

# Annual Report

December 15

# 2014

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

**Governor's  
Task Force on  
Broadband**

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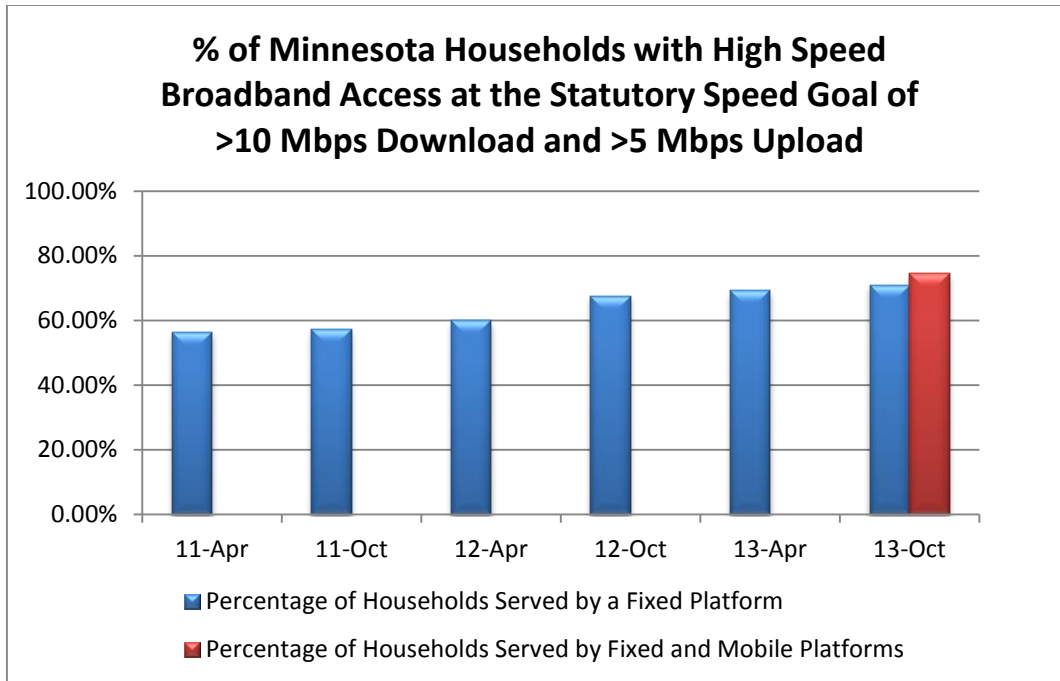
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## Executive Summary

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.

This report, the Task Force’s fourth such annual report, highlights legislative activity in 2014 that impacted broadband, provides information on the state’s progress towards meeting the broadband goals contained in Minn. Stat. 237.012, notes the results of residential and business surveys on the use of broadband in the state, continues reporting on the status of the various American Recovery and Reinvestment Act (ARRA) funded broadband projects, explains federal level activity effecting broadband, and makes recommendations for legislators and policymakers to consider in 2015 and beyond.

Detailed information on measures used to determine availability of broadband are included in this report. Minnesota’s broadband goal tied to universal accessibility provides that, “It is a state goal that as soon as possible, but no later than 2015, all state residents and businesses have access to high-speed broadband that provides minimum download speeds of ten to 20 megabits per second and minimum upload speeds of five to ten megabits per second.” With data filed by Connect Minnesota in October 2014, an estimated **XXXX percent** of Minnesota households have such broadband speeds available via wireline providers and **XXXX 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 **XX percent** since this measure was initially tracked in April 2011.



Source: Connect Minnesota

(NOTE - NEW GRAPH TO BE INSERTED ABOVE WHEN STATS ARE AVAILABLE)

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 19<sup>th</sup> in the country.<sup>1</sup>
- Regarding broadband adoption, Minnesota ranks 5<sup>th</sup> nationally for home broadband adoption, but it is difficult to compare that ranking internationally.<sup>2</sup> That said, by international standards, Minnesota would have ranked ahead of the Ukraine (37<sup>th</sup> place) and behind the Bahamas (38<sup>th</sup> place) for broadband adoption compared to other countries and using an Akamai measure of the number of connections at or above 4 Mbps out of all connections in that country/state according to Akamai’s report tracking worldwide broadband growth from second quarter 2014.

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

<sup>1</sup> [http://www.akamai.com/stateoftheinternet/?WT.mc\\_id=soti\\_banner](http://www.akamai.com/stateoftheinternet/?WT.mc_id=soti_banner)

<sup>2</sup>

[http://www.ntia.doc.gov/files/ntia/publications/exploring\\_the\\_digital\\_nation\\_embracing\\_the\\_mobile\\_internet\\_10162014.pdf](http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_embracing_the_mobile_internet_10162014.pdf)

legislators give serious consideration to advancing our recommendations to further the deployment and adoption of broadband. They include:

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The Task Force looks forward to working with policy makers and legislators in 2015 to build on the work we have done and to advance policies and initiatives to 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

Angie Palmer, Lake County

## 2014 Legislative Activities and Outcomes

The Task Force, in January 2014, released their "[2013 Annual Report](#)" that included recommendations for policy makers and stakeholders to consider in efforts to increase broadband availability, adoption, and use.

During the 2014 Legislative Session, **XXXXXX (summary of events)**.

The Task Force views as extremely positive the establishment of the Infrastructure Grant Fund, yet its members still believe there is more that must be done by policy makers to ensure Minnesota makes progress towards the state's broadband goals. Later in this report the Task Force presents a number of policy recommendations for consideration by the Governor, legislators and stakeholders. We look forward to working with policy makers in 2015 to advance our shared goals for Minnesota's broadband future.

## State of Broadband 2014 – 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:

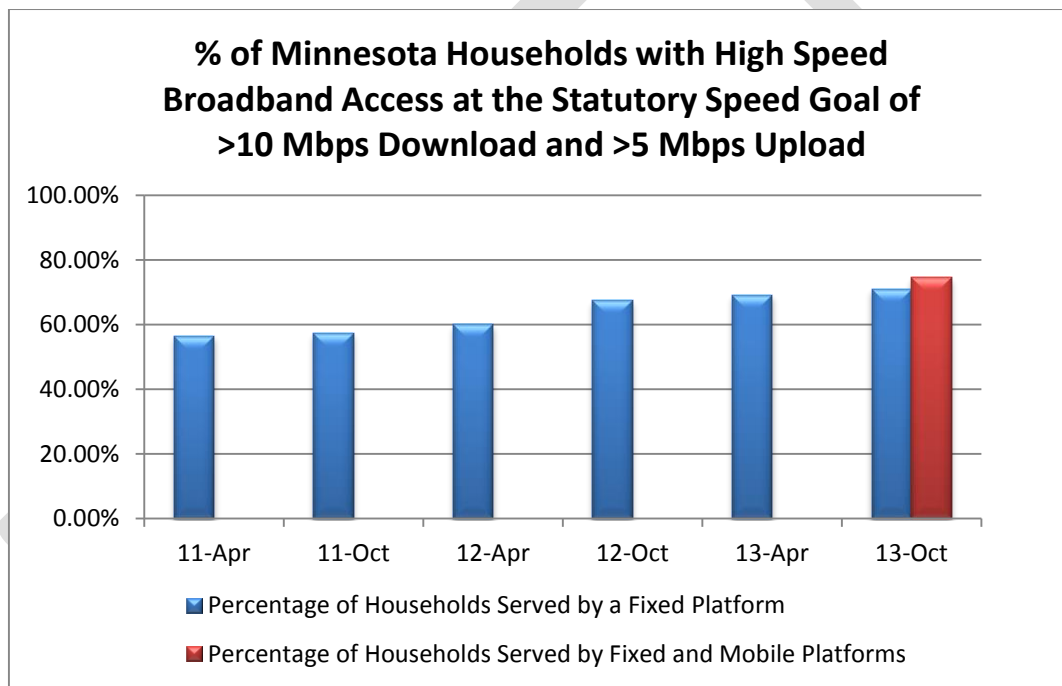
*Universal access and high speed deployment as soon as possible, but no later than 2015 all state residents and businesses have access to broadband service that provides a minimum download speed of 10 to 20 megabits per second and minimum upload speed of five to ten megabits per second.*

*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.*

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 **XXXX** largely rural households, remain underserved compared to state goals.<sup>3</sup>

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 2014 data show an estimated **XXX** percent of Minnesota households have such broadband speeds available via wireline providers and **XXX** percent if wireless service is also considered. The October 2014 data show an increase of over **XXX** percentage points since October 2013; and an overall increase of over **XXX** 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 40 months (**INSERT NEW UPDATES CHARTS BELOW**):



	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%
Percentage of Growth	0.00%	0.96%	3.48%	5.13%	12.75%	14.60%

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

<sup>3</sup> There are **XXX** rural households in Minnesota under the NTIA’s definition of rural; **XXX** percent are unserved at the state speed goals, or **XXX** households.

NOTE - DO WE INCLUDE ANY 10/5 MAP or DATA ????

The following Connect Minnesota October 2014 maps provide a view of: 1) statewide availability at the statutory speed goals, indicating underserved areas, including mobile<sup>4</sup>; 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.

(INSERT VARIOUS MAPS IN FOLLOW PAGES)

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<sup>4</sup> 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.

### 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 still 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 and understand due to the very complicated delivery methods and uses.

The latest availability data show the following key findings:

- XXXX 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, XXXX 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. (NOTE – if include 10/5 might not need 10/3)
- 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 XXXX percent of Minnesota households (includes mobile service). Excluding mobile broadband service, XXXXX percent of Minnesota households have access at the 4 Mbps/1 Mbps speed levels. Broadband service at the 4Mbps/1Mbps is included here because it is a factor for determining an area’s eligibility for federal Connect America Fund support and the state’s infrastructure grant fund eligibility.

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 2014.

### Top Ten States in 2Q2014 in Average Broadband Connection Speed

Rank	State	2Q 2014 Avg. Mbps
1	Delaware	16.2
2	Virginia	14.6

3	Washington	14.2
4	District of Columbia	13.9
5	Massachusetts	13.8
6	Connecticut	13.7
7	Rhode Island	12.9
8	New Hampshire	12.8
9	Utah	12.8
10	Oregon	12.8
...		
19	Minnesota	11.6

**Figure X: 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 11.6, (up from 8.4 Mbps in second quarter 2013 when it ranked 23<sup>rd</sup>), placing the state 19<sup>th</sup> amongst the states. As noted in previous reports, Akamai measures the average connection speed being used (subscribed to) by customers. Thus it is a reflection of what customers choose to purchase and not necessarily the speeds that are available. As shown by the increase in average connection speed of 8.4 Mbps in second quarter 2013 to 11.6 Mbps in second quarter 2014, the average connection speed has increased and at a slightly greater rate than a few other states in order to enable Minnesota to move up from 23<sup>rd</sup> place to 19<sup>th</sup> place.

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 2013, Minnesota’s ranking was tied for 13<sup>th</sup> place. When looking at data collected by the FCC’s Form 477<sup>5</sup>, where for speeds at least 200 kbps upload and 3 Mbps download, as of December 31, 2013, Minnesota is tied with Alabama with the 23<sup>rd</sup> 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 tied for 18<sup>th</sup> with Colorado and Michigan 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 used a consistent resource for measuring where Minnesota ranks

<sup>5</sup> [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2014/db1016/DOC-329973A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db1016/DOC-329973A1.pdf)

internationally as it is difficult to find a reliable comparative source. That said, by international standards, the United States as a whole did not rank in the top ten with its 72 percent (see table below). Minnesota, with its 71 percent adoption rate as measured by Akamai, would have ranked between 37<sup>th</sup> (Ukraine) and 38<sup>th</sup> (Bahamas) place. Akamai’s broadband adoption measure looks at broadband connections at 4Mbps and above (download) compared to all connections in that state or country, to determine its broadband adoption rate. Therefore, it is not a measure of adopters versus nonadopters.

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

Figure 15: Broadband (>4 Mbps) Connectivity

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

The Task Force would note that based on the NTIA report, *Exploring the Digital Nation: Embracing the Mobile Internet*<sup>6</sup>, Minnesota ranked fifth among the states for percentage of households that have adopted broadband at home, with an adoption rate of 82.4 percent. Oregon ranked first in adoption in the 2014 NTIA report (based on 2012 data) at 84.8 percent, followed, in order, by New Hampshire, Colorado and Utah. While the NTIA results for Minnesota are slightly (higher/lower) than the Connect Minnesota survey results discussed below, they are in line with Connect Minnesota’s findings and, as part of a national report, allow for comparison to other states.

Connect Minnesota recently completed its residential broadband adoption survey for Minnesota. And, while that survey does not allow for comparison between states, it is data specific to Minnesota and

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[http://www.ntia.doc.gov/files/ntia/publications/exploring\\_the\\_digital\\_nation\\_embracing\\_the\\_mobile\\_internet\\_10162014.pdf](http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_embracing_the_mobile_internet_10162014.pdf)

builds on previous Connect Minnesota survey results dating back to 2010. That data is described in more detail below.

### **Survey Research: Residential and Business Broadband Adoption**

Connect Minnesota research surveys released over the past 12 months 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 latest Minnesota Residential Survey<sup>7</sup>, the data show that **XXX** percent of Minnesota households subscribe to home broadband. This figure shows a **XXX** percentage point increase in adoption from the 2013 Residential Survey results.

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

- **ADD BULLET POINTS WITH RESULT HIGHLIGHTS**

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:

- **ADD BULLET POINTS WITH RESULT HIGHLIGHTS**

#### *Business Survey Results*

Connect Minnesota also conducted its annual survey of Minnesota businesses in 2014<sup>8</sup>, releasing results in September 2014. Among the highlights of the survey:

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<sup>7</sup> Survey Methodology: Between **XXX and XXX**, 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.

<sup>8</sup> Survey Methodology: The 2014 Business Technology Survey, featuring data from 801 businesses across the state. Between April 3 and April 30, 2014, Connect Minnesota conducted a telephone survey of 801 business establishments across the state. Business establishments contacted for this survey were defined as a single

- ADD BULLET POINTS WITH SURVEY HIGHLIGHTS

## 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. Seventeen of 20 funded projects have been complete; and since the Task Force's January 2014 Report the following projects have been finalized:

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

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

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

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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.

The remaining ARRA-funded projects are included in the chart below (Figure 4):

**Figure 4:** ARRA project status

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

Grantee/Amount/Description	2014 Update
<p><b>Northeast Service Cooperative</b> \$43,498,220</p> <p>The Northeast Service Cooperative, 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.</p>	<p>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.</p>
<p><b>Lake County</b> \$66,369,064</p> <p>Lake County plans to offer FTTP advanced voice, video and data services to every home and business in Lake and eastern Saint Louis Counties.</p>	<p>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</p>

	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 <a href="http://LakeConnections.com">LakeConnections.com</a>
<b>Connected Nation, Inc.</b> \$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.
<b>Connected Nation, Inc.</b> \$2,761,171 Expand existing and planned maps to continue coverage for three additional years.	

### Summary of Federal Activities

Since the Federal Communications Commission (FCC) is the primary government agency responsible for broadband oversight, much of the activity related to broadband is at the national level. The FCC dockets active in 2014 that impacted broadband included elements of the Universal Service Fund, such as Phase II of the Connect America Fund (CAF), the E-rate program, and the CAF Rural Broadband Experiment Program. Other activity at the federal level involved FirstNet, 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), historically subsidizing telecommunications service in rural areas, to a new Connect America Fund (CAF) that aims to support broadband infrastructure construction in rural locations. 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 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—Rounds 1 and 2*

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

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

#### *CAF for Price Cap Carriers Phase II*

The FCC released the cost model that will be used to determine funding levels in Phase II of CAF in April 2014. In Phase II, the FCC will offer each price cap carrier a support amount, derived from the chosen model, in exchange for the carriers' commitment to serve all locations in its service territory in a state that fall within the "high cost range" (above the specified cost benchmark, but below the "extremely high-cost" benchmark) that are not served by a competing, unsubsidized provider. Price cap carriers that elect to serve in a state will receive funding for a 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.

In June 2014, the FCC's Wireline Competition Bureau began a 90-day challenge process for price cap territories in Phase II of the Connect America Fund. A census block in CAF Phase II must have voice service and broadband service within a specified "reasonably comparable" pricing range, with broadband service of at least 4 Mbps download/ 1 Mbps upload, a broadband usage cap no smaller than 100 GB, and latency of 100 ms or less in order to be considered "served." Over 200 CAF Phase II challenge filings were received in the initial comment period that ended August 14<sup>th</sup>, 2014. These challenges are organized into two categories. The first is designated as "Unserved-to-Served" challenges in which non-price cap carriers assert that they are providing service to a census block or larger area that has been designated by the FCC as eligible to receive a subsidy for broadband deployment. The second category is designated "Served-to-Unserved" and is comprised of filings by price cap carriers that argue that a census block deemed "served" in CAF Phase II does not, in fact, meet the FCC's service criteria thresholds and should be made eligible for broadband subsidies.

The FCC sought reply comments on challenges in Phase II, with all responses due by November 10<sup>th</sup>, 2014. After the 45-day period, the FCC will evaluate the reply comments and make a final determination regarding areas eligible to receive broadband deployment subsidies.

#### *Rural Broadband Experiments*

In January 2014, the FCC established the Rural Broadband Experiments with the purpose of shaping and adjusting the Connect America Fund broadband subsidy program to include an application-based, competitive-bidding framework. One goal of the experiments is to see whether available subsidies could provide higher levels of service, including expanded connectivity to community anchor institutions, that exceed the current 4 Mbps download/ 1 Mbps upload standard for the Connect America Fund. These experiments mark the first opportunity for providers that are not the incumbent local telephone company in a particular area to receive Connect America Fund subsidies to build and operate fixed

broadband networks in those areas. This “experiment” will serve as a test to the competitive bidding process the FCC plans on utilizing to distribute more Connect America Funds in 2015 and beyond.

The Commission initially invited broadband providers, communities, institutions, and public-private partnerships to file proposals, including the associated funding requirement, outlining how they would utilize CAF subsidies to support broadband infrastructure build-out in currently unserved areas, as defined as any area that does not have access to fixed broadband at 3 Mbps download/ 768 kbps up. These “Expressions of Interest” were due in March 2014 and over 1,000 were filed, covering a variety of applicants including current providers, electric cooperatives, communities, and organizations.

A total of 62 Expressions of Interest were submitted by applicants from Minnesota, including small rural ILECs, CLECs, community technology committees, electric utilities, a rural township partnership, telephone cooperatives, WISPs, and a county government. While the proposed technology solutions span multiple platforms including fiber, fixed wireless, white space technology, DSL, IP voice networks, and LTE; overall, a majority of Minnesota proposals included, in whole or in part, deployment of fiber to the premise and fixed wireless networks. The proposed Minnesota projects ranged from narrowly-focused, county-level deployment challenges to proposals that would serve large, ten-county regions. Project funding requests ranged from \$35,550 to \$58 million in subsidies; the overall budget for all 62 proposed projects from Minnesota is upward of \$526 million.

The FCC used these expressions of interest to devise the formal rules and nature of the project, as well as the broadband service standards and expectations for recipients. At an Open Commission Meeting in July 2014, the FCC voted to approve a budget and open an application window for the Rural Broadband Experiments. The Commission announced that it would divide the \$100 million program budget into three buckets for funding:

1. \$75 million will be awarded to projects that will offer broadband service to residential and small business consumers at speeds of at least 25 Mbps download/ 5 Mbps upload
2. \$15 million will be awarded to projects that will offer broadband service at speeds of at least 10 Mbps download/ 1 Mbps upload
3. \$10 million will be awarded to projects that will serve “extremely high cost areas” (those which require a monthly subsidy of approximately \$2,400 or more per unserved location per year) at speeds of at least 10 Mbps download/ 1 Mbps upload

The program will be technology-neutral, permitting that received proposals meet the capacity standards listed above. In addition, proposals that exclusively serve Tribal census blocks will be eligible for a 25% bidding credit. The Commission is encouraging participation from a wide range of entities and, although Eligible Telecommunications Carrier (ETC) status is not required at the time the entities apply, winning bidders will be required to obtain ETC status within 90 days of the final recipient announcement.

Applications were initially due to the FCC on October 14, 2014, however, the deadline was extended recently. The new application window opened on Thursday, October 23, 2014 and officially closed on Friday, November 7, 2014. During this application window, bidders were asked to submit FCC Form

5610, a bid form for each proposed project, and one comprehensive descriptive data form. Links to all forms can be found on the FCC's Rural Broadband Experiments page.

The FCC will analyze formal applications and select winners through a competitive auction, with the goal of awarding funds to proposals that offer the most cost-effective solution to delivering broadband service in unserved areas of the country. (NOTE – Might Know Winners by Report Deadline)

### *E-Rate Reform*

The Telecommunications Act of 1996 authorized the creation of the Schools and Libraries Universal Service Fund program, "E-rate." 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 – since its inception, E-rate has provided up to \$2.4 billion in annual subsidies to over 100,000 schools and over 10,000 libraries across the nation. The FCC 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, and following President Obama's announcement of the ConnectED initiative (below), on July 23, 2013, the FCC issued a Notice of Proposed Rulemaking (NPRM)<sup>9</sup> to modernize the \$2.4 billion E-rate program for schools and libraries. This marked the most significant reform of the E-rate program since its inception. Comments were due September 16, 2013 and reply comments were due November 8, 2013. In February 2014, FCC Chairman Tom Wheeler outlined his plan for modernizing the E-rate program to complement President Obama's ConnectED initiative, which aims to connect 99% of America's students to next-generation broadband in their schools within 5 years. A request for further comments was released the following month with comments due April 7, 2014 and reply comments due April 21, 2014.

The first phase of the reform was approved by the FCC in July 2014. The Order will inject \$2 billion in additional funding over the next two years to on-campus wireless networks that will, in particular, help schools deploy 1:1 device learning models and enhance public wireless Internet access at libraries. In addition, the FCC has budgeted \$5 billion for this fund over the next five years – this effectively increases available funding under E-rate by an additional \$1 billion per year. These funds will be allocated to schools and libraries based on a per-student and per-square foot formula, respectively. The goal for these funds is to bridge the "Wi-Fi gap" that, according to the FCC, is present in at least three out of five of America's schools. The FCC Order also began the phase-out of E-rate support for legacy services, such as dialtone voice service; streamlines the application process; and makes better, more transparent data on the E-rate program available. The first phase of the reform will impact school and library budgets as early as 2015.

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<sup>9</sup> <http://www.fcc.gov/document/fcc-launches-update-e-rate-broadband-schools-and-libraries>

In September 2014, Chairman Wheeler outlined his expectations and identified his top priority for the second phase of the E-rate modernization process – “closing the rural fiber gap.”

### *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 called 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 was also encouraged to develop educational devices and software that are price competitive with textbooks and that unlock the full educational potential of broadband investment. Thus far, private companies have pledged in-kind contributions equivalent to over \$1 billion in investment to support ConnectEd’s goals:

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

### **Other Federal Activities**

#### *FirstNet*

FirstNet is the First Responder Network Authority, authorized under the Middle Class Tax Relief and Job Creation Act of 2012 (Act), and created to provide emergency responders with the first nationwide, high-speed, wireless broadband network dedicated to public safety. FirstNet must provide service in all 50 states, 5 territories, and Washington, D.C. 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, funded by spectrum auctions through 2022 (the first auction netted \$1.6 billion). A portion of the funding has been awarded to each state under the State and Local Implementation Grant Program (SLIGP) to plan a governance structure and activities for integration into the nationwide network. The Governor appoints a single point of contact and governing body to represent that state's interests to FirstNet. Minnesota received \$2.3 million in SLIGP funding and is moving forward with its planning. Minnesota was selected to be the second state to hold a consultation meeting with FirstNet, which took place on September 24, 2014.

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. The 15-member board has backgrounds in police, fire, sheriff, emergency medical, city government, and commercial telecommunications. On September 4, 2014, five new members were appointed to the FirstNet board as initial terms expired. Among those named were Rich Stanek, Hennepin County Sheriff.

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

FirstNet is considering a 3-in-1 network architecture using land-based cellular, satellite, and deployable systems to provide coverage. From 2014-2016, FirstNet is projected to create a roadmap, conduct outreach and awareness, collect local data and design networks, develop and award a comprehensive RFP, and establish a network core. After 2016, Governors will review the design offer and opt in or out of FirstNet network deployment, and integration of next generation 9-1-1. 2022 marks that last spectrum auction and the point at which the network is to be substantially in operation.

While there is an expectation that FirstNet will aid in the deployment of broadband in Minnesota beyond the first responder network, 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.

## Policy Recommendations

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

### **Legislative Recommendations and Priorities – DESCRIPTION of RECOS and \$\$ AMOUNTS**

- **Office of Broadband Development Funding** - The Task Force recommends appropriating \$2.9 million to the Office of Broadband Development. Funding at this level includes \$1.5 million for operational support and program delivery, ensuring that the Office can meet the baseline functions specified in statute, and \$1.4 million for continuing data collection and mapping statewide broadband availability.
- **Infrastructure Grant Program** - The Task Force recommends appropriating \$200 million to the Border-to-Border Broadband Development Grant Program. While this figure is a fraction of the total capital investment required to meet the state’s border-to-border broadband objective, it is nonetheless an important contribution.
- **Increase Library Telecommunications Aid** - The Task Force recommends funding library telecommunications aid at \$6.6 million over the 2016-17 biennium, and increasing the telecommunications aid equity for schools to \$9.75 million over the 2016-17 biennium. This funding will expand the impact of the program in underserved areas of the state and help ensure every child has access to reliable broadband service.
- **Create an Office of Broadband operating fund to promote broadband adoption and use** - It is the Task Force’s recommendation that the fund be managed by the Office of Broadband Development. The specific amount to be determined between the Office of Broadband Development and the legislature, that will allow the Office to advance and support programs and projects aimed at promoting broadband adoption and use. 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. With the Office of Broadband Development being in its second year, it is the appropriate state entity to coordinate a direct fund or grant making system that will allow it to establish process or programs that encourage greater broadband adoption and address concerns related to the digital divide in Minnesota. Specific recommendations relating to broadband adoption efforts include:
  1. Funding to maintain, support and market the website [whybroadband.org](http://whybroadband.org)
  2. Funding focused on community broadband adoption efforts
  3. Coordinate public/private partnerships for adoption and digital literacy programs
  4. Encourage providers to partner with the Office at various venues to promote broadband adoption
  5. Allow the Office to provide demonstrations of technology to show what is possible in various professions
- **Health Care: Video Health Care Reimbursement**
- **Support Efforts of Schools Utilizing 1:1 Devices – Research state of programs and consider adopting “best practice” guidelines in conjunction with the MN Department of Education.**
- **Make sales tax exemption for telecom permanent (potential expansion)**

- **Review existing permitting criteria to see where there might be possibility to streamline**
  
- **Require that BB infrastructure projects that receive state support be accessible across sectors** - Many Gb networks are deployed and operated via significant public sector funding. Education, health care, public safety and transportation are increasingly reliant on these types of networks and they are organized at either the state or regional level. Through barriers ranging from convenience to strict funding prohibitions, these networks are often proprietary and users are limited to specific silos – schools only on education networks; hospitals only on health networks. The result of these rules and practices are duplicative networks, uneven levels of infrastructure availability across and between sectors, and expensive deployment costs. Where state funding is being considered for network deployment, an assessment of other potential users, especially anchor institutions from other sectors, should be conducted. Where federal funding is involved, the state should seek waivers from any regulations that limit potential users, especially other public users. Consideration of how these public sector investments might enable increased private sector network access, either by Internet Service Providers or end-user customers, should also be conducted, especially in hard to serve areas without affordable and/or redundant high capacity networks.
  
- **MNIT to build out Gb network connections to each county seat, thereby offering gig backhaul / middle mile capacity to local providers** - As local governments, small to medium size ISPs and others build high capacity local networks, with Fiber to the Home, Node or Tower technologies, affordable backbone connections to the network core become increasingly important. Currently there exists a patchwork of networks leading to wide variability in the competitive backhaul environment and pricing. As the state's primary public sector technology organization and possibly the state's largest telecommunications consumer, MNIT is in a unique position to influence Gb network deployment and big bandwidth pricing. MNIT reaches stakeholders/customers in every county of the state. As the state moves towards standardized Gb connections to county seats, there is the potential to leverage excess bandwidth by acting in a wholesale capacity with ISPs, anchor institutions and large bandwidth users in the private sector. Policy makers may want to limit MNIT's capability to serve in this role in county seats with existing affordable bandwidth provided in a competitive environment. Affordable might be defined by using the pricing available in the network core (511 Building) and adjusting that by some negotiated factor or using the average pricing available in the larger, more competitive regional centers as a ceiling. This strategy will ensure that no part of the state would be at a significant competitive disadvantage with regards to wholesale bandwidth pricing.

**Appendix A – LINKS TO LETTERS FROM TF to DEED COMMISSIONER and ED. COMMISSIONER**

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**Appendix B**

**Governor's Task Force on Broadband—List of Testifiers in 2014**

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