

Expanding high speed Internet for all South Dakotans.

**SOUTH DAKOTA
BROADBAND**
broadband.sd.gov



SOUTH DAKOTA STATE BROADBAND INITIATIVE

South Dakota Bureau of Information and
Telecommunications (BIT)

700 Governors Drive
Pierre, SD 57501
(605) 773-4165

broadband.sd.gov
Twitter: @broadbandsd
Facebook.com/broadbandsd
YouTube.com/broadbandsd

Survey Results
from the
“2012 Internet
Usage in South
Dakota’s
Agricultural
Community”
Survey



Contents

Introduction

Executive Summary

Survey Analysis

- Data Analysis
- Data Analysis of Cross Tabulation Results
 - Broadband Usage by Agriculture Operation
 - Frequency of Broadband Use and the Types of Activities Being Engaged In
 - Value of Broadband Use by Education
 - Broadband Usage by Age
 - Data Services / Smartphone Usage in Ag Operations
 - Bring a Computer Home vs. Age of Children Living at Home
 - Location of Respondents without Access to Broadband
 - Primary Reason for not using Broadband by Age
 - Primary Reason for not using Broadband by Education
 - Encourage Respondents to Sign Up for Broadband by Age
 - Encourage Respondents to Sign Up for Broadband by Education
 - Frequency of Internet Usage for Activities Related to Agricultural Operations by Age
 - Frequency of Internet Usage for Activities Related to Agricultural Operations by Education
- Analysis of Comments from Respondents

Broadband Usage by County

Get on Board with Broadband in South Dakota

Final Thoughts

Appendices

- South Dakota Broadband Wireless Speed Test Results
- Newspaper Ad used to help increase survey awareness
- Resources for more Information

Introduction

Encouraging increased utilization of broadband in rural areas is a primary focus of South Dakota's Broadband Initiative (SDBI), which is part of a national effort to determine availability and capacity of broadband services throughout the country. This initiative is funded through a grant from the National Telecommunications and Information Administration, a federal agency, through the State Broadband and Development Program. Under this program, broadband is defined as "high-speed, continuously available Internet access." Increased broadband utilization will be accomplished by providing broadband education, access, equipment and support; particularly where broadband technology has been underutilized.

Increasing utilization of services requires an assessment of current utilization. This is done by collecting service information from South Dakota's telecommunication providers, through mapping of Internet speed test results and through surveys designed to capture both utilization measures and anecdotal evidence on the impact of broadband access. These surveys will be delivered to various demographic subsets of South Dakota's population. The first such survey was delivered to South Dakota agricultural producers earlier this year. This document provides an overview of the results gleaned from that survey.

Executive Summary

In early 2012 (January - March) the South Dakota Broadband Initiative (SDBI) conducted the Internet Usage in South Dakota's Agricultural Community survey. This survey aimed to discover the impact of broadband on current agricultural operations in South Dakota.

In partnership with the United States Department of Agriculture (USDA), this **24-question survey was delivered to 6,500 agricultural producers** across South Dakota. Advertising efforts helped promote and increase awareness of the survey. If the USDA did not receive a completed survey a second survey was mailed and follow-up calls were made to any secondary non-respondents. **The results shown in the following pages are aggregated from 2,338 respondents, a 36 percent response rate.** Respondents who were not agricultural producers were excluded along with those indicating they received no income from agriculture production.

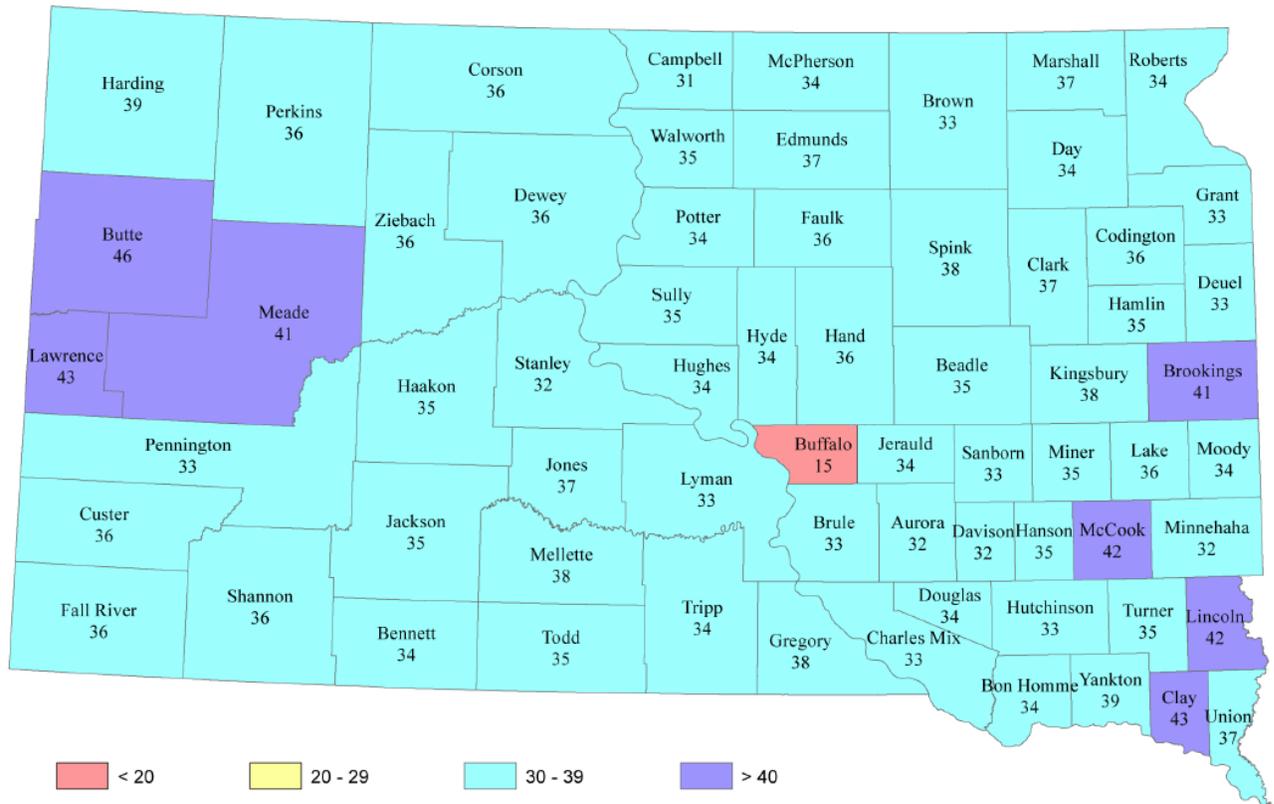
This publication provides only a high-level overview of survey results. The full report can be found online at broadband.sd.gov or by email request to broadband@state.sd.us.

It is our hope that this publication helps describe how broadband services are utilized by South Dakota agricultural producers and the positive impact these services have had on their operations.



Planting virtual crops in a fun farm app for kids.

Internet Usage in South Dakota's Agricultural Community Survey Responses by County



Survey Analysis

Data Analysis

Results are based on reports from South Dakota agricultural operators, with the two main types of operations being livestock / poultry (52%) and crops (48%). The survey indicated that 42% of respondents utilized the Internet on a daily basis, another 17% used the Internet multiple times in the course of a day, 7% on a monthly basis, 20% occasionally and the remaining 31% reported never using the Internet for their agricultural operation.

Respondents ranked the value of the Internet to their farm/ranch business as: 34% “must have”, 35% “some value”, 16% “little value” and 15% as contributing “no value”. Eight-five percent of respondents indicate the Internet adds value to their agricultural operations, driving desires to increase broadband for South Dakota agricultural producers. For those respondents who reported not using broadband access, the most common reason reported was “I do not have a computer” (39%), while the second most common reason was “I am just not interested” (37%).



Online Bull Sale Expands Economic Development.

When asked what would encourage a respondent to sign up for broadband access, the most popular response was “I would not sign up for broadband for any reason” (40%), while the second most popular encouragement would be “if the price was more affordable” (29%), followed closely by “If someone would help teach me how to use it” (22%). Looking at those numbers, additional educational opportunities may need to be provided.

The most common connection methods were digital subscriber line (DSL) and fiber-to-the-home (fiber-optics), each accounting for 24% of respondents. Other technologies included fixed wireless at 11% followed closely by cable, satellite and cellular mobile all accounting for 10% each.

As for personal activities on a daily basis, checking the weather reports is number one (45%) followed by general browsing, reading news and communicating with friends and family. Paying bills is done by 51% of the respondents at some point in the year. Specific to the agriculture operations the most used daily activity is “Checking prices of commodities” at 30%, followed by the checking prices of inputs at 12%. Sixty-six percent reported the activity of “Researching new agricultural related resources and products” at some point with “at least a few times a year” being the most reported frequency.

The most common range of the monthly fee paid for broadband Internet service was \$41.00 to \$60.00 (40%) and the second was \$21.00 to \$40.00 (28%). The respondents reported they are satisfied/neutral on the “quality and reliability of the connection” (92%) and the “different features and services they offer” (94%).

While away from their agricultural operation, 66% of respondents indicated they did not connect wirelessly to the Internet. Of those who did connect, 1 in 3 utilized a “Wi-Fi Hotspot.”

The survey indicated 92% of the respondents have a mobile/cell phone. Of these respondents having a mobile/cell phone, 27% spent additional money on a monthly data services plan to access the Internet, 20% did not buy the additional plan since they deemed it as too expensive, and the remaining 53% of mobile/cell phone users indicated no interest in additional data services. Of those buying the additional data services plan, the most common range of fees paid was “over \$25.00” (14%). When asked how essential “data” services were, such as Internet on their phones, they responded as: 13% “essential”, 11% “undecided”, and 18% “not essential”.



Rancher on mobile phone.

Data Analysis of Cross Tabulation Results

By creating cross tabulations we continue to bring the numbers to life and tell more of a story versus just delivering the numbers. The benefits of cross tabulation are best illustrated by looking at a few examples. The tables to follow provide examples of crosstab analysis. More cross tabulation reports can be found online at broadband.sd.gov and additional details are available upon email request to broadband@state.sd.us.

Broadband Usage by Agriculture Operation

The “crops” type of agriculture operation uses the Internet slightly more than the “Livestock / Poultry” type of producers. Crops are at 72% while the Livestock / Poultry producers are at 67%. A “broadband user” is identified as a respondent who indicated they used the Internet as part of their agricultural operation multiple times a day, daily, monthly or occasionally.

User vs. Non-User of Broadband Usage by Agriculture Operation

	User vs. Non-User of Broadband	
	Non-User of Broadband	User of Broadband
What is your MAIN type of agriculture operation? (N=1734)		
Crops	28%	72%
Livestock / Poultry	33%	67%
All Respondents	31%	69%

Frequency of Broadband Use and the Types of Activities Being Engaged In

If a respondent indicated they are a user of broadband, 72% check prices of inputs with 37% checking it at least weekly, 81% check prices of commodities, 64% are making farm purchases online, and 83% are using the Internet to research new agriculture resources and products. This indicates that if agricultural producers have broadband, they are using it to create a competitive advantage as well as research ways to improve operations.



A crop farmer checking his tablet in the field.

While looking at this same cross tab table, a non-user of broadband, (one who never uses broadband) in every activity there was a percentage that indicated they do actually use the Internet for these activities at some point in the year. Meaning, agricultural producers still utilize the Internet even if they identified themselves as non-broadband users. Based on the comments and discussions with agricultural producers, they are using dial-up Internet, checking these from their neighbors, or a public location when they go to town.

Value of Broadband Use by Education

Of those with higher education beyond high school, 75% said the Internet adds value as a must have or some value. Fifty-seven percent of the respondents with no higher education also said the Internet is a ‘must have/some’ value to their operation.

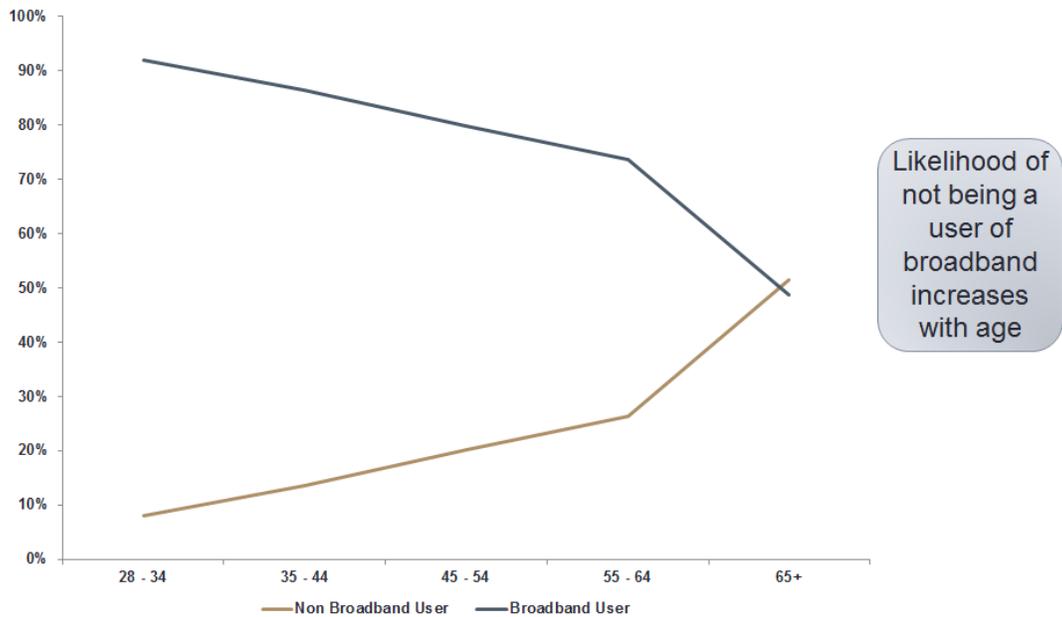
Broadband Usage by Age

As we looked closer at the age of the producer and their usage of broadband, the likelihood of not being a user increases with age.

User vs. Non-User of Broadband Usage by Age

	Question 1. User vs. Non-User of Broadband	
	Non-User of Broadband	User of Broadband
Question 22. What is your age? (N=1751)		
22 - 27 years old	4%	96%
28 - 34 years old	9%	91%
35 - 44 years old	13%	87%
45 - 54 years old	21%	79%
55 - 64 years old	27%	73%
65 years old or older	59%	41%

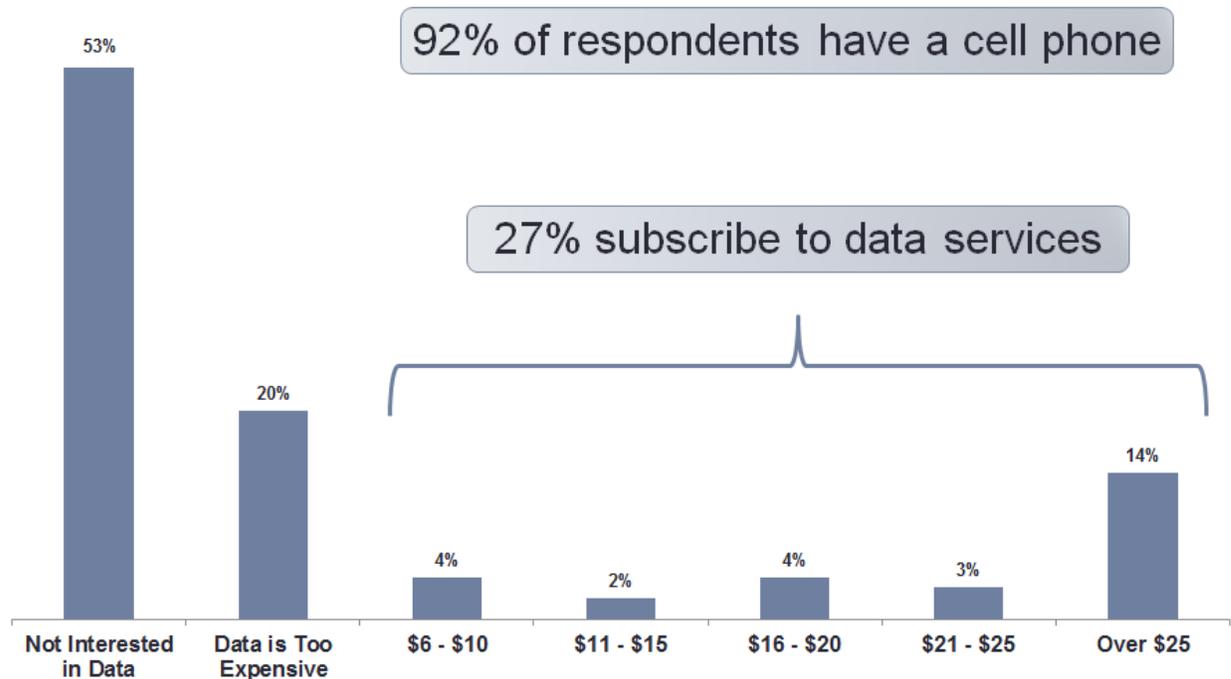
Age of Ag Operators vs. Broadband Subscription



Data Services / Smartphone Usage in Ag Operations

Ninety-two percent of respondents use a cell phone, and of these who use a cell phone, 27% subscribe to data services. Seventy-two percent of those with a cell phone indicated they use broadband in their operation.

Data Services / Smartphone Usage in Ag Operations

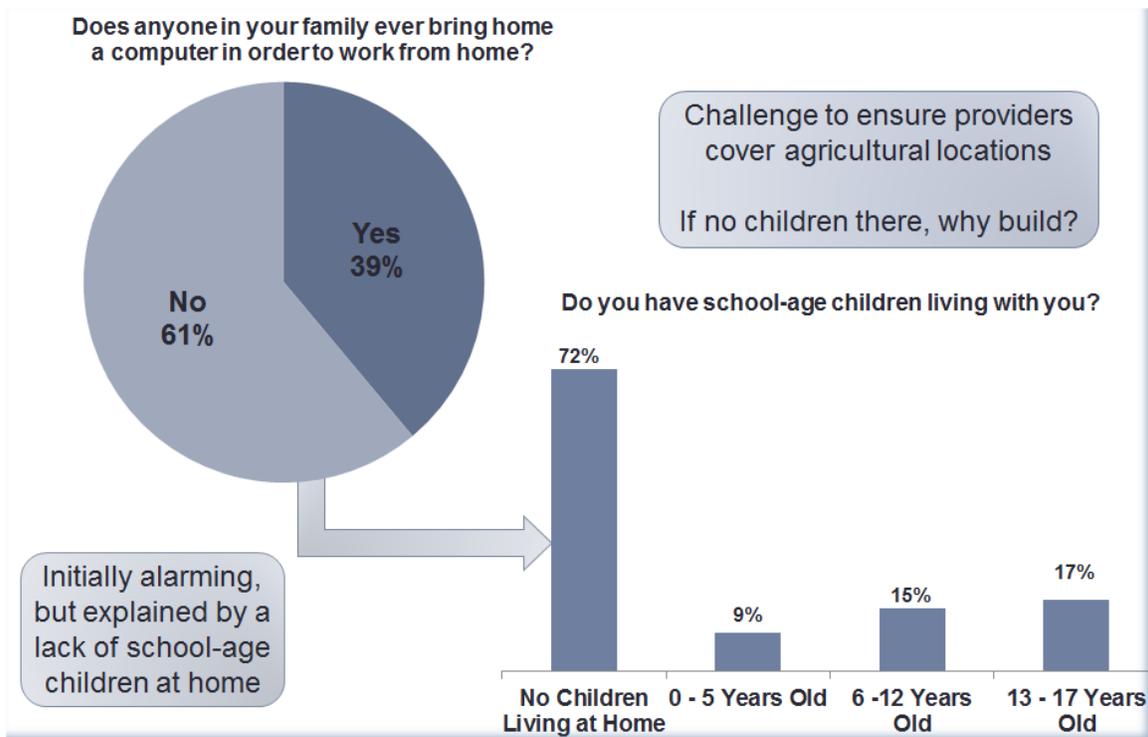


Bring a Computer Home vs. Age of Children Living at Home

At first glance, it was a concern that only 39% of respondents were bringing home a computer. After analyzing the data, the real cause for the lower percentage is that the majority of those filling out the survey do not have children living at home. If a respondent has children living at home, 57 percent bring home a computer. That percentage increases to as high as 70 percent if the children are between 13-17 years old, which can be attributed to the K-12 one-to-one laptop initiatives school districts across South Dakota.

**Bring a Computer Home vs. Age of Children Living at Home
Cross Tabulation**

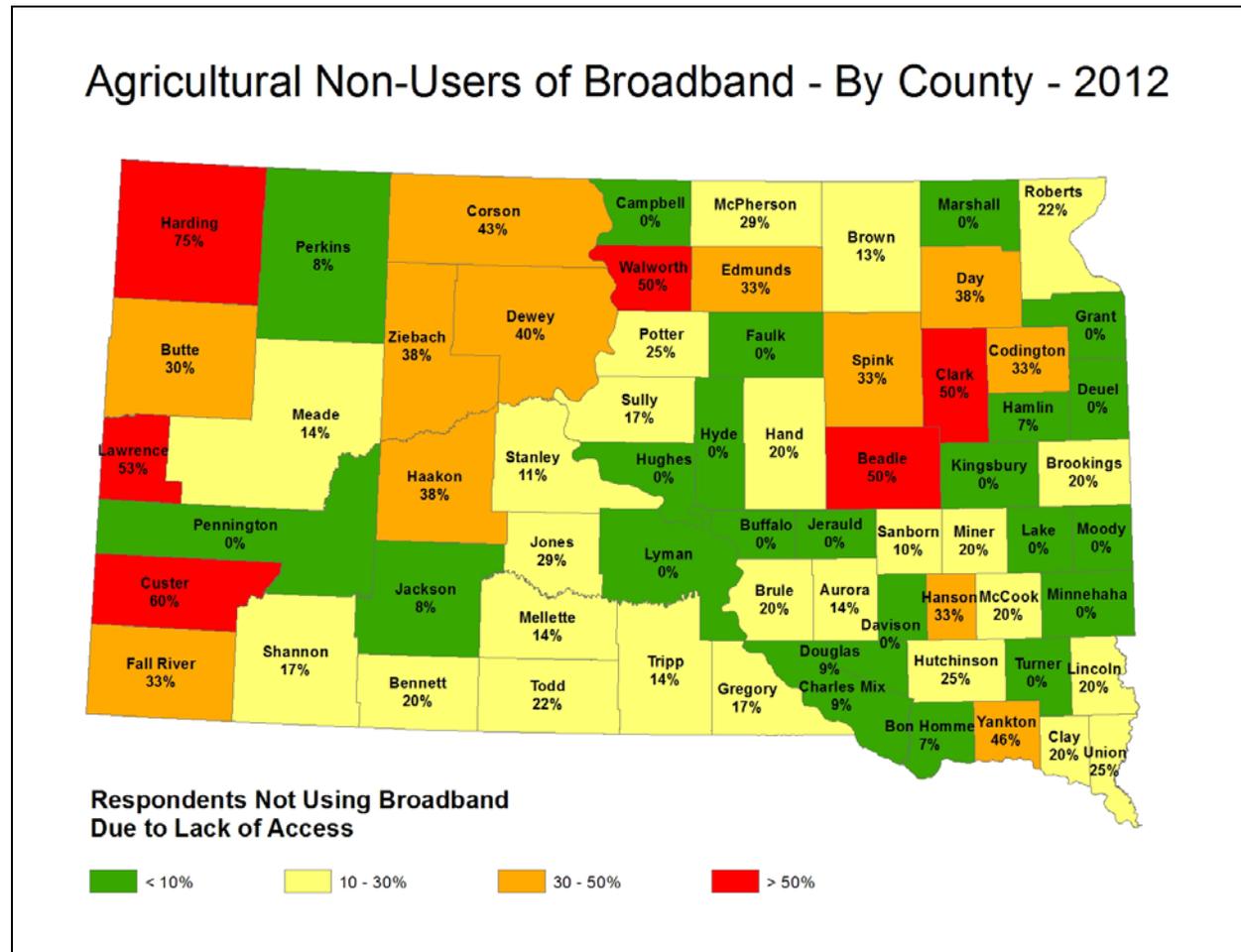
Question 21. Do you have school-age children living with you on your operations? (Select all that apply)	Children living at home		0-5 years old		6-12 years old		13-17 years old	
	Yes	No	No	Yes	No	Yes	No	Yes
Question 9. Bring a Computer Home (N=1617)								
Yes	57%	31%	39%	41%	36%	52%	32%	70%
No	43%	69%	61%	59%	64%	48%	68%	30%



Location of Respondents without Access to Broadband

From the data produced below, of the counties where the respondents were asked “If you are not using Broadband / High-Speed Internet (i.e., you are using dial-up or nothing at all), what is the primary reason you are not? (Select all that apply)”. One of the items they checked was “I don’t have access to it.”

There are six counties where over 50% of respondents have stated that the reason they do not utilize broadband is because they do not have access to it. This information will be combined with the mapping inventory of Internet Service Providers to find out which ones might be able to provide services in these areas, the competition, what technologies exist, and continue to expand Internet into these areas.



Primary Reason for Not Using Broadband by Age

Seventy-six percent of respondents 65 years old or older think they are too old to learn and 45% said it is frustrating. Perhaps if education is provided to this group they would feel more comfortable using the Internet, and become more involved with it.

A large percentage of respondents indicate they do not have time to use the Internet. Those who stated this are between ages 45-54 at 26%, ages 55-64 at 41%, and age 65 years old or older at 23%. Why is this important to increasing broadband if individuals do not have the time to use it? While talking with attendees at the Stockgrowers Convention, the comment was made: "Well, we have to be out of the house working the farm. Anytime we are in the house or need to look something up on the Internet it is taking time away from being in the field or tending to the livestock."

Primary Reason for Not Using Broadband by Education

Of the respondents who had some higher education, 65% of them say that dial-up speed is just fine. We need to show them the benefits of the high speed Internet such as the time savings, and all the additional features available on most websites.

Encourage Respondents to Sign Up for Broadband by Age

Overall, 40% of respondents stated they would not sign up for any reason, mostly due to cost. The highest percentages within the age groups were if the price was more affordable they would be encouraged to sign up.



Looking up data on his mobile device.

In the 65 years old or older range, 17% would sign up if the price was more affordable and 24% would sign up if someone would teach them how to use it. Those ages 55-64, 34% would sign up if the price was more affordable and 24% would sign up if someone would teach them how to use it. Those ages 45-54, 39% said cost needs to be more affordable and 17% would sign up if someone would teach them how to use it. One South Dakota rural telecommunications provider has a partnership with their local school and library to educate individuals in their service area and also give away older computers. This helps take away the barrier of not having a computer and the need to have someone teach them

how to use it. Looking at the two lower age groups (28-34 and 35-44), 67% and 63% respectively said they would be encouraged to sign up if the price was more affordable.

Encourage Respondents to Sign Up for Broadband by Education

Looking at the barriers to signing up for broadband from the education level, cost is a primary barrier with 22% with no higher education and 38% with some higher education stating they would be encouraged if the price was more affordable. The next highest percentage (like the age levels) was "if someone would teach me how to use it", with 22% (no higher education) and 23% (some higher education).

Frequency of Internet Usage for Activities Related to Agricultural Operations by Age

Those who use broadband, access the Internet for multiple reasons. This indicates that as agricultural producers utilize the Internet, they find more value and more opportunities to benefit their operations. This is not a simple tool with just a single purpose, but rather many features that can help give them a competitive advantage when taken full advantage of.

Age	Use the Internet for Multiple Agricultural Activities
28 - 34 years old	92%
35 - 44 years old	85%
45 - 54 years old	83%
55 - 64 years old	79%
65 years old or older	50%

Frequency of Internet Usage for Activities Related to Agricultural Operations by Education

Based on the level of education and those using broadband, a majority of agricultural producers are using it for multiple activities that involves their operations.

Level of Education	Use the Internet for Multiple Agricultural Activities
No Higher Education	64%
Some Higher Education	81%

Analysis of Comments from Respondents

Categorizing the comments helps analyze and better communicate the findings to those who can make decisions to take action on the results.

The cost of connectivity is and will continue to be an issue. Many commenters indicated they would be interested in broadband if it was priced lower. Many agricultural producers and rural customers pointed out that family and friends living in communities are paying less for service, and feel the cost should be more equitable. In addition, some commenters were frustrated about paying full prices for services that are intermittent or slower at peak times of the day.

There is an increased reliance on public access facilities for Internet usage; demonstrating the need to continue statewide efforts to identify and increase the broadband capabilities of libraries, community centers and other public locations. Citizens and businesses need to be able to determine where broadband services exist and to what level they are provided. The broadband mapping project visually identifies the location of these services at broadband.sd.gov.

Smartphones and data plans are of interest if reliable services are available; however basic cell phone coverage is unreliable in many locations throughout the state. Respondents wonder if data plans are worthwhile when basic cell phone coverage is not consistent; indicating they do not want to buy something and not get what they are paying for. Learn more by viewing the broadband maps at broadband.sd.gov.



Talking and laughing on the phone while helping with chores.

Digital literacy continues to be an issue. Respondents would appreciate additional educational opportunities to learn more about how to utilize the Internet and its related services. Understanding how to use the technology would be beneficial to them and their operations. Some providers hold training classes, and it is our intent to continue to work with them to best deliver the message that these offerings are available.

Comments were received regarding neighbors or nearby communities having high speed service while others living a short distance away, across a single road, even across their front yard, cannot receive service. Respondents are often willing to try alternatives to dial-up, such as cellular data cards and satellite, but most respondents indicate that while those offerings are better than dial-up, they are too slow and expensive. Reliability of service is of concern on many of these services, as comments indicating the loss of service during inclement weather, or even once the leaves bloom service is lost.

When looking at the age of respondents and the usage of the group age 64 and younger, we need to continue to increase service capabilities.

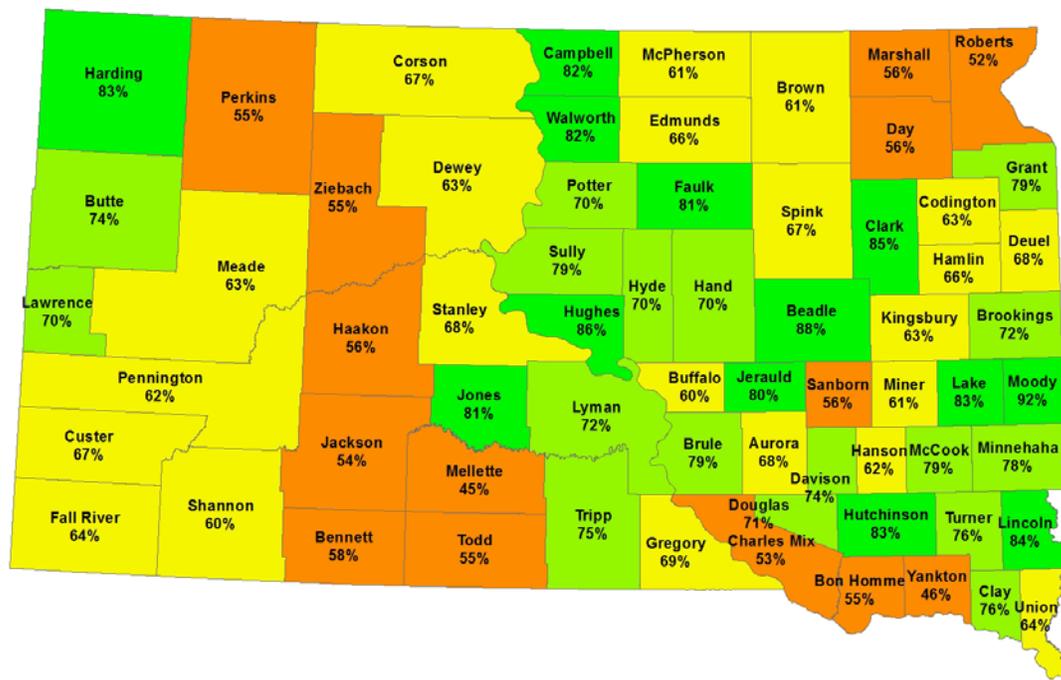
This was confirmed by some of the comments such as "Operator has internet – kids and grandkids use it, he does not." Due to connectivity issues, speed is also affected, especially when access is essential (school

work, bill pay, crop pricing). This group understands the value of the Internet and they will continue to rely on it by finding more reasons it helps improve their operation.

Broadband Usage by County

A broadband non-user	Identified as those who selected the option 'Never' in the question 'How often do you use Internet for your agricultural business operations? (question 1)'.
A broadband user	Identified as those who selected the options: 'Multiple times a day', 'Daily', 'Monthly', or 'Occasionally' in the question 'How often do you use Internet for your agricultural business operations? (question 1)'.

Agricultural Users of Broadband - By County - 2012



Respondents Using Broadband



User vs. Non-User of Broadband Usage by County

	User vs. Non-User of Broadband	
	Non-User of Broadband	User of Broadband
	Percent	Percent
County (N=1765)		
Aurora	32%	68%
Beadle	12%	88%
Bennett	42%	58%
Bon Homme	45%	55%
Brookings	28%	72%
Brown	39%	61%
Brule	21%	79%
Buffalo	40%	60%
Butte	26%	74%
Campbell	18%	82%
Charles Mix	47%	53%
Clark	15%	85%
Clay	24%	76%
Codington	37%	63%
Corson	33%	67%
Custer	33%	67%
Davison	26%	74%
Day	44%	56%
Deuel	32%	68%
Dewey	37%	63%
Douglas	29%	71%
Edmunds	34%	66%
Fall River	36%	64%
Faulk	19%	81%
Grant	21%	79%
Gregory	31%	69%
Haakon	44%	56%
Hamlin	34%	66%
Hand	30%	70%
Hanson	38%	62%
Harding	17%	83%
Hughes	14%	86%
Hutchinson	17%	83%

Hyde	30%	70%
Jackson	46%	54%
Jerauld	20%	80%
Jones	19%	81%
Kingsbury	37%	63%
Lake	17%	83%
Lawrence	30%	70%
Lincoln	16%	84%
Lyman	28%	72%
Marshall	44%	56%
McCook	21%	79%
McPherson	39%	61%
Meade	37%	63%
Mellette	55%	45%
Miner	39%	61%
Minnehaha	22%	78%
Moody	8%	92%
Pennington	38%	62%
Perkins	45%	55%
Potter	30%	70%
Roberts	48%	52%
Sanborn	44%	56%
Shannon	40%	60%
Spink	33%	67%
Stanley	32%	68%
Sully	21%	79%
Todd	45%	55%
Tripp	25%	75%
Turner	24%	76%
Union	36%	64%
Walworth	18%	82%
Yankton	54%	46%
Ziebach	45%	55%

Note: Due to rounding, the percentages may not add up to 100%.

Get on Board with Broadband in South Dakota

Take a Broadband Speed Test.

The quickest and easiest way to help is to take a broadband speed test at speedtest.sd.gov. We encourage everyone in South Dakota to support the state Broadband Initiative by conducting the speed test, as many times in as many places as possible. In fact, take the speed test more than once, since speeds will vary, based on many variables such as time of day.

Tell us where there is a lack of service.

In addition to conducting the speed test, contact us with any additional details of broadband service or the lack of service in your area.

Tell us your story.

How has broadband changed your life? Do you have a story you would like to share? Please share your story by visiting broadband.sd.gov.

Be Informed - Stay Informed.

Educate yourself on the benefits of broadband. Find out what new and innovative technologies are available as a result of "always on" high speed Internet. Check out broadband.sd.gov to stay informed with the most current information and connect with us on Twitter, Facebook and YouTube.

Take a survey.

As part of our planning and strategies we need to first determine the current broadband availability and usage. These surveys help us determine how citizens are currently utilizing broadband Internet, if they have access, if they do not have access and what barriers exist, as well as other future needs of relevant sectors across the state. All online surveys are available at broadband.sd.gov. If you need a paper survey, contact us and one can be mailed to you.

Tell us where the Public Wi-Fi Hotspots are.

Let us know where you access broadband from Public Wi-Fi Hotspot locations. As we collect this data, it will be mapped out for all citizens to know where they can connect to these locations.

How can telecommunication providers get involved?

Participation from telecommunication providers is critical to the success of the Broadband Initiative. Almost all providers in South Dakota are involved in helping provide data.

What is a Community Anchor Institution and what role do they play in the initiative?

Community Anchor Institutions include libraries, community centers, schools, universities, police departments, fire stations, clinics, government and tribal offices. Community Anchor Institutions need a solid computing environment to be successful. Technical consulting and planning is available at no cost to qualifying participants. Visit broadband.sd.gov to learn more.

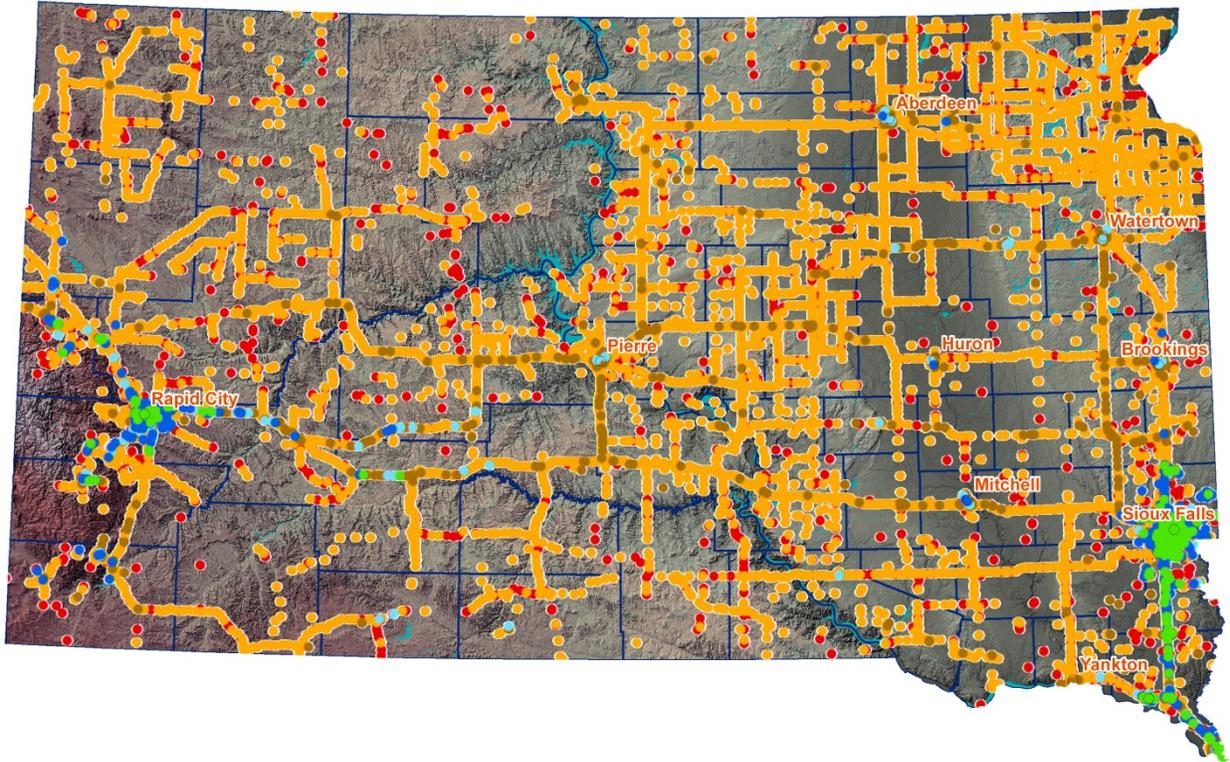
Final Thoughts

If you were one of the 2,338 agricultural producers who helped our state's broadband team gather data and information, we thank you. With your responses and comments to the 2012 Internet Usage in South Dakota's Agricultural Community survey, you have contributed to a state and national effort to help improve broadband connectivity in rural areas, and most importantly, in your communities.

Based on comments received, it may be prudent to run the survey again in the future, as many respondents indicate they are just now obtaining connections or new services. Some who had Internet services for a short time are still learning how to use them effectively, therefore we know it is important to continue with our research and continue to provide education and outreach on how important broadband, speed and connections are to agricultural operations throughout South Dakota.

Appendices

South Dakota Broadband Wireless Speed Test Results Data as of April 2012



Wireless Speed Test Results

- Less than 768 Kbps
- 768 Kbps - 3 Mbps
- 3 Mbps - 6 Mbps
- 6 Mbps - 10 Mbps
- 10 Mbps - 25 Mbps
- 25 Mbps or Higher

DISCLAIMER: This map was created under a National Telecommunications and Information Administration's State Broadband Data and Development grant awarded to the State of South Dakota as a representation of broadband availability. Although efforts to ensure utmost accuracy have been made, this map is not intended to be, nor should be used as, an authoritative source of available broadband service. The State of South Dakota, nor its contractors, make no warranty or guarantee as to the content, accuracy, timeliness, or completeness of the information provided herein.

Speed testing in rural South Dakota.



Newspaper Ad used to Help Increase Survey Awareness

Expanding high speed Internet for all South Dakotans. 

SOUTH DAKOTA BROADBAND

broadband.sd.gov

Tell Us What You Think!

- ✓ How does Broadband, or the lack of it, affect your ag operation?
- ✓ How do you currently utilize the Internet?

Please take the South Dakota Broadband Agriculture Survey.

Your opinions will help shape the expansion of Broadband (high-speed Internet) availability across South Dakota.

Look for the survey in your mailbox.

Or go online and complete the survey:
<http://broadband.sd.gov/AgricultureSurvey.aspx>

Or call and request a survey be mailed to you:
1-800-338-2557

 <p>TAKE THE SPEED TEST</p> <p>Do you have the connection you need to reach out to the world? broadband.sd.gov/SpeedTest.aspx</p>	 <p>TAKE THE SURVEY</p> <p>How does broadband improve your life? broadband.sd.gov/Surveys.aspx</p>	 <p>TELL YOUR STORY</p> <p>What has broadband done for you? Tell us your story. broadband.sd.gov/Stories.aspx</p>
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Funding for this ad provided by:



Resources for more Information

More results of the survey	
Results of each individual survey question.	All are found at our website http://broadband.sd.gov
Cross tabulation tables to better understand how two different survey items relate.	
Question results by county to compare with others.	

South Dakota Links about the State Broadband Initiative	
South Dakota Broadband Initiative Home Page	http://broadband.sd.gov
All SBI Grantees in the State Of South Dakota	http://www2.ntia.doc.gov/south-dakota
NTIA Project Descriptions and Reports	http://www2.ntia.doc.gov/grantee/south-dakota-bureau-of-information-telecommunications
Federal Links	
National Broadband Plan	http://broadband.gov/
State Broadband Initiative	http://www2.ntia.doc.gov/SBDD
Broadband Technology Opportunities Program	http://www.ntia.doc.gov/broadbandgrants
See what the other states are doing	http://www2.ntia.doc.gov/StateBroadbandLinks

For more information on agriculture in South Dakota, visit the following websites:
http://sdreadytowork.com/media/docs/Misc/SDProfile.pdf
http://www.ers.usda.gov/data-products/state-fact-sheets.aspx
http://www.nass.usda.gov/Statistics_by_State/South_Dakota/index.asp
http://www.agclassroom.org/kids/stats/southdakota.pdf

How you can be involved and contact the South Dakota Broadband Initiative			
	http://Broadband.sd.gov		(605) 773-4165
	broadband@state.sd.us		www.Twitter.com/BroadbandSD
	www.YouTube.com/BroadbandSD		www.facebook.com/BroadbandSD
Take the speed test today at: http://Speedtest.sd.gov			