



Nebraska Information
Technology Commission

Transforming Government, Education, Healthcare & Communities

Nebraska's Statewide Technology Plan



November 10, 2022
(Amended March 10, 2023)

Nebraska Information Technology Commission

www.nitc.nebraska.gov

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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

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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.

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 **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 a 27 member council, composed of representatives from federal, state, local government, education and private individuals 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.

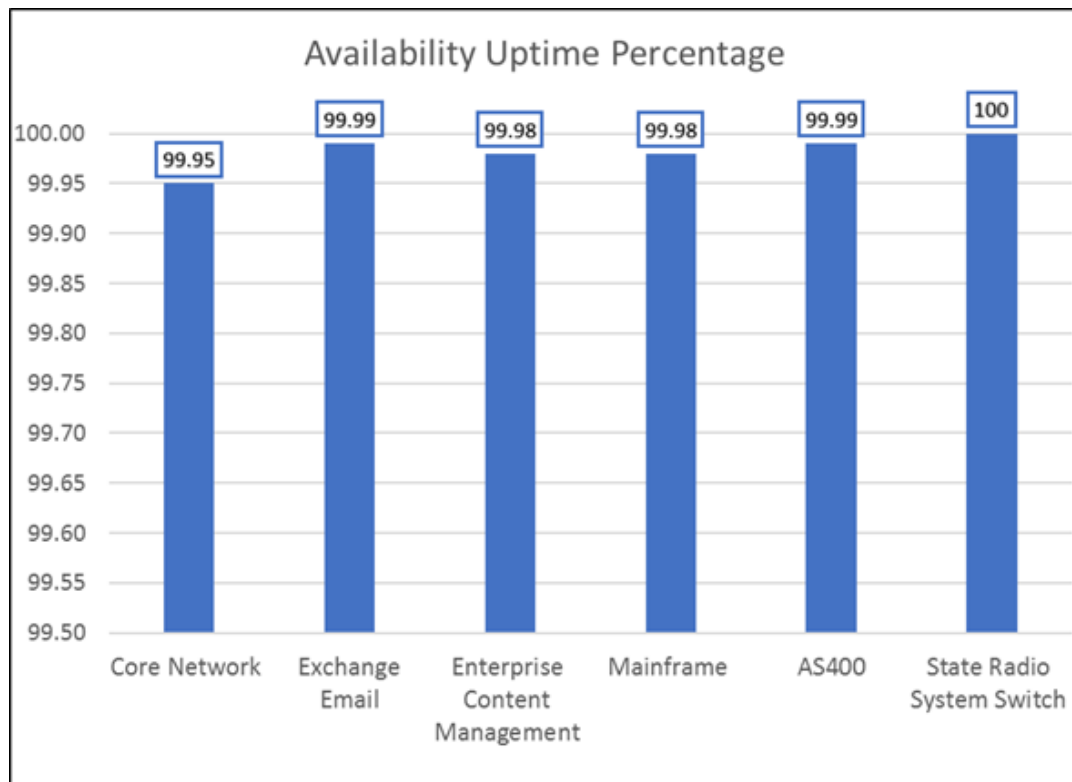
Collaborators:

- OCIO, Technical Panel, and State Agencies

Recent Accomplishments:

- Operationalized IT project governance.
- Completed migration to consolidated data centers.
- Completed migration to a new enterprise network.

Metrics



Action Items

1. Action: Same Sign-on

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: December 2023

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: December 2023

Funding: None

Targets/Deliverables:

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

3. Action: Consolidate on STN Domain

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: December 2023

Funding: None

Targets/Deliverables:

3.1 Implement phased migration.

4. Action: Application Process Maturation (DevOps)

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: June 2023

Funding: None

Targets/Deliverables:

4.1 Create a DevOps team.

4.2 Consolidate DBA team.

5. Action: SharePoint/Teams (Cloud)

Lead: OCIO

Participating Entities: OCIO; State Agencies

Timeframe: June 2023

Funding: None

Targets/Deliverables:

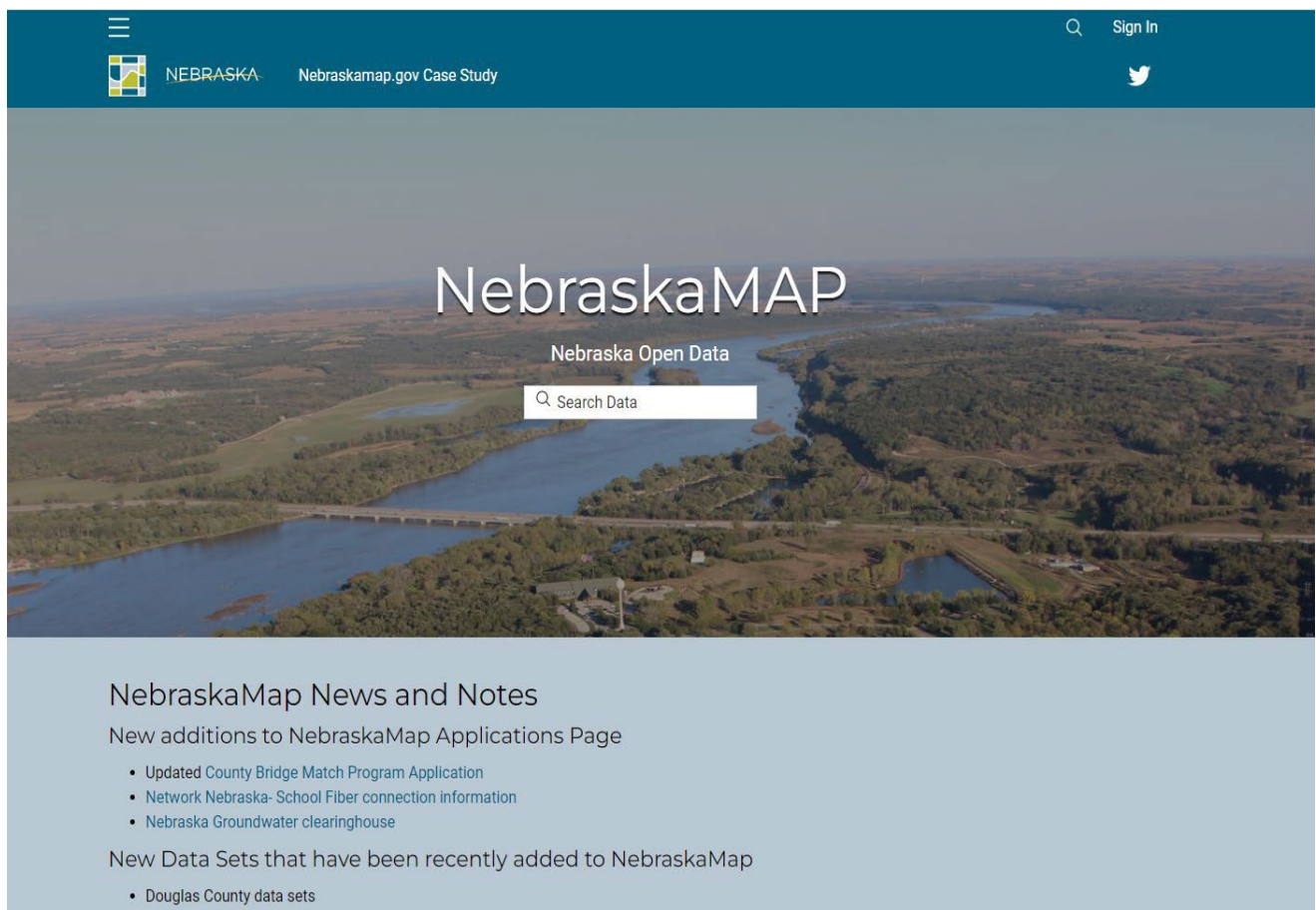
5.1 Complete pilot testing with agencies.

5.2 Complete enterprise deployment.

NebraskaMap- State Geospatial Clearinghouse

NebraskaMap is the official state Geospatial Clearinghouse and hosts authoritative spatial data. Since the roll out of the current version of NebraskaMAP in 2019, the site has increased the user-base by ~900%, from 200 views per day to 2,000 views per day. Data is easily searchable and can be downloaded in a variety of formats and web services.

Public facing GIS mapping applications from state agencies are available on NebraskaMap. This allows the user to search one place for data and applications instead of multiple sites.



Nebraska Spatial Data Infrastructure (NESDI)

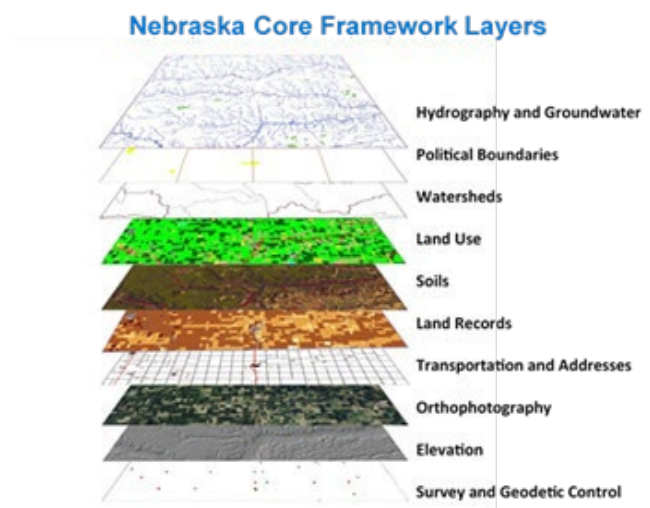
Overview

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 Industries
- 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. It was revisited in 2017/2018.
- 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.
- Original Strategic Plan is 10 years old and the revisit is approximately 5 years old.
- 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.
- Future Datum change and its implications and educating the effects of the datum change on GIS users.

Recent Accomplishments:

- Standards updated for elevation.
- Lidar collections (Quality Level (QL) 2) for entire state.
- NebraskaMap is consuming local authoritative data to help make it a true spatial data clearinghouse for Nebraska.
- State entered into an Enterprise License Agreement, as the next step of growth of Enterprise GIS in Nebraska State Government.

Recommendations:

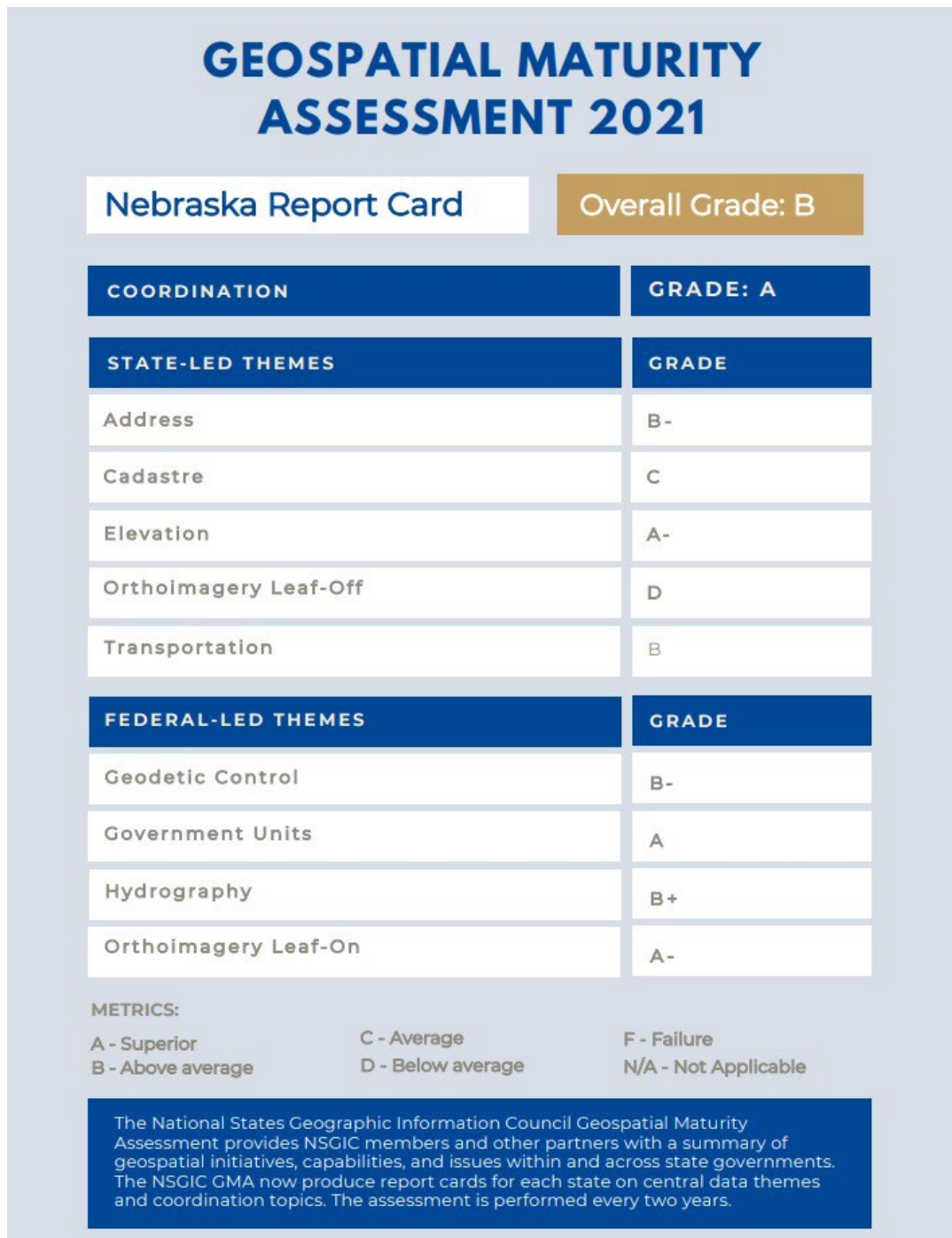
- Continue this initiative. Current GIS Council goals are in line with strategic initiative and objectives.

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 several geospatial maturity assessments. These are self-reported assessments from the state GIS Coordinators. They are done every other year since 2017. The most recent one is posted below. A more detailed information about state coordination and maturity can be found here: <https://www.nsgic.org/geospatial-maturity-assessment>



Action Items

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

GIS (Geographic Information Systems) assist 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 data in terms of accuracy and completeness, 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.

By 2025 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 datum. This endeavor was pushed out to 2025 at the federal level.

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: 2022-25

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 datum changes and its implications
2. Work with Professional Surveyors Group for training on implementing new datum

3. Action: Nebraska Statewide Elevation Program

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

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

Target/Deliverables:

1. Update LiDAR Collection web map application once all QL2 data has been received.

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. Continue to work with federal partners to make sure NAIP program remains viable.
2. Identify partners and possible funding, to upgrade imagery collection or subscribe to an imagery collection subscription that has a higher resolution than the NAIP imagery 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. Public Service Commission to continue to collect and develop a statewide Nebraska Street Centerline Database (NSCD) and Nebraska Address Database (NAD) datasets.
2. Continue to make Nebraska Street Centerline Database (NSCD) and Nebraska Address Database (NAD) datasets available in NebraskaMap in support of NG-911
3. Utilize Nebraska Street Centerline Database (NSCD) and Nebraska Address Database (NAD) datasets to make a statewide geolocator

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: 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. 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. Continue to work with Department of Revenue to create yearly Statewide Parcel Geodatabase feature class for internal state use.

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 system 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:

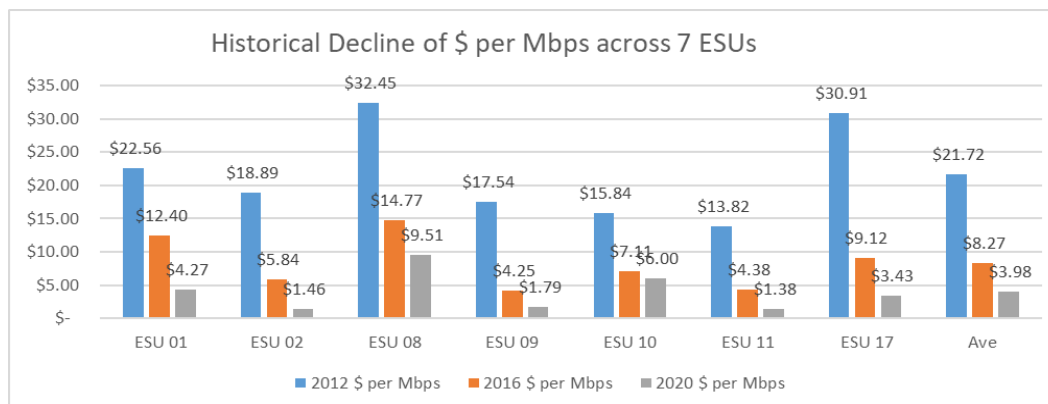
1. Continue to build current NebraskaMAP into a more robust statewide data clearinghouse enterprise platform.

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 2022. 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. Next year, 2023, will be one of those years, with over 250 fiber circuits out for bid.

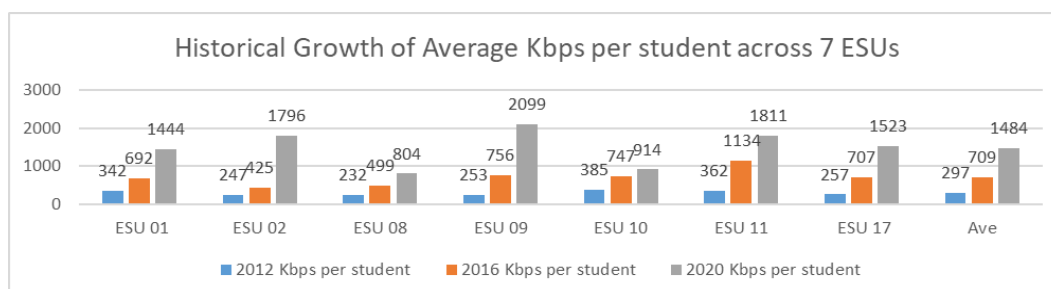
The historic trend lines of Dollars per Megabit (\$ per Mbps) are presented below with a sampling of historical cost data from school districts within Educational Service Units 01 (Wakefield), 02 (Fremont), 08 (Neligh), 09 (Hastings), 10 (Kearney), 11 (Holdrege), and 17 (Ainsworth).

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 [NebraskaMap](#).

Network Nebraska

Overview

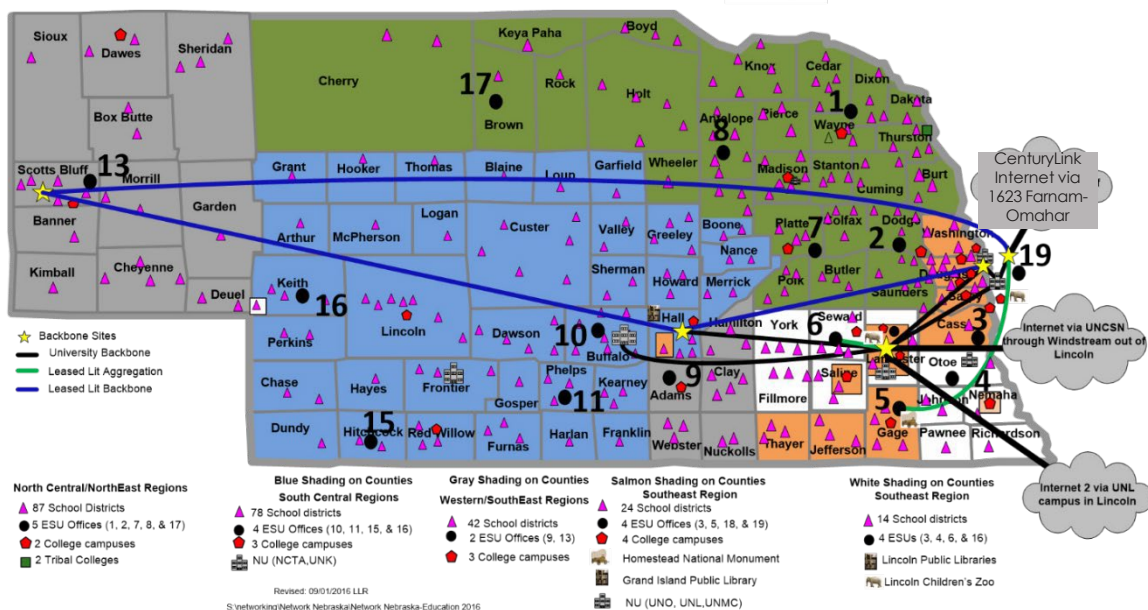
Objective:

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.

Network Nebraska - Education 2022



Collaborators:

- Collaborative Aggregation Partnership: Office of the CIO, University of Nebraska, Nebraska Public Media, Public Service Commission, Nebraska Department of Education, Nebraska Information Technology Commission, Network Nebraska Advisory Group.

- 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:

- Nearly every K-12 public 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 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:

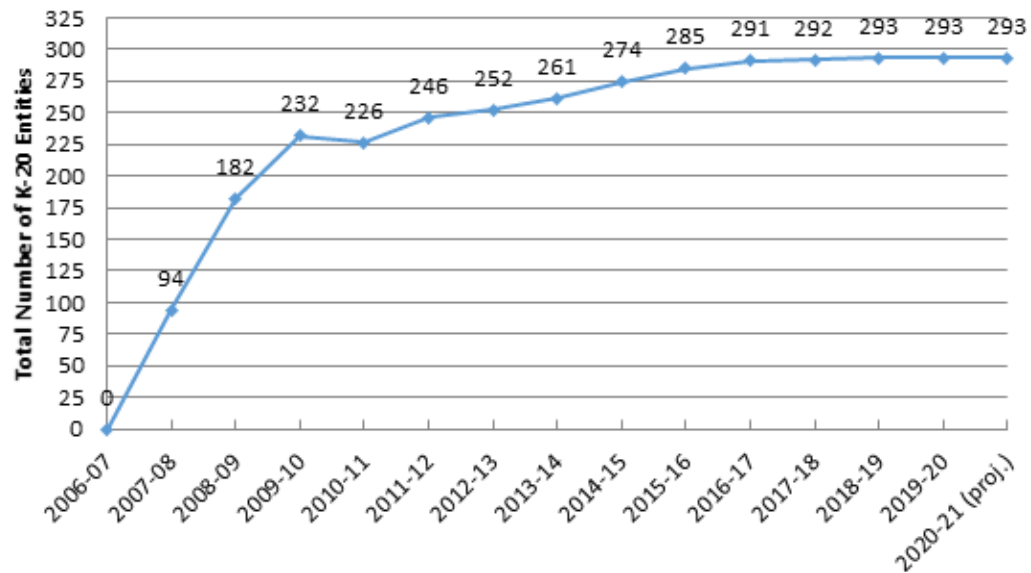
- Maintained public school district participation at 99.6%
- Achieved 100% membership among public and tribal colleges and universities
- Provisioned thousands of Zoom videoconferencing licenses to education entities in the midst of the COVID-19 pandemic response
- Achieved one of the lowest commodity 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:

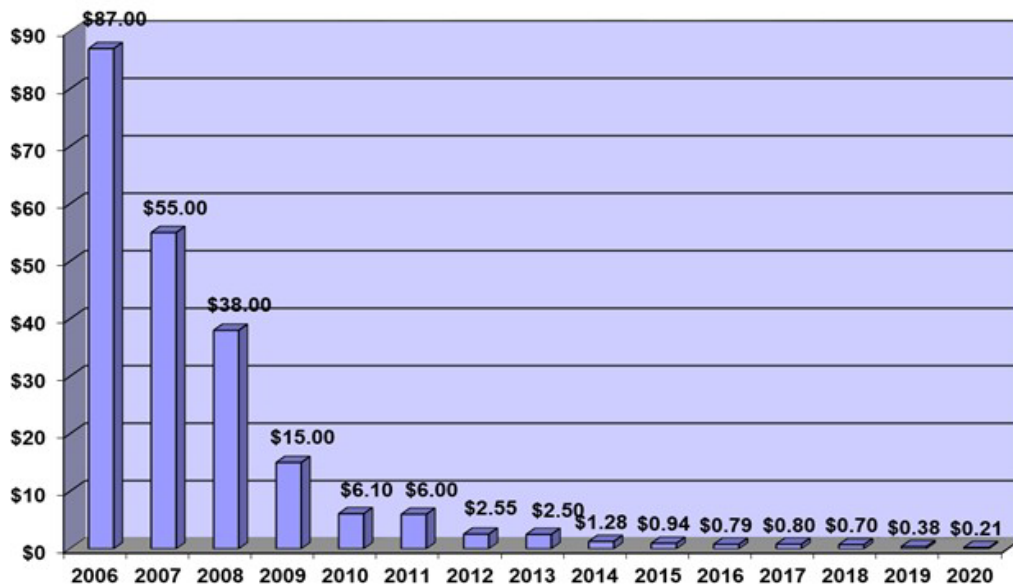
- Continue this initiative.
- Position Network Nebraska to provide services such as network monitoring and management, mitigation of Distributed Denial of Service (DDoS) attacks, statewide 24/7 helpdesk, aggregated invoicing, and coordinated E-rate filing

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, secure, 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: 2022-24

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

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: 2022-24

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 Measurable: 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.

2.3.1 Measurable: Catalog of services is published and updated annually

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

2.4.1 Measurable: The Network Nebraska Support Team use AlertSense 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: 2022-24

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 Measurable: A) Formulation of a Strategy document

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

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

4. Action: Promote the adoption of statewide cybersecurity practices for Nebraska K-20 education.

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

Participating Entities: ESU-NOC; Higher Education CIOs

Timeframe: 2022-24

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:

4.1 Actively support the formation of, and educational representation on, the statewide cybersecurity advisory committee and development of the statewide cybersecurity action plan under the authority of the Nebraska Emergency Management Agency.

4.1.1 Measurable: A) Identify experts and key stakeholders among the K-20 community and promote involvement.

4.2 Encourage and promote best practices in cybersecurity to ensure adoption by all Nebraska K-20 entities.

4.2.1 Measurable: A) Review and recommend best practices relevant to cybersecurity in K-20 education. B) Identify communication avenues to disseminate information to stakeholders.

4.3 Encourage K-20 membership to actively participate in cyber-related community and industry events to broaden and share knowledge and experience

4.3.1 Measurable: A) Identify events and communicate availability to members.



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



Nebraska Public Service Commission public meeting

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, “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

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 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: Help 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: 2022-24

Funding: Additional funding may be required for this action item

Targets/Deliverables:

1.1 Inventory the use of learning technologies in Nebraska K-12 schools and promote the effective practices in the use of those technologies (e.g. flipped classroom, blended learning, learning management systems, OER, fully online instruction, etc....)

1.1.1 Measurable: Flexible learning technologies have been inventoried and a report has been written and distributed.

1.2 Make efforts to connect constituencies to improve the state of digital education in Nebraska.

1.2.1 Measurable: Use conferences and other gatherings to encourage human networking.

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: 2022-24

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

2.2 Identify opportunities and actions to address 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:

- 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

Rural Broadband and Community IT Development

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. The Covid-19 pandemic underscored the importance of broadband in enabling residents to work at home, participate in online learning and access health services via telehealth. Broadband is also becoming increasingly important for agriculture. Many farmers and ranchers in Nebraska do not have adequate upload speeds to transfer the immense amount of data generated to the cloud.

With federal funding available for broadband deployment and digital equity initiatives, the Community Council will support digital equity and broadband deployment planning efforts.

Strengths/Assets:

State Broadband Programs

- **Nebraska's Rural Broadband Task Force**, created by LB 994 in 2018, brought together stake- holders 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 2021 report are available at <https://ruralbroadband.nebraska.gov>.
- **Remote Access Rural Broadband Grant Program**. Nebraska's first broadband grant program, the Remote Access Rural Broadband Grant Program, demonstrated the impact of state broadband grant programs on broadband deployment. The program, which was funded by the CARES Act and administered by the Nebraska Department of Economic Development, provided \$29.5 million in funding for 60 projects which brought broadband to 17,600 households.
- **Nebraska Broadband Bridge Grant Program**. With the support of Governor Ricketts, the Nebraska Legislature established the Nebraska Broadband Bridge grant program by enacting LB 388 in 2021 and appropriated \$20 million a year for two years for the program.

The Nebraska Public Service Commission awarded \$19.2 million in funding to 60 projects to connect 12,660 locations in January and February 2022.

- A second round of funding will be awarded in 2022. LB 1144 which was passed by the Legislature on April 13, 2022 and signed by Governor Ricketts on April 19, 2022, made several modifications to the grant program, including reducing the match requirement to 25% in high cost areas. The application deadline for the 2022 round is July 1, 2022.
- **NUSF.** The Nebraska Universal Service Program administered by the Nebraska Public Service Commission is an essential funding source for supporting broadband service and investments in new broadband infrastructure in rural areas. Broadband projects funded through the Nebraska Universal Service Fund have connected 19,583 households since 2019. The Public Service Commission is taking steps to initiate a reverse auction of \$13 million in NUSF support in 2022. Additionally, the Nebraska Public Service Commission established the E-Rate Special Construction Matching Program in 2020, providing matching funding for 6 public libraries and one public school in the first year of the program.
- The Nebraska Public Service Commission has taken steps to modernize the fund and to improve accountability. Remittances to the Nebraska Universal Service Fund increased from \$32.8 million in 2018 to \$46.8 million in 2020 due to reforms to the residential contribution method. LB 338 improved the accountability of the Nebraska Universal Service Fund by specifying build out requirements of 100 Mbps down and 100 Mbps up and by requiring recipients to conduct and submit speed tests.
- **CARES ACT Funding for Student Connectivity and Devices.** Governor Ricketts, the Nebraska Department of Education, Educational Service Units, and local school districts coordinated federal funding to purchase computing devices, hot spots, and internet enabled devices as well as implement connectivity projects through the Governor's Emergency Education Relief (GEER) and Elementary and Secondary School Emergency Relief (ESSER) fund as part of the CARES Act.

Federal Broadband Funding Opportunities

Funding for broadband projects will be available through several federal funding programs. The Connect Nebraska Working Group, comprised of staff members from the State Budget Office, Governor's Policy Research Office, Nebraska Public Service Commission, and the Nebraska Information Technology Commission/Office of the CIO is coordinating the following federally funded broadband programs

- **American Rescue Plan Act (ARPA) Capital Projects.** Nebraska has been allocated \$128,740,178 in funding for capital projects which directly enable work, education, and health monitoring and address critical needs, including broadband infrastructure projects, digital connectivity projects, and multi-purpose community facility projects. LB 1024 which was passed by the Legislature on April 12, 2022 and signed by Governor Ricketts on April 18, 2022 allocated funding by Congressional District. No more than \$35 million was allocated for multi-purpose community facilities projects in Congressional District 2 which includes Omaha. No less than \$40 million was allocated for projects in Congressional Districts 1 and 3. The Nebraska Department of Economic Development will administer the program, but intends to contract with the Nebraska Public Service Commission to distribute broadband deployment funding through the Nebraska Broadband Bridge Program.
- **Infrastructure Investment and Jobs Act (IIJA) Broadband Equity, Access and Deployment (BEAD) Program.** Nebraska has been allocated at least \$100 million in funding for broadband infrastructure projects. States must submit a 5-year action plan in order to receive implementation funding. The amount of funding allocated to each state will be determined using data from the second iteration of the FCC's new broadband map which will likely be available in the spring of 2023. States must submit a 5-year action plan in order to receive implementation funding.

- **Infrastructure Investment and Jobs Act (IIJA) State Digital Equity Capacity Grant Programs.**
Nebraska has been allocated nearly \$600,000 in funding to develop a state digital equity plan. The development of a state digital equity plan is a requirement to receive funding to implement a state digital equity grant program with funding from the IIJA State Digital Equity Capacity Grant Program. Nebraska will be allocated a minimum of \$7.2 million over 5 years. The NITC/Office of the CIO will be administering the planning grant.

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. The FCC's new broadband map using a more precise data collection method is expected to be available in late 2022.
- Scaling up to manage an influx of federal funds will likely be challenging for state agencies as well as broadband providers.

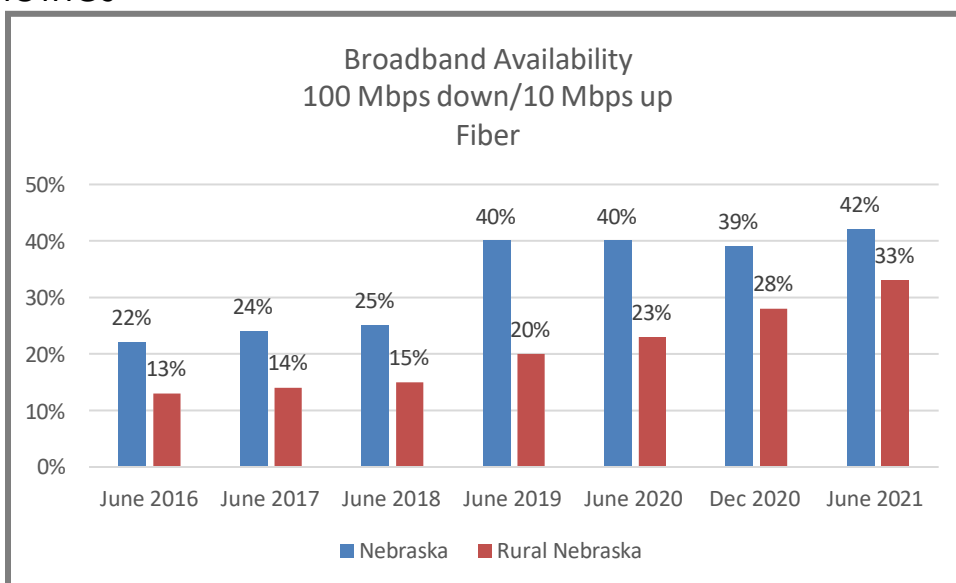
Collaborators:

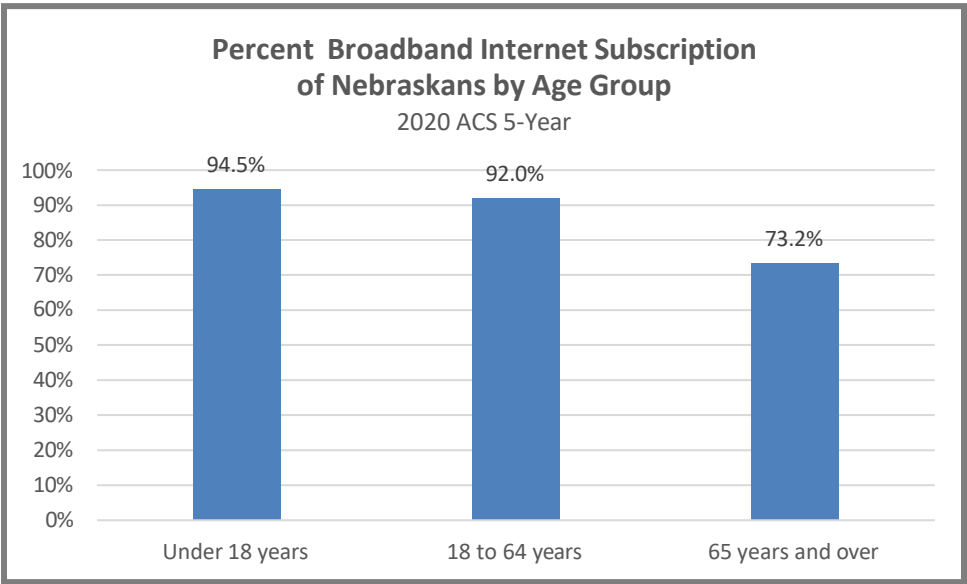
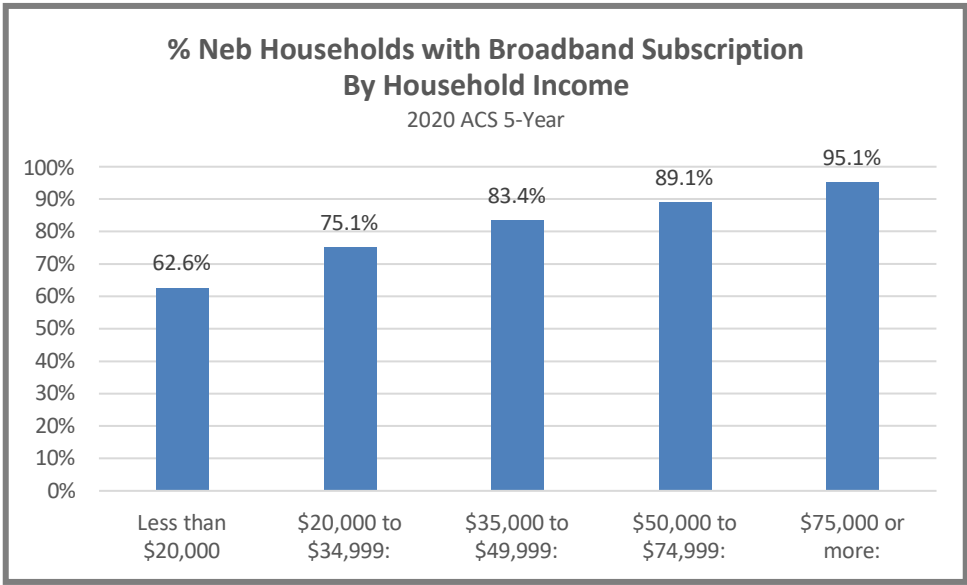
- Connect Nebraska Working Group
- Nebraska Information Technology Commission
- Nebraska Public Service Commission
- Nebraska Library Commission
- Nebraska Regional Officials Council
- Other stakeholders

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 completed a Digital Inclusion Planning Guide available at <https://ruralbroadband.nebraska.gov/resources/DigitalInclusionWorkbookFillable.pdf>

Metrics





Action Items

1. Action: Support the implementation of the BEAD and State Digital Equity planning processes.

Lead: Anne Byers

Timeframe: October 2022- October 2023

Funding: \$600,000 State Digital Equity Planning Grant

Targets/Deliverables:

1. Webinars
2. Asset inventory
3. Listening sessions
4. Regional digital equity plans
5. State digital equity plan.

Who doesn't have a home broadband connection

Approximately 12% of Nebraskans or 215,000 individuals do not have a broadband subscription at home. This includes:

- 32,000 individuals under 18 years old
- 102,000 individuals between 18 and 64 years old
- 81,000 individuals 65 years old or older

While the plight of K-12 students struggling to participate in online learning received media attention during the pandemic, those under 18 are the most likely to have a home broadband connection. 93% of Nebraskans under 18 have a broadband connection at home compared to 70% of Nebraskans 65 years and older. Those with lower incomes and lower levels of education as well as minority populations are also less likely to have an internet subscription. (See Table 1 in the appendix for more information.)

The percent of residents with a broadband subscription varies by county from a high of 94.2% in Sarpy County to a low of 67.6% in Garfield County. Here are the 10 Nebraska counties with the highest broadband subscription rates:

County	% Population with Broadband Subscription	Margin of Error
Sarpy County	94.2	0.4
Thomas County	92.9	3.2
Lancaster County	91.5	0.6
Polk County	90.3	2.1
Wayne County	90.1	2.3
Washington County	89.8	1.6
Cass County	89.6	1.5
Hamilton County	89.6	2.3
Seward County	89.1	1.4
Douglas County	88.9	0.4

Here are the ten Nebraska counties with the lowest broadband subscription rates.

County	% Population with Broadband Subscription	Margin of Error
Deuel County	78.1	5.0
Hitchcock County	76.1	4.1
Loup County	75.4	9.2
Cuming County	75.3	3.3
Pawnee County	74.0	4.8
Sioux County	73.9	6.8
McPherson County	72.2	9.4
Thurston County	70.2	2.5
Hooker County	68.7	9.9
Garfield County	67.6	7.7

Source: 2019 ACS 5-year

eHealth

Overview

Objectives:

- *To support the adoption of telehealth and 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:

Health IT technologies have been making care more accessible, coordinating care and sharing patient information at the point of care, and facilitating public health reporting. Investments in health IT enabled health care providers and public health agencies to better respond to the COVID-19 pandemic.

Broadband is a Social Determinant of Health. Lack of broadband is associated with poorer health outcomes. [One study](#) found that not having internet access was associated with a higher death rates from COVID-19 in rural, urban and suburban communities.

Telehealth. Telehealth has been used for patient consultations especially in rural areas of the state to expand access to care. The COVID-19 pandemic increased the use of telehealth nationwide and in Nebraska as CMS and other insurers allowed greater flexibility for the use of telehealth. [One study](#) found that the number of Medicare fee-for-service (FFS) visits increased 63-fold from 2019 to 2020, from approximately 840,000 telehealth visits in 2019 to nearly 52.7 million in 2020. Beneficiaries in urban areas were more likely to use telehealth, with 5.7% of visits for beneficiaries in urban areas using telehealth in 2020, compared to 4.3% of visits for beneficiaries in rural areas. Overall, 6.5% of visits were conducted via telehealth in 2020, up from 0.1% in 2019. A state by state analysis showed that Nebraska had the second lowest rate of telehealth visits in 2020 with only 2.7% of visits in Nebraska done via telehealth. Factors such as beneficiaries not having broadband connections in their homes or providers not having the capacity to conduct telehealth consultations may have contributed to Nebraska's low use of telehealth.

Health Information Exchange. 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. Health information exchange technologies also facilitate timely reporting of lab results, immunizations and syndromic surveillance information.

Patient Access. 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

- o **CyncHealth (formerly NEHII).** To help the state of Nebraska accurately track [COVID-19](#) cases and test results, the [Nebraska Health Information Initiative \(NEHII\)](#), in cooperation with the Nebraska Department of Health and Human Services, developed a COVID-19 dashboard which included real-time bed management, labs and patient tracking, and ventilator and PPE tracking information as well as forecasting of capacity and resource utilization. The dashboard went live in the spring of 2020.

In January 2021, the Nebraska Health Information Initiative (NEHII) and the Iowa Health Information Network approved forming a strategic partnership between the two organizations under the name CyncHealth. Under the arrangement, NEHII is continuing all services of IHIN as IHIN remains the state designated entity for purpose of administering and governing the statewide Iowa health information network. The partnership builds on collaborations between NEHII and IHN on community information exchanges, known as Unite Nebraska and Unite Iowa, that address social determinants of health issues. NEHII's President and CEO Jaime Bland explained, "This new Nebraska-Iowa affiliation will strengthen the region's core HIE services and bring needed innovation to help our healthcare communities."

LB 411, signed by Governor Pete Ricketts on May 24, 2021, requires most health care facilities to participate in CyncHealth. Healthcare facilities required to participate include ambulatory surgical centers, critical access hospitals, general acute hospitals, health clinics, hospitals, intermediate care facilities, long term care hospitals, mental health and substance use treatment centers, PACE (Program of All-Inclusive Care for the Elderly) Centers, pharmacies, psychiatric or mental hospitals, public health clinics, rehabilitation hospitals, diagnostic, laboratory, and imaging centers. Payers participating include insurers, health maintenance organizations, Medicare or Medicaid, a legal entity which is self-insured and provides health care benefits for its employees, or a person who is responsible for administering the payment of healthcare expenses for another person or entity. LB 411 excludes long-term care facilities, assisted living homes, skilled nursing facilities and any state-run health care facility (BSDC, regional centers, youth treatment facilities) from participation.

CyncHealth is continuing to work with the Nebraska Department of Health and Human Services to make enhancements to the Prescription Drug Monitoring Program, including improving the provisioning process, sharing data with 20 state, and integrating PDMP workflow integration into 36 hospitals and pharmacies.

CyncHealth is taking steps to improve the health data in Nebraska. Steps include:

Moving to full Certified Qualified Entity status to obtain Medicare claims data for public reporting

Recertifying National Committee for Quality Assurances (NCQA) Data Aggregator Validation (DAV) program and adding Federally Qualified Health Centers (FQHC's) to existing sites

Writing a second Social Determinants of Health (SDOH) measure and moving the existing Transportation Measure to next level review

Facilitating interoperability, Merit-based Incentive Payment System (MIPS), and regulatory reporting utilizing CyncHealth

CyncHealth is developing a patient portal which will include COVID-19 vaccination information, medication history, lab results and immunization records. The patient portal will be available in English and Spanish and will be available to those 18 and older. The portal will also include social and community resources and referrals.

- **Nebraska Department of Health and Human Services.** The Nebraska Department of Health and Human Services has been supportive of CyncHealth and the adoption of Health IT.
- **Federal Broadband Funding Opportunities.** Federal broadband funding opportunities will likely accelerate broadband deployment and advance digital equity efforts. See the Rural Broadband and Community IT action item for information on federal broadband funding opportunities.

Challenges/Issues:

- Broadband availability and subscription is a barrier to the use of telehealth, remote monitoring and technologies which enable patient access to health data and information.

Collaborators:

- TBD

Action Items

1. Action: Support the implementation of the BEAD and State Digital Equity planning processes.

Lead: Anne Byers

Timeframe: October 2022- October 2023

Funding: \$600,000 State Digital Equity Planning

Grant

Targets/Deliverables:

1. Webinars
2. Asset inventory
3. Listening sessions
4. Regional digital equity plans
5. State digital equity plan.

Community Council

Rural and Community IT Development

Jay Anderson, NebraskaLink

Rod Armstrong, Co-Chair, AIM Institute

Randy Bretz, EDxLincoln, Curator

Johnathan Hladik, Center for Rural Affairs

Rick Nelson, Custer Public Power District and Nebraska Rural Electric Association

Judy Petersen, Central Nebraska Economic Development District

Danny Rockhill, BankFirst

Jason Tuller, University of Nebraska Extension

Mehmet Can Vuran, University of Nebraska-Lincoln

Libraries and Local Government

Chris Anderson, City of Central City

Karen Connell, Columbus Public Library

Debora Robertson, Kilgore Public Library, York

Holly Woldt, Nebraska Library Commission

Resource Providers

Mary Ridder, Nebraska Public Service Commission (At Large)

Education Council

Post Secondary

Bret Blackman, University of Nebraska—Omaha

John Dunning, Wayne State College

Derek Bierman, Doane University

Greg Maschman, Nebraska Wesleyan University

Vacant, University of Nebraska

Tom Peters, Central Community College

Edward Koster, Southeast 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

Vacant, 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, CyncHealth

Marty Fattig, Nemaha County Hospital

Cindy Kadavy, Nebraska Health Care Association

Brian Sterud, Faith Regional Health Services

Anna Turman, Catholic Health Initiatives

eHealth Initiatives

Robert Wagner, CyncHealth

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

Liaquat Hossain, Ph.D., University of Nebraska at Kearney

GIS Council

Devarsi Majumder, Nebraska Game and Parks Commission

Ryan Werner, Department of Natural Resources

Vacant, Nebraska State Patrol

John Beran, State Surveyor's Office

Claire Inbody, Department of Transportation

Jennifer Parmeley, Department of Health and Human Services

Barbara Oswald, Department of Revenue

Tim Erickson, Legislative Research Office

Sue Krogman, Nebraska Emergency Management Agency

Christian Nielsen, Nebraska Public Service Commission

Shani Mach, Department of Environment and Energy

Dave Hattan, Office of the Chief Information Officer

Vacant, Governor's Policy Research Office

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

Eric Herbert, Omaha Metro Area -Sarpy County GIS

Neil Dominy, 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

Nancy Salmon, Nebraska Association of County Officials - Hamilton County Commissioner

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



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