January 27

Annual Report

2014

This document contains the Task Force's 2013 Annual Report with recommendations for policy makers and stakeholders to consider in the 2014 legislative session.

Governor's Task Force on Broadband

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January 22, 2014

Dear Governor Dayton,

Since the last Minnesota Broadband Task Force report in December 2012, 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. Today 74.5 percent of Minnesotans can access broadband at statutory goal levels, up from 61.5 percent one year ago. That leaves 25 percent of households still unserved at the lowest broadband service level set in state law in 2010. The Task Force remains concerned Minnesota will not reach its goal on time. Significant change must take place for the 2015 goals to be reached.

Over the past year, the Task Force has tracked improvements made throughout the state, but we have also visited areas no closer to broadband access than they were one year ago. In Alexandria, for example, we visited the Douglas County Library to learn about the extraordinary growth in demand for library broadband services throughout Minnesota.   Library patrons are relying more on wi-fi access, staff expertise to help navigate online government services, and digital literacy training, all of which are stressing their already limited budgets.

The broadband access and adoption gap is significant in Minnesota. Most schools are able to offer students at least limited Internet access at school. But in many rural areas, such as Lake Lena in Pine County on the Mille Lacs Indian Reservation students have no such access to do their online work in their homes. While broadband access problems are more prevalent in rural areas, skills and use gaps can be found throughout the state, including in the heart of the Twin Cities where over 30 percent of low-income families have access but do not adopt broadband. This can be attributed to a spectrum of reasons as broad as affordability to a lack of understanding of how to access meaningful benefits and services online.

For economic, education, and health reasons, Minnesota set a statutory goal to become one of the top five states in the nation for access to advanced broadband speeds. Today, Minnesota ranks just 23rd and risks being overtaken by other states investing more into their broadband infrastructure.

In order to achieve the intended benefits of the 2010 legislation, Minnesota will need to do more to reach our broadband goals. The Task Force members urge you and the Legislature to take bold action and use the policy and fiscal recommendations of the Task Force to make the lives of Minnesotans better and more prosperous and make a better Minnesota. You have an opportunity with a healthier fiscal picture to make some targeted one time investments to get us to your goal of ubiquitous, border to border broadband service at levels that positively impact the work, education, health and overall quality of life for Minnesota residents.

You will find progress and promise in this report, but we have much work to do to achieve our goals. Access to high-speed connections across Minnesota is a matter of economic justice, fairness, and opportunity for all Minnesotans.

Sincerely,

Margaret Anderson Kelliher
Chair, Governor's Task Force on Broadband, on behalf of Task Force

Executive Summary

On August 25, 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 charged with developing, implementing, and promoting state policy, planning and initiatives to achieve state broadband needs and goals.

The following report, the Task Force's third such annual report, highlights legislative activity in 2013 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, summarizes the activities of the Task Force and its subgroups during the past year, and makes recommendations for legislators and policymakers to consider in 2014 and beyond.

Detailed information on many of the measures used to determine adequacy 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 2013, an estimated 71.04 percent of Minnesota households have such broadband speeds available via wireline providers and 74.53 percent when mobile wireless service is included. While this is still short of the 100 percent required by 2015, it does show an increase of more than 18 percentage points since this measure was initially tracked in April 2011.

% of Minnesota Households with High Speed Broadband Access at the Statutory Speed Goal of >10 Mbps Download and >5 Mbps Upload
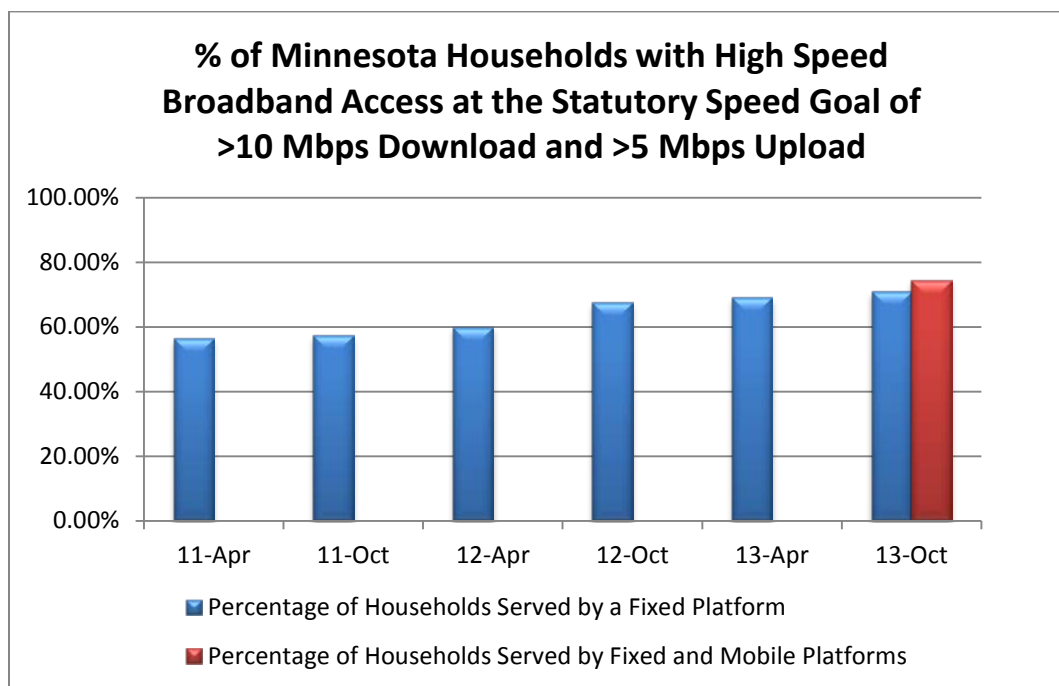
Source: Connect Minnesota

The remaining statutory goals compare Minnesota's progress to that of other states or countries.

- Regarding broadband availability, Minnesota, in terms of average connection speed, ranks in the middle of the 50 states.[1]
- Regarding broadband adoption, Minnesota ranks eighth nationally for broadband adoption, but it is difficult to compare that ranking internationally.[2] That said, by international standards, the United States as a whole ranks 10th for broadband adoption, defined as 4 Mbps according to Akamai's report tracking worldwide broadband growth from second quarter 2013.

Given the importance of broadband to economic development, education, health, government and social engagement—as noted by the results of the business and residential surveys summarized herein, the economic literature cited, the funding devoted to broadband under ARRA, the many initiatives at the federal level, and the activities occurring across the state as discussed during the monthly Task Force meetings and the work of our subgroups—the Task Force believes it imperative that policy makers and legislators give serious consideration to advancing our recommendations to further the deployment and adoption of broadband. They include:

The following legislative recommendations were viewed by the Task Force as being important and necessary if the state is to reach the goals outlined in statue by 2015.

- Restore the sales tax exemption on central office equipment (page 47)
- Continue the Connect Minnesota mapping effort (page 48)
- Establish a broadband infrastructure grant fund (page 48)
- Identify and leverage existing economic development tools to provide adequate funding to help bridge the gap between what is financially feasible and the actual costs of providing broadband that meets the state goal (page 49)
- Create an Office of Broadband Development operating fund to promote broadband adoption and use (page 49)

The Task Force also highlights these additional recommendations for consideration:

- Increase funding for the Telecommunications/Internet Access Equity Aid per student funding amount as well as the Regional Library Telecommunications Aid (RLTA) program, encourage fiber construction and providing access to underserved populations (page 50)
- Minn. Stat. § 237 should be reviewed due to changes in technology and many components of the law are obsolete (page 51)
- Explore creation of a state-based fund that would help pay for connectivity services for low-income populations (page 51)

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[1] http://www.akamai.com/stateoftheinternet/?WT.mc_id=soti_banner

[2] Exploring the Digital Nation: America's Emerging Online Experience, p. 53

The Task Force looks forward to working with policy makers and legislators in the year ahead to advance policies and initiatives that will ensure Minnesota will be nation-leading in broadband access, adoption and use.

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, Vice President, University Advancement, Winona State University

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

The following members have voluntarily left the Task Force since our last report and we thank them for their hard work on behalf of the people of Minnesota:

Steve Peterson, City of Bloomington

Keith Modglin, Mille Lacs Band

Bob Bass, AT&T

Danna MacKenzie, Director of Information Systems for Cook County

2013 Legislative Activities and Outcomes

The Task Force, in September of 2012, released their "Status Report and Policy Recommendations" that included specific recommendations for policy makers and stakeholders to consider in efforts to increase broadband availability, adoption, and use. Subsequent to the release of the September report, the Task Force met with staff from the Minnesota Department of Commerce to discuss policy recommendations for possible inclusion in the priorities of the Department during the 2013 Legislative Session. In the December 2012 "Annual Report and Broadband Plan" the Task Force reiterated and refined these recommendations and included specific policy initiatives that members believed should be considered in the upcoming 2013 Session of the Minnesota Legislature. The priorities for legislative action included a recommendation that Minnesota should create a formal Office of Broadband Development to serve as an ongoing entity responsible for coordinating all broadband activities for the state; and a recommendation that would extend current sales tax exemption on equipment purchased for use in a central office to include the purchase of fiber optics and broadband equipment. (All Task Force policy recommendations are included in the reports linked above.)

During the 2013 Legislative Session, two major pieces of broadband legislation were introduced. First, bills to create an Office of Broadband Development were filed in both the Minnesota House and Senate. The Task Force Chair, joined by members of the Task Force and Connect Minnesota staff, testified at a number of legislative committee hearings during the Session. These hearings served to review the state of broadband in Minnesota and progress toward the statutory goals, to learn about Task Force activities, and to hear from the Task Force and other stakeholders about the legislation establishing the new Office of Broadband Development. The Task Force, also, invited key legislators to Task Force meetings to discuss how an Office of Broadband Development would benefit the state economically and socially.

Second, an amendment was added to legislation (HF0389) that would have added a surcharge to prepaid wireless service to create a broadband development fund that attempted to ensure a continued broadband mapping and analysis program as well as assist in funding broadband deployment projects to un- and under-served areas across Minnesota.

In addition, the Task Force recommendation to extend the current sales tax exemption on equipment purchased for use in a central office to fiber optics and broadband equipment was advocated for by Task Force members at meetings with legislators, at legislative hearings, and via correspondence to legislators.

Ultimately, Task Force-supported broadband legislation achieved success but also encountered challenges during the 2013 Session. An Office of Broadband Development was included in the Omnibus Jobs, Economic Development, Housing, Commerce, and Energy Bill. The bill, H.F. 729, established the Office in the Department of Employment and Economic Development with funding of $250,000/year for the biennium. In addition, $100,000/year was allocated to the Department of Commerce for that agency to continue to be engaged in state broadband efforts. The enabling legislation, signed into law by Governor Dayton, directs the Office to be responsible for a number of duties, including to:

(1) serve as the central broadband planning body for the state of Minnesota;

(2) coordinate with state, regional, local, and private entities to develop, to the maximum extent practicable, a uniform statewide broadband access and usage policy;

(3) develop, recommend, and implement a statewide plan to encourage cost-effective broadband access, and to make recommendations for increased usage, particularly in rural and other underserved areas;

(4) coordinate efforts, in consultation and cooperation with the commissioner of commerce, local units of government, and private entities, to meet the state's broadband goals in section 237.012;

(5) develop, coordinate, and implement the state's broadband infrastructure development program under section 116J.999;

(6) provide consultation services to local units of government or other project sponsors in connection with the planning, acquisition, improvement, construction, or development of any broadband deployment project;

(7) encourage public-private partnerships to increase deployment and adoption of broadband services and applications, including recommending funding options and possible incentives to encourage investment in broadband expansion;

(8) monitor the broadband development efforts of other states and nations in areas such as business, education, public safety, and health;

(9) consult with the commissioner of commerce to monitor broadband-related activities at the federal level, including regulatory and policy changes and the potential impact on broadband deployment and sustainability in the state;

(10) serve as an information clearinghouse for federal programs providing financial assistance to institutions located in rural areas seeking to obtain access to high-speed broadband service, and use this information as an outreach tool to make institutions located in rural areas that are unserved or underserved with respect to broadband service aware of the existence of federal assistance;

(11) provide logistical and administrative support for the Governor's Broadband Task Force;

(12) provide an annual report, as required by subdivision 5;

(13) coordinate an ongoing collaborative effort of stakeholders to evaluate and address security, vulnerability, and redundancy issues in order to ensure the reliability of broadband networks; and

(14) perform any other activities consistent with the office's purpose.

Legislation to establish a 'broadband fund' via surcharge on prepaid wireless service did not advance past an initial hearing.

The Task Force recommendation to extend the current sales tax exemption on equipment purchased for use in a central office to include fiber optics and broadband equipment was not included in any legislation; and in fact, the existing exemption was eliminated in the last two weeks of the session. The Governor called a Special Session of the legislature in September for the purpose of passing natural disaster funding legislation. The Task Force took the opportunity to ask for the exemption and extension of the tax to be included in the Special Session; however no legislation outside the disaster relief funding was passed.

While the Task Force is pleased with the creation of the Office of Broadband Development, its members still believe there is more that must be done by policy makers to ensure Minnesota does not fall farther behind other states in broadband access, adoption and use. Later in this report the Task Force will again present numerous policy recommendations for consideration by the Governor, legislators and stakeholders. We look forward to working with policy makers in 2014 to advance our shared goals for Minnesota's broadband future.

State of Broadband 2013 – Where We Are Today

Progress toward State Speed Goals

State broadband goals were established during the 2010 legislative session and are found in Chapter 237.012 of Minnesota Statutes. The goals include the following:

> *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 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.*

The 2012 Task Force Report stated, "While the Task Force is encouraged to report that progress is being made toward the state's broadband goals, we are not on track to meet them by 2015." Unfortunately, while progress toward our goals continues to be made as our goal deadline approaches, prospects for meeting them remain improbable. As an indicator of the challenge still before us, nearly half-a-million largely rural households, remain underserved compared to state goals.[3]

Connect Minnesota, as part of its work in the state, reports on availability data and, beginning in 2011, included broadband speed availability at the state statutory speed goals. The most recent analysis of availability at the state speed goal, based on October 2013 data show an estimated 71.04 percent of Minnesota households have such broadband speeds available via wireline providers and 74.53 percent if wireless service is also considered. The October 2013 data show an increase of over five percentage points since April 2013; and an overall increase of over 18 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 30 months:
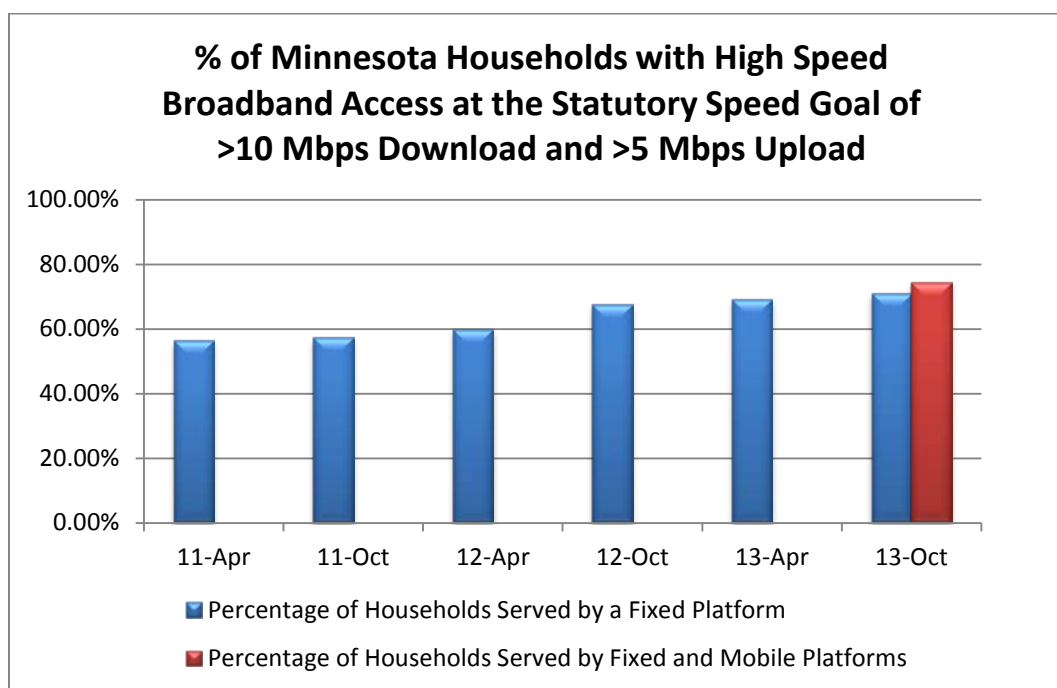
	Apr-11	Oct-11	Apr-12	Oct-12	Apr-13	Oct-13	
Percentage of Households	56.44%	57.40%	59.92%	61.57%	69.19%	71.04%	74.53%
Percentage of Growth	0.00%	0.96%	3.48%	5.13%	12.75%	14.60%	18.09%

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

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[3] There are 896,768 rural households in Minnesota under the NTIA's definition of rural; 49.51 percent are unserved at the state speed goals, or 443,990 households.

As noted in the above chart, the October 2013 data submission is the first time where the data is showing that there are households (3.49 percent or approximately 73,000 households) where service is available meeting the state broadband speed goals and that service is only available via a mobile platform. Previously, households with service that met the state speed goals were only served by a fixed platform or both a fixed and mobile platform. This result is due to expansion of 4G mobile broadband service into a larger geographic area of Minnesota, and generally into less urbanized areas. While indicative of the significant investment wireless companies are making in Minnesota, it does raise issues regarding the differences between fixed and mobile broadband service despite both services meeting the state's speed goals. Those differences include the pricing of mobile service and the fact that mobile broadband service generally includes a data cap within the pricing structure whereas fixed broadband services do not (or is at a much greater level). In 2014 the Task Force will be exploring differences between fixed and mobile broadband, including pricing and data caps, especially as it relates to affordability and the applications generally being used by broadband subscribers in Minnesota.

The following Connect Minnesota October 2013 maps provide a view of: 1) statewide availability at the statutory speed goals, indicating underserved areas, including mobile[4]; 2) statewide availability at the statutory speed goals, not including mobile; 3) a county by county view of the percentage availability at the statutory speed goals, including mobile; 4) a county by county view of the percentage availability at the statutory speed goals, not including mobile, and 5) a statewide view of broadband availability at the FCC's speed threshold (4 Mbps/1Mbps) for Connect America Fund eligibility.

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[4] Minnesota Statute 237.012 indicates upload goal of 5 Mbps. Data collection only conforms with 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.
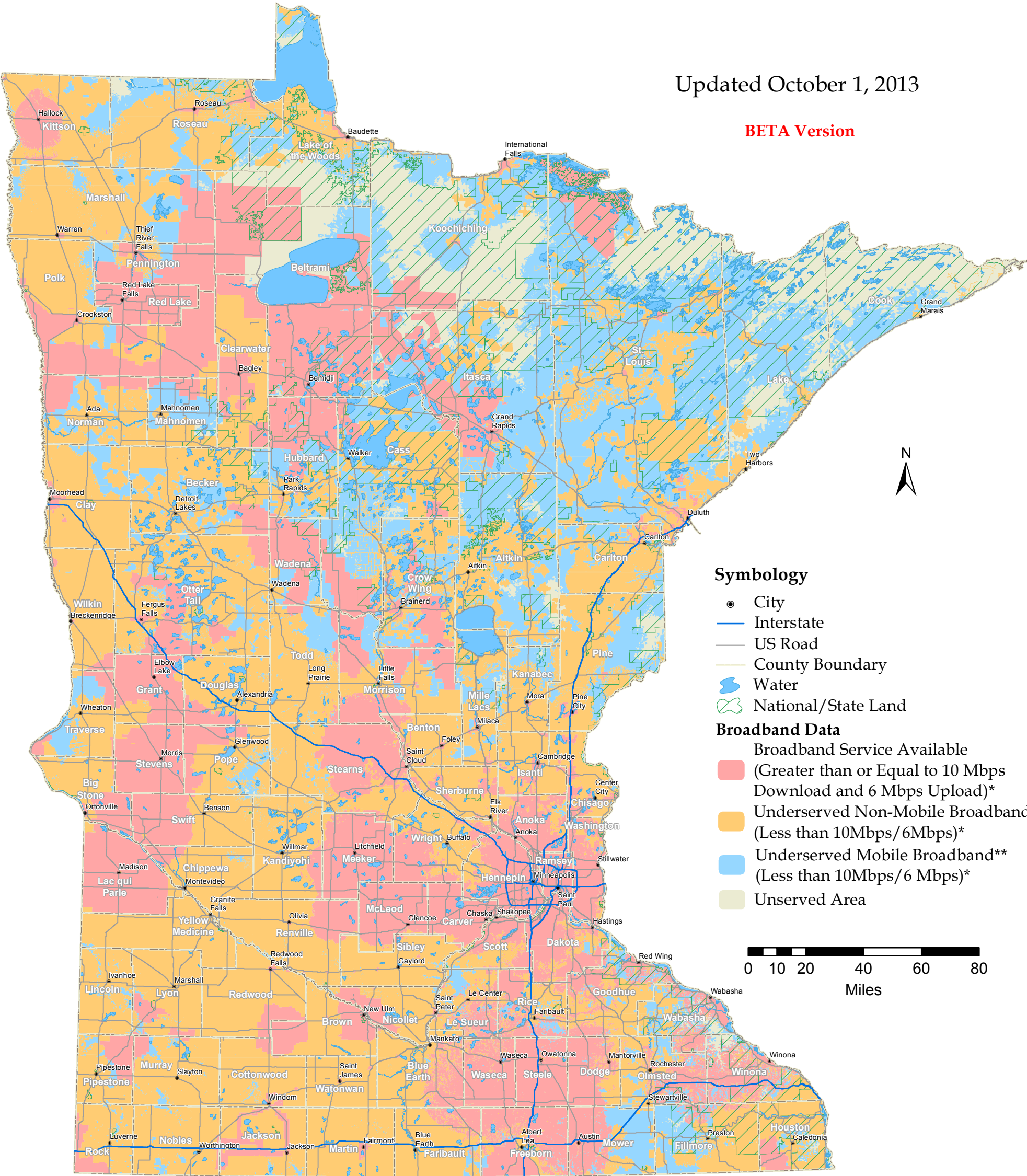
CONNECT Minnesota®

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

Updated October 1, 2013

BETA Version

N

Symbology

- ⊙ City
- —— Interstate
- —— US Road
- — — County Boundary
- 🝆 Water
- National/State Land

Broadband Data

Broadband Service Available
(Greater than or Equal to 10 Mbps
Download and 6 Mbps Upload)*

Underserved Non-Mobile Broadband
(Less than 10Mbps/6Mbps)*

Underserved Mobile Broadband**
(Less than 10Mbps/6 Mbps)*

Unserved Area

0 10 20 40 60 80
Miles

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.

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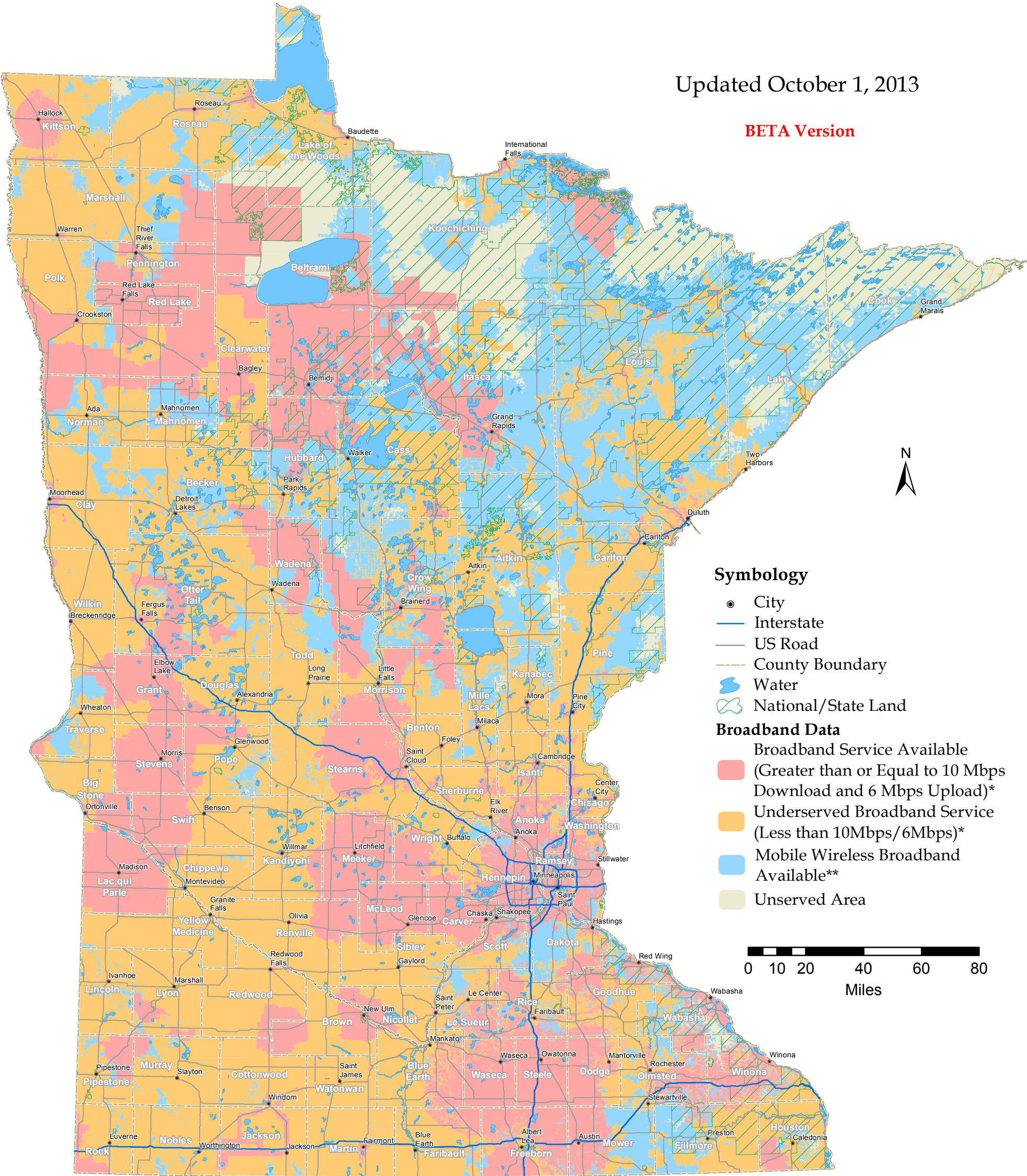
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Updated October 1, 2013

BETA Version

Symbology

- ⊙ City
- —— Interstate
- —— US Road
- – – County Boundary
- Water
- National/State Land

Broadband Data

- Broadband Service Available (Greater than or Equal to 10 Mbps Download and 6 Mbps Upload)*
- Underserved Broadband Service (Less than 10Mbps/6Mbps)*
- Mobile Wireless Broadband Available**
- Unserved Area

Scale: 0 10 20 40 60 80 Miles

N

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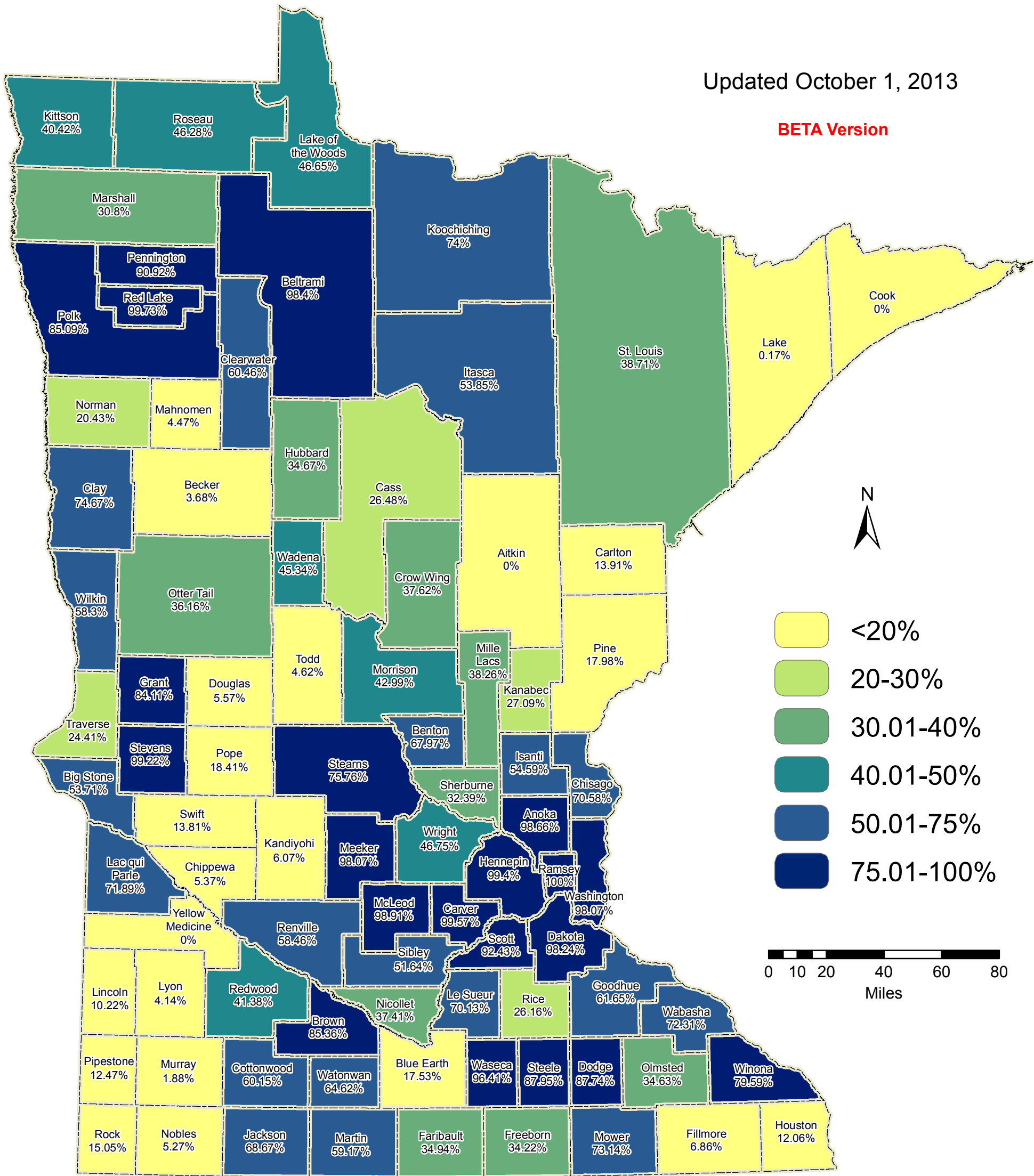
Broadband Availability in the State of Minnesota Percentage of Households Served by Terrestrial and Mobile Broadband Service

At Least 10 Mbps Download/6 Mbps Upload Speeds
Statewide Availability: 74.53%

Updated October 1, 2013

BETA Version

Kittson 40.42%
Roseau 46.28%
Lake of the Woods 46.65%
Marshall 30.8%
Koochiching 74%
Cook 0%
Pennington 90.92%
Red Lake 99.73%
Polk 85.09%
Clearwater 60.46%
Beltrami 98.4%
St. Louis 38.71%
Lake 0.17%
Norman 20.43%
Mahnomen 4.47%
Itasca 53.85%
Clay 74.67%
Becker 3.68%
Hubbard 34.67%
Cass 26.48%
Wilkin 58.3%
Otter Tail 36.16%
Wadena 45.34%
Crow Wing 37.62%
Aitkin 0%
Carlton 13.91%
Todd 4.62%
Morrison 42.99%
Mille Lacs 38.26%
Pine 17.98%
Grant 84.11%
Douglas 5.57%
Kanabec 27.09%
Traverse 24.41%
Stevens 99.22%
Pope 18.41%
Stearns 75.76%
Benton 67.97%
Isanti 54.59%
Chisago 70.58%
Big Stone 53.71%
Swift 13.81%
Kandiyohi 6.07%
Sherburne 32.39%
Anoka 98.66%
Lac qui Parle 71.89%
Chippewa 5.37%
Meeker 98.07%
Wright 46.75%
Hennepin 99.4%
Ramsey 100%
Washington 98.07%
Yellow Medicine 0%
Renville 58.46%
McLeod 98.91%
Carver 99.57%
Scott 92.43%
Dakota 98.24%
Sibley 51.64%
Lincoln 10.22%
Lyon 4.14%
Redwood 41.38%
Nicollet 37.41%
Le Sueur 70.13%
Rice 26.16%
Goodhue 61.65%
Wabasha 72.31%
Brown 85.36%
Pipestone 12.47%
Murray 1.88%
Cottonwood 60.15%
Watonwan 64.62%
Blue Earth 17.53%
Waseca 96.41%
Steele 87.95%
Dodge 87.74%
Olmsted 34.63%
Winona 79.59%
Rock 15.05%
Nobles 5.27%
Jackson 68.67%
Martin 59.17%
Faribault 34.94%
Freeborn 34.22%
Mower 73.14%
Fillmore 6.86%
Houston 12.06%

	<20%
	20-30%
	30.01-40%
	40.01-50%
	50.01-75%
	75.01-100%

N

0 10 20 40 60 80
Miles

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.

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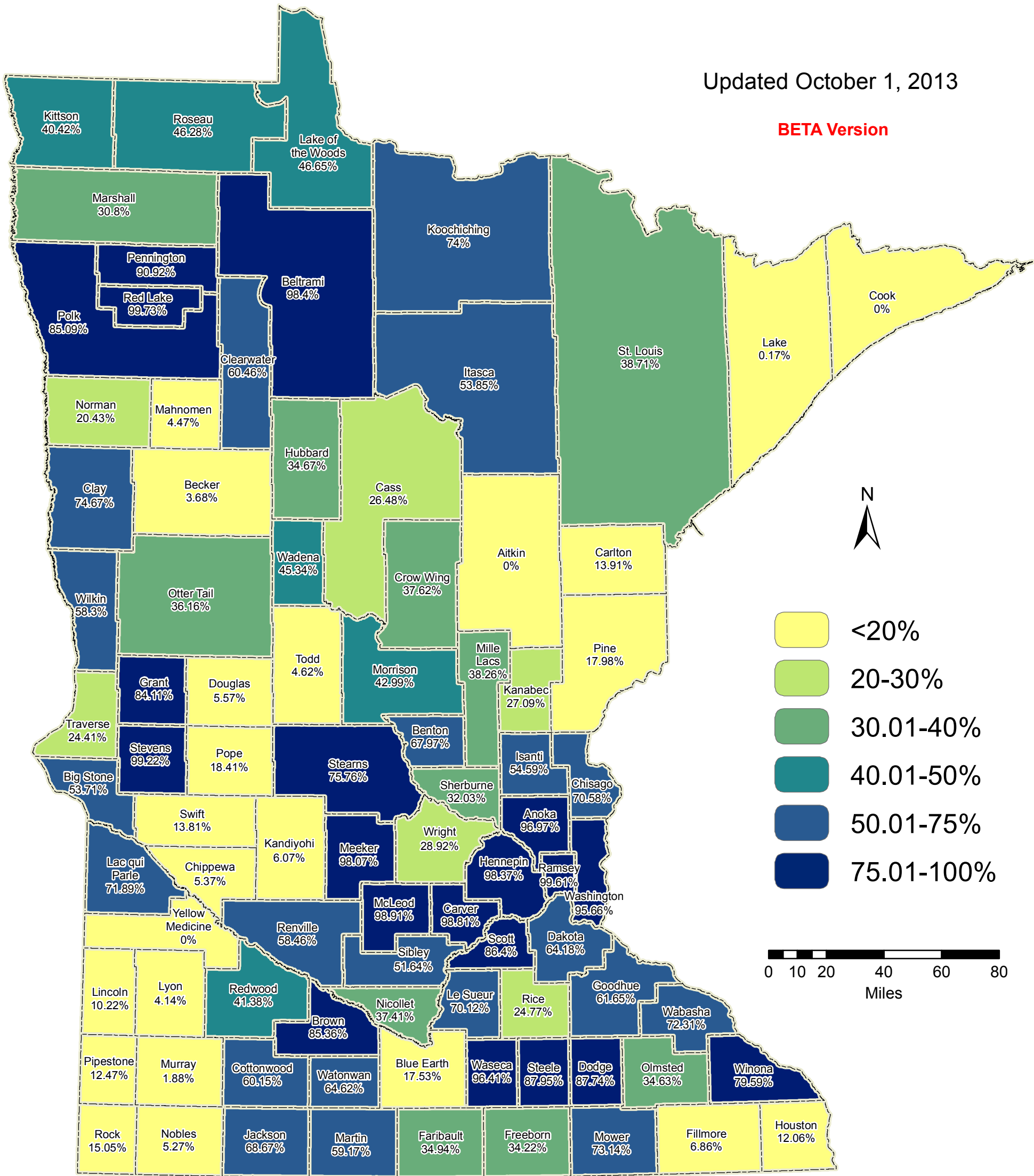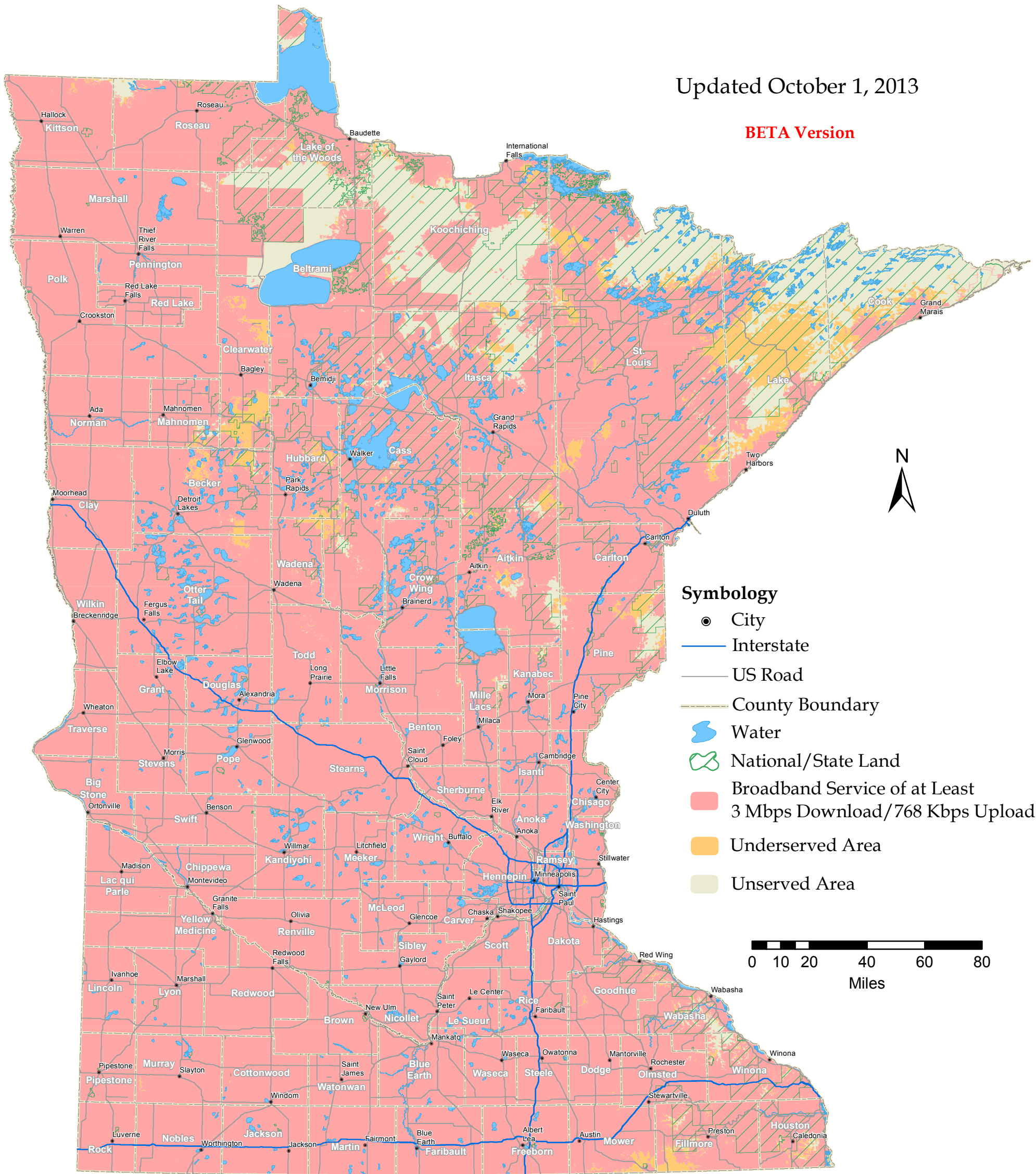maps@connectmn.org

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: 71.04%

Updated October 1, 2013

BETA Version

Kittson 40.42%
Roseau 46.28%
Lake of the Woods 46.65%
Marshall 30.8%
Pennington 90.92%
Red Lake 99.73%
Polk 85.09%
Beltrami 98.4%
Koochiching 74%
Clearwater 60.46%
Cook 0%
Lake 0.17%
St. Louis 38.71%
Norman 20.43%
Mahnomen 4.47%
Itasca 53.85%
Clay 74.67%
Becker 3.68%
Hubbard 34.67%
Cass 26.48%
Wilkin 58.3%
Otter Tail 36.16%
Wadena 45.34%
Crow Wing 37.62%
Aitkin 0%
Carlton 13.91%
Todd 4.62%
Mille Lacs 38.26%
Pine 17.98%
Grant 84.11%
Douglas 5.57%
Morrison 42.99%
Kanabec 27.09%
Traverse 24.41%
Stevens 99.22%
Pope 18.41%
Benton 67.97%
Stearns 75.76%
Isanti 54.59%
Big Stone 53.71%
Sherburne 32.03%
Chisago 70.58%
Swift 13.81%
Kandiyohi 6.07%
Wright 28.92%
Anoka 96.97%
Lac qui Parle 71.89%
Chippewa 5.37%
Meeker 98.07%
Hennepin 98.37%
Ramsey 99.61%
Yellow Medicine 0%
Renville 58.46%
McLeod 98.91%
Carver 98.81%
Washington 95.66%
Sibley 51.64%
Scott 86.4%
Dakota 64.18%
Lincoln 10.22%
Lyon 4.14%
Redwood 41.38%
Nicollet 37.41%
Le Sueur 70.12%
Rice 24.77%
Goodhue 61.65%
Brown 85.36%
Wabasha 72.31%
Pipestone 12.47%
Murray 1.88%
Cottonwood 60.15%
Watonwan 64.62%
Blue Earth 17.53%
Waseca 96.41%
Steele 87.95%
Dodge 87.74%
Olmsted 34.63%
Winona 79.59%
Rock 15.05%
Nobles 5.27%
Jackson 68.67%
Martin 59.17%
Faribault 34.94%
Freeborn 34.22%
Mower 73.14%
Fillmore 6.86%
Houston 12.06%

N

Legend	
	<20%
	20-30%
	30.01-40%
	40.01-50%
	50.01-75%
	75.01-100%

0 10 20 40 60 80
Miles

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.

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Underserved Broadband Service Inventory for the State of Minnesota by Terrestrial and Mobile Broadband Service

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Updated October 1, 2013

BETA Version

Symbology

- ⊙ City
- —— Interstate
- —— US Road
- —·—·— County Boundary
- Water
- National/State Land
- Broadband Service of at Least 3 Mbps Download/768 Kbps Upload
- Underserved Area
- Unserved Area

Scale: 0 10 20 40 60 80 Miles

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.

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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 Task Force notes that there remain households in the state where broadband availability is either still not available at even the lowest speed thresholds or only available via wireless service. The Task Force remains technology neutral regarding how the state speed goal is achieved, but notes that challenges remain in terms of options across the state for access to high-speed broadband at the state speed goal. Broadband speeds by nature are difficult to measure due to complex delivery methods and uses. The Task Force heard testimony that some users face the frustration of wanting more speed but not always having that option for a variety of reasons.

The latest availability data show the following key findings:

• 88.08 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, 98.91 percent of Minnesota households can access broadband at the 10/3 speeds. These data 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 99.80 percent of Minnesota households (includes mobile service). Excluding mobile broadband service, 95.95 percent of Minnesota households have access at the 4 Mbps/1 Mbps speed levels. Broadband service at the 4Mbps/1Mbps is included here only because it is a factor for determining an area's eligibility for federal Connect America Fund support.

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

With regard to the state broadband leadership position for broadband speed, Minnesota's standing has generally been measured using Akamai's *State of the Internet* report, which is issued quarterly. The most recent report available is from the second quarter of 2013.

Top Ten States in 2Q2013 in Average Broadband Connection Speed

Rank	State	2Q 2013 Avg. Mbps
1	District of Columbia	11.4
2	Massachusetts	11.2
3	Virginia	11.1
4	Delaware	10.8
5	New Hampshire	10.7
6	Maryland	10.6
7	Utah	10.3
8	New Jersey	10.2
9	Washington	10.1
10	Connecticut	10.0
...		
23	Minnesota	8.4

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

With regard to the goal that Minnesota be in the top five states for broadband speed universally accessible to residents and businesses, Minnesota's average connection speed was 8.4 Mbps (up from 7.9 Mbps in first quarter 2013), placing the state 23rd amongst the states. For the second quarter of 2012, Minnesota ranked 25th with an average connection speed of 6.7 Mbps. Under the Akamai measurement, the average connection speed is a reflection of what customers choose to purchase and not necessarily the speeds that are available. While the average connection speed has increased, that increase is not at a rate greater than other states which would enable Minnesota to move up in the rankings, leaving Minnesota on the verge of joining the ranks of the bottom half of all states.

> *Minnesota's average connection speed was 8.4 Mbps (up from 7.9 Mbps in first quarter 2013), placing the state 23rd amongst the states. For the second quarter of 2012, Minnesota ranked 25th.*

It is worth noting that eight of the top ten states for speed availability are located in the northeastern part of the United States. Only Utah (#8) and Washington (#10) are outside of that region. Those eight northeastern states have a combined size of 91,917 square miles which is roughly the same size as Minnesota (86,943 square miles). This comparison provides a good example of the challenges that Minnesota faces in extending broadband to its remaining unserved households. Smaller states, from a square mileage perspective, are going to have a significant advantage when it comes to the deployment and availability of broadband. Minnesota, because of its size and sparsely populated areas, and even remote rural locations, will have different challenges than a state such as Connecticut. Though, as in the northeast region of the US, a majority of Minnesotans live in concentrated areas . Massachusetts and New Hampshire each have significant rural areas similar to Minnesota's geography.

Similarly, for the state broadband leadership position for broadband access, measured according to data available on the National Broadband Map for speeds of 3 Mbps download and 768 kbps upload and as

of December 2012, Minnesota's ranking increased to 13th from 38th as of December 2011 and 28th in December 2010. (As noted in last year's report, Minnesota's ranking in 38th place was partially due to a directive from NTIA to standardize how Verizon Communication Inc.'s wireless broadband data was to be recorded. That standardization impacted Minnesota more so than other states.) Similar results are found when looking at the data collected by the FCC's Form 477[5], where for speeds at least 200 kbps upload and 3 Mbps download, as of December 31, 2012, Minnesota is tied with Delaware with the 13th highest percent of connections subscribed to at or above that speed. Using the same Form 477 data, but at the percentage of connections at speeds of at least 200 kbps upload and 10 Mbps download, Minnesota ranked 15th in connections purchased at or above those speeds.

With regard to the third state broadband leadership goal of the state being in the top 15 when compared to countries globally for broadband penetration (penetration defined as household adoption rate), the Task Force has not yet identified a valid resource for measuring where Minnesota ranks internationally. The Task Force believes this is an important goal even if finding a viable measurement is difficult. That said, by international standards, the United States as a whole ranks 8th in average measured connection speed and 10th for broadband adoption, defined as 4 Mbps according to Akamai's report tracking worldwide broadband growth from Q2 2013.

	Country/Region	Q2 '13 Avg. Mbps	QoQ Change	YoY Change
–	Global	3.3	5.2%	9.2%
1	South Korea	13.3	-6.3%	-6.4%
2	Japan	12.0	6.5%	11%
3	Switzerland	11.0	9.1%	31%
4	Hong Kong	10.8	0.8%	21%
5	Latvia	10.6	12%	22%
6	Netherlands	10.1	6.2%	27%
7	Czech Republic	9.8	8.7%	36%
8	United States	8.7	3.4%	22%
9	Sweden	8.4	0.7%	44%
10	United Kingdom	8.4	11%	48%

Figure 12: Average Connection Speed by Country/Region

Figure 3: Source Akamai 2Q13 The State of the Internet Report

The Task Force would note that based on the NTIA report, *Exploring the Digital Nation: America's Emerging Online Experience*[6], Minnesota ranked 8th among the states for percentage of households that have adopted broadband at home, with an adoption rate of 76 percent. Washington ranked first in adoption in the NTIA report at 79.5 percent, followed by (in order) New Hampshire, Colorado, Utah, Connecticut, Massachusetts, and Oregon. While the NTIA results for Minnesota are slightly lower than the Connect Minnesota survey results discussed below[7], they are in line with Connect Minnesota's

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[5] http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-324884A1.pdf
[6] http://www.ntia.doc.gov/report/2013/exploring-digital-nation-americas-emerging-online-experience
[7] http://www.connectmn.org/survey-results/residential

findings and, as part of a national report, allow for comparison to other states. It is worthwhile to note the differences documented in the NTIA report for adoption rates between urban and rural areas nationally: 78 percent of urban households are using broadband compared to only 58 percent of rural households. In Minnesota, based on data from Connect Minnesota's residential survey[8] and as noted below, 78 percent of households statewide have adopted broadband whereas that falls to 71 percent when looking only at rural households.

Survey Research: Residential and Business Broadband Adoption

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

The data illustrate that there are still adoption gaps among Minnesota demographic groups and geographic locations (rural v. urban). Additionally, however, trends are illustrating a move among some populations to rely on wireless and/or mobile broadband rather than a home connection. The Task Force will continue to monitor research trends to be able to best make future recommendations that will move Minnesota forward toward achieving the state broadband goals.

Residential Survey Results

According to the 2012[9] Connect Minnesota Residential Survey[10], the data show that 78 percent of Minnesota households subscribe to home broadband. This figure shows a six percentage point increase in adoption from the 2011 Residential Survey results.

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

- Do not want broadband (19 percent)
- Monthly cost of broadband is too expensive (13 percent)
- There is no content worth viewing (13 percent)
- Would not use the Internet enough to make it worth the cost (9 percent)

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

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[8] Ibid.

[9] The 2013 Connect Minnesota Residential Survey is currently being completed but will not be finished before the Task Force submission of this report. The 2013 Residential Survey data will be included in a future report and made available to the Task Force as soon as the results are compiled and reviewed.

[10] Survey Methodology: Between October 2 and October 25, 2012, Connect Minnesota conducted a random digit dial telephone survey of 1,201 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 1,201 respondents randomly contacted statewide, 201 were called on their cellular phones, and 1,000 were contacted via landline telephone. Once the respondent agreed to participate, these surveys took approximately ten (10) minutes to complete.

- 38 percent of low-income households
- 29 percent of rural households
- 51 percent of seniors
- 68 percent of low-income seniors
- 40 percent of disabled adults

That said, evidence from ARRA-funded broadband adoption market development activities in Minnesota suggests that community-based broadband literacy and market development efforts can and do make a difference. For example, according to the Blandin Foundation's final report to NTIA, *Minnesota Intelligent Rural Communities Program – Demonstration Communities Final Report[11]*, broadband adoption growth in rural communities that participated in the foundation-administered, federal government funded Sustainable Broadband Adoption project grew nearly 15 percent faster than in the rest of rural Minnesota, and communities that reported the highest rates of participation in these market development activities also experienced the highest rates of broadband subscription growth.

Business Survey Results

Connect Minnesota also conducted its annual survey of Minnesota businesses in 2013[12], releasing results in October 2013. Among the highlights of the survey:

- 76 percent of Minnesota businesses use broadband, up from 73 percent in 2012
- 30 percent of Minnesota businesses allow teleworking
- 38 percent of Minnesota businesses generate revenue via online sales; Statewide, online sales account for $38 billion in business revenue annually

The survey, also, highlighted how broadband is playing an increasingly important role in the operations of businesses across all sectors of the Minnesota economy. Among the results:

- 80 percent in the health care services sector use broadband
- 89 percent in the professional and financial services sector use broadband
- 71 percent in the retail trade, recreation, food and lodging sector use broadband
- 82 percent in the wholesale trade, transportation and warehousing sector use broadband
- 75 percent in the manufacturing sector use broadband
- 57 percent in the agriculture, mining, construction, and utilities sectors use broadband

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[11] MIRC Final Study Report

[12] Survey Methodology: The 2013 Business Technology Survey, featuring data from 801 businesses across the state. Between April 3 and April 30, 2013, 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.

Importantly, the survey showed that 38 percent of Minnesota businesses have trouble finding employees adequately trained in a variety of technical skills and applications related to operating in a connected and computerized environment. This lack of training includes ability to utilize basic computer programs for word processing, sending emails, ability to create/edit a spreadsheet, and/or use the Internet on a mobile device.

Cost to Subscribe to Broadband Services

When examining adoption data, the Task Force also looked for analysis about costs of broadband services by type across the state. The most recent Minnesota data on average cost by technology was gathered during the Connect Minnesota 2011 Residential and Business Broadband Survey. It showed the following regarding average broadband cost by service:

2011 Minnesota Residential Technology Assessment: Self-reported Average Monthly Cost of Broadband Service by Platform

- Among All Broadband Service Subscribers - Average Monthly Cost $49.46
- DSL - Average Monthly Cost $44.47
- Cable – Average Monthly Cost $52.87
- Fixed Wireless – Average Monthly Cost $50.85
- Satellite – Average Monthly Cost - $55.50
- Fiber – Average Monthly Cost - $50.69
- Other – Average Monthly Cost - $48.90

While cellular costs were not specifically measured in this survey, a review of cellular data plans for major carriers are provided here:

- Verizon – Jet Pack with 10 GB data = $90 per month, pay as you go.
- ATT – mobile hot spot device with 10 GB of Mobile Share data = $80 per month
- Sprint – mobile broadband plan with 12 GB of data = $79 per month

2011 Minnesota Business Technology Assessment: Self-reported Average Monthly Cost of Broadband Service by Platform

- Among All Broadband Service Subscribers - Average Monthly Cost $106.22
- DSL – Average Monthly Cost $92.65
- Cable – Average Monthly Cost $93.53
- Fiber – Average Monthly Cost $221.07
- Dedicated Service (T1 or T3) – Average Monthly Cost $299.13
- Fixed Wireless – Average Monthly Cost $120.14

Other – Average Monthly Cost $185.53

Broadband's Economic Impact

Evidence abounds that high-speed Internet access has powerful economic benefits (positive impact on median household income, employment, and business growth).

An analysis by Connect Minnesota based on most recent demographic and employment numbers show that a 1 percentage increase in broadband adoption could result in growing the Minnesota economy by $517 million. Benefits include:

- 8,307 jobs saved or created[13]

- $387,353,427 in direct annual income growth[14]

- $1,702,273 in average annual health care costs saved[15]

- $20,050,716 in average annual mileage costs saved[16]

- 9,643,720 in average annual hours saved[17]

- $108,106,106 in annual value of hours saved[18]

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[13] Calculated based on findings from Crandall, Litan, and Lehr (Robert W. Crandall, Robert E. Litan, and William Lehr, "The Effects of Broadband Deployment on Output and Employment: A Cross-Sectional Analysis of U.S. Data," Issues in Economic Policy: The Brookings Institution, No. 6, July 2007, p. 2. For a two-year time frame, this regression generated .593 as the coefficient for the impact of broadband expansion on employment. As such, this growth is calculated based on a .2965 (.593/2) annual coefficient. According to the United States Bureau of Labor Statistics, Minnesota's employment was 2,801,672.

[14] Based on a mean annual income of $46,630 in Minnesota (Source: United States Bureau of Labor Statistics, May 2012).

[15] Based on an average savings of $217 by 35% of home broadband users (source: "The Economic Impact of Stimulating Broadband Nationally," a report by Connected Nation available here: http://www.connectednation.org/sites/default/files/the_economic_impact_of_stimulating_broadband_nationally_-_full_version.pdf

[16] Based on 66% of home broadband users driving an average of 102 fewer miles per month because of their online activities (source: "The Economic Impact of Stimulating Broadband Nationally," a report by Connected Nation available here: http://www.connectednation.org/sites/default/files/the_economic_impact_of_stimulating_broadband_nationally_-_full_version.pdf, valued at $0.585 per mile, the General Services Administration reimbursement rate (http://www.gsa.gov/portal/content/103969). This calculation only factors in the 78.9% of new broadband users who would be age 16 or older for the state of Minnesota (US Census, 2012 American Community Survey 1-Year Estimate).

[17] Based on the average broadband user saving 15 hours per month by conducting transactions online (source: "The Economic Impact of Stimulating Broadband Nationally," a report by Connected Nation available here: http://www.connectednation.org/sites/default/files/the_economic_impact_of_stimulating_broadband_nationally_-_full_version.pdf, valued at $22.42. per hour, one-half of the average hourly wage for Minnesota (Source: United States Bureau of Labor Statistics, May 2012).

- 25,902,989 in average annual pounds of CO_2 emissions cut[19]

- $157,561 in average annual value saved by carbon offsets[20]

NTIA's recent report, "Broadband Availability in the Workplace"[21] notes that less densely populated areas are more likely to lack high speed broadband access and puts these communities at a disadvantage in attracting jobs compared to otherwise similar areas that have better access. Further, today's manufacturing jobs are more likely to be located in rural areas; however, as innovative applications are developed in manufacturing (example: sending Computer Aided Design or CAD drawings to facilities to remotely control 3D printing before going into full production) these rural areas will need high speed broadband available to retain such jobs.

According to research by Information Age Economics[22], investment in wireless broadband infrastructure as anticipated at $34-36 billion per year will create over one million net new jobs nationally while resulting in a direct impact of $85-87 billion in economic growth per year.

Broadband access is key… but so is adoption. According to the report, "Broadband's Contribution to Economic Health in Rural Areas: A Causal Analysis," by B. Whitacre, S. Strover, and R. Gallardo (March 26, 2013), "Non-metro counties with high levels of broadband adoption in 2010 had significantly higher growth in median household income between 2001 and 2010 compared to counties that had similar characteristics in the 1990s but were not as successful at adopting broadband." The Internet Innovation Alliance[23] reports that the top ten ways being online saves money totals $9,364 annually, $500 more than resulted the previous year.

Strategic Networks Group, an economic consultant working with local governments in North America, Europe and Australia on the benefits of broadband, has compiled evidence from studies they have conducted in North Carolina, Virginia, Kentucky, Illinois, and Nebraska that demonstrate a $5 million

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[18] Ibid.

[19] Based on 66% of home broadband users driving an average of 102 fewer miles per month because of their online activities (source: "The Economic Impact of Stimulating Broadband Nationally," a report by Connected Nation available here: http://www.connectednation.org/sites/default/files/the_economic_impact_of_stimulating_broadband_nationally_-_executive_summary.pdf), with an average estimated fuel fleet economy of 25.67 per gallon (Source: US Highway Transportation Board), and each gallon of gasoline producing 19.4 lbs. of CO_2 gas (Source: United States Environmental Protection Agency). This calculation only factors in the 78.9% of new broadband users who would be age 16 or older, based on the 2012 average ACS population distribution for the state of Minnesota (Source: US Census, 2012 American Community Survey 1-Year Estimate).

[20] Calculations based on the average value of $13.41 per ton for the carbon emission offsets charged by major U.S. carbon offset providers, as reported by Carbon Catalog (http://www.carboncontrol.org/).

[21] http://www.ntia.doc.gov/files/ntia/publications/jobs_broadband_report_nov2013_final.pdf

[22] Wireless Broadband Infrastructure: A Catalyst for GDP and Job Growth 2013-2017

[23] http://www.internetinnovation.org/library/special-reports/access-to-broadband-internet-top-ten-areas-of-saving-2013/

economic development impact for every 1,000 broadband passes installed[24]. Their data show that 23.4% of all new jobs created in the economies they have studied are directly attributable to broadband (i.e. if it had not been for broadband, those jobs would not exist). These are not only IT jobs, but include jobs like shipping, account management, etc. that are needed as the business grows. For example, a study they conducted in North Carolina in 2010[25] showed that 32 percent of all households surveyed report having home-based businesses or telecommuting, and 14 percent plan to start using broadband at home to support their households. Of businesses surveyed, 56 percent said that access to high-speed broadband was essential for remaining in their current location.

Moreover, businesses that increase their utilization of broadband by ten percent realize a 24 percent gain in revenue and a seven percent reduction in costs.   And the higher the degree of sophistication of use of broadband-enabled services, the higher the benefit: 54 percent of revenue from businesses using high levels of broadband utilization come from the Internet.

And, adoption requires the use of applications. A study by TechNet published in 2012[26] concluded that the "App Economy" is responsible for the creation of approximately 466,000 jobs since 2007 when the iPhone was introduced.

Investment in broadband adoption and utilization efforts would have significant return on investment (ROI) for the state of Minnesota – for low-income populations, for small and medium-size businesses and for our largest education, health care and government institutions. By increasing the sophistication of use by the whole spectrum of users, Minnesota will have higher incomes, thriving businesses and innovative delivery of critical services. Especially in rural areas, efforts must be made to make access to training, coaching and people-oriented tech networking more accessible and commonplace.

By increasing the sophistication of use by the whole spectrum of users, Minnesota will have higher incomes, thriving businesses and innovative delivery of critical services.

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. That figure does not include at least $25 million of private or in-kind contributions to complete these projects.

Several multi-state grants affecting Minnesota were also awarded. The following graphic shows the projects completed and in-progress and their associated funding. While 14 of the 20 projects have completed, those 14 projects accounted for only 38.5 percent of the funding awarded for Minnesota specific projects. Six projects and approximately $139 million or 61.5 percent of the funding are still in

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[24] http://sngroup.com/tag/broadband-economic-impacts
[25] http://sngroup.com/information-resources/research-library/
[26] Where the Jobs Are: The App Economy - TechNet

progress, including three large projects in northeastern Minnesota (Northeast Service Cooperative, Lake County and Arrowhead Electric).
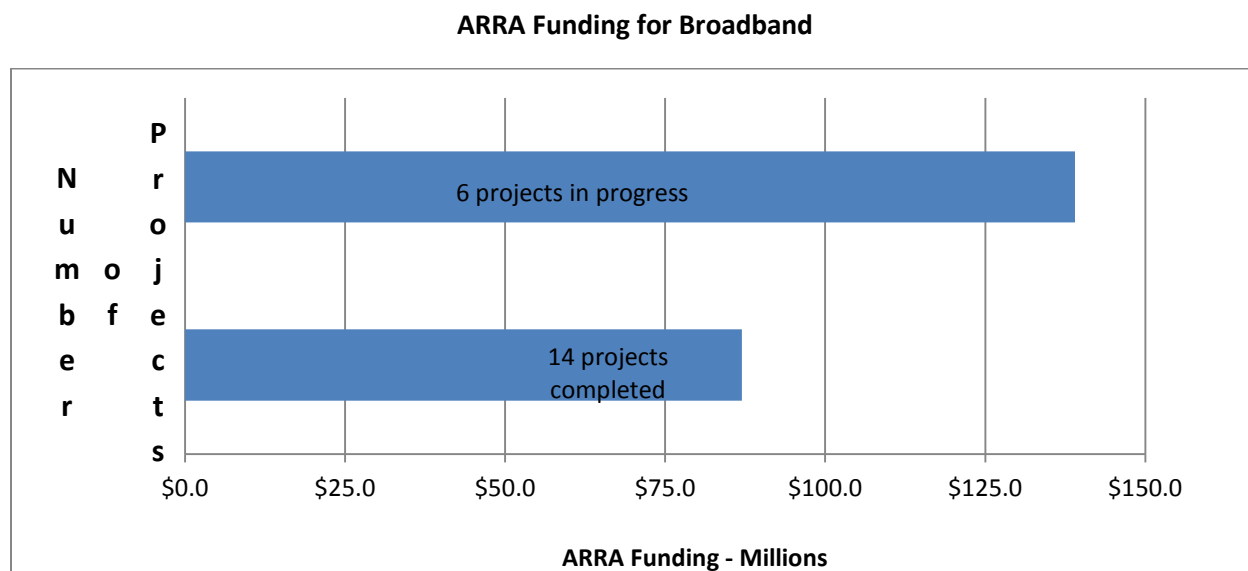
ARRA Funding for Broadband

Figure 4: ARRA project status

Several of the Minnesota-specific projects have been completed by late 2013. Those projects include:

Arvig Telephone Company/TDS: Nearly 90 miles of fiber is being installed and about 900 customers in Cass County served through this $5 million BIP project. The speeds that TDS/Arvig anticipates providing will be 1.5 to 10 Mbps, possibly higher in some areas. The cost per customer location passed is about $5600. Customers near Hackensack and Backus recently received service and the remainder should be served by year end. A map of the area to be served is available on the link at http://www.tdstelecom.com/MediaRoom/StimulusFundingLocations.aspx)

C.K. Blandin Foundation: The only Minnesota specific sustainable adoption program funded by Broadband Technology Opportunities Program (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 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.

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.

> *The North East Service Cooperative middle mile project provided a fiber connection between St. Luke Hospital's Duluth campus and its regional locations, enabling advanced diagnostic imaging and telemedicine services at those locations to enable better medical services to area residents.*

Farmers Mutual Telephone Company: Using a Broadband Initiatives Program (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.

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.

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 and one order is pending. 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.

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.

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.

Several of the multi-state projects have also concluded. Those include:

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 3Q13.

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. The project was scheduled to complete 3Q13.

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[27] 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[28] served as fiscal agent for the Minnesota portion of the grant, with management assistance from the St. Paul Community Literacy Consortium[29]. 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 1Q13 report that it expected completion of the Zayo-partnered northern tier build in the late April 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.

The table below provides a summary for those projects still in progress.

Grantee/Amount/Description	2013 Update
Northeast Service Cooperative $43,498,220 The NESC, in partnership with state and local agencies, schools and health care organizations, will implement a middle mile project to make dark fiber, wavelength services available to private sector providers in rural areas of northeast Minnesota.	The project includes the deployment of 915 miles of fiber into 8 counties to connect approximately 250 community anchor institutions at speeds of 1 to 10 Gbps. The project was to be 90% complete by mid-November 2013 and fully complete by year end 2014. NESC has agreements with 3 private partners to date to allow for extension to business and residential customers, other negotiations ongoing.
Sjoberg's, Inc. $866,000 FTTP in Roseau, Thief River Falls, and the hamlet of Fox, approximately 656 people stand to benefit, as do roughly 15 businesses and 3 community institutions.	Sjoberg's has almost completed plowing the fiber and a few locations in remain to be connected. About 30% of the fiber splicing is completed. All broadband customers will have 100 Mbps service available. About 50 new rural subscribers have signed up for service to date. Sjoberg's has spent $400,000 in private capital and received almost $500,000 in RUS funding. Close out end 2Q14.

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[27] http://www.digitalliteracyassessment.org/standards.php
[28] http://mnliteracy.org/
[29] http://spclc.org/

Wikstrom Telephone Company, Incorporated $7,398,600 Deploy FTTP in 6 communities in Kittson, Marshall and Roseau Counties.	The project includes upgrading the backbone fiber network in 16 of the rural telephone exchanges that Wikstrom serves, extending coverage to an un-served area of 182 sq. miles with 723 customers and provisioning a Fiber to the Node ADSL2+ network for 2755 customers that will provide speeds up to 48Mbps. Other key components of this broadband upgrade are the installation of 74 miles of fiber optic cables to the Fiber to the Node system, and an upgrade of the microwave service to the NW Angle/Angle Inlet community and the fiber optic network to serve the islands in the northernmost part of the contiguous USA, of which most of the land mass is Red Lake nation reservation. Fiber optic cables to serve the Agassiz National Wildlife Refuge in cooperation with their ARRA funding were constructed for upgrades to their facilities. A GPON 2.4gbs Fiber to the Home (FTTH) system, with the installation of 414 miles of fiber optic cables, is planned to a projected 1163 homes or businesses, in the rural areas of Greenbush and Karlstad, and the small cities of Lake Bronson, Lancaster, Kennedy and Stephen, MN. As of October of 2013, the project is nearing completion with a total of 518 miles of fiber optic cables installed for our Fiber to the Home network; this network has been built to 1329 homes and businesses. The network investment was about $10 million to construct to date. The company estimated that in the sparsely populated area of the state that they serve, the cost is about $10,000 per customer to build fiber to the home.
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. In total there are 7 cities, 12 townships and unorganized territories in both counties that will be served. Phase 2A of the project, consisting of over 300 miles of fiber from Duluth to Silver Bay is slated to be finished in the first quarter of 2014. Certain sections of the 2A Phase will be ready for service and testing by the end of 2013. Construction in Phase 2B, a 750 mile area which completes 100% of the fiber network, is set to begin in 2014. Internet and Voice services are planned to be ready for testing in Two Harbors during fourth quarter of 2013, barring any

	unforeseen circumstances. Digital Television services are planned to be available during the first half of 2014. Construction crews are continuing to complete fiber drops and installations to homes and businesses in Phase 2A, with inside installations and service to begin fourth quarter 2013. 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. The center was completed for the grand opening celebration in August 2013, which saw more than 300 attendees, including representatives for four state officials. Additional information on Lake Connections and the fiber broadband project can be found by calling 218-834-8500, or visiting LakeConnections.com
Arrowhead Electric Cooperative, Inc. $16,137,484 Arrowhead Electric Cooperative, Inc. will build a last-mile FTTH network to serve northeastern Cook County. Because of the topography of the land and dense forestation, fixed wireless is not an option.	Construction began August 2011. To date, approximately 130 miles of underground construction, 261 miles of aerial construction and 170 miles of drop construction have been completed. Approximately $14m or nearly 68% of BIP funds have been drawn. The project received backhaul to its central office October 10th. Testing of installed distribution fibers has begun now that backhaul is in place. Testing of services will begin in late 2013 with service installations and turn-up expected to commence Q1 2014. In the interim, Arrowhead Cooperative has set-up a free public computing area for users to access high-speed internet or use the Cooperative's high-speed guest wi-fi.
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.
Connected Nation, Inc. $2,761,171 Expand existing and planned maps to continue coverage for three additional years.	

According to projected outcomes detailed in the 2011 Task Force report, ARRA funding ($242,717,516) can be credited with stimulating the following tangible results:

- 61,139 businesses, residences and critical community facilities passed
- 1,751 miles of middle mile fiber network
- 1,105 critical community facilities connected
- 8 new computer centers created
- 20 computer centers upgraded
- 60 public access computer sites created*
- 56,663 new subscribers tied to broadband adoption programs*

*these numbers come from the Blandin Foundation's final MIRC report which can be found at: http://blandinfoundation.org/_uls/resources/MIRC_outcomes_overview_June_2013.pdf

In sum, federal investment in broadband access and adoption made available to Minnesota through the American Recovery and Reinvestment Act have made a significant positive difference to Minnesota communities' ability to be globally competitive and ensure a high quality of life for their residents. We urge the Governor and legislature to convey to our state's congressional delegation the positive impact of these investments in Minnesota, and to urge them to seek additional federal support.

Summary of Federal Activities

Since the Federal Communications Commission (FCC) is the primary government agency responsible for oversight of broadband, much of the activity related to broadband is at the national level. The FCC dockets that were active in 2013 that affected broadband included CAF Phase I and II, E-rate and the mobility auction. Other activity at the federal level involved FirstNet, Connect2Compete (C2C), and ConnectED. A summary of these federal activities, with an emphasis on how Minnesota was impacted, follows.

FCC:

Connect America Fund

General Overview: On November 18, 2011, the FCC released its comprehensive report and order to reform and modernize the Universal Service Fund (USF) to the Connect America Fund (CAF). In its order, the FCC recognized that networks that provide only voice communications service are no longer adequate to meet communication needs. Instead, the universal service challenge for today is to ensure that all Americans have access to networks that support access to high speed Internet. With that in mind, this report and order began a phased approach to reforming universal service and intercarrier compensation subsidy mechanisms to a targeted Connect America Fund to support broadband, mobility and the transition to Internet Protocol (IP) networks.

CAF for Price Cap Carriers Phase I—Round 1

Overview: To immediately make funding available to price cap carriers (CenturyLink, Frontier and Windstream in Minnesota) in the transition from USF to CAF, the FCC implemented CAF Phase I with a total of $300 million available nationally. CAF Phase I evolved into two rounds (2012 and 2013) as decisions to implement Phase II were delayed. In CAF Phase I, Round 1, the price cap carriers made decisions as to whether to accept allocations in 2012 with participation being entirely voluntary. The FCC determined what portion of the $300 million set aside for CAF Phase I each price cap carrier was eligible to apply to receive based on a formula that estimated wire center costs using the prior high-cost proxy model. Carriers would receive $775 per new location served with broadband and eligible locations had to be in the carrier's service area and be unserved i.e. not have broadband service of at least 768 kbps download and 200 kbps upload by any fixed, terrestrial service provider. In July of 2013, those carriers filed updated information with the FCC and state commissions.

In Minnesota, as noted above, the price cap carriers are CenturyLink, Frontier and Windstream. For 2012, CenturyLink was the only price cap carrier indicating intent to accept funding in Minnesota. It stated that it would accept $10,956,175 to provide service to 14,137 locations in Minnesota. In its July 2013 filing, CenturyLink amended those numbers to indicate it would serve 13,117 locations with $775 per location from CAF funding supplemented with CenturyLink's own capital investment. Many of the locations that CenturyLink had indicated it would serve in 2012 but were not included in the 2013 amended filing, are locations in Lake and Cook counties that will be receiving service through projects being built with ARRA funding granted by the Rural Utilities Service of the U.S. Department of Agriculture under the Broadband Improvement Project (BIP).

In 2012, Frontier had indicated that it would not be accepting any CAF Phase I Round 1 funding for locations in Minnesota. However, after its initial evaluation of areas planned to be served across its multi-state territory, Frontier's July 2013 amended filing did indicate it would be using CAF funding to serve 631 new locations in Minnesota, receiving $775 per location in CAF support supplemented by its own capital.

CAF for Price Cap Carriers Phase I—Round 2

Overview: In May 2013, the FCC issued an order announcing a second round of CAF Phase I in which it would make another $300 million available to price cap carriers plus the $185 million that was not claimed in Round 1. The FCC also expanded the eligible areas by adding a second tier of funding of $550 per new location that has service at 768 kbps down/200 kbps upload but does not have service above 3 Mbps download/768 kbps upload. Carriers cannot apply to receive funding under this second tier unless they already have accepted funding to serve all areas that do not have broadband available of at least 768 kbps down/200 kbps upload that can be economically built out for the $775 in CAF funding plus an equal amount of the carrier's own capital. In Round 2, the FCC also established a formal process for interested parties to challenge a price cap carrier's filing that a census block is served. The FCC expects that this will be the last round of CAF Phase I funding.

In Minnesota for Round 2, CenturyLink has indicated its intent to accept $3,098,675 in funding to serve 1,315 locations that currently do not have service at 768 kbps down/200 kbps upload and 3,781 locations that currently do not have broadband service of at least 3 Mbps down/768 kbps upload. Under the FCC Order, the 1,315 locations would be eligible for CAF funding of $775 per location and the 3,781 locations would be eligible for $550 in funding per location. On December 5, 2013, the FCC issued notice authorizing funding of $2,932,675 to CenturyLink in Phase I, Round 2. The remaining areas for which CenturyLink has requested funding are under review through the challenge process.

> *Under CAF Phase I, CenturyLink and Frontier will use federal funding to provide or improve broadband service to 19,362 locations in Minnesota*

Frontier has also indicated it will accept funding for Minnesota in Round 2. The FCC's December 5, 2013 notice authorized $459,225 to Frontier for service to 819 new locations. Frontier has additional locations it filed to serve that are under review through the challenge process.

Windstream, the only other price cap carrier to serve areas within Minnesota, did not accept funding in either round for Minnesota, though within its multi-state territories it did accept $653,325 in Round 1 and $123,943,275 in Round 2.

CAF for Price Cap Carriers Phase II

The FCC continues to work on the cost model that will be used to determine funding levels in Phase II of CAF. 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) and that are not served by a competing, unsubsidized provider. Price cap carriers that elect to serve in a state will receive funding for a five year period. After the five year period, and 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.

CAF for Rate of Return Companies

In the short term, the FCC modified factors used in determining how much support these companies receive, capped the amount at $250 per line per month, and required the elimination of any artificially low end user voice rates over a three year period. The FCC continues to work on a long term, broadband-focused CAF mechanism. The prolonged transition to the new mechanism has meant uncertainty for the providers, a problem noted in a recent letter to the FCC from Senators Klobuchar and Franken ([letter](#)).

Mobility Auction

The FCC recognized that mobile voice and mobile broadband are increasingly important to consumers and to the American economy. Because the FCC views ubiquitous mobile coverage as a national priority,

it determined that it must provide funding for mobility directly and target it to areas that require public funding to receive the benefits of mobility. Phase I awarded up to $300 million in one-time funding through a competitive bidding process to carriers to deploy 3G service within two years or 4G service within three years to areas that lacked such service. Funding was through savings due to the USF reform. In Phase I, no carriers requested funding for areas within Minnesota. Phase I also included up to $50 million for Tribal areas. The Phase I Tribal mobility auction (Auction 902) is scheduled to be held on February 25, 2014.

Phase II of the Mobility Fund will provide $500 million annually for ongoing support of mobile services with up to $100 million dedicated to Tribal areas. Comments on Phase II of the Mobility fund were solicited through a Notice of Proposed Rulemaking issued on November 27, 2012. Comments were due December 21, 2012 and reply comments were due January 7, 2013.

E-Rate Reform

The Telecommunications Act of 1996 authorized the creation of the E-rate program. At that time, only 14 percent of schools had access to the Internet and 74 percent of those connections were via dial-up access. The E-rate program has been instrumental to ensuring that students and library patrons have the connectivity necessary to participate in the digital world. The FCC sees the challenge today as 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 and fair to those that pay into the universal service fund. With these goals in mind, on July 23, 2013, the FCC issued a Notice of Proposed Rulemaking (NPRM)[30] to modernize the E-rate program for schools and libraries. Comments were due September 16, 2013 and replies November 8, 2013. The August 13 meeting of the Task Force focused on library use of broadband and E-rate funding and included an update from the FCC on its E-rate reform proceeding.

Other Federal Activities

FirstNet

FirstNet is the First Responder Network Authority, authorized under the Middle Class Tax Relief and Job Creation Act of 2012 (Act), and created to build a high speed national 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. The Act allocated the necessary spectrum for a nationwide interoperable broadband network and provided $7 billion for public safety network build out. The FirstNet board was appointed in August 2012 and since that time has been working to hire staff, plan its activities and begin work with the states. A portion of the funding has been awarded to each state under the State and Local Implementation Grant Program to plan a governance structure and planning activities for integration into the nationwide network. In September 2013, Minnesota was awarded $2.3 million to help in planning for FirstNet. While there is an expectation that FirstNet will aid in the deployment of broadband in Minnesota beyond the first responder network,

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[30] http://www.fcc.gov/document/fcc-launches-update-e-rate-broadband-schools-and-libraries

for example, by additional towers being built or secondary users being allowed to access the network when it is not in use, it is unlikely that any increased availability attributable to FirstNet would occur prior to the 2015 deadline for achieving Minnesota's broadband goals.

ConnectED

ConnectED is President Obama's plan for connecting all schools to the digital age. In June 2013, President Obama announced the ConnectED initiative which will 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 President is calling on the FCC to modernize and leverage existing programs and the NTIA to use its expertise to deliver this connectivity. The ConnectED initiative will also invest in teachers to receive support and training in using education technology tools to improve student learning. The private sector is also encouraged to develop educational devices and software that are price competitive with textbooks and that unlock the full educational potential of broadband investment.

Executive Order on Broadband Deployment on Federal Property

In June 2012, President Obama issued an Executive Order to facilitate broadband deployment on Federal lands, buildings, and rights of way, federally assisted highways, and tribal and individual Indian trust lands. Under that Order, the President established a Broadband Deployment on Federal Property Working Group. In 2013, that Working Group released a "Dig Once" guide, a broadband inventory toolkit and launched a broadband projects platform on the Department of Transportation's Federal Infrastructure Projects Permitting Dashboard. More information can be found at http://www.fhwa.dot.gov/policy/otps/exeorder.cfm.

Connect2Compete

Connect2Compete (C2C) is a national, non-profit organization bringing together leaders from communities, the private sector and leading foundations to develop programs that assist people in gaining access to technology through digital literacy training, discounted Internet access and low cost computers. Connect2Compete has a 3-year goal of raising $20 million to help provide computers, Internet access, and training to Americans who are currently not connected. To be eligible for the program, a household must have at least one child receiving free lunch through the National School Lunch Program (NSLP); not have subscribed to Internet service through the C2C cable provider in their area in the last 90 days; and have no overdue cable bills or unreturned equipment issued by the cable provider. Qualifying families have the opportunity to purchase a reduced-cost desktop computer for $150, or laptop for $199 through GoodPC and reduced rate Internet service. The computers and Internet do not have to be purchased together to participate.

The Connect2Compete Program is undertaking a number of initiatives designed to maximize programmatic implementation and impact. These include

- **Outreach:** To drive awareness and relevancy of the program, Connect2Compete recently launched a three-year, multi-media, bilingual Ad Council campaign on the topic of digital inclusion called "EveryoneOn." The campaign will promote the importance of digital literacy

skills and increase access to free computer and Internet training classes. By calling 1-855-EVRY1ON or visiting the website (www.everyoneon.org), users have access to a zip code search tool to finding training classes in their area. In addition to enabling people to call and visit the Web site a texting campaign was used to promote internet use. Certain Task force members subscribed and receive monthly and sometimes daily texts informing them of Web sites they could visit to find certain information. Some of the topics included, job promotion, government resources, and benefits such as paying bills online, coupons, and connecting with family and friends.

- **ISPs:**
  - Cox recently announced that it will offer increased downstream speeds from 1Mbps to 5Mbps in the program. Cox also announced they will be launching in Roanoke, Oklahoma City, Southern Arizona, and Rhode Island.
  - A new national partnership was announced with Mobile Citizen and Mobile Beacon to offer all eligible Americans unlimited 4G Internet for $10/ month through the program. This offer will go live in November.
  - Qualified households in the Sprint network can now sign up for FreedomPop's EveryoneOn deal of a $29.99 one-time router fee and a plan of either 300MB/ month at no cost, or 2GB/ month for $19.99.
- **Pilots:** Recent pilots/ launches have included:
  - Macon, GA
  - Florida Literacy Council
  - Alamo College
  - California Emerging Technology Fund
  - New York City

Task Force 2013 Meeting Summary

The Task Force met 11 times in 2013 at various locations across the Minneapolis/St. Paul metropolitan area and in Greater Minnesota (Sandstone-Lake Lena, Red Wing, Alexandria, and Windom). To organize its work, the Task Force divided itself into subgroups around the areas of: Locations/Meeting Planning; Best Practices/Incentives; Broadband Adoption; Coordination Across Government/Monitor Impact of FCC & PUC Decisions/Cost of Broadband; and Wireless Broadband. (A complete list of subgroups is included in Appendix A.)

2013 Task Force Activities – Meeting Highlights

The Task Force heard from a wide range of broadband policy experts, stakeholders, and industry representatives at their meetings in 2013. A complete list of presenters can be found in Appendix B. (Please note: All interested parties can access Task Force meeting minutes, agendas and presentations at both the Connect Minnesota and Department of Commerce's web sites: www.connectmn.org/BBTaskForce and http://mn.gov/commerce/topics/Broadband/Governors-Broadband-Task-Force.jsp.)

Following is a brief summary of meeting highlights and presenters:

- January 2013, St. Paul, MN – Sen. Dan Sparks, Chair of the Senate Jobs, Agriculture and Rural Development Committee and Rep. Sheldon Johnson, Chair of the House Labor, Workplace and Regulated Industries Committee provided overviews of their committees and thoughts on broadband. Margaret Kelly, State Budget Director at the Minnesota Management and Budget Department (MMB), provided an overview of how the Governor's budget was developed and the line item for broadband in the Department of Commerce's budget.

- February 2013, St. Paul, MN - Roger Root with the Office of Telecommunity Development with MN IT @ the Minnesota Department of Human Services, along with several members of his team, provided an overview of how technology is used to deliver services provided by the Department. Task Force member Bao Vang gave an overview of her presentation of February 7, 2013 as a panelist at the Federal-State Joint Conference on Advanced Services 2013 Broadband Summit "Broadband Adoption and Usage—What Have We Learned."

- April 2013, Minneapolis, MN – Karly Werner of Comcast provided information on their Internet Essentials program; Joanna Hjelmeland of CenturyLink, provided information on CenturyLink's Internet Basics program; Dick Sjoberg, of Sjoberg's Cable, provided information on the Connect2Compete (C2C) program and the programs his company has offered under C2C; Mike Wynne, President and CEO of EMERGE, provided an overview of the career and technology training that EMERGE conducts in North Minneapolis; Bruce Thao, from Hmong National Development, a subsidiary of Hmong American Partnership, provided an overview of the organizations he is associated with and the specific challenges for the Asian and Pacific Islander populations with broadband adoption; and James DeSota provided an overview of the Broadband Access Project, which was funded through the Broadband Technology Opportunities Program (BTOP) , a part of the American Recovery and Reinvestment Act (ARRA) administered by the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce.

- May 2013, St. Paul, MN – Presentations on various healthcare uses of broadband by: Jennifer Fritz, Deputy Director, Office of Health Information Technology, Health Policy Division, Minnesota Department of Health; Dave Hemler, CEO, Revation Systems, Inc.; Peter Frank, Information Technology Director, MNSure; and, Sandy Long, PhD student in Health Informatics at the University of Minnesota.

- June 2013, Sandstone-Lake Lena, MN - Joe Nayquonabe of the Mille Lacs Band of Ojibwe provided an overview of broadband efforts and needs of the Tribe. He highlighted that the Task Force was meeting in Lake Lena, an underserved area of the state, and how broadband is and would be essential to the economic growth of the tribe. He shared tribal efforts to secure new business opportunities that would need broadband access to be successful. He, also, talked about generational differences related to the view of broadband connectivity and the need for digital literacy training and adequate connectivity for younger tribal members. Representatives

from the East Central Broadband Initiative provided an overview of their activities and suggested policy recommendations the Task Force might consider for inclusion in their annual report. Over the past months, the Initiative has conducted a regional "Summit" as well and a number of meetings with regional stakeholders and business leaders. They emphasized that their efforts need to be ongoing; that they must continue to raise awareness, do more "lobbying" and explore last mile solutions by working with existing providers.

- July 2013, Minneapolis, MN - Discussion of the new Office of Broadband Development with Robin Sternberg, Deputy Commissioner, Minnesota Department of Employment and Economic Development (DEED); Dick Sjoberg, Sjoberg Cable, Thief River Falls, MN, Steve Johnson, Midcontinent Communications, Cold Spring, MN, and David Pratt, Arvig Communication Systems, Perham, MN, all provided comments on their companies' process for making broadband investment decisions; Trent Clausen, Vice President of Local Engineering and Construction at CenturyLink, discussed the company's investment strategy.

- August 2013, Red Wing, MN - Neela Mollgaard, Executive Director of Red Wing Ignite, provided an overview of the Red Wing Ignite project; Mr. Thomas Cohen provided information on the Fiber to the Home (FTTH) Council and its initiatives; Minnesota State Senator Matt Schmit discussed legislation that resulted from the 2013 session that impacts broadband and potential ideas for the 2014 session. After adjourning the full Task Force, subgroups met in the Red Wing Ignite Building to discuss contributions to the year-end report. Red Wing Ignite held a community event attended by the Task Force during which Governor Mark Dayton offered remarks on the importance of the Ignite project and the work of the Task Force.

- September 2013, Alexandria, MN - Jennifer Nelson from State Library Services and Melinda Ludwiczak from Metropolitan Library Service Agency gave presentations to explain how libraries have responded to the digital landscape roles they will play in the future; Peg Werner from Viking Library System explained how resources are leveraged to enable the library systems to provide community digital resources; Regina Brown, Telephone Access Policy Division, Wireline Competition Bureau of the Federal Communications Commission joined the Task Force meeting by telephone to provide an overview of the FCC's E-rate Notice of Proposed Rulemaking.

- October 2013, Windom, MN – An overview was provided of the ARRA funding for broadband through both the BTOP program administered by NTIA and the Broadband Improvement Project (BIP) administered through the Rural Utilities Service (RUS) of the U.S. Department of Agriculture. Lyle MacVay from the Northeast Service Cooperative (NESC) middle mile BIP project, Dan Olsen for the Southwest Minnesota Broadband Service BIP program, and Bernadine Joselyn for the Minnesota Intelligent Rural Communities (MIRC) BTOP project provided specifics on their programs. AT&T's Paul Weirtz and Cory Draack discussed their company's private investment in Minnesota over the last several years, highlighting long term evolution (LTE) deployment for delivering broadband services.

- November 2013, St. Paul, MN – The satellite industry, represented by Lisa McCabe from the Satellite Communications and Broadcasting Association, Dan Reno from Hughes Network Systems and Steve Shute from ViaSat, provided an overview of the satellite broadband services available in Minnesota and offered a live demonstration of those offerings. Tom Garrison, communications director for the city of Eagan and chair of the League of Minnesota Cities telecomm task force, provided an overview of the League's recommendations for moving towards the development of a broadband plan. Mike Reardon, President of the Minnesota Association of Community Telecommunications Administrators, provided information emphasizing local government's role in broadband deployment.

In addition to monthly meetings, Task Force members participated in numerous teleconference and webinars as members of the aforementioned subgroups. The results of the subgroup activities are presented later in this report. The Task Force, also, was actively engaged in numerous legislative activities during the 2013 Minnesota Legislative Session.

Task Force Focus Areas

Broadband Adoption

The Broadband Adoption sub-group continued to meet through-out 2013 to continue efforts to identify and promote broadband adoption efforts. As stated on page 19 of this report, data shows that 78 percent of Minnesota households subscribe to home broadband. This is a six percent growth in adoption from the 2011 Residential Survey results. This sub-group made minor modification to the whybroadband.org web site. It also discussed and documented a number of ways in which the site could be promoted but has not yet implemented those ideas. Promotional ideas included targeted outreach, use of Connect Minnesota

> *Data shows that 78 percent of Minnesota households subscribe to home broadband. This is a six percent growth in adoption from the 2011 Residential Survey results.*

blogs, and partnering with community access organizations. The group continued to capture programs and areas of focus across the state that are working to improve digital literacy. A list of these programs is included below.

Bernadine Joselyn of the Blandin Foundation, a member of the Task Force's Broadband Adoption sub-group, was asked to testify before the U.S Senate Committee on Commerce, Science, and Transportation's Subcommittee on Communications, Technology, and the Internet on October 29, 2013

in Washington D.C. The hearing, titled *Broadband Adoption: The Next Mile*[31], focused on broadband adoption efforts in different parts of the country and Ms. Joselyn delivered a number of key messages based on the Foundation's work in Minnesota. Among the highlights:

- Broadband is the indispensable infrastructure of the 21st century
- Rural communities need broadband access, and the ability to use it, in order to thrive – and even survive – in an ever more globalized world
- Involve citizens directly in articulating their community's broadband adoption and utilization goals to catalyze long-term engagement needed to increase adoption
- Eliminating the digital divide is an urgent challenge that must be part of our national agenda. States and communities need the federal government and its resources as a partner in this work

The complete testimony offered by Ms. Joselyn is available at the following link: http://blandinfoundation.org/_uls/resources/Blandin_Foundation_written_testimony_with_graphics.pdf

As mentioned above, the Task Force identified a number of organizations working to improve digital literacy through the implementation of various programs and areas of focus across the state. These programs include but are not limited to the following.

- **2013 activities to promote digital literacy in Minneapolis[32]**
  For those who don't have access to the Internet, or who don't know how to use it, it can be difficult to get by in today's digital environment. Applying for a job, paying a bill, or getting education online can be a challenge without the Internet. Minneapolis recognizes the need for our residents to be digitally literate if they are going to have success in the future. That's why Minneapolis kicked off a series of activities to promote digital literacy in 2013.

- **Adult Basic Education (ABE)**[33] is available state wide at no cost to adult learners and is administered through the Minnesota Department of Education

- **Community Technology Empowerment Project (CTEP) AmeriCorp[34]**
  The AmeriCorps Community Technology Empowerment Project bridges the digital divide for recent immigrants and low-income communities in Minneapolis and St. Paul, Minnesota. AmeriCorps members help youth and adults use technology to better access social, civic, educational, and economic opportunities.

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[31] The oral testimony is at 36:36 and the response to questions from Sen. Klobuchar is at 1:10:37 at the following link:. http://www.commerce.senate.gov/public/index.cfm?p=Hearings&ContentRecord_id=6e1aa0a5-f079-477c-b493-e0a58cef1b19&ContentType_id=14f995b9-dfa5-407a-9d35-56cc7152a7ed&Group_id=b06c39af-e033-4cba-9221-de668ca1978a&MonthDisplay=10&YearDisplay=2013
[32] www.ci.minneapolis.mn.us/news/WCMS1P-105456
[33] w20.education.state.mn.us/AdultBasicEdFinder/
[34] wip.technologypower.org

- **Computer commuter program in Lac Qui Parle County[35]**
  The LqP Computer Commuter is a mobile computer lab that tours Lac qui Parle to provide computer training and assistance to residents and local businesses especially in the communities of Bellingham, Boyd, Dawson, Madison, Marietta and Nassau.

- **Connected Nation's Every Community Online Project [36]**
  Allows any Minnesotan the ability to access self-paced online digital literacy training, and provides access to information on discounted access to broadband from participating providers and discounted, refurbished computers.

- **Digital Inclusion Fund (Minneapolis Foundation/City of Minneapolis)[37]**
  The Digital Inclusion Fund is designed to increase technology access and skills among non-traditional users of technology in Minneapolis, including people with disabilities, people of color, low-income individuals, new immigrants, displaced workers, seniors and others.

- **Free Geek Twin Cities[38]**
  The mission at Free Geek Twin Cities is to reuse or recycle computers and to provide access to computers, the Internet, education and job skills in exchange for community service.

- **Learners Web – Minnesota Literacy Council[39]**
  Their mission is to share the power of learning through education, community building and advocacy

- **Libraries** – there are about 360 public library buildings in Minnesota[40].
  Public libraries are playing a vital role in bridging the digital divide, the gap between "haves" and "have nots" in the digital age. The majority of libraries in Minnesota provide free access to workstations and Internet services to those who could not otherwise access these resources. In addition, public libraries also provide training and assistance to those who lack technology skills or who have difficulty using Internet services.

- **Minnesota Computers for Schools[41]**
  In partnership with the Minnesota Correctional Facility - Stillwater, Minnesota Computers for Schools trains inmates at the facility to refurbish and upgrade computer hardware donated by businesses. Components that are not refurbished are recycled. The refurbished systems provide affordable technology solutions for Minnesota K-12 public, private and charter schools, educational nonprofit organizations serving disadvantaged youth and students with special needs.

- **Minnesota Intelligent Rural Communities (MIRC) Project** – funded by the U.S. Department of Commerce through the Blandin Foundation to increase broadband adoption and digital

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[35] www.lqpeda.com/broadband-initiative/computer-commuter
[36] www.connectednation.org/low-cost-computers
[37] digitalinclusionfund.tmfportal.org/default.aspx
[38] freegeektwincities.org
[39] www.mnliteracy.org/educators/adult/technology/blog
[40] www.publiclibraries.com/minnesota.htm
[41] www.mncfs.org

literacy. [42] A MIRC partners map is also available[43]. The MIRC project has concluded and the Blandin Foundation has created a new program: **Blandin Community Broadband Program** - Blandin Foundation Trustees have dedicated $1.5 million in 2013-2014 to support community-based broadband adoption activities in rural Minnesota. See: www.blandinfoundation.org

- **Minnesota Learning Commons[44]**
  This organization was created to provide access to effective and efficient online learning. The public education partners include Minnesota State Colleges and Universities, University of Minnesota and Minnesota Department of Education along with Public K-12 schools. The partnership also enhances the collaborative efforts of faculty, administration and staff by providing free relevant online resources. This site references a Digital Literacy site[45].

- **Northstar Digital Literacy Project [46]**
  Defines basic skills needed to perform tasks on computers and online. The ability of adults to perform these tasks can be accessed through online, self-guided modules. Included are basic computer digital literacy standards and modules in six main areas: Basic Computer Use, Internet, Windows Operating System, Mac OS, Email, and Word Processing (Word).

- **PCs for People[47]**
  PCs for People is a 501(C)(3) non-profit corporation with offices in St. Paul and Mankato, MN. PCs for People takes donated computers and rebuilds, refurbishes and redistributes them to people with limited access to technology. PCs for People provides educational experience, work training, internships, as well as volunteer opportunities.

- **Saint Paul Community Literacy Consortium[48]**
  The Saint Paul Community Literacy Consortium empowers the community by building literacy in a collaborative, inclusive, comprehensive manner. Enhanced literacy and improved basic skills support a high quality of life by providing preparation for meaningful employment and higher education, fostering better K12 outcomes and stronger families, and supporting economic development.

- **Technology Literacy Collaborative (TLC)[49]**
  TLC is a network of digital inclusion supporters committed to sharing best practices, advocating for technology literacy skills and access, and promoting collaborative efforts. The mission of the TLS is to promote digital inclusion.

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[42] broadband.blandinfoundation.org/_uls/resources/MIRC_Year_1_Retrospective_Version_4_FINAL.pdf
[43] broadband.blandinfoundation.org/_uls/resources/MIRCMap.pdf
[44] www.mnlearningcommons.org
[45] www.digitalliteracy.project.mnscu.edu
[46] www.digitalliteracyassessment.org
[47] www.pcsforpeople.com/index.php
[48] spclc.org/programs/digital-literacy-standards
[49] tlc-mn.org

Coordination Across Government/Monitor FCC & PUC Decisions/Cost of Broadband

The role of this subgroup is to monitor broadband related activities at the federal and state levels and stay apprised on the cost of deploying broadband under the various technologies.   While Connect America Funding and hearings on E-rate punctuated the year at the federal level, the gridlock in Congress and the transition to a new chair at the FCC made it a slow year for regulatory and policy decisions at the national level.

With the appointment of Tom Wheeler to replace Julius Genachowski as the new Federal Communications Commission's chair, more movement in 2014 is expected. In his first policy speech as Chair, at The Ohio State University on December 2, 2013, Chair Wheeler noted that we are living in the fourth great network revolution (the first three being the printing press, the railroad and the telegraph) and that the new information network is the new economy. He described accessibility as one of the three key elements to what he calls the Network Compact:

> On accessibility, there is nothing more fundamental to the FCC's work than ensuring every American has access to our wired and wireless networks. We've got some work to do. According to the latest survey data, about 70 percent of Americans have adopted basic broadband service. When you add in smartphone subscribers, about 80 percent of Americans can get online at home. But having a significant percentage of Americans bypassed by the Internet revolution is unacceptable. We can't maximize economic growth and job creation when 20 percent of our population is cut off from the digital economy at home. In addition, 15 million Americans live in areas where they can't get wireline broadband, even if they wanted it. We also will have failed as a nation if our schools aren't capable of providing a 21st century education. A recent survey of school teachers and administrators found that 80 percent felt there wasn't network bandwidth available to them to meet their educational needs. That's why the Commission is improving our universal service programs, including the eRate program for schools and libraries. We are modernizing a program originally conceived to deliver plain old telephone service into programs to ensure broadband access to all Americans, including American schools.

Given this Task Force's own work on making broadband available to Minnesotans, it is looking forward to FCC actions to improve accessibility in 2014 and beyond.

At the state level, it is anticipated that the 2014 legislative session may signal a period of greater activity. Sen. Matt Schmit of Red Wing is holding meetings around the state, listening to citizens describe why they need broadband and the uses it is targeted for in rural Minnesota to contribute to the state's economic success.

Minnesota is not making progress towards its national speed ranking, and Sen. Schmit plans to ask for legislation that will propel the state to new advances in border-to-border broadband.

Mobile/Wireless Broadband

Recognizing the surging popularity of mobile broadband in Minnesota[50], the growing reliance on mobile broadband by certain population groups, particularly low income and people of color[51] and the significant use of mobile broadband by businesses in the state[52] this subgroup continues to study policies that Minnesota can embrace to encourage the rapid build out of wireless broadband networks to all corners of the state.

The chart below shows the rapid increase in popularity of smartphones nationally. Connect Minnesota's research shows that Minnesotans are similarly using their smartphones to access the Internet: in the 2011 residential technology assessment, 39 percent of adult Minnesotans use the Internet on their cell phones or subscribed to a mobile broadband plan. In the 2012 assessment, that number had increased twelve percent to 51% of adult Minnesotans. The 2013 assessment is due out shortly and if a similar increase is seen, the state results will be comparable to the national results from the Pew spring survey in the chart.
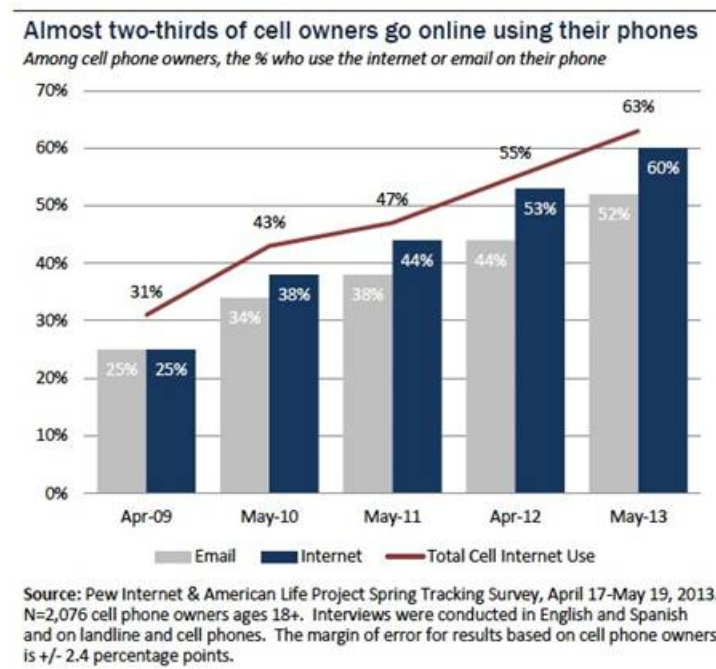

Almost two-thirds of cell owners go online using their phones
Among cell phone owners, the % who use the internet or email on their phone

Source: Pew Internet & American Life Project Spring Tracking Survey, April 17-May 19, 2013. N=2,076 cell phone owners ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. The margin of error for results based on cell phone owners is +/- 2.4 percentage points.

Figure 5

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[50] See Connect Minnesota March 2013 white paper *The Growth of Mobile Internet* at http://www.connectmn.org/policy

[51] See Connect Minnesota residential broadband survey results at http://www.connectmn.org/survey-results/residential

[52] See Connect Minnesota September 2013 white paper *Mobile Internet Use by Minnesota Businesses* at http://www.connectmn.org/policy

Specific policies to support the build out of the wireless broadband infrastructure in Minnesota are included in the Policy Recommendations at the end of this report and include tax incentives to ensure that Minnesota is an attractive state for technology investment. A study done by Dr. Raul Katz for the Broadband Tax Institute, a telecom industry-funded public policy organization concluded there is direct correlation between lower sales taxes on initial equipment purchasing and broadband investment. Simply put, this tax incentive represents a business-friendly policy that attracts private investment in technology.

Incentives/Best Practices

The Incentives/Best Practices subgroup worked to develop the recommendations that are found in the next section of this report.

Task Force Priorities In 2014

The Task Force intends to focus on a variety of key issue areas in 2014 in order to keep the state's focus on moving forward and being a leader in broadband. Three areas that will receive specific review include:

- The appropriateness of the current state broadband speed goals
- Examining the development of advanced and/or gigabit networks
- The affordability of broadband services

Policy Recommendations

The following legislative recommendations were viewed by the Task Force as being important and necessary if the state is to reach the goals outlined in statue by 2015.

- Restore the Sales Tax Exemption on Central Office Equipment
- Continue Connect Minnesota Mapping Project
- Establish a broadband infrastructure grant fund
- Identify and leverage existing economic development tools to provide adequate funding to help bridge the gap between what is financially feasible and the actual costs of providing broadband that meets the state goal
- Create an Office of Broadband operating fund to promote broadband adoption and use

The Task Force also highlights these additional recommendations for consideration:

- Increase funding for the Telecommunications/Internet Access Equity Aid per student funding amount as well as the Regional Library Telecommunications Aid (RLTA) program, encourage fiber construction and providing access to underserved populations
- Minn. Stat. § 237 should be reviewed due to changes in technology and many components of the law are obsolete
- Explore creation of a state-based fund that would help pay for connectivity services for low-income populations

I.   Legislative Recommendations and Priorities

- **Restore the Sales Tax Exemption on Central Office Equipment**

  $41.7 million FY14-15; $82.2 million FY16-17

  The sales tax exemption allowed Internet Service Providers to buy head end/central office equipment without having to pay state sales tax on the purchases. It was repealed during the 2013 legislative session. This repeal goes counter to the state legislative goals of ubiquitous broadband and specified speed goals – the goals will be harder to meet as a result of the repeal. The Task Force strongly recommends that the exemption be re-instated to provide a catalyst for expansion of broadband in Minnesota. Governor Dayton has publically announced he is in favor of restoring the sales tax exemption for central office equipment, pending the February revenue forecast. It should be remembered that each $100,000,000 in investment is reduced to $93,015,000 by the effect of the sales tax. The lack of the exemption also has an adverse effect on achieving the state's broadband ubiquity goal. The areas that remain to be served are in the lowest density, most costly to serve areas. The repeal has made these areas 6.875% more expensive to build, further lowering their attractiveness for investment.

  The Task Force would also note that on November 23, 2013, the National Conference of State Legislators Task Force on State and Local Taxes adopted a resolution recommending that states that wish to encourage broadband deployment exempt communications network equipment from the sales and use tax.[53]

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[53] After multiple hearings and discussions, the NCSL Task Force on State and Local Taxation unanimously adopted the "Resolution on Communications Network Equipment Exemption" on November 23, 2013 at the Turnberry Isle Hotel in Aventura, Florida during the Fall Task Force meeting held November 22-23.

- **Continue Connect Minnesota Mapping Project**
  $830,000 FY15; $1.66 million FY16-17

  Connect Minnesota, with ARRA funding, has been mapping the deployment of broadband in Minnesota since 2010. The funding is used to collect broadband deployment data voluntarily (with greater than 95 percent participation) from providers bi-annually, compile the data for submission to the NTIA for inclusion on the National Broadband Map, and create and update the various state and county maps available at the website www.connectmn.org. Field engineering staff works to verify the accuracy of the data that is submitted by providers via on-ground testing of broadband service and responds to inquiries regarding the accuracy of the map. A portion of the ARRA funding is also used to conduct annual business and residential surveys that measure broadband adoption and economic impact to better understand and document use or non-use of broadband by Minnesota residents and businesses. Connect Minnesota, also, provides statewide and county level broadband analysis that measures the availability and speed of broadband across the state, including at the state speed goal.

  The data gathering and mapping project currently conducted by Connect Minnesota under ARRA funding should be continued for two more years to guarantee that the state has the ability to measure Minnesota's progress towards its state broadband speed goals, to ensure continuity in the existing method for determining that progress, and as a gap filler while the FCC initiates its replacement mapping program for measuring broadband deployment results. The Task Force has concerns that the unproven FCC process may not be adequate during this critical time for Minnesota as we approach the 2015 deadline for the measurement of the Legislative goals. The recent federal shut-down further points out the importance of Connect Minnesota's continuity and contributions. The two year funding would provide a critical bridge during the transition. In addition, the federal requirements do not take into account measuring at the state speed goal or examining broadband adoption and use – services that would continue to be provided by Connect Minnesota.

- **Establish a broadband infrastructure grant fund**
  $100 million FY15

  The State of Minnesota should establish a new matching grant funding program for the provision of broadband infrastructure to targeted areas identified as unserved or underserved by broadband at the state speed goal using Connect Minnesota data. This new grant program would be specifically designated for broadband infrastructure and under the direct supervision of the Office of Broadband Development. The Office of

Broadband Development will work with public and private sector partners to implement the program.

Using data from Elert and Associates as included in the September 2012 Task Force report regarding cost per household passed to provide broadband,[54] the Task Force estimates it would cost between $900 million and $3.2 billion to provide a wired broadband service to every household in Minnesota currently not meeting the state speed goals. Using a one-time surplus funding to establish a dollar-for-dollar matching grant program could result in well over 100,000 households receiving broadband service at the state speed goals.

- **Identify and leverage existing economic development tools, federal and/or state, to provide funding to help bridge the gap between what is financially feasible and the actual costs of providing broadband that meets the state goal**

  Identify areas that are unserved or underserved by broadband at the state speed goal using resources available from Connect Minnesota data. The Office of Broadband Development will work with public and private sector stakeholders to estimate the cost of providing service to targeted areas; and identify existing funding mechanisms (direct loans, loan guarantees, bond pooling and/or other financial incentives) that could be employed to aid in the provision of service to these areas.

- **Create an Office of Broadband operating fund to promote broadband adoption and use**

  Provide programmatic funding, the amount to be determined between the legislature and the Office of Broadband Development, that will allow the Office to advance and support programs and projects aimed at promoting broadband adoption and use. Work this year has led the Task Force to conclude that investments in people, education and training are essential to achieve meaningful use of the Internet. Without concerted focus on broadband adoption, investments in infrastructure will be less likely to generate public benefits. The Task Force believes that the Office of Broadband Development will be, in its second year, the appropriate state entity to coordinate a direct funding or grant making system that will allow it to establish a process that will encourage greater broadband adoption and address concerns related to the digital divide in Minnesota.

  Specific recommendations relating to broadband adoption efforts include:
  - Funding to maintain, support and market the website whybroadband.org
  - Funding focused on community broadband adoption efforts
  - Coordinate public/private partnerships for adoption and digital literacy programs

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[54] Minnesota Broadband Plan Outline, p. 20

- Encourage providers to partner with the Office at various venues to promote broadband adoption
- Allow the Office to provide demonstrations of technology to show what is possible in various professions

II.   **Additional Legislative Recommendations**

- **Increase funding for the Telecommunications/Internet Access Equity Aid per student funding amount as well as the Regional Library Telecommunications Aid (RLTA) program, encourage fiber construction and providing access to underserved populations**

  As schools become more reliant on technology to deliver core educational services including standardized testing, access to research resources digital text books and multi-media curriculum delivery, the need for bandwidth is increasing exponentially. The Minnesota Telecommunications/Internet Access Equity Aid program provides school districts and charter schools with financial assistance to help with the costs of maintaining Internet access, video connectivity and related telecommunications services. A formula is used to determine how much per student the school receives and limits funding use. The MN Department of Education website acknowledges that most Minnesota schools do not have adequate broadband access.[55] Public libraries serve an important role in supporting the efforts of schools by providing help with research, homework help and access to the Internet for students that do not have access at home as well as providing Internet access to a significant portion of adults in many communities. In addition to Internet access, public libraries provide training in traditional computer skills as well as tablets, readers and smart phones. The general public often relies on public librarians to support them through complex Internet searches. The Minnesota Library Association also acknowledges that most libraries do not have adequate broadband access. The Task Force recommends that more money be allocated to both of these programs. High availability of fiber optics is important for the provision of broadband to businesses and residents as well as public entities and is the most easily scaled to deliver increased broadband speeds and capacity.

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[55] http://education.state.mn.us/MDE/SchSup/SchTech/index.html

- **Minn. Stat. § 237 should be reviewed due to changes in technology and many components of the law are obsolete**

  Governor Dayton has called for the 2014 Legislative session to be an "unsession" that focuses on removing obsolete and redundant statutes. In that spirit the Task Force recommends that Minn. Stat. §237 be reviewed.

- **Explore creation of a state-based fund that would help pay for connectivity services for low-income populations**

  Programs like Connect 2 Compete (C2C), Internet Essentials, Internet Basics, etc., work to ensure low income families will not be left out of the social, economic and educational benefits of broadband. While private sector initiatives, these programs build on the universal service concept seen in publicly funded telecommunications programs such as Lifeline at the federal level[56] and the Telephone Assistance Plan at the state level[57]. Additional examples include the federal Low Income Heating Assistance Program (LIHEAP)[58] and the Salvation Army Heat Share program[59].

  Programs that provide free equipment as well as reduced cost Internet service have had the best results as even a $150 computer can often be out of the reach of some families. A small state-level investment would pay great dividend in improving people's lives. A recent study by Ericsson, Arthur D. Little and Chalmers[60] found that when households go from having no broadband access to broadband at 4Mbps, households gain $2,100 in income annually. The study indicates that broadband boosts personal productivity, allows for more feasible work arrangements, allows people to become more informed, and increases competitiveness in the workforce.

  The Office of Broadband Development, working with state policy makers, will create a feasibility report on the establishment of a state based "Minnesota Connectivity Fund" seeded by public funding and that would possibly accept donations from private citizens, non-profit groups, businesses, and other funding sources.

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[56] http://www.fcc.gov/lifeline
[57] http://www.puc.state.mn.us/puc/consumers/telephone-discounts/index.html
[58] http://www.acf.hhs.gov/programs/ocs/programs/liheap
[59] http://salvationarmynorth.org/programs-that-help/basic-needs/heatshare/
[60] http://www.ericsson.com/news/130918-measuring-and-analyzing-the-impact-of-broadband-on-income_244129227_c

Appendix A

Locations Subgroup
Bernadine Joselyn*
Maureen Ideker
Bao Vang
Paul Weirtz

Best Practices/Incentives Subgroup
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Bao Vang
Duane Ring
Maureen Ideker
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Fred Underwood

Broadband Adoption Subgroup
Shirley Walz*
Steve Lewsader
Bernadine Joselyn
Gary Evans
Matt Grose
Dan Richter

Coordination Across Govt./Monitor FCC & PUC Decisions/Cost of Broadband Subgroup
Gary Evans*
Duane Ring
Steve Lewsader
Matt Grose
Andrea Casselton

Mobile/Wireless Broadband Subgroup
Paul Weirtz*
Dick Sjoberg
Dan Richter
Shirley Walz
Fred Underwood

*Denotes subgroup leader

Appendix B

Governor's Task Force on Broadband—List of Testifiers in 2012

<u>January 29, 2013</u>
Sen. Dan Sparks, Chair of the MN Senate Jobs, Agriculture and Rural Development Committee
Rep. Sheldon Johnson, Chair of the House Labor, Workplace and Regulated Industries Committee
Margaret Kelly, State Budget Director, Minnesota Management and Budget

<u>February 19, 2013</u>
Asst. Commissioner Loren Colman, MN Department of Human Services
Roger Root, Office of Telecommunity Development, MN-IT

<u>April 23, 2013</u>
James DeSota, Urban Research and Outreach-Engagement Center
Karly Werner, Comcast
Joanna Hjelmeland, CenturyLink
Mike Wynne, CEO of EMERGE
Bruce Thao, Hmong National Development

<u>May 14, 2013</u>
Jennifer Fritz, Deputy Director, Office of Health Information Technology, Health Policy Division, MN
Department of Health
Dave Hemler, CEO, Revation Systems, Inc.
Peter Frank, Information Technology Director, MNSure
Sandy Long, PhD student in Health Informatics at the University of Minnesota

<u>June 11, 2013</u>
Joe Nayquonabe, Commissioner of Corporate Affairs, Mille Lacs Band
Diane Gibbs, Mille Lacs Band District III (Lake Lena) Representative
Roxy Traxler, Mille Lacs County Administrator
Dave Minke, Pine County Administrator
Wayne Gilman, Superintendent of Pine City Schools
Doyle Jelsing, Peoples National Bank of Mora
Steve Hallan, Pine County Commissioner
Al Hemming, Mille Lacs Band

<u>July 24, 2013</u>
Andrew Schriner, CenturyLink
Al Juhnke, Office of Sen. Al Franken, U.S. Senate
Robin Sternberg, Deputy Commission, MN Department of Employment and Economic Development
Steve Johnson, Midcontinent Communications
David Pratt, Arvig
Trent Clausen, CenturyLink

<u>August 13, 2013</u>
Neela Mollgaard, Executive Director, Red Wing Ignite
Thomas Cohen, Kelley Drye

Sen. Matt Schmit, Minnesota Senate

September 10, 2013
Mayor Sara Carlson, City of Alexandria
Jennifer Nelson, MN State Library Services
Melinda Ludwiczak, Metropolitan Library Service Agency
Peg Werner, Viking Library System
Regina Brown, Telephone Access Policy Division, Wireline Competition Bureau of the FCC
Kim Babine, Director, Government Affairs, MN Department of Employment and Economic Development
Gail Hedstrom, Elbow Lake Public Library

October 1, 2013
Greg Warner, Windom Business, Arts and Recreation Center (BARC)
Lyle MacVay, Northeast Service Cooperative
Dan Olsen, Windomnet
Bernadine Joselyn, Blandin Foundation
Paul Weirtz and Cory Draack, AT&T

November 12, 2013
Lisa McCabe, Satellite Communications and Broadcasting Association
Dan Reno, Hughes Network Systems
Steve Shute, ViaSat, Inc.
Mike Reardon, MACTA
Tom Garrison, League of Minnesota Cities