

# Nebraska Broadband Plan

## Vision and Draft Findings

Draft—March 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.

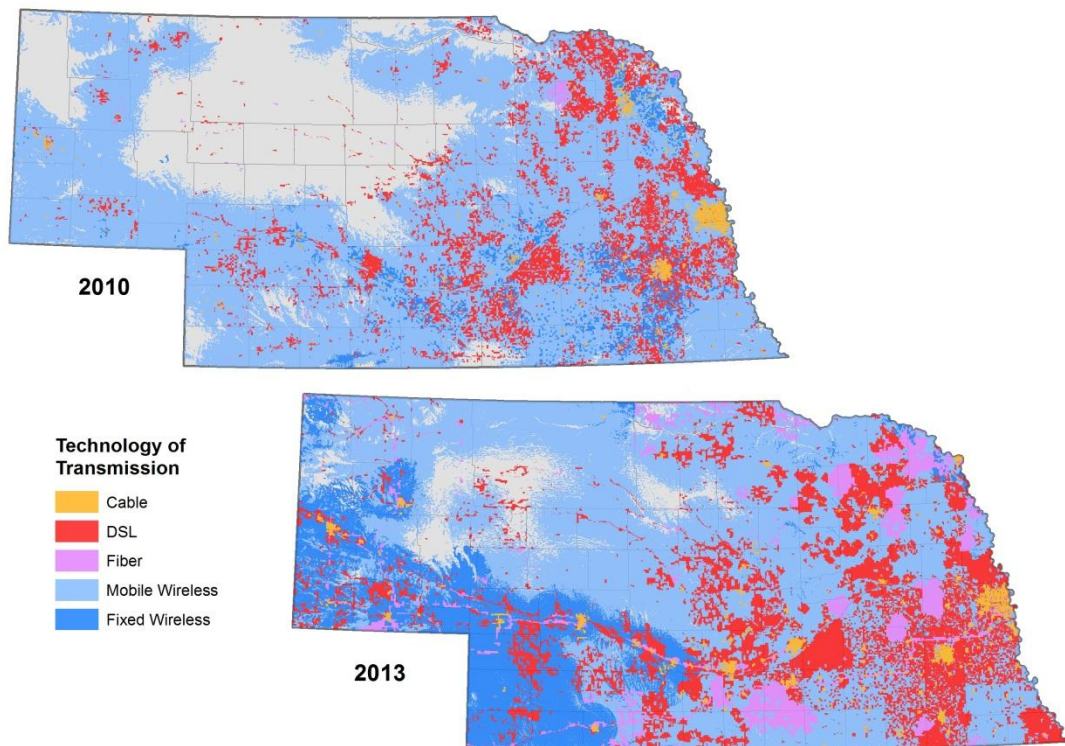
**Goal 2:** To facilitate digital literacy and the widespread adoption of broadband technologies in business, agriculture, health care, education, government and by individual Nebraskans.

# 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.

**Nearly all Nebraska businesses have broadband access, and 75% of businesses are satisfied with their broadband service.<sup>2</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.
- Speed test results from metropolitan areas were higher than speeds from non-metro areas.
- 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

**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

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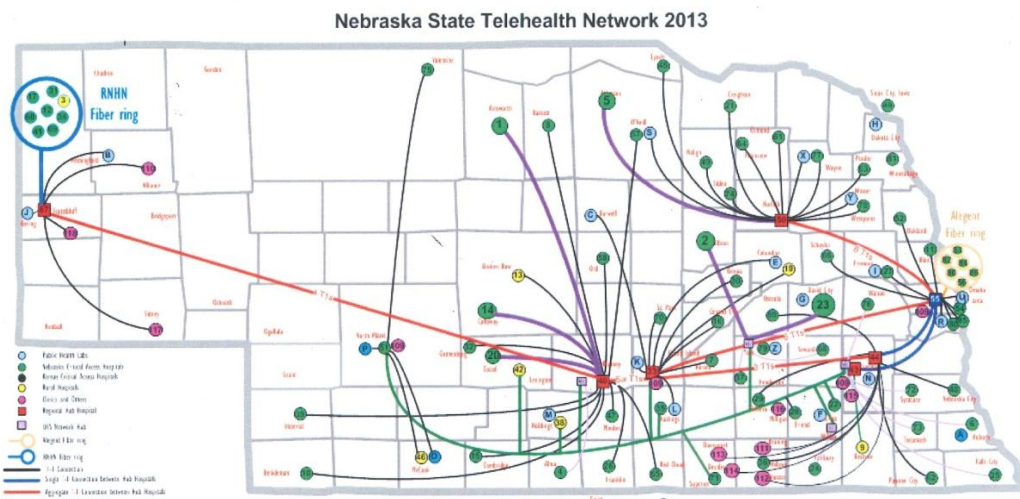
<sup>2</sup> Nebraska Broadband eSolutions Benchmarking Report: Utilizations and Impacts of Broadband for Nebraska Businesses is available at [broadband.nebraska.gov](http://broadband.nebraska.gov)

- 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.

**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.

**The Nebraska Statewide Telehealth connects nearly all of the state’s hospitals and all of the state’s public health departments.**



**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.**

**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>3</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>4</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.

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<sup>3</sup> FCC Report: Internet Access Services: Status as of Dec. 31, 2012 available at <https://prodnet.www.neca.org/publicationsdocs/wwpdf/122413report.pdf>

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

# Broadband Utilization

## 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%).

**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).