• Strategic Plan completed in 2012 with stakeholder input from across the state. It serves as roadmap to setting statewide priorities and was used to develop the NESDI strategic initiative and action items.
• Centralized data file infrastructure established to host and share state agency data layers.

Challenges/Issues:
• Insufficient legislative or executive sponsor to support GIS Council efforts.
• Resources are inadequate to develop and maintain all framework layers.
• Resources are inadequate for a stewardship infrastructure that supports comprehensive stewardship of framework data.
• Outreach and training needs of GIS and geospatial data use and applications are broad given the level of different users.
• Reluctance to share data or making data available easily or timely.
• Technical limitations in current infrastructure and networks to host and exchange data.
• Sustainability of data maintenance and updates.
• Lack of metadata and appropriate documentation of data layers to support data discovery, sharing, and reliability of data.
• Lack of understanding of standards and no authoritative enforcement to data stewards not following standards. Local counties do not see NITC standards as a requirement but a guideline.

Recent Accomplishments:
• Working groups established involving our collaborators to gather information and develop plans.
• New standards adopted for elevation, imagery, street centerlines and addresses. Metadata standards have been updated to reflect FGDC and ISO requirements.
• Elevation business plan completed and implementation started with collaborators working to acquire LiDAR data for the remaining western and Sandhill areas of Nebraska
• Established a statewide K-12 GIS Education Initiative by leveraging a statewide enterprise license agreement for software and services to private and public schools. We are participating with ESRI and the NE GIS/LIS Council on a state story map contest
• Established a tiered cost rate for state agencies, based on the number of GIS desktop user licenses, maturity and necessary resources needed to support the agencies mission. We have 3 agencies that are working on the paperwork to take advantage of the cost rates and the offerings.
• Established an enterprise data and hardware infrastructure and associated documentation.
• Consolidate all GIS server software into the State GIS Enterprise Architecture
• Consolidated 1 state agencies desktop GIS licenses into the State desktop GIS license pool

Recommendations:
• Continue this initiative. Current GIS Council goals are in line with strategic initiative and
objectives. The next set of priority NESDI layers will become new action items in this initiative.

- Integrate NESDI data development, maintenance and application priorities into public safety, NG 9-1-1, and emergency management policy and activities.

Metrics

The metrics below are used to evaluate the status of the NESDI and overall GIS program for the state.

Status of Nebraska Based on NSGIC Coordination Criteria

The National States Geographic Information Council (NSGIC) has published a listing of “9 Criteria for a Successful Statewide GIS Program.” While these are not firm, binary criteria, they provide a measure by which different states can be compared. In general, the most successful states tend to have these things in common.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Status</th>
<th>Partially meets criterion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A full-time, paid coordinator position is designated and has the authority to implement the state’s business and strategic plans:</td>
<td>NITC has a full-time State GIS Coordinator. Authority to implement Business and Strategic Plans will come through NITC and Office of the CIO. Limited funds are available to carry out specific action items.</td>
<td></td>
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<tr>
<td>2. A clearly defined authority exists for statewide coordination of geospatial information technologies and data production:</td>
<td>NITC GIS Council provides governance to statewide coordination efforts along with the Office of the CIO based on statutory authority for state entities. Rely on partnerships from local involvement.</td>
<td></td>
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<tr>
<td>3. The statewide coordination office has a formal relationship with the state’s Chief Information Officer (CIO):</td>
<td>The State GIS Coordinator is positioned in the Office of the CIO.</td>
<td>Meets criterion.</td>
</tr>
<tr>
<td>4. A champion (executive and other legislative champions) is aware and involved in the process of geospatial coordination:</td>
<td>There is a strong, active executive champions (CIO) currently involved in the process. Other Executive Agencies are aware of GIS within their agency. There is no legislative champion identified at the present time because there isn’t a current need for legislation regarding geospatial activities. This could change in the near future</td>
<td>Meets the criterion.</td>
</tr>
<tr>
<td>5. Responsibilities for developing the National Spatial Data Infrastructure and a State Clearinghouse are assigned:</td>
<td>A complete Nebraska Spatial Data Infrastructure (NESDI) has not been fully developed. The NebraskaMAP state clearinghouse exists, but has limited capability and lags behind other states. Both require sustained resources to develop and exist.</td>
<td>Partially meets criterion.</td>
</tr>
<tr>
<td>6. The ability exists to work and coordinate with local governments, academia, and the private sector:</td>
<td>These entities are represented on the NITC GIS Council. There is some evidence of local government involvement with state functions, but overall GIS adoption across the state remains low.</td>
<td>Partially meets criterion.</td>
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(Table Continues on page 22.)
### Action Items

**1. Action: Formalize the definition of the Nebraska Spatial Data Infrastructure (NESDI) and data stewardship**

GIS assists in solving complex issues by providing the ability to understand spatial relationships among various spatial data sets. In many cases, the spatial analysis capabilities of a GIS can identify trends from among many datasets to solve problems. Selected datasets have such widespread utility in a GIS that they have been identified as “Framework Datasets” and due to their significance are accorded special attention by the GIS community. Traditionally, these data sets have been developed independently for a relatively narrow range of purposes. However, the use of geospatial data and the range of applications it is used for is growing rapidly. This places increasing demands on individual data in terms of accuracy and completeness, and especially upon those inherent spatial relationships among datasets.

This action item will begin to better define the NESDI and identify the necessary relationships among the various NESDI data layers. The document will provide an illustration of the “big picture” of Nebraska’s framework including:

- A common understanding of framework
- A context for prioritizing the components of the framework
- A context and justification for future funding requests
- A basis for identification of potential stewards and stewardship roles and responsibilities

The context of the framework themes will be explored at the local, state, regional and national levels. This will benefit the overall coordination, development, revision and promulgation of the relationships among various GIS framework data standards. It will aid in development, implementation and revision of stewardship guidance and procedures for the various GIS framework themes. In addition, it will provide additional direction on NESDI governance, management practices, policy development, and outreach with the statewide community.
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Nebraska’s Statewide Technology Plan

Lead: State GIS Coordinator, GIS Council Representatives
Participating Entities: GIS Council, NESDI Data Stewards
Timeframe: Ongoing
Funding: No initial funding required for this action item other than personnel time to meet, develop and communicate plans.

Target/Deliverables:
1. Develop a document that defines the NESDI and the role of data stewardship to support the NESDI.

2. Action: Geodetic and Survey Control Inventory and Assessment

Spatial data deployed in an enterprise environment generally has higher requirements for accuracy and quality than does a single-purpose dataset. Geodetic and survey control is essential for the development of spatial data that can be analyzed in combination with other layers.

A careful examination of our current survey and geodetic control data across the state based will be conducted on various criteria for its use in the development of NESDI framework layers. This action item will identify methods and linkages through NebraskaMAP to communicate and provide access to relevant data to users and stakeholders.

Lead: State GIS Coordinator, GIS Council Representatives
Participating Entities: Nebraska Department of Natural Resources, Nebraska Department of Roads, State Surveyors Office, various Licensed Land Surveyors, Federal Partners including NOAA – National Geodetic Survey and Army Corp of Engineers
Timeframe: 2018-2020
Funding: No initial funding required for this action item other than personnel time to meet, develop and communicate plans.

Target/Deliverables:
1. Develop a current inventory and assessment report of geodetic and survey control in Nebraska.
2. Summarize scope of geodetic and survey control in the state in terms of coverage, density, and availability of data for use in the development of other NESDI framework layers.
3. Identify and document recommendations for:
   - Developing and improving statewide survey and geodetic control data in Nebraska.
   - Incorporation of recommendations into new and current NITC standards that impact the NESDI framework.
   - Education and training needs to stakeholders for using survey and geodetic control in their applications.
   - Best practices for incorporating data into mapping, GIS, and other GPS related applications.
   - Methods and linkages through data sharing to communicate and provide access to relevant data to users and stakeholders.

3. Action: Nebraska Statewide Elevation Program

Surface elevation databases are critically important for a wide range of GIS applications and as such have been determined to be a priority database for development by the GIS Council. Elevation databases have been determined by the Federal Geographic Data Committee (FGDC) to be a Framework Database because of their use by a wide cross-section of geospatial data users. LiDAR (Light Detection and Ranging) is a proven remote sensing technology that enables the efficient
An Enterprise Vision for IT in Nebraska

A collection of highly accurate surface elevation data for large geographic areas. This dataset serves as a basis for other derived geospatial data products in its relationship to the overall NESDI. More importantly, this data set strengthens the geodetic control context for the development of other framework layers. Pursuant to the objectives outlined in the Strategic Plan, the GIS Council is responsible for identifying and coordinating the use of digital elevation LiDAR technologies to develop enhanced surface elevation data for Nebraska. This involves:

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; and

d) Identification of methods and linkages through NebraskaMAP to communicate and provide access to relevant data to users and stakeholders.

Lead: State GIS Coordinator, GIS Council Elevation Working Group

Participating Entities: Nebraska Department of Natural Resources, Nebraska Department of Roads, Nebraska Natural Resource Districts, Public Power Entities, Federal Partners including Army Corp of Engineers, USGS, USDA-NRCS, and USDA-FSA.

Timeframe: Data Collection is Ongoing

Funding: No initial funding required for this action item other than personnel time to meet, develop and communicate plans. Future funds are required for meeting objectives outlined in the business plan.

Target/Deliverables:

1. Implement a Nebraska Statewide Elevation Program.

4. Action: Nebraska Statewide Imagery Program

Imagery is a required spatial data framework layer needed for a multitude of mapping applications. It is important that imagery is accurate, current, and easily accessible to end users. This dataset serves as a basis for other derived geospatial data products in its relationship to the overall Nebraska Spatial Data Infrastructure (NESDI). The acquisition of updated, orthorectified (corrected for camera tilt and the slope of the earth’s surface) imagery requires a significant public investment, but if done collaboratively, on a regular periodic basis, these costs can be minimized and shared across a broad user community. It is expected that this effort will be largely integrated into the larger Nebraska GIS Strategic Planning process. Efforts will be made to learn from, and build on, existing collaborative imagery acquisition efforts such as the Nebraska-Iowa Regional Orthoimagery Consortium (NIROC) and the USDA Farm Services Agency – National Aerial Imagery Program (NAIP). This initiative will:

- Research and develop recommendations for standards, policies, infrastructure, and funding to support collaborative efforts by state, local and federal agencies to periodically acquire updated orthoimagery.
- Identify methods and linkages through NebraskaMAP to communicate and provide access to relevant data to users and stakeholders.
- Research new cost models (subscription based) from various vendors in order to maximize the state’s investment.
Lead: State GIS Coordinator, GIS Council Imagery Working Group

Participating Entities: Nebraska Department of Natural Resources, Nebraska Department of Roads, Nebraska Natural Resource Districts, Public Power Entities, City and County Governments, Federal Partners including USGS and USDA-FSA.

Timeframe: Ongoing

Funding: No initial funding required for this action item other than personnel time to meet, develop and communicate plans. Future funds are required for meeting objectives outlined in the business plan and to look at alternatives because of the uncertainties beyond 2018 with the current NAIP program.

Target/Deliverables:

1. Implement a Nebraska Statewide Imagery Program.

5. Action: Street Centerline-Address Database

This action item will:

- Develop and maintain a statewide seamless street centerline and address referencing system used for various transportation, public safety (ie, NexGEN 911), economic development and other related applications.
- Initiate assessment of current street centerline data.
- Implement a data model and workflow guidelines for QA/QC of existing and future maintenance of street centerline data.
- Develop data model for address points and use of data in relationship to street centerlines and other NESDI framework layers.
- Further develop partnership efforts that support NexGEN 911 or combinations thereof who needs to be involved in the process of using street centerline and address point data.
- Research and develop recommendations for standards, policies, infrastructure, and funding to support collaborative efforts by state, local and federal agencies to periodically acquire updated a seamless street centerline-address database.
- Identify methods and linkages through NebraskaMAP to communicate and provide access to relevant data to users and stakeholders.

Lead: State GIS Coordinator, GIS Council Street Centerline and Address Working Group

Participating Entities: GIS Council, State Government Council, Nebraska Department of Roads, E 9-1-1 community

Timeframe: Implementation timeline determined by Business Plan. Currently working with PSC and DOT

Funding: No initial funding required for this action item other than personnel time to meet, develop and communicate plans. Future funds are required for meeting objectives outlined in the business plan.

Target/Deliverables:

1. Develop a Nebraska Street Centerline Database (NSCD) and a Nebraska Address Database (NAD) business plan.
2. Implement a Nebraska Street Centerline Database (NSCD) and a Nebraska Address Database (NAD).
6. Action: Statewide Land Record Information System

This action item will:

- Develop an integrated statewide land records system capable of providing reliable online access to this critical data, maintaining restricted privacy access as necessary, and supporting a variety of applications by multiple agencies.
- Develop guidelines for a common geodatabase model that can provide public data for use in a multitude of state government applications.
- Implement a geodatabase model to maintain baseline data.
- Work with local governments, state agencies, and the private sector to develop a collaborative plan, standards/guidelines, and the infrastructure necessary to encourage and facilitate the ongoing integration of separately-maintained state, city, and county land records.
- Develop data workflows with local county assessors to obtain parcel (spatial and attribute) data for use in various state government applications.
- Revise the current NITC Land Record Information and Mapping Standards that have been adopted with the goal of enabling the integration of local government land records into a statewide dataset.
- Identify methods and linkages through NebraskaMAP to communicate and provide access to relevant data to users and stakeholders.

Lead: State GIS Coordinator, GIS Council Land Records Working Group
Participating Entities: GIS Council, State Surveyors Office, Department of Revenue, County Assessors, and various licensed Land Surveyors
Timeframe: Implementation timeline determined by Business Plan
Funding: No initial funding required for this action item other than personnel time to meet, develop and communicate plans. Future funds are required for meeting objectives outlined in the business plan.
Target/Deliverables:

1. Update the current NITC 3-202 Land Record and Information Mapping Standards for standard land record product(s) that will meet the majority of stakeholder requirements and expectations in a cost-effective manner.
2. Implement the Nebraska Statewide Parcel Geodatabase Development and Maintenance Plan.
3. Develop a Nebraska Land Records business plan.
4. Implement the Nebraska Land Records business plan.

7. Action: NebraskaMAP - A Geospatial Data Sharing and Web Services Network

This initiative will:

- Enhance NebraskaMAP beyond its current geoportal status to an enterprise-level geospatial platform.
- Provide necessary communication and mechanisms for public and private access to peer-reviewed Nebraska SDI data, maps, and GIS web services.

NebraskaMAP started as a metadata portal to inventory and provide linkages to several data sets. Enhancements will involve expanding services to upload, review and share NESDI data either
through direct download, REST services, or accessing through web services. This system would also provide conduit to authoritative data sets, linked and shared base maps to reduce data storage costs, and a coordinated security system, including the possibility for limited data access and password protection for specific data sets. The State agencies are developing a statewide GIS Enterprise system in order to conduct daily business operations. This systems will also coincide with the interoperability, data sharing, and workflows planned for NebraskaMAP.

Lead: State GIS Coordinator, GIS Council NebraskaMAP Working Group

Participating Entities: GIS Council, State Agencies, State Government Council

Timeframe: 2018-2020

Funding: No initial funding required for this action item other than personnel time to meet, develop and communicate plans. Future funds are required for meeting objectives outlined in the business plan.

Target/Deliverables:

1. Develop NebraskaMAP Geospatial Data Sharing and Web Services Network Business Plan.
2. Update, enhance and implement NebraskaMAP into a statewide data clearinghouse enterprise platform.
Partnerships between Schools and Libraries Could Improve Library Internet Access

As more schools are providing tablets or laptops to students and utilizing online educational tools, students without internet access at home may face difficulties in completing their homework. An innovative proposed project will test the feasibility of forming school-library partnerships to improve library internet access so that students can more easily complete their homework.

Public libraries are often the only source of public internet access in small, rural communities. However, many small and rural libraries do not have adequate internet speeds to service both the student population and patrons in the community. A survey of Nebraska libraries by the Nebraska Library Commission found that over 80% of the state’s rural and small libraries have internet access which does not meet the FCC’s 25 Mbps down/3 Mbps up definition of broadband for households.

Public schools in Nebraska, however, are well connected through a statewide fiber network, Network Nebraska, which provides substantial internet speeds to public school buildings. A school’s scalable broadband could be shared with the local library, improving library internet access for their students and teachers.

The Nebraska Library Commission, in collaboration with the State Office of the Chief Information Officer, has submitted a Sparks grant application to the Institute of Museum and Library Services to partner with, and incentivize five rural public school districts and five rural public libraries to work together to increase the internet speeds at the public library. Participating schools and libraries interested in establishing a terrestrial connection between the school and library could file a mini-consortium E-rate filing in 2019-2020, leveraging available federal support through a novel model for E-rate filing.

The expected timeframe for this project will be from May 1, 2018-April 30, 2019, with pre-applications submitted and evaluated between January and March, 2018. Rural libraries, their patrons, students and teachers without home broadband access, and schools in five Nebraska communities will directly benefit from the project. Upon successful completion of the demonstration period, the project could be replicated, benefitting additional libraries, patrons, students, teachers, and schools. Additionally, the broader E-rate community will benefit from the innovative model for E-rate filing being demonstrated through this project.

For more information, contact Holly Woldt, Nebraska Library Commission, holly.woldt@nebraska.gov, 402 471-4871 or Tom Rolfes, Nebraska Information Technology Commission/Office of the Chief Information Officer, tom.rolfes@nebraska.gov, 402 471-7969.
Network Nebraska

Overview

Objective:
To develop a broadband, scalable telecommunications infrastructure that optimizes the quality of service to every public entity in the State of Nebraska.

Description:
Network Nebraska interconnects several hundred education entities to a multipurpose core backbone extending from Omaha to Lincoln to Grand Island and Scottsbluff, and provides aggregated Internet and commercial peering services extending out to the furthest corners of the state.

Collaborators:

- Collaborative Aggregation Partnership: Office of the CIO, University of Nebraska Computing Services Network, Nebraska Educational Telecommunications, Public Service Commission, Nebraska Department of Education, Nebraska Information Technology Commission
- Network Nebraska Advisory Group: 8 K-12 members; 8 higher education members
- Educational Service Unit (ESU) Coordinating Council, ESU-Network Operations Committee, ESU-Distance education Advisory Committee, higher education chief technology officers
Strengths/Assets:

• Every K-12 school district, educational service unit, and public college and university participate in Network Nebraska and share in its annual costs.

• Network Nebraska is a completely voluntary, self-funded project, which contributes to its resilience, sustainability and focus on customer service.

• Shared personnel support within the Office of the CIO, Administrative Services, and the University of Nebraska contribute to its ultra-low operational costs and affordability.

• Having all of the K-20 education entities on Network Nebraska provides not only a sense of pride in ownership of the network, but the daily offsets in Internet access peaks between K-12 and higher education also saves on the cost of Internet access.

Challenges/Issues:

• The absence of full-time network employees reduces the capacity for such services as marketing, communications, research & development, and customer follow-up.

• The Network Nebraska cost recovery rates, although small in comparison to other state networks, are still above what rural public libraries and private K-12 schools are accustomed to paying for Internet service provision alone.

Recent Accomplishments:

• Increased public school district participation to 100% by 7/1/2017

• Public higher education participation at 100% by 7/1/2012

• Achieved one of the lowest commodity Internet rates in the entire country, made possible through aggregation of demand and statewide bidding

• Achieved 100% retention of voluntary membership, now reaching 292 entities by 7/1/2017

Recommendations:

• Continue this initiative.

• Position Network Nebraska to provide services such as network monitoring and management, mitigation of Distributed Denial of Service (DDoS) attacks, statewide helpdesk, aggregated invoicing, and coordinated E-rate filing
Metrics

Network Nebraska - Education Membership by Year

Network Nebraska Monthly Costs per Entity

K-12
Higher Education
Action Items

1. **Action:** Prepare for the future of Network Nebraska as a statewide, multipurpose, high capacity, scalable telecommunications network that shall meet the demand of state agencies, local governments, and educational entities as defined in section 79-1201.01.

   **Lead:** Education Council

   **Participating Entities:** Collaborative Aggregation Partnership (CAP); Network Nebraska Advisory Group (NNAG), OCIO/NITC staff

   **Timeframe:** 2018-20

   **Funding:** Additional funding and/or resources will be required for this action item out of the Network Nebraska Participation Fee, which is a participant-funded budget.
Targets/Deliverables:

1.1 The NNAG Participant Criteria subcommittee and OCIO staff will accommodate and enforce affiliate connections into Network Nebraska.

1.1.1 Measurable: A) List the types and quantities of affiliate and hosted entity connections to the network.

1.2 The Network Nebraska support team will use automated tools to monitor network utilization and uptime and develop a web-based graphic for real-time depiction of WAN circuits, backbone and Internet.

1.2.1 Measurable: A) Regularly present utilization statistics to NNAG and to the Network Nebraska membership in an annual report.

1.3 The Network Nebraska support team will implement incident management and change control frameworks appropriate to the staffing of Network Nebraska.

1.3.1 Measurables: A) Implementation of a ticketing system that allows interaction with supported users. B) Advance communication of planned outages / upgrades that affect membership. C) Documentation of past changes to core network systems.

1.4 NNAG and CAP will guide Office of the CIO (OCIO) decisions regarding network capacity, services, and reliability.

1.4.1 Measurables: A) NNAG co-chairs will attend monthly CAP meetings and share information. B) CAP liaisons will attend bi-monthly NNAG meetings and share information.

2. Action: The Education Council and OCIO/NITC staff will serve as the communication hub for existing and potential new Network Nebraska Participants.

Lead: Education Council; OCIONITC Staff

Participating Entities: Collaborative Aggregation Partnership (CAP); Network Nebraska Advisory Group (NNAG)

Timeframe: 2018-20

Funding: Additional funding and/or resources will be required for this action item out of the Network Nebraska Participation Fee, which is a participant-funded budget.

Targets/Deliverables:

2.1 Develop and implement a communications strategy.

2.1.1 Measurables: A) Specific data and reports in an online newsletter or other form of communication to members outside of the annual fee memo. B) Designated representatives send timely notifications of changes in procedures affecting member relations with the Network Nebraska Support Team.

2.2 Conduct an annual survey of Participants to guide direction and service development.

2.2.1 Measurables: A) Survey is conducted, and data from the survey is compiled for sharing with NNAG, CAP, and the NITC Education Council.


Lead: Education Council; NNAG

Participating Entities:

Timeframe: 2018-20

Funding: No additional funding is projected for this action item.
3.1 Develop applicable practices and strategies for security and cloud applications in educational environments

3.1.1 Measurables: A) Formulation of a Strategy document

3.2. Determine how to incorporate the applicable strategies within services of Network Nebraska.

3.2.1 Measurables: A) Additional services or security practices added to NN services list or provided by member "centers of excellence."

Other Recommended Measurables:

- Network Nebraska backbone uptime
- Network Nebraska Internet access uptime
- Network Nebraska backbone bandwidth utilization (actual)
- Network Nebraska membership growth
- Network Nebraska Internet growth (purchased and actual)
- Network Nebraska unit cost of Internet
- Number of public and non-profit, non-education entities (e.g., libraries) connected to Network Nebraska
Lincoln Public Schools Hotspot Lending Program Expands Home Access

By Anne Byers, Nebraska Information Technology Commission

Lincoln Public Schools (LPS) Board of Education is addressing the need for expanded evening access to the internet for students through a pilot Wi-Fi hotspot lending program at Southeast High School. The program will soon expand to Northeast High School.

“I’m glad that LPS thought ahead about students who don’t have home access,” said Jean Hellwege, school librarian at Southeast High School. Fifty devices are available for student checkout. When a teacher or counselor notices a student doesn’t have home Internet access, they tell the student about the program. Students then fill out a form from their counselor. Once approved by the principal, a responsible use agreement is sent home with the student for parents to sign. Students can then check out a hotspot from the school media center.

Mary Reiman, director of library media services at LPS, explained that “relationship building is a key” to identifying students who need additional access to the Internet. LPS evaluated hot spot devices, looking for a product that offered device management and smart filters. Only District Chromebooks can use the hotspot. Multiple computers can connect to one device so siblings or groups of students can also use the same hotspot. The devices provide the same filtering as LPS web filtering.

Seventeen of the devices are currently checked out. The program is a collaboration of the Board of Education, Library Media Services, Computing Services and Business Affairs and was spearheaded by Kirk Langer, chief technology officer; Mary Reiman, the director of library media services; Dr. Jane Stavem, associate superintendent for instruction; Dr. Liz Standish, associate superintendent for business affairs; Tim Hahn, education technology specialist; Brent Toalson, principal of Southeast High School; and Jean Hellwege, school librarian at Southeast High School.

What advice would Hellwege give to another school about starting a similar program?

“Meet and plan how to identify the students who need them and how to get the devices into their hands,” said Hellwege. “For us, the media center was the logical place.”

For more information, contact Jean Hellwege, Southeast High School, (402) 436-1304, jhellwe@lps.org
Digital Education

Overview

Objective:
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.

Description:
The Digital Education initiative will involve the coordination and promotion of several major systems and applications that heretofore have either been developed mostly at the local level or have not been replicated statewide.

Initiative progress will be 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.

Collaborators:
- Educational Service Unit (ESU) Coordinating Council and advisory groups
- Public and private K-12 schools
- Nebraska Department of Education
- University of Nebraska
- Nebraska State College System
- Nebraska Community College System
- Association of Independent Colleges and Universities of Nebraska

Strengths/Assets:
- The enhancement of Digital Education is the combined focus of public and private K-12 entities and public and private higher education entities working together through Network Nebraska.
- The recent developments in learning management software, content management software, and longitudinal data tracking and depiction make it a particularly important time to improve on the statewide deployment of these systems.
- The high bandwidth transport and Internet capacity of Network Nebraska makes it possible to implement private cloud and public cloud applications to every education entity on Network Nebraska.

Challenges/Issues:
While collaboration among entities is strong, the initiative lacks a “champion” and any additional implementation funding is a scarce commodity.
Recent Accomplishments:

- ESU collaborators have developed BlendEd briefing materials and the TLT Learning Group.
- The Nebraska Department of Education has made progress on the Adviser project involving all but four Nebraska school districts.
- The Nebraska Department of Education’s Future Ready Nebraska Digital Learning Plan is being developed by a statewide committee for review and approval by the State Board of Education.
- NITC Education Council and Community Council have collaborated on the design of several technology solutions that may reduce the Homework Gap and improve digital equity among economically challenged students.
- The Nebraska Library Commission, in partnership with the State Office of the CIO, has applied for a Sparks Grant from the Institute for Museum and Library Services to incentivize school districts and public libraries to work together to improve Internet speeds at rural public libraries.

Recommendations:

- Continue and refocus this initiative.
- Encourage and/or incentivize collaborators and stakeholders to be more results-oriented using project management techniques.
- Build on the excellent foundation and success of Network Nebraska to deliver high quality digital educational opportunities that provide a framework for student success.

Action Items

1. **Action: Address technical challenges for students in the transition from secondary to post-secondary education.**

   **Lead:** Education Council  
   **Participating Entities:** K-12 and Higher Education professional and advisory groups  
   **Timeframe:** 2018-20  
   **Funding:** Additional funding may be required for this action item

   **Targets/Deliverables:**
   
   1.1 Conduct a collaborative research project to identify existing infrastructure and pedagogical efforts in both secondary and post-secondary institutions.

      **1.1.1 Measurables:** A) Create collaborative research study engaging the colleges of education at NE higher education institutions with a focus on opportunities for graduate student involvement. B) Secure funding support for research study. C) Develop and conduct national collaborative research study with entities i.e., Educause, MHEC.

   **Targets/Deliverables:**

   1.2 Based on the results of the research project and other available resources, identify opportunities for collaboration to ease transition for students.

      **1.2.1 Measurables:** Pending study outcomes.

   1.3 Identify key challenges for transitioning students and conduct an environmental scan to identify successful approaches to mitigate those challenges.

      **1.3.1 Measurable:** These challenges will be identified in the study.
1.4 Create a guide for effective practices in the use of flexible learning technologies.
   1.4.1 Measurable: Pending study outcomes.

1.5 Develop a strategy to encourage vendors to implement data exchange standards in their products and services.
   1.5.1 Measurable: Pending study outcomes.

2. Action: Expand awareness and address the need for equity of access as it relates to digital education.
   Lead: Education Council
   Participating Entities: NITC Community Council, K-12 and Higher Education professional and advisory groups
   Timeframe: 2018-20
   Funding: Additional funding may be required for this action item

Targets/Deliverables:

2.1 Form a joint study group comprised of stakeholders from across the state to identify opportunities and actions to ensure equitable access for students.
   2.1.1 Measurables: A) Members of the NITC Ed Council will participate in the study proposed in LB 994. B) Alternative should LB 994 not be approved, NITC will secure resources to form its own study group with key stakeholders across Nebraska.

2.2 Education Council will work in collaboration with other Nebraska stakeholders, such as the Community Council Broadband Initiative, to find solutions for available, accessible, reliable, secure and affordable Internet access as related to academic success.
   2.2.1 Measurables: A) NITC Ed Council members meet regularly with Community Council Broadband Initiative members. B) Propose grant to provide resources for affordable access through NE libraries.

2.3 Identify and promote the use of accessible products and services in achieving equity of access.
   2.3.1 Measurables: A) Implement statewide bid for internet hot spot access. B) Explore TV White Space for student home access for educational purposes.

Other Recommended Measurables:

- Published research regarding infrastructure, pedagogy, equity of access, and impact on learning
- Number of K-12 students who have gained home Internet access through Digital Inclusion initiatives
- Number of public libraries that have gained faster Internet access by reaching Network Nebraska, either directly or indirectly
Seward County is leveraging public-private partnerships to attract investments in broadband infrastructure. Jonathan Jank, President and CEO of the Seward County Chamber and Development partnership, recognizes the importance of fiber to a community and has led the county’s efforts to improve broadband infrastructure.

“As an economic development professional, I see fiber optic service as the fifth utility: sewer, water, electric, natural gas and fiber,” said Jank. “It is a critical piece of the economic development puzzle. All of my economic development recruitment projects demand fiber at this point. I can’t remember my last proposal that hasn’t included that expectation of our community and of our county. We were fortunate to land a new ag manufacturing company pretty recently in Seward. And they chose Seward because they had building availability, access to good labor, and because we had fiber optic connectivity. We were competing against multiple other communities, and we won because of those things.”

Because of Seward’s proximity to Lincoln, many Seward residents expect to have the same amenities available in Lincoln, including fiber internet access.

“So we chose to incentivize a fiber optic service provider to build in our historic downtown business district, and we did that through utilizing our LB 840 funds,” said Jank.

authorizes incorporated cities and villages to collect and appropriate local tax dollars—including sales and/or property tax for economic development purposes. In order to utilize LB 840 funds, a community must develop a local economic development plan and have it approved by voters. The approved plan becomes the basis for the collection and expenditures of LB 840 funds for economic development. Over 60 Nebraska communities are currently eligible to offer loans, grants, and other activities through LB 840.

“And actually if you look into state statutes, LB 840 was created so that a portion of that can be used for infrastructure investment,” said Jank. “For those that have that available in your community as an economic development tool, I encourage you to check that out.”

Seeing the success in Seward, the county expanded its efforts to improve broadband infrastructure to Milford, Seward County’s second largest community. The county ran a similar game plan in Milford, utilizing LB 840 funds to incentivize fiber to the business district. The county also used some philanthropy funds to build fiber to the home in Milford as well.

“What is exciting about the investment that was made through LB840 in Seward, in particular, is that investment tends to attract more investment. And investments along with fiber to the business district actually led to fiber to the home. We had Bluestem Fiber choose to come into Seward as one of their pilot communities to build fiber to the home. And really the only complaint we’ve heard is when are you going to get to my home. They can’t build fast enough. So that has become an expectation. We are fortunate to have that level of investment in both Seward and Milford. And really our long-term goal is to be potentially the first fiber to the home county in the state.”

Building community support was also an important to Seward County’s success. Through talking to business owners during business retention and expansion visits, internet connectivity was identified as an issue—especially in downtown Milford. Members of the LB 840 committee, which included the superintendent of the schools in Milford, also identified the need for better internet access for telecommuters and for students needing internet access to complete homework.

“So we were able to articulate all those things, and say we have frustrations in the business community,” said Jank. “We educated our city council members about the importance of it, so everyone had a unified message that we were able to give as we sent out an RFP to see who wants to build in Milford.”

As more residents of towns and cities in southeast Nebraska get fiber access, residents of rural parts of Nebraska are sometimes frustrated that they don’t have fiber.

“I think that just price points can be a challenge for people that don’t understand what fiber can do for their company, or for their home, or for their family,” said Jank. “It’s been important to us to help get that education out in the community as to how they could utilize it further to benefit their bottom line or benefit their family.”

Jank is also working with Bluestem Fiber and other providers to explore ways to better connect those in rural areas of the County.
When Bluestem came to the Seward County Fair and talked to people there, they discovered that the majority of the people were in rural areas.

“That’s critical,” said Jank. “It can’t just be to population centers, you have to think broader scale because many of those people are our farmers are our agricultural producers that need that level of connectivity. If we are not able to help serve them, then we aren’t doing our job.”

Jank gave this advice to communities that want to improve their internet service: “If you are not engaging your chamber of commerce and your economic development organizations in these broadband conversations, you should be. This is critical to the economic vitality of our state and so I would just make that general encouragement to talk with those professionals in and around your community.”

To learn more about how communities can work with telecommunications providers, check out the Broadband 102 video from the Nebraska Broadband Today conference. The session is moderated by Cullen Robbins, Nebraska Public Service Commission and features three panelists: Tom Shoemaker, Pinpoint Holdings, Brad Moline, Allo Communications, and Jonathan Jank, Seward County Chamber & Development Partnership.
Objective:
To support efforts to accelerate the deployment of broadband services in unserved and underserved rural areas of the state and to address issues related to the adoption and utilization of broadband technologies.

Description:
Broadband availability, widespread adoption of broadband technologies, and a skilled IT workforce have become requirements for communities wishing to grow their economies. In the past, the Community Council has focused primarily on encouraging the widespread adoption of broadband technologies. However, as gigabit broadband has become available in an increasing number of communities in Nebraska and in the United States, the gap in service availability has grown between areas with access to very high speed broadband and those areas without access to internet at speeds of 25 Mbps down/3 Mbps up which is the FCC’s current definition of broadband. Accordingly, this initiative is being refocused to address the need for better broadband availability in unserved and underserved rural areas of the state.

Broadband Availability
A rural-urban broadband gap exists in both Nebraska and the United States. Broadband of at least 25 Mbps down and 3 Mbps up was available to 88.9% of Nebraskans, but only 65.5% of rural Nebraskans in 2016. Nebraska lags the U.S. in broadband availability, with broadband of 25 Mbps down and 3 Mbps up available to 92.3% of Americans and 69.3% of rural Americans in 2016.

| % Population with Access to Fixed 25 Mbps/3 Mbps Service (2016) |
|-----------------|-----------------|-----------------|
|                  | U.S./State (Urban and Rural) | Rural Areas | Urban Areas |
| United States    | 92.3%            | 69.3%         | 97.9%        |
| Nebraska         | 88.9%            | 65.5%         | 97.5%        |

Source: FCC’s 2018 Broadband Deployment Report
These maps show that most areas of the state have broadband availability of greater than 10 Mbps download/1 Mbps upload. However, broadband at greater than 25 Mbps download/3 Mbps is available in most of Nebraska’s larger communities, but only in limited rural areas.

Source: Nebraska Broadband Map broadbandmap.nebraska.gov, using 2016 FCC Form 477 data
Broadband Adoption. In 2016, 82% of U.S. households and 78% of Nebraska households subscribed to fixed internet service of at least 200 kbps according to the FCC’s Internet Access Services Report. At higher speed tiers, the gap in subscription rates between Nebraska and the U.S. average widens. In 2016, 50% of U.S. households, but only 38% of Nebraska households subscribed to broadband of at least 25 Mbps down and 3 Mbps up. Nebraska ranked in the middle of our neighboring states on this measure—behind Colorado (60%), South Dakota (47%) and Wyoming (45%), but tightly clustered with Iowa (38%), Missouri (37%), and Kansas (36%).

% of Households with Fixed Connections at Various Speeds by State as of Dec. 2016

<table>
<thead>
<tr>
<th>State</th>
<th>At least 200 kbps in at least one direction</th>
<th>At least 10 Mbps Down and 1 Mbps Up</th>
<th>At least 25 Mbps Down and 3 Mbps Up</th>
<th>At least 100 Mbps Down and 10 Mbps Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Total</td>
<td>82%</td>
<td>66%</td>
<td>50%</td>
<td>15%</td>
</tr>
<tr>
<td>Colorado</td>
<td>89%</td>
<td>66%</td>
<td>60%</td>
<td>*</td>
</tr>
<tr>
<td>Iowa</td>
<td>74%</td>
<td>47%</td>
<td>38%</td>
<td>7%</td>
</tr>
<tr>
<td>Kansas</td>
<td>79%</td>
<td>59%</td>
<td>36%</td>
<td>16%</td>
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<tr>
<td>Missouri</td>
<td>75%</td>
<td>55%</td>
<td>37%</td>
<td>10%</td>
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<tr>
<td>Nebraska</td>
<td>78%</td>
<td>55%</td>
<td>38%</td>
<td>7%</td>
</tr>
<tr>
<td>South Dakota</td>
<td>76%</td>
<td>64%</td>
<td>47%</td>
<td>4%</td>
</tr>
<tr>
<td>Wyoming</td>
<td>77%</td>
<td>54%</td>
<td>45%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Data withheld to maintain firm confidentiality

It is important to note that these figures do not include households who use mobile broadband as their only source of home internet access. The number of households with phone only internet has been growing, with a 2015 Pew Internet survey finding that 13% of adults have phone-only internet access. With households with phone only access added, the percent of Nebraska households with internet access may be closer to 90%. Because many mobile internet plans include data caps, households with phone only internet may face significant limitations on their usage.

Strengths/Assets:

- Stakeholder support for rural broadband is high nationally and in Nebraska.
- Pending legislation, especially LB 994 which would create a rural broadband task force, may help the state better address the need for better broadband in some rural areas.
- Representatives of the Nebraska Information Technology Commission’s Community and Education Councils, Nebraska Public Service Commission, University of Nebraska, Nebraska Library Commission, and USDA Rural Development have formed a strong partnership through the Nebraska Broadband Initiative. The group is sharing information on best practices and broadband-related developments through the Broadband Nebraska newsletter.
The group also partnered with the Nebraska Telecommunications Association to organize broadband conferences in 2017 and 2016. The Broadband 101 and 102 sessions at the 2017 Nebraska Broadband Today conference were videotaped by staff of the Office of Chief Information Officer to help community leaders better understand broadband technologies and policy as well as to help them better work with telecommunications providers.

- Libraries are key partners in providing internet access and technology training in communities. Recent grants to the Nebraska Library Commission are improving the capacity of Nebraska libraries to act as community anchors. The Nebraska Library Commission was awarded a National Leadership Grant of $530,732 by the Institute of Museum and Library Services (IMLS) to develop 4 mobile makerspaces which will be hosted by 30 public libraries across Nebraska during the three years of the grant. Partners in this project include the University of Nebraska Lincoln (UNL), Nebraska Innovation Studio, Nebraska Extension, Regional Library Systems, and local public libraries. The Nebraska Library Commission also partnered with the Nebraska Information Technology Commission on an innovative grant proposal to the Institute of Museum and Library Services develop partnerships between schools and libraries to improve internet service in local libraries.

Challenges/Issues:

- Although there is funding for broadband, primarily through the federal Connect America Fund and the Nebraska Universal Service Fund, these funding sources fall short of fully funding the deployment of broadband to all Nebraskans based on current cost estimates.
- The Nebraska Broadband Initiative may need to broaden its stakeholder base to better address the need for information and best practices related to broadband development.

Collaborators:

- Nebraska Information Technology Commission Community Council and Education Council
- Nebraska Public Service Commission
- University of Nebraska-Lincoln
- Nebraska Library Commission
- Other stakeholders

Recent Accomplishments:

The Nebraska Broadband Initiative has engaged in the following activities:

- The Broadband Nebraska Newsletter has profiled:
  - Ravenna Leverages Technology, Wireless Broadband (Feb./March 2018)
  - Seward County Attracts Investments in Broadband Infrastructure (Feb./March 2018)
  - Lincoln Leverages Partnerships, Becomes Smart Gigabit Community (Dec. 2017)
  - Hartington, Hartelco Receive Smart Rural Community Recognition (Dec. 2017)
  - NSF Grant Brings Makerspace, Collaborative Opportunities to Sidney (Fall 2017)
  - FirstNet, AT&T Begin Work in Nebraska; Verizon May Compete (Fall 2017)
  - Grant Supports Adoption of Health Information Exchange in 31 Counties (Fall 2017)
  - PSC Docket, Hearing Look at Revising NUSF Contribution Methodology (Fall 2017)
  - Nebraska Broadband Special Report: Nebraska and the Digital Divide Index (Spring 2017)
  - Gallup Builds IT Talent Pipeline (Jan. 2017)
  - Broadband and Homework: How Do We Address the Homework Gap? (Jan. 2017)
• Lincoln Public Schools Hotspot Lending Program Expands Home Access (Jan. 2017)
• Norfolk Public Library Lends Hotspots, Starts Community Discussions (Jan. 2017)
• Responsive Countryside: The Digital Age and Rural Communities An Interview with Roberto Gallardo (Sept./Oct. 2016)
• Six Simple Ways to Address Broadband Development (Sept./Oct. 2016)
• Steps You Can Take if You Want Better Broadband Service (Sept./Oct. 2016)

• The group also partnered with the Nebraska Telecommunications Association to organize the Nebraska Broadband Today conferences in 2017 and 2016.
• The Broadband 101 and 102 sessions at the 2017 Nebraska Broadband Today conference were videotaped by staff of the Office of Chief Information Officer to help community leaders better understand broadband technologies and policy as well as to help them better work with telecommunications providers.
• The Nebraska Library Commission also partnered with the Nebraska Information Technology Commission on an innovative grant proposal to the Institute of Museum and Library Services develop partnerships between schools and libraries to improve internet service in local libraries.

Metrics

![Broadband Availability in Nebraska Chart]

- Broadband Availability in Nebraska
- 25 Mbps
- 100 Mbps
- 2013
- 2016
- 2020 Target
Action Items

1. **Action: Support the efforts of communities to address broadband-related development by sharing broadband-related news and highlighting exemplary programs through the Broadband Nebraska newsletter, social media, and other activities through an expanded Nebraska Broadband Initiative.**

   **Lead:** NITC Community Council, University of Nebraska-Lincoln Extension and Center for Applied Rural Innovation, Nebraska Public Service Commission, and Nebraska Library Commission

   **Participating Entities:** NITC Community Council, Nebraska Public Service Commission, University of Nebraska-Lincoln Extension and Center for Applied Rural Innovation, the AIM Institute, and other interested stakeholders.

   **Timeframe:** 2017-2018

   **Funding:** Leveraging existing resources

   **Targets/Deliverables:**
   1. At least 4 issues of Broadband Nebraska Newsletter per year
   2. Other partnership activities

2. **Action: Expand awareness and address the need for digital inclusion and equitable broadband access through educational materials, best practices and community outreach.**

   **Lead:** Community Council and Education Council

   **Participating Entities:** NITC Community Council, Education Council, Nebraska Broadband Initiative

   **Timeframe:** 2017-2018

   **Funding:** Leveraging Existing Resources

   **Targets/Deliverables:**
   1. Develop and share educational materials and profiles of exemplary programs.
   2. Work with the Community Council, Education Council and Nebraska Broadband Initiative to develop an outreach program to help communities better understand and address digital equity issues.

3. **Action: Support the efforts of Network Nebraska and the Education Council to address digital equity and to explore partnerships to improve library broadband access.**

   **Lead:** Community Council and Education Council

   **Participating Entities:** NITC Community Council, Education Council, Nebraska Broadband Initiative

   **Timeframe:** 2017-2018

   **Funding:** Leveraging Existing Resources
Grant supports adoption of health information exchange in 31 counties

On July 27, 2015, the Nebraska Information Technology Commission was awarded a $2.7 million Advance Interoperable Health IT Services to Support Health Information Exchange (HIE) cooperative agreement (Grant Number 90IX0008) from the Office of the National Coordinator for Health Information Technology to support the adoption of health IT, the exchange of health information, and the interoperability of health information technology. Partners in the two-year grant included the Nebraska Health Information Initiative (NeHII) and the University of Nebraska Medical Center (UNMC).

The grant supported the adoption of health information exchange through NeHII in 47 facilities and health systems— including 21 Critical Access Hospitals (CAHs)— in 31 counties in Nebraska and in Montgomery County, Iowa. Through the grant, the number of hospitals and providers sharing data with NeHII increased from 28 to 53. Over 700 providers and clinical staff were added as users. New functionality implemented included population health analytics, the use of C-CDA exchange to provide information to NeHII, and an HIE to HIE gateway with the Missouri Health Exchange. Two Critical Access Hospitals were also successfully implemented to share syndromic surveillance data with the State's syndromic surveillance system.

The grant also helped health care facilities integrate health information technology into their workflow. UNMC provided assistance in workflow integration to facilities participating in two rural communities selected as integrated communities. Lessons learned are being shared through use case-based training modules. UNMC partners also worked with NeHII to demonstrate the ability to utilize NeHII to conduct research.

The map below shows the implementations funded through this grant.
eHealth

Overview

Objectives:

• To support the adoption of health information exchange technologies in Nebraska.
• To support the use of health IT to help patients access their health information and better manage their care.

Description:

Broadband availability, widespread adoption of broadband technologies, and a skilled IT Electronic health information exchange (HIE) allows doctors, nurses, pharmacists, other health care providers and patients to appropriately access and securely share a patient’s vital medical information electronically—improving the speed, quality, safety and cost of patient care. The Nebraska Health Information Initiative (NeHII) is one of the largest statewide health information exchanges in the country with over 9,700 users and data on over 3.5 million individuals.

NeHII now covers 68% of the Nebraska’s hospital beds (excluding psychiatric hospitals). The map below shows pending and current NeHII hospital implementations.

Health information exchange technologies (i.e., patient portals, personal health records, and apps for smartphone and tablets) can also be used to help patients access their health information and better manage their care.

Strengths/Assets:

• NeHII is one of the largest statewide health information exchanges in the U.S. with over 9,700 users. NeHII now covers 68% of Nebraska’s hospital beds.
• Nebraska has an innovative Prescription Drug Monitoring Program which requires dispensers to report all medications effective Jan. 1, 2018. Having more complete medication history will improve medication safety in addition to reducing opioid abuse. The PDMP is a partnership effort of the Nebraska Department of Health and Human
Services Division of Public Health, NeHII, and Dr. First. The PDMP was funded by grants to the Nebraska Department of Health and Human Services from the Department of Justice Bureau of Justice Assistance and the Centers for Disease Control and Prevention.

- The Nebraska Department of Health and Human Services Division of Medicaid and Long-term Care is working with NeHII to receive federal Medicaid funding to support health information in Nebraska.

**Challenges/Issues:**

- Interoperability remains a challenge as standards are still being developed.
- Additional efforts may be needed to better integrate health IT into provider workflows.
- Adoption of technologies which allow patients to access their health information and better manage their care may require outreach efforts and education for both health care providers and patients.
- Providers not eligible for Meaningful Use incentive payments (including long-term and post-acute care providers and behavioral health providers) may find investing in health IT to be financially challenging.
- Blocking of health information by health systems and vendors is an issue identified by the Office of the National Coordinator for Health IT.

**Collaborators:**

- Nebraska Department of Health and Human Services
- NeHII
- UNMC
- Other stakeholders

**Recent Accomplishments:**

- The NITC received a $2.7 million cooperative agreement on July 27, 2015 to advance health information exchange in Nebraska from the Office of the National Coordinator for Health IT, U.S. Department of Health and Human Services. The NITC partnered with NeHII and UNMC on the two-year grant. The grant supported the adoption of health information exchange through NeHII in 47 facilities and health systems—including 21 Critical Access Hospitals (CAHs)—in 31 counties in Nebraska and in Montgomery County, Iowa. Through the grant, the number of hospitals and providers sharing data with NeHII increased from 28 to 53. Over 700 providers and clinical staff were added as users. New functionality implemented included population health analytics, the use of Consolidated-Clinical Document Architecture (C-CDA) exchange to provide information to NeHII, and an HIE to HIE gateway with the Missouri Health Exchange. Two Critical Access Hospitals were also successfully implemented to share syndromic surveillance data with the State’s syndromic surveillance system.

The grant also helped health care facilities integrate health information technology into their workflow. UNMC provided assistance in workflow integration to facilities participating in two rural communities selected as integrated communities. Lessons learned are being shared through use case-based training modules. UNMC partners also worked with NeHII to demonstrate the ability to utilize NeHII to conduct research.
• Reporting of all medications to the PDMP began on Jan. 1, 2018. There are 5,847 prescribers and pharmacists provisioned to access the PDMP as of Feb. 2018. Enhancements, including a morphine milligram equivalents (MME) alert, have gone live.

**Metrics**

The graph below indicates the steady increase in users (Providers, Pharmacists, Clinicians) added to the system from 2009 through 2017.

![HIE USERS ADDED BY YEAR](chart)

**Action Items**

1. **Action:** Learn more about data governance and discuss follow-up steps including possibly forming a Data Governance Work Group  
   **Lead:** NITC eHealth Council  
   **Participating Entities:** NITC eHealth Council and others (to be determined)  
   **Timeframe:** 2017-2018  
   **Funding:** Leveraging existing resources  
   **Targets/Deliverables:**  
   1. The eHealth Council will meet on March 13, 2018 to discuss this issue and make initial recommendations as to next steps.
2. **Action: Learn more about how health IT can support public health, including the priorities identified in the 2017-2021 Nebraska State Health Improvement Plan, and discuss follow-up steps.**

   **Lead:** Community Council and Education Council  
   **Lead:** NITC eHealth Council  
   **Participating Entities:** NITC eHealth Council and others (to be determined)  
   **Timeframe:** 2017-2018  
   **Funding:** Leveraging existing resources  
   **Targets/Deliverables:**  
   1. The eHealth Council will meet in the spring of 2018 to discuss this issue and make initial recommendations as to next steps.
Community Council

Rural and Community IT Development

Jay Anderson, NebraskaLink
Pam Adams, American Broadband
Rod Armstrong, Co-Chair, AIM Institute
Randy Bretz, TEDxLincoln, Curator
Shonna Dorsey, AIM Institute
Connie Hancock, University of Nebraska Extension
Johnathan Hladik, Center for Rural Affairs
Jacob Knutson, Nebraska Department of Economic Development
Timothy Lindahl, Wheatbelt Public Power District
David Lofdahl, IT Consultant
Megan McGown, North Platte Area Chamber of Commerce and Development Corporation

Libraries and Local Government

Chris Anderson, City of Central City
Brett Baker
Phil Green, Co-Chair, City of Blair
Jessica Chamberlain, Norfolk Public Library
Steve Fosselman, Grand Island Public Library
Steve Henderson, City of Lincoln
Holly Woldt, Nebraska Library Commission

At Large
Mary Ridder, Nebraska Public Service Commission
Education Council

Post Secondary
Bret Blackman, University of Nebraska—Omaha
Derek Bierman, Northeast Community College
Mike Carpenter, Doane University
John Dunning, Wayne State College
Steve Hotovy, Nebraska State College System
Greg Maschman, Nebraska Wesleyan University
Mary Niemiec, Co-Chair, University of Nebraska
Tom Peters, Central Community College

K-12
Burke Brown, District OR-1 Palmyra/Bennet Public Schools
Matt Chrisman, Mitchell Secondary School
Dr. Ted DeTurk, Educational Service Unit 2
Stephen Hamersky, Daniel J. Gross Catholic High School
Dr. Dan Hoesing, Schuyler Community Schools
Trent Kelly, Hastings Public Schools
Alan Moore, Educational Service Unit 3
Gary Needham, Co-Chair, Educational Service Unit 9

Non-Voting Liaisons
Dr. Mike Baumgartner, Coordinating Commission for Postsecondary Education
SuAnn Witt, Nebraska Department of Education
Ed Toner, Office of the CIO, Nebraska Department of Administrative Services
Chad Davis, Nebraska Educational Telecommunications Commission
eHealth Council

The State of Nebraska
Linda Wittmuss, Division of Behavioral Health

Health Care Providers
Kevin Borcher, Nebraska Methodist Health System and Nebraska Board of Pharmacy
Marty Fattig, Nemaha County Hospital
Cindy Kadavy, Nebraska Health Care Association
Dr. Shawn Murdock, Midlands Family Medicine
Brian Sterud, Faith Regional Health Services
Dr. Delane Wycoff, Co-Chair, Pathology Services, PC
Bridget Young, Visiting Nurse Association

eHealth Initiatives
Kevin Conway, NeHII and Nebraska Hospital Association
Max Thacker, Nebraska Statewide Telehealth Network and UNMC
Anna Turman, Western Nebraska Health Information Exchange and Chadron Community Hospital

Public Health
Kathy Cook, Lincoln-Lancaster County Public Health Department
Joel Dougherty, OneWorld Community Health Centers
Marsha Morien, Co-Chair, UNMC College of Public Health
Dave Palm, UNMC
Jenifer Roberts-Johnson, Department of Health and Human Services, Division of Public Health

(Continued on page 56.)
Payers and Employers

Rama Kolli, Blue Cross Blue Shield

Consumers

June Ryan, Retired
Robin Szwanek, AARP

Resource Providers, Experts, and Others

Kimberly Galt, Creighton University School of Pharmacy and Health Professions
Dr. Jim McClay, UNMC
Todd Searls, Wide River
GIS Council

Sudhir Ponnappan, Chair, Nebraska Game and Parks Commission
John Beran, State Surveyor
Chad Boshart, Nebraska Emergency Management Agency
Erin Bottger, Governor’s Policy Research Office
Karis Bowen, Department of Health and Human Services
Lash Chaffin, League of Nebraska Municipalities
Timothy Cielocha, Nebraska Public Power District
Doug Hallum, Conservation and Survey Division, University of Nebraska-Lincoln
Eric Herbert, Sarpy County GIS
Les Howard, Conservation and Survey Division, University of Nebraska-Lincoln
John Kraai, Nebraska State Patrol
James Langtry, USGS Nebraska Water Science Center
Jeff McReynolds, City of Lincoln, Lancaster County, Nebraska
Jennifer Myers, Nebraska Association of County Officials
Kea Morovitz, ViceChair, Nebraska Public Service Commission
Gary Morrison, Department of Environmental Quality
James W. Ohmberger, Office of the Chief Information Officer
Barb Oswald, Department of Revenue
Danny Pittman, Nebraska Association of County Officials
Michael Preston, Trimble Inc. - Energy
Steve Rathje, Department of Natural Resources
Lesli Rawlings, Nebraska Geospatial Professional Association
Michael Schonlau, Douglas County, City of Omaha
Ruth Sorenson, Department of Revenue
Milda Vaitkus, Conservation and Survey Division, University of Nebraska-Lincoln
Todd Whitfield, Lamp Rynearson & Associates
Chuck Wingert, Nebraska Association of Resources Districts
Justin Wolff, Department of Transportation
State Government Council

Agency Director or Designee

John Albin, Department of Labor
Chris Ayotte, Department of Revenue
John Bolduc, Nebraska State Patrol
Erin Bottger, Governor’s Policy Research Office
Dennis Burling, Department of Environmental Quality
Byron Diamond, Department of Administrative Services
Darrell E. Fisher, Crime Commission
Chris Hill, Department of Health and Human Services
Steve Ingracia, Department of Transportation
Rhonda Lahm, Department of Motor Vehicles
Kelly Lammers, Department of Banking and Finance
Kim Menke, Department of Natural Resources
Robin Spindler, Department of Correctional Services

Other

Jackie Boesen, Workers’ Compensation Court
Dean Folkers, Department of Education
John Gale, Secretary of State
Dorest Harvey, Private Sector
Jim Ohmberger, Office of the CIO, Enterprise Computing
Gerry Oligmueller, State Budget Administrator
Jayne Scofield, Office of the CIO, Network Services
Corey Steel, Supreme Court
Ed Toner, Chair, Chief Information Officer
Rod Wagner, Library Commission

Technical Panel

Mark Askren, University of Nebraska Computing Services Network
Christy Horn, University of Nebraska
Kirk Langer, Chair, Lincoln Public Schools
Ed Toner, Office of the CIO, State of Nebraska
Michael Winkle, Nebraska Educational Telecommunications