

AGENDA
NEBRASKA INFORMATION TECHNOLOGY COMMISSION
1526 Building, Lower Level - Development Center
1526 K Street
Lincoln, Nebraska
Live Stream Broadcast via Webex
Thursday, July 9, 2020
10:00 a.m.

10:00 a.m. 1. Roll call; meeting notice; Open Meetings Act information.

2. **Approval of March 12, 2020 meeting minutes.*** (*Attachment 2*)

3. Reports from the advisory councils and Technical Panel.

10:05 a.m. a. Technical Panel report – Kirk Langer.
i. Enterprise project status dashboard report. (*Attachment 3-a-i*)
ii. **Technical standards and guidelines. Approval of Proposal 17.**
Revise the agency information technology plan form.*
(*Attachment 3-a-ii*)

10:15 a.m. b. Education Council report – Tom Rolfes. (*Attachment 3-b*)
i. **Approval of membership nominations.***
ii. Digital Education and Network Nebraska updates.

10:30 a.m. c. GIS Council report – John Watermolen. (*Attachment 3-c*)

10:55 a.m. d. Community Council report – Anne Byers. (*Attachment 3-d*)
i. **Approval of membership nomination.***
ii. Broadband update.

11:05 a.m. e. eHealth Council report – Anne Byers. (*Attachment 3-e*)

11:10 a.m. f. State Government Council report – Ed Toner. (*Attachment 3-f*)

11:25 a.m. 4. **Approval of the revised Statewide Technology Plan.*** (*Attachment 4*)

11:30 a.m. 5. Briefing on security and protection measures utilized by the Nebraska Office of the Chief Information Officer. [Note: This agenda item may require the Commission to hold a closed session pursuant to Neb. Rev. Stat. § 84-1410.]

12:00 p.m. 6. Adjourn.

*** Indicates an action item.**

The Commission will attempt to adhere to the sequence of the published agenda, but reserves the right to adjust the order and timing of items and may elect to take action on any of the items listed. If you need interpreter services or other reasonable accommodations, please contact the Commission at 402-471-3560 at least five days prior to the meeting to coordinate arrangements.

Meeting notice was posted to the [NITC website](#) and the [Nebraska Public Meeting Calendar](#) on June 19, 2020. The agenda was posted to the NITC website on July 2, 2020.

[Nebraska Open Meetings Act](#)

LIVE STREAM BROADCAST INSTRUCTIONS

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You can also dial 173.243.2.68 and enter your meeting number.

Attachment 2

NEBRASKA INFORMATION TECHNOLOGY COMMISSION

Varner Hall - Board Room
3835 Holdrege Street, Lincoln, Nebraska
Thursday, March 12, 2020, 10:00 a.m.

MINUTES

MEMBERS PRESENT:

Ed Toner, Chief Information Officer, Chair
LaShonna Dorsey, Mutual of Omaha
Dr. Terry Haack, Bennington Public Schools
Dorest Harvey, US Strategic Command/J84
Gary Warren, Hamilton Telecommunications
Walter Weir, University of Nebraska

MEMBERS ABSENT: Senator Bruce Bostelman, Nebraska Legislature; Dan Spray, Precision Technologies, Inc.; Shane Greckel, Greckel Farms, LLC; and Tom Nutt, Phelps County Commissioner

ROLL CALL; MEETING NOTICE; OPEN MEETINGS ACT INFORMATION

The Chair, Ed Toner, called the meeting to order at 10:08 a.m. There were six members present at the time of roll call. A quorum existed to conduct official business. A copy of the Open Meetings Act was posted on the south wall of the meeting room. The meeting notice was posted to the NITC website and the Nebraska Public Meeting Calendar on February 10, 2020. The agenda was posted to the NITC website on March 5, 2020.

PUBLIC COMMENT

There was no public comment.

APPROVAL OF NOVEMBER 14, 2019 MEETING MINUTES

Commissioner Weir requested a correction under the section titled "Approval of Update to the State Broadband Plan." In the third sentence, we asked that the "University of Nebraska-Lincoln" be corrected to read "University of Nebraska."

Commissioner Haack moved to approve the November 14, 2019 minutes with the requested correction for the University of Nebraska. Commissioner Warren seconded. Roll call vote: Toner-Yes, Dorsey-Yes, Haack-Yes, Harvey-Yes, Warren-Yes, and Weir-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

REPORTS FROM THE ADVISORY COUNCILS AND TECHNICAL PANEL

TECHNICAL PANEL REPORT

Ed Toner

Enterprise Project Status Dashboard Report. Mr. Toner provided a brief update on the enterprise projects.

Project Closure: Nebraska State Accountability (NeSA) Project, Department of Education

Commissioner Haack moved to designate the Nebraska State Accountability (NeSA) project as a closed project. Commissioner Harvey seconded. Roll call vote: Haack-Yes, Harvey-Yes, Warren-Yes, Weir-Yes, Toner-Yes, and Dorsey-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

Technical Standards and Guidelines

Approval of Proposal 14. Adopt a New Section Relating to Authority and Applicability. This proposal would adopt a new section relating to authority and applicability.

Commissioner Warren moved approval of Proposal 14 as presented. Commissioner Harvey seconded. Roll call vote: Weir-Yes, Warren-Yes, Harvey-Yes, Haack-Yes, Dorsey-Yes, and Toner-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

Approval of Proposal 15. Amend the Information Security Policy. This proposal would amend the Information Security Policy.

- Section 1 of the proposal amends section 8-102 as follows:
 - An applicability sentence is stricken. That sentence is no longer needed after the adoption of Proposal 14; and
 - A subsection is added that references the NIST Cybersecurity Framework.
- Section 2 amends section 8-103 to revise certain roles and responsibilities.
- Section 3 amends section 8-204 to clarify certain requirements relating to email.
- Sections 4 and 5 are amendments to correct errors.

Discussion occurred regarding Sec.3. Section 8-204 Email (1). It was recommended to omit the words “all or substantially all” prior to the word “emails”. A question was raised regarding enforcement. Mr. Toner said that all agencies are responsible. The State Auditor has been very supportive of the security policy.

Commissioner Warren moved to approve Proposal 15 with the revision of deleting the wording “all or substantially all” from Sec.3. Section 8-204 (1). Commissioner Dorsey seconded. Roll call vote: Dorsey-Yes, Haack-Yes, Harvey-Yes, Warren-Yes, Weir-Yes, and Toner-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

EDUCATION COUNCIL REPORT

Tom Rolfes

Digital Education Status Report; Approval of Recommendations. Mr. Rolfes reviewed the Council's Digital Education action items and recommendations. Discussion occurred regarding the educational sector's preparation for the Coronavirus.

Commissioner Haack moved to approve the Digital Education action item recommendations. Commissioner Harvey seconded. Roll call vote: Toner-Yes, Dorsey-Yes, Haack-Yes, Harvey-Yes, Warren-Yes, and Weir-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

Network Nebraska Status Report; Approval of Recommendations. Mr. Rolfes reviewed the Council's Network Nebraska action items and recommendations.

Commissioner Harvey moved to approve the Network Nebraska action item recommendations. Commissioner Warren seconded. Roll call vote: Warren-Yes, Harvey-Yes, Haack-Yes, Dorsey-Yes, Toner-Yes, and Weir-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

GIS COUNCIL REPORT

John Watermolen

Mr. Watermolen reported that the GIS Council had 22 of 27 members in attendance at the last meeting. Nebraska's State Surveyor gave a presentation about the progress the State is making to make sure the State will be ready for the change to the 2022 Datum.

Approval of Amendments to the Council Charter. This amendment addresses the selection process when there is more than one person nominated for any of the at-large or industry specific Council positions. This does not apply to state agency appointments. This amendment would fall under Section 6 – Membership.

Commissioner Harvey moved to approve the amendments to GIS Council Charter. Commissioner Warren seconded. Roll call vote: Toner-Yes, Dorsey-Yes, Haack-Yes, Harvey-Yes, Warren-Yes, and Weir-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

Nebraska Spatial Data Infrastructure Status Report; Approval of Recommendations.

Mr. Watermolen reviewed the Nebraska Spatial Data Infrastructure Initiatives and action items. The council made no recommended changes to the action items.

Commissioner Weir moved to approve the Nebraska Spatial Data recommendations from the GIS Council. Commissioner Harvey seconded. Roll call vote: Toner-Yes, Dorsey-Yes, Haack-Yes, Harvey-Yes, Warren-Yes, and Weir-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

The Office of the CIO and State Surveyor submitted a grant project to the State Records Board to prepare for the implementation of the 2022 datum. The grant project was rejected by the State Records Board. GIS is helping DHHS build a GIS dashboard to help visualize the impacts regarding COVID-19 mapping efforts.

It was stated that there is a need to do more education about what GIS is and what it can do for state agencies.

COMMUNITY COUNCIL REPORT

Anne Byers

The Community Council met on February 19 with other interested stakeholders to discuss developing a collaborative community broadband outreach initiative. The group identified several next steps:

- Coordinate with the Department of Economic Development.
- Develop Case Studies of Successful Community Broadband Initiatives.
- Solicit New Community Council Members.

Approval of Membership Nominations. The Community Council had nominations for four new members:

- Judy Petersen, Central Nebraska Economic Development District
- Dr. Mehmet Can Vuran, University of Nebraska-Lincoln
- David Young, City of Lincoln, and
- Danny Rockhill, Bank First

Commissioner Haack moved to approve the Community Council's membership nominations. Commissioner Dorsey seconded. Roll call vote: Toner-Yes, Dorsey-Yes, Haack-Yes, Harvey-Yes, Warren-Yes, and Weir-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

Rural Broadband and Community IT Development Status Report; Approval of Recommendations.

After discussion, the Community Council recommended continuing the following action item:

Action Item: Work with the Nebraska Department of Economic Development and other stakeholders to explore the development of a collaborative broadband outreach effort.

Commissioner Warren moved to approve the action item recommendation from the Community Council. Commissioner Weir seconded. Roll call vote: Toner-Yes, Dorsey-Yes, Haack-Yes, Harvey-Yes, Warren-Yes, and Weir-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

EHEALTH COUNCIL REPORT

Anne Byers

Approval of Membership Nominations. Allison Wisco was nominated to represent the Nebraska Department of Health and Human Services Division of Medicaid and Long-term Care.

eHealth Status Report; Approval of Recommendations. The eHealth Council met on March 6, 2020. Data governance was identified as a key issue. The Nebraska Department of Health and Human Services, the Nebraska Hospital Association, and NEHII are engaging in data governance activities. The eHealth Council is planning to meet again this summer to get updates on these initiatives and to discuss next steps.

The eHealth Council had no recommended changes to the current action items and will continue working on the following action item below:

Action Item: Learn more about data governance and discuss follow-up steps including possibly forming a Data Governance Work Group

Commissioner Dorsey moved to approve the eHealth Council membership nomination and eHealth Council action item. Commissioner Harvey seconded. Roll call vote: Toner-Yes, Dorsey-Yes, Haack-Yes, Harvey-Yes, Warren-Yes, and Weir-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

STATE GOVERNMENT COUNCIL REPORT

Ed Toner

State Government IT Strategy Status Report; Approval of Recommendations. Mr. Toner briefly reviewed the State Government IT Strategy action items. Four new action items have been added:

- Use Single Sign-on
- Consolidated Onboarding/Offboarding/Transitioning
- Application Portfolio Management
- Enterprise Content Management

Commissioner Harvey moved to approve the revised State Government IT Strategy action items. Commissioner Dorsey seconded. Roll call vote: Toner-Yes, Dorsey-Yes, Haack-Yes, Harvey-Yes, Warren-Yes, and Weir-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

IT Security Status Report; Approval of Recommendations. To protect the state's data and services, Commissioner Toner proposed to delete the IT Security strategic initiative from the Statewide Technology Plan. He explained that security processes and efforts should not be highlighted.

Commissioner Harvey moved to approve the recommendation to delete the IT Security strategic initiative from the Statewide Technology Plan. Commissioner Weir seconded. Roll call vote: Toner-Yes, Dorsey-Yes, Haack-Yes, Harvey-Yes, Warren-Yes, and Weir-Yes. Results: Yes-6, No-0, Abstained-0. Motion carried.

ADJOURNMENT

With no further business, the Chair requested adjournment of the meeting. All were in favor.

The meeting was adjourned at 12:01 p.m.

Meeting minutes were taken by Lori Lopez Urdiales and reviewed by the NITC Managers.

Attachment 3-a-i

Projects Status Dashboard

June 2020

Enterprise Projects - Current

Agency/Entity	Project	NITC Designated
Department of Health and Human Services	New Medicaid Management Information System (MMIS)	07/08/2009
Nebraska Council of Regions	Nebraska Regional Interoperability Network	03/15/2010
Department of Health and Human Services	Medicaid Eligibility & Enrollment System	10/28/2014
Office of the CIO	Centrex Replacement	07/12/2018

Note: Status is self-reported by the agency

Project Storyboard: Centrex Conversion (65060012)

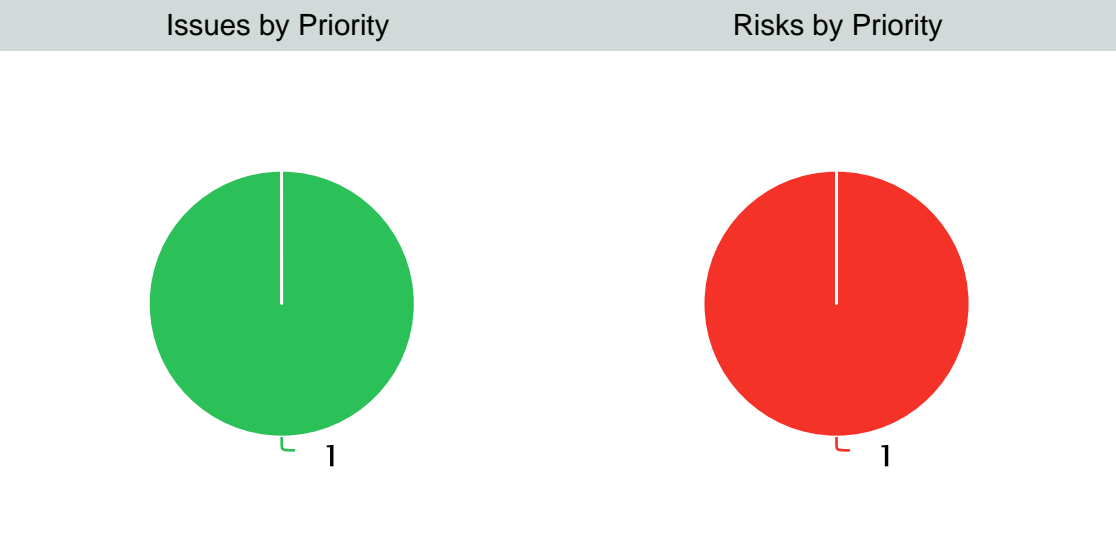
Project Manager	Kortus, Julie	Status Report Date	6/3/20
Project Type	Major Project	Status	Approved
Stage	Build	Progress	Started
Total Estimated Cost	\$2,800,000.00	Estimate to Complete	
Actual Cost To Date			

Project Dates		
	Start	Finish
Plan	10/10/17	11/30/20
Baseline	10/10/17	11/30/20
Days Late	0	0

Status Report Indicators		
Overall		
Schedule		
Scope		
Cost and Effort		

Project Description	Key Accomplishments
To secure the most cost efficient Hosted Voice Over Internet Protocol Telephony (VOIP) Services. This solution will replace the State’s Centrex service throughout the State of Nebraska. The purpose of the project is to provide phone service that includes the most up-to-date VOIP features and functionality as a hosted service with equipment ownership, maintenance and service remaining with the Contractor.	Ported the Environmental Trust, small offices at DHHS, Accountability and Disclosure Commission, and Economic Development.

Status Report Update	Upcoming Activities
As of 2/29/2020 we were at 28% complete. March brought many agencies to begin the transition to a remote workforce. Due to this change, the agencies developed a concern related to performing any non-essential work. We have been able to install and port at a few locations in March, April and May. We also continue to request agencies work on the template portion (the inventories) to keep moving as much as possible. As of today, we are approximately 33% complete.	Working with DHHS, Dept. of Labor, State Patrol, Historical Society, Attorney General Office, Agriculture, DMV, Dept. of Transportation and Game and Parks on their porting plans.



Current Issues

Issue	Priority	Status	Target Resolution	Owner
Rates		Work in Progress	6/30/20	Kortus, Julie









More Issues...

Current Risks

Risk	Probability	Impact	Priority	Status	Target Resolution	Owner
Bandwidth at Sites				Work in Progress	6/30/20	Kortus, Julie

More Risks...

Project Storyboard: Medicaid Eligibility & Enrollment System

Project Manager		Gartin, Dan	Status Report Date	11/6/19	Project Dates			Status Report Indicators		
Project Type			Status	Approved		Start	Finish	Overall		
Stage		Build	Progress	Started	Plan	6/1/18	4/30/22	Schedule		
Total Estimated Cost		\$81,200,000.00	Estimate to Complete	77.98%	Baseline	6/1/18	4/30/22	Scope		
Actual Cost To Date		\$63,318,485.00			Days Late	0	0	Cost and Effort		
Project Description					Key Accomplishments					
<p>The Affordable Care Act (ACA) included numerous provisions with significant information systems impacts. One of the requirements was to change how Medicaid Eligibility was determined and implement the changes effective 10/1/2014. As a result of the lack of time available to implement a long-term solution, the Department of Health and Human Services implemented a short-term solution in the current environment to meet initial due dates and requirements. This solution did not meet all Federal technical requirements for enhanced Federal funding but was approved on the assumption that a long-term solution would be procured. An RFP was developed and procurement has been completed with Wipro selected as the Systems Integrator for the IBM/Curam software.</p>					<p>Gartner completed these deliverables:</p> <p>A set of Imperatives and Drivers that established the purposes and intent for EES. An Assessment of the EES Project governance, execution and outcomes. An Alternatives Analysis of options to move forward. A recommendation on how to move forward, with a roadmap of actionable steps.</p> <p>Executive review of these outputs with DHHS, OCIO and IS&T leaders occurred in September, 2019.</p>					
Status Report Update					Upcoming Activities					
<p>In 2014, the contract for an Eligibility and Enrollment System (EES) was awarded to the SI, Wipro Inc., using the IBM Cúram software product. The EES project’s budget was approximately \$80 million leveraging enhanced FFP of 90% Federal and 10% State dollars. The SI began in the summer of 2014.</p> <p>The anticipated Return on Investment was not achieved, including:</p> <ul style="list-style-type: none">More complete and timely analyticsClient benefits, such as real time eligibility determinationsBringing MLTC into Federal compliance with updated technologies <p>Throughout the SI development efforts, concerns were raised about the quality of deliverables, significant lack documentation, slippage in schedule and major concerns of budget expended without tangible results.</p> <p>Following a review of the EES project conducted between October and December 2018, State executive leadership agreed to terminate the SI contract and seek a new partner.</p> <p>Before procuring a new partner, however, the State asked Gartner, Inc. to review the then current state of EES, conduct an alternatives analysis, and identify strategies for moving forward with the DHHS integrated eligibility initiative.</p> <p>Gartner spent four months analyzing the project, reviewing processes, governance, software, and documentation while conducting interviews with more than 100 DHHS staff and contractors, including leaders in DHHS, the OCIO and IS&T.</p> <p>Gartner's recommendation was to go to market with a new procurement for an Integrated Eligibility and Enrollment Benefits Management (IE&E BM) system built from a framework of shared components that include:</p> <p>Modern development tools and frameworks, business rules and process management systems, integration middleware, user experience/engagement and data mgmt. software.</p>					<p>The newly branded Integrated Eligibility and Enrollment / Benefits Management project (IE&E / BM) is anticipated to begin procurement in Q3 of SFY20.</p> <p>Significant investment in DHHS Enterprise Project Management Office (EPMO) processes, Architectural standards and procedures, data governance and management and Organizational Change Management processes will happen in parallel to this activity, setting foundations that will improve the potential for success in a new project.</p>					

Project Storyboard: Medicaid Management Information System Replacement Project (MMIS)

Project Manager	Gartin, Dan	Status Report Date	6/5/20	Project Dates			Status Report Indicators		
Project Type	Major Project	Status	Approved		Start	Finish	Overall		
Stage	Test	Progress	Started	Plan	7/1/14	11/16/20	Schedule		
Total Estimated Cost	\$113,600,000.00	Estimate to Complete	15.29%	Baseline	7/1/14	11/16/20	Scope		
Actual Cost To Date	\$17,363,786.07			Days Late	0	0	Cost and Effort		
Project Description				Key Accomplishments					
Medicaid and Long-Term Care (MLTC) has undertaken a strategic transformation toward a vision for a Medicaid enterprise that is fundamentally data-driven. This project supports the programmatic shift by giving the stakeholders access to claims and clinical data and appropriate analytic tools. This project of building a comprehensive data management and analytics (DMA) platform is aligned with the CMS modular approach to building system and operational capabilities. The current system consisting of legacy MMIS and Truven DW/DSS has several limitations that warrant the need to re-engineer the data management and analytical operations. The DMA system is envisioned to be the core repository for the State to address all its information and data needs.				1. Soft Launch Status: Live! In production, as planned, June 1st. Support teams are managing issues and defects, of which few have been significant. 2. T-MSIS Submissions: Concurrence granted by CMS! HIA will have its first production T-MSIS submission in July 2020 for June data. 3. Heritage Health Adult Release: Development complete, UAT testing underway and on schedule for a July 15th implementation. 4. Elective Enhancements Release: On schedule for a September 1st implementation.					
Status Report Update				Upcoming Activities					
A schedule re-baseline incorporating a June 1st soft-launch concept and a November 2nd go-live date was granted by CMS in late January and codified in an approved planning update on March 30th. The new baseline accommodates updates to software for the Heritage Health Adult (HHA) project, as well as enhancements to improve operational functionality for the Medicaid and Long-Term Care division. The soft-launch would take all code developed and tested to date (February, 2018 to April, 2020) into production, with the HHA and enhancements code to follow in July through September of 2020.				1. Monitoring and stabilization period for post soft-launch support. 2. HHA Enhancements release implementation 07/15/20. 3. Enhancements release implementation 09/01/20. 4. Parallel processing June 1, 2020 to October 30, 2020. 5. Go-live on November 2, 2020 6. Certification in June, 2021.					
Issues by Priority		Risks by Priority		Current Issues					
				No matching records were found					

Project Storyboard: Nebraska Regional Interoperability Network (NRIN)

Project Manager		Krogman, Sue	Status Report Date	6/5/20	Project Dates			Status Report Indicators		
Project Type		Major Project	Status	Approved		Start	Finish	Overall		
Stage		Build	Progress	Started	Plan	10/1/10	8/31/21	Schedule		
Total Estimated Cost		\$12,500,000.00	Estimate to Complete	83.24%	Baseline	10/1/10	8/31/21	Scope		
Actual Cost To Date		\$10,405,204.00			Days Late	0	0	Cost and Effort		
Project Description					Key Accomplishments					
The Nebraska Regional Interoperability Network (NRIN) is a project that will connect a majority of the Public Safety Access Points (PSAP) across the State by means of a point to point microwave system. The network will be a true, secure means of transferring data, video and voice. Speed and stability are major expectations; therefore there is a required redundant technology base of no less than 100 mbps with 99.999% availability for each site. It is hoped that the network will be used as the main transfer mechanism for currently in-place items, thus imposing a cost-saving to local government. All equipment purchased for this project is compatible with the networking equipment of the OCIO.					Three more active rings were added in the last 4 months – 2 in the Southwest Region, 1 in the North Central Region and 1 in the South Central Region.					
Status Report Update					Upcoming Activities					
Work is being done is the South Central Region – the border corridor, the NorthEast Region – path from Norfolk to O’Neill and Norfolk to South Sioux City, and the North Central Region – path from Broken Bow to O’Neill. Three more active rings were added in the last 4 months – 2 in the Southwest Region, 1 in the North Central Region and 1 in the South Central Region.					South Central Region – the border corridor, the NorthEast Region – path from Norfolk to O’Neill and Norfolk to South Sioux City, and the North Central Region – path from Broken Bow to O’Neill.					
Issues by Priority		Risks by Priority		Current Issues						
				No matching records were found						

Attachment 3-a-ii

TO: NITC Commissioners

MEETING DATE: July 9, 2020

SUBJECT: Proposal 17. Revise the agency information technology plan form.

RECOMMENDED ACTION: Approve Proposal 17.

BACKGROUND: On or before September 15 of even-numbered years, all state agencies, boards, and commissions submit an information technology plan that includes an accounting of all technology assets, including planned acquisitions and upgrades. The commission is responsible for determining the format that is used for such plans. This proposal would update the form for 2020.

Plans are submitted by agencies through an online application that is based on the form included with this proposal.

RECOMMENDED BY: Technical Panel

**State of Nebraska
Nebraska Information Technology Commission
Technical Standards and Guidelines**

**Proposal 17
Final**

A PROPOSAL to revise the agency information technology plan form.

Section 1. The form referenced in section 1-201 is revised as follows:

Nebraska Information Technology Commission
and the
Office of the Chief Information Officer

Agency Information Technology Plan

Due: September 15, ~~2018~~2020

Notes about this form:

1. **REQUIREMENT.** "On or before September 15 of each even-numbered year, all state agencies, boards, and commissions shall report to the Chief Information Officer, in a format determined by the commission, an information technology plan that includes an accounting of all technology assets, including planned acquisitions and upgrades." (NEB. REV. STAT. § 86-524.01). This document is the approved format for information technology plans. This form should be treated as if it is a public record. Do not include information that would compromise information technology security.
2. **DEADLINE.** The information technology plan is due on September 15, ~~2018~~2020.
3. **SUBMITTING THE FORM.** The form must be submitted online at <https://cioapps.nebraska.gov/ITPlan>.
4. **QUESTIONS.** Contact the OCIO Service Desk at (402) 471-4636.

1. Current Assets

1.1 Hardware

Complete the following table. For "current" devices, enter the total number of each item currently owned/leased by the agency. For "planned" devices, enter an estimated number of each item at the end of the biennium on June 30, ~~2024~~2023.

	Current	Planned
Desktops		
- Apple		
- Microsoft Windows		
- Linux/Unix		
Laptops		
- Apple		
- Microsoft Windows		
- Google Chrome		
Thin Clients		
Virtual Desktop Infrastructure		
Tablets		
- Apple		
- Microsoft Windows		
- Android		
Smart Phones		
- Apple		
- Android		
Physical Servers		
- Microsoft		
- Linux/Unix		
- Other		
Virtual Servers		
- VMware		
- Hyper-V		
- Other		

What is your agency's current hardware refresh plan?

Narrative:

1.2 Software

1.2.1 Commercial Off-the-Shelf Software

Provide an estimated number of users/licenses for each of the following:

	Estimated Number of Users/Licenses	Version(s) (Optional)
Productivity Suite		
Microsoft Office		
WordPerfect Office		

<u>OpenOffice/StarOffice</u>		
Other (Specify)		
Endpoint Protection		
Microsoft System Center Endpoint Protection		
<u>FireEye</u>		
Sophos		
Symantec/ Norton		
<u>Norton</u>		
McAfee		
<u>Malware-Bites/Malwarebytes</u>		
Other (Specify)		
Instant Messaging		
<u>OCIO-Lync</u> /Skype for Business		
<u>Microsoft Teams</u>		
<u>Cisco WebEx Teams</u>		
Other (Specify)		
Web Conferencing		
<u>OCIO-Cisco WebEx</u> / SparkMeeting		
<u>OCIO-Lync</u> /Skype for Business		
Adobe Connect		
<u>Microsoft Teams</u>		
<u>Zoom</u>		
Other (Specify)		
Database Management (DBMS)		
IBM		
Oracle		
Microsoft SQL		
AS/400		
Other (Specify)		
Applications Development Tools		
Microsoft Visual Studio		
IBM Rational Application Developer		
<u>Lotus Notes</u>		
Micro Focus COBOL		
Other (Specify)		
Business Analytics		
OBIEE		
SAP Crystal Reports		
Cognos		
Other (Specify)		
IT Service Management Suite		
Microsoft Service Manager		
Remedy		
iSupport		
Track-It		
ServiceNow		
Other (Specify)		
Assistive Technology Software		
<u>JAWS</u>		
<u>NVDA</u>		
<u>Kurzweil</u>		
<u>ZoomText</u>		
<u>Dragon</u>		

<u>Other (Specify)</u>		
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1.2.2 Other Commercial Off-the-Shelf Software

List other significant commercial off-the-shelf software used by the agency:

Software Title	Vendor	Estimated Number of Users/Licenses	Version(s) (Optional)

1.2.3 Software as a Service (SaaS)

List software that is licensed on a subscription basis by the agency that is delivered over the Internet (sometimes called web-based software; on-demand software; or, hosted software):

Software Title	Vendor	Estimated Number of Users/Licenses	Short Description

1.2.4 Custom Applications (Code agencies do NOT need to complete this section. This information was provided by code agencies to the OCIO as part of the Application Portfolio Management project.)

List custom applications used by the agency, including (a) the general purpose of the application; (b) the platform on which it is running; (c) application development tools used; and (d) how the application is supported.

Application:
Platform:
Development Tools:
How Supported:
Internet Accessible: Y/N

1.3 Data

1.3.1 Databases

List the significant databases maintained by the agency.

Database:
Brief Description:
Types of Data (PII, HIPAA, PCI, FTI, CJIS, SSA, None of the above):
Data Classification (RESTRICTED; CONFIDENTIAL; MANAGED ACCESS PUBLIC; PUBLIC):

1.3.2 Data Exchange

List the significant electronic data exchanges your agency has with other entities.

Title/Description:
Other Entity:
Purpose:
Is this exchange encrypted?:

1.4 Network Environment

1.4.1 General Description

Provide a general description of the agency's network environment. You may optionally include any related diagrams, etc. Also, describe any desktop management and/or LAN monitoring tools used by the agency.

Description:

1.4.2 Network Devices

Complete the following table. For "current" devices, enter the total number of each item currently owned/leased by the agency. For "planned" devices, enter an estimated number of each item at the end of the biennium on June 30, ~~2024~~2023.

	Current	Planned
Firewalls (Hardware)		
Load Balancers (Hardware)		
Wireless Access Points		
Video Cameras		
IP Phones		
IPS/IDS Appliances		
Non-OCIO provided Switches		
Application Delivery/Gateway (e.g. Citrix, Terminal Services appliances) (Specify)		

Provide a brief narrative describing the reason/rationale for any significant change in the number of planned devices as compared to the number of current devices.

Narrative:

1.4.3 Other Devices that Require Network Access

List any other devices used by the agency that require network access (examples: test equipment, lab equipment, HVAC, etc.).

Narrative:

1.4.4 Cloud Services

Cloud services used by the agency.

	Y/N
AWS	
Azure	
Google	
Oracle	
Other (Specify)	

Provide a brief description of the agency's use of cloud services.

Narrative:

1.4.5 Public Internet Access

Does the agency provide internet access to the public? If yes, provide a brief description of the access provided.

Narrative:

1.5 Server Rooms

1.5.1 Server Rooms

Many agencies have invested in dedicated space for housing servers and network equipment. This dedicated space provided close proximity of the equipment to an agency's offices and support staff. During the early years of client/server technology, close proximity offered many advantages and was even essential in some situations. Changes in technology and higher network speeds have eroded the advantages of close proximity to the extent that separate server rooms often represent a duplication of costs and an impediment to good security, reliability, disaster recovery, and efficient operations. The trend in all large organizations is consolidation of servers and data centers.

The purpose of this section is to document the number and size of server rooms and encourage planning for use of shared services that would eliminate the need for most server rooms.

Please complete the following information:

1. Does your agency have servers in the OCIO data center (yes / no):
2. Does your agency have a server room (yes / no) [If no, proceed to Section 2.]:
3. Where is the server room located (city, building, floor):
4. What is the size of the server room (square footage):
5. Does the room have special electrical power feeds (yes/no):
6. Does the room have special cooling capacity (yes/no):
7. Does the room have uninterruptible power supply (yes/no):
8. Does the room have backup power, such as a generator (yes/no):
9. Does the room have a separate fire suppression system (yes/no):
10. What equipment is located in the server room (number of servers, racks, network devices, etc.)?
11. What security is available for the server room?

Provide a brief narrative describing your agency's plans to reduce or eliminate the server room or explain why it is still needed.

2. Staff and Training

2.1 Staff and Related Support Personnel

Identify staffing necessary to maintain your current IT environment, including contractor and OCIO staff supporting your agency specific environment.

	Approximate FTE
Agency IT Staff	
Contractors	
OCIO Staff	

2.2 IT Related Training

Summarize the agency's efforts to address training needs relating to information technology, including training for IT staff and users.

Description:

3. Survey

	Yes	No	In Progress	Not Applicable
3.1 Security — Please answer the following questions regarding your agency's efforts to maintain a secure information technology environment. [Information Security Policy available at https://niti.ne.gov/standards/] [If questions, contact the State Information Security Officer at siso@nebraska.gov .]				
Has your agency implemented the NITC's Information Security Policy?				
Has your agency implemented other security policies?				
Has your agency designated a Security Officer?				
Has your agency performed an audit of all data under your control?				
Has your agency classified all data under your control?				
Does your agency schedule vulnerability scans of servers containing sensitive information?				
Does your agency have regularly scheduled penetration tests?				
Has your agency performed a penetration test in the last year?				
Does your agency have a security awareness program in place?				
Does your agency allow the use of removable media such as flash drives, external hard drives, etc.?				
3.2 Disaster Recovery and Business Continuity — For purposes of this document, the term "Disaster Recovery Plan" refers to preparations for restoring information technology systems following a major disruption.				
Does your agency have a disaster recovery plan?				
If your answer to the previous question is YES, have you tested your disaster recovery plan?				
Does your agency perform regular back-ups of important agency data?				
If your answer to the previous questions is YES, does your agency maintain off-site storage of back-up data?				
3.3 Accessibility / Assistive Technology				
Does your agency include the Nebraska Technology Access Clause in contracts for information technology purchases? (See Neb. Rev. Stat. § 73-205. The Technology Access Clause is posted at http://niti.ne.gov/standards/)				
Does your agency have procedures in place to identify the information technology related requirements of users with disabilities?				
Does your agency provide training opportunities for management, procurement, and technical personnel on how to meet the accessibility needs of users with disabilities?				

	Yes	No	In Progress	Not Applicable
Has your agency evaluated its website(s) to ensure accessibility to all persons with disabilities? If yes, what tools were used to evaluate accessibility:				
3.4 Geographic Information System (GIS) / Geospatial Data				
Does your agency have plans, over the next biennium, for the development and/or acquisition of GIS/geospatial data (eg. Mapping, imagery, LiDAR, GPS-collected data, geodatabase development, metadata, geocoding, demographic and address data, etc.) or geospatial data applications or web services?				
If your answer is YES, please provide a brief description and/or reference where that description is provided in Section 4 below:				
For data that is created or updated, will it follow appropriate NITC standards: NITC 3-201 Geospatial Metadata NITC 3-202 Land Records Information and Mapping NITC 3-203 LiDAR Elevation Acquisition Using LiDAR NITC 3-204 Imagery NITC 3-205 Street Centerline NITC 3-206 Address				
Will your agency provide the geospatial data created or updated through the project electronically with other government agencies in the State that may have a need for such data?				
Please provide a brief description with your proposed plan in Section 4.				
If geospatial data and web mapping services are created or updated and is needed by other state agencies or for public consumption, will you register the metadata with NebraskaMAP.gov?				
If your project incorporates web mapping services, are you willing to make use of current state resources by linking your project to web and data services that are maintained through other online state agency repositories? This would be for data not created by your project but is needed for your project to be effective (ie, base maps such as aerial imagery, street centerlines, and other authoritative base map data provided as a service through NebraskaMAP.gov).				
3.5 Mobile Apps				
Does your agency use mobile apps to provide services through mobile devices?				

43. Projects and Future Plans

4.43.1 Projects Currently Active

List current IT projects, including a description of the project, the current project status, projected completion date and costs.

Project Title:
Brief Description:
Describe project alignment with agency goals:
Current Status:
Projected Completion Date:
Total Project Cost:

4.23.2 Projects Planned to be Started in ~~FY2019~~FY2021

List IT projects that are planned to start before the end of the current fiscal year which were not listed in the previous section.

Project Title:
Brief Description:
Describe project alignment with agency goals:
Projected Start Date:
Projected Completion Date:
Total Project Cost:

4.33.3 Projects Planned for the ~~2019-2024~~2021-2023 Biennium

List IT project planned for the next biennium. (Note: If funding for a project has been requested and an IT Project Proposal entered in the Nebraska Budget Request and Reporting System, you only need to list the project title and note that it is included in the agency budget request.)

Project Title:
Brief Description:
Describe project alignment with agency goals:
Projected Start Date:
Projected Completion Date:
Total Project Cost:

4.43.4 Long-Term Plans (Beyond the ~~2019-2024~~2021-2023 Biennium)

Describe any long-term plans for projects to be started after the ~~2019-2024~~2021-2023 Biennium.

Agency Narrative:

4.53.5 Other Issues

This is a general comment section where the agency can identify issues not captured in another section of the plan. This provides an opportunity to address issues which may, or may not, impact an agency IT budget; such things as known risks, trends, or issues for which there is not currently enough information to be included in the other sections. This section can also be used to summarize the agency's strategies and future direction for the use of information technology within the agency.

Agency Narrative:

Sec.2. This proposal takes effect when approved by the commission.

Attachment 3-b

**Nebraska Information Technology Commission
EDUCATION COUNCIL**

2020-22 Membership Renewals/Replacements EXPIRING June 30, 2020

<u>Name</u>	<u>Representing</u>	<u>Status</u>
<u>HIGHER EDUCATION (7/1/2020-6/30/22 term)</u>		
Mary Niemiec	UN System	Ted Carter confirmed (6/23/2020)
Greg Maschman	Independent Colleges & Universities	Treva Haugaard confirmed (6/30/2020)
Tom Peters	Community College System	Greg Adams confirmed (6/23/2020)
John Dunning	State College System	Paul Turman confirmed (6/23/2020)
<u>K-12 EDUCATION (7/1/2020-6/30/22 term)</u>		
Gary Needham	Educational Service Units	Kraig Lofquist confirmed (6/23/2020)
Dan Hoesing	Administrators	Mike Dulaney confirmed (6/23/2020)
Alan Moore	School Board Members	John Spatz confirmed (6/23/2020)
Burke Brown	Public Teachers	Maddie Fennell confirmed (6/28/2020)

Attachment 3-c

July 9, 2020

To: NITC Commissioners

From:

John Watermolen, State GIS Coordinator

Michael Schonlau, Chair, GIS Council

Casey DunnGossin, Vice Chair, GIS Council

Subject: GIS Council Report

GIS Council Update - The GIS Council met on May 6, 2020 – This council meeting was done virtually. Over all feedback from the Council members did like having a virtual conference and we will consider it for public input in the future.

Here are some highlights from that meeting.

- 22 of the 27 council members were present.
- Provided a summary of the NITC meeting that related to the GIS Council.
- NebraskaMap- Data and applications have been added to NebraskaMap. There is a repository for all COVID19 dashboards that have been created statewide. NebraskaMap is getting about 1500 views a day.
- State Elevation - 3D Nation-Lidar Collection. There was a discussion about the status of several LIDAR collections going on in the state. The final report from the USGS regarding 3D Nation is expected to be finalized by the end of the year.

Update from Council Members

OCIO

- Investigating an Enterprise License Agreement (ELA) with ESRI- been meeting with the major agencies to go over the cost and benefits of an ELA
- Department of Agriculture - testing a mobile collection form on software that may be more efficient than current solution
- Assist Department of Health and Human Services (DHHS) with the COVID19 dashboard and an inspection collection form for Public Water Supplies. Worked with ESRI to make sure the dashboard is sustainable in the future, through a program being paid for from the Center for Disease Control (CDC).
- Census make sure that you have completed your census
- Retiring old servers and working on infrastructure improvements and efficiencies
- Working with PSC to migrate the broadband site to the NEGIS environment
- Went live with a Fiber map and web application for a task mentioned in the Rural Broadband report
- Working with Department of Environment and Energy (DEE) on getting data into the Enterprise Platform and helping them with getting data for a groundwater database application.
- Went live with a LIDAR Collection application to show the extent of the different collections within the state.

State Surveyor

- Scanning old maps and placing them online
- 25 low distortion areas submitted to National Geodetic Survey (NGS) for approval, for moving forward to the Datum 2022 changes

Game and Parks Commission

- Updated Open Water Atlas and other applications
- Implementing the Enterprise License Agreement with ESRI

Department of Natural Resources

- Updating older applications to the new GIS environment
- Created a Survey123 application to report and document ice jams
- Working on a decision support dashboard for leadership in regards to excess flow on the Platte River
- Migrating workflows to the new GIS environment
- Assisting OCIO in the reorganization of the Elevation data

Hall County

- COVID 19 dashboard and related activities

Sarpy County

- COVID Dashboard
- Working with MAPA counties to create a Portal for a single source of Transportation and Natural Resource data to support planners and consultants with common standardizations

Nebraska Emergency Management Agency

- COVID 19 dashboard tracking city and county declarations
- Situation reports and implement status reports either through a dashboard or story maps

Department of Transportation

- Awarded a Special Achievement Award from ESRI this year for their mobile application and GIS data that was developed for last year flood events
- COVID 19 dashboard showing the reduction in traffic count
- DOT districts starting to show more interest and usage of GIS
- Collector Application for light poles
- Moving the Metro Story map for 2020- Road projects
- State Property and Damage Incident Application to document issues such as guard rail damage

USGS-Federal Government

- Gave an update on the Status of all the Lidar Collections going on in the state. Niobrara being planned for August 2020 to include bathymetry collection.

Industry-Precision Ag

- Planting Season

NE GIS Educators

- No applications for this year's Story Map competition due to COVID 19.
- Plan to work with educators to get some training with GIS

Douglas County

- COVID 19 dashboard and related activities

Public Service Commission

- Weekly meeting with Public Safety Answering Points (PSAP) regarding COVID
- Final stage of the PSAP boundaries 65-75% complete
- Working on migrating data off the 911 Nebraska site to NebraskaMap
- Working on migrating data of the broadband site to a new web mapping application

Lincoln-Lancaster

- COVID dashboard and related activities
- Continuing the GIS colocation for City and County- consolidating projects and data sets
- Building and internal crash data application with Department of Transportation

Nebraska State Patrol

- Sharing of COVID dashboard for troopers
- Continue to develop internal applications

NACO

- COVID and the Saline and Jefferson County Emergency management Agency has been busy
- NACO perspective- working on plan to assist in opening up county offices

Public Power Districts

- Upgrading systems
- Spring Inspections- new mobile inspection tablets being implemented

GIS Related Links

COVID Dashboard:

<https://experience.arcgis.com/experience/ece0db09da4d4ca68252c3967aa1e9dd>

(Internet Explorer users should use this URL:

<https://nebraska.maps.arcgis.com/apps/opsdashboard/index.html#/26d5a0dac95449d7813c9323d7a41c36>)

Network Nebraska Fiber Connection Application:

<https://gis.ne.gov/portal/apps/webappviewer/index.html?id=b21631e9bdc947fc82f7a7ef45c79b86>

State LiDAR Collections:

<https://gis.ne.gov/portal/apps/webappviewer/index.html?id=932384a74f5e4778b0df4d15168923ed>

Attachment 3-d

June 24, 2020

To: NITC Commissioners
From: Anne Byers
Subject: Community Council Report and Broadband Updates

Membership. The Community Council recommends approval of the nomination of Nichole Reiner to represent the Nebraska Department of Economic Development. Ms. Reiner is the Chief Strategist for the Department of Economic Development and has been heading up broadband efforts. Her bio is included in the meeting materials. I will be asking you to approve her nomination.

Rural Broadband Remote Access Grant. On June 20, 2020, Governor Ricketts launched four Get Nebraska Growing grant programs funded by the CARES Act. Up to \$40 million will be available for grants to provide broadband to unserved communities and areas to enable residents to work from home, participate in online learning, and access health care via telehealth. Applications are due July 2. Projects must be completed by Dec. 30, 2020. Information on the program is available at <https://getnebraskagrowing.nebraska.gov>.

Nebraska Public Service Commission Broadband Update.

- The PSC approved an E-Rate Special Construction Matching Program for schools and libraries which do not have fiber.
- The PSC also approved a \$1 million broadband adoption program to reimburse telecommunications carriers for providing service to low-income families as a part of the response to the COVID-19 emergency.
- The docket to explore implementing a reverse auction of Nebraska universal service funds is moving forward. Draft rules are in place and a hearing was held in May.

Broadband Case Studies. Eight case studies showing strategies and models that communities can use to improve broadband availability are being developed. The case studies include Gothenburg, Seward County, Ravenna, Lincoln, Norfolk, Imperial, Paige Wireless, and Lancaster County. Additional case studies may be added later.

County Broadband Fact Sheets have been updated and are available at <http://nlc.nebraska.gov/stats/broadband/>

Action Items. The Community Council approved the following action items:

Work with the Nebraska Department of Economic Development and other stakeholders to explore the development of a collaborative broadband outreach effort.

Lead: NITC Community Council and Nebraska Department of Economic Development

Timeframe: 2020-2021

Funding: Leveraging existing resources

Targets/Deliverables

1. Schedule meetings with the directors of Economic Development Districts, University of Nebraska Community Vitality Educators, and League of Nebraska Municipalities, and NACO to share information on resources available, identify needs and to explore how to work together.

Develop a series of case studies illustrating successful strategies and models that communities can use to improve broadband.

Lead: NITC Community Council

Timeframe: 2020

Funding: Leveraging existing resources

Targets/Deliverables:

1. A booklet of at least 8 case studies
2. A marketing/social media plan to share information on the case studies

Nichole T. Reiner

Chief Strategy Officer, Nebraska Department of Economic Development



Born and raised in Vermillion, SD, Nichole joined the Navy in 1999 as an Intelligence Specialist. Following her commissioning as an Intelligence Officer she deployed on the USS THEODORE ROOSEVELT (CVN-71) as part of Carrier Air Wing EIGHT (CVW-8). In 2009, Nichole was the first intelligence officer to be selected, and successfully complete the Seahawk Weapons and Tactics Instructor Course in Fallon, NV and graduate from Joint Targeting School.

In 2010, she earned her Master's Degree in International Business and Leadership from the University of San Diego. Nichole was selected and reported to Chief of Naval Operations – Intelligence Plot in 2012 at the Pentagon.

In 2018, Nichole reported to US Strategic Command in Omaha, NE. Following her certification as a Senior Watch Officer in the Global Operations Center she was selected as Branch Chief for the Russia Strategic Analysis Branch and oversaw the daily production requirements for 30 joint military and civilian personnel.

In December 2019 Nichole retired from the Navy at 20 years of service and became a Ph.D. candidate at the University of Nebraska-Lincoln. Since February, Nichole has served as the Chief Strategy Officer for the Nebraska Department of Economic Development charged with creating a regional strategy to increase broadband throughout the state, increase internships, retention, recruitment and oversee the marketing team. Nichole is married to CDR John Reiner, an MH-60 helicopter pilot and they have three children, Jack (7), James (5), and Joseph (4) they reside in Papillion, NE.



Growing Communities: Connecting to Broadband & Partnering with Local Providers

July 2020

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Introduction

July 2020 -- Broadband is critical for Nebraskans. Yet, many rural Nebraskans do not have access to broadband services. There is unfortunately no easy, one-size fits all solution—but by working together at the local, state and federal levels, we can leverage resources and ensure that all Nebraskans have access to broadband services.

At the local level, broadband development usually starts with community leaders from local government, businesses, educational entities, public power districts, and health care providers coming together to address the broadband challenges facing the community or region. Broadband related-development doesn't require community leaders who know all of the answers. It does, however, require community leaders who have the passion and commitment to find the answers.



The Nebraska Information Technology Commission's Community Council has researched models used by Nebraska communities to suggest strategies that your county, region or community can use to improve broadband availability.

This booklet and additional resources are available at:

ruralbroadband.nebraska.gov and nitc.nebraska.gov

- Nebraska Information Technology Commission Community Council

Cover Photo: Computer Sale at Auction Barn. Photo credit Mary Ridder.



What is Broadband?

The FCC currently defines broadband as high-speed internet access at 25 Mbps down and 3 Mbps up or greater. As broadband speeds have increased over time, the FCC has periodically revised its definition.

How Much Broadband Do I Need?

Broadband of 25 Mbps down and 3 Mbps up is generally considered adequate for small families who use the internet for e-mail, web browsing, internet shopping, social media, and webstreaming from a limited number of devices.

As more Americans are working, learning and accessing health care from home, many families are finding that they need greater broadband speeds—especially greater upload speeds.

You can calculate your bandwidth needs by going to a bandwidth calculator such as Broadband Now's calculator at <https://broadbandnow.com/bandwidth-calculator>.

How Much Broadband Does My Community Need?

Businesses which are heavy broadband users may need 1 Gbps up and down or more. Some companies require teleworkers to have broadband of at least 300 Mbps down and 150 Mbps up.

How Can I Test My Broadband Speed?

You can test your broadband speed by going to a speedtest site such as www.speedtest.net. Factors such as the speed of your device or your modem or router can affect your speed test results.



Gothenburg

Nebraska

Model: Attracting a telecommunications provider

Champions and Key Supporters: Business and Economic Development Community

Funding: A no-interest loan from the Gothenburg Improvement Company helped fund construction.

Key Takeaways

- Community leaders learned about broadband and how to present a business case to invest in their community.
- Community leaders built community support by speaking to multiple community groups.
- A community survey helped document interest in subscribing.
- A no-interest loan helped finance construction.

From broadband conference panel presentations 2014 and 2017

Arial view of Downtown Gothenburg. Photo courtesy of Gothenburg Community Development Office

Gothenburg's Grassroots Effort Attracts Broadband Provider



Photo courtesy of Gothenburg Community Development Office

A grassroots effort to educate the community on the importance of broadband convinced Pinpoint Communications to offer broadband service, constructing an aerial fiber network in Gothenburg.

Educate the Business Community

"You have to educate the business community which is going to spill over into the residential side," said Nate Wyatt, investment officer & CFO at Flatwater Bank. "The amazing thing is that this started with maybe 20 business people in our community and this built to over 1,000 people in a town of 3,500."

The education effort included speaking at the fire hall, after church services and at meetings of community groups. The plant manager of a large manufacturer also gave presentations on broadband to

all three shifts.

Learn About Telecommunications

After initial efforts to approach telecommunications providers were unsuccessful, community leaders worked to learn more about the telecommunications industry. "As an economic development person, understanding the industry has helped us tremendously," said Wyatt. "We as communities need to speak the industry talk and learn how to open their eyes to the fact that there may be a profitable business model within your community."

Document Interest in Subscribing

Community leaders surveyed residents on their interest in subscribing to Pinpoint. Over 80% of residences responded with approximately 70% indicating an interest in subscribing to Pinpoint.

Broadband Development Starts With Community Leadership

Community leadership is a community's greatest asset. Successful broadband development efforts don't require community leaders who know all the answers. Rather, it requires community leaders who have the passion and commitment to find the answers.

The first step is to get organized and establish a core group dedicated to improving broadband. If possible, include representatives of business and industry, local government, local or regional economic development organizations, education, libraries, health care, financial institutions and community foundations, telecommunications providers, local public power districts or cooperatives, and nonprofits.

Provide Financing

A no-interest loan from the Gothenburg Improvement Company helped fund construction.

How Pinpoint Evaluates Communities

Pinpoint looks at a number of factors when evaluating whether to overbuild in a community.

"We look at some of the economic data, some of the demograph



Fall trees Gothenburg. Photo courtesy of Gothenburg Community Development Office

ics, what is the mix of people in that community as well as how vibrant is the community," said Tom Shoemaker, president, Pinpoint Communications.

"With Gothenburg their economic development efforts were high. They were identifying that fiber was important—a type of fifth utility concept—and they really wanted to have that happen. They were very united in their front of what they wanted. They knew exactly what they wanted to

come and get it and they had other potential funding opportunities that came along with that. Those are things that we look for in a community."

To kick off plans to bring fiber to Gothenburg, the community organized an opening celebration event with 28 community organizations present. "I believe we fed a thousand people the opening night so that was an eye-opener for us," said Shoemaker.

For more information, contact:

Nate Wyatt, Investment Officer & CFO
Flatwater Bank
nwyatt@flatwater.bank

Tom Shoemaker, President
Pinpoint Communications Inc.
tom.shoemaker@pnpt.com

Seward County Leverages LB 840 & Philanthropic Funds

Seward County has utilized LB 840 and philanthropic funds to leverage public-private partnerships to attract investments in broadband infrastructure.

Build Community Support

Building community support was 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 Jonathan Jank, President & CEO of the Seward County Chamber &

Development Partnership. “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.”

Provide Education on Importance of Broadband

“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.”

Involve Chamber, Economic Development Organizations

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

Seward County Nebraska

Model: Using LB 840 and philanthropic funds to attract investments in broadband infrastructure.

Champions and Key Supporters: Seward County Chamber and Development Partnership

Funding: LB 840 funds, philanthropic funds,

Key Takeaways

Start by articulating the need for better broadband and building community support.

Educate families and businesses on the importance of broadband and how it can benefit them.

Involve the local chamber of commerce in your broadband efforts.

Look at LB 840 funds as a possible source of funding.

Interview Date: February 2018

LB 840 funds support economic development

The Local Option Municipal Economic Development Act established by LB 840 in 1991 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.

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.”

Utilize LB 840 and Philanthropic Funds

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

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 LB 840 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. 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.”

Expand to Rural Areas

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 interested in fiber connectivity 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 and 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.”



Close up view of three color fiber. Photo credit Anne Byers.

For more information, contact:

Jonathan Jank, President & CEO
Seward County Chamber &
Development Partnership
Jonathan@CultivateSewardCounty.com

Ravenna Facilitates Permitting, Has Fixed Wireless at 150 Mbps Down

Fixed Wireless Can Offer Better Speeds

Prairie Hills Wireless is providing high-speed wireless internet access in central Nebraska with a service area including Amherst, Boelus, Cairo, Hazard, Kearney, Litchfield, Loup City, Miller, Pleasanton, Ravenna, Rockville, Riverdale, Dannebrog, and Farwell. Prairie Hills Wireless is owned and operated by Kent and Sara Urwiller. Kent Urwiller, who is a native of Ravenna, has been in the industry over 10 years.

Prairie Hills Wireless offers residential broadband of up to 150 Mbps down with up to 500 Mbps available. Plans include 10 Mbps upload, but upload speeds can be increased through traffic shaping if needed.

“We are using MicroPoPs in Ravenna,” said Urwiller. This is a new concept. We are one of the first to do this. We deployed a bunch of small cells scattered at 18 sites in Ravenna. They are low to the ground covering 10 to 20 customers per site with 1 gig or more to each site. We do a lot of beta testing.”

MicroPoPs can be a cost-effective method of high-speed

broadband deployment in suburban areas and small towns, especially in areas with 400 or more households per square kilometer and which do not have broadband service being provided over fiber.

Facilitate Permitting and Easements



Wireless equipment on the Ravenna water tower.

The City of Ravenna worked with Urwiller on special use permits and allowed Prairie Hills Wireless to use the municipal water tower.

Offer Tower Space in Return for Free Internet Service

When asked about advice on attracting a competitive provider, Urwiller suggested contacting nearby wireless providers and offering tower space in return for free internet service.

Ravenna

Nebraska

Model: Work with telecommunications providers by facilitating permitting and by making tower space available

Funding: No funding from the city was provided

Key Takeaways

Fixed wireless technologies can provide broadband of 150 Mbps down or greater.

Facilitate permitting and easements and make tower space available.

Contact nearby wireless providers and offer tower space in return for free internet service.

Interview Date: February 2018

For more information, contact:

Kent Urwiller, Owner
Prairie Hills Wireless
308-240-0396

Streamline Permitting, Rights of Way Access and Inspections

Navigating bureaucratic application systems and long, unpredictable waiting periods increase costs for telecommunications providers. Municipalities and counties can facilitate broadband deployment by streamlining and publicizing procedures and timeframes for permitting, rights of way access and inspections.

Lincoln Leases Conduit, Forms Public-private Partnerships

Need for Better Business Broadband Drove Efforts

The lack of affordable access to business class broadband as well as the lack of competitive access to regional and international broadband providers led the City of Lincoln to partner with the Lincoln Partnership for Economic Development (LPED), Downtown Lincoln Association (DLA), Lincoln Chamber of Commerce and Unite Private Network to invest \$700,000 in a downtown broadband conduit system. With the success of the initial project, the City of Lincoln has since partnered with 11 companies connect the entire city with competitive access to world class fiber-based broadband.

Strong Community Support was Key

Support from the mayor, the city council, and the business community was critical to the project's success.

Investing in a Conduit System Led to Partnerships

The City of Lincoln's investment in a conduit system resulted in an additional \$1.4 million a year in new revenue, over 400 new jobs with \$20 million in new annual salaries, over \$200 million in private investment, and over 1,000 miles of public and private fiber installed. The number of carriers has grown from two to eleven.

NebraskaLink signed the first contract to utilize the city's conduit system in February of 2013. The City also partnered with local engineering firms and contractors to connect every downtown building to the conduit system, which was completed in 2018. In 2015 Allo Communications agreed to lease space in the city-owned conduit network to provide residential service at a minimum speed of 100 Mbps to every resident by 2019. According to the conduit lease agreement, Allo pays the city of Lincoln an infrastructure

Lincoln

Nebraska

Model: Investing in fiber conduit system and leasing space to telecommunications providers

Champions & Key Supporters: City of Lincoln (including the mayor and city council) and the business community

Funding: \$700,000 initial investment in fiber conduit system downtown

Key Takeaways

Need for better business broadband drove efforts to improve broadband availability.

Support from the mayor, city council, and business community was critical to the project's success.

Investing in a conduit system led to public-private partnerships with multiple providers, improving broadband availability for businesses and residents.

Interview Date: December 2017

Putting in Conduit Can Reduce Costs, Attract Providers

Fiber is often placed in a reinforced tube called conduit. Conduit (with or without fiber) can be placed underground during road or utility construction. Conduit can then be made available to broadband providers via a lease agreement, reducing deployment costs and time. Some entities will also place fiber in the conduit. Fiber which is not lit or attached to any equipment is called dark fiber. In Nebraska, public entities can also lease dark fiber, although there are currently some restrictions regarding leasing dark fiber by public entities.

Information on available conduit or dark fiber should be documented and made available to prospective providers. Additionally, compiling and sharing information about existing utilities, locality infrastructure, rights-of-way, available easements, and locations that are potential co-location sites can also be helpful to providers.

support fee of \$3 per customer per month. The City has invested \$500,000 per year over four years to fund maintenance and upkeep on the city-owned conduit system.

Three contracts govern the construction of the system: a broadband franchise (the first of its kind in Nebraska), a cable franchise and a conduit lease agreement. The contracts are available from the City of Lincoln's website at Lincoln.ne.gov (keyword: fiber).

For more information, contact:

David Young, Chief Information Officer
City of Lincoln and Lancaster County NE
dyoung@lincoln.ne.gov
402.441.7823

Dave Miller, Director of Ethical Engagement
Allo Communications
DMiller2@allophone.net
(402)-641-7691. Link: [Allo's City Checklist](#)



Tower Square in Downtown Lincoln. Photo Credit Anne Byers.

Broadband Technologies

Digital Subscriber Line (DSL) provides internet access by transmitting digital data over a local telephone network with bandwidth capabilities ranging from 1.5 Mbps up to 50-100 Mbps. Speeds are distance dependent and are often provided as asymmetric bandwidth.

Fiber technology converts electrical signals to optical laser signals carrying data with bandwidth capabilities of up to 10 Gbps or more.

Cable modem technology delivers broadband using the same coaxial cable used to deliver cable TV service. This is a shared bandwidth service with broadband capabilities up to 10 Gbps down/1 Gbps up using DOCSIS 3.1.

Fixed wireless technologies using mid-band spectrums could potentially provide service of 100 Mbps or greater in rural areas.

TV white space may be suited for lower bandwidth agricultural internet of things applications. With Microsoft's support, the cost of customer service equipment has been coming down. Future reductions in the prices of customer service equipment to about \$100 would likely make this technology economically feasible.

Low Earth orbit satellites could potentially provide 100 Mbps or greater service with low latency by mid-2020.

Local Investors Form Fiber Company to Improve Broadband Service in Imperial

After working on a committee to improve broadband service in Imperial, a group of local business people—Ben Brophy, Bill Brophy, Russ Pankonin and John Paisley—pooled their resources and know how to form a new fiber network company, Gigabit LLC.

Gigabit Contracts with Provider to Manage Network

Gigabit contracted with Allo to build and manage the aerial fiber network. Allo provides internet, TV and phone services over the network. Construction started in November 2019 and Allo began offering service in March 2020.



Imperial crowd. Photo courtesy of City of Imperial.

City Streamlines Permitting and Rights of Way

The City of Imperial also worked with Allo to streamline permitting and rights of way.

No Interest Loan Helps Finance Construction

A \$700,000 no interest loan from the city's LB480 fund helped finance the fiber-to-the-home network. "Gigabit approached the City with a proposal to provide fiber to the home and asked for an LB 840 loan, which was approved by our Citizens Advisory Committee and City Council to help the project," said Tyler Pribbeno, community development director for the City of Imperial.

Imperial

Nebraska

Model: Local investors form fiber company, contract with telecommunications provider to build and manage network

Champions & Key Supporters: Local investors and City of Imperial

Funding: \$700,000 no interest loan from LB 840 funds and private investment

Key Takeaways

Local investors formed a fiber company and then contracted with a telecommunications provider to build and manage the network.

No interest loan from the City of Imperial's LB 840 fund helped finance construction.

Gigabit contracted with Allo to construct and manage the network.

City of Imperial streamlined permitting and rights of way.

Interview Date: May 2020

For more information, contact:

Tyler Pribbeno, Community Development Director

City of Imperial
tylerp@imperial-ne.com

Dave Miller, Director of Ethical Engagement
Allo Communications

DMiller2@allophone.net or
(402)-641-7691.

Link: [Allo's City Checklist](#)

Improved Competition

“The competition has been great, other providers in the area have increased their offerings to the community,” said Pribbeno. “So competition is a blessing in that regard. It lifts up the quality of service or everybody.”



A crowd gathers in Imperial, Nebraska. Photo courtesy of City of Imperial.

Aerial vs. Buried Fiber

While many telecommunications carriers—especially incumbent local exchange carriers—prefer buried fiber—Allo tries to build as much aerial fiber as they can on existing poles. This keeps costs down and allows for a faster buildout.

“There are arguments on both sides,” said Dwight “Doc” Winger, director of external relations for Allo. “A lot of the traditional telephone folks say that with ice and wind they want the facilities buried. But I can tell you our experience has been that we have had a lot more problems with our buried facilities than we have with our aerial facilities as far as service disruptions go.”

Who owns the poles in your community?

In communities in Windstream’s territory, pole ownership is shared by Windstream and the municipality or public power district. This can lead to delays in getting pole attachments approved. If the delay becomes unreasonable, a municipality may file an eminent domain suit to get ownership of the poles.

Norfolk Attracts Telecommunications Provider, Plans Carrier Hotel and Data Center

Business and City Leaders Lead Effort

Business and city leaders in Norfolk wanted to expand options for fiber broadband service for businesses and residences.

Community leaders including Mike Flood, owner of News Channel Nebraska and former speaker of the Legislature, and Mayor Josh Moenning contacted Allo about providing service in Norfolk.

“When we look at a community we look at a lot of different demographics. We look at the density of the community, the cost to build, the access to resources,” said Dwight “Doc” Wininger, director of external relations for Allo. Those factors in addition to strong community leadership convinced Allo to come to Norfolk.

Building Relationships

Building a relationship with Allo was also a key to the project’s success.

“First you have to establish those relationships and open up that door for growth,” said Andy Colvin, city administrator and economic development director for the City of Norfolk. “And that is really all we did for Allo. And I am glad to see that they are under construction and I am really happy that we are going to have another broadband option for our businesses and citizens

to choose from.”

With the support of the mayor and the business community, the city worked with Allo to streamline the permitting and franchise process.

Construction of the aerial fiber network is expected to be completed by the end of 2020.

Carrier Hotel, Data Center Planned to Improve Capacity & Redundancy

To address the need for high capacity, high redundancy business class broadband to attract tech companies, Norfolk is also planning to build a carrier hotel and regional data center. With broadband providers using only two paths in and out of Norfolk for backhaul, the region needed additional carriers and fiber paths to improve redundancy.

“We didn’t have high speed, lots of capacity bandwidth and high redundancy bandwidth,” said Dan Spray, president of PrecisionIT in Norfolk. “The best way to do that is to get all of the carriers to come together into town and the best way to do that is to look at putting in a carrier hotel so that it entices those carriers to come into town.”

The carrier hotel and data center project is part of the Growing Together Northeast Nebraska’s multi-faceted development project designed to

attract and retain young people to Norfolk and Northeast Nebraska. The initiative is led by the Aksarben Foundation.

Norfolk

Nebraska

Model: Local leaders attract telecommunications provider and plan carrier hotel and data center to improve broadband capacity and redundancy

Champions & Key Supporters: Business community, city leaders and Growing Together Northeast Nebraska

Funding: No public funds were used to support Allo’s broadband buildout.

A variety of funding sources will likely be used to finance the carrier hotel and data center.

Key Takeaways

Strong community leadership and support along with good demographics, density and cost to build made Norfolk attractive.

Norfolk is planning a carrier hotel and regional data center to improve broadband redundancy and capacity to attract tech businesses.

Interview Date: May 2020

Through the Growing Together initiative, the community has an option on the land and is working on getting commitments from carriers before beginning construction.

The initial response from carriers has been positive. “We’ve had really, really good responses from the carriers,” said Spray. “They seem to be very interested in that concept.”

The community also plans to couple the carrier hotel with a regional data center to make the carrier hotel more attractive to carriers. Local businesses will be able to house their servers in the data center and replicate to other regional data centers or a large data center instead of housing their servers in Chicago or Omaha, explained Spray.



The Growing Together Norfolk IT Effort Summit held on March 5, 2020 attracted a large crowd. Photo Courtesy of Growing Together Northeast Nebraska

For more information, contact:

Andy Colvin, City Administrator and
Economic Development Director
City of Norfolk
acolvin@norfolkne.gov

Dan Spray, President
PrecisionIT
dan@myprecisionit.com

Carrier Hotel and More Broadband Terms

Most community broadband projects focus on last mile connections—connections to the customer. Norfolk is also focusing on improving middle mile connectivity and redundancy. The following definitions may be helpful:

Middle Mile – Network connection between the last mile (the local network connecting the customer) and the greater internet.

Last Mile – The local network connecting the customer.

Backhaul – A high-capacity network segment between a remote site or network to a central or core site where it connects to the Internet.

Carrier Hotel or Colocation Center – A building where telecommunications providers can rent cabinet, equipment, space, internet and bandwidth.

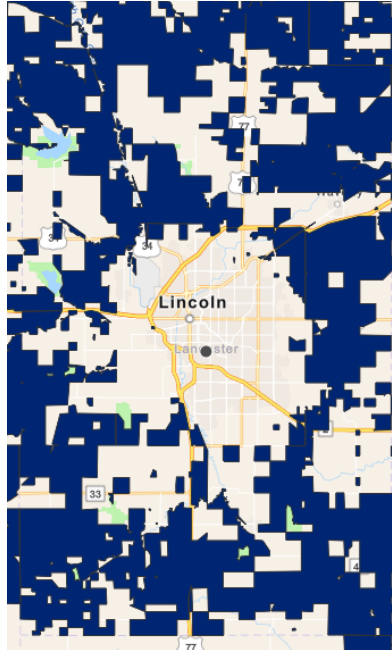
Data Center – A large group of networked computer servers for the remote storage, processing, or distribution of large amounts of data.

Lancaster County explores leveraging FCC's Rural Digital Opportunity Fund

Leaders in Lancaster County are exploring how to leverage up to \$2.5 million in funding from the FCC's Rural Digital Opportunity Fund (RDOF) reverse auction to bring broadband to over 4,000 residences and businesses in rural parts of the county.

Telecommunications companies may submit RDOF bids to provide broadband via fiber, fixed wireless or satellite. Forming a public-private partnership to leverage the Rural Digital Opportunity Fund may increase the likelihood that the award will support a fiber buildout by minimizing costs for providers or reducing uncertainty.

"So what you are trying to do in some ways is make fiber competitive with wireless," explained Loel Brooks, a telecommunications lawyer and consultant.



Initial RDOF-eligible areas for Lancaster County, Nebraska

Reverse Auction Will Award Broadband Support

Up to \$59 million in funding will be available to telecommunications carriers to provide broadband to 53,623 locations in Nebraska through the FCC's Rural Digital Opportunity Fund reverse auction. The Rural Digital Opportunity Fund will award support over 10 years to provide broadband of at least 25 Mbps down/3 Mbps up to areas identified as unserved.

In a multi-round process, bids will be placed as a percentage of the reserve price for the area. The FCC will assign support to the bidder offering the best combination of speed and latency, once the combined price of bids in each area in the auction falls below the available budget.

The reverse auction is scheduled to begin Oct. 29, 2020.

Lancaster County

Nebraska

Model: Leveraging Rural Digital Opportunity Fund to fund fiber buildout through public-private partnerships

Champions & Key Supporters: Lancaster County Commissioners, CIO David Young

Funding: Up to \$2.5 million in RDOF funding. Additional funding from municipalities, counties, private sources and philanthropies may be required.

Key Takeaways

The Rural Digital Opportunity Fund provides an opportunity for local entities in Nebraska to leverage federal funding to support broadband buildout in rural areas.

Leveraging RDOF will require multiple elements: having locations eligible for funding, local leadership, and a provider interested in providing broadband to the area.

Additional funding may be required to make bids to build a fiber-to-the-premise network competitive with those to build a fixed wireless network.

Community leadership can mobilize partnerships and secure funding.

Additional Resources are available at <https://ruralbroadband.nebraska.gov/resources>

Interview Date: April 2020

Key Elements

Leveraging RDOF will require multiple elements: having locations eligible for funding, local leadership, and a provider interested in providing broadband to the area. Additional funding from municipalities, counties, private sources and philanthropies will likely increase the competitiveness of bids.

Locations Eligible for RDOF Funding

Seventy-eight Nebraska counties have locations initially identified by the FCC as eligible for RDOF funding. The initial reserve prices range from \$2,653,788 for Gage County (2,233 locations averaging \$1,188 per location) to \$2,670 for Arthur County (1 location).

Leadership

Community leadership can mobilize partnerships and secure funding. Successful economic development projects require local leadership. “People that can gather people together to solve problems, to undertake projects, to bring bankers and main street and neighborhoods and schools and institutions and banks and everybody together to make decisions—that is really the heart of what our effort is,” said Brooks.

Telecommunications Providers

A number of Nebraska providers have expressed interest in partnering with communities.

Additional Funding

Funding sources in addition to the Rural Digital Opportunity Fund may be required to make bids to build a fiber-to-the-premise network competitive with those to build a fixed wireless network. Funding may include public funding sources such as LB 840, private funding, or philanthropic funds.



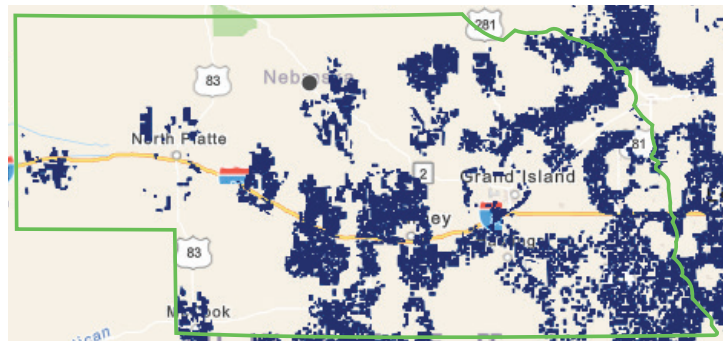
Photo Credit Anne Byers

Models for Leveraging RDOF

Lancaster County is exploring several options to leverage RDOF funding to improve broadband availability in rural areas of the county according to David Young, CIO for the City of Lincoln and Lancaster County as well as a telecommunications consultant.

Model 1. A community could act as an anchor tenant to help start off the network. In return, the carrier would agree to provide service to households in the surrounding rural areas that are eligible for funding over the term of the RDOF agreement.

“The carrier instead of going into RDOF by themselves making a reverse auction pitch of say \$100 a home to provide fiber—if they have the city’s partnership commitment to serve as an anchor tenancy—then they can probably drop that price to \$80 or \$75 a month because they have taken out uncertainty,” said Young. “They know they have an anchor tenant, and it is a large circuit.”



Initial RDOF eligible locations in Nebraska

Model 2. In less densely populated rural areas, supplemental funding may also be necessary in addition to RDOF funding in order to make a viable business case for a fiber-to-the-premise buildout.

“So other financing techniques with upfront money—low interest loans or grants—are all going to be probably at play whether it’s private money or public money or philanthropy or whatever it is,” said Brooks. “There are a whole host of combinations that are going to have come together to leverage the RDOF money.”

For more information, contact:

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dyoung@lincoln.ne.gov
402.441.7823.

Loel P. Brooks
Brooks, Pansing Brooks, PC, LLO
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402.476.3300

Both Young and Brooks are also consultants with Universal Broadband Consulting.

What Counties and Communities Can Do:

1. Learn more about the Rural Digital Opportunity Fund and funding models for broadband.

Links to information on the Rural Digital Opportunity Fund are available at: <https://ruralbroadband.nebraska.gov/resources/index.html>.

2. Get organized.

- Identify champions.
- Form a committee.

3. Take action.

- Talk to telecommunications providers to learn if they plan to submit a bid or how the auction may impact them.
- Explore forming a public-private partnership to leverage RDOF funding.
- Leverage local assets, including:
 - **Community leadership.** The ability of local leaders to convene and engage stakeholders and partners is an area’s greatest asset.
 - **Demand for telecommunications services.** Local entities can act as an anchor tenant for expanded broadband services and can work with businesses and other users to quantify and aggregate demand for broadband services.
 - **Infrastructure assets** include conduit, dark fiber, poles, water towers, and GIS information.
 - **Control over rights-of-way, permitting and inspections.** Local entities should review their processes and take steps to clearly communicate these processes and to streamline them if needed.
 - **Access to financing.** Public funding sources including LB 840, private funding, and/or philanthropic funds may be used.

Partnership Brings E-Connectivity to Southwest Nebraska



Nebraska truck and silos. Photo credit Mary Ridder.

A public-private partnership between public power districts, telecommunications providers, wireless internet service providers, and Paige Wireless may make southwest Nebraska and eventually the rest of the state a leader in the use of sensors and other connected devices for agriculture and the power industry. The partnership also aims to improve broadband availability in the area.

Identify Mutual Benefits to Public and Private Partners

The partnership started with a discussion between NPPD and Paige Wireless on the benefits of Paige Wireless's low bandwidth wireless network using the LoRaWAN® protocol. According to Julie Bushell, president of Paige Wireless, LoRaWAN is beneficial in rural areas where cellular connectivity is scarce and where lowcost remote telemetry is needed.

"The benefits of LoRaWAN are very, very low subscription rates and an incredibly long battery life on sensors," said Bushell. "The sensors we deploy average between a 5- and 10-year battery life depending on the application. Typically, for a cellular data plan that is about \$30 a month. LoRaWAN is about \$2 a month. The goal of LoRaWAN is to realize the true potential of everything connected, so the sensors are very cost effective as well."

NPPD realized the benefits of LoRaWAN for both agriculture and for the power industry.

"The LoRaWAN low-speed sensor network is potentially a huge value for a utility," said Dave Webb, the director of technology integration at NPPD.

The Electric Power Research Institute (EPRI) has a whole set of advanced sensors for utility transmission operation and substations. The institute is converting all of its sensors to LoRaWAN. Nebraska will be a primary test site for the use of these sensors, explained Webb.

Some of the agricultural data collected on the network such as soil moisture probe and weather data data is also helpful for load management for utilities.

Southwest

Nebraska

Model: Aggregating demand and streamlining permitting and processes for colocation of facilities

Champions & Key Supporters: NPPD, Paige Wireless, rural public power districts, wireless internet service providers and telecommunications providers

Funding: No additional public funding required

Key Takeaways

Identify mutual benefits to public and private partners

Facilitate discussions with customers and providers

Facilitate identification of assets, colocation of facilities

Aggregate broadband requirements and engage in strategic sourcing

Interview Date: May 2020

LoRaWAN stands for Long Range Wide Area Network and is a low power networking protocol designed to connect battery-operated sensors and other devices to the internet. It is being used for a number of applications including monitoring soil moisture and ground water levels and collecting weather station data. The number of applications is expected to grow as network availability grows. Paige Wireless anticipates covering all of Nebraska with its LoRaWAN network by the summer of 2020.

Facilitate Discussions with Customers and Providers

NPPD invited telecommunications providers and rural public power districts to meet with Paige Wireless to better understand the initiative and the benefits of LoRaWAN.

“And then the relationship grew into essentially helping us deploy our network, and I would say that most of that help has been through facilitation,” said Bushell.

Streamline Identification of Assets, Colocation of Facilities

NPPD helped Paige Wireless identify the locations of their towers and power poles that could be potentially leveraged.

“We have communications towers and structures that we let any communications company attach to through a standard process, but we are hoping we can streamline that process and make sure that they have knowledge of where our towers are,” said Webb.

Aggregate Broadband Requirements and Facilitate Partner RDOF Efforts

The need for better broadband for backhaul and high bandwidth agricultural applications also emerged from the discussions among Paige Wireless, public power districts and telecommunications providers.

A pilot in southwest Nebraska was initiated in late 2019 to identify and aggregate the need for backhaul services for Paige Wireless and wireless internet service providers as well as the backhaul and overall e-Connectivity needs of McCook, Southwest, Twin Valleys, and Dawson Public Power Districts. However, as more information became available about the Rural Digital Opportunity Fund (RDOF), it made sense to consider a larger, potentially statewide effort. To that end Pat Pope, NPPD’s former CEO, invited Public Power Districts from all over the state to participate in a network design and RDOF enabling effort with the National Rural Tele-

communications Cooperative. The NRTC, made up of rural electric and telecom COOPs nationwide, specializes in designing a network and plan that optimizes the use of electric infrastructure to satisfy both the e-Connectivity needs of the utility and in our case, enable better business cases and RDOF bids for any private telecom partners who are involved. Pope stated, “We hope this effort can be coordinated with other statewide efforts. When the FCC looks at Nebraska’s effort we want them to say ‘WOW! This is how to get it done!’ If we work together, Nebraska could be the blueprint for the nation for rural e-connectivity deployment.”

For more information, contact:

Julie Bushell, President
Paige Wireless
jbushell@paigewireless.com

Dave Webb, Director
Technology Integration NPPD
dwwebb@nppd.com

Pilot Will Demonstrate Precision Ag Technologies

The pilot in southwest Nebraska will also serve as a demonstration project for precision ag technologies.

“We want to bring in some very interesting technologies that will require real-time data transfer, and also autonomous vehicle pilots on tractors and planters in the pilot area, so that we can really show what this awesome connectivity can do for the rural communities and the precision ag that surrounds them,” said Bushell.



Ranch view. Photo credit Mary Ridder.

Attachment 3-e

June 24, 2020

To: NITC Commissioners
From: Anne Byers
Subject: eHealth Council Report

NeHII Update. When the COVID-19 pandemic began impacting the U.S., NEHII was well positioned to implement COVID-19 data monitoring efforts in cooperation with the state Department of Health and Human Services. NEHII's COVID-19 Response Team launched real-time data dashboards that provide health care providers up-to-date information including:

- Test results for Nebraskans
- The availability of beds in the state
- And medical supply resources to help fight the spread of the disease.

NEHII immediately began the process to rapidly include health care facilities, health care providers and labs that were not currently data sharing through NEHII to send admission, discharge, laboratory and other pertinent data related to COVID-19.

Having access to timely test results, medication history, and other clinical information at the point of care through NeHII will benefit all Nebraskans both during the current COVID-19 pandemic and afterwards.

FCC's COVID-19 Telehealth Program. As of June 24, 2020, two Nebraska health care providers were awarded funding from the FCC's COVID-19 Telehealth Program which was authorized by the CARES Act.

Community Alliance Rehabilitation, in Omaha, Nebraska, was awarded \$637,128 for laptop computers, video monitors, tablets, and network upgrades to provide fully integrated primary health care and mental health care to patients at home and in the community to divert them from hospitals unless medically necessary.

Faith Regional Health Services, in Norfolk, Nebraska, was awarded \$241,200 for remote monitoring equipment to expand the existing telehealth network and focus remote care on COVID-19 patients and others who lack the necessary data for assessment in their home, to avoid unnecessary in-person hospital visits, and to treat patients with chronic conditions, easing the strain on hospital capacity and mitigating the spread of COVID-19 without sacrificing quality care

The eHealth Council recommended keeping their existing action item.

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:

2020-2021

Funding: Leveraging existing resources

Targets/Deliverables:

1. The eHealth Council discuss this issue and make initial recommendations as to next steps at its next meeting.

Attachment 3-f

State Government Council Report

Links to Publications

“Urgency to Fail: Why We Stayed the Course,” CIO Blog, June 5, 2020:

<https://cio.nebraska.gov/blog/2020/06/fail.html>

“Nebraska's IT consolidation paid off during pandemic's remote workforce rush,” StateScoop, June 25, 2020:

<https://statescoop.com/nebraskas-it-consolidation-paid-off-during-pandemics-remote-workforce-rush/>

“Part 1: Nebraska’s centralized approach to cybersecurity, compliance in age of coronavirus,” Federal News Network, March 26, 2020:

<https://federalnewsnetwork.com/ask-the-cio-sled/2020/03/nebraskas-centralized-approach-to-cybersecurity-compliance-in-age-of-coronavirus/>

“Part 2: Nebraska’s centralized approach to cybersecurity, compliance in age of coronavirus,” Federal News Network, April 6, 2020:

<https://federalnewsnetwork.com/ask-the-cio-sled/2020/04/nebraskas-centralized-approach-to-cybersecurity-compliance-in-age-of-coronavirus-part-2/>

Attachment 4



Transforming Government, Education, Healthcare & Communities

Nebraska's Statewide Technology
Plan Approved July 9, 2020



2020
Nebraska Information Technology Commission

www.nitc.nebraska.gov

501 S. 14th Street
P.O. Box 95045
Lincoln, NE 68509-5045
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Foreword

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

Two strategic initiatives—State Government IT Strategy 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 & Staff

Commissioners

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

Senator Bruce Bostelman, Nebraska Legislature, Ex-officio member

LaShonna Dorsey, Senior IT Consultant, Mutual of Omaha

Shane Greckel, Owner/Operator, Greckel Farms LLC

Dr. Terry Haack, Superintendent, Bennington Public Schools

Dorest Harvey, US Strategic Command / J84

Thomas Nutt, County Commissioner, Phelps County

Daniel Spray, President, Precision Technology

Gary Warren, President of Services Corporations, Hamilton Telecommunications

Walter Weir, Senior Advisor to the President, University of Nebraska

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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 six 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
- 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.



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

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.

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 coordinate statewide 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 six 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 two strategic initiatives—State Government IT Strategy 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.

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 6,000 HIE users and 7,000 Prescription Drug Monitoring Program users. NeHII includes data on millions of individuals.

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.

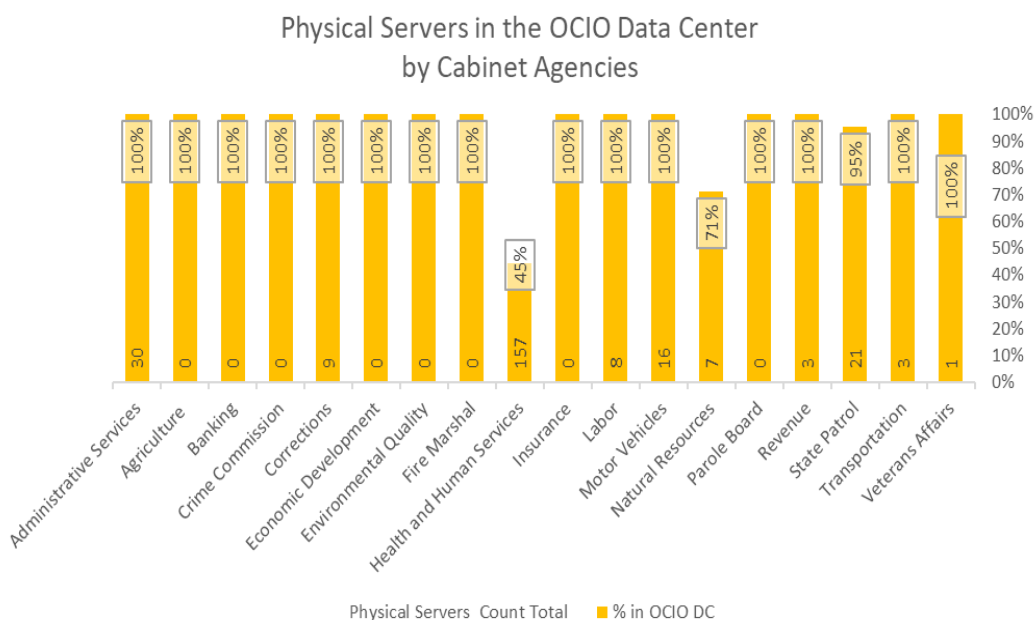
Collaborators:

- OCIO, State Government Council, Technical Panel, and State Agencies

Recent Accomplishments:

- A single Help Desk solution has been implemented for multiple agencies.
- Enhanced server virtualization and optimization.
- Established a Risk Mitigation and Compliance team within the Office of the CIO.

Metrics



Action Items

1. Action: Same Sign-on

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: April 2021

Funding: None

Targets/Deliverables:

- 1.1 Implement same sign-on for certain enterprise applications.

2. Action: IT Cost Efficiencies

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: June 2021

Funding: None

Targets/Deliverables:

- 2.1 Implement a configuration management database (CMDB) and full asset management processes.

3. Action: Operationalize IT and Project Governance

Lead: OCIO

Participating Entities: OCIO; DHHS

Timeframe: December 2020

Funding: None

Targets/Deliverables:

3.1 Enhance enterprise project governance at DHHS.

4. Action: Consolidate on STN Domain

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: June 2021

Funding: None

Targets/Deliverables:

4.1 Implement phased migration.

5. Action: Data Center Consolidation

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: December 2020

Funding: None

Targets/Deliverables:

5.1 Implement phased migration.

6. Action: Network Migration (New World)

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: June 2021

Funding: None

Targets/Deliverables:

6.1 Implement phased migration.

7. Action: Application Process Maturation (DevOps)

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: June 2021

Funding: None

Targets/Deliverables:

- 7.1** Identify a single software configuration management tool.
- 7.2** Create a DevOps team.
- 7.3** Consolidate DBA team.
- 7.4** Identify .NET and Java programmers.
- 7.5** Develop process and procedures.

8. Action: Staff Onboarding, Offboarding, and Transitioning

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: September 2020

Funding: None

Targets/Deliverables:

- 8.1** Implement phased migration.
- 8.2** Create a job scheduling team.

9. Action: Application Portfolio Management

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: June 2021

Funding: None

Targets/Deliverables:

- 9.1** Complete application inventories by agency.
- 9.2** Complete critical application assessment.
- 9.3** Complete application health check.
- 9.4** Complete application remediation.

10. Action: Enterprise Content Management

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: June 2021

Funding: None

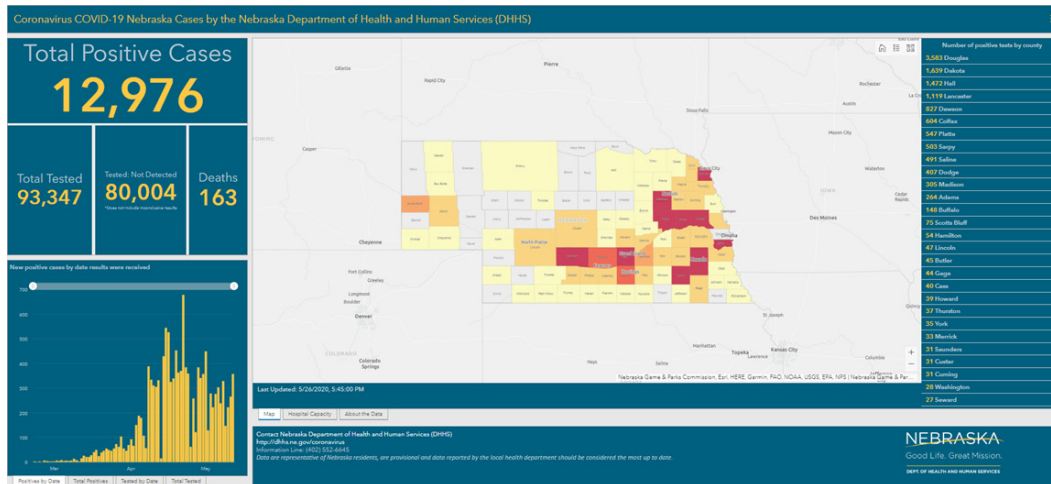
Targets/Deliverables:

- 10.1** Complete infrastructure review and modernization.
- 10.2** Complete application review and modernization.

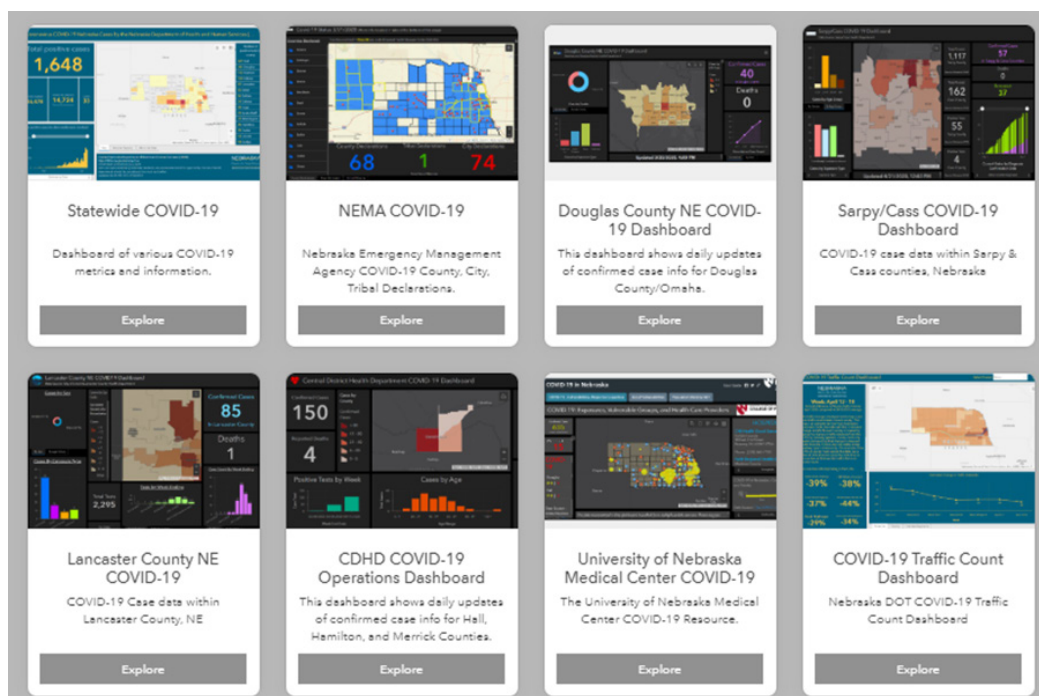
GIS and the COVID 2019 Pandemic

The state Geographic Information Office (GIO) team located in the Office of the Chief Information Officer (OCIO), along with other OCIO staff assisted and collaborated with staff from the Department of Health and Human Services.

This dashboard has over 3 million views. The purpose of the site is to inform the public regarding the COVID 19 pandemic. There has been multiple upgrades to the dashboard to show additional data to help keep the public informed about the pandemic.



The GIO team also created a site within NebraskaMap to show all the different dashboards that were created by county and local health districts, along with dashboards from University of Nebraska Medical Center (UNMC) and John Hopkins University.



Nebraska Spatial Data Infrastructure (NESDI)

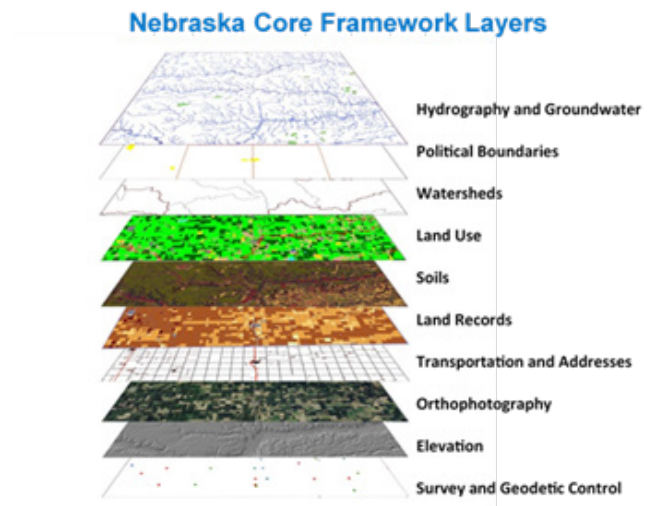
Overview

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 and being reviewed as needed
- Existing State GIS Coordinator and three GIS staff member in CIO GIS Shared Services Office.
- 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.
- Nebraska Enterprise Geographic Information Systems (NEGIS) Infrastructure. This is an enterprise platform for both hardware and data (vector and raster formats).
- NebraskaMap is the state geospatial clearinghouse

Challenges/Issues:

- Insufficient legislative or executive sponsor to support GIS Council efforts.
- Resources are inadequate to develop and maintain all framework layers.
- Funding to make NEGIS sustainable
- Getting agencies to utilize GIS or utilize it more effectively.
- Outreach and training needs of GIS and geospatial data use and applications are broad given the level of different users.
- 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.
- Datum change for 2022 and its implications and educating the effects of the datum change on GIS users

Recent Accomplishments:

- Standards updated for, imagery, street centerlines and addresses.
- Lidar collections (Quality Level (QL) 2 and QL3) for entire state. Parts of the state are being recollected to update QL3 areas to QL2
- Established NEGIS, an enterprise data and hardware infrastructure for state agencies. This allows for the data stewards to provide authoritative data to others.
- Added a Precision Agriculture Industry representative to the GIS Council

Recommendations:

- Continue this initiative. Current GIS Council goals are in line with strategic initiative and objectives.

Metrics

The metrics below are used to evaluate the State's status of the NESDI and overall GIS program.

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.

Criterion	Status
1. A full-time, paid coordinator position is designated and has the authority to implement the state's business and strategic plans:	Partially meets criterion. 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.
2. A clearly defined authority exists for statewide coordination of geospatial information technologies and data production:	Partially meets criterion. 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.
3. The statewide coordination office has a formal relationship with the state's Chief Information Officer (CIO):	Meets criterion. The State GIS Coordinator is positioned in the Office of the CIO.
4. A champion (executive and other legislative champions) is aware and involved in the process of geospatial coordination:	Meets criterion. 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
5. Responsibilities for developing the National Spatial Data Infrastructure and a State Clearinghouse are assigned:	Meets criterion. A complete Nebraska Spatial Data Infrastructure (NESDI) has been developed. The NebraskaMAP state clearinghouse exists, and has been upgraded to utilize current technologies.
6. The ability exists to work and coordinate with local governments, academia, and the private sector:	Partially meets criterion. 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.
7. Sustainable funding sources exist to meet project needs:	Partially meets criterion. There is funding for the State GIS Coordinator and various resources for projects through other agencies. However, long-term, sustainable funding and allocation of resources is still needed. Have developed cost rates to work toward a sustainability model
8. GIS Coordinator has the authority to enter into contracts and become capable of receiving and expending funds:	Meets criterion. The State GIS Coordinator in the Office of the CIO can enter into contracts.
9. The Federal Government works through the statewide coordinating authority:	Partially meets criterion. The Federal Government recognizes the Nebraska GIS Council and their efforts and has worked with the state (e.g. via NAIP, 3D Nation, LIDAR, FEMA, NebraskaMAP)

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.

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.

In 2022 there will be a new datum model to represent the shape of the earth. The GIS Council has been briefed by the Nebraska State Surveyor on the implications of the new 2022 datum.

Lead: State GIS Coordinator, GIS Council Representatives

Participating Entities: Nebraska Department of Natural Resources, Nebraska Department of Transportation, State Surveyors Office, various Licensed Land Surveyors, Federal Partners including NOAA – National Geodetic Survey and Army Corp of Engineers

Timeframe: 2020-22

Funding: No initial funding required for this action item other than personnel time to meet, develop and communicate plans.

Target/Deliverables:

1. Prepare and Educate agencies and partners about the 2022 datum changes and its implications

2. 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 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: Future funds are required for meeting objectives outlined in the business plan, such as cost sharing for state specific deliverables.

Target/Deliverables:

1. Implement a LiDAR Collection web map application
2. Share final version of the 3D Nation report with partners

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: Future funds are required for meeting objectives outlined in the business plan and to look at alternatives because of the uncertainties beyond 2020 with the current NAIP program

Target/Deliverables:

1. Determine status of NAIP program beyond 2020.
2. Identify partners and possible funding, should the NAIP program significantly change after 2020.

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 Transportation, Public Service Commission, and the E 9-1-1 community

Timeframe: Ongoing

Funding: To be determined

Target/Deliverables:

1. Collect and develop a statewide Nebraska Street Centerline Database (NSCD) and a Nebraska Address Database (NAD) datasets.
2. Implement a Nebraska Street Centerline Database (NSCD) and a Nebraska Address Database (NAD) datasets into NebraskaMap in support of NG-911

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. Review 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. Work with department of Revenue to develop yearly Statewide Parcel Geodatabase Development and Maintenance 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: 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:

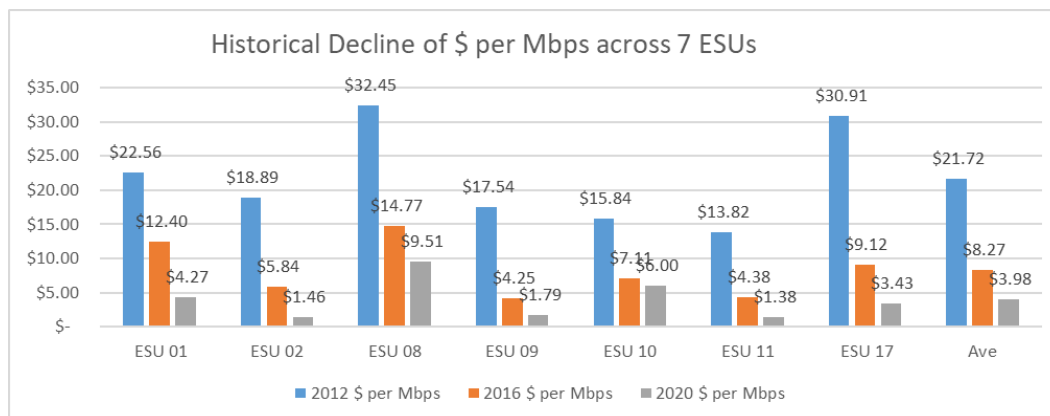
1. Continue to build current NebraskaMAP into a more robust statewide data clearinghouse enterprise platform.

Network Nebraska Aims to Increase Bandwidth and Lower Costs

Network Nebraska began as a statewide network in 2007 with 88 educational entities and has grown to 293 participants in 2020. Over the course of its history, the State Purchasing Bureau has conducted over 20 RFPs for internet and fiber Ethernet circuits, with the objective to “aggregate demand and reduce costs whenever feasible” (N.R.S. 86-5,100). By synchronizing the service term and expirations of state contracts, it means that a “mega-RFP” occurs every four years. This year, 2020, was one of those years, with over 250 fiber circuits out for bid.

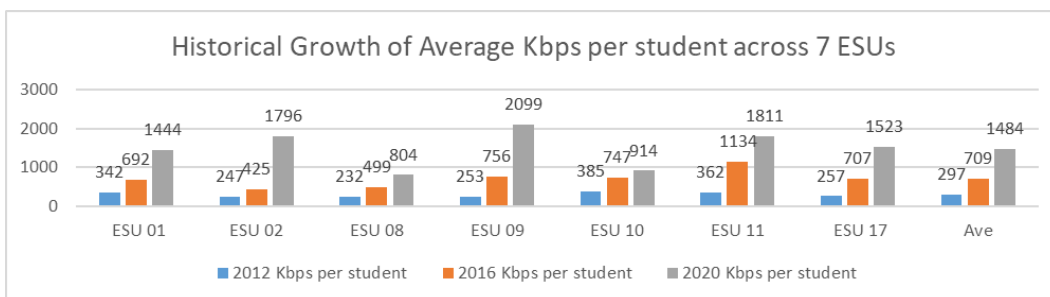
Fourteen middle-mile companies responded to State RFP 6206, and 10 of the 14 companies were awarded service contracts. The historic trend lines of Dollars per Megabit (\$ per Mbps) are presented below with a sampling of historical cost data from school districts within Educational Service Units 01 (Wakefield), 02 (Fremont), 08 (Neligh), 09 (Hastings), 10 (Kearney), 11 (Holdrege), and 17 (Ainsworth).

In general, when two or more companies compete for a circuit, the cost decreases dramatically. If more



than one company is required (last mile + middle mile carrier) to connect the school district to Network Nebraska, then the cost is generally higher. As the level of bandwidth increases, the cost per Mbps generally decreases.

As the number of computing devices increases, and as more and more content is digitized and moved to the cloud, the amount of bandwidth needed per student increases. Below is a chart of the historic trend lines related to Kbps per student across the same seven ESUs, showing a doubling or tripling every four years.



More detailed Network Nebraska circuit data from 2019-20 is available at this [NebraskaMap](#).

Network Nebraska

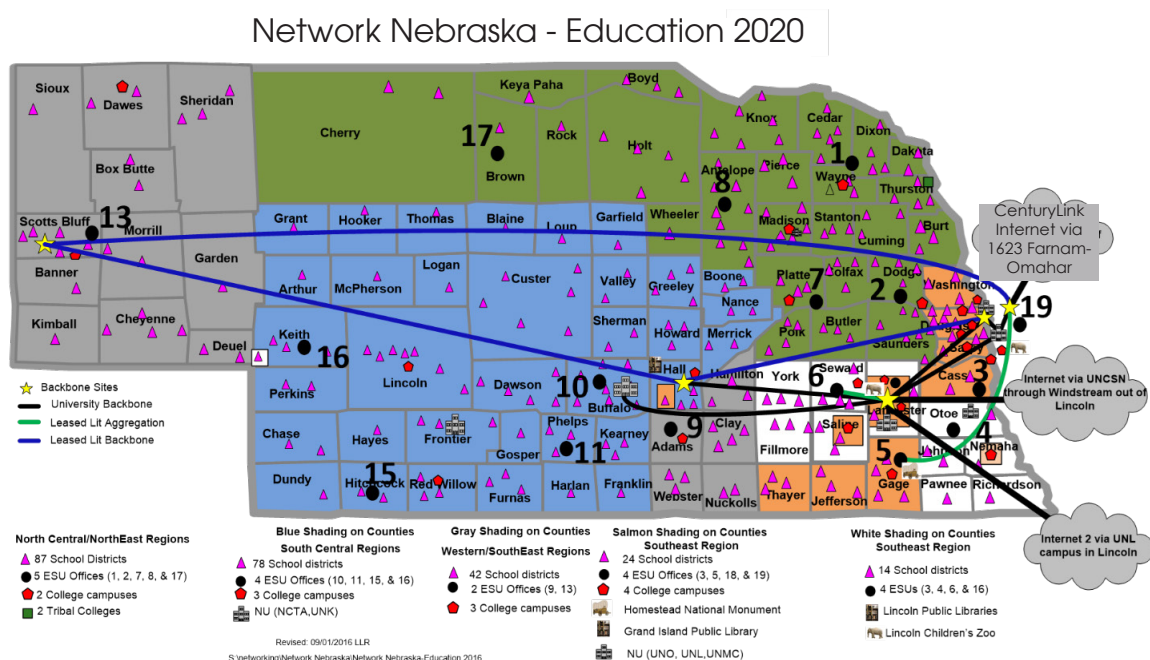
Overview

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:

- Almost 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 small rural public libraries and private K-12 schools are accustomed to paying for Internet service provision alone.

Recent Accomplishments:

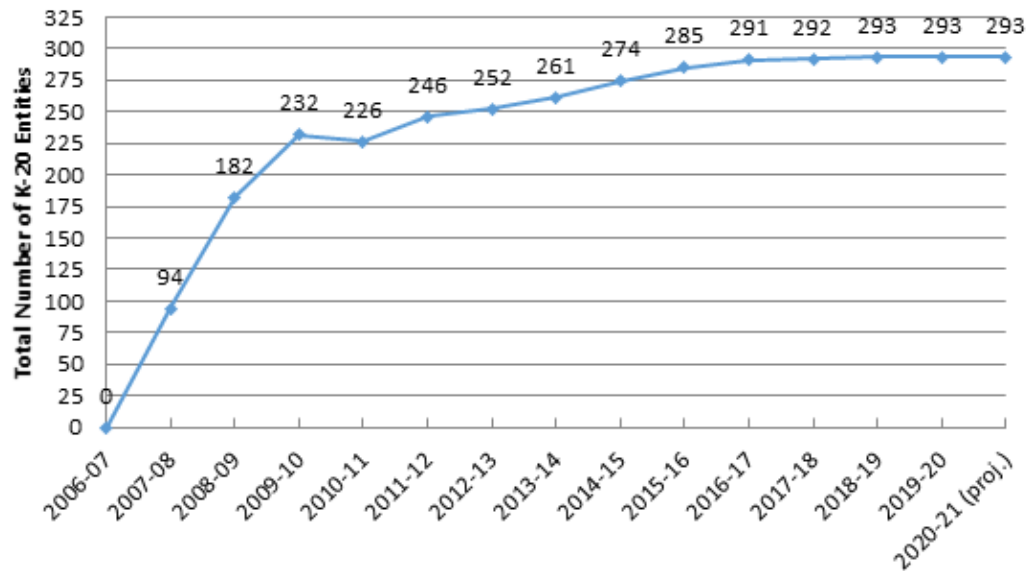
- Increased public school district participation to 100%
- Achieved 100% membership among public and tribal colleges and universities
- Provisioned thousands of Zoom videoconferencing licenses to education entities in the midst of the COVID-19 pandemic response
- Achieved one of the lowest commodity 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

Recommendations:

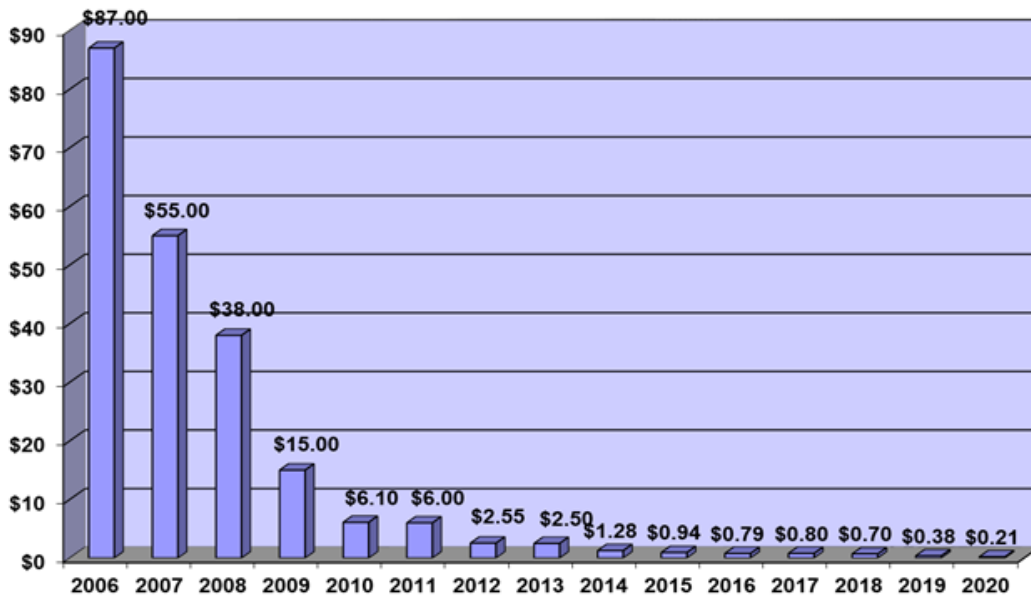
- Continue this initiative.
- Position Network Nebraska to provide services such as network monitoring and management, mitigation of Distributed Denial of Service (DDoS) attacks, statewide 24/7 helpdesk, aggregated invoicing, and coordinated E-rate filing

Metrics

Network Nebraska-Education Membership by Year



Network Nebraska Internet Access Cost (Average \$\$ per Mbps/month)



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: 2020-22

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

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

1.2 Evaluate the effectiveness of the current Network Nebraska fee structures and address changes related to the associated business models as related to core functions and additional services.

1.2.1 Measurable: A) NNAG will convene a retreat and present suggested modifications to the Education Council's Network Nebraska task group and to the Chief Information Officer

2. Action: The Education Council, OCIO/NITC staff, and Network Nebraska support staff will sufficiently and appropriately communicate to, and in support of, current and potential Network Nebraska Participants.

Lead: Education Council; OCIONITC Staff, Network Nebraska support staff

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

Timeframe: 2020-22

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 a periodic 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.

2.3 Develop, publish, and maintain a catalog of Network Nebraska services comprised of services offered directly by Network Nebraska as well as member-offered services to other members.

2.3.1 Measurables: Catalog of services is published and updated annually

2.4 Enhance communications regarding change control events affecting Network Nebraska membership.

2.4.1 Measurables: The Network Nebraska Support Team use OneCallNow and NN_INFO listserv to communicate change control events to Network Nebraska members.

3. Action: Identify needs and deliver advanced services to Network Nebraska members, including security, cloud computing, and education infrastructure, to meet the growing needs of its membership.

Lead: Education Council; CAP; NNAG; NU-ITS Staff

Participating Entities: ESU-NOC; Higher Education CIOs

Timeframe: 2020-22

Funding: Additional funding and/or resources will be required for this action item out of the Network Nebraska Participation Fee, or from consumption-based billing.

Targets/Deliverables:

3.1 Develop applicable practices and strategies for advanced services to be delivered across Network Nebraska in educational environments and determine how to incorporate them into the Network Nebraska business model.

3.1.1 Measurables: A) Formulation of a Strategy document

3.2. Select and implement additional services for Network Nebraska members.

3.2.1 Measurables: A) Additional services added to Network Nebraska services list or provided by member "centers of excellence" throughout the Network Nebraska framework.

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, non-public, and non-education entities connected to Network Nebraska

Nebraska Public Service Commission approves Special Construction Matching Funds for Libraries and Schools

Long before the COVID-19 pandemic confined citizens to their homes for work, school, and telehealth, the Rural Broadband Task Force (RBTF) was hard at work deliberating and making recommendations to improve the broadband environment in rural Nebraska. Created by the Legislature in 2018 (N.R.S. 86-1102), the Nebraska RBTF presented its first seminal report to the Executive Board of the Legislative Council on November 1, 2019. (<https://ruralbroadband.nebraska.gov/reports/index.html>)

Chock full of data about Nebraska, and comparisons with neighboring states, over 20 recommendations were presented by the RBTF, including six that helped address the “Homework Gap” (defined as the inequitable opportunities afforded students with, and without, home internet). One of the six recommendations reads,

Construction” is defined by the FCC as including: A) Construction of network facilities; B) design and engineering; and C) project management. Nebraska will become the 26th state to be considered eligible for this program: <https://www.usac.org/e-rate/applicant-process/before-you-begin/fiber-summary-overview/additional-discount-to-match-state-tribal-funding-for-special-construction/>

Other states have used their community anchor institutions to act as anchor tenants for new fiber construction in rural areas, allowing telecommunications providers to pick up additional customers along the way.

The Nebraska Public Service Commission (PSC), chaired by Commissioner Mary Ridder, originated docket NUSF-117 to explore the matching fund pro-



Nebraska Public Service Commission public meeting

“Encourage the Nebraska Public Service Commission to implement an E-Rate Special Construction matching fund program with funding from the Nebraska Universal Service Fund to incentivize new fiber construction to public libraries and schools, starting in FY 2021- 22.”

Public comment and RBTF discussions substantiated the role that rural public libraries play in student internet access when away from school. Many villages and towns in rural Nebraska lack advanced telecommunications services to public libraries, whereas nearly all public schools are connected by fiber to Network Nebraska.

The *Special Construction Matching Fund* program was created by the Federal Communications Commission (FCC), for states to incentivize new fiber construction by matching, dollar for dollar, an additional 10% E-rate discount for schools and libraries if a state funding source would contribute the additional 10%. For example, a public library with a 70% E-rate discount could receive an additional 20% in state and federal support, and only have to pay for 10% of the construction costs (instead of 30%) when installing new fiber. “Special

program and solicit comments from interested stakeholders. The PSC issued the final order approving the program on May 19, 2020. The PSC will make available one million dollars to be allocated over the four years of the program to school and public library applicants approved by both the state and federal programs. Ridder said, “We encourage any libraries and schools that lack a fiber connection to consider participating in this effort as we work to provide broadband to the unserved and underserved in our state.” Applications must be submitted by mid-December, with the PSC issuing notices of approval by mid-January, 2021, and the first projects to be completed by July 1, 2021.

Rod Wagner, Director of the Nebraska Library Commission, stated, “We welcome this matching fund program as a way to improve the connectivity to our rural public libraries and we commend the PSC for creating and funding this program to the benefit of all Nebraskans.”

For more information about the Nebraska Special Construction Matching Fund program, contact Cullen Robbins, PSC Director of Telecommunications & NUSF, Cullen.robbs@nebraska.gov, or 402-471-3101.

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
- Council of Independent Nebraska Colleges Foundation

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 was developed by a statewide committee and a Digital Profile is maintained on every school district.
- 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 assisted the Nebraska Public Service Commission with the development of the Nebraska Special Construction Matching Fund grant program to incentivize new fiber construction for schools and libraries.
- The Nebraska Department of Education and ESU Teaching and Learning with Technology group have launched the Nebraska OER Hub with open education resources for teaching and learning.

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: Disseminate information in the form of reports, effective practices, qualitative and quantitative data, and national trends to insure the success of Nebraska digital education.

Lead: Education Council

Participating Entities: K-12 and Higher Education professional and advisory groups , Nebraska Department of Education, and the Coordinating Commission for Postsecondary Education.

Timeframe: 2020-22

Funding: Additional funding may be required for this action item

Targets/Deliverables:

- 1.1** Conduct a collaborative project to identify the scope and usage of digital education across all levels of education across the state of Nebraska.

1.1.1 Measurables: The report is created and distributed statewide.

1.2 Identify the metrics and measure the impact of the use of digital education in student academic preparedness.

1.2.1 Measurables: The metrics are identified and the impact of the use of digital education has been measured.

1.3 Evaluate the effectiveness of the use of flexible learning technologies and create a guide for effective practices in the use of flexible learning technologies (e.g. flipped classroom, blended learning, OER, fully online instruction, etc....)

1.3.1 Measurable: Flexible learning technologies have been evaluated and a guide has been written and distributed.

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: 2020-22

Funding: Additional funding may be required for this action item

Targets/Deliverables:

2.1 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 to support academic success.

2.1.1 Measurables: NITC Education Council members meet regularly with Community Council Broadband Initiative members and other stakeholders.

2.2 Identify opportunities and actions to ensure equitable access for students when away from school or campus.

2.2.1 Measurables: A) Members of the NITC Education Council will work with the Nebraska Department of Education and the Nebraska Rural Broadband Task Force to explore telecommunications services and technologies to reach unserved and underserved students. B) The Nebraska Special Construction Matching Fund grant program will provide resources for affordable access through Nebraska public libraries.

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

Public Power, Telecommunications Providers Partner to Bring e-Connectivity to Southwest Nebraska



Nebraska truck and silos. Photo credit Mary Ridder.

A public-private partnership between public power districts, telecommunications providers, wireless internet service providers, and Paige Wireless may make southwest Nebraska and eventually the rest of the state a leader in the use of sensors and other connected devices for agriculture and the power industry. The partnership also aims to improve broadband availability in the area.

Identify Mutual Benefits to Public & Private Partners

The partnership started with a discussion between NPPD and Paige Wireless on the benefits of Paige Wireless's low bandwidth wireless network using the LoRaWAN® protocol. According to Julie Bushell, president of Paige Wireless, LoRaWAN is beneficial in rural areas where cellular connectivity is scarce and where low-cost remote telemetry is needed.

"The benefits of LoRaWAN are very, very low subscription rates and an incredibly long battery life on sensors," said Bushell. "The sensors we deploy average between a 5- and 10-year battery life depending on the application. Typically, for a cellular data plan that is about \$30 a month, LoRaWAN is about \$2 a month. The goal of LoRaWAN is to realize the true potential of everything connected, so the sensors are very cost effective as well."

NPPD realized the benefits of LoRaWAN for both agriculture and for the power industry.

“The LoRaWAN low-speed sensor network is potentially a huge value for a utility,” said Dave Webb, the director of technology integration at NPPD.

The Electric Power Research Institute (EPRI) has a whole set of advanced sensors for utility transmission operation and substations. The institute is converting all of its sensors to LoRaWAN. Nebraska will be a primary test site for the use of these sensors, explained Webb.

Some of the agricultural data collected on the network such as soil moisture probe and weather data is also helpful for load management for utilities.

LoRaWAN stands for *Long Range Wide Area Network* and is a low power networking protocol designed to connect battery-operated sensors and other devices to the internet.

It is being used for a number of applications including monitoring soil moisture and ground water levels and collecting weather station data. The number of applications is expected to grow as network availability grows.

Paige Wireless anticipates covering all of Nebraska with its LoRaWAN network by the summer of 2020.

Facilitate Discussions with Customers & Providers

NPPD invited telecommunications providers and rural public power districts to meet with Paige Wireless to better understand the initiative and the benefits of LoRaWAN.

“And then the relationship grew into essentially helping us deploy our network, and I would say that most of that help has been through facilitation,” said Bushell.

Streamline Identification of Assets, Colocation of Facilities

NPPD helped Paige Wireless identify the locations of their towers and power poles that could be potentially leveraged.

“We have communications towers and structures that we let any communications company attach to through a standard process, but we are hoping we can streamline that process and make sure that they have knowledge of where our towers are,” said Webb.

Aggregate Broadband Requirements & Facilitate Partner RDOF Efforts

The need for better broadband for backhaul and high bandwidth agricultural applications also emerged from the discussions among Paige Wireless, public power districts and telecommunications providers.

A pilot in southwest Nebraska was initiated in late 2019 to identify and aggregate the need for backhaul services for Paige Wireless and wireless internet service providers as well as the backhaul and overall e-Connectivity needs of McCook, Southwest, Twin Valleys, and Dawson Public Power Districts. However, as more information became available about the Rural Digital Opportunity Fund (RDOF), it made sense to consider a larger, potentially statewide effort. To that end Pat Pope, NPPD’s former CEO, invited Public Power Districts from all over the state to participate in a network design and RDOF enabling effort with the National Rural Telecommunications Cooperative.

The NRTC, made up of rural electric and telecom COOPs nationwide, specializes in designing a network and plan that optimizes the use of electric infrastructure to satisfy both the e-Connectivity needs of the utility and in our case, enable better business cases and RDOF bids for any private telecom partners who are involved. Pope stated, “We hope this effort can be coordinated with other statewide efforts. When the FCC looks at Nebraska’s effort we want them to say ‘WOW! This is how to get it done!’ If we work together, Nebraska could be the blueprint for the nation for rural e-connectivity deployment.”

Pilot Will Demonstrate Precision Ag Technologies



Ranch view. Photo credit Mary Ridder.

The pilot in southwest Nebraska will also serve as a demonstration project for precision ag technologies.

“We want to bring in some very interesting technologies that will require real-time

data transfer, and also autonomous vehicle pilots on tractors and planters in the pilot area, so that we can really show what this awesome connectivity can do for the rural communities and the precision ag that surrounds them,” said Bushell.

Rural Broadband and Community IT Development

Overview

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.

Rural Areas of Nebraska Lag in 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 89.8% of Nebraskans, but only 66.8% of rural Nebraskans in 2019. Nebraska lags the U.S. in broadband availability, with broadband of 25 Mbps down and 3 Mbps up available to 94.8% of Americans and 79.3% of rural Americans in 2019.

% Population with Access to Fixed 25 Mbps/3 Mbps Service (2019)

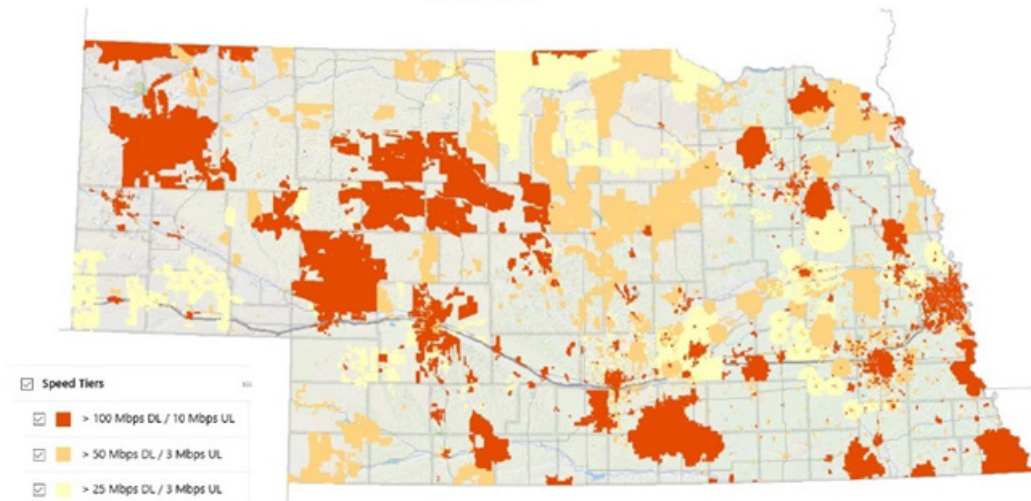
	U.S./State (Urban and Rural)	Rural Areas	Urban Areas	Tribal
United States	94.8%	79.3%	98.5%	75.63%
Nebraska	89.8%	66.8%	98.3%	48.2%

Source: FCC's Broadband Map using June 2019 Form 477 data

The map on the following page shows areas of the state that have broadband availability of 25 Mbps download/3 Mbps.

Broadband Availability

June 2019



Source: Nebraska Broadband Map broadbandmap.nebraska.gov using June 2019 FCC Form 477 data

Ninety Percent of Nebraskans Have an Internet Subscription

Nebraskans subscribe to broadband at a higher rate than the U.S. population. Approximately 90% of Nebraskans and 88.3% of those in the U.S. have a broadband internet subscription. This includes those who access the internet using a smart phone with a mobile data plan and those who have an internet subscription for service below 25 Mbps down/3 Mbps up. See the table below.

Percent Population with Broadband Subscription 2018		
	United States	Nebraska
Total population	88.3%	90.1%
Under 18 years	91.5%	95.3%
18-64 years	90.3%	92.5%
65 years and over	76.1%	72.4%


Source: U.S. Census Bureau 2018 American Community Survey 1-Year Estimate

Note: The percent population with broadband internet subscription from the U.S. Census Bureau 2017 American Community Survey 5-Year Estimate includes those who subscribe to cable, fiber optic, or DSL, satellite or a fixed wireless service as well as those who only use mobile broadband plans for internet access.

Some Nebraskans subscribing with internet service in lower speed tiers or relying on mobile-only access have found that they were limited in their ability to work at home, participate in online learning or access health care via telemedicine during the COVID-19 pandemic.

Many Nebraska Libraries Lack 25/3 Mbps Broadband

Libraries are key partners in addressing the digital divide, providing public access to computers and the internet. However, approximately 50% Nebraska libraries have internet service which does not meet the FCC's definition of broadband (25 Mbps down/3 Mbps up or greater) according to the Nebraska Library Commission's 2019 survey of libraries. While this is an improvement from 2018 when 65% of Nebraska libraries had internet service of less than 25 Mbps down/3 Mbps up, a significant number of libraries in Nebraska lack sufficient broadband to serve multiple patrons at a time.



The Nebraska Library Commission and the Nebraska Public Service Commission are taking steps to improve library broadband. In the spring of 2020, the PSC approved an E-Rate Special Construction Matching Program for schools and libraries which do not have fiber. Staff of the Nebraska Library Commission are working to prepare libraries to participate in the program.

Homework Gap Impacts Online Learning

The term “homework gap” is used to describe the challenge that students who lack home internet access face in completing online assignments. In some schools, the percent of students without internet access may be greater than 30% according to data from a 2019 survey of Nebraska teachers.

As many schools moved to online learning in the spring of 2020 due to the COVID-19 pandemic, the impact of the homework gap became more pronounced. Funding from the CARES Act is being used to help address the need for student devices and connectivity.

State Broadband Activities and Developments

Nebraska’s Rural Broadband Task Force, created by LB 994 in 2018, brought together stakeholders to learn more about rural broadband and to make recommendations. Those recommendations are providing a framework in which to address the challenges of improving rural broadband. More information on the task force and the report is available at <https://ruralbroadband.nebraska.gov>.

The Nebraska Legislature, Nebraska Public Service Commission, Governor Pete Ricketts, the Nebraska Department of Economic Development, NITC Community Council and Education Council, and the Nebraska Public Service Commission have engaged in activities which support the recommendations of the Rural Broadband Task Force.

- Legislation introduced in 2020 would implement several of the Rural Broadband Task Force’s recommendations. LB 992 introduced by Senator Friesen would establish a process to use electric utility easements for communications, establish a broadband coordinator position, establish an E-Rate Matching Program, and would amend rules regarding leasing dark fiber by public entities. LB 996 introduced by Senator Brandt would create the Broadband Data Improvement program.
- The PSC has taken steps to address the need to improve rural broadband and to address the homework gap:
 - In the spring of 2020, the PSC approved an E-Rate Special Construction Matching Program for schools and libraries which do not have fiber.
 - The PSC also approved a \$1 million broadband adoption program to reimburse telecommunications carriers for providing service to low-income families as a part of the response to the COVID-19 emergency.
 - The docket to explore implementing a reverse auction of Nebraska universal service funds is moving forward. Draft rules are in place and a hearing was held in May.
- The Nebraska Library Commission is encouraging libraries to improve their internet and is preparing libraries to apply for the E-Rate Special Construction Matching Program. The NITC Education Council is providing assistance with this effort.
- Governor Ricketts and Tony Goins, Director of the Nebraska Department of Economic Development, have identified improving broadband availability in Nebraska as a

priority. On June 12, 2020 Governor Ricketts announced details about the Remote Access Broadband Grant program funded through the CARES Act.

Federal Broadband Activities and Developments

At the federal level, there have been a number of developments related to broadband development.

- The FCC is implementing the Rural Digital Opportunity Fund reverse auction to allocate funding to rural areas lacking broadband. The auction is scheduled to commence on Oct. 29, 2020. The Nebraska Department of Economic Development with assistance from the NITC and PSC, hosted meetings and webinars to encourage counties and regions to partner with telecommunications providers to leverage RDOF funding.
- The federal Broadband Data Act passed in 2020 directs the FCC to implement improvements to mapping broadband availability.

Challenges/Issues:

Broadband is expensive to deploy in rural areas. Although programs such as Nebraska's Rural Broadband Remote Access grant program, the Nebraska Universal Service Fund and the FCC's Rural Digital Opportunity Fund are providing funding for broadband, funding remains a barrier to broadband deployment.

Maps showing where broadband is not currently available can overstate coverage—especially in rural areas. This makes it more difficult to target funding to areas which are unserved or underserved.

Collaborators:

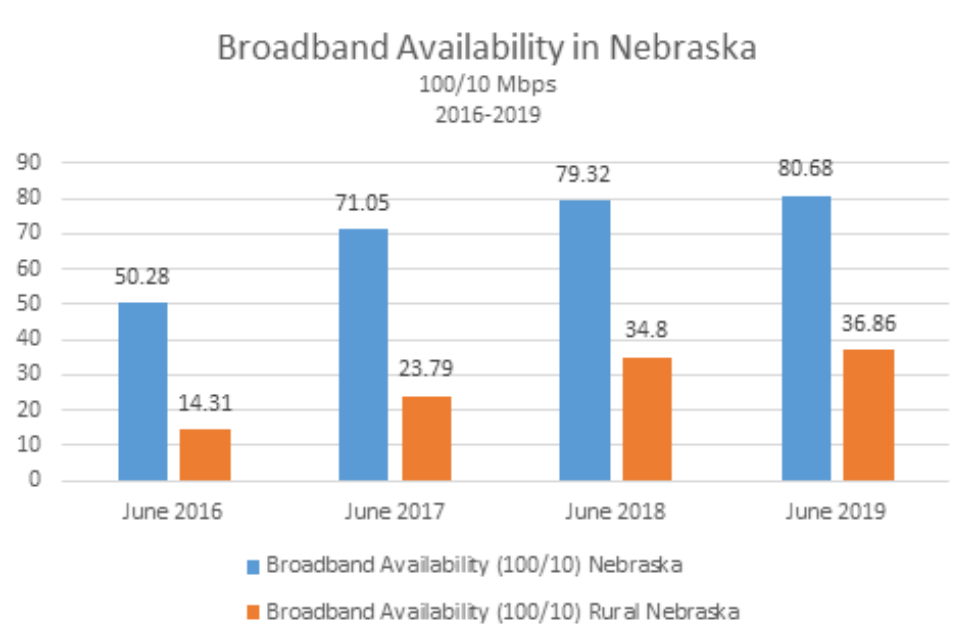
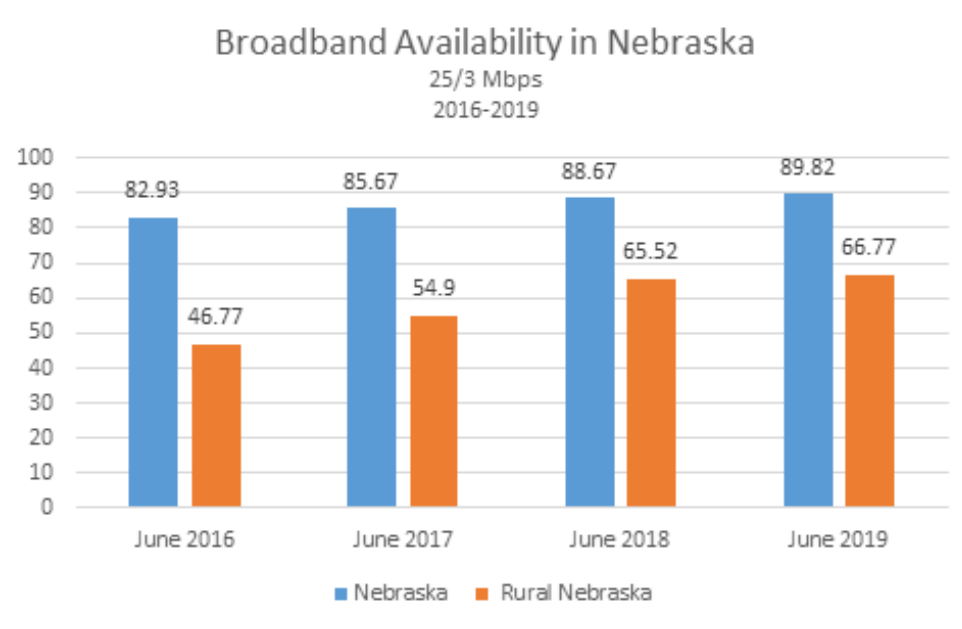
- Nebraska Information Technology Commission
- Nebraska Public Service Commission
- Nebraska Department of Economic Development
- Nebraska Library Commission
- Other stakeholders

Recent Community Council Accomplishments Related to Broadband

1. NITC staff together with staff from the Nebraska Public Service Commission provided support to the Rural Broadband Task Force.
2. The NITC Community Council partnered with the Nebraska Library Commission to produce broadband fact sheets for all Nebraska counties. The fact sheets can be a tool to start community discussions about broadband availability and the need for better broadband in libraries. The facts sheets are available at <http://nlc.nebraska.gov/stats/broadband/>
3. The NITC Community Council as well as the Nebraska Public Service Commission assisted the Nebraska Department of Economic Development in outreach efforts to encourage counties and regions to partner with telecommunications providers to leverage funding from the FCC's Rural Digital Opportunity Fund to build fiber to the premise networks.
4. The NITC Community Council developed a handout on six steps to better broadband which is available at <https://ruralbroadband.nebraska.gov/resources/Sixsteps.pdf>.
5. The NITC Community Council developed a series of case studies highlighting models and strategies that communities can use to improve broadband availability.

6. The NITC Community Council invited stakeholders to the Feb. 19 Community Council meeting to discuss building a collaborative effort to work with communities to improve broadband availability.
7. NITC staff has provided assistance to the Nebraska Department of Economic Development in implementing the Rural Broadband Remote Access Grant program.

Metrics



Action Items

1. Action: Work with the Nebraska Department of Economic Development and other stakeholders to explore the development of a collaborative broadband outreach effort to help communities improve broadband availability.

Lead: NITC Community Council and Nebraska Department of Economic Development

Timeframe: 2020-2021

Funding: Leveraging existing resources

Targets/Deliverables:

1. Schedule meetings with the directors of Economic Development Districts, University of Nebraska Community Vitality Educators, and League of Nebraska Municipalities, and NACO to share information on resources available, identify needs and to explore how to work together.

2. Action: Develop a series of case studies illustrating successful strategies and models that communities can use to improve broadband.

Lead: NITC Community Council

Timeframe: 2020

Funding: Leveraging Existing Resources

Targets/Deliverables:

1. A booklet of at least 8 case studies
2. A marketing/social media plan to share information on the case studies

State takes steps to implement task force recommendations, leverage CARES Act

Rural Broadband Task Force Recommendations

On Oct. 31, 2019, Nebraska's Rural Broadband Task Force submitted its recommendations to Governor Ricketts and the Legislature. The task force recommended that the State:

- Leverage the FCC's Digital Opportunity Data Collection program, or an alternate broadband mapping program created through federal legislation, to improve Nebraska's broadband map.
- Encourage the Nebraska Public Service Commission to investigate using a state-run reverse auction to spur broadband build-out in rural areas.
- Support public-private partnerships by:
- Encouraging local and regional broadband planning, including communications planning between telecommunications providers and public power districts and cooperatives.
- Addressing the use of electric utility easements for broadband
- Retaining the existing prohibition on retail provision of broadband service by public entities.
- Exploring ways to make it easier for public entities to lease dark fiber.
- Encouraging local governments to make their rights of way and permitting processes less burdensome for telecommunications providers.
- Increase the number of public libraries applying for E-Rate support.
- Encourage school districts, ESUs, public libraries, and communities to implement strategies such as Wi-Fi on buses or lending hotspot devices to reduce the number of students who lack internet access to do homework.

Implementation

Steps have already been taken to implement these recommendations:

1. On May 20, 2020, the Nebraska Public Service Commission
2. (PSC) has issued an Order establishing the E-Rate Special
3. Construction State Matching Grant Program as a way to help
4. facilitate the build-out of new fiber to Nebraska libraries and schools.
5. The Nebraska Public Service Commission has continued to investigate using a state-run reverse auction to spur broadband build-out in rural areas.

6. LB 992 introduced by Senator Friesen would fund a broadband coordinator position to encourage local governments and regions to engage in broadband planning and to form public-private partnerships, ease restrictions on leasing dark fiber by public entities, establish a process to allow easements for electric utilities to be used for telecommunications. to7
7. LB 996 introduced by Senator Brandt would establish a Broadband Data Improvement Program to leverage federal mapping effort and encourage crowdsourcing efforts to improve broadband data.
8. The Nebraska library Commission has increased efforts to encourage library participation in E-Rate.
9. The Department of Economic Development with assistance from the PSC and NITC/ Office of the CIO hosted a series of meetings to encourage communities and counties to explore forming public-private partnerships to leverage the FCC's Rural Digital Opportunity Reverse Auction.
10. The Rural Broadband Task Force hosted a webinar with Michael Janson, Director of the FCC's Rural Broadband Auctions Task Force on the Rural Digital Opportunity Fund.
11. The NITC Community Council has developed a series of case studies illustrating strategies and models that communities could use to improve broadband.
12. The Nebraska Library Commission and NITC Community Council have worked to develop broadband fact sheets for all 93 counties.

CARES ACT

Additionally CARES ACT funding is being utilized to support broadband deployment and access. Rural Broadband Remote Access Grant administered by the Nebraska Department of Economic Development allocates \$40 million to provide broadband to unserved and underserved communities in Nebraska.



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:

The use of health information exchange technologies 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 6,000 HIE users and 7,000 PDMP users. NEHII has data on over 4 million individuals.

Health information 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 6,000 users. Over 60 data sharing hospitals, over 180 data sharing clinics/ ambulatory facilities and 212 long-term, post-acute care facilities participate in NEHII.
- Nebraska has an innovative Prescription Drug Monitoring Program which requires dispensers to report all medications effective Jan. 1, 2018. Having more complete medication history is improving 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 and NEHII. 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 PDMP has been queried over 612,000 times.
- 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.
- The Centers for Medicare and Medicaid Services (CMS) and the Office of the National Coordinator for Health IT (ONC) published the final interoperability rules on May 1, 2020 with compliance dates ranging from November 2020 through spring 2021.
- NEHII has built a framework that aligns closely to the ONC and CMS guidelines and

rules, which should facilitate meeting the new interoperability guidelines.

- When the COVID-19 pandemic began impacting the U.S., NEHII was well positioned to implement COVID-19 data monitoring efforts in cooperation with the state Department of Health and Human Services. NEHII's COVID-19 Response Team launched real-time data dashboards that provide health care providers up-to-date information including:
 - Test results for Nebraskans,
 - The availability of beds in the state,
 - And medical supply resources to help fight the spread of the disease.
- NEHII immediately began the process to rapidly include health care facilities, health care providers and labs that were not currently data sharing through NEHII to send admission, discharge, laboratory and other pertinent data related to COVID-19.

Challenges/Issues:

- Health care providers may be challenged to meet the interoperability guidelines published by CMS and ONC.
- 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.
- Blocking of health information by health systems and vendors is an issue identified by the Office of the National Coordinator for Health IT.
- Broadband availability and subscription is a barrier to the use of telehealth technologies.

Collaborators:

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

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: 2020-21

Funding: Leveraging existing resources

Targets/Deliverables:

1. The eHealth Council discuss this issue and make initial recommendations as to next steps at its next meeting.

Community Council

Rural and Community IT Development

Pam Adams, American Broadband

Jay Anderson, NebraskaLink

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

Timothy Lindahl, Wheatbelt Public Power District

Megan McGown, Great Plains Health

Judy Petersen, Central Nebraska Economic Development District

Nicole Reiner, Nebraska Department of Economic Development

Danny Rockhill, BankFirst

Mehmet Can Vuran, University of Nebraska-Lincoln

Libraries and Local Government

Chris Anderson, City of Central City

Jessica Chamberlain, Norfolk Public Library

Steve Fosselman, Grand Island Public Library

David Young, City of Lincoln

Holly Woldt, Nebraska Library Commission

Mary Ridder, Nebraska Public Service Commission (At Large)

Education Council

Post Secondary

Bret Blackman, University of Nebraska—Omaha

John Dunning, Wayne State College

Chuck Lenosky, Creighton University

Greg Maschman, Nebraska Wesleyan University

Mary Niemiec, Co-Chair, University of Nebraska

Tom Peters, Central Community College

Carla Streff, Northeast Community College

Dr. Paul Turman, Nebraska State College System

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 Hoelsing, 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

Ling Ling Sun, Nebraska Educational Telecommunications Commission

eHealth Council

The State of Nebraska

Linda Wittmuss, Division of Behavioral Health

Health Care Providers

Kevin Borchert, Nebraska Methodist Health System and Nebraska Board of Pharmacy

Marty Fattig, Nemaha County Hospital

Cindy Kadavy, Nebraska Health Care Association

Brian Sterud, Faith Regional Health Services

Bridget Young, Visiting Nurse Association

eHealth Initiatives

Anna Turman, Western Nebraska Health Information Exchange and Chadron Community Hospital

Public Health

Kathy Cook, Lincoln-Lancaster County Public Health Department

Gary Cochran, UNMC

Dave Palm, UNMC

Ashley Newmyer, Department of Health and Human Services

Payers and Employers

Jan Evans, Blue Cross Blue Shield

Allison Wisco, Nebraska Department of Health and Human Services, Division of Medicaid and Long-Term Care

Consumers

Jina Ragland, AARP

Resource Providers, Experts, and Others

Dr. Jim McClay, UNMC

Todd Searls, Praesidio Healthcare Consulting

GIS Council

Devarsi Majumder, Nebraska Game and Parks Commission

Steve Rathje, Department of Natural Resources

Casey DunnGossin, Nebraska State Patrol

John Beran, State Surveyor's Office

Claire Inbody, Department of Transportation

Han Liu, Department of Health and Human Services

Ruth Sorenson, Department of Revenue

Tim Erickson, Legislative Research Office

Chad Boshart, Nebraska Emergency Management Agency

Kea Morovitz, Nebraska Public Service Commission

Gary Morrison, Department of Environmental Quality

James W. Ohmberger, Office of the Chief Information Officer

Trinity Chappellear, Governor's Policy Research Office

Doug Hallum, Conservation and Survey Division, University of Nebraska-Lincoln

Eric Herbert, Omaha Metro Area -Sarpy County GIS

Vacant, Federal Liaison USGS Nebraska Water Science Center

Jeff McReynolds, Lincoln Metro Area, City of Lincoln, Lancaster County, Nebraska

John McKee, Nebraska Association of County Officials- Jefferson-Saline County Emergency Manager

Danny Pittman, Nebraska Association of County Officials- Sarpy County Assessor

Bailey Gibson, Member at large, Hall County GIS Office

Lesli Rawlings, Nebraska Geospatial Professional Association

Michael Schonlau, Member at large Douglas County, City of Omaha

Matt Tinkham, Member at large - Professional Surveyors, Lamp Rynearson & Associates

Chuck Wingert, Nebraska Association of Resources Districts

Don Linquist, Member at large Precision Agriculture Industry, Mitchell Implements

Lash Chaffin, League of Nebraska Municipalities

Timothy Cielocha, Public Power Districts, Nebraska Public Power District

State Government Council

John Albin, Department of Labor
Don Arp, Jr., Crime Commission
Chris Ayotte, Department of Revenue
John Bolduc, Nebraska State Patrol
Dennis Burling, Department of Environmental Quality
Colleen Byelick, Secretary of State
Trinity Chappellear, Governor's Policy Research Office
Dean Folkers, Department of Education
Jill Gradwohl Schroeder, Workers' Compensation Court
Dorest Harvey, Private Sector
Jason Jackson, Department of Administrative Services
Rhonda Lahm, Department of Motor Vehicles
Kelly Lammers, Department of Banking and Finance
Kim Menke, Department of Natural Resources
Jim Ohmberger, Office of the CIO, Enterprise Computing
Gerry Oligmueller, State Budget Administrator
Jayne Scofield, Office of the CIO, Network Services
Robin Spindler, Department of Correctional Services
Corey Steel, Supreme Court
Ed Toner, Chair, Chief Information Officer
Devin Townsend, Department of Transportation
Vacant, Department of Health and Human Services
Rod Wagner, Library Commission



Technical Panel

Bret Blackman, University of Nebraska Computing Services Network

Kirk Langer, Chair, Lincoln Public Schools

Ling Ling Sun, Nebraska Educational Telecommunications Commission

Jeremy Sydik, Assistive Technology, University of Nebraska

Ed Toner, Nebraska Office of the Chief Information Officer