

**OFFICIAL OCTOBER 2014 FINAL UPDATE SUBMISSION TO
THE NATIONAL TELECOMMUNICATIONS AND
INFORMATION ADMINISTRATION UNDER THE
STATE BROADBAND INITIATIVE GRANT PROGRAM
FOR THE STATE OF MINNESOTA**



October 1, 2014

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October 1, 2014

Ms. Anne W. Neville
SBI Grant Program Director
National Telecommunications and Information Administration
U.S. Department of Commerce
Room 4716
1401 Constitution Avenue, NW
Washington, DC 20230

Dear Ms. Neville:

As the State Broadband Designated Entity, in partnership with the Minnesota Department of Employment and Economic Development, please accept this final submission from Connected Nation on behalf of Connect Minnesota, the state of Minnesota State Broadband Initiative (SBI) Grant Program.

It has been an honor and privilege for our organization to have participated in this historical effort over the last five years. Because of this extraordinary program and the support of the NTIA, communities across the country, and across the state of Minnesota, have enjoyed unprecedented access to data and resources with which to engage, assess, and plan for a more connected future.

Indeed, a sturdy foundation has been set, yet there is still much to do to capture the full potential contemplated by this initial investment. Because of investments in broadband and related technologies, the future of institutions in education, healthcare, and economic development is brighter today than in any other time in our country's history; it is returns in these areas that will be the final measure of this program's impact on America. We look forward to the work ahead.

Connect Minnesota would like to recognize the faithful and energized contributions of the many state stakeholders, particularly the broadband providers, in making this and all of the program's previous submissions possible. Truly, the significance of complete and validated data through their participation has added to the many successes our program has enjoyed.

The items that comprise this submission are compliant with the October 1, 2014, deadline for the semi-annual data update and in accordance with the terms of the July 1, 2009, Notice of Funds Availability (NOFA) and all subsequent clarifications pertaining to delivery of state-level mapping of broadband service availability. This packet includes:

Inventory of Deliverables, Connect Minnesota: October 1, 2014

<u>NOFA Requirement</u>	<u>Data Transfer Model</u>	<u>Data Description</u>
Appendix A: 1(a)(i)	BB_Service_CensusBlock	Broadband Service Availability of Facilities-Based Providers in Census Blocks of No Greater Than Two Square Miles in Area
Appendix A: 1(a)(ii)	BB_Service_RoadSegment	Broadband Service Availability of Facilities-Based Providers by Road Segment in Census Blocks Larger in Area Than Two Square Miles
Appendix A: 1(b)	BB_Service_Wireless	Broadband Service Availability of Wireless Services Not Provided to a Specific Address
Appendix A: 3(b)	BB_ConnectionPoint_MiddleMile	Broadband Service Infrastructure Middle-Mile and Backbone Interconnection Points
Appendix A: 4	BB_Service_CAInstitutions	Community Anchor Institutions-Listing
Appendix A: 4	n/a	Community Anchor Institutions-Narratives
VII.A.1(a)	n/a	Accuracy and Verification Report
n/a	DataPackage.xlsx	Worksheets of Contact Information, Record Count, and Provider Summary Table
n/a	n/a	List of Changes and Corrections to the Dataset
n/a	n/a	Non-Participating Provider (NPP) Narratives
n/a	n/a	Broadband Provider Roster and Participation Status

In addition, this data update submission is compliant with the additional program requirements instituted by the National Telecommunications and Information Administration since the time of the April 2014 SBI data submission for the Connect Minnesota program. Specifically, these new requirements are:

SBI Data Transfer Model

The submission of the broadband dataset for October 1, 2014, is contained within the SBI Data Transfer Model as provided to SBI Grantees on May 29, 2014. All efforts have been made to comply with formatting, domain, and metadata requirements to include as much information on each provider as possible.

Additional Submission Guidance

In collecting broadband service area datasets for inclusion on the National Broadband Map, this October 2014 submission includes business/commercial broadband service areas in addition to the residential datasets that have been collected for the SBI program. Following guidance from the program office, the end user category appropriately delineates the differences in residential service areas, business service areas, and combination residential/business service areas. Further, all contacted providers were asked if they provide broadband services to business customers within their existing coverage areas and, if so, this information was noted.

This final submission also includes information regarding the data and coverage estimation of non-participating providers. While Connect Minnesota continued outreach to all providers prior to each submission period, the need to submit broadband service data for all providers regardless of their participation is evident as the SBI program continues into this final round of data submissions. The submission of this estimated broadband service area for providers that have not supplied data to Connect Minnesota is essential in being able to portray a more accurate depiction of the current broadband landscape.

This October 2014 final data update under the SBI Grant Program continues to demonstrate our dedication to implementing the joint purposes of the Recovery Act and the Broadband Data Improvement Act (BDIA) by gathering comprehensive and accurate state-level broadband mapping data, developing state-level broadband maps, aiding in the development and maintenance of the National Broadband Map, and undertaking statewide initiatives for broadband planning.

Broadband Service Availability — Provider Outreach and Verification

This data update submission under the SBI program includes datasets for 99.21 percent of the Minnesota provider community, or 125 of 126 total providers. There are 122 participating providers and 3 additional non-participating providers whose estimated coverage areas have been submitted. Of the 122 participating providers, 58 supplied an update to their network or coverage area(s), while 61 have reported no change. The remaining 3 represent providers who previously supplied data but were non-responsive in the October 2014 update effort; therefore, their previous dataset is being put forward as part of this compilation. The 1 provider not represented in the attached datasets has non-responsive to multiple contact attempts. A complete roster by provider depicting participation status and contact history is contained herein.

This submission also includes business/commercial providers; of the 188 residential datasets represented in this submission, including providers that offer multiple technology types, 164 are broadband datasets that do not distinguish between serving primarily residential or primarily non-residential users (end user category 5). There are 23 business-only broadband datasets (end user category 2) also included in this submission.

As the aforementioned roster and attached methodology documentation will attest, it is the collective opinion of the Connect Minnesota principals that all commercially reasonable efforts have been made to account for 100 percent of the known Minnesota broadband provider community, pursuant to this final data update submission.

Connect Minnesota has also continued to perform broadband verification activities through several means. In addition to confirmation of service area(s) by each provider, Connect Minnesota has conducted field validation efforts. As of this final submission, 123 (97.62 percent) viable providers have been validated through field verification activities. Additional details on verification activities are contained within the Field Validation Methodology.

The Connect Minnesota website (www.connectmn.org) has served a prominent role in the outreach and data collection effort. This program asset has provided a way for the general public to participate in the process by offering interactive tools for users to test their connection speed, submit broadband inquiries, or contact a program representative.

As an indicator of stakeholder penetration, the Connect Minnesota website encountered 7,085 unique visits during this final reporting period (49,130 total to date for the life of the grant awarded on December 20, 2009). Additionally, this pronounced Web activity netted 43 broadband inquiries over this same reporting period (242 grant inception to date). The website also provides access to the My ConnectView™ interactive mapping application, which allows consumers and broadband providers to confirm or dispute the coverage represented on the broadband inventory map. These consumer-initiated actions have been facilitated through the Connect Minnesota website and the Connect Minnesota interactive mapping tool (My ConnectView™) that offer the stakeholders the vehicles to provide information regarding availability in their respective service area, either in affirmation or contest of the reported data represented in the Connect Minnesota mapping artifacts. Since the initial data collection and release of corresponding maps, feedback in the form of broadband inquiries has allowed Connect Minnesota to identify additional areas that are in need of field validation.

Community Anchor Institutions

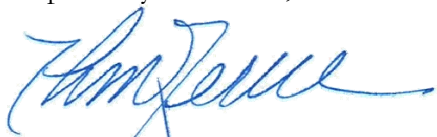
Connect Minnesota has been committed to gathering data regarding the location and broadband connectivity of Community Anchor Institutions in accordance with the data requirements of the SBI NOFA Technical Appendix. Multiple agencies and leaders have continued to support CAI data collection, reiterating the importance of a relationship-oriented approach with state-level agencies and organizations that generates more responses than local outreach.

In conjunction with the Minnesota Department of Employment and Economic Development, Connect Minnesota conducted final outreach during this data update reporting period to continue identification of existing, centralized sources for CAI connectivity data. Additionally, outreach was coordinated to distribute the CAI survey to institutions throughout the state through multiple methods, including a customized online survey available on the Connect Minnesota website. Building on existing relationships with statewide associations has reinforced the importance of broadband connectivity at anchor institutions and encouraged participation in this data collection

process. The value of these relationships has impacted the entire success of the Grant Program, and the CAI engagement has been a logical extension of new and existing relationships.

The Connect Minnesota program exists to improve lives through the deployment and adoption of broadband services and to assist in the extension of broadband technology across all regions of the great state of Minnesota, as well as the United States and its territories. Through the SBI program and our contribution to the National Broadband Map, communities have been given meaningful data that has helped them plan and take informed action resulting in improved technology access, adoption, and use in unserved and underserved areas.

Respectfully submitted,



Thomas W. Ferree
President and Chief Operating Officer
Connected Nation, Inc.

MINNESOTA COMMUNITY ANCHOR INSTITUTIONS METHODOLOGY

Connect Minnesota has been committed to working with Minnesota to gather data on the location and broadband connectivity of Community Anchor Institutions (CAI), in accordance with the data requirements of the SBI NOFA Technical Appendix. This commitment continued based on NTIA's encouragement to improve data numbers specifically in the K-12 school and library sectors to support the ConnectED White House Initiative, launched in June 2013. The commitment has continued for the October 2014 submission. In addition to collecting new data, physical address information continues to be augmented through manual sourcing and geocoded by Connect Minnesota through Esri ArcGIS software.

Connect Minnesota has continued to utilize a customized online survey hosted through SurveyMonkey, with a landing page on the Connect Minnesota website that was developed during the first reporting period. This survey, in combination with a customized data-gathering spreadsheet, was distributed on a regular basis to a targeted list of CAI throughout the state as well as organizations and agencies that work closely with the CAI. The distributions were completed with the support of the state client.

Connect Minnesota realizes the value of key relationships, new and old, to promote the importance of broadband connectivity at Community Anchor Institutions and participation in this data collection process. It is apparent that these relationships have been beneficial to the entire success of the grant program, and the CAI engagement has been a logical extension of new and existing relationships.

Connect Minnesota has conducted significant research as part of an ongoing process to identify existing, centralized sources for CAI connectivity data. In tandem with these efforts to identify existing data, Connect Minnesota identified key CAI contacts in an effort to distribute and promote the online survey and raise awareness of the importance of CAI broadband connectivity. Also, when possible, Connect Minnesota has worked with the Minnesota Department of Employment and Economic Development to identify existing relationships that can support CAI outreach.

Connect Minnesota has had an ongoing mission to educate CAI throughout the state on the importance of participating in the project and the value this data affords for federal decision makers. Participation by these institutions has raised awareness about the importance of broadband connectivity and the need to report the requested data for inclusion on the National Broadband Map.

The greatest challenge with collecting CAI data continues to be educating the CAI about the Connect Minnesota project as well as self-awareness of their own broadband connectivity (specifically upload and download speeds).

A CAI summary of all processed and submitted data is provided below:

CAI Type	Total	Lat/Long	Technology of Transmission	Download Speed	Upload Speed
K-12 Schools	3,300	3,267	1,026	930	512
Libraries	1,134	1,121	427	537	365
Healthcare	198	197	59	59	59
Public Safety	1,575	1,571	96	82	83
Higher Ed Institutions	268	267	103	102	103
Other Government	163	147	57	55	54
Other Non-Government	163	145	36	36	36
Total	6,801	6,715	1,804	1,801	1,212

Minnesota's improvements were modest but included repeated outreach to K-12 Schools and Higher Ed Institutions. The K-12 School data received was duplicate data with no new updates. The slight improvement to the library sector is based on data obtained from the Digital Inclusion Survey (<http://digitalinclusion.pnmi.com/>). Additionally, an FCC E-rate dataset was also provided for school and library connectivity.

The CAI data has proven to be an invaluable resource to all components of the Connect Minnesota effort. The data identifies potential local champions, sector trends, and opportunities for improvement as well as opportunities to educate CAI not familiar with their current connectivity.

SBI DATA SUBMISSION METHODOLOGY

The submission of the broadband dataset for October 1, 2014, is contained within the SBI Data Transfer Model and additional components as provided to SBI Grantees on May 29, 2014.

Connected Nation (CN) has reviewed all literature that relates to the release and use of this data transfer model and recognizes that it does not replace or dictate how data is stored, processed, or displayed for the state, as it is meant primarily as a means to transfer the broadband data from all states and territories and populate the National Broadband Map in a seamless fashion.

Connected Nation has complied with the following guidance documents published by NTIA:

- Technical Mapping Guide, as released on the Grantee Workspace on March 24, 2011, was followed to ensure the completeness and validity of the submission through completion steps and checklists, completing the DataPackage spreadsheet, uploading broadband datasets into the Data Transfer Model, and checking the dataset using the SBDD_CheckSubmission receipt process.
- Naming Conventions and Category of End User, as released on the Grantee Workspace on March 26, 2012, was followed to ensure the consistency of individual file and zip package naming.

- Wireless Data Processing Guidance, as sent to SBI grantees on February 8, 2013, was followed to ensure that all fixed and mobile wireless provider coverage records are submitted to NTIA as separate, closed polygons whenever there is a variation in any of the required fields.

In addition to the methodologies contained herein, the Changes and Corrections documentation, as well as the DataPackage.xls containing contact information, the data dictionary, and a provider summary table, the following feature classes are submitted within the SBI Data Transfer Model for the state of Minnesota.

Inventory of Deliverables, Connect Minnesota: October 1, 2014

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The provider data collected by CN on behalf of the state of Minnesota have been formatted per the given specifications and uploaded into the appropriate feature classes of the SBI Data Transfer Model. Wireline availability is contained within census blocks and road segments, wireless availability is contained as polygons of coverage areas, and middle-mile connections and Community Anchor Institutions are contained as point data. All speed data is contained at the census block, road segment, or wireless polygon level of availability. All efforts have been made to comply with formatting, domain, and metadata requirements to include as much information as possible.

In collecting broadband service area datasets for inclusion on the National Broadband Map, this October 2014 submission includes business/commercial broadband service areas in addition to the residential datasets that have been collected for the SBI program. Following guidance from the program office, the end user category appropriately delineates the differences in residential service area, business service areas, and combination residential/business service areas.

Connected Nation has continued outreach to satellite providers on their availability, technology, and speed information, but granular coverage, based on complex geoprocessing models that require specific satellite details, is not currently available. Submitted within the wireless feature class are the satellite companies providing service to Minnesota as a polygon of the state boundary.

MINNESOTA FIELD VALIDATION METHODOLOGY

CN focused a portion of its time on specific validation processes such as:

- conducting random spectrum analysis studies throughout the state using an Avcom PSA-37-XP spectrum analyzer;
- conducting mobile speed tests throughout the state using an iPhone, Android (or other smart phone) as well as provider-specific aircards (Sprint 3G/4G, Clearwire et al);
- identifying pre-selected, provider-submitted wireless transmit tower sites and cross-referencing data about that tower against the Federal Communications Commission (FCC) databases such as Antenna Structure Registration and/or the Universal Licensing System;
- cross-referencing Federal Registration Number data against available FCC Form 477 data as well as the FCC **CO**mmission **RE**gistration **S**ystem (CORES);
- validating provider submitted data (for example: latitude/longitude) using a handheld Garmin eTrex Summit GPS unit or GPS enabled software such as Microsoft *Streets & Trips*;
- locating physical wire-line attributes (such as Central Offices, Remote Terminals, CATV plant, etc.) and comparing them against provider submitted data; and
- conducting on-net and off-net speed tests using the FCC portal at <http://www.broadband.gov/qualitytest/about/> or using the Ookla Net Metrics enabled speed test utility located on each of CN's program specific websites.

Additionally, CN cross-referenced numerous public documents in order to ensure that all known broadband providers were located and contacted. This included searching membership logs from trade associations (WISPA, WCAI, PCIA, etc.), the Cable Television Fact Book, Public Utility Commission records, Public Service Commission records, Chamber of Commerce, etc.

To date, Connected Nation's staff has conducted on-site validation tests in Minnesota on the following viable providers: A Better Wireless, NISP, LLC; Access Broadband; Ace Telephone Association; AirFiber; AirLink Broadband, LLC; Albany Mutual Telephone Association; Alliance Communications Cooperative, Inc.; Arrowhead Electric Cooperative, Inc.; Arvig; Arvig Communication Systems; AT&T Corp, Inc.; Barnesville Municipal Telephone; Benton Cooperative Telephone Company; Blue Earth Valley Telephone Company; Blue Sky Broadband; Blueprint America, Inc.; Bradco-Wisp, Inc.; Broadband Corp; Cable ONE Inc.; Carver County Open Fiber Initiative; CenturyLink; Charter Communications, Inc.; Christensen Communications Company; CitEscape, LLC; City of Bagley; City of Chaska; City of Windom; Clara City Telephone Company; Cloudnet, Inc.; Cogent Communications, Inc.; Comcast Cable Communications, LLC; Consolidated Telephone Company; Crosslake Telephone Company; Emily Cooperative Telephone Company; Enterpoint Wireless; Fallsnet; Farmers Mutual Telephone Company; Federated Telephone

Cooperative; Fibernet Monticello; Frontier Communications of Minnesota, Inc.; FTTH Communications; Garden Valley Telephone Company; Gardonville Cooperative Telephone Association; Genesis Wireless; Great Lakes Communication Corp.; Halstad Telephone Company; Harmony Telephone Company; Hiawatha Broadband Communications, Inc.; Hickory Tech Corporation; Hughes Network Systems, LLC; Hutchinson Telecommunications, Inc.; Info Link Wireless, Inc.; Interstate Telecommunications Cooperative, Inc.; InvisiMax, Inc.; Jab Wireless, Inc.; Jaguar Communications; Johnson Telephone Company; Kasson & Mantorville Telephone Company; Lake County Fiber Network; Lakenet Communications; Level 3 Communications, LLC; Lismore Cooperative Telephone Company; Lonsdale Telephone Company, Inc. ; LTD Broadband LLC; Mabel Cooperative Telephone Company; Manchester-Hartland Telephone Company; Mediacom Communications Corporation ; MegaPath Corporation; Midcontinent Communications; Mille Lacs Energy Cooperative; Minnesota Valley Telephone Company; Minnesota Valley TV Improvement Corporation; Minnesota WiFi LLC; Moose-Tec; Nates Net, Inc.; New Ulm Telecom, Inc.; NewCore Wireless LLC; Nextera Communications; Northeast Service Cooperative; NorthfieldWiFi LLC; Park Region Mutual Telephone Company; Paul Bunyan Rural Telephone Cooperative; Polar Telcom, Inc.; Radio Link Internet; Red River Rural Telephone Association; Reliance Globalcom Services, Inc.; River Valley Telephone Coop.; Roberts County Telephone Coop Assn.; Rothsay Telephone Company Inc.; RRC Net; Runestone Telecom Association; Sacred Heart Telephone Company; Savage Communications Inc.; Scott Rice Telephone Co.; Sheehan Gas; Sioux Valley Rural Television, Inc.; Sjoberg's Inc.; SMBS; Southern Cablevision, Inc.; Spring Grove Communications; Sprint Nextel Corporation; Starbuck Telephone Company; Starpoint Communications, Inc.; Synkro Southwest; TDS Telecommunications Corporation; T-Mobile USA, Inc.; tw telecom of minnesota llc; Upsala Cooperative Telephone Association; US Internet of Minnetonka; VAL-ED Joint Venture, LLP; Verizon Communications, Inc.; ViaSat, Inc. ; West Central Telephone Association; Western Telephone Company; WideOpenWest Finance, LLC; Wikstrom Telephone Company; Windstream Communications; Winnebago Cooperative Telecom Association; Wolverton Telephone Company; Woodstock Telephone Company; XO Communications, LLC; Zayo Group, LLC; and Zumbrota Telephone Company.

Additionally Connected Nation had previously validated 19 providers which are now considered non-viable, due to mergers and acquisitions or because they are no longer in business: Arrowhead Communications Corporation; City of Detroit Lakes; Clear Choice Communications; Clearwire Corporation; Dunnell Telephone Company; Evertek Enterprises, Inc.; Felton Telephone Company; Granada Telephone Company; Lakedale LINK; LakesArea Wireless; Loretel Systems, Inc.; Maple Leaf Networks; Pine Island Telephone Company; Qwest Corporation; Ridge Runner Internet Services Inc.; Sleepy Eye Telephone Company; tothetohome.com, LLC; US Cable Corporation; and Utopian Wireless Corporation.

From program initiation through this reporting period, CN has completed in-the-field validation testing against 123 viable companies (out of a universe of 126 viable providers) totaling 97.62 percent within the state of Minnesota. This percentage also considers the non-participating provider record submitted to NTIA as may be contained herein (see “Data Submission and Coverage Estimation of Non-Participating Provider” below).

CN has also continued to review provider datasets for accurate speed information, platform listings, and other intricacies that may fall outside of the standard SBI Data Transfer Model parameters, as included with the submission materials provided to grantees on May 29, 2014. Any providers whose submitted coverage and attributes are anticipated to come into question have been further reviewed and confirmed; details on a case-by-case basis are presented below.

A Better Wireless, NISP, LLC (Business Services)

Issue: Fixed wireless platform with maximum advertised download and upload speeds in tier 8, higher than the expected value range for the technology.

Resolution: Provider website advertises business customers can get service of up to 45 Mbps download and upload; screenshot below.

Service Packages

	Home Packages		Business Packages		Home/Business Custom Packages	Dedicated with 99.99% uptime service level agreement
	Freedom	Eagle	Business Freedom	Business Eagle	TBD	Dedicated
Downlink Speed (up to)	3Mb	5Mb	5Mb	7Mb	up to 45Mb	5Mb to 100Mb
Uplink Speed (up to)	1Mb	1Mb	2Mb	2Mb	up to 45Mb	5Mb to 100Mb

AirFiber (Business Services)

Issue: Fixed wireless platform with maximum advertised download and upload speeds in tier 8, higher than expected value range.

Resolution: Provider website advertises business customer services at 25 Mbps for both download and upload speeds; screenshot below.



Cloudnet, Inc. (Business Services)

Issue: Fixed wireless platform with maximum advertised download and upload speeds in tier 8, higher than the expected value range for the technology.

Resolution: Provider confirmed that tier 8 business services are available, but they are advertised as custom services and require a quote; screenshot below.

Business Accounts	Down/Up Speeds*	Monthly Fee
1M	1M/768K	\$59
3M	3M/1M	\$89
5M	5M/1.5M	\$119
CUSTOM	5+ Mbps**	Quote Only

* Best available speed class of service, not guaranteed.

** CUSTOM accounts are available via a point to point wireless service by custom quote only as additional charges

Crosslake Telephone Company

Issue: Technology of transmission 40 with maximum advertised download speed in tier 7, lower than expected value range for the technology.

Resolution: Provider representative indicated that DOCSIS 3.0 has been installed, but speeds across their service area have not been bumped up yet. That will occur after the connectivity to fiber backbone is complete and middle-mile bandwidth is increased.

Midcontinent Communications

Issue: Technology of transmission 41 with maximum advertised download speed in tier 8, higher than expected value range for the technology.

Resolution: Provider website advertises 30 Mbps service; screenshot below.

Speed things up!**MidcoNet Xstream® Wideband 1.0**

Remember the files that normally took minutes to download over a typical dial-up or DSL connection? With MidcoNet Xstream® Wideband 1.0, you've got them in just seconds! MidcoNet Xstream® Wideband 1.0 packs your computer with download speeds up to 30 Mbps and uploads up to 5 Mbps.* It's amazing speed at a very affordable price – and backed by our friendly, 24/7 customer service.

Minnesota WiFi LLC (Business Services)

Issue: Fixed wireless platform with maximum advertised download and upload speeds in tier 10, higher than expected value range for the technology.

Resolution: Provider website advertises that while business service is similar to the residential offerings, the business speeds can be customized to be within tier 10; screenshot below.

Business Pricing:

We offer business service with speeds similar to our residential offerings. We can also customize a package to fit your specific needs with dedicated bandwidth, VPN connections, remote access, custom support hours, and guaranteed Service Level Agreements (SLA). We can offer speeds from 2 Megs to over 1000 Megs of bandwidth.

Minnesota WiFi LLC (Residential Services)

Issue: Fixed wireless platform with maximum advertised download and upload speeds in tier 8, higher than expected value range for the technology.

Resolution: Provider website advertises that speeds in tier 8 are available, but are considered a custom offering; screenshot below.

30 Megs to 1000 Megs Download Speeds	30 Megs to 1000 Megs Upload Speeds	Call	This is great for dedicated, fast speeds. Please contact us for speeds above 30 Megs.
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New Ulm Telecom, Inc.

Issue: Technology of transmission 40 with maximum advertised download speed in tier 8, lower than expected value range for the technology.

Resolution: Provider website advertises 25 Mbps; screenshot below.

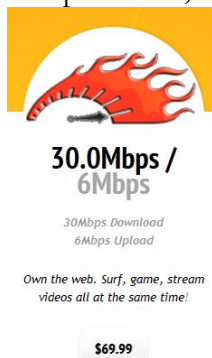
Internet Pricing

Download speeds up to 1 mbps	\$29.95
Download speeds up to 15 mbps	\$44.95
Download speeds up to 25 mbps	\$64.95

NorthfieldWiFi LLC

Issue: Fixed wireless platform with maximum advertised download speed in tier 8, higher than expected value range for the technology.

Resolution: Provider website advertises 30 Mbps service; screenshot below.



30.0Mbps /
6Mbps

30Mbps Download
6Mbps Upload

Own the web. Surf, game, stream
videos all at the same time!

\$69.99

Radio Link Internet

Issue: Fixed wireless platform with maximum advertised download and upload speeds in tier 10, higher than expected value range for the technology.

Resolution: Provider website advertises that speeds up to 300 Mbps are available; screenshot below. Provider representative also confirmed that any customer can request speeds up to 760 Mbps in their entire service area.

Call

-other speeds up to 300mbps are available-

WideOpenWest Finance, LLC

Issue: Technology of transmission code 40 with maximum advertised download speed in tier 8, lower than expected value range for the technology.

Resolution: Provider website advertises 25 Mbps service; screenshot below.

25/30 Mbps

The optimal choice for multi-user households, frequent gaming, regular video streaming and file sharing. (5 Mbps upload)

DATA SUBMISSION AND COVERAGE ESTIMATION OF NON-PARTICIPATING PROVIDER (NPP)

As part of its ongoing broadband mapping efforts, CN has developed a series of processes with the goal of submitting coverage estimation mapping data to NTIA for every known and qualifying last-mile broadband provider, regardless of platform type (cable modem, DSL, fixed wireless, etc.).

The section below provides a summary of the status of CN's outreach and findings on all non-participating provider coverage for the October 2014 SBI submission.

NatesNet

The coverage estimation for this provider was not updated from the prior submission in April 2014. The full white paper containing the most recent coverage estimation for this provider can be found within the April 2013 submission to NTIA.

Nexterra

The coverage estimation for this provider was not updated from the prior submission in April 2014. The full white paper containing the most recent coverage estimation for this provider can be found within the October 2012 submission to NTIA.

St. Olaf Telephone

The coverage estimation for this provider was not updated from the prior submission in April 2014. The full white paper containing the most recent coverage estimation for this provider can be found within the April 2014 submission to NTIA.

Synkros Wireless

The coverage estimation for this provider was not updated from the prior submission in April 2014. The full white paper containing the most recent coverage estimation for this provider can be found within the April 2014 submission to NTIA.

PROVIDER VALIDATION METHODOLOGY

Broadband providers maintain their service area data in many different formats, all in varying levels of complexity and granularity. In order to ensure that the data required by the NTIA is standardized across all providers and that it is as accurate as possible, CN translates and formats the data that providers are able to supply into a GIS shapefile and produces maps for the provider to review. The resulting map(s) and review process allow for providers to see their service area in a geographic format – for some providers, the SBI grant program gave them the opportunity to see maps of their broadband service area for the first time. Having the mapped service area allows providers to quickly identify any issues that appear in the data representation, whether the issue is in the data translation into a GIS format or from the original data collection and submission. Often data was provided from various sources and through the review and revision process, local engineers who operate the networks and work in the field were able to ensure that the tabular data that has been submitted is accurate and represents the real-world network extent. Any issues in how the service area is represented on the map(s) were remedied by CN, whether they were additions, removal of service, or any other revisions. Revised maps of service area representations were sent to the provider for review and approval; CN revised data and returned maps as many times as necessary until the provider was in agreement that the map represents their service area as accurately as possible. Once the review process was completed and final approval of the data was provided, the data was deemed ready for NTIA submission. However, if approval was not received from a provider in time for the submission, but CN believed the new/updated service area to be accurate, then the coverage was submitted to NTIA without final provider approval with a note regarding the situation made in the provider log.

Once the data collection has been aggregated at a statewide level, static maps of statewide and county-level availability are produced and made publicly available. In addition, consumers can visit the interactive online tool, My ConnectView, to create customized views of broadband service areas and analyze corresponding demographic information. Leveraging broadband service data on various platforms allows for public users, providers, and other stakeholders to review, scrutinize, and provide feedback on the represented data. This feedback has been a validation method in itself, as consumers submit inquiries to CN either affirming where service is not available or identifying areas where broadband service is shown on the map, but in actuality is not available. This has allowed for a follow-up to providers regarding revisions to the data as it is represented; it also allowed CN to

identify locations where on-site visits may have been necessary to complete field validation of available services. Public feedback on all forms of mapping products served as a localized validation method for provider-supplied information and allowed CN to resolve inaccuracies as they were identified to ensure that only the highest quality information is provided to stakeholders.

Additionally, non-participating provider narratives that were submitted in previous mapping cycles were subjected to the same level of scrutiny. Occasionally, a provider may have elected to voluntarily participate (thus eliminating the need for data estimation activities in the field). However, more often than not, the NPP narrative has been updated with a combination of data gleaned from the provider's website, data obtained through FCC research, and/or data collected/verified in the field by a CN staff engineer.

Estimates derived from provider-validated data indicate that approximately 1.31 percent of Minnesota households do not have terrestrial fixed broadband service available, and approximately 0.02 percent of Minnesota households have neither mobile nor fixed broadband service available.

Within rural areas of the state, results derived from provider-validated data indicate that approximately 2.94 percent of rural Minnesota households do not have terrestrial fixed broadband service available, and approximately 0.05 percent of rural Minnesota households have neither mobile nor fixed broadband service available. Please note that the availability estimates presented are based on Census 2010 household information.

The estimates above, in accordance with NTIA's definition of available broadband service as specified in the SBI NOFA, include broadband service with download speeds of at least 768 Kbps and upload speeds greater than 200 Kbps.

In addition, due to the nature of the SBI data collection methodology as defined by the NTIA and based on both census block geographic units and street segment data, the estimates of broadband availability derived from provider-validated data may include an overstatement of the actual number of households with broadband availability. Under the census block-based data collection method, a provider will typically report broadband availability for an entire census block whether its network is present across the whole or only a subset of that census block. This potential overestimation at the census block level can be amplified as the data is aggregated across the entire state.

WIRELESS METHODOLOGY

Broadband Service Availability in Provider's Service Area Wireless Services Not Provided to a Specific Address

Data solicited from a fixed wireless provider to create propagation models include, but are not limited to:

1. The name of the structure.
2. Whether the transmitting device is operational or proposed.

3. The maximum advertised downstream speed, the maximum advertised upstream speed.
4. The typical downstream speed, the typical upstream speed (peak periods for both).
5. The frequency range of spectrum being used (as prescribed by NTIA). This may include (but is not limited to) spectrum authorizations identified within the Federal Communications Commission (FCC) Universal Licensing System (ULS) database or located on the FCC's Spectrum Dashboard. This research often proves to be exceptionally effective when estimating the coverage area of an NPP.
6. The primary population center(s) being served (for geopolitical boundary reference).
7. The physical address of the transmit site (in the event latitude/longitude is unavailable from the provider this allows a quick reference point for geocoding).
8. Latitude in either Degrees, Minutes, and Seconds and/or in Decimal Degrees (typically received as NAD 27 or NAD 83).
9. Longitude in either Degrees, Minutes and Seconds and/or in Decimal Degrees (typically received as NAD 27 or NAD 83).
10. Antenna pattern (e.g. omnidirectional, 180°, 120°, 90°, etc.).
11. Azimuth of antenna (e.g. 360° with magnetic declination if known).
12. Approximate transmit radius (in feet, miles, or kilometers).
13. Polarity of transmit antenna (Vertical or Horizontal).
14. Transmit antenna gain (in dBi).
15. Line loss (applicable only to providers using coax, heliax, waveguide or other forms of cabling – excludes power-over-Ethernet devices).
16. Mechanical and/or Electrical beam tilt (if applicable).
17. Equipment Manufacturer (allows easy cross-reference against manufacturer's specification sheet).
18. Power output of the transmitting device (if unknown, FCC standards or manufacturer specifications are applied).
19. AMSL at base of tower site.
20. Antenna centerline AGL (height of antenna above ground level measured at the centerline of the actual antenna).
21. Foliage factors (Evergreens/Deciduous and percent of ground cover).
22. Ground Clutter (primarily used in rural areas to account for foliage and in metropolitan areas to account for types and heights of buildings if known).
23. Average gain of receive antenna.
24. Receive antenna is estimated at height above average terrain (HAAT) of 6.2 meters/20 feet.
25. Federal Registration Numbers (if applicable) which may allow opportunities to cross-reference and/or obtain additional data from the FCC's ULS and the **CO**mmission **RE**gistration System.

Propagation modeling combines scientific data and empirical mathematical formulation for the characterization of radio wave propagation as a function of frequency, distance, and other conditions. Propagation software(s) typically use the Irregular Terrain Model (also known as Longley-Rice) of radio propagation for frequencies between 20 MHz and 20 GHz. This model is based on electromagnetic theory and statistical analyses of the combination of terrain features and radio measurements, then predicting the median attenuation of a radio signal as a function of distance and the variability of the signal in time and in space. For metropolitan areas, the software can typically be adjusted to use the Okumura-Hata model, which accounts for predicting the behavior of cellular transmissions in areas where buildings are the primary obstructions. The resulting product from either model depicts a graphical illustration of the theoretical propagation characteristics of a selected frequency range based on defined variables (receiver sensitivity of the home/mobile device, foliage factor, and digital elevation terrain input).

After converting propagation models into a geospatial format, additional processing is completed to remove the small pixels representing service present in the resulting dataset. These areas are initially created based on the parameters entered in the software from the provider equipment information, the underlying data parameters of elevation, hill shade, etc., and the limitations of the software itself to display a broadband service area as accurately as possible. Generally, these random pixel striations appear as a result of signal levels reaching the highest elevated points within the prescribed radius. Typically, while this pixilation anomaly shows legitimate areas where signals can be received, these highly elevated points may have exceedingly sparse populations or are entirely void of population. As a result, and congruent to the *Wireless Technology Methodologies and Business Logic* white paper submitted to NTIA on January 20, 2011, all independent pixels representing service that are less than 0.125 square miles in area have been removed from the geospatial representation of each wireless provider.

BROADBAND INQUIRIES METHODOLOGY

CN has collected consumer feedback in the form of broadband inquiries (BBIs). These inquiries represent any type of communication received from the public regarding broadband service. Once BBIs are received across the state, this information is overlaid with the broadband availability information which was collected through the SBI program. This allows for a real-world comparison of the broadband landscape to the information received from broadband inquiries. Consumers submitting these inbound comments and/or inquiries are able to provide information regarding five categories: 1) residents who do not have broadband but want it; 2) residents who have broadband but want a different provider; 3) residents who do not have broadband, but the broadband inventory maps indicate that they do; 4) residents who have broadband but want a faster connection speed; and 5) residents who have broadband but want a less expensive service option.

BBIs are submitted frequently by consumers via the Connect Minnesota website. Inquiries often seek help to identify local broadband provider options, or to learn when a specific provider may be able to provide service to that consumer. Consumer comments also provide information which may help modify maps with actual service area information. The primary objectives of CN regarding

these inquiries has been 1) to improve the accuracy of the state maps with submitted consumer information and follow-up field research; 2) to provide broadband options to consumers through cooperation with mapped providers and by facilitating new broadband service options; and 3) to map and analyze information from consumers about areas of unmet broadband demand and alternatives to currently mapped services. A prime example of the second option is the utilization of the Rural Utility Service satellite eligibility tool. By simply entering the consumer's address, the CN engineer can quickly determine if the consumer meets the initial qualification status for BIP satellite subsidies.

New BBIs are assigned to either the GIS department or the Engineering & Technical Services (ETS) team depending on the category entered by the consumer on the website submission form. The GIS or ETS team members respond to each inquiry according to the information entered by the consumer. Many BBIs can be resolved through desktop research; however, if a BBI requires research in the field, the assigned ETS team member conducts such research when performing field validations in the area of the inquiry, or at another such time as is practical and appropriate. GIS and ETS team members respond to and conclude BBIs via telephone contact and/or e-mail communication.

The broadband inquiry process has been implemented in each of the CN state programs with successful results. Altogether CN has received over 19,388 broadband inquiries since 2007, allowing the state programs to evaluate each inquiry for broadband demand and data verification. These inquiries have been continuously examined against current broadband availability, updated every six months, to determine if previously unserved households have been expanded to and can now receive broadband at their residence. This database of broadband inquiries has also allowed the CN state programs to aggregate demand in concentrated areas to show providers the exact locations where the population has made it clear that they would purchase broadband if it was made available to them. Providers in the states have responded to this process and have expanded to areas knowing that their investment will be worthwhile. Data verification methods have also proven successful, as the state programs have been able to show those inquiries that indicate the broadband service areas are misrepresented on the map to providers, who then verify where service cannot reach in regard to that residence(s). The broadband coverage in these states has been altered to create a more accurate map based on the inquiries submitted by the public.

During this reporting period, the Connect Minnesota project has received a total of 43 inquiries (242 grant inception to date).

MY CONNECTVIEW METHODOLOGY

My ConnectView is an interactive online mapping tool for viewing, analyzing, and validating broadband data. Developed using Esri's ArcGIS for Server and Adobe's Flex Framework and hosted and maintained by Connected Nation, My ConnectView is a multi-functional, user-friendly way for local leaders, policymakers, consumers, and technology providers to devise a plan for the expansion and adoption of broadband.

First and foremost, My ConnectView allows consumers to locate their residence and identify providers that offer broadband Internet service to that location. The interactive platform allows for users to build and evaluate broadband expansion scenarios using a wealth of data, including several coverage analysis layers, speed analyses, Community Anchor Institutions, and tools to search and export household demographic information, as well as extract data in GIS, spreadsheet, and/or PDF formats.

My ConnectView also features more interactive data layers and additional tools than ever before to allow the consumer to explore the broadband data. My ConnectView provides consumers with the ability to print, e-mail, and provide feedback on the broadband data displayed on the interactive map. Through the collection of this feedback, a visual demand for broadband is presented. This visualization allows the CN state programs the ability to validate the broadband availability for accuracy. If residents within a region state they are without broadband, but the interactive map shows otherwise, this allows CN to approach the providers within that area in an effort to trim down their coverage to more accurately represent real-world availability on the ground.

The Connect Minnesota project launched My ConnectView on April 2, 2012, and has received 2,706 visits this reporting period; to date the interactive mapping application has received 13,797 visits.

SPEED TEST METHODOLOGY

The 1,114 speed tests that are represented in the Connect Minnesota Speed Test Report during this reporting period (16,609 grant inception to date) are the result of a partnership between CN and Ookla Net Metrics. Utilizing this relationship increases the level of confidence in the data being collected and provides for a far greater sample size than could be collected by a single testing site.

Ookla owns and operates Speedtest.net, as well as develops and deploys speed tests, such as the Connect Minnesota speed test website, for partners around the world. This network of sites that is developed and run on its testing technology provides Ookla with a vast dataset that, due to the variability of geographic information collected across the varying speed test sites, is geocoded utilizing Geo-IP technology. This technology allows for tests to be geocoded to points of aggregation, typically larger nodes across provider networks. While there are hundreds of thousands of tests that have been conducted, the level of aggregation is only sufficient for county-level detail due to the test results being located at these larger nodes and not at an absolute location for each speed test.

In an effort to validate broadband data from the Connect Minnesota project, speed test information is collected throughout the state. Speed tests provide speed information on the path taken through all networks (a provider's network as well as additional networks) a local machine must connect to in order to reach the host test. The benefit of this collection of speed information is two-tiered. First, it allows for a comprehensive dataset of speeds, while also providing Connect Minnesota with the information on where broadband services are available. Second, unlike theoretical speed

information which may be received through the data collection process, the use of speed tests provide real-world information on the speeds that currently exist within the state of Minnesota.

PROVIDERS DEEMED NON-VIABLE

The following list of companies represents the remainder of the broadband provider universe that was originally identified as complete for outreach to begin for the State Broadband Initiative. These providers are not included in the Data Package for the October 2014 submission because they have been deemed non-eligible under the parameters and guidance of the SBI grant program. This list of companies includes, but is not limited to: providers offering service but below the current definition of broadband, those that have gone out of business, technology consulting firms, infrastructure or network construction companies, non-facilities based general resellers that have not provided sufficient mapping information, etc.

	Company Name	URL	Comments
1	360networks	http://www.360networks.com/	Acquired by another company.
2	Access Media 3, Inc.	http://www.am3inc.com	Company is a bulk reseller to MDU and commercial properties.
3	Airespring, Inc.	http://www.airespring.com	Company is a nonfacilities-based reseller.
4	Akeva	n/a	Reseller of Verizon Mobile phones in mall kiosk.
5	Boreal Access	http://boreal.org/drupal/	Provider does not meet minimum speed requirements for participation and is not installing any new subscribers.
6	Broadcore, Inc.	www.broadcore.com/	Broadcore is a national provider of business-class hosted unified communications services and has no ISP offerings.
7	BullsEye Telecom, Inc.	http://www.bullseyetelecom.com	Company is a nonfacilities-based reseller.
8	Cbeyond Communications, LLC	http://www.cbeyond.net/index.htm	Cbeyond is a national provider of business-class hosted unified communications services and has no ISP offerings.

9	Computer Pro Inc.	www.hickorytech.com	Company reporting data is provided by Hickory Tech which is being acquired by Eventis closing in late 2014.
10	Delavan Telephone Company	http://www.bevcomm.net/	Company reporting data is provided by Blue Earth Valley Telephone Company (BEVCOMM).
11	Digital Telecommunications, Inc.	http://www.pickdti.com/	No longer in business.
12	Dunnell Telephone Company	http://bevcomm.net/	Provider does not meet minimum speed requirements for participation.
13	EN-TEL Communications, LLC	http://www.en-tel.com/	Acquired by another company.
14	Global Crossing Telecommunications, Inc.	http://www.globalcrossing.com/	Acquired by another company.
15	GN Wireless	n/a	Local phone disconnected and website not located; provider no longer in business.
16	Home Telephone Company	http://www.hmtel.com	Company reporting data is provided by Arvig Communications Services.
17	Lakedale LINK	http://www.lakedaletelephone.com/	Acquired by another company.
18	Lakedale Telephone	http://www.lakedaletelephone.com/	Acquired by another company.
19	LightEdge Solutions, Inc.	http://www.lightedge.com	Provider does not offer residential broadband service in Minnesota.
20	Lightyear Network Solutions, LLC	www.lightyear.net	Nonfacilities-based reseller for DSL services.
21	Lowry Telephone LLC	www.home.runestone.net/rta	Company acquired by Runestone Telecom Association.
22	Maple Leaf Networks	http://www.mleaf.net/	No longer in business.

23	Merit Network, Inc.	www.merit.edu	Provider has operations in Michigan; no operations in Minnesota completed to date.
24	Metropolitan Telecommunications Holding Company	www.mettel.com	Nonfacilities-based reseller for DSL services.
25	MLM Project Services, Inc.	http://www.mlmpsinc.com	Company does not offer residential broadband service in Minnesota.
26	M-Tek Systems	www.mteksystems.com	Company does not offer residential broadband service in Minnesota.
27	New Edge Network, Inc.	http://www.newedgenetworks.com/	Nonfacilities-based backhaul reseller.
28	North American Communications Corp (NACC)	http://www.jaguarcommunications.com	Maps and data are supplied by DBA Jaguar Communications.
29	OrbitCom, Inc.	http://www.orbitcom.biz	Reseller of CenturyLink Services and has been non-responsive to multiple contact attempts.
30	PAETEC Communications, Inc.	http://www.paetec.com/	Acquired by another company.
31	Popp.com, Inc.	http://www.popp.com/	Provider is a supplier of business services only.
32	Renville-Sibley Fiber to the Farm (RSFiber Cooperative	www.rsfiber.coop	Fiber to the Farm project still seeking funding and support, however they are performing engineering functions.
33	Ridge Runner Internet Services Inc.	http://www.ridge-runner.com/index.html	No longer in business.
34	Sihope Communications	http://www.sihope.com/	Facilities-based company offering B2B solutions and reseller of circuits (non-residential). Called provider 9-02-14 to verify they do not offer residential wireless broadband services.

35	Sioux Valley Rural Television, Inc.	n/a	Company does not offer broadband services; affiliate Sioux Valley Wireless coverage and data is provided.
36	Tekstar Communication Systems, Inc.	n/a	Company reporting data is provided by Arvig Communications Services.
37	Telefonica USA, Inc.	http://www.us.telefonica.com/	Provider does not offer services in Minnesota.
38	Terril Telephone Cooperative	http://www.terril.com	Provider does not offer services in Minnesota.
39	The City of Boyd, Minnesota	n/a	The City of Boyd offers cable television only over cable plant; leases cable spectrum to ISP, MVTW Wireless.
40	United States Cellular Corporation	http://www.uscellular.com/uscellular/index.jsp	Provider does not offer broadband services in Minnesota. Website shows coverage now both mobile phone and data (3G) covering MN.
41	University Corporation for Advanced Internet Development	n/a	Nationwide Gbit network for anchor institutions; under construction utilizing existing fiber and new installations.
42	US Cable Corporation	http://www.uscablegroup.com/	Acquired by another company.
43	US Family Internet	http://www.usfamily.net/	Nonfacilities-based reseller of CenturyLink Services.
44	US Internet of Minnetonka	http://www.usiwireless.com/	Provider coverage and data is reported by DBA USI Wireless.
45	Velocity Telephone, Inc.	http://www.velocitytelephone.com	Nonfacilities-based reseller of CenturyLink Services. Company has purchased FTTH Comm after June 30, 2014 and will become Gigabit Wireless in near future and will be considered viable provider.

46	WilTel Communications, LLC.	n/a	As of December 23, 2005, WilTel Communications Group Inc. operates as a subsidiary of Level 3.
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APPENDIX A: BROADBAND PROVIDER LOG



Broadband Provider Log

Complete	235
Non-Responsive/Refused	1
In Progress	1
Reseller Providing Data	0
Count of Datasets by Status	237
Total Unique Providers Represented	127

Provider Name	Platform	Status	NDA Execution Date	Notes	End User Category
AirFiber	Fixed Wireless	Data Added to Statewide Inventory		[MAY-14-14 Brian Dudek] Change: Provider expanded coverage with four additional transmission locations in the counties of St. Louis and Carlton.	1 Residential Only
AirFiber	Fixed Wireless	Data Added to Statewide Inventory		[MAY-14-14 Brian Dudek] Change: Provider expanded coverage with four additional transmission locations in the counties of St. Louis and Carlton. Offers higher maximum advertised download and upload speeds than residential.	2 Business Only
AirFiber	Fixed Wireless	Data Added to Statewide Inventory		[MAY-14-14 Brian Dudek] Change: Provider expanded service into the Side Lake area. It has also been determined that the provider offers this service and service in city of Wrenshall to both residential and business users at a lower speed tier than other transmission locations.	5 Both Residential/Business
Arvig	DSL	Data Added to Statewide Inventory	4/20/2010	[SEP-03-14 Brian Dudek] Change/Correction: Provider indicated small coverage correction in and around the Kingston municipality. Recreated coverage based off DSLAM location data. Provider upgraded infrastructure increasing maximum advertised download and upload speeds based off distance to CO/RT.	5 Both Residential/Business
Arvig Communication Systems	DSL	Data Added to Statewide Inventory	2/2/2011	[SEP-03-14 Brian Dudek] Change/Correction: Recreated coverage based off DSLAM location data. Provider upgraded infrastructure increasing maximum advertised download and upload speeds based off distance to CO/RT.	5 Both Residential/Business
Arvig Communication Systems	DSL	Data Added to Statewide Inventory	2/2/2011	[SEP-03-14 Brian Dudek] Change/Correction: Recreated coverage based off DSLAM location data. Provider upgraded infrastructure increasing maximum advertised download and upload speeds based off distance to CO/RT.	5 Both Residential/Business
Arvig Communication Systems	DSL	Data Added to Statewide Inventory	2/2/2011	[SEP-03-14 Brian Dudek] Change/Correction: Recreated coverage based off DSLAM location data. Provider upgraded infrastructure increasing maximum advertised download and upload speeds based off distance to CO/RT.	5 Both Residential/Business
Arvig Communication Systems	DSL	Data Added to Statewide Inventory	2/2/2011	[SEP-03-14 Brian Dudek] Change/Correction: Recreated coverage based off DSLAM location data. Provider upgraded infrastructure increasing maximum advertised download and upload speeds based off distance to CO/RT.	5 Both Residential/Business
Arvig Communication Systems	Fiber	Data Added to Statewide Inventory	2/2/2011	[SEP-03-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised download and upload speeds to tier 10. Minor coverage alteration.	5 Both Residential/Business
Arvig Communication Systems	DSL	Data Added to Statewide Inventory	2/2/2011	[AUG-18-14 Brian Dudek] Change/Correction: Recreated coverage based off DSLAM location data. Provider upgraded infrastructure increasing maximum advertised download and upload speeds based off distance to CO/RT. Now also reporting a symmetrical offering in Redwood County Telephone area.	5 Both Residential/Business

AT&T Corp, Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/16/2009	[AUG-06-14 Brian Dudek] Change: Provider expanded coverage significantly in the northern part of the state, particularly north-central. Filled in many prior gaps in coverage. LTE expansion is also present.	5 Both Residential/Business
Blue Earth Valley Telephone Company	Fiber	Data Added to Statewide Inventory	6/16/2010	[AUG-08-14 Brian Dudek] Change: Provider expanded fiber service slightly in the cities of New Prague and Blue Earth.	5 Both Residential/Business
Blueprint America, Inc.	Fixed Wireless	Data Added to Statewide Inventory	8/16/2012	[AUG-26-14 Brian Dudek] Change: Provider expanded coverage with eight additional transmission locations increasing coverage in portions of Kandiyohi, Mcleod, Scott, Sibley, Stearns and Wright counties. Additionally, coverage now exists in Le Sueur County.	5 Both Residential/Business
Broadband Corp	Fixed Wireless	Data Added to Statewide Inventory	5/11/2010	[AUG-05-14 Brian Dudek] Change: Provider added eight new transmissions (licensed and unlicensed) and altered specs on two others. Negligible coverage change.	5 Both Residential/Business
CenturyLink	DSL	Data Added to Statewide Inventory	12/4/2009	[AUG-27-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2014 submission. Significant decrease in greater than 2 square mile census block based road segment coverage.	5 Both Residential/Business
CenturyLink	Fiber	Data Added to Statewide Inventory	12/4/2009	[AUG-15-14 Brian Dudek] Change: Provider expanded fiber service into fourteen additional census blocks. Upgraded infrastructure in all blocks as well increasing maximum advertised upload speed to tier 9.	5 Both Residential/Business
Cogent Communications, Inc.	Fiber	Data Added to Statewide Inventory		[AUG-27-14 Brian Dudek] Change: Provider reported fiber to the business coverage in Minneapolis and St. Paul.	2 Business Only
Comcast Cable Communications, LLC	Cable	Data Added to Statewide Inventory	12/7/2009	[AUG-20-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission.	5 Both Residential/Business
Consolidated Telephone Company	DSL	Data Added to Statewide Inventory	3/1/2012	[AUG-12-14 Brian Dudek] Change/Correction: Provider reported DSL service in five additional locations in Nisswa, Brainerd, Little Falls, Forestview, and Marohn. Speeds altered in prior reported areas decreasing maximum advertised upload speed to tier 4 and increasing typical download to tier 7.	5 Both Residential/Business
Consolidated Telephone Company	Fiber	Data Added to Statewide Inventory	3/1/2012	[AUG-12-14 Brian Dudek] Change: Provider added a fiber area along a road segment in the Brainerd exchange. Also upgraded infrastructure increasing maximum advertised download and upload speeds to tier 11.	5 Both Residential/Business
Consolidated Telephone Company	Fixed Wireless	Data Added to Statewide Inventory	3/1/2012	[AUG-13-14 Brian Dudek] Change: Provider removed prior Crosby, Gull Lake, and Brainerd transmissions and launched two new sites.	5 Both Residential/Business
Farmers Mutual Telephone Company	Fiber	Data Added to Statewide Inventory	4/1/2010	[JUL-25-14 Brian Dudek] Correction: Provider had built to the NW and East sections of Lac qui Parle County, but this is the first submission in which it was reported. Also fixed some prior alignment issues with the Census 2010 county boundaries.	5 Both Residential/Business
Federated Telephone Cooperative	Fiber	Data Added to Statewide Inventory	4/1/2010	[JUL-25-14 Brian Dudek] Correction: Fixed southern border boundary to align properly with Census 2010 county boundary. Resulted in removal of some blocks which will are actually only with the provider to the south.	5 Both Residential/Business
Frontier Communications of Minnesota, Inc.	DSL	Data Added to Statewide Inventory	1/22/2010	[AUG-04-14 Brian Dudek] Change: Provider upgraded infrastructure with additional COs and RTs increasing speeds in some areas. Very minor coverage expansion.	5 Both Residential/Business
Garden Valley Telephone Company	DSL	Data Added to Statewide Inventory	2/17/2010	[JUN-17-14 Brian Dudek] Correction: Minor coverage adjustments near the exchange borders based on latest FCC exchange study area boundaries.	5 Both Residential/Business

Garden Valley Telephone Company	Fiber	Data Added to Statewide Inventory	2/17/2010	[JUN-17-14 Brian Dudek] Correction: Minor coverage adjustments near the exchange borders based on latest FCC exchange study area boundaries. Removed some DSL blocks incorrectly also listed as fiber.	5 Both Residential/Business
Gardonville Cooperative Telephone Association	DSL	Data Added to Statewide Inventory	2/23/2010	[JUN-05-14 Brian Dudek] Change: Provider converted some DSL infrastructure to fiber.	5 Both Residential/Business
Gardonville Cooperative Telephone Association	Fiber	Data Added to Statewide Inventory	2/23/2010	[JUN-05-14 Brian Dudek] Change: Provider expanded fiber territory in multiple areas that were previously DSL.	5 Both Residential/Business
Great Lakes Communication Corp.	Fixed Wireless	Data Added to Statewide Inventory	6/25/2013	[JUL-28-14 Brian Dudek] Change: Provider discontinued transmission location in IA which decreased coverage slightly in MN near Round Lake.	5 Both Residential/Business
Halstad Telephone Company	Fiber	Data Added to Statewide Inventory	6/16/2010	[AUG-07-14 Brian Dudek] Correction: Provider corrected a small piece of their northern fiber boundary decreasing coverage slightly.	5 Both Residential/Business
Harmony Telephone Company	Fixed Wireless	Data Added to Statewide Inventory	1/12/2010	[AUG-05-14 Brian Dudek] Change: Very minor expansion on eastern side of coverage.	5 Both Residential/Business
Hiawatha Broadband Communications, Inc.	Fiber	Data Added to Statewide Inventory	3/8/2010	[AUG-22-14 Brian Dudek] Change: Provider expanded fiber coverage into towns of Altura, Chatfield and Kellogg.	5 Both Residential/Business
Hutchinson Telecommunications, Inc.	Fixed Wireless	Data Added to Statewide Inventory	4/14/2010	[SEP-16-14 Brian Dudek] Change: Provider expanded coverage with four additional transmission locations in multiple counties. Upgraded infrastructure increasing maximum advertised download and upload speeds to tier 6 and tier 3, respectively.	5 Both Residential/Business
Hutchinson Telecommunications, Inc.	DSL	Data Added to Statewide Inventory	4/14/2010	[JUN-19-14 Brian Dudek] Change: New business-only download and upload speeds through DSL along with other copper technology representing business Ethernet at even higher speeds.	2 Business Only
Info Link Wireless, Inc.	Fixed Wireless	Data Added to Statewide Inventory	4/19/2010	[AUG-07-14 Brian Dudek] Change: Provider removed and added transmissions. Minute coverage change. Upgraded infrastructure increasing maximum advertised download and upload speed to tier 7 in the towns of Morris and Hancock.	5 Both Residential/Business
InvisiMax, Inc.	Fixed Wireless	Data Added to Statewide Inventory	2/29/2012	[AUG-25-14 Brian Dudek] Change/Correction: Provider's new coverage from towercoverage.com was refined indicating a slight increase in coverage around Argyle and rural Crookston. Provider indicated that the maximum advertised upload speed is now in tier 7 at 10 Mbps.	5 Both Residential/Business
Jab Wireless, Inc.	Fixed Wireless	Data Added to Statewide Inventory	6/14/2010	[JUL-28-14 Brian Dudek] Change/Correction: Provider refined propagation which increased coverage in some areas and decreased in others.	5 Both Residential/Business
Lake County Fiber Network	Fiber	Data Added to Statewide Inventory		[AUG-05-14 Brian Dudek] Change: Provider completed phases 1A and 2 of project expanding coverage from Beaver Bay to into St. Louis County south of Knife River and areas around Two Harbors.	2 Business Only
Lake County Fiber Network	Fiber	Data Added to Statewide Inventory		[AUG-05-14 Brian Dudek] Change: Provider completed phases 1A and 2 of project expanding coverage from Beaver Bay to into St. Louis County south of Knife River and areas around Two Harbors.	1 Residential Only
Lakenet Communications	Fixed Wireless	Data Added to Statewide Inventory	10/18/2012	[SEP-05-14 Brian Dudek] Change: Provider added an unlicensed transmission near Briar Lake. Upgraded previously tier 4 maximum advertised download/upload speeds to tier 5.	5 Both Residential/Business
Level 3 Communications, LLC	Fiber	Data Added to Statewide Inventory	12/14/2009	[AUG-15-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission.	2 Business Only
Lonsdale Telephone Company, Inc.	Fiber	Data Added to Statewide Inventory		[AUG-26-14 Brian Dudek] Change: Provider expanded coverage slightly outside of exchange area to the south. Upgraded infrastructure increasing maximum advertised download speed, which remained in the same tier, and maximum advertised upload speed to tier 7.	5 Both Residential/Business

MegaPath Corporation	DSL	Data Added to Statewide Inventory	2/15/2010	[AUG-08-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission. Provider added additional blocks for Other Copper Wireline technology. Provider expanded coverage in east Washington County.	2 Business Only
Midcontinent Communications	Fiber	Data Added to Statewide Inventory	12/9/2009	[JUL-22-14 Brian Dudek] Change: Provider expanded coverage in the counties of Dakota, Le Sueur, Polk, Sherburne, Steele, Stearns, and St. Louis.	2 Business Only
Midcontinent Communications	Cable	Data Added to Statewide Inventory	12/9/2009	[JUL-22-14 Brian Dudek] Change: Provider primarily expanded coverage into the cities of Elysian, Le Center, Medford, and Waterville.	5 Both Residential/Business
Minnesota WiFi LLC	Fixed Wireless	Data Added to Statewide Inventory	1/28/2013	[AUG-14-14 Brian Dudek] Change: Provider expanded coverage into Blooming Prairie and north of Claremont.	2 Business Only
Minnesota WiFi LLC	Fixed Wireless	Data Added to Statewide Inventory	1/28/2013	[AUG-14-14 Brian Dudek] Change: Provider expanded coverage into Blooming Prairie and north of Claremont.	1 Residential Only
New Ulm Telecom, Inc.	DSL	Data Added to Statewide Inventory	2/25/2010	[JUN-19-14 Brian Dudek] Change: New business-only download and upload speeds through DSL.	2 Business Only
New Ulm Telecom, Inc.	DSL	Data Added to Statewide Inventory	2/25/2010	[JUN-19-14 Brian Dudek] Change: New business-only download and upload speeds through DSL along with other copper technology representing business Ethernet at even higher speeds.	2 Business Only
NewCore Wireless LLC	Mobile Wireless	Data Added to Statewide Inventory	4/25/2013	[JUN-12-14 Brian Dudek] Change: Provider deactivated two transmission locations decreasing coverage in Todd County and a portion of Stearns County.	5 Both Residential/Business
NewCore Wireless LLC	Mobile Wireless	Data Added to Statewide Inventory	4/25/2013	[JUN-12-14 Brian Dudek] Change: Provider expanded coverage primarily in Benton County with two additional transmission locations.	5 Both Residential/Business
Paul Bunyan Rural Telephone Cooperative	DSL	Data Added to Statewide Inventory	6/24/2010	[JUN-23-14 Brian Dudek] Change: Provider upgraded infrastructure and converted some DSL to fiber.	5 Both Residential/Business
Paul Bunyan Rural Telephone Cooperative	Fiber	Data Added to Statewide Inventory	6/24/2010	[JUN-23-14 Brian Dudek] Change: Provider expanded fiber territory into the Red Lake, Redby, and Little Rock area.	5 Both Residential/Business
Radio Link Internet	Fixed Wireless	Data Added to Statewide Inventory		[AUG-15-14 Brian Dudek] Change: Provider expanded coverage by adding two transmission locations near Faribault and Mapleton. Provider also confirmed advertisements of residential/business download and upload speeds of tier 10 in entire service area.	5 Both Residential/Business
Red River Rural Telephone Association	Fixed Wireless	Data Added to Statewide Inventory	3/17/2010	[AUG-21-14 Brian Dudek] Change: Provider added four 3650 transmission locations allowing for tier 5 maximum advertised download speeds. Small coverage increase on eastern side of prior coverage near Otter Tail and Wilkin County border.	5 Both Residential/Business
Roberts County Telephone Coop Assn.	Fixed Wireless	Data Added to Statewide Inventory	4/21/2014	[JUN-12-14 Brian Dudek] Correction: New provider for this submission that was previously in service. A South Dakota company with small amount of coverage that goes into Minnesota.	5 Both Residential/Business
Sjoberg's Inc.	Cable	Data Added to Statewide Inventory	12/21/2009	[AUG-14-14 Brian Dudek] Change/Correction: Provider made adjustments to coverage in Baudette, Red Lake Falls, Roseau, Thief River Falls, Warren, and Warroad. Also upgraded infrastructure increasing maximum advertised download and upload speeds, but the speeds both remain in the same speed tier. Therefore, only typical speed tiers were increased.	5 Both Residential/Business
Sprint Nextel Corporation	Mobile Wireless	Data Added to Statewide Inventory	1/14/2010	[AUG-07-14 Brian Dudek] Change: Provider expanded coverage primarily in the north-central and east-central part of the state. Filled in many prior gaps in coverage. Upgraded infrastructure increasing maximum advertised download and upload speeds to tier 6 and tier 4, respectively, in a large portion of their coverage area.	5 Both Residential/Business

T-Mobile USA, Inc.	Mobile Wireless	Data Added to Statewide Inventory	1/8/2010	[AUG-08-14 Brian Dudek] Change/Correction: Provider increased their non-3G coverage, particularly their HSPA and LTE coverage. Very small overall increases in coverage as well as decreases.	5 Both Residential/Business
TDS Telecommunications Corporation	DSL	Data Added to Statewide Inventory	1/27/2010	[JUL-31-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission.	5 Both Residential/Business
TDS Telecommunications Corporation	Fiber	Data Added to Statewide Inventory	1/27/2010	[JUL-31-14 Brian Dudek] Change: Provider began expanding fiber coverage into their Arvig Telephone Company exchange.	5 Both Residential/Business
tw telecom of minnesota llc	DSL	Data Added to Statewide Inventory	4/20/2010	[AUG-11-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission.	2 Business Only
tw telecom of minnesota llc	Fiber	Data Added to Statewide Inventory	4/20/2010	[AUG-11-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission.	2 Business Only
US Internet of Minnetonka	Fiber	Data Added to Statewide Inventory	2/29/2012	[JUL-29-14 Brian Dudek] Change: New provider platform for the October 2014 submission.	5 Both Residential/Business
VAL-ED Joint Venture, LLP	Fixed Wireless	Data Added to Statewide Inventory	4/21/2010	[JUN-06-14 Brian Dudek] Correction: Provider indicated that they have a non-compete clause with Arvig Communication Systems. Removed coverage that incorrectly overlapped Arvig's Loretel Systems, Inc.	5 Both Residential/Business
Verizon Communications, Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/14/2009	[AUG-08-14 Brian Dudek] Change/Correction: Provider expanded their LTE coverage in the northeast part of the state. Very small overall increases in coverage as well as decreases.	5 Both Residential/Business
Western Telephone Company	DSL	Data Added to Statewide Inventory	4/14/2010	[JUN-19-14 Brian Dudek] Change: New business-only download and upload speeds through DSL along with other copper technology representing business Ethernet at even higher speeds.	2 Business Only
Windstream Communications	DSL	Data Added to Statewide Inventory		[AUG-19-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission.	1 Residential Only
Cooperative Network Services, LLC	Backhaul	Backhaul Provider Only Processing Complete	8/5/2014		N/A Backhaul
Level 3 Communications, LLC	Backhaul	Backhaul Provider Only Processing Complete	12/14/2009		N/A Backhaul
Midcontinent Communications	Backhaul	Backhaul Provider Only Processing Complete	12/9/2009		N/A Backhaul
Savage Communications Inc.	Backhaul	Backhaul Provider Only Processing Complete	2/19/2010		N/A Backhaul
TDS Telecommunications Corporation	Backhaul	Backhaul Provider Only Processing Complete	1/27/2010		N/A Backhaul
Arvig	Fiber	Speed Only Update; Data Processing Complete	4/20/2010	[AUG-28-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised download and upload speeds to tier 11 in the city of Richmond. Advertised upload speeds were also increased to tier 11 in the city of Melrose.	5 Both Residential/Business
Arvig	Cable	Speed Only Update; Data Processing Complete	4/20/2010	[AUG-28-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised download and upload speeds to tier 10 and tier 7, respectively, in the city of Sauk Centre.	5 Both Residential/Business
Arvig Communication Systems	Fixed Wireless	Speed Only Update; Data Processing Complete	2/2/2011	[AUG-28-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised download and upload speeds to tier 5 and tier 3, respectively.	5 Both Residential/Business
Benton Cooperative Telephone Company	Cable	Speed Only Update; Data Processing Complete	6/16/2010	[SEP-16-14 Brian Dudek] Correction: Provider has DOCSIS 3.0 service, which the provider confirmed reaches tier 9 maximum advertised download speeds.	5 Both Residential/Business
Benton Cooperative Telephone Company	Cable	Speed Only Update; Data Processing Complete	6/16/2010	[SEP-16-14 Brian Dudek] Correction: Provider has DOCSIS 3.0 service, which the provider confirmed reaches tier 9 maximum advertised download speeds.	5 Both Residential/Business

Cable ONE Inc.	Cable	Speed Only Update; Data Processing Complete	12/7/2009	[AUG-14-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised upload speed to tier 6.	5 Both Residential/Business
Gardenville Cooperative Telephone Association	Fixed Wireless	Speed Only Update; Data Processing Complete	2/23/2010	[SEP-19-14 Brian Dudek] Change/Correction: Provider reported actual advertised speeds indicating download in speed tier 4 and upload in speed tier 2 for the DBA Gardenville Telephone area.	5 Both Residential/Business
Hiawatha Broadband Communications, Inc.	Cable	Speed Only Update; Data Processing Complete	3/8/2010	[AUG-21-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised upload speeds to tier 6.	5 Both Residential/Business
Interstate Telecommunications Cooperative, Inc.	Fiber	Speed Only Update; Data Processing Complete	2/10/2010	[JUN-18-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised download and upload speeds to tier 9 and tier 7, respectively, in the small fiber area bordering South Dakota.	5 Both Residential/Business
Jaguar Communications	Fiber	Speed Only Update; Data Processing Complete	4/12/2010	[SEP-05-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised download and upload speeds to tier 10 and 9, respectively.	5 Both Residential/Business
Lismore Cooperative Telephone Company	Fiber	Speed Only Update; Data Processing Complete		[JUN-17-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised download speeds to tier 7.	5 Both Residential/Business
Manchester-Hartland Telephone Company	Fiber	Speed Only Update; Data Processing Complete	4/14/2010	[AUG-12-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised upload speed to tier 7.	5 Both Residential/Business
Rothsay Telephone Company Inc.	DSL	Speed Only Update; Data Processing Complete	2/18/2010	[JUN-12-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised download and upload speeds to tier 10 and tier 7, respectively.	5 Both Residential/Business
Rothsay Telephone Company Inc.	Fiber	Speed Only Update; Data Processing Complete	2/18/2010	[JUN-12-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised download and upload speeds to tier 10 and tier 7, respectively.	5 Both Residential/Business
Southern Cablevision, Inc.	Cable	Speed Only Update; Data Processing Complete	3/30/2010	[AUG-28-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised download and upload speeds to tier 10 and tier 7, respectively.	5 Both Residential/Business
Spring Grove Communications	Fiber	Speed Only Update; Data Processing Complete	1/12/2010	[AUG-05-14 Brian Dudek] Change: Provider upgraded infrastructure increasing maximum advertised download speeds to tier 9.	5 Both Residential/Business
Western Telephone Company	DSL	Speed Only Update; Data Processing Complete	4/14/2010	[JUN-16-14 Brian Dudek] Change: Provider upgraded infrastructure increasing asymmetrical typical download speed to tier 8. Also it has been determined that the provider offers this asymmetric DSL service to residential only as they have higher speed business offerings.	1 Residential Only
Hutchinson Telecommunications, Inc.	DSL	End User Category Update Only; Data Processing Complete	4/14/2010	[JUN-16-14 Brian Dudek] Change: It has been determined that the provider offers this asymmetric DSL service to residential only as they have higher speed business offerings.	1 Residential Only
New Ulm Telecom, Inc.	DSL	End User Category Update Only; Data Processing Complete	2/25/2010	[JUN-16-14 Brian Dudek] Change: It has been determined that the provider offers this asymmetric DSL service to residential only as they have higher speed business offerings.	1 Residential Only
New Ulm Telecom, Inc.	DSL	End User Category Update Only; Data Processing Complete	2/25/2010	[JUN-16-14 Brian Dudek] Change: It has been determined that the provider offers this asymmetric DSL service to residential only as they have higher speed business offerings.	1 Residential Only
Nates Net, Inc.	Fixed Wireless	No Update-Estimated Coverage Submitted for Non-Participating Provider			5 Both Residential/Business
Nextera Communications	Fixed Wireless	No Update-Estimated Coverage Submitted for Non-Participating Provider			5 Both Residential/Business
St. Olaf College Telecommunications	Fiber	No Update-Estimated Coverage Submitted for Non-Participating Provider			2 Business Only

Synkro Southwest	Fixed Wireless	No Update-Estimated Coverage Submitted for Non-Participating Provider			1 Residential Only
Arrowhead Electric Cooperative, Inc.	Fiber	Approval for Update Not Received – Data Still Submitted		[JUN-18-14 Brian Dudek] Correction: Connected Nation conducted data validation in provider designated serviceable greater than two square mile census blocks. Reduced road segment coverage in a few areas.	5 Both Residential/Business
Mediacom Communications Corporation	Cable	Approval for Update Not Received – Data Still Submitted	1/12/2010	[SEP-12-14 Brian Dudek] Change/Correction: Entirely new dataset provided for October 2014 submission based on road segments. Upgraded infrastructure increasing maximum advertised download and upload speeds to tier 10 and tier 7, respectively, throughout the state.	1 Residential Only
Sioux Valley Rural Television, Inc.	Fixed Wireless	Approval for Update Not Received – Data Still Submitted	4/21/2010	[JUL-23-14 Brian Dudek] Correction: Based on resident feedback recieved, coverage was corrected north and east of the town of Magnolia.	5 Both Residential/Business
Access Broadband	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Ace Telephone Association	Backhaul	No Update to Provide	8/3/2010		N/A Backhaul
Ace Telephone Association	Fiber	No Update to Provide	8/3/2010		5 Both Residential/Business
Ace Telephone Association	Fixed Wireless	No Update to Provide	8/3/2010		5 Both Residential/Business
Ace Telephone Association	DSL	No Update to Provide	8/3/2010		5 Both Residential/Business
AirLink Broadband, LLC	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Albany Mutual Telephone Association	DSL	No Update to Provide	3/4/2010		5 Both Residential/Business
Albany Mutual Telephone Association	Fiber	No Update to Provide	3/4/2010		5 Both Residential/Business
Alliance Communications Cooperative, Inc.	Backhaul	No Update to Provide	3/2/2012		N/A Backhaul
Alliance Communications Cooperative, Inc.	Fiber	No Update to Provide	3/2/2012		5 Both Residential/Business
AT&T Corp, Inc.	Backhaul	No Update to Provide	12/16/2009		N/A Backhaul
Barnesville Municipal Telephone	DSL	No Update to Provide	3/4/2010		5 Both Residential/Business
Benton Cooperative Telephone Company	Fiber	No Update to Provide	6/16/2010		5 Both Residential/Business
Benton Cooperative Telephone Company	Fixed Wireless	No Update to Provide	6/16/2010		5 Both Residential/Business
Benton Cooperative Telephone Company	Fiber	No Update to Provide	6/16/2010		5 Both Residential/Business
Benton Cooperative Telephone Company	DSL	No Update to Provide	6/16/2010		5 Both Residential/Business
Benton Cooperative Telephone Company	DSL	No Update to Provide	6/16/2010		5 Both Residential/Business
Benton Cooperative Telephone Company	Mobile Wireless	No Update to Provide	6/16/2010		5 Both Residential/Business
Blue Earth Valley Telephone Company	Cable	No Update to Provide	6/16/2010		5 Both Residential/Business
Blue Earth Valley Telephone Company	DSL	No Update to Provide	6/16/2010		5 Both Residential/Business
Blue Earth Valley Telephone Company	DSL	No Update to Provide	6/16/2010		5 Both Residential/Business
Blue Earth Valley Telephone Company	DSL	No Update to Provide	6/16/2010		5 Both Residential/Business
Blue Sky Broadband	Fixed Wireless	No Update to Provide	12/4/2012		5 Both Residential/Business
Bradco-Wisp, Inc.	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Carver County Open Fiber Initiative	Backhaul	No Update to Provide	10/31/2013		N/A Backhaul
CenturyLink	Backhaul	No Update to Provide	12/4/2009		N/A Backhaul
Charter Communications, Inc.	Backhaul	No Update to Provide	12/15/2009		N/A Backhaul
Charter Communications, Inc.	Cable	No Update to Provide	12/15/2009		5 Both Residential/Business
Christensen Communications Company	Backhaul	No Update to Provide	2/2/2010		N/A Backhaul
Christensen Communications Company	DSL	No Update to Provide	2/2/2010		5 Both Residential/Business
Christensen Communications Company	Fiber	No Update to Provide	2/2/2010		2 Business Only
Christensen Communications Company	Fixed Wireless	No Update to Provide	2/2/2010		5 Both Residential/Business
CitEscape, LLC	Fixed Wireless	No Update to Provide	1/25/2010		5 Both Residential/Business
City of Bagley	Cable	No Update to Provide			5 Both Residential/Business
City of Chaska	Fixed Wireless	No Update to Provide			5 Both Residential/Business
City of Windom	Fiber	No Update to Provide			5 Both Residential/Business
Clara City Telephone Company	DSL	No Update to Provide	2/5/2010		5 Both Residential/Business
Cloudnet, Inc.	Fixed Wireless	No Update to Provide	5/7/2013		1 Residential Only
Cloudnet, Inc.	Fixed Wireless	No Update to Provide	5/7/2013		2 Business Only
Cogent Communications, Inc.	Backhaul	No Update to Provide			N/A Backhaul
Consolidated Telephone Company	Fiber	No Update to Provide	3/1/2012		2 Business Only
Crosslake Telephone Company	Fiber	No Update to Provide	6/16/2010		5 Both Residential/Business
Crosslake Telephone Company	Cable	No Update to Provide	6/16/2010		5 Both Residential/Business
Crosslake Telephone Company	DSL	No Update to Provide	6/16/2010		5 Both Residential/Business

Emily Cooperative Telephone Company	Fiber	No Update to Provide	6/24/2010		5 Both Residential/Business
Enterpoint Wireless	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Fallsnet	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Farmers Mutual Telephone Company	Fixed Wireless	No Update to Provide	4/1/2010		5 Both Residential/Business
Federated Telephone Cooperative	Fixed Wireless	No Update to Provide	4/1/2010		5 Both Residential/Business
Fibernet Monticello	Fiber	No Update to Provide			5 Both Residential/Business
Frontier Communications of Minnesota, Inc.	Backhaul	No Update to Provide	1/22/2010		N/A Backhaul
FTTH Communications	Fiber	No Update to Provide			5 Both Residential/Business
Halstad Telephone Company	Fixed Wireless	No Update to Provide	6/16/2010		5 Both Residential/Business
Harmony Telephone Company	DSL	No Update to Provide	1/12/2010		5 Both Residential/Business
Hiawatha Broadband Communications, Inc.	Fixed Wireless	No Update to Provide	3/8/2010		5 Both Residential/Business
Hiawatha Broadband Communications, Inc.	Fiber	No Update to Provide	3/8/2010		2 Business Only
Hickory Tech Corporation	DSL	No Update to Provide			5 Both Residential/Business
Hickory Tech Corporation	DSL	No Update to Provide			5 Both Residential/Business
Hughes Network Systems, LLC	Satellite	No Update to Provide	2/5/2010		1 Residential Only
Hutchinson Telecommunications, Inc.	DSL	No Update to Provide	4/14/2010		5 Both Residential/Business
Interstate Telecommunications Cooperative, Inc.	DSL	No Update to Provide	2/10/2010		5 Both Residential/Business
Jaguar Communications	Fixed Wireless	No Update to Provide	4/12/2010		5 Both Residential/Business
Jaguar Communications	DSL	No Update to Provide	4/12/2010		5 Both Residential/Business
Johnson Telephone Company	DSL	No Update to Provide			5 Both Residential/Business
Kasson & Mantorville Telephone Company	DSL	No Update to Provide	6/30/2010		5 Both Residential/Business
Kasson & Mantorville Telephone Company	Fiber	No Update to Provide	6/30/2010		5 Both Residential/Business
LTD Broadband LLC	Fixed Wireless	No Update to Provide	11/18/2013		5 Both Residential/Business
Mabel Cooperative Telephone Company	DSL	No Update to Provide	4/7/2010		5 Both Residential/Business
Mediacom Communications Corporation	Backhaul	No Update to Provide	1/12/2010		N/A Backhaul
MegaPath Corporation	Backhaul	No Update to Provide	2/15/2010		N/A Backhaul
Mille Lacs Energy Cooperative	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Minnesota Valley Telephone Company	DSL	No Update to Provide	4/29/2010		5 Both Residential/Business
Minnesota Valley TV Improvement Corporation	Fixed Wireless	No Update to Provide	4/13/2010		5 Both Residential/Business
Minnesota Valley TV Improvement Corporation	Cable	No Update to Provide	4/13/2010		5 Both Residential/Business
Moose-Tec	Fixed Wireless	No Update to Provide	2/22/2013		5 Both Residential/Business
New Ulm Telecom, Inc.	Cable	No Update to Provide	2/25/2010		5 Both Residential/Business
New Ulm Telecom, Inc.	DSL	No Update to Provide	2/25/2010		5 Both Residential/Business
New Ulm Telecom, Inc.	DSL	No Update to Provide	2/25/2010		5 Both Residential/Business
NewCore Wireless LLC	Mobile Wireless	No Update to Provide	4/25/2013		5 Both Residential/Business
Northeast Service Cooperative	Backhaul	No Update to Provide	9/30/2013		N/A Backhaul
NorthfieldWiFi LLC	Fixed Wireless	No Update to Provide	2/4/2011		5 Both Residential/Business
Park Region Mutual Telephone Company	Fiber	No Update to Provide	3/18/2010		5 Both Residential/Business
Park Region Mutual Telephone Company	DSL	No Update to Provide	3/18/2010		5 Both Residential/Business
Park Region Mutual Telephone Company	Fixed Wireless	No Update to Provide	3/18/2010		5 Both Residential/Business
Polar Telcom, Inc.	Fiber	No Update to Provide	2/11/2010		5 Both Residential/Business
Polar Telcom, Inc.	DSL	No Update to Provide	2/11/2010		5 Both Residential/Business
Red River Rural Telephone Association	DSL	No Update to Provide	3/17/2010		5 Both Residential/Business
Red River Rural Telephone Association	Fiber	No Update to Provide	3/17/2010		5 Both Residential/Business
River Valley Telephone Coop.	Fixed Wireless	No Update to Provide	4/28/2010		2 Business Only
River Valley Telephone Coop.	Fixed Wireless	No Update to Provide	4/28/2010		1 Residential Only
RRC Net	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Runestone Telecom Association	DSL	No Update to Provide	4/14/2010		5 Both Residential/Business
Runestone Telecom Association	Fiber	No Update to Provide	4/14/2010		5 Both Residential/Business
Sacred Heart Telephone Company	DSL	No Update to Provide	2/5/2010		5 Both Residential/Business
Savage Communications Inc.	Fiber	No Update to Provide	2/19/2010		2 Business Only
Savage Communications Inc.	Cable	No Update to Provide	2/19/2010		1 Residential Only
Scott Rice Telephone Co.	DSL	No Update to Provide	2/15/2010		5 Both Residential/Business
Scott Rice Telephone Co.	Fiber	No Update to Provide	2/15/2010		1 Residential Only
Scott Rice Telephone Co.	Fiber	No Update to Provide	2/15/2010		2 Business Only
Sheehan Gas	Fixed Wireless	No Update to Provide			1 Residential Only
Sheehan Gas	Fixed Wireless	No Update to Provide			2 Business Only
Skycasters	Satellite	No Update to Provide	10/16/2012		1 Residential Only
SMBS	Fiber	No Update to Provide			5 Both Residential/Business
Spacenet, Inc.	Satellite	No Update to Provide			1 Residential Only
Sprint Nextel Corporation	Backhaul	No Update to Provide	1/14/2010		N/A Backhaul
Starbuck Telephone Company	DSL	No Update to Provide	2/5/2010		5 Both Residential/Business
Starpont Communications, Inc.	Fixed Wireless	No Update to Provide	2/18/2011		5 Both Residential/Business
T-Mobile USA, Inc.	Backhaul	No Update to Provide	1/8/2010		N/A Backhaul
tw telecom of minnesota llc	Backhaul	No Update to Provide	4/20/2010		N/A Backhaul

Upsala Cooperative Telephone Association	DSL	No Update to Provide	2/29/2012		5 Both Residential/Business
Upsala Cooperative Telephone Association	Fiber	No Update to Provide	2/29/2012		5 Both Residential/Business
US Internet of Minnetonka	Fixed Wireless	No Update to Provide	2/29/2012		1 Residential Only
VAL-ED Joint Venture, LLP	DSL	No Update to Provide	4/21/2010		5 Both Residential/Business
Verizon Communications, Inc.	Backhaul	No Update to Provide	12/14/2009		N/A Backhaul
ViaSat, Inc.	Satellite	No Update to Provide	1/8/2010		1 Residential Only
West Central Telephone Association	Fiber	No Update to Provide	2/18/2010		5 Both Residential/Business
West Central Telephone Association	DSL	No Update to Provide	2/18/2010		5 Both Residential/Business
Western Telephone Company	DSL	No Update to Provide	4/14/2010		5 Both Residential/Business
Wikstrom Telephone Company	DSL	No Update to Provide	4/12/2010		5 Both Residential/Business
Wikstrom Telephone Company	Fixed Wireless	No Update to Provide	4/12/2010		5 Both Residential/Business
Wikstrom Telephone Company	Fiber	No Update to Provide	4/12/2010		5 Both Residential/Business
Windstream Communications	Backhaul	No Update to Provide			N/A Backhaul
Winnebago Cooperative Telecom Association	Backhaul	No Update to Provide	6/17/2010		N/A Backhaul
Winnebago Cooperative Telecom Association	DSL	No Update to Provide	6/17/2010		5 Both Residential/Business
Winnebago Cooperative Telecom Association	Fiber	No Update to Provide	6/17/2010		5 Both Residential/Business
Wolverton Telephone Company	DSL	No Update to Provide	6/22/2010		1 Residential Only
Wolverton Telephone Company	Fiber	No Update to Provide	6/22/2010		5 Both Residential/Business
Woodstock Telephone Company	Fiber	No Update to Provide	2/18/2010		5 Both Residential/Business
XO Communications, LLC	Backhaul	No Update to Provide	2/12/2010		N/A Backhaul
Zayo Group, LLC	Backhaul	No Update to Provide			N/A Backhaul
Zumbrota Telephone Company	DSL	No Update to Provide	2/5/2010		5 Both Residential/Business
		No Update Provided – Use Last Submission Data			
A Better Wireless, NISP, LLC	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
A Better Wireless, NISP, LLC	Fixed Wireless	No Update Provided – Use Last Submission Data			2 Business Only
		No Update Provided – Use Last Submission Data			
Genesis Wireless	Fixed Wireless	No Update Provided – Use Last Submission Data			5 Both Residential/Business
		No Update Provided – Use Last Submission Data			
WideOpenWest Finance, LLC	Cable	No Update Provided – Use Last Submission Data			1 Residential Only
Windstream Communications	DSL	Solicited Initial Data			1 Residential Only
Reliance Globalcom Services, Inc.	Backhaul	Non-Responsive to Multiple Attempts			N/A Backhaul