

# Community Council

Tuesday, May 20, 2014

1:30 to 4:00 p.m. CT (12:30 to 3 p.m. MT)

NET Boardroom, 1800 North 33<sup>rd</sup> Street, Lincoln, NE

## Video Sites:

- **Grand Island Public Library**, 211 North Washington, Grand Island, NE
- **Voc Rehab Scottsbluff**, 505A Broadway, Suite 500, Scottsbluff, NE
- **Voc Rehab Norfolk**, 1212 West Benjamin, Norfolk, NE
- **Voc Rehab Kearney**, 215 West 60<sup>th</sup>, Suite 400, Kearney, NE
- **UNL Extension in Cheyenne County**, 920 Jackson Street, P.O. Box 356, Sidney, NE 69162-0356

[All meeting Documents](#)

## Tentative Agenda

1:30	Roll Call Notice of Posting of Agenda Notice of Nebraska Open Meetings Act Posting Review of minutes Public Comment
1:40	Maker Spaces and Fab Labs <ul style="list-style-type: none"><li>• Shane Farritor, University of Nebraska-Lincoln</li><li>• Michael Sauers, Nebraska Library Commission</li></ul>
2:25	Election of Chair* Charter Amendment*
2:30	Household Broadband Survey—Rebecca Vogt
2:50	Business Broadband Survey and Coaching—Charlotte Narjes
3:05	Broadband Map and Mobile Pulse—Gene Hand and Cullen Robbins
3:20	Updates, Preliminary Findings and Recommendations from Priority Areas <ul style="list-style-type: none"><li>• Vision*</li><li>• Broadband Availability and Affordability</li><li>• Economic Development</li><li>• Agriculture</li><li>• Digital Literacy</li></ul>
3:50	Next Steps
4:00	Adjourn

Meeting notices were posted on the Public Meeting and NITC websites on May 1, 2014. Agenda was posted on the Public Meeting and NITC websites on May 19, 2014.

**Community Council**  
of the  
**Nebraska Information Technology Commission**  
March 26, 2012, 1:30-3:30  
**Lincoln**--Executive Building, 521 South 14th Street, Suite 103  
**North Platte**—ESU 16, Distance Learning Room, 1221 West 17th Street  
**Omaha**—1313 Farnam on the Mall, 2nd Floor, Conference Room 207  
**MINUTES**

**MEMBERS PRESENT:**

Chris Anderson, City of Central City  
Rod Armstrong, AIM Institute  
Joan Modrell, Department of Labor  
Tim O'Brien, Department of Economic Development  
Jerry Vap, Nebraska Public Service Commission

**MEMBERS ABSENT:**

Linda Fettig, Rural Development Commission; Norene Fitzgerald; Darla Heggem, Twin Cities Economic Development; and John Jordison, Great Plains Communications

**ROLL CALL, NOTICE OF POSTING OF AGENDA, NOTICE OF NEBRASKA OPEN MEETINGS ACT POSTING**

In the absence of the chair, Anne Byers conducted the meeting. There were four members present at the time of roll call. A quorum existed to conduct official business. The meeting notice and agenda were posted on the Public Meeting and NITC websites on March 3, 2011.

Phil Green, Assistant City Administrator for Blair, has been nominated by Chris Anderson to serve on the Community Council representing Municipalities. Mr. Green introduced himself and provided a brief biography. Mr. Anderson has also nominated Brett Baker, City Administrator for Seward. He will be attending the meeting as well.

**APPROVAL OF MARCH 18, 2011 MINUTES\*** - This was tabled until a quorum was present.

**PUBLIC COMMENT**

There was no public comment.

**[LIBRARY BROADBAND BUILDS NEBRASKA COMMUNITIES](#)**, JoAnn McManus, Nebraska Library Commission

The U.S. Department of Commerce awarded the Nebraska Library Commission a \$2,416,403 grant to fund Nebraska's public computer center project, Library Broadband Builds Nebraska Communities. The three-year project, which runs from August 1, 2010 to July 31, 2013, is designed to expand broadband capacity; upgrade public computing resources in libraries; and advance access to employment, learning, health information and e-government services. In addition to the federal grant, the Bill & Melinda Gates Foundation is providing \$1,251,786 in matching funds, including a grant and technical assistance to support the project. The total project budget is \$3,668,189.

The Library Broadband Builds Nebraska Communities project also proposes to:

- Upgrade broadband access at 45 public computer centers, deploy more than 600 new workstations and upgrade another 475 at the 147 public library locations, to deliver rich Internet content and provide computer literacy training.
- Enable access for as many as 13,300 weekly users at libraries and increase the average Internet speeds available at public computer centers.
- Train as many as 42,700 residents with instructor-led training.

Project partners include the Center for Rural Affairs, the Center for Rural Entrepreneurship, Central Community College, the Nebraska Court Administrator's Office, the National Network of Libraries of Medicine: MidContinental Region, the Nebraska Community Foundation, the Nebraska Department of Labor, the University of Nebraska Extension, and the University of Nebraska Medical Center-McGoogan Library of Medicine.

Ms. Modrell arrived to the meeting

## **APPROVAL OF MARCH 18, 2011 MINUTES**

**Ms. Modrell moved to approve the [March 18, 2011 minutes](#) as presented. Mr. Vap seconded. Roll call vote: Anderson-Yes, Armstrong-Yes, Modrell-Yes, O'Brien-Yes, and Vap-Yes. Results: Yes-5, No-0, Abstain-0. Motion carried.**

### **[GIS UPDATE](#)**, Nathan Watermeier, NITC

The goal of the strategic planning process is to better understand the GIS/Geospatial stakeholder community and to develop a geospatial business plan for Nebraska that properly reflects the stakeholder priorities. Resources to support the planning process were made possible through a cooperative grant effort called the Fifty States Initiative implemented between the Federal Geographic Data Committee (FGDC) and the National States Geographic Information Council (NSGIC). The Office of the CIO was awarded a grant. An RFP for an outside third party vendor was released and it was awarded to Applied Geographics, Inc. Six stakeholder regional workshops were conducted in Omaha, Lincoln, Grand Island, Norfolk, Gering and North Platte. Since the completion of the workshops, Mr. Watermeier has been back out in the communities and counties. Much of what needs to be done regarding GIS for the state must involve county government. In addition to meeting with community stakeholders, Mr. Watermeier has been meeting with key agency directors. There is a need to for all entities, state, local and county to coordinate GIS efforts. Planning will continue for the next several months and will end with a business plan for geospatial data for the state. Mr. Watermeier will forward links of presentations given at a national GIS Symposium he recently attended and welcomed any feedback from the Community Council regarding GIS strategic planning.

## **MEMBERSHIP**

Brett Baker, Seward City Administrator, was in Lancaster County Administrator, was introduced. He has been nominated by Chris Anderson to serve on the council representing municipalities.

**Mr. Vap moved to approve the nominations of Phil Green and Brett Baker as new Community Council members and to forward the nominations to the NITC for final approval. Mr. Anderson seconded. Roll call vote: Anderson-Yes, Armstrong-Yes, Modrell-Yes, O'Brien-Yes, and Vap-Yes. Results: Yes-5, No-0, Abstain-0. Motion carried.**

Ms. Byers will be talking to Library Commission about nominations. Members were asked to give Ms. Byers any other recommendations for new members.

**[BROADBAND MAP UPDATE](#)**, Gene Hand, Public Service Commission  
Nebraska Broadband Map—[broadbandmap.nebraska.gov](http://broadbandmap.nebraska.gov) and National Broadband Map—[broadbandmap.gov](http://broadbandmap.gov)

Mr. Hand provided historical background on the Broadband Map for the guests and newly nominated council members. The project is in its third year. Data is collected twice a year – in April and in the fall. The current deadline to have data submitted is April 12<sup>th</sup>. It is anticipated that NebraskaMAP data will be updated by April 12<sup>th</sup> as well. A service provider portal has recently been created. The portal is available 24/7 so that providers can view their data. So far 48 of the service providers have received training and 42 have actually accessed the portal. Tools for public interaction are under development for next go round. There are still service providers that refuse to participate in project and do not provide their data. The Federal government is considering using the broadband map data from states to distribute USF.

**[BROADBAND PLANNING UPDATE](#)**—[broadband.nebraska.gov](http://broadband.nebraska.gov)  
Charlotte Narjes, Center for Applied Rural Innovation, University of Nebraska

The NITC Community Council is the advisory group for Nebraska's Broadband Planning efforts. After the regional groups complete their work, a statewide plan will be developed. The Community Council will need to provide input and give final approval. The next meeting is April 10<sup>th</sup> for the Broadband Planning Committee. Ms. Narjes provided an update focused around the three project areas – Capacity Building, Technical Assistance and Regional Planning.

Capacity Building will benchmark technology use across relevant community sectors; set goals for improved technology use within each sector; and develop a plan for achieving its goals, with specific recommendation or web-based application development and demand creation. Projects include:

- Internet Connectivity and Use in Nebraska: Household Survey
- Business Survey
- Inventory of Broadband and Digital Literacy Programs
- Focused Surveys
- Government and Economic Developer Survey
- Creating Broadband Plan/Administrative

Technical Assistance will provide technical assistance on supporting entrepreneurs through technology, and other topics to local governments, chambers of commerce and economic developers especially in areas of lower than average broadband subscribership. Projects include:

- State Conference
- Regional Workshops
- Webinars
- Best Practice Videos
- Entrepreneur Acceleration System (EAS)
- Technical Assistance Expertise
- Broadband Portal Development

Local and Regional Planning Teams program will augment regional planning approaches identified in the initial grant application with community planning, business and entrepreneurial discussion, government discussions, and agriculture discussions. Projects include:

- Regional Planning Teams
- Community Planning – North and South Omaha
- Community Planning – Cultural and Un-served Communities
- Focus Groups
- Community Sector Discussions

There will be a Broadband Connecting Nebraska Conference on October 2, 2012 in Lincoln. Vint Cerf, Google Vice President and Chief Internet Evangelist, will be keynote speaker. Mr. Armstrong also distributed information about the Infotec Conference, April 17-18, at the CenturyLink Center in Omaha sponsored by the AIM Institute.

**HEALTH INFORMATION EXCHANGE UPDATE**, Anne Byers, Community I.T. Manager

In March 2010, the State received funding to implement statewide health information exchange in Nebraska. As of today, the Nebraska Health Information Initiative (NeHII) has 17 hospitals connected. NeHII is also working with the Nebraska Department of Health and Human Services to implement a Prescription Drug Monitoring Program (PDMP). Nebraska has the lowest rate of narcotics death in the nation. The grant is in its second year.

## **ADJOURN**

With no further business, Ms. Byers adjourned the meeting at 2:46 p.m.

Meeting minutes were taken by Lori Lopez Urdiales and reviewed by Anne Byers of the Office of the CIO/NITC.

# Community Council Members and Nominees

## Rural and Community IT Development

### Members

**Rod Armstrong**, AIM Institute

**Norene Fitzgerald**

**Darla Heggem**, Twin Cities Development, Scottsbluff

**Joan Modrell**, Nebraska Department of Labor

**Pam Adams**, American Broadband

**Randy Bretz**, TEDxLincoln Curator

**Dave Hahn**, Nebraska Information Network

**Connie Hancock**, University of Nebraska Extension

**Jacob Knutson**, Nebraska Department of Economic Development

**Kim Kuhle**, US Bank

**David Lofdahl**, IT Consultant

**Paul Ludwick**, Nebraska Link

**Monica Lueking-Crowe**, Furnas Harlan Partnership

**Marion McDermott**, Kearney Area Chamber of Commerce

**Megan McGown**, City of Sidney, Community Development Director

## Libraries and Local Government

### Members

**Chris Anderson**, City of Central City

**Brett Baker**, City of Seward

**Phil Green**, City of Blair

**Jessica Chamberlain**, Norfolk Public Library

**Steve Fosselman**, Grand Island Public Library

**Steve Henderson**, City of Lincoln

**Holly Woldt**, Nebraska Library Commission

## At Large

### Members

**Jerry Vap**, Nebraska Public Service Commission

Nebraska Information Technology Commission  
**Community Council Charter**

## **1. Introduction**

The Community Council (hereafter referred to as “Council”) of the Nebraska Information Technology Commission (hereafter referred to as “Commission”) is an advisory committee of the Commission composed of representatives from rural and community IT development, local governments and libraries, telehealth, resource providers, and other focus areas as deemed appropriate by the Community Council and the NITC. The Council was originally formed by Executive Order 97-7 in November 1997 to identify, prioritize, and coordinate user needs with respect to community information technology. The Community Council first met on January 30, 1998.

## **2. Purpose of Charter**

The purpose of this charter is to provide operational guidance to the Council members and to provide general information to all who read the proceedings and recommendations of the Council.

## **3. Authority**

The authority for the Community Council of the Nebraska Information Technology Commission is derived from Section 6-7 of LB924 passed April, 1998. LB 924, Sec 6-7. "Establish ad hoc technical advisory groups to study and make recommendations on specific topics, including work groups to establish, coordinate, and prioritize needs for education, local communities, and state agencies[.]" NEB. REV. STAT. § 86-1506(7).

## **4. Nebraska Information Technology Commission Responsibilities and Mission**

### **4.1 Commission Mission**

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

<http://www.nitc.state.ne.us/>

## **4.2 Commission Responsibilities:**

4.2.1 Adopt policies and procedures used to develop, review, and annually update a statewide technology plan;

4.2.2 Create a technology information clearinghouse to identify and share best practices and new developments, as well as identify existing problems and deficiencies;

4.2.3 Review and adopt policies to provide incentives for investments in information technology infrastructure services;

4.2.4 Determine a broad strategy and objectives for developing and sustaining information technology development in Nebraska, including long-range funding strategies, research and development investment, support and maintenance requirements, and system usage and assessment guidelines;

4.2.5 Adopt guidelines regarding project planning and management, information-sharing, and administrative and technical review procedures involving state-owned or state-supported technology and infrastructure. Governmental entities, state agencies, and political subdivisions shall submit projects that directly utilize state-appropriated funds for information technology purposes to the process established by NEB. REV. STAT. §§86-1501 to 86-1514. Governmental entities and political subdivisions may submit other projects involving information technology to the Commission for comment, review, and recommendations;

4.2.6 Adopt minimum technical standards, guidelines, and architectures upon n by the technical panel created in NEB. REV. STAT. §86-1511;

4.2.7 Establish ad hoc technical advisory groups to study and make recommendations on specific topics, including work groups to establish, coordinate, and prioritize needs for education, local communities, and state agencies;

4.2.8 Make recommendations on technology investments to the Governor and the Legislature, including a prioritized list of projects, reviewed by the technical panel, for which new or additional funding is requested;

4.2.9 Approve grants from the Community Technology Fund and Government Technology Collaboration Fund; and

4.2.10 Adopt schedules and procedures for reporting needs, priorities, and recommended projects.

## **5. Community Council Mission and Responsibilities**

### **5.1 Council Mission**

The mission of the Council is to foster the collaborative, innovative, and effective use of technology through partnerships between public and private sectors to support community and economic development for Nebraska citizens.

### **5.2 Council Responsibilities**

5.2.1 Assist the Commission in developing, reviewing and updating the statewide technology plan.

5.2.2 Identify specific community information technology needs in Nebraska.

5.2.3 Develop strategies to address the unique circumstances of rural areas with sparse population.

5.2.4 Establish such subcommittees and task forces as necessary and appropriate to advise the Council on specific issues.

5.2.5 Recommend policies, guidelines and standards that promote economic opportunities, innovation, and entrepreneurship to improve quality of life in communities through the use of information technology.

5.2.6 Recommend policies and initiatives that promote awareness, access, training, partnerships, and planning for the use of information technology in communities.

5.2.7 Review and make recommendations to the Commission on requests for funds from the Community Technology Fund.

## **6. Membership**

### **6.1 Number of Members**

The Council membership includes representatives from each of its focus areas: rural/community IT development and local government/libraries, resource providers, and other groups as deemed appropriate by the Community Council and the NITC. The number of members shall be between 18 and 24. The Commission shall solicit nominations from organizations or individuals with an active interest or involvement in community information technology issues. Nominations shall describe the qualifications of the person relative to the goals of the Community Council. In choosing members, the Council shall strive for a balance of perspectives on community information technology issues.

## **6.2 Representation**

**The following focus areas will be represented within the Community Council**

6.2.1 Rural and Community IT Development

6.2.2 Local Government and Libraries

6.2.3 At-large, Resource Sector

6.2.4 Other focus areas as deemed appropriate by the Community Council and the NITC

## **6.3 Member Responsibilities**

Each member is responsible for maintaining two-way communication with their sector constituents concerning issues brought before the Council. Failure to provide adequate representation and communication may be grounds for dismissal from the Council.

## **6.4 Vacancies**

Vacancies shall be filled in the same manner as the initial appointments for the remainder of the original term. The seat of a Council member who accumulates absences from more than half of the Council's yearly meetings shall be considered vacant.

## **6.5 Length of Service**

One-half of the members in each sector shall serve for 3-year terms. All other members and all subsequent additions shall serve 2-year terms.

## **7. Meeting Procedures**

### **7.1 Chair(s)**

The elected Chair or Co-Chairs will conduct the meetings of the Council, oversee the establishment, operation and dissolution of committees, propose meeting agendas, and maintain the general operations of the Council. The Chair or Co-Chairs of the Council will serve two year staggered terms, expiring on January 1.

### **7.2 Quorum**

An official quorum consists of 50% of the official members or their voting alternates. No official voting business may be conducted without an official quorum.

### **7.3 Designated Alternates and Non-voting Alternates**

7.3.1 Each member of the Council shall designate one (1) official voting alternate.

This official voting alternate shall be registered with the Office of the Chief Information Officer and NITC and, in the absence of the official member, have all the privileges as the official member on items of discussion and voting.

7.3.2 If the official member and his/her official alternate are unable to attend a Council meeting either in person or electronically, then the sub-sector affected may send a non-voting alternate to gather or share information.

#### **7.4 Meeting Frequency**

The Council shall meet ~~not fewer than four times per year (quarterly)~~ as needed, generally two or three times a year.

#### **7.5 Subcommittees**

The Council may, as it deems necessary, form task forces, teams, work groups, and special, ad hoc, and standing subcommittees to carry out its mission and responsibilities. Each time a new subcommittee is formed under the Council, the following seven sections must be decided and assigned within 30 days of formation.

##### **7.5.1 Authority**

The authority of any subcommittee of the Council is obtained and assigned through an official motion of the Commission and/or Council.

##### **7.5.2 Goals**

The Chair or Co-Chairs of the Council assign the goals of any subcommittee of the Council.

##### **7.5.3 Charge**

The Council delivers the charge to the subcommittee, which includes a quarterly progress report back to the Council at its regular meeting.

##### **7.5.4 Membership**

The membership of each subcommittee of the Council shall be determined by appointment, election, or volunteerism, whichever means is most suitable to the Council. The subcommittees may include members from outside the Council as resource persons, as determined by the Council.

##### **7.5.5 Leadership**

Each subcommittee of the Council shall have a chair or co-chairs to provide leadership. The Chair(s) of the Council may appoint a chair or co-chairs or the majority of the subcommittee may elect a chair or co-chair.

#### 7.5.6 Duration

The Council shall assign each subcommittee a specific duration to complete its charge. At the conclusion of the duration and delivery of its charge, the subcommittee shall be dissolved. If the subcommittee requires a longer duration than has been assigned, the chair of the subcommittee shall request an extension or renewed duration.

#### 7.5.7 Process

The subcommittees charged by the Council may conduct their own meetings and forums away from the Council's regular meetings. The chair of the subcommittee must inform the Office of the CIO-NITC of the date, time, and location of additional meetings.

#### 7.5.8 Open Meetings

"Sections 84-1408 to 84-1414 of the Open Meetings Law shall not apply to subcommittees of such bodies unless a quorum of the public body attends a subcommittee meeting or unless such subcommittees are holding hearings, making policy, or taking formal action on behalf of their parent body..."

### **7.6 Expense Reimbursement**

81-1182.01 "Any department, agency, Commission, council, committee, or board of the state may pay for the reasonable and necessary expenses for the recruitment, training, utilization, and recognition of volunteers providing services to the state and certain providers of services as established by the Director of Administrative Services."

7.6.1 NAS Policy CONC-005 "Volunteers shall mean those persons providing services to the State who are not being compensated for their time."

7.6.2 Council members needing reimbursement must submit a signed request to the Office of the CIO-NITC using the official state accounting forms.

### **7.7 Open Meeting Laws and Public Notice**

It is the policy of the State of Nebraska that the formation of public policy is public business and may not be conducted in secret. Every meeting of a public body shall be open to the public in order that citizens may exercise their democratic privilege of attending and speaking at meetings of public bodies.

#### 7.7.1 Advance Notice

The Council shall give reasonable advance publicized notice of the time, place, and agenda of each meeting through the use of its web page, <http://nitc.nebraska.gov>. The agenda will also be available for public inspection during normal business hours at the Office of the CIO-NITC, 501 S. 14<sup>th</sup>, 4<sup>th</sup> floor, Lincoln, Nebraska.

#### 7.7.2 Videoconferencing

Meetings of the Council may be held by means of videoconferencing if reasonable advance publicized notice is given; reasonable arrangements are made to accommodate the public's right to attend, hear, and speak; at least one copy of all documents being considered is available at each site; one member of the council is present at each site of the videoconference; and no more than one-half of the Council's meetings in a calendar year are held by videoconference.

#### 7.7.3 Rights of the Public

It is not a violation for the Council to make and enforce reasonable rules and regulations regarding the conduct of persons attending, speaking, reporting, videotaping, photographing or recording its meetings. The Council may not forbid public participation at all meetings but may not be required to allow citizens to speak at each meeting. The Council shall not require members of the public to identify themselves as a condition for admission to the meeting but may do so as a condition for addressing the Council.

#### 7.7.4 Minutes and Voting

The Council shall keep minutes of all meetings showing the time, place, members present and absent and the substance of all matters discussed. Any action taken on any question or motion duly moved and seconded shall be by roll call vote of the Council in open session, and the record shall state how each member voted or if the member was absent or not voting. The roll call shall be called on a rotational basis. Minutes shall be written and available for inspection within ten working days or prior to the next convened meeting, whichever occurs earlier.

Minutes shall be approved by the chair or co-chairs and will be available for review at the next Council meeting.

*Approved by the Nebraska Information Technology Commission on Sept. 18, 2007.*



Engaging People. Linking the World.

# CONNECTING

**Internet Connectivity and Use in Nebraska:  
Results from Household Broadband Survey**





Engaging People. Linking the World.

**CONNECTING**

## Survey Methodology

- 14 page questionnaire mailed in January and February 2014
- Households were sampled equally from eight regions across the state and oversampled South Omaha, North Omaha and part of the North Central region
- 35% response rate (2798 responses out of 8024 deliverable surveys)
- Margin of error = 1.85%



Engaging People. Linking the World.

**CONNECTING**

## Study Highlights

- Nebraska households with Internet access at home increased from 81% in 2010 to 86% this year
- Households with broadband Internet service increased from 76% to 82%



Engaging People. Linking the World.

**CONNECTING**

## Reasons for Not Having Internet at Home

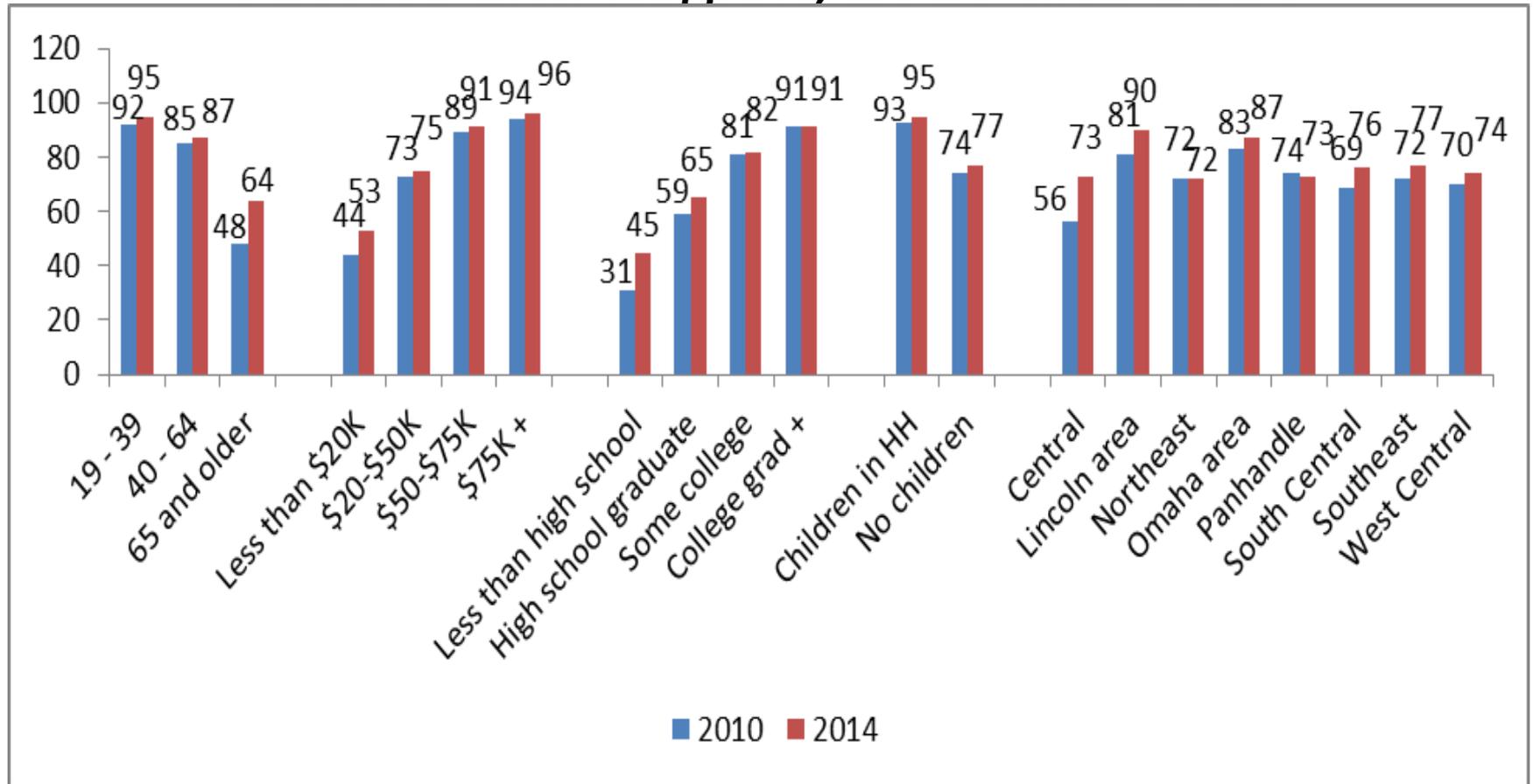
- Most non-Internet users don't have a computer (65%)
- 36% say it is too expensive
- 34% have no interest in using the Internet/don't need it



Engaging People. Linking the World.

# CONNECTING

## Broadband Service by Demographic Factors and Region, 2010 and 2014

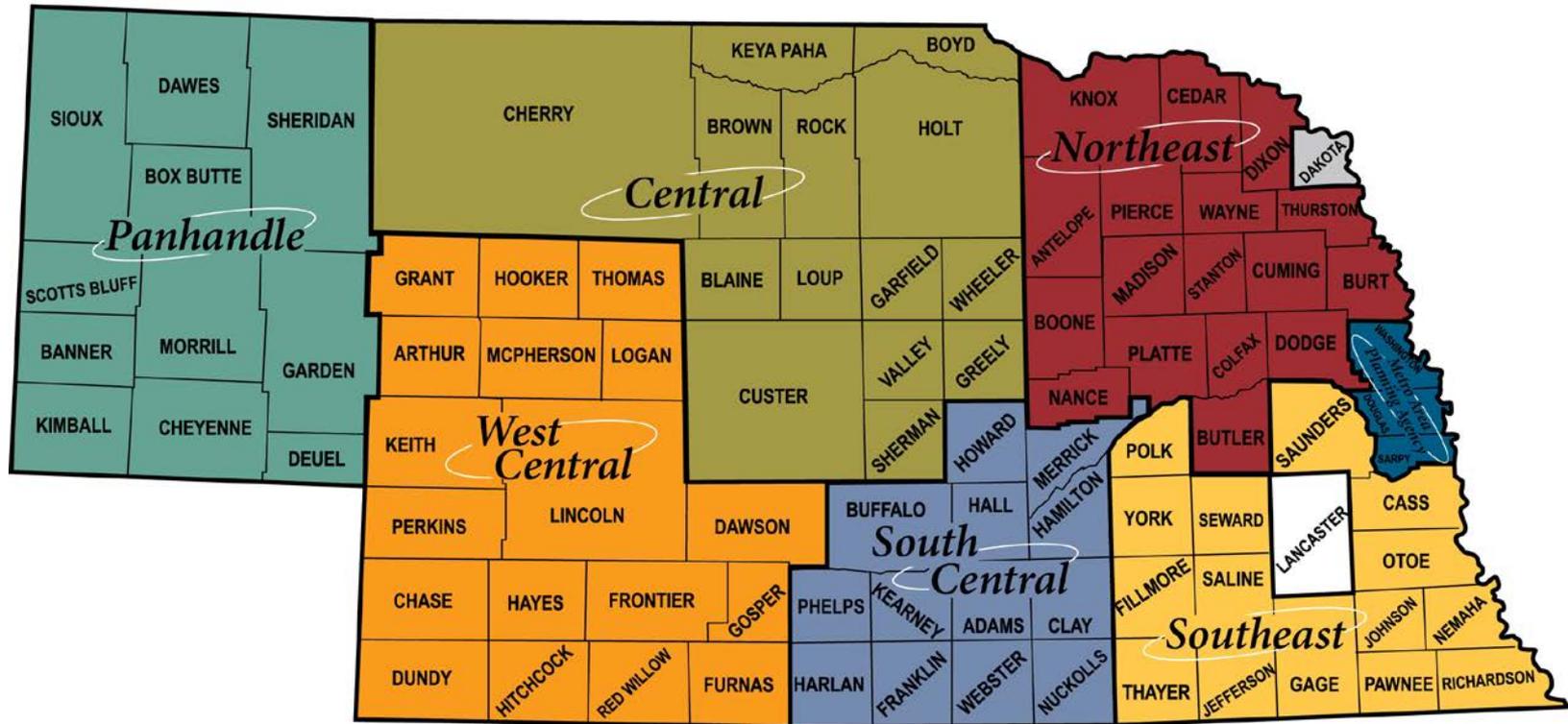




Engaging People. Linking the World.

# CONNECTING

## Economic Development Districts





Engaging People. Linking the World.

**CONNECTING**

## Internet Activities

- Common Internet activities: sending or receiving e-mail, doing research or searching for information, getting news/weather information, looking for health information, using a social networking site, and online banking or bill pay.



Engaging People. Linking the World.

# CONNECTING

## Internet Activities, 2010 and 2014

	2010	2014
Use a social networking site	69%	80%
Watch a video	72%	79%
Online banking or bill pay	72%	79%
VoIP, Skype, magicJack	19%	37%
Two-way audio/video meetings	15%	27%



Engaging People. Linking the World.

# CONNECTING

## Satisfaction with Internet Service by Type of Service

	<u>Overall</u>	<u>Price</u>	<u>Reliability</u>	<u>Speed</u>	<u>Customer service</u>
	% very or somewhat satisfied				
<b>All Internet Users</b>	62	36	69	60	56
<b>Dial-up Users</b>	71	50	50	50	53
<b>DSL Users</b>	59	40	65	50	51
<b>Satellite Users</b>	63	45	60	59	58
<b>Fixed Wireless Users</b>	70	44	73	67	65
<b>Cable Modem Users</b>	61	25	72	64	56
<b>Fiber Users</b>	72	59	83	75	64
<b>Wireless Mobile Users</b>	66	40	72	69	55



Engaging People. Linking the World.

# CONNECTING

## Satisfaction with Types of Internet Services Available in Area

- Opinions are mixed about the types of Internet service available in their community or area
  - ✓ Many (37%) are somewhat or very satisfied, compared to 28% that are somewhat or very dissatisfied
- Residents living outside city limits are more likely than residents living within city limits to express dissatisfaction with the types of services available



Engaging People. Linking the World.

**CONNECTING**

## Access to Public Use Facilities

- Most households (77%) have access to a public use facility where they can use an Internet-accessible computer for free
- 32% of households without Internet at home use the computer resources at these facilities
- Asians/Pacific Islanders (54%) and American Indians/Alaska Natives (56%) use these computer resources



Engaging People. Linking the World.

**CONNECTING**

## Availability of Free Public 'Hotspots'

- 77% of Nebraska households agree it is important to have free public Internet 'hotspots' available in community
- 46% agree that they are more likely to frequent businesses that offer free Internet 'hotspots'



Engaging People. Linking the World.

**CONNECTING**

Complete report available at  
[broadband.nebraska.gov](http://broadband.nebraska.gov)

## Broadband Use by Nebraska Businesses

In Sept. 2013, the Nebraska Broadband Initiative partnered with Strategic Networks Group (SNG) to conduct a survey of Nebraska businesses on their use of broadband technologies. The findings are summarized below:

### Broadband Utilization and Impact

Nebraska businesses are creating jobs and increasing revenue through the use of broadband applications.

- Broadband use is having a positive impact on jobs, with 364 respondents reporting a net increase of 654 jobs due to using the Internet. Over 50% of net jobs reported by respondents were attributed to use of the Internet.
- Broadband use is also having a positive impact on business revenue with typical respondents reporting 25 to 45 percent of revenue from the Internet.
- Cost savings of 4 percent were reported by respondents.

Nebraska businesses on average are utilizing 13 Internet applications and processes.

- Over 85 percent of businesses use the Internet to purchase goods and services online.
- Over 60 percent of organizations sell goods and services online and over 53 percent deliver services and content online.
- The two areas with lowest current utilization (service delivery and rich media content) also have the highest level of planned use.
- 55% of respondents are using cloud services with another 17% actively considering using cloud services. Access from any location was cited as the biggest driver for the adoption of cloud services.

Mobile devices and access are becoming increasingly important to Nebraska businesses.

- Over 88 percent of organizations use some form of web-enabled mobile device, with 84% using a web-enabled laptop computer, closely followed by web-enabled mobile phones (81.3%).

Broadband availability is impacting business location decisions.

- Over 50 percent of businesses say that the availability of broadband services was essential or very important for selecting their business location, and 83 percent say that broadband is essential or very important for remaining in their current location.

Broadband utilization varies by employment size, region and community size, and industry.

- Broadband utilization increases with employment size.

- Broadband utilization varies by region and community size, with businesses in the Omaha and Lincoln areas reporting the highest utilization of Internet technologies. Businesses in Central Nebraska (Cherry, Keya Paha, Brown, Rock, Boyd, Holt, Blaine, Loup, Garfield, Wheeler, Custer, Valley, Greely, and Sherman Counties) reported lower levels of utilization of Internet technologies. Businesses in isolated small towns reported lower levels of utilization of broadband technologies than businesses located in larger communities.
- Broadband utilization varies by industry, with educational services; information; professional and technical service; finance and insurance; and retail trade having the highest utilization levels. Agriculture, forestry and fishing had the lowest levels of utilization.

Broadband applications are becoming increasingly important for agricultural producers.

- The use of broadband technologies by agricultural producers is increasing with significant numbers of producers using the Internet for regulatory management (58%), business planning (58%), crop management (50%), and direct product sales (45%).

### **Broadband Access and Satisfaction**

Nearly all Nebraska businesses have broadband access, and 75% of businesses are satisfied with their broadband service.

- Nearly all respondents have broadband access, with cable (29%), DSL (24%) and fiber (19%) as the predominant technologies. Small enterprises (less than 20 employees) are more likely to use DSL and fixed wireless. Fiber and T1 connectivity is far more common among large enterprises.
- A small percentage of businesses use dial-up (0.3 percent) and satellite (1.8 percent) as their primary connections. These are predominately very small businesses.
- Speed test results show significant difference between technologies, with fiber providing the fastest connection speeds. Fixed wireless, cable and T1 connections formed the second fastest tier of services. DSL, mobile wireless, and satellite connections recorded the slowest speeds.
- Speed test results from metropolitan areas were higher than speeds from non-metro areas.
- Approximately 65% of respondents taking the speed test had download speeds of at least 6 mbps. In comparison, approximately 25% had upload speeds of at least 6 mbps.
- Just over a quarter of respondents taking the speed test had upload speeds of less than 768 kbps. Slow upload speeds may limit the adoption of higher level applications which involve the creation and sharing of information electronically.
- The monthly expenditures of Internet connectivity increase with business size. Over 76 percent of very small establishments (1-9 employees) spend less than \$150 per month, while almost 50 percent of establishments with 250 or more employees spend \$2,000 or more per month.

- Fiber is considered the most reliable technology. Satellite was assessed as the least reliable, with 54 percent of respondents with satellite service reporting frequent or occasional problems, followed by mobile wireless

### **Barriers and Adoption Uses**

Security and privacy concerns are bigger barriers to adoption of broadband technologies than the speed of available Internet service.

- Security and privacy concerns were the most significant barriers with 56% of respondents citing security concerns and 46% citing privacy concerns as very important.
- Sixteen percent of respondents cited Internet speed as a very important barrier to broadband utilization.

The complete report, *Nebraska Broadband eSolutions Benchmarking Report: Utilizations and Impacts of Broadband for Nebraska Businesses* is available at [broadband.nebraska.gov](http://broadband.nebraska.gov).

# Nebraska Broadband Plan

## Vision and Draft Findings

Draft—May 2014

### Vision

Nebraska's broadband vision is that residents, businesses, government entities, community partners, and visitors have access to affordable broadband service and have the necessary skills to effectively utilize broadband technologies.

**Goal 1:** To increase economic development opportunities, create good-paying jobs, attract and retain population, overcome the barriers of distance, and enhance quality of life in Nebraska by facilitating the continuing deployment of broadband technologies which meet the need for increasing connection speeds.

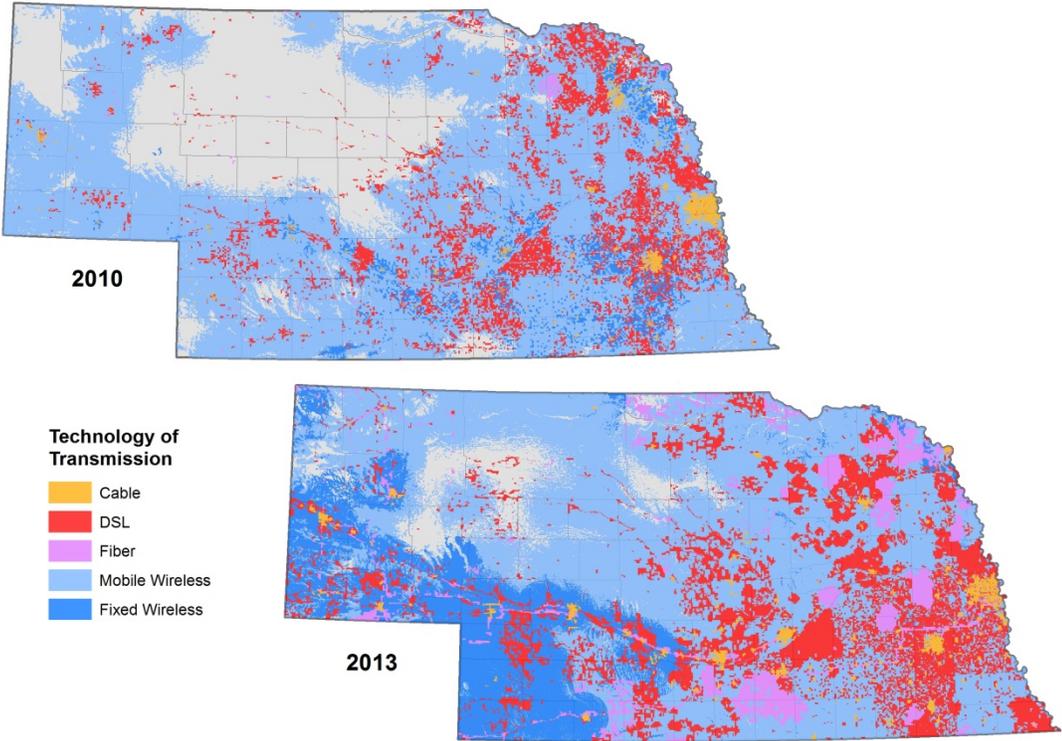
**Goal 2:** To facilitate digital literacy and the widespread adoption of broadband technologies in business, agriculture, health care, education, government and by individual Nebraskans.

# Broadband Availability

Broadband is available to nearly all Nebraskans.

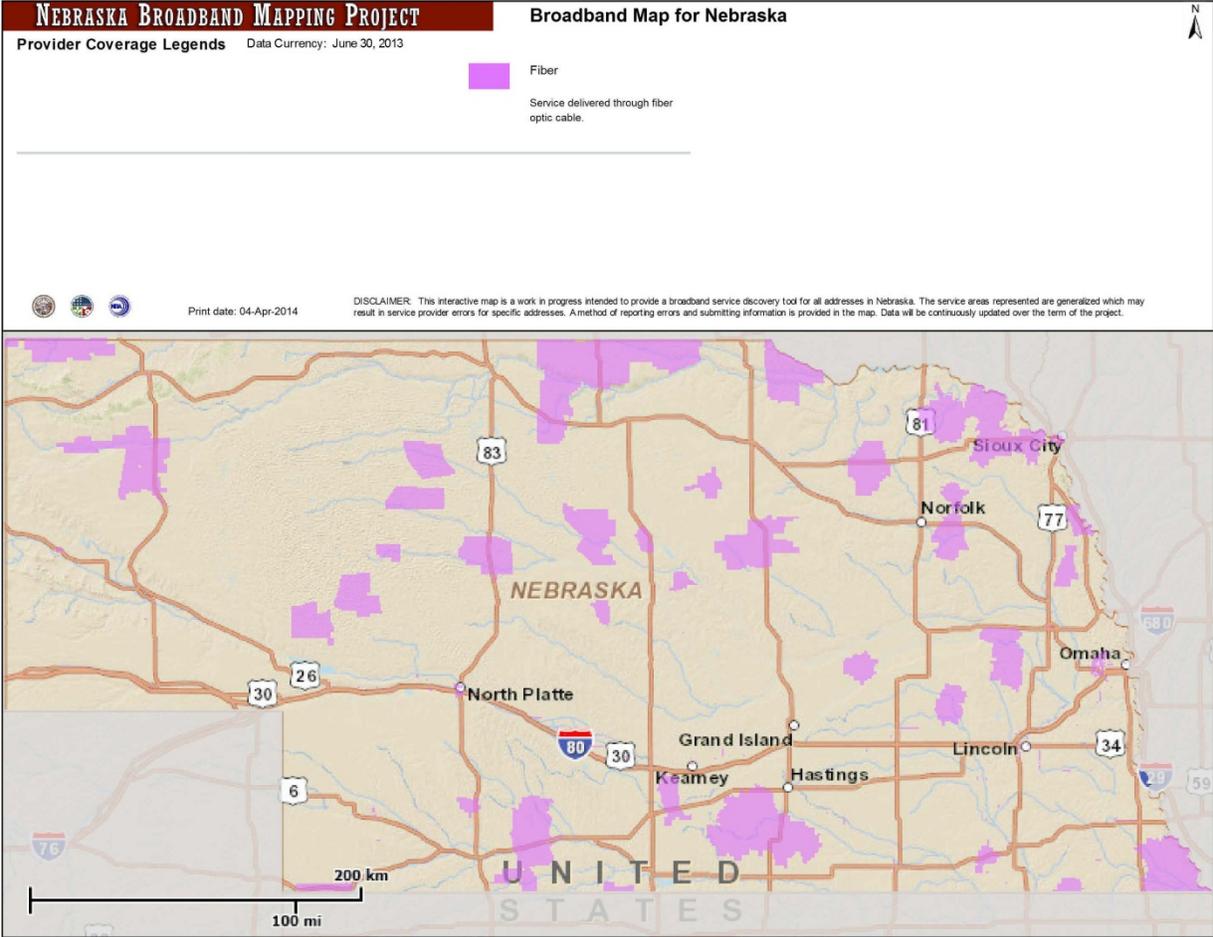
- Broadband at download speeds of greater than 3 Mbps and upload speeds greater than .768 mbps is available to 99.2% of Nebraskans. Nebraska ties for 24<sup>th</sup> on this measure according to the federal broadband map ([www.broadbandmap.gov](http://www.broadbandmap.gov)).<sup>1</sup>

Broadband availability in Nebraska improved between 2010 and 2013 as shown on the following map from the Nebraska Broadband Map ([broadbandmap.nebraska.gov](http://broadbandmap.nebraska.gov)). Some areas of the state remain unserved, however.



<sup>1</sup> Data from [www.broadbandmap.gov](http://www.broadbandmap.gov) as of June 30, 2013.

Fiber deployment in Nebraska is increasing. Below is a map of the fiber reported for the broadband map using data provided in December 2013. Going to the broadband map (<http://broadbandmap.nebraska.gov>) and zooming in shows additional areas in which service is delivered through fiber optic cable.



**Mobile connections are becoming increasingly important to residents and businesses.**

- The number of mobile broadband connections is increasing nationwide, with the number of mobile connections nearly equal to the number of fixed connections. At the end of 2012, there were almost 65 million fixed and 64 million mobile connections in the United States with download speeds at or above 3 Mbps and upload speeds at or about 758 kbps, up from 51 million fixed and 31 million mobile connections in 2011.<sup>2</sup>
- Over 88 percent of Nebraska businesses use some form of web-enabled mobile device, with 84% using a web-enabled laptop computer, closely followed by web-enabled mobile phones (81.3%).<sup>3</sup>
- Mobile coverage may be challenging for some residents in rural Nebraska. Anecdotal reports indicate that some residents need to subscribe to two providers of mobile cellular services in order to have the coverage they need locally.
- Mobile coverage limitations in rural areas of Nebraska may impact the adoption and utilization of some precision agriculture technologies which rely on mobile broadband services.

**The market for middle-mile services in Nebraska has become more competitive.**

- In 2010, NebraskaLink, a partnership of seven Nebraska local telecommunications providers, received an \$11.5 million BTOPT grant to deploy a high-speed, middle mile fiber-optic network across the state of Nebraska. NebraskaLink's entry has improved the availability of middle-mile services and has made the market more competitive.

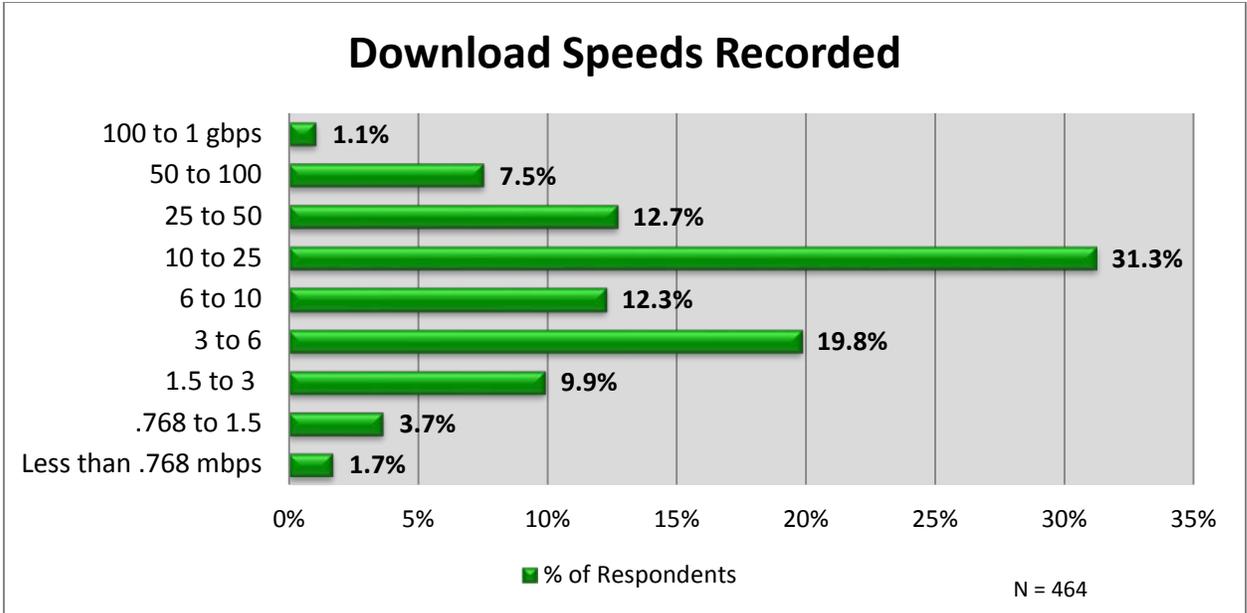
**Nearly all Nebraska businesses have broadband access, and 75% of businesses are satisfied with their broadband service.<sup>4</sup>**

- Approximately 65% of respondents taking the speed test had download speeds of at least 6 mbps. In comparison, approximately 25% had upload speeds of at least 6 mbps.

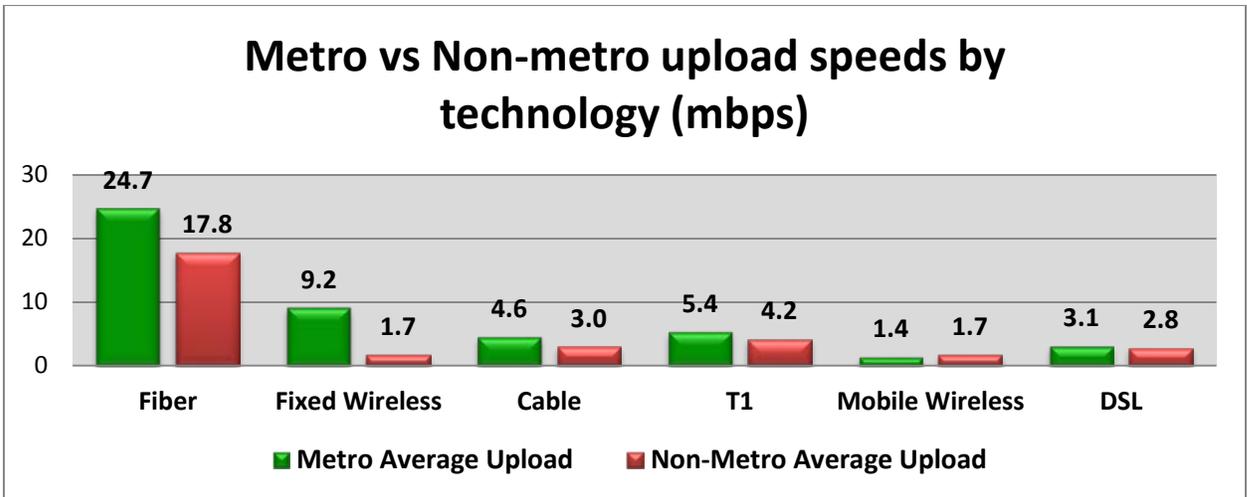
<sup>2</sup> FCC Report: Internet Access Services: Status as of Dec. 31, 2012 available at <https://prodnet.www.neca.org/publicationsdocs/wwpdf/122413report.pdf>

<sup>3</sup> Nebraska Broadband eSolutions Benchmarking Report: Utilizations and Impacts of Broadband for Nebraska Businesses is available at <http://broadband.nebraska.gov>

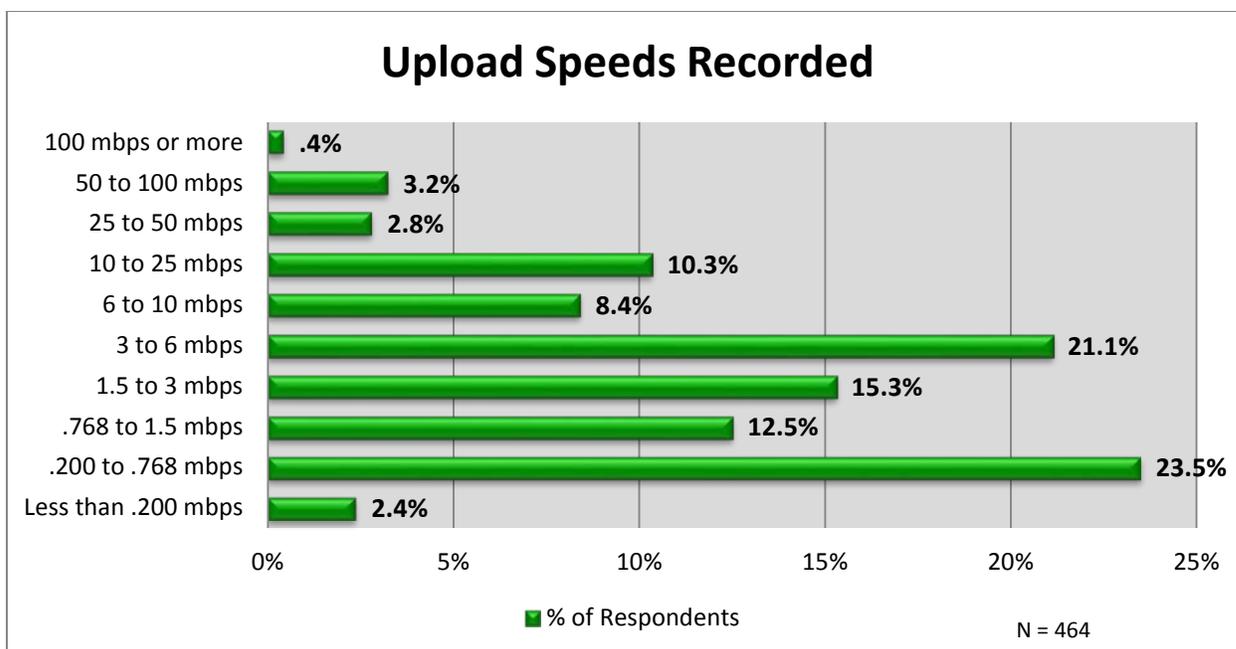
<sup>4</sup> Nebraska Broadband eSolutions Benchmarking Report: Utilizations and Impacts of Broadband for Nebraska Businesses is available at [broadband.nebraska.gov](http://broadband.nebraska.gov)



- Speed test results from metropolitan areas were higher than speeds from non-metro areas.



- Approximately 25% had upload speeds of at least 6 mbps, and just over a quarter of respondents taking the speed test had upload speeds of less than 768 kbps. Slow upload speeds may limit the adoption of higher level applications which involve the creation and sharing of information electronically.



- Speed test results show significant differences between technologies, with fiber providing the fastest connection speeds. Fixed wireless, cable and T1 connections formed the second fastest tier of services. DSL, mobile wireless, and satellite connections recorded the slowest speeds.
- Most businesses in Nebraska are accessing the Internet through cable (29%), DSL (24%) and fiber (19%) connections. Small enterprises (less than 20 employees) are more likely to use DSL and fixed wireless. Fiber and T1 connectivity is far more common among large enterprises.
- A small percentage of businesses use dial-up (0.3 percent) and satellite (1.8 percent) as their primary connections. These are predominately very small businesses.
- The monthly expenditures of Internet connectivity increase with business size. Over 76 percent of very small establishments (1-9 employees) spend less than \$150 per month, while almost 50 percent of establishments with 250 or more employees spend \$2,000 or more per month.
- Fiber is considered the most reliable technology. Satellite was assessed as the least reliable, with 54 percent of respondents with satellite service reporting frequent or occasional problems, followed by mobile wireless

## Education

**Network Nebraska-Education has enabled the exchange of video distance learning classes and decreased the cost of commodity Internet for participating K-12 entities.**

- Over 270 entities participate in Network Nebraska-Education, including:
  - 94% of K-12 public school districts
  - 100% of Educational Service Units
  - 100% of the University of Nebraska campuses
  - 100% of state colleges
  - 100% of community colleges
  - 100% of tribal colleges
  - 50% of private colleges/universities
  - 3% of private K-12 schools
- Since 2007, Network Nebraska has been able to lower the unit cost of commodity Internet by 99% for its members.
- Nebraska K-20 education now enjoys one of the lowest unit costs for commodity Internet in the entire country.
- The deployment of 1:1 computing devices in schools and the migration to digital content and online assessments are significantly increasing broadband utilization by schools.

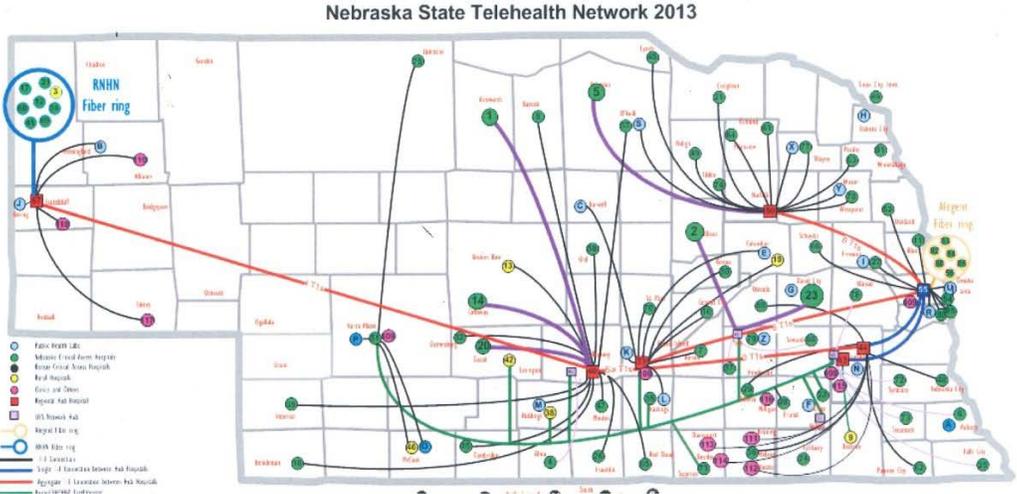
## Libraries

**In 2010 the Nebraska Library Commission received a \$2.4 million BTOP grant with 1.25 million in matching funds provided by the Bill & Melinda Gates Foundation. The Library Broadband Builds Nebraska Communities BTOP grant significantly improved the capacity of libraries in Nebraska to provide public access to computers and broadband.**

- A total of 129 libraries received 168 broadband upgrades, including 34 upgrades to fiber and two to faster fiber. The average Internet speed of all 147 participating libraries moved from 3.8 mbps at the start of the project to 19.7 mbps on Sept. 30, 2013.
- As of the end of the grant in September 2013, 8 participating libraries had broadband speeds of 100 mbps or greater, 13 had speeds between 35 and 99 mbps, 36 had speeds between 11 and 30 mbps, 46 had speeds between 5.6 and 10 mbps, and 44 had speeds between 1.5 and 5.5 mbps.

# Health Care

The Nebraska Statewide Telehealth connects nearly all of the state's hospitals and all of the state's public health departments. The network is used for patient consultations via interactive video, teleradiology, administrative meetings and continuing medical education.



**Nebraska is a leader in exchanging health information so health care providers have more complete patient information at the point of care.**

- Nebraska has one of the largest health information exchanges in the country. NeHII now has over 2.7 million individuals in its Master Patient Index up from 1.5 million in March 2010 and 3,590 users up from 464 in March 2010. Nebraska hospital participation has grown from 8 in March 2010 to 22 in March 2014 with NeHII now covering 52% of the state's hospital beds.
- Nebraska also has one of the nation's only health information exchanges exclusively serving behavioral health information exchange providers. The Electronic Behavioral Health Information Network (eBHIN) went live with its HIE functionality in the summer of 2012 and currently has 565 users in southeast Nebraska (Region 5) and the Omaha area (Region 6)
- As more hospitals, physicians, and other health care providers participate in health information exchange through NeHII or eBHIN, the demand for reliable broadband will likely increase.

## Strategies

- Explore connectivity models for public libraries to ensure they have adequate access to broadband.
- Support efforts to encourage adoption and utilization of broadband.

# Technology-Related Development Programs and Resources

Draft 2— May 16, 2014

Over the past several years, Nebraska has made significant progress in supporting technology-related development and entrepreneurship. According to the latest yearly study by the UNL Bureau of Business Research, Nebraska ranks 16th in the State Entrepreneurship Index<sup>1</sup> for 2012 up from 24 in 2011. Recent *Omaha World-Herald* editorials have also praised Nebraska's progress in developing technology businesses and improving access to venture capital.<sup>2</sup>

Here are examples of some of the technology-related development programs and resources in Nebraska.

## Innovation/Technology

**Big Omaha** (<http://www.siliconprairienews.com>) is an innovation and entrepreneurship conference held annually since 2009 to bring entrepreneurs, innovators and creatives together. The conference is produced by Silicon Prairie News.

**Silicon Prairie News** (<http://www.siliconprairienews.com>) produces a blog on technology, innovation and entrepreneurship and Big Omaha as well as events in other cities.

**The Big Plate** (<http://thebigplate.com>) is a Lincoln-based collaborative kitchen to accelerate startups, to educate, share, collaborate and create.

**1 Million Cups (1MC)** (<http://www.1millioncups.com>) brings together entrepreneurs, mentors, and advisors. Every Wednesday morning, two entrepreneurs give a six-minute presentation and engage in 20 minutes of feedback and questioning. The program meets the first three Wednesdays of the month at Mammel Hall at the University of Nebraska Omaha and the last Wednesday in Lincoln at Nebraska Global.

**Nebraska Code Camp** (<http://nebraskacodecamp.com>) is an annual conference held at Lincoln's Southeast Community College. The event brings over 300 software developers in the region together.

<sup>1</sup> Thompson, Eric & Walstad, William. (2013, December). State entrepreneurship index. *Business in Nebraska*, 68( 707). [http://www.bbr.unl.edu/documents/BIN\\_December2013.pdf](http://www.bbr.unl.edu/documents/BIN_December2013.pdf)

<sup>2</sup> World-Herald editorial: Tech progress bolsters Nebraska (2014, April 22). *Omaha-World Herald*. <http://www.omaha.com/article/20140422/NEWS08/140429762/1677#world-herald-editorial-tech-progress-bolsters-nebraska>

World-Herald editorial: Venture capital breakthrough (2014, Feb. 21). *Omaha World-Herald*. <http://www.omaha.com/article/20140221/NEWS08/140229841>

**Heartland Developers Conference** (<http://www.heartlanddc.com/>) is a 3-day software design and development event for tech professionals. The event is run by AIM Events Team and a handful of volunteers from the software design and development community.

**Lincoln Startup Week:** <http://www.lincolnstartupweek.com/> is a week-long celebration of the startup culture in Lincoln, NE.

**Open Nebraska** (<http://www.meetup.com/Open-Nebraska-Meetup>) is a volunteer-led civic innovation organization that leads the development of apps to solve real problems in Nebraska communities. Its goal is to help citizens interact with local government by providing the information resources needed to make better decisions.

**Omaha Coding Women** (<https://www.facebook.com/events/726007264088309>), #LNK Coding Women (<http://lnkcodingwomen.org>), and Women in Technology of the Heartland (<http://www.meetup.com/witheartland>) provide networking opportunities for women in the technology field.

**Girls Who Code** (<http://girlswhocode.com/>) aims to provide computer science education and exposure to 1 million young women by 2020. The organization partners with school networks, community-based organizations, libraries, technology companies to bring Girls Who Code Clubs to communities all across the country.

## Accelerators/Contests

**NMotion** (<http://nmotion.co>) is a mentor-driven, education-focused, startup accelerator based in Lincoln, Nebraska. NMotion focuses on high-growth software and technology-based businesses in targeted industries of sports, agriculture, marketing technologies, education, and finance/insurance. The program includes an intense 14-week program designed to help selected start-ups move forward. Each start-up selected to participate receives \$15,000 in seed funding from NMotion's associated investor pool (Nebraska Angels and Invest Nebraska). Other benefits include free co-working space, research, legal support and marketing services. The program also provides access to a network of key experts, advisors, mentors, presenters and funders.

**The Nebraska Innovation Campus** (<http://innovate.unl.edu/>) includes a business accelerator and maker space. The Innovation Campus's accelerator will focus on engineering, agriculture, hardware, product/industrial design, energy, health and food. Start-ups accepted into the NIC Business Accelerator will have access to mentorship, a financial investment up to \$20,000, office space, workshops, maker space, and an Investor Day in which participants have the opportunity to give an 8 minute pitch to a room full of mentors and investors.

**Straight Shot** (<http://straightshot.co/>) aims to rapidly develop technology startups through a 90-day curriculum that culminates with a Demo Day, where the companies pitch their ideas to the community

and a panel of investors. Straight Shot startups receive an initial \$20,000 investment, in addition to training, mentoring, and networking opportunities.

**JumpStart Challenge** (<http://www.jumpstartchallenge.com>) is a Lincoln-based software and application design contest.

**Code One** (<http://www.codeoneomaha.com/>) is a 48 hour hackathon hosted by First National Bank of Omaha. Developers, designers, and other talented 3-person competed for a \$10,000 first prize. The first Code One hackathon was held in September 2013.

## Maker Spaces/Fab Labs/Co-Working Facilities

**The Omaha Maker Group** (<http://omahamakergroup.org>) exists to facilitate a place where people can explore technology, science and art, operating a community workshop in Omaha, Nebraska and having bi-weekly meetings where people can collaborate, share resources, create, and learn together.

**Metropolitan Community College Fab Lab** (<http://mccneb.edu/fablab/>) brings rapid prototyping capabilities to local and surrounding communities. The lab hosts several classes where participants get to design and/or build their own ornaments, musical instrument, t-shirt designs, bird house, vinyl graphics and lettering. Local entrepreneurs are encouraged to take their own ideas from the drawing board to prototypes to start their business. Lab capabilities include 3D printing, CNC milling, circuit production, laser cutting/engraving, precision mill, and a vinyl plotter.

**Libraries as Maker Spaces**—Libraries in Nebraska are beginning to provide access to 3D printers and other materials which facilitate collaboration and creativity. The Nebraska Library Commission produced a Tech Talk on Libraries as Maker Spaces. It is available at <http://www.youtube.com/watch?v=hxzJErZJLR0>.

**UNL Maker Space** (<http://innovate.unl.edu/>) will be built on Innovation Campus by this fall. That space is tentatively set to have woodworking and metalworking tools, 3D printers, and digital weaving and sewing machines. There may even be lasers, a culinary space and a music studio.

**Co-Working Spaces.** A number of facilities, especially in the Omaha and Lincoln areas, offer co-working spaces and/or cater to creative enterprises. **The Mastercraft** (<http://themastercraft.com>) is a budding creative center that attracts a diverse crowd of small business owners and entrepreneurs. The building in North Downtown Omaha once housed the Mastercraft Furniture factory. **Co-Lab** in the TipTop Building in North Downtown Omaha provides shared office space for 13 businesses with a creative bent. The space was created by Alley Poyner Macchieto architects. Other coworking spaces in Omaha include CoVis CoWorking (<http://www.covisco.com>), and Cali Commons (<http://calicommons.com>) **Fuse Coworking** (<http://www.fusecoworking.com>) provides coworking facilities in Lincoln's Haymarket district. **Catalyst** (<https://catalyst.ubt.com>) and Union Bank & Trust offer meeting space in Lincoln's West Haymarket area which can be reserved by entrepreneurs, startups and small businesses.

## Higher Education

**Peter Kiewit Institute** (<http://pki.nebraska.edu>) in Omaha is designed to help meet the needs of the nation's technology and engineering firms by providing a top-flight education to students interested in pursuing careers in information science, technology and engineering. The Peter Kiewit Institute is home to the University of Nebraska-Lincoln's College of Engineering and the University of Nebraska at Omaha's College of Information Science and Technology.

**Jeffrey S. Raikes School of Computer Science and Management at the University of Nebraska-Lincoln** (<http://raikes.unl.edu>) offers courses in partnership with the Department of Computer Science and Engineering, the Colleges of Business Administration, Engineering, Journalism and Mass Communications, and Architecture to teach students the foundations of computer science, management, and software engineering. Graduates of the Raikes School have gone on to start companies like Hudl, Boutique Window, Allied Strategy, and Med XT.

## Code Schools/Nontraditional Technology Training/Leadership Development

**Omaha Code School** (<http://omahacodeschool.com>) started its first class in February 2014. The 12 week program turns beginners into hireable web developers. A second class will run from July 28-Oct. 17, 2014.

**Interface School** (<https://interfaceschool.com>) is a flexible 12-week crash course on coding and business basics, offering its first session on March 3, 2014 in Omaha. Summer classes will be held in Lincoln and Omaha. The full Web Development Track is available in Lincoln while workshops are being held in Omaha covering digital project management, web development, mobile development, and more.

**Bella Minds** (<http://www.bellaminds.com>) is a crowd-funded technology training program for digitally literate rural women who want to improve their technology skills. The pilot program was held in Alliance, Nebraska from February 22nd through March 1<sup>st</sup>, 2014 and was followed by a nine week program revolving around individual work and virtual collaboration. The nine-week program is designed to enable participants to:

- Build a Website
- Communicate and Collaborate Online
- Understand the Logic of Code
- Research and Study New Skills
- Feel at Home in a Tech Savvy World

**AIM IT Leadership Academy** (<http://aimforbrilliance.org/it-leadership-academy>) is offered in Omaha and Lincoln to facilitate the development of effective leadership and management skills for IT professionals and improve their ability to meet the challenges of the ever-changing IT workplace.

## Job Information

**NEworks** ([neworks.nebraska.gov](http://neworks.nebraska.gov)) is a statewide online database with thousands of job listings extracted from nearly every employer in Nebraska and thousands of resumes for employers searching for suitable candidates. Current data available on NEworks includes a strategic mix of job openings, career exploration, employer information, education, and labor market research information. Local job buttons will filter jobs from economic development and/or chamber websites. The Department of Labor worked with local libraries to educate their staff on NEworks. A NEworks app can be download from the Google and Apple app stores.

**CareerLink** (<http://careerlink.com>) links jobseekers with employers. Developed by the AIM Institute in 1995, CareerLink was one of the first employment websites and originally focused on IT jobs in the Omaha area. CareerLink's scope has expanded to include other career fields. AIM has partnered with other communities and regions, including Scottsbluff and Gering (<http://www.wehavejobs.net>) to create local job sites.

## Venture Capital/Business Innovation Grants

Venture capital investments in Nebraska have been growing. The Omaha World-Herald recently reported that at least 23 Nebraska-based startups attracted around \$43 million in investments in 2013.<sup>3</sup>

In-state firms and programs include:

- Dundee Venture Capital (<http://dundeeventurecapital.com>)
- Treetop Ventures (<http://www.treetopventures.com>)
- Nebraska Angels (<http://www.nebraskaangels.org>)
- Nebraska Global (<http://www.nebraskaglobal.com>)
- Linseed Capital: (<http://linseedcapital.com>)
- Prairie Ventures: (<http://www.prairieventures.net>)
- Invest Nebraska (<http://www.investnebraska.com>)

**Business Innovation Act of 2011** (<http://www.neded.org/business/talent-a-innovation-initiative/business-innovation-act>) provides funding to help businesses develop new technologies that lead to quality job opportunities across the state. Competitive grants provide funding and technical assistance for research at Nebraska institutions, new product development and testing, and help expand small business and entrepreneur outreach efforts. These programs were extended by the Legislature in 2014. The program offers several distinct areas of assistance listed below:

- Nebraska Small Business Innovation Research Initiative (SBIR)
- Nebraska Innovation Fund

<sup>3</sup> World-Herald editorial: Venture capital breakthrough  
<http://www.omaha.com/article/20140221/NEWS08/140229841>

- Nebraska Research and Development Program
- Nebraska Microenterprise Assistance Program

## Rural Sourcing

**Xpanxion** (<http://www.xpanxion.com>) has pioneered a rural sourcing model, providing a complete range of software quality assurance services in rural locations including Kearney, Nebraska; Loup City, Nebraska; Ames, Iowa; and Manhattan, Kansas. The Center for Rural Research and Development at UNK is partnering with Xpanxion and the University of Nebraska Alumni Association received a grant from the Rural Futures Institute to leverage Xpanxion's rural sourcing model to recruit University of Nebraska alumni back to rural Nebraska in professional service occupations. The first phase of this project (<https://nebraskaruralsourcing.org>) will build on existing research exploring the lifestyle expectations and career preferences of Alumni who have moved out of state. Additional case study research seeks to understand the process and motivation for Alumni who have moved back to rural Nebraska and are employed in these occupations. Data collected from phase one will direct the strategies of communication and education for Alumni who have opted in to receive information related to current job opening's or assistance for starting or buying a business in rural areas.

## Career/Workforce Development—Youth/Young Adults

**Intern Nebraska** ([www.internne.com](http://www.internne.com)) connects full-time students at Nebraska postsecondary educational institutions and Nebraska residents attending postsecondary educational institutions in other states with businesses and non-profit organizations looking for interns. All internships must pay at least minimum wage. As of the spring 2014, 415 students have been placed with approximately 40% of the interns placed outside of the Omaha and Lincoln metropolitan areas. Approximately 50% of the interns are offered full-time positions. Grants of up to 50% of the internship up to \$5,000 per internship are available for businesses creating new internships. Additional grant funding is available for hiring interns who are Federal Pell Grant recipients. Intern Nebraska is a program of the Nebraska Department of Economic Development.

**Intern Omaha** (<https://www.omahachamber.org/talent-and-workforce/intern-omaha.cfm>) program provides events, Omaha swag and information on what's hot in Omaha to students who are interning in Greater Omaha for the summer.

**Nebraskacareertours.com** (<http://nebraskacareertours.com>) provides information on jobs in several industries including IT. Virtual industry tours of HUDL and Yahoo are available. Other videos show what it is like to work in the industry. The site is a collaborative effort of the Nebraska Department of Education, Nebraska Department of Labor, and Nebraska Department of Economic Development.

**Career academies** in high schools will provide opportunities for high school students to learn more about careers, including IT. Rule 47 was adopted by the Nebraska Department of Education on November 19, 2013 and provides regulations for career academy programs established by school districts.

**1st Job Lincoln** (<http://lincolnhr.org/blog/1st-job-lincoln-project>) will be starting its second year in Lincoln. The program is a partnership of Lincoln Human Resource Management Association, the AIM Institute, and Lincoln Public Schools' IT focus program to provide IT-based internships for high school students. Through the pilot program, 15 high schoolers in the summer of 2013 experienced their first professional job. The program included workforce readiness preparation.

**Code Crush** (<http://codecrush.unomaha.edu/>) is a four-day five-night immersion experience for 8<sup>th</sup> and 9<sup>th</sup> grade girls to show them the world of IT. The event was hosted by the UNO College of Information Science and Technology in the spring of 2014 with support from Google and Women Investing in Nebraska.

**CoderDojos** (<http://aimforbrilliance.org/coderdojo>) are a global movement of open source coding sessions led by volunteer mentors from education and industry. Kids learn how to creatively code at their own pace in a fun, relaxed environment. CoderDojos are free to attend. AIM has hosted Coder Dojo's in Omaha, Lincoln, and Kearney.



A mentor works with young people at the April 26 Coder Dojo in Lincoln.

**Girls Who Code** (<http://girlswhocode.com/>) aims to provide computer science education and exposure to 1 million young women by 2020. The organization partners with school networks, community-based organizations, libraries, technology companies to bring Girls Who Code Clubs to communities all across the country.

**Code Day Omaha** (<http://codeday.org/omaha>) is a 24-hour coding event for students. The 2014 Code Day Omaha is hosted at the Omaha Code School. The world-wide event is coordinated by StudentRND (<https://studentrnd.org>).

**Khan Academy** (<https://www.khanacademy.org/computing/cs> Requires registration) provides a video introducing programming and tutorials on drawing using JavaScript.

**Scratch** (<http://scratch.mit.edu>) is a free, online resource developed by the Lifelong Kindergarten Group at the MIT Media Lab which enables children to program interactive stories, games and animations.

**4-H Science, Engineering, and Technology** (<http://4h.unl.edu/4hcurriculum/set>) includes projects, college major information, and career information on aerospace, computers, electricity, GEAR-TECH-21, geospatial, physics, robotics, small engines, welding, and woodworking.

## Business Technology

**Infotec** (<http://infotec.org>) is Nebraska's largest business technology conference and is produced by the AIM Institute. Annual attendance has grown to nearly 1,500 people, including several hundred students who participate in a special youth track. Speakers have included Apple Co-Founder Steve Wozniak, Dan Zarella of Hubspot and Tan Le of Emotiv.

The **Nebraska Broadband Initiative** (<http://broadband.nebraska.gov>) has developed resources and programming to facilitate the adoption of broadband technologies by businesses in Nebraska, including:

- Survey of Nebraska businesses on their use of broadband.
- Videos highlighting the use of technology in Nebraska businesses, schools, libraries, and health care organizations.
- Business coaching for selected participants in the broadband business survey
- Technology Fairs
- Broadband Connecting Nebraska conference

**Grow Nebraska** (<http://www.grownebraska.org>) supports entrepreneurs and small businesses through promotion, access to markets and education. Currently GROW Nebraska has over 350 members and offers 20 business building services, including assistance in developing a social media presence, a web site evaluation service, a Google AdWords trial program, and merchant services through TSYS Solutions. Since the start of the Nebraska Microenterprise Development Act, GROW Nebraska has helped create and retain over 2,200 jobs.

## State Advisory Groups

**Nebraska Department of Economic Development IT Council** provides recommendations regarding the needs of the IT sector in Nebraska.

**Nebraska Information Technology Commission Community Council** (<http://www.nitc.nebraska.gov>) provides recommendations regarding the use of technology in Nebraska's communities to the Nebraska Information Technology Commission. The Council includes members representing rural and community IT development, local government, libraries, and the Nebraska Public Service Commission.

## Integration of Technology Development into Community Planning and Economic Development

**Nebraska Department of Economic Development (NDED) Leadership Community designation program** (<http://www.neded.org/community/community-info/community-improvement/leadership-community>) began in 2011 to help smaller Nebraska communities deal head-on with challenges and change. Communities must demonstrate having a solid planning and implementation process in place. Communities must also be actively taking advantage of technology or willing to learn in order to meet program objectives. The program's framework provides communities with the necessary foundation for meeting challenges and readily adapting to changes. To date, three communities have been recognized as Certified DED Leadership Development Communities: Madison, Tecumseh, and Central City.

## Overall Findings

**Technology-Related Development.** Over the past several years, Nebraska has made significant progress in supporting technology-related development and entrepreneurship, especially in the Omaha and Lincoln areas. According to the latest yearly study by the UNL Bureau of Business Research, Nebraska ranks 16th in the State Entrepreneurship Index for 2012 up from 24th in 2011.<sup>4</sup>

- Omaha and Lincoln appear to have a critical mass of resources focused on innovation and technology-related development. These resources include university programs, code schools, accelerators, contests, conferences, meet ups, maker spaces, coworking facilities, and venture capital firms. Access to these types of resources may be more limited in other areas of the state.
- Technology-related development appears to be synergistic. Development efforts will likely be most effective in geographic areas with or approaching a critical mass.

**Skilled IT Workforce.** The availability and development of a skilled IT workforce is a key need in Nebraska. As a response, institutions of higher education in Nebraska are making efforts to increase the number of IT graduates. A total of 1,788 degrees and certificates in the field of IT were awarded in the state of Nebraska in the 2011-2012 academic year, an increase of 110.85% from the previous year.<sup>5</sup> A majority (88%) of Omaha-area employers surveyed in 2013 considered their recent IT-hires to be excellent (40%) or good (48%). However, many employers still report a shortfall. Just over half of Omaha area businesses surveyed in 2013 (52%) indicated that the local supply of IT Talent was excellent (10%) or good (42%).<sup>6</sup>

- Efforts to engage young people to go into IT should start in grade school. Young people begin to form opinions of careers around third grade. However, many young people don't have a good idea of what IT workers do.
- Coding is one area in which schools have not been providing much training. However, there are several innovative programs, including both in school and after school programs, which are introducing students to coding. There are also a number of resources available including materials from the Khan Academy and MIT's Scratch program which can be used to teach coding to students.
- Nebraskacareertours.com (<http://nebraskacareertours.com>) provides information on jobs in several industries including IT.

<sup>4</sup> Thompson, Eric and Walstad, William. (2013, December). State entrepreneurship index. Business in Nebraska. 68(707). [http://www.bbr.unl.edu/documents/BIN\\_December2013.pdf](http://www.bbr.unl.edu/documents/BIN_December2013.pdf)

<sup>5</sup> Thiele, Levi. (2013, Sept. 23). Postsecondary IT degree completions on the rise in Nebraska. Aim Institute. <http://aimforbrilliance.org/postsecondary-degree-completions-rise-nebraska/>

<sup>6</sup> Vaslow, Joel. (2013, Oct. 2013). Omaha area IT and engineering talent study. <http://cdn.aimforbrilliance.org/pdf/2013omahaareaitandengineeringtalentstudy.pdf>

- Career academies and programs like First Job Lincoln can encourage students to choose a career in IT and help students develop the necessary skills to enter the IT workforce.
- Code Schools are also addressing the need for skilled IT workers.

**Use of Technology by Nebraska Businesses.** Overall, Nebraska businesses report wide utilization of broadband technologies. However, gaps between major metropolitan areas of the state (Omaha and Lincoln) and rural areas of the state exist in utilization of broadband technologies by businesses.

**Access to 3D Printers and Tools.** Providing access to 3D printers and other tools at libraries, universities, community colleges, or other locations may encourage students to pursue careers in engineering and technology and may facilitate the development of new products. These facilities are often called maker spaces or fab labs. Square—a device that enables smart phones to take credit card payments—was developed at a TechShop maker space.<sup>7</sup>

**Access to Small Business Development and Entrepreneurial Resources.** Small business development and entrepreneurial resources exist across the state. A recent NPPD white paper found that there are regional variances in accessing these services, however.<sup>8</sup>

**Attraction of New Residents and Retention of Youth.** Rural areas of the state view broadband availability and technology-related development as key components for attracting new residents and retaining youth. Broadband-related economic development strategies include:

- Recruiting technology companies. Xpansion has rural sourcing locations in Kearney and Loup City and Phynd Technologies recently located in Kearney.
- Attracting lone eagles and telecommuters who can work anywhere remotely.
- Helping local businesses increase revenue and create jobs by utilizing broadband technologies.
- Facilitating recruitment by developing an effective web and social media presence which highlights available jobs and provides community information
- Supporting the development of new businesses.

**Incorporation of Technology into Economic Development Plans.** Technology is beginning to be integrated into economic development plans. For example, the Nebraska Department of Economic Development (NDED) Leadership Community designation program requires that communities be actively taking advantage of technology or willing to learn.

## Gaps/Emerging Areas

<sup>7</sup> Kalish, Jon. (2014, April 30). High-tech maker spaces: helping little startups make it big. NPR. <http://www.npr.org/blogs/alltechconsidered/2014/04/30/306235442/high-tech-maker-spaces-helping-little-startups-make-it-big>

<sup>8</sup> NPPD. (2013, August 12). White paper-economic development in small rural communities: NPPD economic development research on small business, entrepreneurship, and workforce development in small rural communities in Nebraska.

Gaps between major metropolitan areas of the state (Omaha and Lincoln) and rural areas of the state exist in broadband subscription rates and utilization of broadband technologies by businesses.

Omaha and Lincoln appear to have a critical mass of resources focused on innovation and technology development. Access to these types of resources may be more limited in other areas of the state.

Entrepreneurial resources exist across the state. There are regional variances in accessing these services, however.

**What other gap areas are there?**

## **Opportunities/Emerging Areas**

NPPD's white paper and efforts to better assess needs of entrepreneurs and refer to appropriate resources.

The University of Nebraska is launching a Community Vitality Initiative.

Maker spaces/fab labs are in the early stages of development in Nebraska.

3d printers have become more affordable and can be used for rapid prototyping new products or parts.

Ag tech may be an emerging sector.

**What other opportunities are there? Are there successful programs that could be expanded to reach areas outside of Omaha and Lincoln?**

## **Strategies**

Support efforts to better assess the needs of entrepreneurs and identify appropriate entrepreneurial resources.

Support efforts to get computer classes to count toward graduation requirements.

Look at ways to support the ag tech sector.

Support continued learning of new technologies like 3D printers in public libraries, schools, and other locations.

Support the development of maker spaces and fab labs in Nebraska communities by learning from early efforts and disseminating lessons learned.

Encourage local IT businesses and K-20 education entities to partner together on IT workforce development programs.

Facilitate the sharing of best practices and new programs.

**What other strategies should we explore?**

## Digital Literacy and Adoption

Draft--May 16, 2014

Most adults (85%)<sup>1</sup> in the United States are now online and most households in Nebraska (82%)<sup>2</sup> have broadband service. However, digital literacy is a moving target with new applications and new devices entering the market on a regular basis. As technology continues to change quickly, adults need to continually update their technology skills. Libraries, community colleges, workplaces, friends and family members, and online resources play a role in helping adults keep their skills current.

Nine percent of adults in the United States do not have Internet access at home, but use it elsewhere.<sup>3</sup> Locations which provide public access to the Internet need to be available in communities—especially as more and more services are transitioning to online delivery. In Nebraska, public libraries most often fill this role. A recent survey of Nebraska households found that 32% of households without Internet access use the computer resources at public use facilities.

About 15% of adults in the United States do not use the Internet. These adults cite the expense of having a computer and Internet connection, not knowing how to use a computer or the Internet, and having no interest in using the Internet as reasons for not being online. In many cases, it is a combination of at least two of these reasons.<sup>4</sup> For some non-users, providing public access to broadband-enabled devices and some training may be sufficient. Bennet Martin Public Library's partnership with Lincoln Literacy to provide training on using computers and the Internet for women who had recently immigrated is an example of a successful digital literacy program targeting non-Internet users. However, efforts to encourage a significant proportion of non-users to use the Internet may require an even more comprehensive approach. In order to reduce hospital readmissions, some accountable care organizations and hospitals have piloted programs in which they provide patients with a tablet computer loaded with self-care tools, connectivity, and training on using the tools and devices.<sup>5</sup> The programs have effectively reduced readmission rates and addressed digital literacy and adoption as a secondary outcome.

Those 65 and older are less likely to use the Internet and have broadband service at home than those who are younger, although the use of the Internet by this group has grown in recent years. A recent survey of Nebraska households found that 69% of persons age 65 and older had broadband service at home, up from 56% in 2010.<sup>6</sup> It is important to note that the 65 years and older demographic group is not a homogenous group. Those over 75 and those with less education and lower incomes are less likely

<sup>1</sup> Zickuhr, Kathryn. (2013, Sept. 25). Who's not online and why. Pew Research Internet Project. <http://www.pewinternet.org/2013/09/25/whos-not-online-and-why/>

<sup>2</sup>  
<sup>3</sup> Zickuhr, Kathryn. (2013, Sept. 25). Who's not online and why. Pew Research Internet Project. <http://www.pewinternet.org/2013/09/25/whos-not-online-and-why/>

<sup>4</sup> Zickuhr, Kathryn. (2013, Sept. 25). Who's not online and why. Pew Research Internet Project. <http://www.pewinternet.org/2013/09/25/whos-not-online-and-why/>

<sup>5</sup> Magan, GERALYN. (2014, Jan. 15). How tablet computers are reducing hospital readmissions in New Jersey. Leading Age. [http://www.leadingage.org/How\\_Tablet\\_Computers\\_are\\_Reducing\\_Hospital\\_Readmissions\\_in\\_NJ.aspx](http://www.leadingage.org/How_Tablet_Computers_are_Reducing_Hospital_Readmissions_in_NJ.aspx)

<sup>6</sup>

to use the Internet and have broadband service at home.<sup>7</sup> Older adults may require or appreciate accommodations for physical disabilities. Many Nebraska libraries participating in the Library Broadband Builds Nebraska Communities grant program received ADA computers. The computers are popular with many senior citizens.

Those with lower incomes and less education are also less likely to use the Internet and have broadband service at home. In 2014, only 53% of Nebraska households making less than \$20,000 and 45% of those headed by an individual with less than a high school education had broadband service at home.<sup>8</sup> Efforts to extend broadband access to a higher percentage of lower income households will likely require a multi-faceted approach. These households may lack a computer as well as broadband access. Nearly two-thirds of households in Nebraska without Internet access don't have a computer.<sup>9</sup> Google Fiber's experience in Kansas City has also shown that providing discounted broadband may not be sufficient. Google Fiber in Kansas City offered a free monthly service which required a \$300 construction fee which could be paid in \$25 installments. Few low-income families in Kansas City have taken advantage of the offer. These families typically rent and may move frequently so it doesn't make sense for them to pay to the connection fee.<sup>10</sup> Some telecommunications providers offer broadband service and a computer at a steeply discounted rate to low-income consumers. Training may also be provided.

There are also differences in adoption between those in metropolitan and nonmetropolitan areas of the state. Ninety percent of households in the Lincoln area and 87% of households in the Omaha have broadband service. In comparison, the percentage of households with broadband service in other regions of the state ranges from 72% to 77%.

There are many programs and resources in Nebraska which provide access to broadband-enabled computers and training. A list of some of these resources follows:

## Programs for Seniors

**The Osher Lifelong Learning Institute at the University of Nebraska–Lincoln (OLLI at UNL)** (<http://olli.unl.edu>) is one of 115 in the U.S. OLLI offers classes and other learning opportunities specifically for lifelong learners ages 50-plus.

**AgeWell Computer Education Center** (<http://discoverskills.com>) at the Landing in Williamsburg Village in Lincoln has partnered with DiscoverSkills to provide a complete Computer Education Center (CEC)

<sup>7</sup> Smith, Aaron. (2014, April 3). Older adults and technology use. Pew Research Internet Project.

<http://www.pewinternet.org/2014/04/03/older-adults-and-technology-use/>

<sup>8</sup>

<sup>9</sup>

<sup>10</sup> Bannister, Megan and Pascale, Jordan. (2014, April 1). Three years after announcement, Kansas City is still figuring out fiber. *Silicon Prairie News*. <http://www.siliconprairienews.com/2014/04/three-years-after-announcement-kansas-city-is-still-figuring-out-fiber>

equipped with the latest computer technology and professional educators that specialize in senior learning.

**The AARP Information Center** offers three-day, nine-hour computer classes for \$15 at the Kids Can Community Center in Omaha. The sessions cover a variety of topics, including navigating Microsoft Windows 7, word processing and using the Internet. The classes have a limit of 8 students and 4 instructors.

Some programs for seniors may be offered at libraries or senior centers. The Adams County Senior Center in Hastings has had students from Hastings College give classes. The Ravenna Public Library used its laptops to host a computer training class at the computer center. The Verdigre Public Library has offered beginning computer classes to senior citizens, providing individualized training.

Community colleges in Nebraska offer a range of computer and Internet courses, including some programs specifically designed for senior citizens. Southeast Community College offers a 24-hour class introducing personal computers to senior citizens. Metropolitan Community College offers non-credit courses on Facebook especially for senior citizens.

## Programs for Low-Income Consumers

**CenturyLink Internet Basics** ([www.centurylink.com/internetbasics](http://www.centurylink.com/internetbasics)) provides 1.5 MBPS service for \$9.95 (plus tax and fees) for 12 months, a netbook for \$150 (plus tax and shipping and handling), and free basic Internet training to qualified low-income consumers.

## Programs at Public Libraries

In 2010 the **Nebraska Library Commission** received a \$2.4 million BTOP grant with 1.25 million in matching funds provided by the Bill & Melinda Gates Foundation. The Library Broadband Builds Nebraska Communities BTOP grant significantly improved the capacity of libraries in Nebraska to provide public access to computers and broadband.

- A total of 129 libraries received 168 broadband upgrades, including 34 upgrades to fiber and two to faster fiber. The average Internet speed of all 147 participating libraries moved from 3.8 mbps at the start of the project to 19.7 mbps on Sept. 30, 2013.
- As of the end of the grant in September 2013, 8 participating libraries had broadband speeds of 100 mbps or greater, 13 had speeds between 35 and 99 mbps, 36 had speeds between 11 and 30 mbps, 46 had speeds between 5.6 and 10 mbps, and 44 had speeds between 1.5 and 5.5 mbps.

Some examples of the programming being offered in Nebraska's public libraries follow:

**Bennett Martin Public Library** in Lincoln (<http://www.lincolnlibraries.org>) has offered the use of its new training room to Lincoln Literacy to teach computer classes to refugees and immigrants. According to Clayton Naff Lincoln Literacy's executive director, "Most good jobs require online applications, and parents need to go online to access their children's grades at school, plus there is the whole world of news, social media, and information available on the computer." Women from Africa, Asia, the Middle East, Eastern Europe and Latin American signed up for the 7-week computer class. The participant's children enjoyed storytime and literacy lessons from Library staff. Everyone received library cards. The classes were a great way to introduce new immigrants and refugees to library services. It was a great partnership and an excellent use of our new computer area. Plans are to continue the classes year round.

**Norfolk Public Library** <http://www.ci.norfolk.ne.us/library/> offers various beginner computer classes once a month in order to support the lifelong learning efforts of our patrons and encourage the development of digital literacy skills. The classes are repeated for several months in a row to meet community demand for them. An instructor from Northeast Community College's Adult Education department leads the 3-hour class. This benefits the library staff and patrons because the class is led by a professional educator and expert in computer instruction. The library tries very hard not to make this class, which is free for participants, a competitor to what the college traditionally offers on their campus. Participants of the class are introduced not just to the digital literacy skills presented, but to what kind of experience they would have if they took the class on the college campus. If they enjoyed the beginner class at the library, they may want to further their learning by taking the next level of class at the college. So, the college is providing the library with quality instruction for patrons at a reasonable cost, and the library is providing the college with the opportunity to market their other classes to an audience that might not otherwise pursue those types of classes.

**Lied Scottsbluff Public Library** (<http://www.scottsbluff.org/departments/library>) offers free technology classes. The twenty grant laptops now available provide registered participants the opportunity to learn technology skills in a hands-on environment. The ability to provide the needed equipment for the library's "Technology Tuesday" classes puts every participant on a level playing field, which allows the facilitator more time to provide hands-on instruction on things like the Internet, email, Facebook, online shopping, photo sharing and numerous other topics related to technology literacy.

**The Nebraska Library Commission** (<http://nlc.nebraska.gov/grants/finra/index.aspx>) is partnering with the University of Nebraska-Lincoln Extension to bring financial education programs and services to 23 libraries in mostly rural locations across the state. The program will combine face-to-face educational sessions with online learning. The program is funded by a \$100,000 grant from the Financial Industry Regulatory Authority (FINRA) Investor Education Foundation and the American Library Association (ALA). In addition to improving financial literacy skills, this type of programming may also provide an opportunity for some participants to improve their technology literacy skills.

**Libraries as Maker Spaces**—Libraries in Nebraska are beginning to provide access to 3D printers and other resources which facilitate collaboration and creativity. At least three public libraries have or in the process of getting 3D printers: Bellevue Public Library, LaVista Public Library, and Chadron Public

Library. The Nebraska Library Commission produced a Tech Talk on Libraries as Maker Spaces. At least three public libraries have or are in the process of getting 3D printers. It is available at <http://www.youtube.com/watch?v=hxzJErZJLR0>.

## Other Non-Traditional Programming

**Bella Minds** (<http://www.bellaminds.com>) is a crowd-funded technology training program for digitally literate rural women who want to improve their technology skills. The pilot program was held in Alliance, Nebraska from February 22nd through March 1<sup>st</sup>, 2014 and was followed by a nine week program revolving around individual work and virtual collaboration. The nine-week program is designed to enable participants to:

- Build a Website
- Communicate and Collaborate Online
- Understand the Logic of Code
- Research and Study New Skills
- Feel at Home in a Tech Savvy World

## Community College Programs

Community colleges in Nebraska offer a range of computer and technology courses, including some programs specifically designed for senior citizens.

## Overall Findings

Libraries play an important role in providing access to computers and the Internet as well as providing training. Many successful library programs involve partnerships with other organizations in the community. Small libraries may find that available funding limits the number of classes that can be offered.

Community colleges and other organizations are also important resources in addressing digital literacy.

Some telecommunications providers provide discounted broadband and computers to qualified low-income consumers.

## Gap Areas

Consumers may not always get information on latest security alerts and may need information on good security practices.

Low-income individuals and senior citizens are less likely to be online. Getting them online may require a multi-faceted approach.

Low-income consumers may not be aware of discount programs.

**Strategies**

Partner with the Nebraska Public Service Commission to identify telecommunications providers offering discounts to low income consumers and partner with community action agencies and other organizations to publicize these programs.

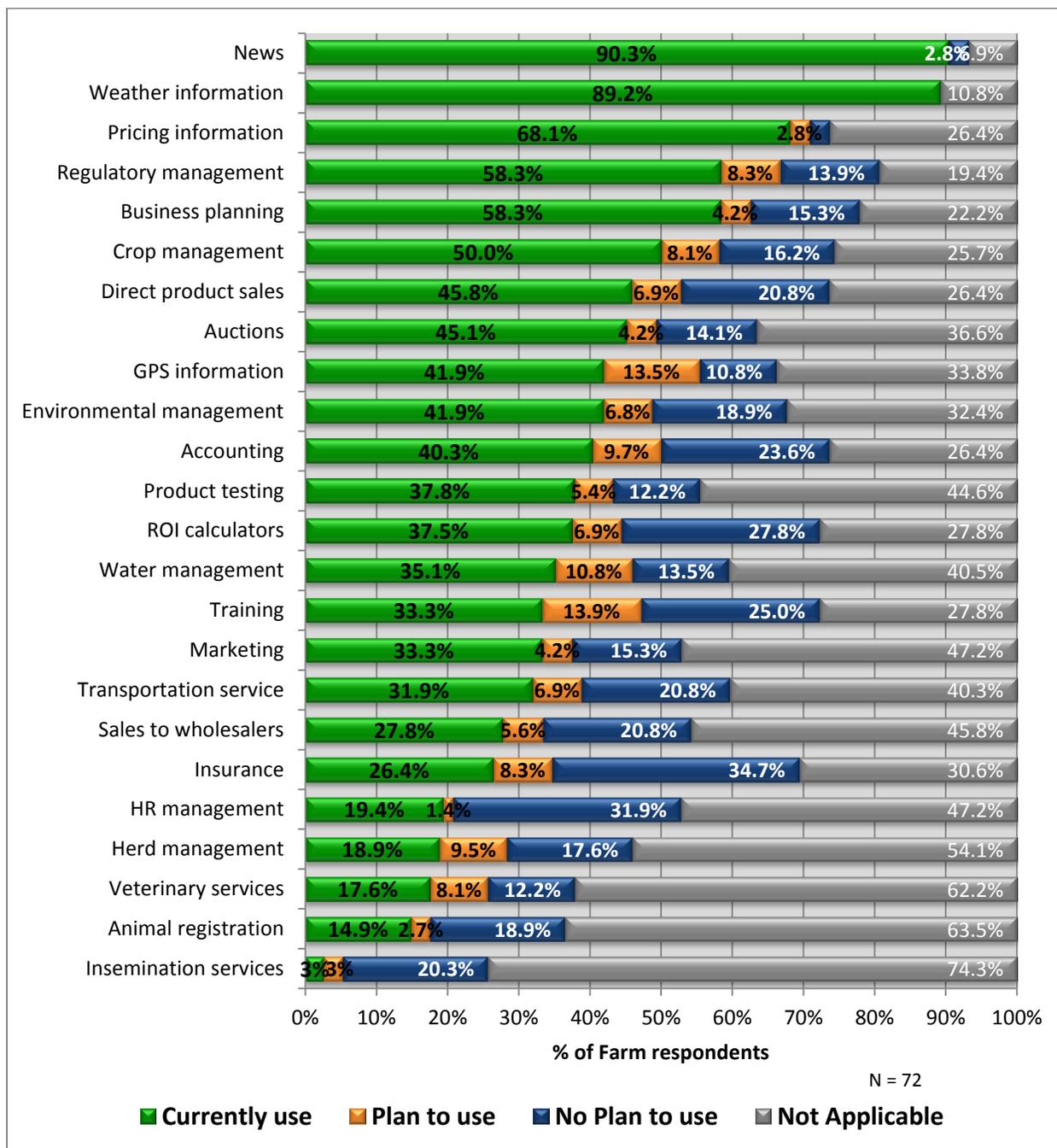
Partner with libraries to share information on security alerts and best practices with patrons.

Share best practices.

# Agriculture Findings

Draft—May 16, 2014

Broadband applications are becoming increasingly important for agricultural producers. The use of broadband technologies by agricultural producers is increasing with significant numbers of producers using the Internet for regulatory management (58%), business planning (58%), crop management (50%), and direct product sales (45%).



Many smart farming technologies, including those utilizing GPS, may require a cellular connection. For example, precision guidance for row crop production requires GPS accuracy of +/- 1 inch accuracy. GPS correction through RTK (Real Time Kinematic) is often done through cellular connections. In some areas of the state, cellular coverage may be a barrier to utilizing RTK or other technologies. In some areas of Nebraska, agricultural producers may need to subscribe to two different carriers to get the coverage needed locally.

Precision agriculture and remote sensing technologies produce large amounts of data. Limited upload speeds in some areas of the state may also present a barrier.

## **Agriculture and Technology—Videos, Apps, and Resources**

### **Nebraska Broadband Map**

[broadbandmap.nebraska.gov](http://broadbandmap.nebraska.gov)

### **Mobile Pulse App to Measure Mobile Broadband Connections**

- Mobile Pulse—Link to App Stores <http://www.mobilepulse.com/#howitworks>
- Mobile Pulse—Android App Store  
<https://play.google.com/store/apps/details?id=com.mobilepulse>
- Mobile Pulse—Apple App Store <https://itunes.apple.com/us/app/mobile-pulse/id550681140>
- Mobile Pulse—Windows Phone App Store  
<http://www.windowsphone.com/en-us/store/app/mobile-pulse/3a650b34-e847-45e4-a670-889974eddbbe>
- Mobile Pulse—Blackberry World Store  
<https://appworld.blackberry.com/webstore/content/21951892/?countrycode=US&lang=en>

### **Nebraska Broadband Initiative Agriculture-Related Videos**

(also available on youtube.com)

- Dinklage Feed Yards—<http://broadband.nebraska.gov/DinklageFeedYards>
- Bassett Livestock Auction—<http://broadband.nebraska.gov/BassettLivestock>
- Milletta Vista Winery—<http://broadband.nebraska.gov/Milletta>

**UNL Apps**—<http://ianrhome.unl.edu/mobileapps>

**Nebraska Agriculture Technology Association**—[www.neata.org](http://www.neata.org)

## **Moving Forward**

How can we encourage adoption of broadband technologies in agriculture?

- NeATA is a great resource and puts together an annual conference.
- We could do some additional ag-related videos.
- The University has developed apps. We can help promote the apps.
- Telecommunications companies may not be aware of some of the broadband technologies in agriculture. We could talk to NTA or NIN about giving a presentation.
- We could contact agribusinesses, feed companies, etc. and ask them to link to a page with resources about broadband technologies in agriculture.