

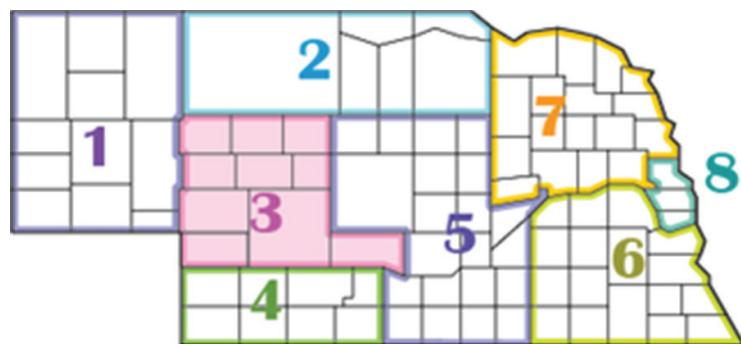


# Information Technology Assessment and Plan for the New Frontier Region

## Introduction

Broadband high-speed Internet access is transforming Nebraska's economy and society. Businesses are using the technology to become more efficient, reduce costs, expand their markets and increase revenues. New technologies are expanding social opportunities and enhancing quality of life for Nebraskans.

In response to these changing conditions, communities are seeking ways to become "e-communities," defined as communities that are aware of their diverse information technology needs and that strategically plan to use these technologies to meet their economic, community and social development needs in the future. Leadership of e-communities is also planning how to use information technology to recruit and retain youth and grow businesses.



**Figure 1. The New Frontier region of Nebraska**

## Planning Process

This report summarizes the current goals of the New Frontier region (see Figure 1), which comprises the following counties: Grant, Hooker, Thomas, Arthur, McPherson, Logan, Keith, Perkins, Lincoln and Dawson. Information for this report was gathered using the following process: A kick-off Regional Forum in April 2011 brought nearly 120 members from across the region together to learn about the Nebraska Broadband Mapping and Planning Initiative. Survey results from an initial household survey were shared, and the statewide map was introduced (see Figure 2). The Nebraska Broadband Mapping Project provides statewide coverage maps, available online at [broadband.nebraska.gov/mapping](http://broadband.nebraska.gov/mapping).

The New Frontier region participated in the broadband planning teleconference in June 2012 with six participants. Four focus groups provided additional information and feedback. See the section at the end of this report, Techniques for Information Gathering, for a list of events.

Participants then focused on the priorities for the region. Twenty-nine people served on a planning team working with a regional coach. The data from the map, household survey and subsequent focus groups were the basis for the plan's content.

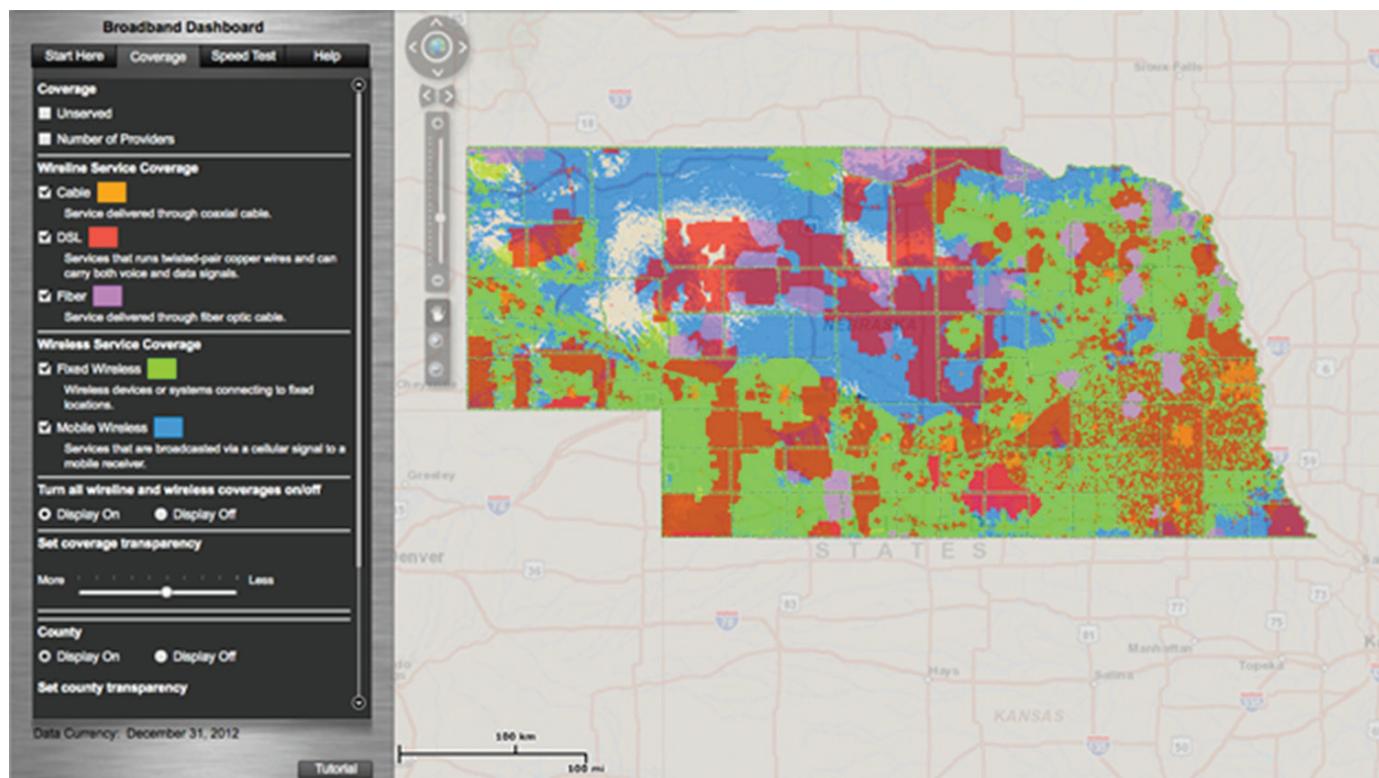
## Household Survey Results (2010) for Region

The 2010 household survey found that the adoption of broadband has a lot to do with location. About 74 percent of residents in the New Frontier region have adopted broadband compared to 76 percent statewide and 82 percent of metropolitan households. Statewide, most households expressed satisfaction with the reliability, speed and support of their Internet service. However, 61 percent of New Frontier region residents were satisfied with the speed of their Internet service, compared to 70 percent of Omaha residents.

Approximately one-third (34%) of New Frontier region residents are satisfied with the types of Internet services available in their community, compared to 43 percent in the Omaha metro area. Just over one-quarter of New Frontier region residents think the current services are very adequate for attracting new residents (27%) or for future generations (28%). Statewide, 46 percent of households say there are free public hotspots available in their community; 34 percent of New Frontier region residents say they have free public hotspots in their community.

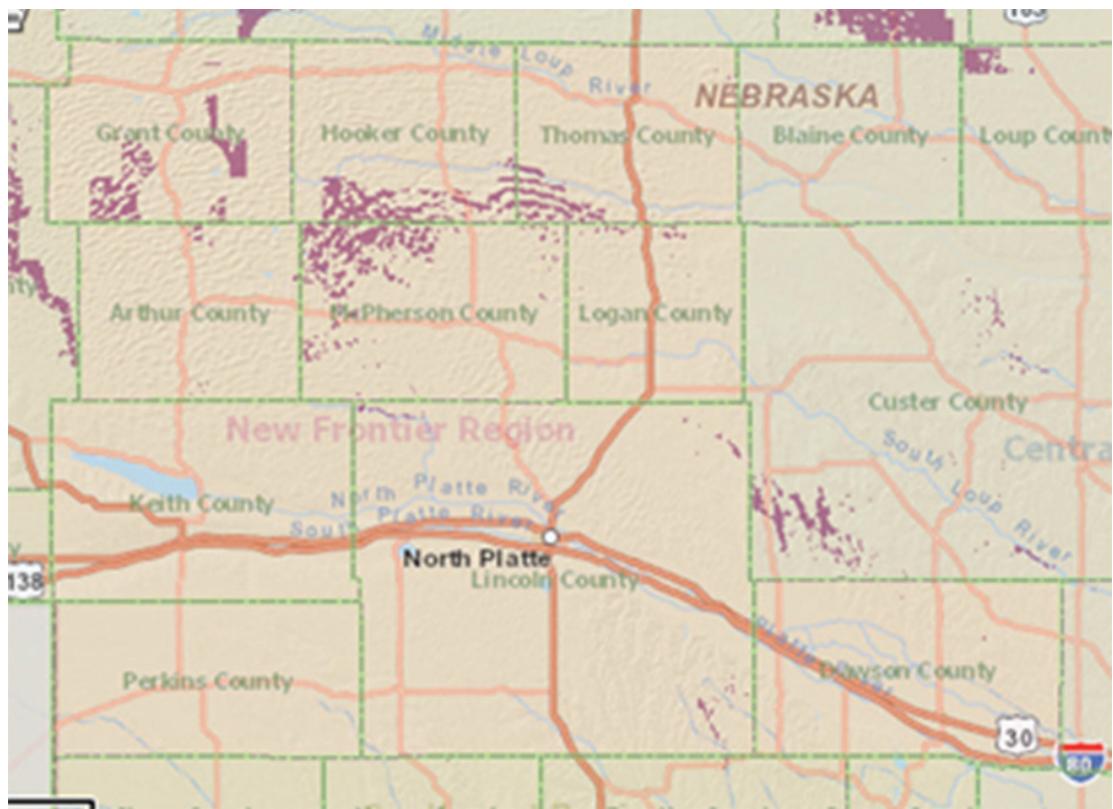
## Mapping Wireline and Wireless Coverage in Nebraska

The map (Figure 2) provides a visual representation of wireline and wireless coverage for the state of Nebraska. As illustrated on the map, the green shading represents the fixed wireless coverage; blue represents mobile wireless coverage; red represents DSL wireline coverage; lavender represents fiber wireline service; and orange represents cable wireline coverage. More details on mapped service coverage are included in the guide at the left of the state map. Areas that are not shaded represent the unserved areas of the state.



**Figure 2. Broadband wireline and wireless coverage in Nebraska**

The map in Figure 3 provides a better view of areas in the New Frontier region that are currently unserved. The dark purple shading generally indicates geographic areas that do not currently have broadband service coverage available.



**Figure 3. Unserved areas in new frontier region (no broadband services available in purple shaded area.)**

## New Frontier Region Broadband Vision Statement and Goals

The New Frontier region is a vibrant Nebraska area that uses broadband technology to retain and grow businesses, open new markets and improve the quality of life for its residents.

Key goals discussed by the planning team are to ensure availability of quality broadband service for all residents and promote broadband adoption to attract and retain rural youth and working age adults.

Another goal is to maintain focus on the future in introducing new technologies and using them so as to keep pace with the growing needs of the businesses and residents in the region.

The implementation and success of this regional plan and the growing success of the region depend on access to broadband services. Services vary by location. Reliable access to high-speed Internet service across the region is necessary to achieve increased adoption and use.

## **Priority Areas**

Five high-priority areas were identified to be the focus of the assessment and action planning.

**Priority 1:** Educate and engage people on the value of broadband. A workforce educated and aware of the benefits of broadband can accomplish much.

**Priority 2:** Increase availability of broadband to all communities and rural areas. An educated workforce with easy access to affordable and adequate broadband can help the region be more viable by attracting new people to the area and retaining youth.

**Priority 3:** Adequate access and bandwidth for health care providers. Area residents will see tremendous benefits both in health and finances by using health care providers who use tele-health technologies.

**Priority 4:** Utilize broadband technology to benefit businesses, local governments and non-profits. The use of broadband technologies by these groups will increase their potential to increase revenues and communication with constituencies.

**Priority 5:** Enhancing agriculture through technology. Farmers, ranchers and ag-related businesses can increase revenues, conserve resources and benefit from better access to information and services made possible by access to the Internet.

### **Educate and engage people on the value of broadband**

The region has identified its first goal to educate and engage people on the value of broadband.

#### **Assessment**

A major strength identified by the planning team was the presence of an educated workforce. An educated workforce can take advantage of the many applications facilitated by access to broadband.

Many service providers such as ALLO, Charter and Verizon are capable of providing large bandwidth throughout the region, but many people don't know how to take advantage of it. Several providers offer specific training.

Lexington and Dawson County residents have expressed a desire for expanded services, higher bandwidth and training.

Libraries, Mid-Plains Community College and high schools are capable of educating the public on the application and uses of broadband.

Growth continues in rural communities where it is possible for thriving businesses and entrepreneurs to hire people. Youth can be participants in that growth as well.

#### **Action Plan**

1. Hold annual technology fairs to build awareness and promote educational opportunities.
2. Hold classes at the local libraries that introduce people to applications facilitated by access to broadband. Instructors can come from the ranks of those who are already using broadband. They can share experiences

- with others regarding how to use the tools and applications that are available.
3. Work with local chambers of commerce, businesses and other organizations to develop and conduct workshops on the use of broadband to market and deliver targeted messages. Non-profits could see the benefit of using applications facilitated by broadband to increase philanthropy.
  4. Work with providers, the community college, the Education Service Unit and UNL Extension to educate and build awareness of other opportunities to enhance economic well-being and quality of life through the use of broadband.

## **Increase availability of broadband service**

The region identified a need and a priority to increase availability of broadband (access) to all communities and rural areas. Education, home businesses, precision agriculture and entertainment (movies, video games, etc.) require varying amounts of bandwidth. These should be available at affordable rates.

### **Assessment**

Several communication companies and Internet service providers offer broadband services to the region. These include ALLO Communications, Charter Communications, Consolidated Telephone, Verizon and Nebraska Link. As in most industries, services, support and customer satisfaction varies.

The planning team perceived that North Platte and Ogallala had good infrastructure, bandwidth, speeds, etc., but areas around Ogallala and Lexington lacked access and affordable services.

Rural residents, farmers and ranchers, and some communities lack bandwidth to effectively conduct business from home.

An example of an application that requires appropriate bandwidth is a local church that streams video and podcasts of sermons and other activities.

### **Action Plan**

1. Work with providers, government and regional leadership to increase coverage for areas that are underserved or communities that are not satisfied with their current broadband.
2. Facilitate the development of a broadband infrastructure that will support rural residents and their needs.
3. Look at “digital deserts” (no broadband access) in the region and explore funding opportunities and strategies for improving broadband access.
4. Work with business owners to gauge if their businesses improve with broadband use. Track successes.
5. Work with providers of cell services to identify access gaps and then work to provide coverage.
6. Develop collaborations with providers, business leaders and local leadership to discuss affordable access and bandwidth for business applications and the delivery of entertainment and information via the Internet.
7. Encourage collaboration and policy development at the local and state level.

## **Adequate access and bandwidth for health care**

The regional planning team identified a priority to work with telecommunications providers and other key stakeholders to ensure that reliable and adequate bandwidth are available to health care providers.

### **Assessment**

Access, services and bandwidth vary by community and hospital.

Hospitals recognize the importance of access to larger hospitals and specialists.

Some hospitals are working with University of Nebraska Medical Center. They use tele-medicine technologies facilitated by access to broadband and adequate bandwidth to consult and aid in diagnosis and patient services. Area residents receive better care and spend less on travel and other medical services. This is especially true for those located in rural areas.

Can the broadband services and bandwidth increase and/or be equal for all hospitals and health care professionals in the region?

### **Action Plan**

1. Work with telecommunications providers and other key stakeholders to ensure that redundancy and reliability are built in to systems and affordably offered to health care providers.
2. Promote the importance of high-speed Internet to rural hospitals to attract new physicians, connect with specialists and utilize tele-health services.
3. Provide classes on health care laws and how broadband access will benefit them as these laws that involve record keeping, billing and other processes come into effect.
4. Provide the general public with awareness of the options available in rural hospitals to connect with specialists at a larger hospital.

## **Use broadband technology to benefit businesses, local governments and non-profits**

The next identified priority is to explore how businesses, local governments and non-profits can use broadband technology to increase revenues and communication with constituencies.

### **Assessment**

Applications that businesses, local governments and non-profits can use if they have access to broadband have great potential. Some business use these applications but not to their full potential.

Many groups have access to more bandwidth than they currently use. This creates opportunities for growth, better communication and incentives to attract new companies and organizations to the area.

Some major providers offer reliable networks with redundancy built in. Contracting with these service providers allows companies to decrease the risks to information they own. They feel more secure and perceive that they are saving money in the long run.

Some groups like Hooker County, Sandhills Region and Scenic Byways promote tourism by taking advantage of web technologies.

Most chambers of commerce are working to expand tourism. They can increase their reach by expanding their use of the Web and other broadband technologies.

## **Action Plan**

1. Connect businesses, local governments and non-profits with resources to help them understand how broadband technology can strengthen their ability to increase profits, conserve resources, increase revenues and communicate with constituencies.
2. Work with the local Chamber of Commerce, Department of Economic Development and other leaders in the community to help support and market a technology fair and broadband use in general.
3. Develop short courses with the local libraries and community colleges for seminars or workshops on the uses of broadband.
4. Develop best practice videos on use of broadband for businesses and not-for-profits.
5. Demonstrate ways businesses can use broadband and increase revenues and markets.

## **Enhancing agriculture through technology**

The final priority for the region is to provide education and awareness to farmers, ranchers and agriculture businesses regarding the adoption and use of broadband technologies to enhance their bottom line. Additionally, to provide education and information about precision agriculture and how using advanced equipment and monitoring systems, facilitated by broadband access, can increase crop yields and conserve resources.

## **Assessment**

Agriculture is key to the region's success economically. Broadband services and good capabilities are generally available.

Providers such as Consolidated Telephone can and are working with farmers to provide better access in rural areas, thus allowing them to control center pivot irrigation, get information regarding markets and buy and sell online. They are able to stay connected with implement dealers for maintenance information on very expensive equipment. An example of this is evident in Dawson County where farmers utilize broadband to control center pivot irrigation made necessary by strict water usage guidelines put in place as a result of court actions regarding the Republican River.

Many farmers are beginning to take advantage of new technologies defined in precision agriculture as managing by observing, measuring, and responding to site-specific variability in fields and crops. Bandwidth and access to the Internet facilitates this ability to conserve resources by applying resources in the right amount, at the right time and in the right place. It should be noted that in general, only those who can afford to do so invest in precision ag equipment and broadband management.

Examples where broadband access provides increased opportunities for ag-related businesses include the following: Online auctions are held to buy and sell registered bulls. Livestock auctions are becoming more common. Increased Internet access facilitates for grain marketing, hedging options. John Deere offers precision ag equipment and connections with equipment in the field to notify owners of pending maintenance and other information.

## **Action Plan**

1. Work with service providers to offer adequate bandwidth in rural areas to meet the needs of a technology-driven agriculture industry.
2. Work with providers to ensure limited coverage areas have enough bandwidth for agriculture producers to conduct business at home.
3. Conduct technology seminars for agriculture producers to increase awareness of broadband capabilities.
4. Provide collaboration opportunities for providers and farmers to identify necessary bandwidth requirements and available options.
5. Provide technology fair to offer information on how broadband use can assist farmers and ranchers with marketing crops and livestock, record keeping, business information and precision agriculture opportunities.

## **Conclusion**

This document reflects the current status and identifies future broadband technology needs of the Nebraska Broadband Initiative New Frontier Region. The content has been developed with the input and assistance of residents of the New Frontier region. Changes to this plan will occur due to the dynamic nature of the technologies and the implementation of the action plans. Your input and feedback may stimulate and contribute to updates in the regional plan. Share feedback on this plan with Randy Saner, New Frontier regional coach, by phone at 308-532-2683, or by email at [rsaner2@unl.edu](mailto:rsaner2@unl.edu)

This process is fluid and dynamic, and this report is intended to capture its status only at this point in time. This evolution will continue.

## New Frontier Region Team Representation

Member Name	Group represented	Area
J.P. Johnson	New Hope Church	Religion
Jason Axthelm	Consolidated Telephone	Internet provider
Jeff Kuenne	ALLO Communications	Internet provider
Herb Knudsen	Ogallala Down	Business
Scott Knapp	UNK Business Development	Education
Gary Reiber	Dawson County Sheriff	Law enforcement
Jen Wolf	Dawson Area Development	Government
Robb Hanna	Lexington Regional Health Center	Health care
Hank Eachin	Lexington Regional Health Center	Health care
Bethany Johnston	UNL Extension, Central Sandhills	Education
Brad Moline	ALLO Communication	Internet provider
Brad Sawyer	Consolidated Telephone	Rural phone company
Bryan Trimble	Valley Bank	Banking
Charles Osteen	Mid-Plains Community College	Education
Dan Mauk	North Platte Area Development	City government
David Behle	Dawson Public Power	Public power
Dawn Mallory	Pioneer Nursing Home, Mullen	Medical
Doug Teaford	Keith County Commission	Government
Eric Duhachek	Pinnacle Bank	Banking business
Terri Licking	Custer County Chief	Media
Todd Peters	Consolidated Telephone	Internet provider
David Sullivan	Hooker County Clerk	County government
Ryan Pate	Consolidated Telephone	Internet provider
Judy Peterson	Pro Printing Inc.	Business
Michelle Stephens	People Oriented Planning	Entrepreneur
Twila Phillips	Sandhills RC&D	Government
Tim Hall	Mid-Plains Community College	Education
Mike Teahon	Gothenburg Public Schools	Education
Steph Nichols	Dawson C. Area Development	Government

## Techniques for Information Gathering

Activity	Audience Size	Date of Contact
Broadband Forum	120	4/6/2011
Broadband Planning Teleconference	6	6/6/2012
Focus Group – Ogallala	12	11/19/2012
Focus Group – Mullen	7	11/20/2012
Focus Group – North Platte	6	11/20/2012
Focus Group – Lexington	7	11/20/2012
Broadband TV Interview	65,000 households	11/20/2012
Broadband News Release	10,800 households	11/17/2012

For additional information, contact:

Randy Saner, New Frontier Regional Coach  
 University of Nebraska-Lincoln  
 308-532-2683  
 rsaner2@unl.edu

## References

Internet Connectivity and Use in Nebraska Survey.

[http://liferaydemo.unl.edu/c/document\\_library/get\\_file?uuid=32e75940-6288-401e-93a4-9a3ebd8a2398&groupId=4583971&.pdf](http://liferaydemo.unl.edu/c/document_library/get_file?uuid=32e75940-6288-401e-93a4-9a3ebd8a2398&groupId=4583971&.pdf)

Engaging People. Linking the World Broadband Planning Workbook

[http://broadband.nebraska.gov/c/document\\_library/get\\_file?uuid=d7b74d0f-c89b-4c74-907d-ec3331eebb03&groupId=1874&.pdf](http://broadband.nebraska.gov/c/document_library/get_file?uuid=d7b74d0f-c89b-4c74-907d-ec3331eebb03&groupId=1874&.pdf)



### The Nebraska Broadband Initiative

This Broadband Mapping and Planning Initiative is funded through a grant to the Nebraska Public Service Commission by the U.S. Department of Commerce's National Telecommunications and Information Administration and aims to increase broadband adoption and utilization.

Project partners include the University of Nebraska, Nebraska Department of Economic Development, Nebraska Information Technology Commission, Nebraska Public Service Commission, and the AIM Institute.