Annual Report

December

2014

This document contains the Task Force's 2014 Annual Report with recommendations for policy makers and stakeholders to consider in the 2015 legislative session.

Governor's Task Force on Broadband

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December 17, 2014

Dear Governor Dayton,

Access to affordable broadband is crucial for expanding economic opportunity for all Minnesotans. Over the last four years, Minnesota has made significant progress toward achieving its statutory broadband speed and accessibility goals. This year was no exception. We are pleased that with your support, the 2014 Legislature reinstated the sales tax exemption for telecommunications equipment. We are also encouraged that, with your support, the 2014 Legislature provided $20 million in funding for the Office of Broadband Development's Border-to-Border Broadband Development Grant Program, and are excited to see that the office received more than 40 grant applications from across the state. These milestones could not have been reached without the support and leadership from you and the legislature.

Since the last Minnesota Broadband Task Force report in January 2014, members have continued their work to understand the state of broadband in Minnesota, track progress towards statutory universal broadband access goals by 2015, and make recommendations to meet these goals. The most recent data indicate that an estimated 88.9 percent of Minnesota households now have access to broadband at statutory goal levels, up from 82.7 percent one year ago. However, this still falls short of Minnesota's statutory goals of universal access to high-speed broadband.

Achieving the goal of border-to-border broadband access in Minnesota will require significant capital investment—between $900 million and $3.2 billion. While the State is not expected to bear the totality of this cost, we are recommending significant investments in: the Office of Broadband Development; Border-to-Border Infrastructure Grant Program; library telecommunications aid; and telecommunications aid equity. Task Force members have prepared several other recommendations that are included in the 2014 Report. I thank each member of the Task Force for volunteering their time and resources to serve.

Despite progress toward meeting our statutory state speed goals, significant challenges remain. As a largely rural state, with large areas of the state that remain sparsely populated, the interrelated issues of accessibility and affordability are perhaps most concerning. The cost of providing broadband service tends to increase as population density decreases. These challenges, among others, are discussed in this year's report but deserve more attention going forward.

We believe that leaders from both parties across Minnesota are serious about meeting the goal of border-to-border broadband availability, and we encourage you and the legislature to make additional capital and programmatic investments going forward. The enclosed recommendations will help move Minnesota closer to achieving its broadband goals and becoming one of the nation's top five states for broadband.

Ensuring that all Minnesotans have access to broadband is a critical goal to reach, and one that requires significant investment from both public and private stakeholders. We looking forward to working with you and the legislature in helping ensure all Minnesotans have access to broadband.

Sincerely,

Margaret Anderson Kelliher

Chair, Governor's Task Force on Broadband

Task Force Members

On August 25, 2011, Minnesota Governor Mark Dayton issued Executive Order 11-271 which created the Governor's Task Force on Broadband "to develop, implement and promote state broadband policy, planning and initiatives to achieve state broadband needs and goals." The following members currently serve on the Task Force:

Margaret Anderson Kelliher (Chair), President/CEO of the Minnesota High Tech Association

Shirley Walz, Sr. Director of Technology for Thomson Reuters

Bernadine Joselyn, Director of Public Policy and Engagement, Blandin Foundation

Steve Lewsader, President of the Communication Workers of America (CWA), Local 7201

Duane Ring, President of the nine-state Midwest Region of Century Link

Gary Evans, Retired-CEO of Hiawatha Broadband

Dick Sjoberg, President and CEO, Sjoberg's Cable

Daniel Richter, President of MVTV Wireless

Maureen Ideker, Director of Telehealth, Essentia Health

Matt Grose, Superintendent, Deer River Public Schools

Paul Weirtz, President, AT&T Minnesota

Bao Vang, President/CEO of the Hmong-American Partnership

Fred Underwood, IT Director, Fond du Lac Band

Andrea Casselton, Highland IT Strategies

Angie Dickison, Information Systems Director, Lake County

Executive Summary

In 2011, Minnesota Governor Mark Dayton signed Executive Order 11-27 (**Executive Order 11-27**) establishing the Governor's Task Force on Broadband. Fifteen members, representing a variety of backgrounds, serve on the Task Force which is charged with developing, implementing, and promoting state policy, planning and initiatives to achieve state broadband needs and goals. This report, the Task Force's fourth such annual report, highlights legislative activity in 2014 that impacted broadband, provides information on the state's progress towards meeting the broadband goals contained in Minn. Stat. §237.012, notes the results of residential and business surveys on the use of broadband in the state, continues reporting on the status of the various American Recovery and Reinvestment Act (ARRA) funded broadband projects, explains federal level activity effecting broadband, and makes recommendations for legislators and policymakers to consider in 2015 and beyond.

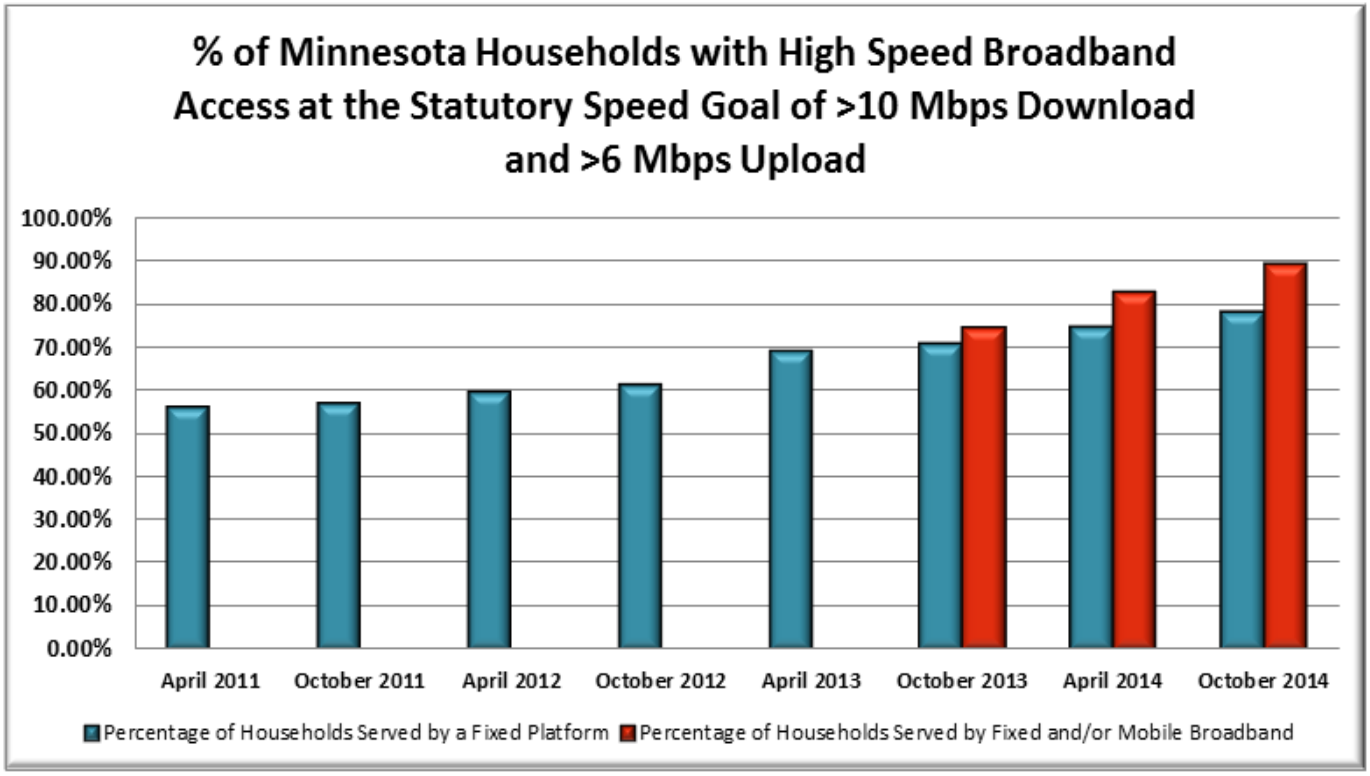
What's a gigabyte (GB)?
One gigabyte, which is about 1,000 megabytes, roughly equals one of the tasks below:

- Sending or receiving 50,000 e-mails (without attachments)
- Streaming 33 hours of music
- Viewing 1,000 web pages
- Posting 2,800 photos to your Facebook page
- Watching more than 8 hours of video on YouTube (Higher quality video, like Netflix, uses even more data)

Detailed information on measures used to determine availability of broadband are included in this report. Minnesota's broadband goal tied to universal accessibility provides that, "It is a state goal that as soon as possible, but no later than 2015, all state residents and businesses have access to high-speed broadband that provides minimum download speeds of ten to 20 megabits per second and minimum upload speeds of five to ten megabits per second." With data filed by Connect Minnesota in October 2014, an estimated 78.16 percent of Minnesota households have such broadband speeds available via wireline providers. While this is still short of the statutory goal established by the legislature in 2010 and included in the guidelines for qualifying for the broadband grant program established by the legislature in 2014, it does show an increase of nearly 22 percentage points since this measure was initially tracked in April 2011.

Progress Toward Meeting Broadband Goals

The chart below provides an overview of progress toward the state speed goal since 2011. Beginning in October 2013, wireless broadband providers began offering service that met or exceeded the state speed goal minimums in previously underserved, rural areas of Minnesota – that fact and the impact of wireless on the overall percentage is represented by the additional graphic from October 2013 to the present.



Source: Connect Minnesota

Statutory Goals for 2015	**State of Minnesota Broadband in 2014**
• Border to border access to broadband that provides minimum download speeds of ten to 20 megabits per second and minimum upload speeds of five to ten megabits per second • Be in the top five states of the United States for broadband speed universally accessible to residents and businesses; • Be in the top five states for broadband access; and • Be in the top 15 when compared to countries globally for broadband penetration (adoption)	• 78.16 percent of Minnesota households have such broadband speeds available via wireline providers and 88.90 percent when mobile wireless service is included. • Minnesota ranks 19th in terms of average connection speed.[1] • Minnesota ranks 5th nationally for home broadband adoption[2] • Minnesota ranks 38th internationally for broadband adoption.[3]

[1] http://www.akamai.com/stateoftheinternet/?WT.mc_id=soti_banner
[2] http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_embracing_the_mobile_internet_10162014.pdf
[3] Based on details of 2Q14 Akamai State of the Internet report where Minnesota's adoption rate of 71 percent would rank it below Ukraine's (#37) adoption rate, but ahead of the adoption rate in the Bahamas (#38).

Task Force Recommendations

The Task Force strongly encourages policy makers and legislators to give serious consideration to advancing its recommendations to further the deployment and adoption of broadband. They include the following and are detailed on page 8:

- **Authorize $2.9 million for the Office of Broadband Development**
- **Authorize $200 million for a Border to Border Infrastructure Grant Program**
- **Create an Office of Broadband operating fund to promote broadband adoption and use**
- **Increase School and Library Telecommunications Aid for the 2016-17 biennium**
- **Expand video health care and telemedicine initiatives for 3rd party payer reimbursement**
- **Support efforts of schools utilizing 1:1 devices via development of best practices**
- **Make sales tax exemption for telecommunications permanent**
- **Review existing permitting criteria to see where there might be possibilities to streamline**

Task Force Policy Recommendations

- **Office of Broadband Development funding** - The Task Force recommends appropriating $2.9 million to the Office of Broadband Development for the next biennium. Funding at this level includes $1.5 million for operational support and program delivery, ensuring that the Office can meet the baseline functions specified in statute, and $1.4 million for continuing data collection and mapping statewide broadband availability. (Note: A copy of the letter from the Task Force to DEED's Commissioner is in the Report appendix.)

- **Infrastructure grant program** - The Task Force recommends appropriating $200 million to the Border-to-Border Broadband Development Grant Program. While this figure is a fraction of the total capital investment required to meet the state's border-to-border broadband objective, it is nonetheless an important contribution.

- **Create an Office of Broadband operating fund to promote broadband adoption and use -** The Task Force recommends that the fund be managed by the Office of Broadband Development, at a specific amount to be determined between the Office of Broadband Development and the legislature, that will allow the Office to advance and support programs and projects aimed at promoting broadband adoption and use.

- **Increase telecommunications aid for schools and libraries**- The Task Force recommends funding library telecommunications aid at $6.6 million over the 2016-17 biennium, and increasing the telecommunications aid equity for schools to $9.75 million over the 2016-17 biennium. This funding will expand the impact of the program in underserved areas of the state and help ensure every child has access to reliable broadband service. (Note: A copy of the letter from the Task Force to Department of Education Commissioner is in the Report appendix.)

- **Expand video health care and telemedicine initiatives for 3rd party payer reimbursement -** Video health care and telemedicine are becoming more essential to increasing access and the quality of care available to residents of rural Minnesota. With the number of physicians and pharmacists in decline, extending the reach of providers located in urban areas to Greater Minnesota is already nearing an essential stage. Given rural Minnesota's aging population and the concentration of providers in larger cities, the use of broadband to provide additional interaction will be a growing need for citizens.

- **Support efforts of schools utilizing 1:1 devices –** The Task Force recommends the Minnesota Department of Education should research existing programs in Minnesota and across the country to determine best practices for implementing 1:1 device programs in our schools to ensure maximum effectiveness of these efforts. The result of this research would be guidelines developed by the department for use across Minnesota school districts.

- **Make sales tax exemption for telecom permanent –** The Task Force recommends the existing sales tax exemption for telecommunications equipment be made permanent to provide certainty to providers and enable thoughtful, future-oriented investment planning. Further, the Task Force believes policy makers should examine the possibility of expanding the exemption to include additional equipment (such as fiber) that would assist in network development efforts.

- **Review existing permitting criteria to see where there might be opportunities for efficiencies –** The Task Force recommends an administrative review of existing permitting requirements impacting broadband network deployment to determine where there may be opportunities to ensure the most efficient processes are in place. Uncertainty over permitting timelines and requirements can delay or prevent network deployments from moving forward.

State of Broadband 2014 – Where We Are Today

2014 Legislative Activities and Outcomes

The Task Force, in January 2014, released its 2013 Annual Report that included recommendations for policy makers and stakeholders to consider in efforts to increase broadband availability, adoption, and use.

The Task Force played an integral role in advancing broadband-focused policy and funding legislation throughout the 2014 Legislative Session. Chair Kelliher testified at numerous legislative hearings in both the House and Senate as legislators considered Task Force recommendations, including establishing an infrastructure grant fund and reinstating the sales tax exemption for telecommunications equipment. When the Session ended, two key Task Force recommendations were passed and signed into law:

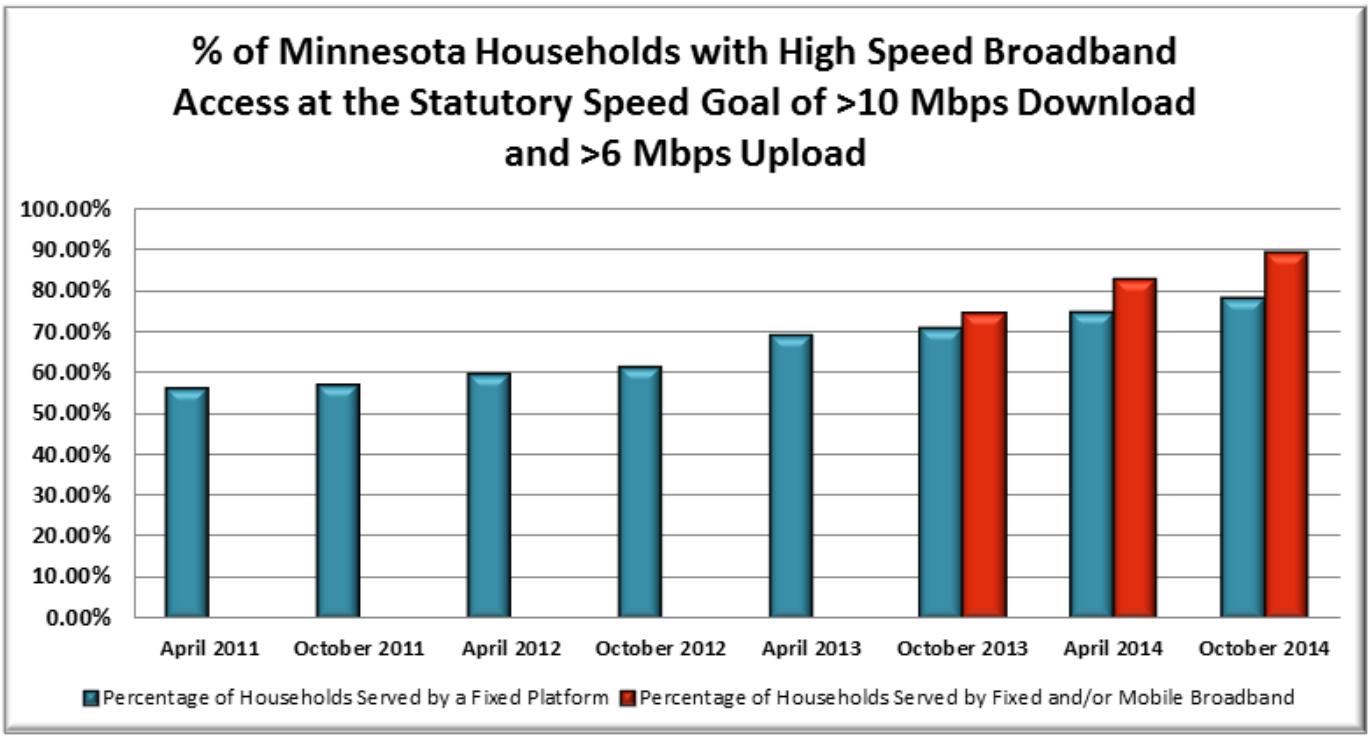
- $20 million in grants for broadband deployment projects across the state
- Reinstatement of the sales tax exemption for telecommunications equipment

Progress toward State Speed Goals

State broadband goals were established during the 2010 legislative session (Chapter 237.012 of Minnesota Statutes). The goals include the following:

> ***Universal access and high speed goal.*** *As soon as possible, but no later than 2015, all state residents and businesses have access to broadband service that provides a minimum download speed of 10 to 20 megabits per second and minimum upload speed of five to ten megabits per second.*
>
> ***State broadband leadership position.*** *It is a goal of the state that by 2015 and thereafter, the state be in:*
>
> *(1) The top five states of the United States for broadband speed universally accessible to residents and businesses;*
> *(2) The top five states for broadband access; and*
> *(3) The top 15 when compared to countries globally for broadband penetration. (Note: The Task Force equates adoption to penetration for the purposes of this report and measuring progress toward Minnesota's broadband goals.)*

Connect Minnesota maps and reporting, released October 2014, show an estimated 78.16 percent of Minnesota households have such broadband speeds available via wireline providers and 88.90 percent if wireless service is also considered. The October 2014 data show an increase of nearly 4 percentage points since October 2013 (wireline); and an overall increase of nearly 22 percentage points since analysis of availability at the state speed goals was begun in April 2011. The chart below represents the trend over the past 42 months:



	11-Apr	11-Oct	12-Apr	12-Oct	13-Apr	13-Oct		Apr-14		Oct-14	
% of Households	56.44%	57.40%	59.92%	61.57%	69.19%	71.04%	74.53%	74.93%	82.72%	78.16%	88.90%
% of Growth	0.00%	0.96%	3.48%	5.13%	12.75%	14.60%	18.09%	18.49%	26.28%	21.72%	32.46%

Figure 1: Percent of Minnesota Households Meeting Statutory Speed Goals (Source: Connect Minnesota)

Unfortunately, while progress toward state goals continues to be made as the goal deadline approaches, prospects for meeting them remain improbable. As an indicator of the challenge still before Minnesota, nearly 27 percent (or nearly 16 percent including mobile availability) of largely rural households remain underserved compared to state goals.[4]

The Task Force has discussed what steps to take in light of Minnesota falling short of our broadband goals by the end of 2015. There is no question the state has made great progress since 2011: creating an Office of Broadband Development, a Minnesota Broadband Infrastructure Fund, and an increase of nearly 22 percentage points toward the speed goal and increased adoption rates. The Task Force will devote considerable focus in 2015 to reviewing whether the statutory goals as currently drafted are satisfactory to positioning Minnesota as a national broadband leader; and how to move

[4] There are approximately 897,000 rural households in Minnesota under the NTIA's definition of rural; 36.60 percent are unserved by fixed service at the state speed goals, or 328,000 households. When mobile service is included, the figures show 25.67 percent are underserved, or about 230,000 households.

forward with establishing aspirational goals that will ensure our state is strongly positioned to maximize access, adoption, and use of broadband across all of Minnesota. The Task Force will likely make recommendations on updating the statutory goals in its 2015 report.

Cost and Affordability: Issues to be Covered in 2015

While the Task Force is technology neutral regarding achievement of the state's aspirational broadband goals, it is important to note that different technologies have characteristics, including cost, that impact adoption and use of broadband by Minnesota consumers.

According to NTIA, mobile phone use by groups historically lagging in broadband adoption has become more common. Among mobile phone users, however, income, education and age still is a primary determinant of use of Internet-based applications even after controlling for a range of demographic variables.[5] On the other hand, the Pew Internet Project reports that "Groups that have traditionally been on the other side of the digital divide in basic internet access are using wireless connections to go online. Among smartphone owners, young adults, minorities, those with no college experience, and those with lower household income levels are more likely than other groups to say that their phone is their main source of internet access."[6]

Oftentimes, the decision to adopt one type of technology over another is driven by economic considerations. The Task Force has not examined the issue of whether economic considerations are driving more people to use a wireless broadband connection. The issue of cost and affordability is multi-faceted and one that deserves a more detailed treatment than can be given in this report. The Task Force anticipates including this issue in the topics covered in 2015.

State Broadband Maps

The following Connect Minnesota October 2014 maps provide a view of:

1) Statewide availability at the statutory speed goals, indicating underserved areas, including mobile[7] (pg. 13);

2) A county by county view of the percentage availability at the statutory speed goals, including mobile (pg. 14);

3) A county by county view of the percentage availability at the statutory speed goals, not including mobile (pg. 15);

4) A statewide view by county of availability per Minnesota's Infrastructure Grant Fund criteria (pg. 16); and,

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[5] http://www.ntia.doc.gov/report/2014/exploring-digital-nation-embracing-mobile-internet, p. 4

[6] http://www.pewinternet.org/2012/04/13/digital-differences/

[7] Minnesota Statute 237.012 indicates upload goal of 5 Mbps. Data collection only conforms to speed tiers as represented in the State Broadband Initiative Notice of Funds Availability (SBI NOFA) where 6 Mbps is the most comparable upload speed tier. A unique aspect in assessing broadband availability in Minnesota is the state statutory speed goal that provides, in part: "Universal access and high speed deployment as soon as possible, but no later than 2015 all state residents and businesses have access to broadband service that provides a minimum download speed of ten to twenty megabits per second and minimum upload speed of five to ten megabits per second."

Because the National Telecommunications and Information Administration (NTIA) include 5 Mbps speeds in the 3 Mbps-5.99 Mbps speed tier, there is no way to capture that specific speed the way data is collected. As a result, we measure at a speed of 10 Mbps download and 6 Mbps upload to get a snapshot of where Minnesota stands related to our goal. The resulting data provide (when viewed together with additional speed availability data meeting at minimum 10 Mbps download/3 Mbps upload) the best possible prism through which to measure our progress toward the goal.

5) A statewide view of broadband availability at the FCC's speed threshold (4 Mbps/1Mbps) for Connect America Fund eligibility (pg. 17).

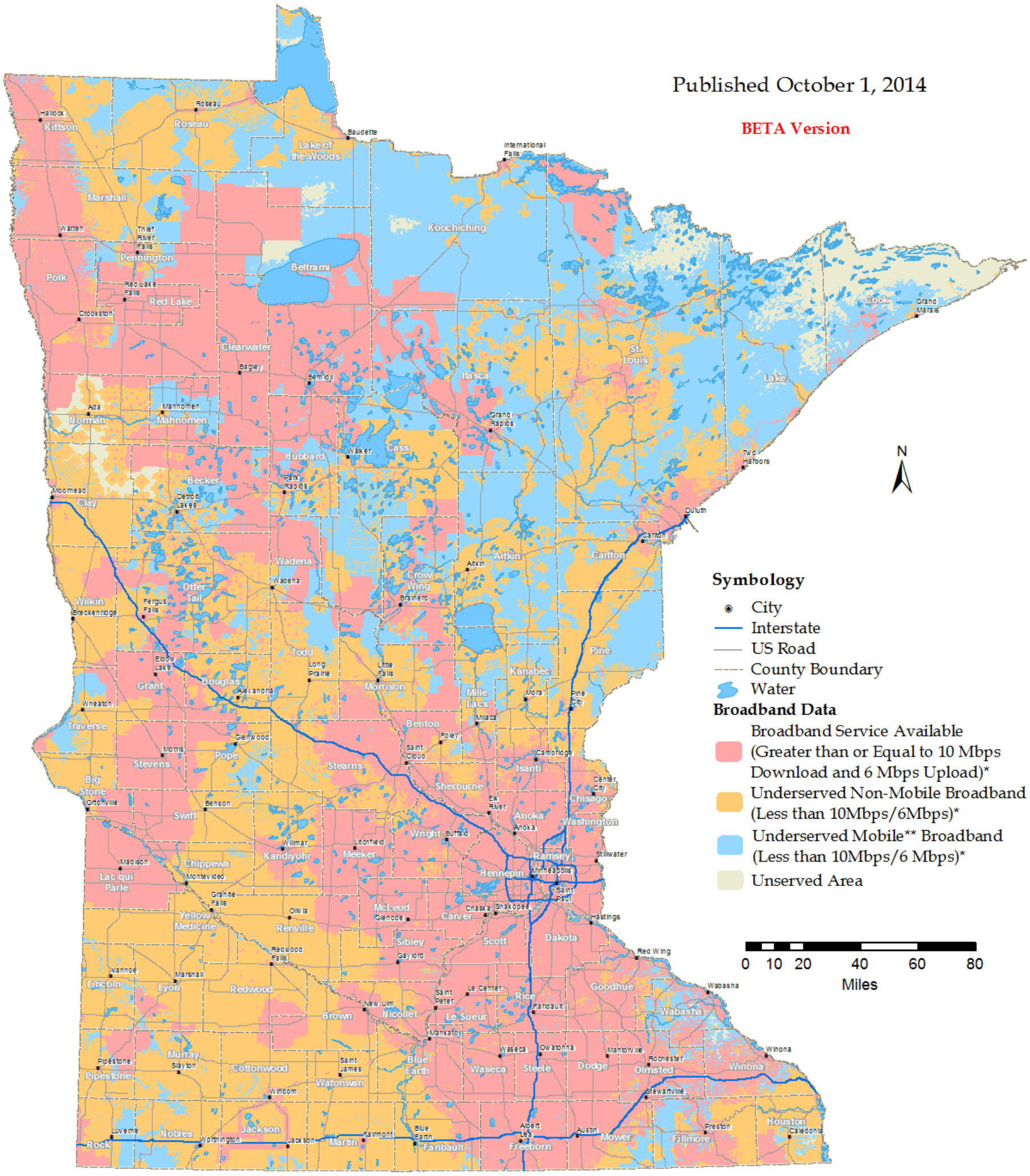
Broadband Service Inventory for the State of Minnesota

Advertised Speeds of at Least 10 Mbps Downstream and 6 Mbps Upstream

Submit questions or recommended changes to: maps@connectmn.org

Published October 1, 2014

BETA Version



As required by the US Department of Commerce's State Broadband Initiative, if broadband service is available to at least one household in a census block, then for mapping purposes, that census block is reported to have some level of broadband availability. As such, broadband availability at an exact address location cannot be guaranteed. Providers supplying more specific data than census block are displayed as such.

* MN Statute 237.012 indicates upload goal of 5 Mbps. Data collection only conforms with speed tiers as represented in the SBI NOFA where 6 Mbps is the most comparable.

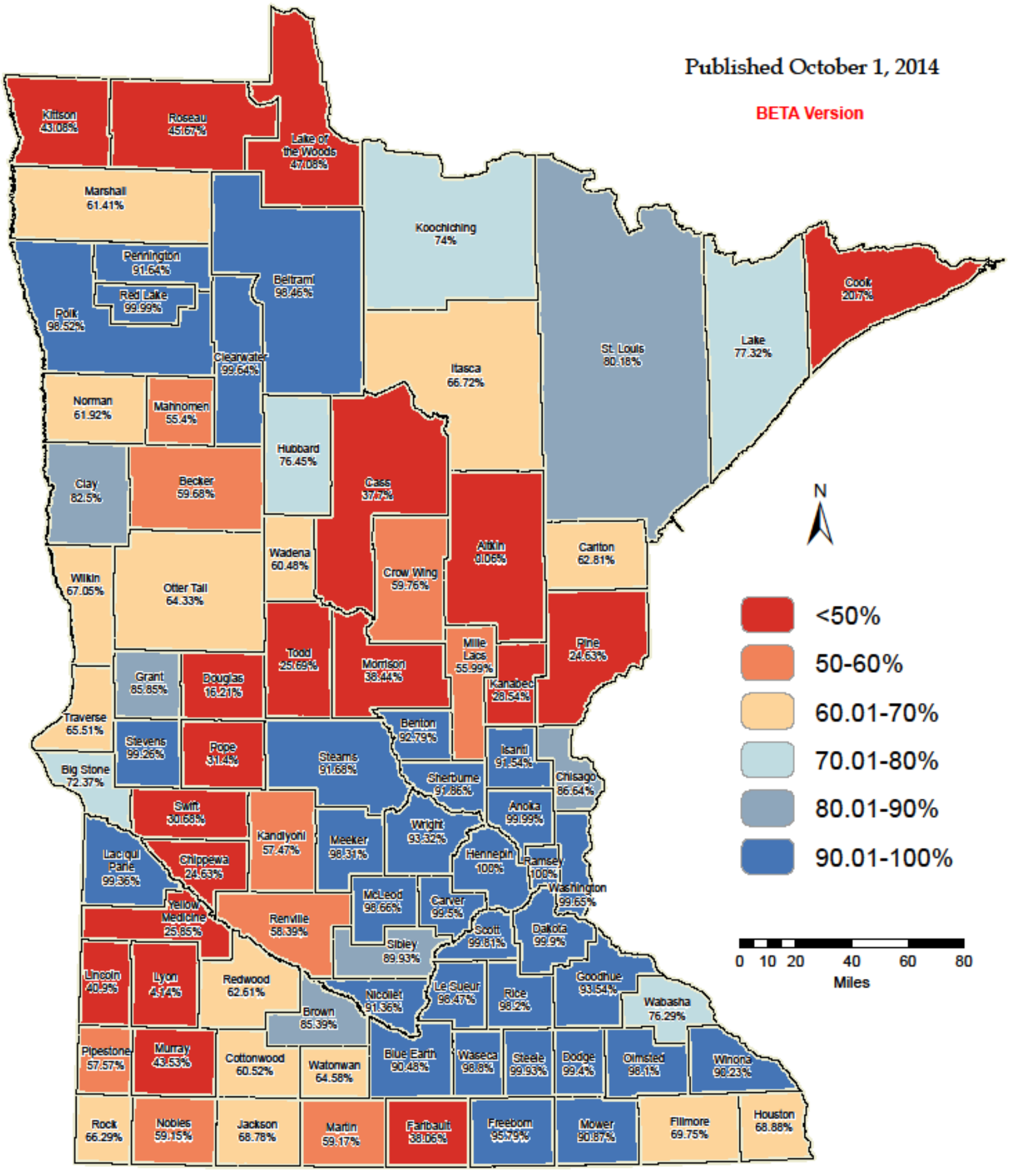
**This map is not a guarantee of coverage, contains areas with no service, and generally predicts where outdoor coverage is available. Equipment, topography and environment affect service.

This map represents areas of broadband service availability determined by ongoing, in-depth technical analysis of provider networks and accommodations for the impact of external factors on service quality. Satellite broadband services may also be available.

Map users are encouraged to participate in improving broadband data granularity through data validation and field testing efforts. Learn more about this and other broadband mapping facts at www.connectmn.org.

Broadband Availability in the State of Minnesota
Percentage of Households Served by Terrestrial and Mobile Broadband Service

At Least 10 Mbps Download/6 Mbps Upload Speeds
Statewide Availability: 88.90%



Map users are encouraged to participate in improving broadband data granularity through data validation and field testing efforts. Learn more about this and other broadband mapping facts at www.connectmn.org.

CONNECT Minnesota

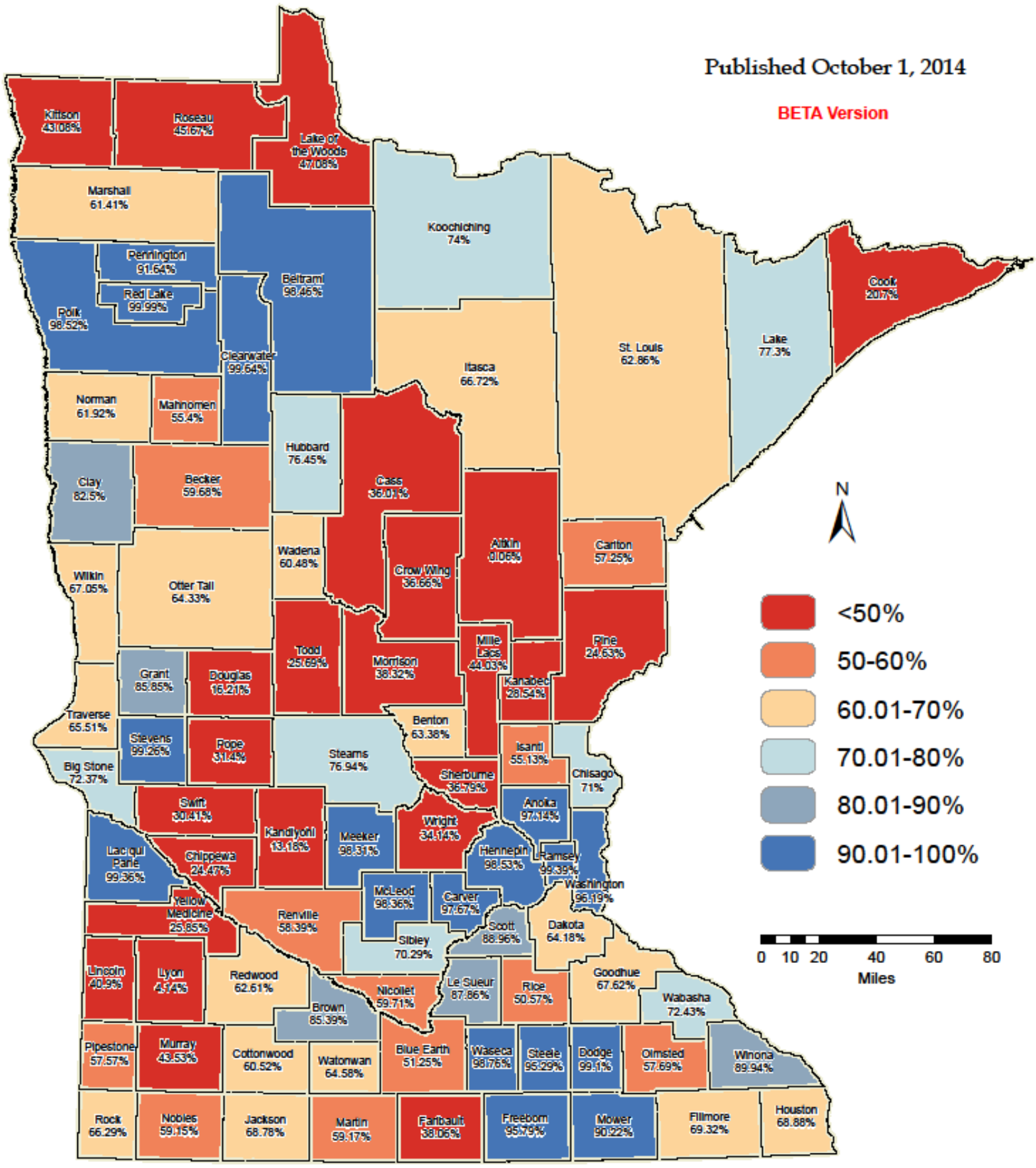
Submit questions or recommended changes to:
maps@connectmn.org

Broadband Availability in the State of Minnesota
Percentage of Households Served by Terrestrial, Non-Mobile Broadband Service

At Least 10 Mbps Download/6 Mbps Upload Speeds
Statewide Availability: 78.16%

Published October 1, 2014

BETA Version



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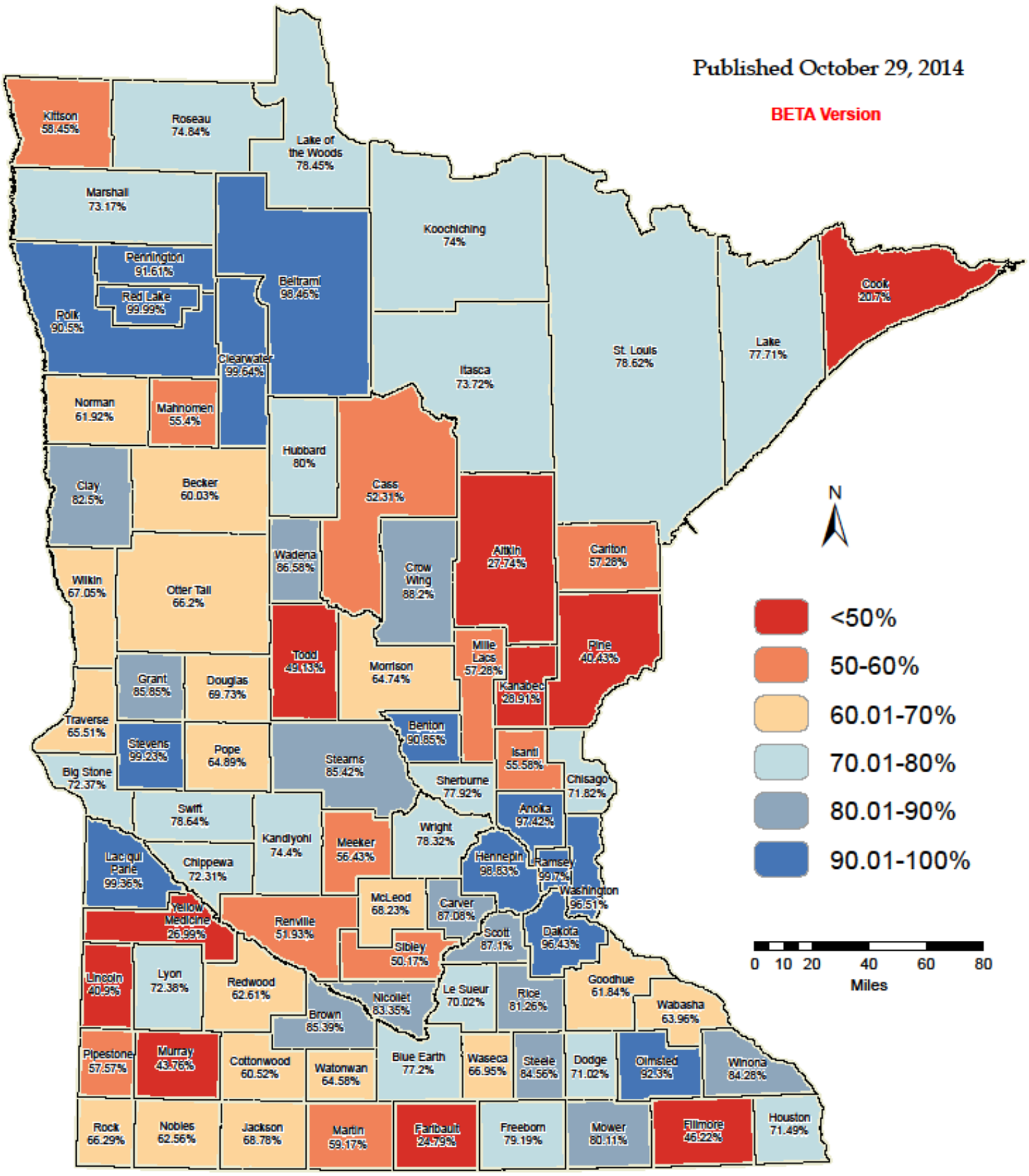
CONNECT Minnesota

Submit questions or recommended changes to:
maps@connectmn.org

Broadband Availability in the State of Minnesota
Percentage of Households Served by Wireline Broadband Service

At Least 10 Mbps Download/5 Mbps Upload Speeds
Statewide Availability: 86.53%



Map users are encouraged to participate in improving broadband data granularity through data validation and field testing efforts. Learn more about this and other broadband mapping facts at www.connectmn.org.

CONNECT Minnesota

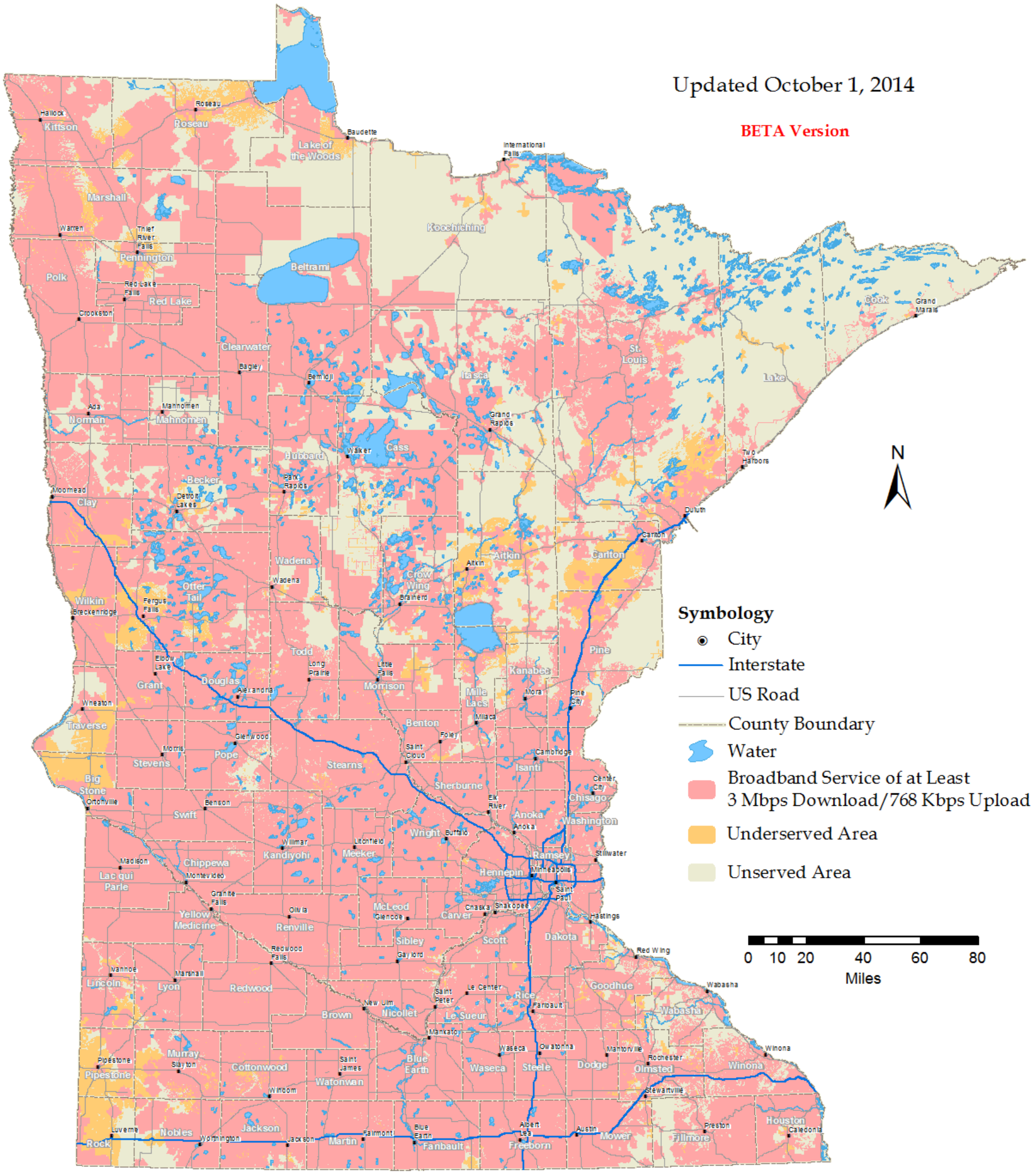
Submit questions or recommended changes to:
maps@connectmn.org

Underserved Broadband Service Inventory for the State of Minnesota by Terrestrial, Non-Mobile Broadband Service

Submit questions or recommended changes to: maps@connectmn.org

Updated October 1, 2014

BETA Version



As required by the US Department of Commerce's State Broadband Initiative, if broadband service is available to at least one household in a census block, then for mapping purposes, that census block is reported to have some level of broadband availability. As such, broadband availability at an exact address location cannot be guaranteed. Providers supplying more specific data than census block are displayed as such.

Map users are encouraged to participate in improving broadband data granularity through data validation and field testing efforts. Learn more about this and other broadband mapping facts at www.connectmn.org.

Underserved areas are those where broadband speeds of at least 768 Kbps download/200 Kbps upload are advertised, but do not meet the 3 Mbps download/768 Kbps upload threshold.

This map represents areas of broadband service availability determined by ongoing, in-depth technical analysis of provider networks and accommodations for the impact of external factors on service quality. Satellite broadband services may also be available.

Additional Broadband Availability Data

In addition to measuring broadband availability at the statutory speed goal, Connect Minnesota analyzes broadband availability at a variety of speed tiers and via a variety of platforms. The latest availability data show the following key findings:

• 91.07 percent of Minnesota households have access to broadband speed via a fixed connection (cable/DSL/fiber) of at least 10 Mbps download/3 Mbps upload. When wireless connection availability is included in the analysis, 99.67 percent of Minnesota households can access broadband at the 10/3 speeds. These data points indicate that upload speeds are the larger barrier hindering increased progress toward achieving the state speed goal. As noted elsewhere in this report, there is still discussion and analysis to be done to determine the extent to which mobile data delivers the benefits intended by the statutory speed goals set in 2010.

• Broadband at the 4 Mbps/1Mbps speed defined by the Federal Communications Commission in the National Broadband Plan as meeting the minimum threshold for broadband service is available to 99.97 percent of Minnesota households (includes mobile service). Excluding mobile broadband service, 97.77 percent of Minnesota households have access at the 4 Mbps/1 Mbps speed levels. Broadband service at the 4Mbps/1Mbps is included here because it is a factor for determining an area's eligibility for federal Connect America Fund support and the state's infrastructure grant fund.

The full data set, including complete county-level availability analysis is available on the Connect Minnesota web site: http://www.connectmn.org/planning.

Top Ten States in 2Q2014 in Average Broadband Connection Speed Being Purchased

Rank	State	2Q 2014 Avg. Mbps	2Q 2013 Avg. Mbps
1	Delaware	16.2	10.8
2	Virginia	14.6	11.1
3	Washington	14.2	10.1
4	District of Columbia	13.9	11.4
5	Massachusetts	13.8	11.2
6	Connecticut	13.7	10.0
7	Rhode Island	12.9	N/A
8	New Hampshire	12.8	10.7
9	Utah	12.8	10.3
10	Oregon	12.8	N/A
…			
19	**Minnesota**	11.6	8.4

Figure 2: States with the Highest Average Broadband Speed (Source: Akamai)

It is important to note that geography and population density are important factors in analyzing broadband availability and access data. For example, many of the states ranked above Minnesota in average connection speed are smaller and/or have higher population densities. The U.S. Census Bureau provides a helpful visual in their report: "Population Distribution and Change: 2000 to 2010[8]." While Minnesota is not reaching its goal, it is worth noting there has been progress. In 2Q13, Minnesota's average connection speed was 8.4 Mbps and the state ranked 23rd. This year, the average connection speed for 2Q14 was 11.6 Mbps, placing the state 19th. Akamai measures the average connection speed being used (subscribed to) by customers. Thus it is a reflection of what customers purchase and not necessarily the speeds that are available.

Minnesota Moves Up

Minnesota has increased its average broadband connection speed from 6.7 Mbps in 2012 to 11.6 in 2014 – an increase that has moved the state from ranking 25th in the nation to 19th.

The ranking for broadband access is also more reflective than exact; and there are several data points that could be used to determine the ranking:

- **Minnesota is tied for 13th** when looking at the National Broadband Map for speeds of 3 Mbps download and 768 kbps upload. (December 2013)
- **Minnesota is tied for 23rd** when looking at data collected by the FCC's Form 477[9] for speeds at least 3 Mbps download and 200 kbps upload. (December 31, 2013)
- **Minnesota is tied for 18th** when looking at data collected by the FCC's Form 477[10] for speeds of at least 10 Mbps download and 200 kbps upload. (December 31, 2013)
- **Minnesota is 38th** in comparison to other countries with a 71 percent adoption rate as measured by Akamai. This number is not exactly an adoption rate but the closest available number from a reliable international source.[11]

Reduced Rates for Low Income Households

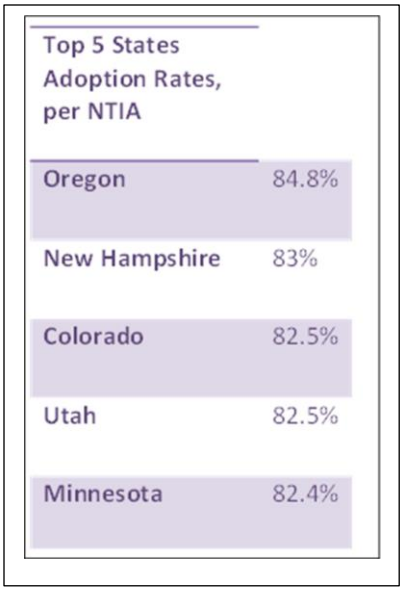
The Task Force applauds efforts by incumbent providers (CenturyLink, Comcast, Midcontinent, Sjoberg's Cable) to offer reduced rates to low income households. The state should partner with providers to expand such programs.

[8] http://www.census.gov/prod/cen2010/briefs/c2010br-01.pdf
[9] http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db1016/DOC-329973A1.pdf
[10] http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db1016/DOC-329973A1.pdf
[11] Akamai's broadband adoption measure looks at broadband connections at 4Mbps and above (download) compared to all connections in that state or country, to determine its broadband adoption rate. Therefore, it is not a measure of adopters versus nonadopters.

	Country/Region	% Above 4 Mbps	QoQ Change	YoY Change
–	Global	59%	5.6%	18%
1	South Korea	95%	1.0%	11%
2	Bulgaria	95%	2.6%	26%
3	Switzerland	92%	1.9%	2.5%
4	Isle Of Man	92%	2.6%	22%
5	Denmark	91%	4.8%	15%
6	Romania	91%	3.8%	14%
7	Netherlands	90%	1.5%	8.0%
8	Israel	89%	4.4%	20%
9	Hong Kong	89%	5.3%	14%
10	Curaçao	88%	1.3%	16%

Figure 3: Source Akamai 2Q14 The State of the Internet Report

Based on The National Telecommunications and Information Administration's (NTIA) report, *Exploring the Digital Nation: Embracing the Mobile Internet*[12], Minnesota ranked fifth among the states for percentage of households that have a home Internet service, with an adoption rate of 82.4 percent. Oregon ranked first in adoption in the 2014 NTIA report (based on 2012 data) at 84.8 percent, followed, in order, by New Hampshire, Colorado and Utah. While the NTIA results for Minnesota are slightly higher than the Connect Minnesota survey results discussed below, they are in line with Connect Minnesota's findings and, as part of a national report, allow for comparison to other states.



Broadband Adoption Data

Survey Research: Residential and Business Broadband Adoption in 2014

Connect Minnesota research surveys released over the past 12 months focused on how Minnesota residents and businesses adopt and use broadband.

The data illustrate that there are still adoption gaps among Minnesota demographic groups and geographic locations (rural v. urban). Trends show that some populations rely on wireless and/or mobile broadband rather than a home connection.

Residential Survey Results

According to the latest Minnesota Residential Survey[13], the data show that 77% percent of Minnesota households subscribe to home broadband. This figure shows a two percentage point decrease in adoption from the 2013 Residential Survey results.

The major reasons cited by non-subscribers for not having broadband were:

- The monthly cost is too expensive (19%)
- Don't need access at home (13%)
- Would not use the Internet enough to make it worth the cost (8%)
- Broadband is not available (7%)
- Do not own a computer (7%)

The following chart illustrates changes in the reasons survey respondents gave for not having home broadband:

[12] http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_embracing_the_mobile_internet_10162014.pdf

[13] Survey Methodology: Between September 19 and November 4, 2014, Connect Minnesota conducted a random digit dial telephone survey of 1,031 adults across the state. Random assignment was based on area codes and telephone prefixes determined by geography per the North America Numbering Plan (NANP), with telephone numbers randomly selected by the last four digits. Of the 1,031 respondents randomly contacted statewide, 201 were called on their cellular phones, and 830 were contacted via landline telephone. Once the respondent agreed to participate, these surveys took approximately ten (10) minutes to complete.

Minnesota Main barriers to home broadband adoption	2011	2012	2013	2014
There is nothing on the Internet that I want to see or use	29%	13%	7%	6%
Monthly cost of service is too expensive	18%	13%	20%	19%
Broadband isn't available in my area	8%	5%	7%	7%
The Internet is too complicated	7%	2%	2%	3%
I can get access somewhere else	7%	4%	5%	4%
The cost of a computer is too expensive	6%	4%	3%	3%
I don't know how to use a computer well enough to access the Internet	n/a	n/a	3%	4%
I don't feel comfortable using a computer	5%	3%	n/a	n/a
Concerns about fraud or identity theft	4%	3%	1%	3%
The activation and installation fees are too expensive	3%	2%	3%	2%
I don't know anything about broadband or what broadband is	3%	6%	4%	4%
Do not want to have it in my home	n/a	19%	9%	6%
Would not use the Internet enough to make it worth the cost	n/a	9%	6%	8%
I don't need to access at my home	n/a	n/a	12%	13%
Do not go online very often from home	3%	n/a	n/a	n/a
Available service is not fast enough	1%	1%	<1%	<1%
An illness or physical condition makes the Internet difficult to use	n/a	<1%	2%	1%
Current computer is too old or slow	n/a	<1%	n/a	<1%
I don't own or have a computer	n/a	n/a	9%	7%
I don't own a computer/my computer is broken	<1%	n/a	n/a	n/a
Other	<1%	1%	2%	1%
Don't know/refused	6%	15%	6%	9%

The survey results show significant broadband adoption "gaps" exist among ethnic, low-income[14], rural and senior households. The most recent data on these groups show the following rates of adoption:

- 48 percent of low-income households
- 68 percent rural households
- 53 percent of seniors
- 21 percent of low-income seniors
- 59 percent of disabled adults

While home broadband adoption has decreased, mobile Internet use is up since last year. Here's some information on mobile Internet use.

In 2014, mobile Internet service was used by 59% of adult Minnesotans. This is a 3 percentage point increase in use of mobile Internet service from 2013. Among select demographic populations of the state, mobile Internet use is as follows:

- 74 percent of households with children
- 77 percent of African Americans
- 67 percent of Hispanics

[14] Households with income less than $25,000/year

- 50 percent of rural residents
- 22 percent of seniors*Business Survey Results*

Connect Minnesota also conducted its annual survey of Minnesota businesses in 2014[15], releasing results in September 2014. Among the highlights of the survey:

- Online sales represented more than $36.8 billion in revenues for Minnesota businesses last year
- More than one in five Internet-connected Minnesota businesses (21%) now rely on cloud computing services, including data storage and back-up, file sharing, and website hosting
- 76,000 Internet-connected Minnesota businesses lack redundant or backup Internet service. This means that if anything were to happen to their Internet service, they would be unable to connect to the Internet
- More than one in eight businesses say it is important for new employees to be able to create or edit a mobile app, while one in nine say it is important for new employees to know at least one programming language
- Nearly half of Minnesota businesses (46%) say they spend their own time and resources training new employees on the software that their business uses

Adoption is Key to Investment

Infrastructure is necessary but not sufficient to ensure that Minnesota benefits from the Internet: The network itself is the *means* to the end of economic prosperity and quality of life. We need access, but without sophisticated use we leave benefits on the table.

According to the latest Connect Minnesota Residential Survey, the data show that 23 percent of Minnesota households do not subscribe to home broadband. The top reasons are highlighted above and indicate that generally non-adopters do not see the value of a high-speed Internet connection. A recent Pew Internet and American Life report indicates that 63 percent of non-adopters say they would require assistance to get online. To encourage greater use, Minnesota must consider what type of support would be most cost effective – training, reduced rates for monthly subscriptions and/or access to computers or devices. Where assistance is available, new adopters do subscribe to broadband. For example, PCs for People, a nonprofit that refurbishes and distributes donated computers to low income families, reports that 85 percent of their clients subscribe to broadband service once they get a computer.

To support non-adopters, Minnesotans need digital literacy training and low cost computers and Internet access. At the same time, Minnesotans already enjoying high-speed access also need

Broadband Helps Household Economics

The Internet Innovation Alliance reports that a household with broadband saves $8,674 annually simply by moving interactions online.

Broadband Creates Jobs and Profits

A report from Strategic Networks Group (SNG) indicates that 23.4 percent of all new jobs created in the economies they have studied are directly attributable to broadband

SNG also found that businesses that increased their utilization of broadband by ten percent realize a 24 percent gain in revenue and a seven percent reduction in costs.

Broadband Grows Economies

An analysis by Connect Minnesota (2013) shows that a 1 percentage increase in broadband adoption could result in growing the Minnesota economy by $517 million.

[15] Survey Methodology: The 2014 Business Technology Survey, featuring data from 801 businesses across the state. Between April 3 and April 30, 2014, Connect Minnesota conducted a telephone survey of 801 business establishments across the state. Business establishments contacted for this survey were defined as a single physical location at which business is conducted or services or industrial operations are performed. Upon reaching a business establishment, the surveyor asked to speak with the "person most knowledgeable about [the] organization's technology use." On average, these surveys took approximately 11 minutes to complete.

training and support to increase their sophistication of use. Red Wing is one example of a community striving to become a broadband leader by leveraging its Gigabit high-speed network with a concerted effort to promote utilization of the network through training and local programming. Thanks to $238 million of federal investment in Minnesota's broadband infrastructure made available through American Recovery and Reinvestment Act (ARRA) funding (outlined on page 35) Minnesota's broadband networks are increasing in speed and geography; coordinated and aligned efforts to offer programming to increase adoption akin to Red Wing Ignite will maximize that investment.

Broadband Cost and Investment

Broadband use now permeates every aspect of American life. It is a channel through which we work and learn, pay bills and communicate with each other. The summer and fall of 2013 witnessed meetings across the state focused on broadband, where Minnesotans expressed a "hunger" for high-speed internet access; often comparing it to utilities such as water, electricity, and roads. The UK now defines broadband access as utility, the United Nations as a human right and Finland determined that access to broadband is a legal right. In Minnesota and around the globe, broadband has become the indispensable infrastructure of our age.

Broadband has the potential to level the socioeconomic playing field. If one has affordable access to broadband, and the skills to use it, one can take classes for free from Harvard, she can work remotely at a job across town or across the globe, he may have healthcare options at his fingertips via telemedicine – all from the comfort of one's own home. Without affordable access to broadband those realities are not possible. More and more, access denied is opportunity denied.

To meet our state's leadership goals, and to ensure a vibrant economy and high quality of life for all its residents, Minnesota must accept the long-term challenge of ensuring that affordable broadband and digital literacy skills are available to all. To keep our economy strong and competitive we must meet or exceed the efforts of other states and countries.

We have our work cut out for us. Today, Minnesota is ranked 19th among US states in terms of average broadband connection speed (page 19) and fifth in terms of adoption (page 21). States like Hawaii are setting statewide goals of Gigabit access. Voters in New York State passed a Smart Schools Bond Act of 2014, $2 billion for technology in the schools. Massachusetts recently authorized $38 million for a broadband pilot project in the school and another $50 million for last mile solutions.

What would it take to make affordable broadband available to every Minnesotan?

Cost factors for the Community

In June 2014, the Task Force heard from a panel of broadband providers from across Minnesota. All providers have to connect their customers to the Internet backbone; for most providers that means a connection from the customer to an Internet hub in Minneapolis. The difference in cost for that transport based on location varies across the state. A provider in metropolitan Hennepin County currently pays about $.50 per Megabit to connect to the Internet backbone; the average cost of three providers in rural Pennington County is $15.33 per Megabit to connect to the Internet backbone.

Making the situation more challenging for all providers, there is a great discrepancy in the number of potential customers in Hennepin County versus Pennington County; population density in Hennepin County is 2,081.7/sq. mi and in Pennington County it is 22.6/sq. mi. Median income (2009-2013) also differs: in Hennepin County it is $64,403 and in Pennington County it's $45,633. For these reasons and more, the business case for offering broadband in Pennington County Falls is far more challenging than in Hennepin County. With traditional telephone service, this discrepancy was addressed with a Universal Service Fund (USF). How the USF is being applied to broadband is discussed on page 26; there are uncertainties and major implications at stake for providers and communities alike.

Office of Broadband Development—Summary of Border-to-Border Broadband Grant Activities

On May 17, 2014, Governor Dayton signed into law the Border-to-Border Broadband Development Grant program which allocated $20 million for broadband infrastructure grants. The law established certain parameters for the program, including a maximum award per project of $5 million and up to 50 percent of eligible infrastructure costs; eligible areas included unserved (without a wireline service of at least 4Mbps down and 1Mbps upload) or underserved (without a wireline service meeting the state's broadband speed goals); priority was to be given to projects constructed in areas that are unserved; awards should be geographically dispersed; and factors such as community support, benefits to community anchor institutions, service to economically distressed areas of the state, and whether greater amounts of funding are leveraged from other sources were to be considered in the evaluation process.

The Office of Broadband Development spent much of the summer and early fall setting up and finalizing documents to support the program. Meetings were held in Montevideo, Baxter, Eveleth, Wyoming, Crookston, Owatonna and Perham in July and August to share information and plans for the grant program and to accept and incorporate feedback. On September 24, 2014, the Request for Proposals for the Border to Border Broadband grant program was announced and published. Applications were received through October 28, 2014. From November 5 through November 17, 2014, a challenge process was allowed to enable existing providers to inform the Office as to whether they already had deployed broadband in a proposed project area. This step was included to provide assurances to the Office that no project would be funded where wireline broadband service was already available.

Forty applications from 26 different entities were submitted. The projects totaled almost $100 million in broadband infrastructure investments. Twenty-three projects were challenged by existing providers and through that process, modifications made to ensure application areas were eligible for the program. The evaluation and selection process for the program continues as this report was issued, with awards anticipated to be made by year end 2014.

ARRA invests $238 million in MN

In 2009-2010, $238 million was awarded to a range of organizations to expand broadband in Minnesota through American Recovery and Reinvestment Funds. Most (17 of 20) of those projects are completed. (Details in Appendix C)

The ARRA investment deployed miles of network that wouldn't otherwise be built yet and trained many people. It was a game changer.

Summary of Federal Activities

The Federal Communications Commission (FCC) is the primary government agency responsible for broadband oversight; much of the activity related to broadband is at the national level. In 2014, the FCC looked at the following:

Connect America Fund

General Overview:

The FCC has been working since 2011 on modernizing the Universal Service Fund (USF), which historically subsidized telecommunications service in rural areas. The USF is being replaced in phases by the Connect America Fund (CAF) that aims to support broadband infrastructure construction in rural locations and moves away from supporting only voice communications.

CAF for Price Cap Carriers Phase I—Rounds 1 and 2

The Task Force's January 2014 Report summarized the CAF Phase 1 Round 1 and 2 funding for Minnesota's price cap carriers, Frontier and CenturyLink, which accepted funding. Locations funded by CAF Phase 1, Round 1 have either been completed or served or are in the process of completion.

On September 26, 2014, the FCC released a notice regarding the deadlines for deployment of CAF Phase I, Round 2.

CAF for Price Cap Carriers Phase II

In Phase II, the FCC will offer each price cap carrier a support amount, derived from the chosen model, in exchange for the carriers' commitment to serve all locations in its service territory in a state that fall within the "high cost range" (above the specified cost benchmark, but below the "extremely high-cost" benchmark) that are not served by a competing, unsubsidized provider. Price cap carriers that elect to serve in a state will receive funding for a six-year period. For states in which the price cap carrier decides not to accept Phase II support, a competitive bidding process will be used to award Phase II CAF funds.

The FCC indicated its intent to make the offer to price cap carriers in early 2015.

A map of the CAF Phase II eligible areas is available[16].

Rural Broadband Experiments

In January 2014, the FCC established the Rural Broadband Experiments with the purpose of shaping and adjusting the Connect America Fund broadband subsidy program to include an application-based, competitive-bidding framework. It is an opportunity to test the competitive bidding process as well as to work for the first time with providers who are not incumbent local telephone companies. It announced a $100 million budget and will select winners through a competitive auction, with the goal of awarding funds to proposals that offer the most cost-effective solution to delivering broadband service in unserved areas of the country. The FCC announced in November that almost 600 project bids from 181 applicants were received, representing over $880 million of projects that would serve over 75,000 census blocks in all 50 states and Puerto Rico.

[16] http://www.fcc.gov/maps/fcc-connect-america-fund-phase-ii-initial-eligible-areas-map

The Commission initially requested preliminary proposals to support broadband infrastructure build-out in currently unserved areas[17]. These "Expressions of Interest" were a precursor to actual applications and used to gauge interest and survey the playing field. A total of 62 Expressions of Interest were submitted by applicants from Minnesota, more than any other state.

On December 5, 2014, the FCC announced the list of the "provisional" winners of the Rural Broadband Experiment auction. Lake County Communications ($3.5M) and LTD Broadband ($20M for projects in MN and IA) were among the winners. The next steps in this process include a technical and financial review by the FCC of each of the applicants.

On December 5, 2014, the FCC announced the list of the "provisional" winners of the Rural Broadband Experiment auction. Lake County Communications ($3.5M) and LTD Broadband ($20M for projects in MN and IA) were among the winners. The next steps in this process include a technical and financial review by the FCC of each of the applicants.

E-Rate Reform

The federal E-rate program has been instrumental to ensuring that students and library patrons have the connectivity necessary to participate in the digital world – since its inception in 1996, E-rate has provided up to $2.4 billion in annual subsidies to over 100,000 schools and over 10,000 libraries across the nation. The FCC faces the challenge of modernizing the program, as high-capacity broadband connectivity has transformed what schools and libraries can offer and how students and community members use broadband, while still ensuring the program is fiscally responsible.

Connect Minnesota, as part of its work in the state, surveyed K-12 as part of the effort to measure connectivity in Minnesota's Community Anchor Institutions. Some of the highlights of the survey results include:

- 1116 K-12 Minnesota schools reported having broadband connectivity
- 46 schools completing the survey reported symmetrical upload/download speeds equal to or greater than 1 Gbps
- 132 schools reported broadband download speeds equal to 100 mbps and less than 1 Gbps
- 16 schools reported download speeds of greater than or equal to 768 kbps and less than 1.5 mbps
- 68.8% (768) of schools have an Optical Carrier/Fiber to the End User

In February 2014, FCC Chairman Tom Wheeler outlined his plan for modernizing the E-rate program to complement President Obama's ConnectED initiative, which aims to connect 99% of America's students to next-generation broadband in their schools within 5 years. The first phase of the reform was approved by the FCC in July 2014.

The Order will inject $2 billion in additional funding over the next two years to on-campus wireless networks that will help schools deploy 1:1 device learning models and enhance public wireless Internet access at libraries. In addition, the FCC has budgeted $5 billion for this fund over the next five years – this effectively increases available funding under E-rate by an additional $1 billion per year. These funds will be allocated to schools and libraries based on a per-student and per-square foot formula, respectively. The FCC Order also began the phase-out of E-rate support for legacy services, such as dialtone voice service; streamlines the application process; and makes better, more transparent data on the E-rate program available.

[17] For purposes of the Rural Broadband Experiments, "unserved area" was defined as any area that does not have access to fixed broadband at 3 Mbps download/ 768 kbps up

In December 2014, the FCC voted to increase the support level for the E-rate program by $1.5 billion. The increase is intended to support the goal of 100 Mbps per every 1000 students and staff across all schools in the country. This increase, along with the $1 billion made available in July 2014 for on-campus Wi-Fi networks, brings the E-rate program annual funding to $4.9 billion in 2015.

ConnectED

ConnectED is President Obama's plan for connecting all schools to the digital age. It proposes to connect 99 percent of American students to next generation broadband and high-speed wireless in their schools and libraries within the next five years. The program will invest in teachers to receive support and training in using education technology tools to improve student learning.

The private sector was encouraged to develop educational devices and software that are price competitive with textbooks and that unlock the full educational potential of broadband investment. Thus far, private companies have pledged in-kind contributions equivalent to over $1 billion in investment to support ConnectED's goals:

- Apple is donating $100 million in iPads, MacBooks, and other products, as well as content and professional development tools to enrich the learning experience in disadvantaged schools throughout the country.
- Microsoft will provide all U.S. public schools with significant discounts on its Windows operating system, which will decrease the price of associated Windows-based devices.
- O'Reilly Media is partnering with Safari Books Online to make more than $100 million in educational content and tools available at no cost to every school in the U.S.
- AT&T and Sprint each pledged approximately $100 million in free mobile Internet connectivity for middle school students' educational devices. AT&T selected Connected Nation to administer the selection process for its $100 million commitment. In June 2014, Connected Nation launched an online application portal that will allow school districts to compete for an award under the program.
- Verizon has announced up to $100 million in monetary and in-kind support, including training for teachers on how to best leverage online content to educate the next generations, among others.

Other Federal Activities

FirstNet – Public Safety Broadband

FirstNet is the First Responder Network Authority created to provide emergency responders with the first nationwide, high-speed, wireless broadband network dedicated to public safety. It is an independently authorized entity within the National Telecommunications Information Administration (NTIA) of the U.S. Department of Commerce. There is a FirstNet board with 15 members; Hennepin County Sheriff Rich Stanek was recently named to the board.

Funding for FirstNet comes from proceeds from spectrum auctions planned through 2022 (the first auction netted $1.6 billion; the overall goal is $7 billion). A portion of the funding has been awarded to each state to plan a governance structure and activities for integration into the nationwide network. Each Governor appoints a single point of contact and governing body to represent that state's interests to FirstNet. Minnesota received $2.3 million and was selected to be the second state to hold a consultation meeting with FirstNet on September 24, 2014. The state's single point of contact is Mona Dohman, Commissioner, Minnesota Department of Public Safety.

The potential with FirstNet is at least twofold: the primary goal is the nationwide public safety network but a secondary opportunity is to collaborate to build or support supplemental public and private networks, especially in remote and rural areas. (Similar to a "Dig Once" philosophy, building two networks once or planning for excess capacity on one network is cheaper than multiple build-outs.)

FirstNet Facts

Proposed Budget: $7 billion

Ground Covered: FirstNet projects over 5 million potential public safety users nationwide. The network is to cover 3.8 million square miles, 60,000 public safety agencies, 3,250 counties, and 566 tribes. Five percent of this geography is dense urban, urban, and suburban; 68 percent is rural; and 27 percent is wilderness.

Platform: FirstNet is considering a 3-in-1 network architecture using land-based cellular, satellite, and deployable systems to provide coverage.

Deadline: 2022

While there is an expectation that FirstNet will aid in the deployment of broadband in Minnesota beyond the first responder network, it is unlikely that any increased availability attributable to FirstNet would occur prior to the 2015 deadline for achieving Minnesota's broadband goals.

In Closing

The Task Force is proud to play a role in advancing the ongoing discussions around the importance of broadband across the state of Minnesota. Our work in 2014 focused on supporting the efforts of policy makers to create Minnesota's first broadband infrastructure grant fund; continuing to provide a forum for all stakeholders to learn about and share their thoughts and concerns about the state of broadband in Minnesota; and, with this report, providing additional policy recommendations we believe will improve the access to, adoption and use of broadband for all Minnesotans.

Strengthening the infrastructure grant fund to meet the needs of communities across the state will increase access to quality, high-speed broadband. Providing additional funding to the Office of Broadband to facilitate programmatic efforts focused on broadband adoption and use will ensure more Minnesotans are able to utilize broadband for educational, entrepreneurial, or social pursuits. Making permanent the tax exemption for telecommunications equipment will allow providers to approach network building decisions with a degree of certainty and confidence when determining which projects to prioritize. These and all our recommendations are designed to ensure Minnesota is a national leader in broadband.

While certain areas of the state offer higher return on investment than other areas, every Minnesotan should have access to affordable high-speed broadband. The cost of achieving the State's statutory broadband speed goals is significant, with estimates ranging from $900 million to $3.2 billion. The cost of *not* satisfying these goals, however, is even greater. Access to affordable broadband is crucial for expanding economic opportunity for all Minnesotans. The significant capital investments combined with the importance of getting all online require stakeholders in both private and public sectors to come together and identify a path forward. Achieving our statewide goals will require a statewide

effort, including partnerships among private and public sectors, such as those noted in this report. The work of the Broadband Task Force is a guide for how to continue progress toward meeting our broadband goals.

Appendix A – Letters from Task Force to Minnesota Department of Employment and Economic Development and Department of Education Commissioners

Commissioner Katie Clark Sieben
Minnesota Department of Employment and Economic Development
1st National Bank Building
332 Minnesota Street, Suite E-200
Saint Paul, MN, 55101-1351

July 28, 2014

Dear Commissioner Clark Sieben:

As Minnesota strives to meet its statutory broadband speed goals, the Governor's Broadband Task Force has been working to ensure broadband is accessible to all Minnesotans. We still have significant obstacles to overcome, however, as 37 percent of rural households do not have access to high-speed broadband at state goal levels. To achieve the goal of border-to-border broadband access will require significant capital investment—between $900 million and $3.2 billion.

While the state should not be responsible for all such funding, it can leverage private investment by making targeted, strategic investments of its own. The aim here is to make those state-level funding recommendations, based on the work the Task Force has been doing over last three years. The Task Force sees two key components of investment in broadband infrastructure – the Office of Broadband Development and, relatedly, the Border-to-Border Broadband Development Grant Program.

The Office of Broadband Development plays a critical role in helping develop Minnesota's broadband infrastructure, with the goals of making Minnesota a top-five state in terms of broadband access and speed. To help meet these goals, the Office works with partners on mapping broadband availability in an effort to more effectively direct state investment. The Office of Broadband Development also oversees the state's new Border-to-Border Broadband Development Grant Program.

The Border-to-Border Broadband Development Grant Program, created by the Legislature in 2014 and funded at $20 million, provides funding to build the state's broadband infrastructure and promote broadband access in unserved and underserved areas of the state. The grants provide a dollar-for-dollar match on funds, not to exceed $5 million for any one project. The Office of Broadband Development is in the process of establishing the program and application process.

Meeting the state's aggressive broadband speed and access goals will require ongoing investment from the state. As the Department of Employment and Economic Development prepares to make its budget recommendations for the 2016-17 biennium, the Governor's Broadband Task Forces urges you to include significant investment in the state's broadband infrastructure.

Specifically, the Task Force recommends appropriating $2.9 million to the Office of Broadband Development. Funding at this level includes $1.5 million for operational support and program delivery, ensuring that the Office can meet the baseline functions specified in statute, and $1.4 million for continuing data collection and mapping statewide broadband availability.

Additionally, the Task Force recommends appropriating $200 million to the Border-to-Border Broadband Development Grant Program. While this figure is a fraction of the total capital investment required to meet the state's border-to-border broadband objective, it is nonetheless an important contribution.

The dollar-for-dollar matching grant will spur twice as much investment as provided by the state. A fully exhausted public investment of $200 million will generate at least $400 million in broadband development, with additional incentives for applicants who provide matching funds beyond the 50 percent threshold. Taken together with the continued investments being made by existing broadband providers, a robust grant fund will have a significant, positive impact on Minnesota's broadband landscape.

We believe Governor Dayton and bipartisan leaders across Minnesota are serious about meeting the goal of border-to-border broadband availability, and will make additional capital and programmatic investments going forward. Taken together, the above recommended investments play a crucial role in helping Minnesota achieve its broadband goals. As you prepare for the 2015 Legislative Session, we urge you to include the above recommendations in the Department's biennial budget.

Sincerely,

Margaret Anderson Kelliher
Chair, Governor's Broadband Task Force

Commissioner Brenda Cassellius
Minnesota Department of Education
1500 Highway 36 West
Roseville, MN 55113-4266

August 1, 2014

Dear Commissioner Cassellius:

As Minnesota strives to meet its statutory broadband speed goals, the Governor's Broadband Task Force has been working to ensure that the broadband is delivered to all Minnesotans. We still have significant obstacles to overcome, however, with 37 percent of rural households without access to high-speed broadband at state goal levels. To achieve the goal of border-to-border broadband technology will, indeed, require significant capital investment—between $900 million and $3.2 billion.

Ensuring that every Minnesotan has access to reliable broadband requires an investment in public services. Funding for library telecommunications aid is a valuable investment in our public services. Library telecommunications aid helps regional libraries fund data and video access maintenance, equipment purchases, or installation of telecommunication lines which, according to statute, must "employ an open network architecture that will ensure interconnectivity and interoperability with school districts, postsecondary education, or other governmental agencies."

While the Legislature appropriated $4.7 million in library telecommunications aid over the 2014-15 biennium, the program is in need of additional funding. This program helps underserved areas of the state make the broadband connections they desperately need, providing, at a minimum, access to our public institutions. If Minnesota is going to achieve border-to-border broadband connectivity, the state must ensure that every Minnesotan has access to this level of service.

To help school districts defray the cost of providing Internet access to students, the state provides funding for equity in telecommunications access for schools. This fund reimburses qualifying school districts, charter schools, and non-public schools for a portion of their expenses associated with providing telecommunications and Internet access for students. Ensuring that students have this type of access is key to helping Minnesota meet its broadband goals.

To help meet the needs of underserved areas of Minnesota, the Governor's Broadband Taskforce recommends an increase in funding for library telecommunications aid. Specifically, the Task Force recommends funding library telecommunications aid at $6.6 million over the 2016-17 biennium, and increasing the telecommunications aid equity for schools to $9.75 million over the 2016-17 biennium. This funding will expand the impact of the program in underserved areas of the state and help ensure every child has access to reliable broadband service.

Strong investments in broadband development, including those in library telecommunications aid and telecommunications aid equity, will help Minnesota make progress on achieving its goal of being a top-five state in terms of broadband access and speed. As you prepare for the 2015 Legislative Session, we urge you to include the above recommendations in the Department of Education's biennial budget.

Sincerely,

Margaret Anderson Kelliher
Chair, Governor's Broadband Task Force

Appendix B: Governor's Task Force on Broadband—List of Testifiers in 2014

January 9, 2014 – None

February 19, 2014 - Kim Babine of DEED provided an update on the upcoming legislative session; Dr. Raul Katz gave a presentation on his study, "Assessment of the Economic Impact of the Repeal of the Tax Exemption on Telecommunication Investment in Minnesota."

March 2014 – No Task Force Meeting

April 29, 2014 - Sen. Matt Schmit, Rep. Ron Kresha, Rep. Erik Simonson, and Rep. Sheldon Johnson discussed the status and prospects for broadband legislation and responded to questions from the Task Force; Jeff Lanning, Vice President of Federal Regulatory Affairs for CenturyLink, provided an overview of CenturyLink and the Connect America Fund (CAF) (by telephone); Scott Bohler, Manager of Government Affairs for Frontier, provided background information about his company and discussed Frontier's broadband deployment under CAF; Marc Johnson, Executive Director, East Central Minnesota Education Cable Cooperative (ECMECC) discussed the work being done to improve broadband by the Kanabec Broadband Initiative (KBI) and the East Central Broadband; Dave Bickett, general manager and CEO of Otter Tail Telecom, described the two Expressions of Interest his company filed with the FCC and how his company generally makes broadband investment decisions; Dan Richter, President; Tim Johnson, Operations Manager; and Julie Foote, Market Development; from MVTV Wireless discussed the Expression of Interest filed with the FCC and their ongoing activities to encourage broadband adoption.

May 22, 2014 - Mike O'Connor, a member of the 2008 --- 2009 task force on broadband, provided an overview of security, vulnerability and redundancy issues, emphasizing how these issues had been addressed in the first task force report; Chris Buse, MN IT, discussed the cybersecurity measures that are taken by the state and the importance of individuals to keep their information safe; Mike O'Connor moderated the panel "Overview of Minnesota's Information Security, Vulnerability and Redundancy Landscape and Critical Policy Issues" featuring panelists: Scott McCoy, Enterprise Security Services, Thomson Reuters; Israel Aladejebi, MNSCU; Bruce Lindberg, MNSCU; Kristy Livingston, E-Discovery, Best Buy; Chris Buse, MN IT.

June 26, 2014 - Panel Presentation on Gigabit Readiness - Participants: Moderator --Gary Evans (Hiawatha Broadband --- retired), Trent Clausen (Century Link), Sam Turner (US Internet), Travis Carter (US Internet).

July 23, 2014 – None

August 2014 – No Task Force Meeting

September 25, 2014 - Mark Birkholz of Arvig gave a presentation outlining the company's history and its continued efforts to increase its service footprint and offerings to business and residential customers; Mark Lewellen of John Deere presented from Maryland via video and teleconference. He provided an overview of their Connect Every Acre efforts in Iowa; while providing the Task Force information on the importance of high speed, quality wireless connectivity for the agriculture industry in the United States and Minnesota.

October 29, 2014 – None

November 2014 – No Task Force Meeting

December 9, 2014 - None

Appendix C: Progress of the Federal ARRA Broadband Projects in Minnesota

American Recovery and Reinvestment Act (ARRA) funding for broadband awarded in 2009 and 2010 for projects impacting Minnesota totaled more than $238 million. Projects in progress or completed in 2014 are noted in descriptions.

Arrowhead Electric Cooperative, Inc. - Construction completion is anticipated by year end 2014. Installations and turn-up of TrueNorth services by Arrowhead Cooperative began in 2014. By year end well over 500 customers will be taking service. Installations will increase in quantity and continue throughout the Winter months with substantially all installations being completed in 2015. Arrowhead provides symmetrical service of up to 100Mbps to our customers with capabilities of providing Gigabit services upon request.

Arvig Telephone Company/TDS: The stimulus-funded project in Minnesota is also now complete and impacts customers in parts of Cass and Crow Wing counties. TDS reported in October 2013 that a portion of this project, in TDS' Arvig Telephone Company, was complete. The project included installing nearly 100 miles of fiber optics cabling and 20 cabinets in order to connect more than 900 area residents to high-speed Internet service. TDS projected the cost at more than $6.7 million. The company invested 25 percent (nearly $1.7 million) and the RUS grant covered 75 percent.

C.K. Blandin Foundation: The only Minnesota specific sustainable adoption program funded by BTOP was awarded to the Blandin Foundation for its Minnesota Intelligent Rural Communities (MIRC) project. The $4.85 million award leveraged an additional $1.8 million in matching funds to bring together a network of resources for rural Minnesota individuals and communities, especially those unemployed and seeking employment, small businesses, coalitions of government entities and local leaders. All project goals were met or exceeded. Significant outcomes include: 56,664 new households subscribed to broadband (2 percent above statistically anticipated growth); 60 new public access computer sites opened; 9,000 Minnesotans participated in at least 16 hours of broadband training or education; 2,067 refitted and licensed computers were distributed to first-time computer owners; and more than 250,000 Minnesotans were reached through broadband outreach and awareness efforts. The project concluded in February 2013 and the Blandin Foundation trustees have committed an additional $1.5 million to further the work on broadband adoption in rural Minnesota. A summary of the key outcomes from the MIRC project can be found at Summary: MIRC outcomes

Carver County: The county received $6 million in Broadband Technology Opportunities Program (BTOP) funding to build a middle mile network called CarverLink. The new network was dedicated the first week of September 2013. It connects 55 community anchor institutions including schools and libraries; city, county and township locations; fire departments and law enforcement agencies; and health care and community support organizations. The county is working with private providers to use the network to serve end user business and resident customers.

Connected Nation, Inc. **(**$1,700,000): Expand existing broadband maps to reach more providers, give information at a more detailed level, and investigate broadband adoption in Minnesota. Connect Minnesota is the state's "designated entity" for federal grant funding under NTIA's "State Broadband Initiative" (SBI) grant program. The grant work is focused on mapping, research on broadband adoption and utilization, and planning related to support of the state's broadband task force and associated work on broadband adoption and utilization development. **Project in progress.**

Connected Nation, Inc**. (**$2,761,171): Expand existing and planned maps to continue coverage for three additional years. **Project in progress.**

Enventis Telecom: In mid-September 2013, Enventis announced the completion of its "Greater Minnesota Broadband Collaborative Project". Using $14.7 million in BTOP funding and its own investment of $6.3 million, $3 million under the original budget, Enventis built 430 fiber route miles from the Twin Cities to Duluth/Superior and from Brainerd to Moorhead. The project also included middle mile laterals to serve sites of its partners: the State of Minnesota, the University of Minnesota and Mayo Clinic.

Farmers Mutual Telephone Company: Using a BIP award of $9,652,956, Farmers Mutual deployed fiber to the premise to Dawson, Boyd and rural Madison. The project was completed in November 2013.

Federated Telephone Cooperative: Federated received two BIP awards. The first award for $1.3 million was used to deploy a fiber to the premise system to 160 locations in rural Appleton. The second award for almost $3 million brought fiber to the premise to 420 locations in rural Morris.

Halstad Telephone Company: With $6.5 million in BIP funding, Halstad Telephone Company placed 344 miles of new cable and provided fiber to the premise to 1306 locations in five towns and surrounding rural areas in Norman and Polk Counties in northwestern Minnesota.

Lake County ($66,369,064): Lake County plans to offer FTTP advanced voice, video and data services to every home and business in Lake and eastern Saint Louis Counties. The Lake Connections Fiber Broadband Project covers Lake County and the eastern parts of St. Louis County. Service is available for rural Two Harbors and the City of Silver Bay. Service in the City of Two Harbors is planned for fall of 2014 and construction crews are currently in the Finland and Isabella areas, with service planned for late fall of 2014. Construction crews are also currently north toward Palo and Markham, heading toward Aurora, with service planned for first half of 2015. The Lake Connections Administrative and Service Center building in Two Harbors has been remodeled, readying the state-of-the-art data facility for providing service for Internet, Voice and Digital TV. Additional information on Lake Connections and the fiber broadband project can be found by calling 218-834-8500, or visiting LakeConnections.com. **Project in Progress.**

Minnesota Valley Television Improvement Corporation (MVTV): MVTV has completed its ARRA project, including final audits and close-out. MVTV's final draw for funding was completed in May of 2013. Results of the ARRA funded build in conjunction with MVTV contributions accounted for more than 1700 additional broadband customers and a total of 43 tower site locations at completion. MVTV continues to add customers in the ARRA designated communities and currently has performed more than 1900 installations.

Northeast Service Cooperative ($43,498,220): The NESC project will go to final close by June 30, 2015, in advance of the USDA deadline of September 30, 2015 and on budget. The project has exceeded the original goal of connecting 221 community anchor institutions with over 380 public and private locations connected and additional connections pending before the end date of the project. The project includes a total operational fiber plant of approximately 935 miles, consisting of 744 miles of completed, new underground construction and approximately 20 miles of overhead construction that is pending the final winter construction period. In addition, NESC leveraged its installed fiber infrastructure and acquired another 171 miles of existing fiber assets through a variety of Facility Exchange and IRU agreements.

Red River Rural Telephone Association, Inc.: Of the $9 million in BIP funding that Red River Rural received to deploy fiber in six rural exchanges in North Dakota, South Dakota and Minnesota, $360,000 was used to pass 23 homes in Wilkin County, MN that are served in the rural portion of its Fairmount, ND exchange. (Three additional homes planned for service were demolished or abandoned.) Nineteen subscribers were served. Red River's average cost was $7145 per subscriber.

Regents of the University of Minnesota: The Broadband Access Project (BAP) created three new public computing centers and improved nine centers, with a total of 143 work stations. It ended on December 31, 2012. There were over

90,000 visits to the public computing centers and more than 10,000 hours of training offered over the course of the project. The NorthStar Digital Literacy Assessment curriculum was translated into Somali and Hmong, and a training piece on Internet safety was also translated into Somali. The Public Computer Centers (PCCs) created through the Broadband Access Project were transferred entirely to the community partners that hosted these labs during the project, and will be directed by community partners starting in 2013. A BAP technology team worked with partners to transition hardware ownership. Software needs were met through a Microsoft grant and TechSoup registrations. BAP apprentices developed resumes and cover letters to prepare them for work in 2013.

Sjoberg's, Inc. - Sjoberg's completed the construction and splicing of the entire project. All electronics are in place and customers are being connected within days of their request for service. Currently about 160 homes and businesses have services. All have 1 Gigabit service available to them. Sjoberg's has spent $450,000 in private capital and received almost $650,000 in RUS funding. **The project will be closed out by the end of 2014.**

Southwest Minnesota Broadband Service (SMBS): SMBS has successfully completed their ARRA fiber network build. A 120 mile fiber ring now connects eight towns and the rural residents along the route to Windom Net, their partner and wholesale provider of telephone, cable TV and broadband services. SMBS constructed a total of 297 miles of fiber passing 3620 homes and businesses. Sales far out-performed the original projection in the ARRA application: original projections were modeled at 55% in year 1, 60% by year 2 and 65% by year 3. To date, less than two years from the activation of the first subscriber, SMBS has a 71% penetration rate which continues to increase every month. A final penetration rate of over 75% is anticipated as obtainable in the near future. For broadband service, this level of penetration is unusual, even after many years of operation. SMBS's ARRA award was for $12,700,250. Even with hundreds of additional subscribers signed up for services, the project was less than $300,000 over budget. SMBS made up the shortage with no impact to the project. SMBS is cash flow positive and the project sustainable.

Wikstrom Telephone Company, Incorporated **-** Deployed FTTP in 6 communities in Kittson, Marshall and Roseau. Wikstrom has used this network as a backbone to extend fiber optic facilities into the city of Hallock, which is currently being built as a FTTH community, and to extend services to a number of cellphone towers in NW Minnesota, improving rural wireless services. **This project was completed in 2014.**

Winnebago Cooperative Telecom Association: Winnebago received a BIP award of $19.6 million to provide fiber to the premise in rural portions of about 21 communities in Iowa and Minnesota. About $3.1 million was spent on the Minnesota portion.

Zayo Bandwidth LLC: In mid-June 2013, Zayo announced the completion of its $13.4 million "Connect Anoka County" BTOP middle mile project which connects 145 local public facilities.

Minnesota was also involved in several multi-state projects:

Communication Service for the Deaf, Inc. (CSD): CSD was awarded $14,988,657 in BTOP funds. The main goal of CSD's Project Endeavor was to promote broadband access to deaf, deaf-blind and hard of hearing (d/hh) individuals by providing equipment and high speed Internet connections. Specifically for Minnesota, 373 d/hh residents received equipment or broadband subscriptions (exceeded allotment); $223,800 BTOP dollars directly impacted d/hh residents (exceeded allotment); seven major outreach events held in connection with other d/hh events; 17 Public Access Video Phones were installed; d/hh residents benefitted from valuable web-based educational resources created in American Sign Language (ASL). Two initiatives were launched as the project finished, one for introducing Video Remote Interpreting (VRI) using broadband and a second one for introducing captioning phones that use broadband. CSD's Project Endeavor concluded 7/31/13 and the VRI initiative ended 9/30/13. In its narrative for the 2Q13 report, CSD stated, "When the grant proposal was written, no one envisioned the quality, affordability and availability of wireless broadband today. Most of our target population abandoned wireline broadband in favor of wireless service."

Merit Network: The Merit Network received almost $70 million in BTOP funding to develop 1172 miles of middle mile fiber to serve community anchor institutions in the Upper Peninsula and Northern Lower Peninsula of Michigan and Northern Wisconsin. One path into Minnesota was built at a cost of about $350,000 to interconnect the University of Minnesota-Duluth with the Research and Education Networks in the Great Lakes. In a joint build with Enventis, fiber has been placed under the St. Louis Bay in Duluth, saving both projects from any duplication of effort.

Mission Economic Development Agency: With a portion of the $3,724,128 it received in BTOP funding, the Latino Microenterprise Tech Net created a public computer center in Minneapolis, where computer training and adult basic education in English and Spanish were offered. After some delays in procurement, the Latino Economic Development Center (LEDC) opened their part of this project in January 2011 with 17 computers at two sites. Classes in basic digital literacy were offered, mainly in Spanish. A focus of the project was small business and entrepreneurship, especially in the area of construction (using technology for construction bidding and estimates). A total of 773 individuals were trained and these classes have helped to create or retain 165 jobs in the community through upgrading and developing both technology and entrepreneurship skills. The project concluded 9/30/13.

One Economy Corporation: One Economy was awarded a total of $28.5 million in BTOP funds and used a portion of that funding in Minnesota to operate the Digital Connectors program in conjunction with the Hmong American Partnership and Comcast. The Digital Connectors program promotes the natural affinity for technology by youth, enhancing their potential for spreading technology knowledge, and creating a culture of use. The program identified young people, trained them and helped build leadership and work skills to enter the 21st century economy. Participants, ages 14-21, learned how to network computer labs, connect wireless access points, design computer training modules and create social media projects to put broadband and Internet technology to the greatest use in their communities. Additionally, participants learned about financial management, entrepreneurship and civic engagement. Digital Connectors were also motivated by community service. A major program requirement is to give back to their families, friends and communities what they have learned for a minimal of 56 hours of community service. The group completed more than 200 hours of community service, technical support, and digital literacy trainings.

Portland State University: A broad coalition of anchor institutions in Minnesota, New York, Central and South Texas, New Orleans, LA and Richmond, CA implemented an innovative online system of self-paced Learning Plans focused on digital literacy for adults. The first six months of the grant involved development of consumer Learning Plans (led by Minnesota) that were used in over 60 community locations around the country during the following 24 months of the grant, to serve economically vulnerable populations move across the digital divide. In Minnesota alone, 2569 learner accounts were created. The Basic Computer Digital Literacy Standards[18] developed in Minnesota were integrated into the plans. In addition, the project recruited and trained numerous volunteer tutors to work with populations using the learning plans, including 168 volunteers and 8360 volunteer tutor hours in Minnesota. The Minnesota Literacy Council[19] served as fiscal agent for the Minnesota portion of the grant, with management assistance from the St. Paul Community Literacy Consortium[20]. Minnesota BTOP sites included the St. Paul/Ramsey County, Mankato, New Ulm, and Minneapolis South Workforce Centers, and Project for Pride in Living in Minneapolis. Approximately $281,737 of the $3.3 million in funding was expended in Minnesota and in-kind funding of $243,169 was contributed from Minnesota organizations.

University Corporation for Advanced Internet Development: With $62,540,162 in BTOP funding, the goal for UCAID was to create an ultra-fast national network to colleges, universities, libraries, health care facilities and public safety entities, including some based in Minnesota. Minnesota is part of the Northern Tier Network. Internet2 reported in its 2Q14 report that it expected completion of the Zayo-partnered northern tier build in the May timeframe. The build connected the research universities and other anchors to a nationwide 100Gbps network. This would conclude all project deliverables before the project closed at the end of June.

[18] http://www.digitalliteracyassessment.org/standards.php
[19] http://mnliteracy.org/
[20] http://spclc.org/

Appendix D: Letter from Region V Virtual Highway Taskforce on Reimbursement Parity for Telehealth, Interstate Licensure, and Tele-Home Monitoring.

August 18, 2014

Dear Senator Klobuchar, Senator Franken, and Members of the Governor's Broadband Task Force,

On behalf of the Region V Virtual Highway Taskforce, we are asking you to resolve the following issues surrounding telehealth, in order to provide more effective and efficient healthcare services in our rural areas:

Reimbursement Parity for Telehealth – The list of eligible licensed medical and healthcare professionals should be expanded to include many more licensed providers who are able to effectively use telehealth to deliver timely, more convenient, and more cost-effective health services, including Certified Diabetic Educator RNs, speech pathologists, genetic counselors, audiologists and rehab therapists. We support that these changes be made at a federal level under Medicare, but also it is our hope that they will also be mandated by the State of Minnesota for MN Care, as well as all private insurers.

Interstate Licensure: The State of Minnesota should allow providers to practice telehealth across state lines without going through the months of licensure currently required, in order to expand the options for telehealth services. Many of our neighboring states already offer licensure reciprocity.

Tele-Home Monitoring: Home Health Monitoring services reduce hospital readmissions, and help people living with chronic diseases remain healthier in their homes. An example of this is using the daily readings to prevent an episode of illness and the need for emergency care. This might include the medical provider working with a home care nurse adding an additional water pill dosage when weight gain is detected through daily weight readings. This will decrease fluid retention in congestive heart failure patients. Another example is observing the elderly administering daily insulin in order to allow the person to remain independent at home longer. These services should therefore also be covered by Medicare, Medical Assistance, and other insurance plans.

Broadband infrastructure: We applaud the efforts made at the state and federal level to eliminate the digital divide and ensure broadband is available to all citizens, as this is necessary for telehealth services, including the last mile to the home. We encourage you to continue with your hard work in ensuring that no rural home or farm is left behind.

Who are we? We are a community-driven, public, private, nonprofit, citizen, partnership that successfully engaged more than 600 individual in developing a multi-discipline, region-wide vision for the five county region of Cass, Crow Wing, Morrison, Todd and Wadena. The 18-month planning process, supported by HUD/DOT/EPA Sustainable Communities Project, earned us the status of "high-achieving grantee," and led to the development of a comprehensive regional plan http://www.resilientregion.org/plan/

Today, over 46 individuals (from the public and private sectors), the "**Resilient Region Champions**," are now actively leading the implementation of the plans developed during this process (see page 3).

The Virtual Highway Task Force includes all the champions listed as well as: Tri-county Hospital; Brainerd Lakes Area Economic Development Corporation; Community Development of Morrison County; City of Staples Community Development; Wadena Economic Development Corporation; the Brainerd Lakes Chamber; Good Samaritan Society; Minnesota State Community and Technical College (M-State); Resilient Living Council, Leech Lake Band of Ojibwe, and Public and Private Health care providers. We also coordinate our work with the BLAEDC and Brainerd Lakes Area Chamber of Commerce High-Tech Sector Task Force and the CLC/MNSCU High Tech IT Task Force. We have letters of support for our work to help seniors age in place from: Commissioner Mary Tingerthal (Minnesota Housing Fund), Warren Hansen, (CEO, Greater Minnesota Housing Fund - GMHF). We have received a Blandin Foundation telehealth grant, a letter of support from Bernadine Joselyn (Blandin Foundation), and the loan of their broadband expert, Bill Coleman.

We represent 40,500 (seasonal and year-round) residents, 24,877 K-12 students (49% eligible for free or reduced school lunches), more than 401,605 northbound cars loaded with visitors (continuous traffic monitors August 2009), and 11,252 home-based businesses who generate $407,786,000 in revenue for the five-county region (Crow Wing and Cass Counties: Census 2010 and Morrison, Todd and Wadena Counties: ACS 2007). Advocates for improved broadband access come from ALL local units of government within the region (65 Cities & 5 Counties); hundreds of private sector companies; 27 school districts', 2 community colleges (CLC and Minnesota STATE Community Technical College) and the 600 residents who worked on the creation of the regions "Resilient Region Plan".

If you would like to contact us regarding these issues, please contact our Connectivity/Virtual Highway Project Director – Dr. Stacey Stockdill at info@ensearchmn.com

Resilient Region Theme Champions

CHAMPION CHAIR:
Tim Houle, Administrator, Crow Wing County

EDUCATION AND WORKFORCE DEVELOPMENT
Dr. Larry Lundblad (President) Central Lake College (CLC)
Craig Nathan (Regional Director) Rural MN CEP
Dr. Chad Coauette (Executive Director) National Joint Powers Alliance (NJPA)
Cheryal Lee Hills (Executive Director) Region Five Development Commission (RSDC)
Monty Johnson, Senior Dean, Minnesota State Community & Technical College (M-State)

EFFICIENCY AND EFFECTIVENESS
Don Hickman (Vice President) Initiative Foundation
Andrea Lauer, Mayor of Royalton
Mel Radermacher (Controller of External Affairs and Member Services) RSDC
Anna Gruber, City/County Manager, NJPA

TRANSPORTATION
Tim Houle, (Engineer) Widseth, Smith, Nolting
Jarrett Leas (Engineer) Kadrmas, Lee & Jackson
Tad Erickson (Community & Economic Development Planner) RSDC

ECONOMIC ENGINES
Greg Bergman (Director) Small Business Development Center (SBDC)
Rick Utech (Executive Director) Todd County Economic Development Corporation
Vicki Chepulis (Grants Coordinator) Five Wings Arts Council
Arlene Jones (Owner/Operator) The Farm on St. Mathias (Manager) SPROUT Food Hub

CONNECTIVITY
Pam Mahling (Corporate Resource Specialist) West Central Telephone Association (WCTA)
Kevin Larson (CEO) Kristi Westbrock (COO) Consolidated Telephone Company (CTC)
Janelle Riley (CEO) Syvantis Technologies
Stacey Stockdill, (CEO) EnSearch, Inc.
Sally Fineday (Wireless Telecommunications Business Manager) Leech Lake Band of Ojibwe
Paul Drange, (Director of Regional Programs) National Joint Powers Alliance (NJPA)
Janet Johnson, (Instructor) Minnesota State Community & Technical College (M-State)

ENERGY
Bob Schaefer (Retired) & Keith Olander (Associate Dean of Agriculture) Central Lakes College (CLC)
Jason Edens (President) Rural Renewable Energy Alliance (RREAL)
Molly Zins (Executive Director) University of Minnesota Sustainable Development Partnership
Sarah Hayden (Coordinator) Central Clean Energy Resource Team (CERTs)

HEALTHCARE
Jani Wieholt (retired COO) Essentia SJMC
Tim Rice (CEO) Lakewood Health System
John Solheim (CEO) & Amy Hart (COO) Cuyuna Regional Medical Center
Bob McLean (COO/GM) Hunt Utilities Group
Adam Rees (CEO) & Mike Larson (COO) Essentia Health
Gwen Anderson, (Health and Social Services Division Manager) Crow Wing County

AFFORDABLE HOUSING/HOUSENG
Lynn Hunt (Chair of the Board) Resilient Living Council
Jennifer Bergman (Executive Director) Brainerd HRA
Colleen Faacks (Executive Director) Mid-MN Builders Association
Janie Weston (Executive Director) Greater Lakes Association of Realtors
Deanna Hennesch (Executive Director) Central Minnesota Housing Partnership
Amy Hunt McLain (Board) Resilient Living Council

CHANGING POPULATIONS
Mary Sam (Director of Intercultural Services/Diversity/Tribal Relations) Central Lakes College (CLC)
DeAnn Barry (Executive Director) Brainerd Lakes Area Senior Center
Dean Loidolt (Community Service Developer) Central Minnesota Council on Aging (CMCOA)
Dan Frank (Community Specialist) Initiative Foundation

NATURAL RESOURCES AND DEVELOPMENT PATTERNS
Todd Holman (Program Director)The Nature Conservancy
John Sumption (President) Sumption Environmental
Phil Hunsicker, Author – Conservation Design Score Card

Appendix E: Letter from Association of Minnesota Counties to Task Force

October 13, 2014

Dear Members of the Governor's Broadband Task Force,

Minnesota's 87 county governments provide the essential services to create healthy, vibrant, and safe communities. Counties support and maintain public infrastructure, transportation and economic development assets; keep residents healthy; ensure public safety to protect our citizens; maintain public information and coordinate elections; and implement a broad array of programs in a cost-effective and efficient manner.

Minnesotans depend on counties to provide services that build, maintain, and protect their homes, schools and neighborhoods. Counties are also an instrumental player in America's intergovernmental system of federal, state, and local governments. *Now, more than ever, these essential public services require that all Minnesotans have access to broadband.*

The Association of Minnesota Counties (AMC) applauds the 2014 legislative action that established the Border to Border Broadband Development Grant Program and investment in broadband mapping. AMC also recognizes the role of non-profit champions, like the Blandin Foundation, who work diligently to promote vibrant communities through funding dedicated to closing the digital divide.

AMC's Legislative Position on Broadband Development

- AMC supports identifying and implementing actions to achieve by 2015 the goal of statewide deployment of advanced broadband networks and symmetrical high-speed capacity.
- AMC supports initiatives to make it easier for cities, municipal utilities, schools, libraries, and other public sector entities to collaborate and deploy broadband infrastructure and services at the local and regional level.
- AMC supports public/private collaboration to achieve state broadband goals, including partnerships and cooperation in providing broadband services and infrastructure.
- AMC supports removing barriers to the exercise of local authority to provide such services, including repeal of Minn. Stat. § 237.19, that requires a supermajority voter approval for the provision of local phone service by a local unit of government.
- AMC supports offering incentives to private sector service providers to respond to local or regional needs and to collaborate with cities and counties to deploy broadband infrastructure capable of delivering sufficient bandwidth and capacity to meet immediate and future local needs.
- AMC supports completely and continuously updating comprehensive statewide maps of broadband services to identify underserved areas and connectivity issues.
- AMC opposes the prohibition of public money to be spent on broadband infrastructure projects.

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The 2015-2016 budget recommendations submitted by the Governor's Broadband Task Force align with AMC's legislative position; specifically, the recommendation to appropriate $200 million to the Border to Border Broadband Development Program and the $2.9 million appropriation to the Office of Broadband Development. These appropriations will help close the digital divide, while also promoting digital literacy, telehealth, economic development, and effective and efficient public service delivery.

Sincerely,

Julie Ring
AMC Executive Director

Rich Sve, Lake County Commissioner
Chair, AMC Broadband Subcommittee

Appendix F: Glossary of Terms

ARRA – American Recovery and Reinvestment Act of 2009; an economic stimulus package enacted by the 111th United States Congress in February 2009 that including funding for broadband projects and initiatives.

Access – The availability of broadband in any geographical location, measure most often at the census block and/or household level. The Task Force equates access with "penetration;" the term used in Minnesota statute.

Cloud Computing - A type of computing that relies on sharing computing resources rather than having local servers or personal devices to handle applications.

Community Anchor Institutions -Include such entities as schools, libraries, hospitals and other medical providers; public safety entities; institutions of higher education; and community support organizations that facilitate greater use of broadband by vulnerable populations, including low-income, the unemployed, and the aged.

Connect America Fund – The Federal Communications Commission's comprehensive reform of the Universal Service Fund's high cost support mechanism and the intercarrier compensation system together resulted in the development of the Connect America Fund. The Connect America Fund is focused on supporting and expanding fixed location and mobile broadband availability in areas that do not, or would not otherwise, have mobile service and broadband networks, including the most remote areas of the nation.

Data Caps - Monthly limits on the amount of data one can use over Internet connection.

Dig Once - A broadband deployment policy focused on increasing coordination between government agencies, utility companies, and broadband providers to maximize opportunities to place broadband infrastructure during excavation projects.

Digital Divide - An economic and social inequality according to categories of persons in a given population in their access to, use of, or knowledge of information and communication technologies.

Digital Literacy - The knowledge, skills, and behaviors used in a broad range of digital devices such as smartphones, tablets, laptops and desktop PCs.

Download – A transfer (software, data, character sets, etc.) using broadband connection from a distant to a nearby computer, from a larger to a smaller computer, or from a computer to a peripheral device.

E-Rate - The commonly used name for the Schools and Libraries Program of the Universal Service Fund, which is administered by the Universal Service Administrative Company (USAC) under the direction of the Federal Communications Commission (FCC).

FCC Form 477 – Provider-submitted data about broadband and voice connections collected twice a year; the information is used to measure broadband deployment and telephone competition.

Gigabit - A multiple of the unit bit for digital information or computer storage; 1 gigabit is equal to 125 megabytes.

Kbps – Kilobits per second, a measure of data transfer speed. Note that one *Kbps* is 1000 bits per second.

Mbps - Megabits per second, used to measure data transfer speeds of high bandwidth connections; equal to1,000,000 bits per second.

MN School and Library Telecommunications Aid – School districts, charter schools, and nonpublic schools are eligible for state aid to pay for a portion of their telecommunications and Internet access costs. The telecommunications/Internet access aid program grants school districts and charter schools aid equal to 90 percent of the schools' unreimbursed telecommunications costs exceeding $15 per pupil unit, unless the district is a member of a telecommunications cluster, in which case the aid equals 90 percent of the unreimbursed cost. (Minn. Stat. § 125B.26).

National Broadband Map - A searchable, public database of information on broadband Internet availability in the United States.

Smartphone - A mobile phone with more advanced computing capability and connectivity than basic feature phones.

Telemedicine - The use of telecommunication and information technologies in order to provide clinical health care at a distance.

Upload - To move or copy (a file, program, etc.) from a computer or device to a remote computer or computer network utilizing a broadband connection.