



How Broadband is Helping Iowa Businesses

A Connect Iowa White Paper



First in a Series of 2015 White Paper by Connect Iowa on broadband-related issues in the state of Iowa, produced in partnership with the Iowa Economic Development Authority.

April 2015

Increasing Broadband Access and Usage in the Workplace is Vital to the State's Economy

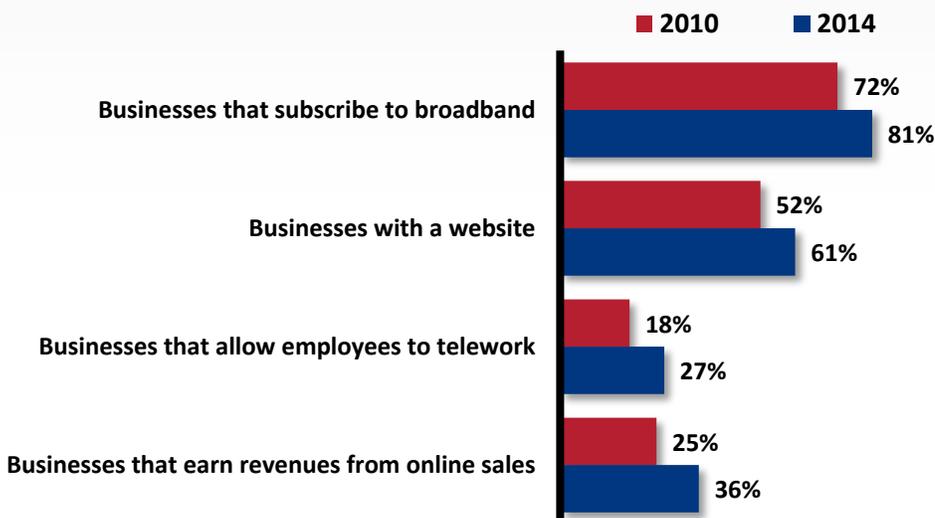
Broadband is a powerful tool that allows fast access to information, allows businesses to reach customers from all corners of the globe, and empowers workers to be more productive through the ability to telework. Studies show that businesses seeking to open or expand operations want to see not only whether a community has robust broadband access, but also whether employees in the region have the skills needed to use that technology.¹ Because of the benefits that broadband can provide businesses, it is vital that Iowa implement strategies that can promote and support broadband access and adoption across the state in every business sector.

To show how businesses have been using broadband in the state, Connect Iowa has been conducting telephone surveys since 2010, asking residents and businesses whether they use broadband for their work and how broadband has affected the ways in which they conduct business. This report highlights the trends in broadband adoption among businesses across the state and in particular, rural areas. These surveys indicate that while broadband adoption has grown statewide, many businesses are still not benefitting from the tools that broadband can provide them.

Broadband Adoption Among Iowa Businesses Has Grown

Across the state, 81% of Iowa businesses use broadband for their work functions, compared to just 72% in 2010 (Figure 1).

Figure 1.
Trends in Technology Adoption Among Iowa Businesses



¹ Broadband as an Economic Development Tool
http://www.connectednation.org/sites/default/files/sc_econ_development_final.pdf.

Key Findings:

- Although **81%** of Iowa businesses use broadband (up from **72%** in 2010), approximately **16,000** Iowa businesses are still not online. Of those businesses that do not use broadband, **10,000** are in rural parts of the state.
- In 2013, Iowa businesses reported earning **\$20 billion** in online sales, the equivalent of **12%** of the state's Gross Domestic Product (GDP) for that year.
- More than one-quarter of Iowa businesses (**27%**) let their employees telework; statewide, approximately **277,000** employees telework at least part of the time.
- Broadband adoption has grown fastest among small businesses, those owned by women or minorities, and businesses in the agricultural, construction, mining, and utilities sector.
- Broadband adoption among rural businesses has grown at a slower pace than the rest of the state. Reasons include a lack of available service and the need for employees with digital skills.

This trend is similar to other states surveyed by Connect Iowa's parent company, Connected Nation; on average, broadband adoption among states surveyed by Connected Nation grew from 72% to 80% during this time period.

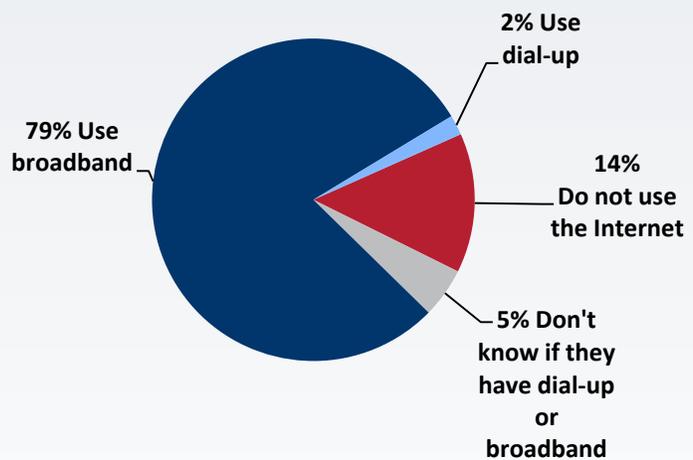
In addition to the growth in businesses using broadband, there has been a growth in the ways that businesses are benefitting from being connected. Website usage has grown in Iowa, as has the ability for Iowans to telework. Statewide, more than one-quarter of Iowa businesses (27%) allow their employees to telework, and approximately 277,000 adult Iowans telework at least part of the time.²

In addition, a growing number of Iowa businesses earn revenues through online sales. Those sales are having a major impact on Iowa's economy - in 2013, Iowa businesses earned an estimated \$20 billion in online sales. That is the equivalent of 12% of the state's GDP for that year.³

Iowa businesses owned by women and minorities are closing the broadband adoption gap, despite trailing slightly. Across Iowa, 79% of businesses owned by women or minorities subscribed to broadband in 2014, compared to 66% in 2011 when Connect Iowa first began collecting this information (Figure 2).

Yet despite these positive trends in broadband adoption, approximately 16,000 Iowa businesses still do not use broadband. Of those, an estimated 10,000 businesses are located in rural portions of the state.

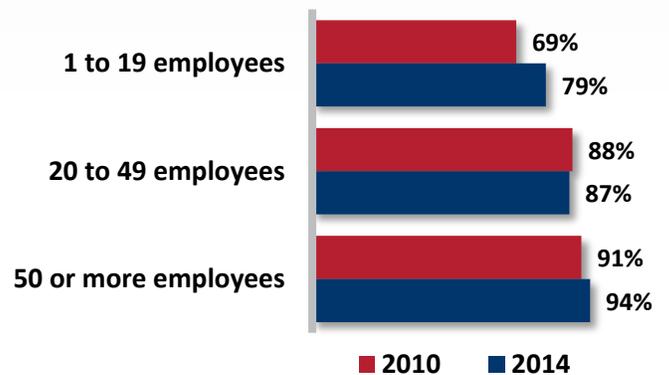
**Figure 2.
Technology Adoption
Among Women- and Minority-Owned Iowa Businesses**



Broadband Adoption Trends by Business Size and Industry Sector

Although broadband adoption has grown among businesses across the state, not all businesses have shown equal levels of growth. For a growing number of small businesses, though, broadband access is allowing them to sell their goods and services to customers across the state as well as across the globe. Broadband adoption grew fastest among small businesses (those that employ between 1 and 19 workers) between 2010 and 2014; altogether, broadband adoption among these small businesses grew by 10 percentage points during this time period (Figure 3).

**Figure 3.
Broadband Adoption Trends by Business Size**



² Source: Connect Iowa 2014 Residential Technology Assessment.

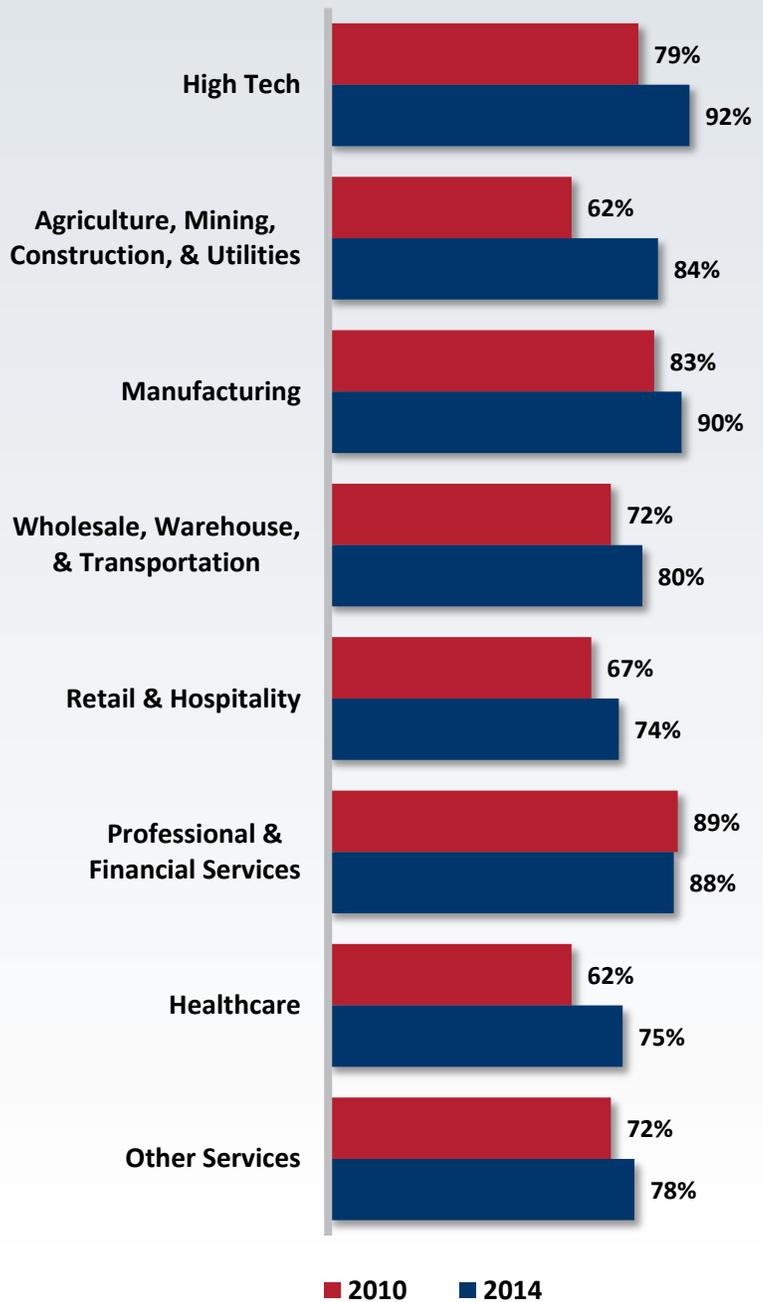
³ Based on the state GDP of \$165.8 billion for 2013 (source: United States Department of Commerce Bureau of Economic Analysis).

That represents approximately 5,000 additional small businesses that now use broadband. Still, these small business owners continue to be the least likely to use broadband in the state, as fewer than four out of five small businesses use broadband. Larger businesses with more employees did not see a significant increase in broadband adoption during this time.

Similarly, not every business sector has increased its broadband adoption at the same pace (Figure 4). The greatest increase in broadband adoption between 2010 and 2014 has been in the agriculture, mining, construction, and utilities sector, which has seen a significant jump of 22 percentage points in broadband adoption. Similarly, Iowa businesses in the high tech sector and the healthcare sector also saw significant increases in broadband adoption during this period. Broadband adoption among businesses in the professional and financial services sector remained stagnant between 2010 and 2014, with only a small (not statistically significant) decrease in broadband adoption among these businesses over the five-year timespan.

Farms in Iowa are also going online in growing numbers. According to the United States Department of Agriculture (USDA), 71% of Iowa farms had Internet access in 2013, up from 62% in 2006.⁴ According to that same report, three out of ten Iowa farms (30%) conducted online agricultural marketing activities in 2013, while nearly one in five Iowa farms (19%) bought agricultural inputs over the Internet and nearly one-half (46%) went online to conduct business with non-agricultural websites in 2013.⁵

Figure 4.
Broadband Adoption Trends by Sector



⁴ Source: USDA National Agricultural Statistics Service's 2013 Farm Computer Use Report.

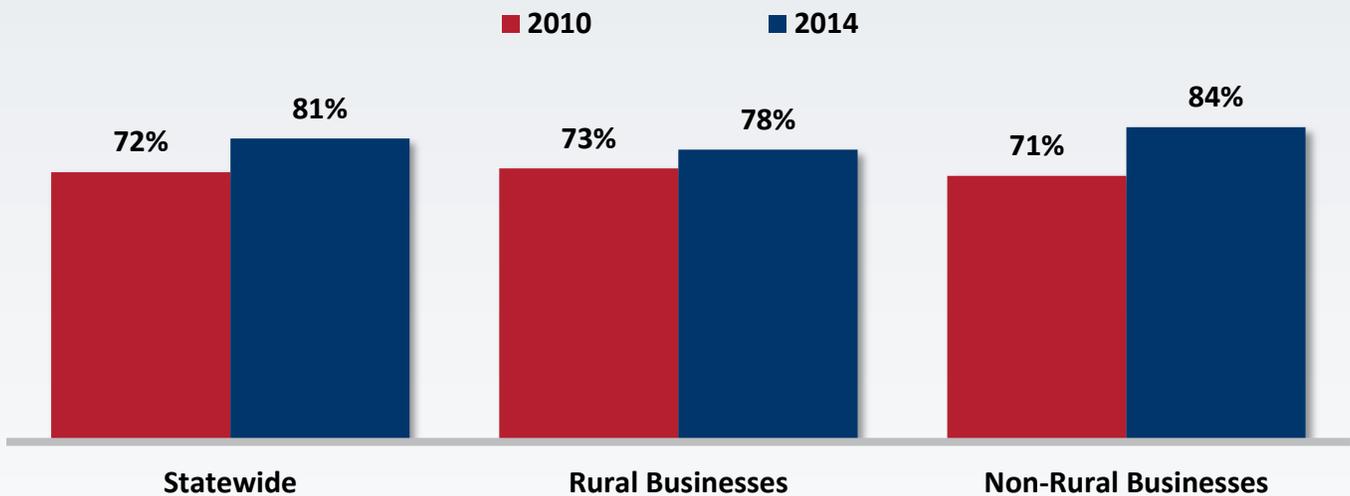
⁵ Ibid.

Broadband Helps Rural Businesses Attract New Customers

Rural businesses, in particular, benefit from connecting to broadband to help them grow. Through broadband, businesses in rural Iowa can reach customers who could never visit the store in person. This allows rural Iowa businesses to attract customers from the other side of the state, or even the other side of the globe.

In rural portions of the state, 78% of businesses report that they use broadband, slightly below the statewide average. By comparison, 73% of rural businesses subscribed to broadband service in 2010, indicating that while broadband usage has grown among rural businesses, it has done so at a slower pace than among their non-rural competitors (Figure 5).

Figure 5.
Broadband Adoption by Business Location



For many of these rural businesses, the lack of reliable broadband service still represents a barrier to getting connected. Among the nearly 10,000 rural businesses that do not subscribe to broadband, one in fourteen (7%) cited the lack of available broadband as their main barrier to subscribing. Rural businesses also face a lack of potential employees with the requisite technical skills to make the most of the opportunities available through broadband – in a 2013 survey, more than one-third of rural Iowa businesses (37%, representing approximately 15,000 businesses) said it was “difficult” or “very difficult” to find employees with the necessary digital skills to meet their needs.⁶

Many rural businesses that do subscribe to broadband still face challenges. Two out of three broadband-connected rural businesses in Iowa (66%) say they do not have redundant or backup service, making them vulnerable to service disruptions that could cost them customers and sales revenues. The lack of available broadband service at higher speed tiers is also proving to be an obstacle for many rural businesses. Approximately 5,400 rural Iowa businesses currently subscribe to broadband but say they could benefit from greater bandwidth. Among those that want faster broadband, more than one-third (35%) say that faster service is unavailable.

⁶ Source: 2013 Connect Iowa Business Technology Assessment

Iowa Should Support Better Broadband for Businesses

Iowa businesses are benefitting from increased broadband access and usage. Yet many businesses are still struggling in places where there may be few competitors or service is limited to slower speed tiers. For other businesses, there is a growing need for workers who have the skills necessary to use online tools effectively. All of these point to the need for continued action to increase broadband access and adoption, in addition to highlighting the need for workers who have the required digital skills, to rural portions of the state. There are several ways that this effort can be strengthened:

- In-person or online training to help small business entrepreneurs learn how to use broadband to help their businesses grow;
- Community training efforts to help unemployed Iowans improve their digital skills;
- Working with communities and broadband providers to assess current broadband availability and see where businesses and residents are clamoring for faster service; and
- Making faster broadband a priority for all Iowans.

Iowa businesses and residents will all benefit from increased access to faster broadband in the form of increased business revenues and access to a host of online tools. Promoting broadband access and usage, particularly among small and rural businesses, will certainly benefit the state in the long run.



Methodology

Connect Iowa conducted a random digit dial telephone survey of 600 business establishments statewide between April 7 and April 29, 2014. Data were collected by Thoroughbred Research Group, located in Louisville, Kentucky. The purpose of this survey was to measure trends in technology adoption and barriers to adoption among Iowa businesses; determine best practices by identifying which applications Iowa businesses use most often; and measure current and upcoming demand for increased bandwidth within the state. On average, these surveys took approximately 9 minutes to complete.

Connect Iowa established sample quotas by company size (5 brackets) and industry sector (8 sectors). Within these 40 cells, a randomly drawn sample of businesses listed with Dun & Bradstreet was contacted for the survey. Altogether, this sample included 49 businesses with 50+ employees, 58 businesses with 20-49 employees, 206 businesses with 5-19 employees, and 279 businesses with 1-4 employees. Connect Iowa defines rural businesses as those located in counties that are not part of any Metropolitan Statistical Area (MSA), as designated by the United States Office of Management and Budget. In cases where the respondent's information regarding the number of employees at the establishment differed from the information provided by Dun & Bradstreet, the respondent's answer was used in determining business size quotas.

Connect Iowa intentionally over-sampled large businesses to ensure a sample that was large enough to analyze and compare to smaller businesses. In addition to the size and sector quotas, the data were subsequently weighted to ensure that the sample was representative of all employer business establishments statewide. Connect Iowa determined sample targets according to the 2012 United States Census Bureau's County Business Pattern report, the most recent data that was available at the time the survey was conducted. Weighting of the survey data and research consultation were provided by Lucidity Research LLC, located in Westminster, Maryland.

This sample provides a margin of error of $\pm 4.52\%$ at the 95% confidence level for the total sample of 600 businesses. This sample error accounts for sample weighting, using the effective sample size. As with any survey, question wording and the practical challenges of data collection may introduce an element of error or bias that is not reflected in this margin of error.

The 2014 Iowa Business Technology Assessment was conducted as part of the State Broadband Initiative (SBI) grant program, funded by the National Telecommunications and Information Administration (NTIA). The SBI grant program was created by the Broadband Data Improvement Act (BDIA), unanimously passed by Congress in 2008 and funded by the American Recovery and Reinvestment Act (ARRA) in 2009.

If you have any questions or would like further information about Connect Iowa, please visit our website at www.connectiowa.org or e-mail us at info@connectiowa.org.