

OFFICIAL APRIL 2013 UPDATE SUBMISSION TO  
THE NATIONAL TELECOMMUNICATIONS AND INFORMATION  
ADMINISTRATION UNDER THE  
STATE BROADBAND INITIATIVE GRANT PROGRAM  
FOR THE STATE OF MINNESOTA

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CONNECT  
Minnesota®

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April 1, 2013

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April 1, 2013

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 Commerce, please accept this submission from Connected Nation on behalf of the state of Minnesota's State Broadband Initiative (SBI) Grant Program, known as Connect Minnesota.

Connected Nation and Connect Minnesota congratulate the National Telecommunications and Information Administration (NTIA) and the Federal Communications Commission (FCC) on achieving the two-year anniversary of the National Broadband Map. Truly, now more than ever, the significance of complete and validated data through this effort is impacting lives in communities all across our great country. The Connect Minnesota program and its collective stakeholder community continue to be faithful and energized contributors, and we are proud to play such a part in forging the innovation economy of the twenty-first century.

The artifacts that comprise this submission should be found to be compliant with the April 1, 2013, 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: April 1, 2013***

<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	n/a DataPackage.xlsx	Accuracy and Verification Report 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 should be found to be compliant with the additional program requirements instituted by the National Telecommunications and Information Administration since the time of the October 2012 SBI data submission for the Connect Minnesota program. Specifically, these new requirements are:

**SBI Data Transfer Model**

The submission of the broadband dataset for April 1, 2013, is contained within the SBI Data Transfer Model as released on the Grantee Workspace on December 14, 2012. 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**

On February 8, 2013, NTIA released new guidance regarding the processing of wireless data, for both fixed and mobile broadband providers. All wireless provider coverage records have been reviewed and are in compliance with this grantee guidance for this April 2013 submission period. Even providers that did not have an update for this submission cycle were reviewed and data reprocessed as necessary for those records that were not yet in compliance with the new guidance.

This submission continues to follow the speed technology guidance released by the Program Office on August 9, 2012, to review speed tier codes in correspondence with technology of transmission codes. In the October 2012 submission, descriptions were provided in the methodology paper that offered an explanation for any submitted technology of transmission and speed combinations that were outside of the expected value range. That practice continues in this submission as technology and speed combinations are reviewed

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and scrutinized; any questionable information supplied by providers is reviewed more in depth with the provider to ensure the information is accurately captured or a proper explanation is provided as to why the speed information should be submitted as supplied even if it falls outside the expected value range.

This submission also includes narratives describing the data and coverage estimation of non-participating providers. While Connect Minnesota continues 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 seventh 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 April 2013 semi-annual 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 119 participating providers and 6 additional non-participating providers whose estimated coverage areas have been submitted. Of the 119 participating providers, 58 supplied an update to their network or coverage area(s), while 56 have reported no change. The remaining 5 represent providers who previously supplied data but were non-responsive in the April 2013 update effort; therefore, their previous dataset is being put forward as part of this compilation. A complete roster by provider depicting participation status and contact history is contained herein. The remaining provider that is not represented in the attached datasets was non-responsive to multiple contact attempts.

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 were made to account for 100 percent of the known Minnesota broadband provider community, pursuant to this semi-annual 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 also conducts field validation efforts. To date, 97 (76.98 percent) providers have been validated through field verification activities. During this submission cycle, Connect Minnesota was invited by the Leech Lake Band of Ojibwe (LLBO) Tribal Nation to engage in a field verification and validation exercise on their reservation. While on the reservation, CN completed 1,103 mobile broadband speed tests supplemented by an additional 150 test points (many times logging 3-5 tests per point). Additional details on verification activities are contained within the Field Validation Methodology.

The Connect Minnesota website, ([www.connectmn.org](http://www.connectmn.org)), continues to serve a prominent role in the outreach and data collection effort. This program asset provides 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 5,807 unique visits during this reporting period (29,642 total to date for the life of the grant awarded on December 20, 2009). Additionally, this pronounced Web activity netted 9 broadband inquiries over this same reporting period (178 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 are 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, which is scheduled as soon as possible.

### ***Community Anchor Institutions***

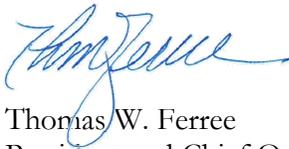
Connect Minnesota continues to make significant inroads to gather data on the location and broadband connectivity of Community Anchor Institutions (CAI), in accordance with the data requirements of the SBI NOFA Technical Appendix. This uptick in CAI data collection was further supported by NTIA's outreach to grantees reiterating the importance of this outreach. With the continued commitment of the Minnesota Department of Commerce, we have continued to focus on a relationship-oriented approach with state-level agencies and organizations that generates more responses than general contact.

In conjunction with the Minnesota Department of Commerce, outreach was conducted during this data update reporting period by Connect Minnesota 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 past success of the September 2012 Education Campaign, February 2013 was recognized as Public Safety Month where the public safety sector was the focus of CAI data collection, research, and public affairs outreach. Connect Minnesota has developed a number of new relationships with statewide associations, such as the Minnesota Department of Health, the Minnesota Hospital Association, and the Minnesota Private College Council, to promote the importance of broadband connectivity at anchor institutions and participation in this data collection process. The value of these relationships continues to impact the entire success of the Grant Program, and the CAI engagement is a logical extension of new and existing relationships. Connect Minnesota will continue to build upon these new relationships over the coming months and utilize its contacts throughout the state to collect data and raise awareness of this project.

From our work in Minnesota, as well as other states, we recognize the great value of this data to future collaboration efforts within the state as well as its value to the National Broadband Map. We plan to continue to bring best practices to the Connect Minnesota efforts, along with an investment of both human and technical resources required to reach our goal of increasing the data that is secured and reported as part of this process.

The Connect Minnesota program exists to improve data on 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 contribution to the National Broadband Map. We look forward to the continuing work ahead and improving upon our data collection methods.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Tom Ferree".

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

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## MINNESOTA COMMUNITY ANCHOR INSTITUTIONS METHODOLOGY

In this seventh reporting period of the SBI, Connect Minnesota, working in close coordination with the state of Minnesota, has established an ongoing mechanism for gathering data on the location and broadband connectivity of Community Anchor Institutions (CAI), in accordance with the data requirements of the SBI NOFA Technical Appendix. Since the October 2012 data submission, the CAI outreach process method has been modified to improve data collection. Specifically, the outreach process is a more focused sector-specific and relationship-oriented approach that generates more responses than general contact.

Connect Minnesota has continued to identify and process CAI data obtained through an ongoing statewide outreach campaign. Physical address information continues to be augmented through manual sourcing and geocoded by Connect Minnesota through Esri ArcGIS software.

Connect Minnesota continues 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 will continue to use these data-gathering tools for future targeted outreach efforts throughout the coming months leading up to the next reporting period. These materials are customized to fit the CAI categories as defined in the SBI NOFA.

The survey can be accessed at this link: <http://www.surveymonkey.com/s/RFNMFVK>.

In addition to the survey, Connect Minnesota has developed a number of new relationships with statewide associations, such as the Minnesota Department of Health, the Minnesota Hospital Association, and the Minnesota Private College Council, to promote the importance of broadband connectivity at Community Anchor Institutions and participation in this data collection process. It is apparent that these relationships are beneficial to the entire success of the grant program, and the CAI engagement is a logical extension of new and existing relationships. Connect Minnesota will continue to build upon these new relationships over the coming months and utilize its contacts throughout the state to collect data and raise awareness of this project.

In addition to fostering and building relationships with state agencies, associations, and organizations, Connect Minnesota has also developed a sector-specific calendar that supports CAI outreach as well as research and communications efforts. This focused approach allows a corporate commitment to capturing CAI data in addition to developing meaningful sector-specific content. Since the October 2012 submission, the sector-specific approach included a month-long public safety campaign in February 2013. During this campaign, Connect Minnesota committed to improve relationships with key stakeholders, distribute survey requests to sector representatives, and provide sector-specific education through communications and webinar resources. Outreach to and survey of hospitals, local law enforcement, and fire stations helps build awareness and establishes a centralized database of key connectivity data for planning.

Connect Minnesota conducts 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 continues to identify 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 works with the Minnesota Department of Commerce to identify existing relationships that can support CAI outreach.

Connect Minnesota has an ongoing mission to educate CAI throughout the state on the importance of participating in the project. Participation by these institutions will raise 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). Connect Minnesota will continue to research key CAI organizations and agency contacts in an effort to raise awareness of this project among CAI. When applicable, the Minnesota Department of Commerce will continue to be briefed on the current CAI data and provided information so it can assist with outreach and promotion within the state.

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

CAI Type	Total	Physical Address	Lat/Long	Technology of Transmission	Download Speed	Upload Speed
<b>K-12 Schools</b>	3595	3595	3565	721	632	183
<b>Libraries</b>	1198	1198	1119	289	496	45
<b>Healthcare</b>	193	193	192	58	57	57
<b>Public Safety</b>	1573	1573	1566	83	64	65
<b>Higher Ed Institutions</b>	271	271	266	89	88	89
<b>Other Government</b>	137	137	130	35	33	33
<b>Other Non-Government</b>	141	141	129	31	31	30
<b>Total</b>	7108	7108	6967	1306	1401	502

During the coming months, CAI data collection will be supported by regular reporting to the Connect Minnesota team. The CAI data is proving 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 April 1, 2013, is contained within the SBI Data Transfer Model and additional components as released on the Grantee Workspace on December 14, 2012. 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: April 1, 2013*

<u>NOFA Requirement</u>	<u>Data Transfer Model</u>	<u>Data Description</u>
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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.

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.

Connected Nation has continued outreach to satellite providers on their availability, technology, and speed information, but granular coverage is not yet available. Submitted within the wireless feature class are the satellite companies providing service to Minnesota as a polygon of the state boundary. Efforts will continue to collect, process, or otherwise create more granular satellite data based on availability analyses and guidance received from NTIA. Process development continues as well to be able to create more granular satellite coverage based on satellite equipment positioning and geographic inputs.

## 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 conducted on-site validation tests in Minnesota on the following providers: A Better Wireless NISP LLC; AccessMN; Ace Telephone Association; AirFiber; Airlink; Albany Mutual Telephone Association; Alliance Communications; Arrowhead Communications Corporation (also d.b.a. Hector Communications Corporation); Arrowhead Electric Cooperative Inc.; Arvig (d.b.a. diversiCOM); Arvig Communications Systems (d.b.a. East Ottertail Telephone, Loretel Systems and ACS Communications); AT&T; Barnesville Municipal Telephone; Benton Cooperative Telephone Company; Bevcomm (also d.b.a. Blue Earth Valley Telephone Company, Granada Telephone Company and Pine Island Telephone Company); Blueprint America, Inc. (d.b.a. XtraTyme Technology); Blue Sky Broadband; Bradco-WISP Inc.; Broadband Corp.; CenturyLink (formerly d.b.a. Qwest Corporation); Charter Communications; Chaska Net; Christensen Communications Company; CitEscape Communications; City of Detroit Lakes; City of Windom (d.b.a. Windomnet); Clara City Telephone Company; Clear Choice; Clearwire Corporation; Comcast Cable Communications LLC; Cross Lake; CTC Telecom; Emily Cooperative Telephone Company; Enterpoint; Everttek Enterprises LLC; Farmers Mutual Telephone; Federated Telephone; Fibernet Monticello; Frontier Communications Corporation; FTTH Communications; Garden Valley Telephone Company; Gardonville Cooperative Telephone Association (also d.b.a. Wisper Wireless); Genesis Wireless; Halsted Telephone; Harmony Telephone Company; Hickory Tech Corporation (also d.b.a. IdeaOne); Info Link Wireless Inc.; Interstate Telecommunications Cooperative Inc.; Invisimax; JAB Wireless (formerly d.b.a. KeyOn Communications); Jaguar Communications; Johnson Telephone Company; Kassor and Manterville Telephone Company; Lakesarea Wireless; Lakenet Communications; Lonsdale Telephone; Mabel Cooperative Telephone Company; Manchester Hartland Telephone; Mediacom; Midcontinent Communications (d.b.a. US Cable); Mille Lacs Electric Cooperative; Minnesota Valley Telephone Company; Minnesota Valley TV Improvement Corporation; Nate’s Net; New Ulm Telecom Inc. (also d.b.a. Sleepy Eye Telephone Company); Nextera Communications; Northfield Wireless; Park Region Mutual Telephone (d.b.a. Otter Tail Telecom); Paul Bunyan Telephone; Polar Telcom Inc.; Radiolink Internet; Red River Rural Telephone Association; River Valley Telecommunications Cooperative; Rothsay Telephone; Scared Heart Telephone Company; SCI Cable; Scott Rice Telecommunications Cooperative; Sheehan Gas; Sioux Valley Wireless; SMBS (Southwest Minnesota Broadband Services); Southern Cablevision; Spring Grove Cooperative Telephone Company; Sprint; Starpoint Communications Inc. (d.b.a. Netpoint); TDS Telecommunications Corporation; T-Mobile USA; TotheHome; U.S. Internet Corporation (d.b.a. USI Wireless); Upsala Cooperative Telephone Company; VAL-ED Joint Venture; Verizon Communications; Western Telephone Company; Wide Open West (formerly d.b.a. Knology of the Plains ); Windstream Communications (acquired Lakedale LINK); Winnebago Cooperative Telephone Association; Wolverton Telephone; and Woodstock Telephone Company.

Connect Minnesota was invited by the Leech Lake Band of Ojibwe Tribal Nation to engage in a field verification and validation exercise to determine the accuracy of the broadband coverage areas on the LLBO reservation as reported by those providers participating in the Connect Minnesota, State Broadband Initiative (SBI) program. CN dispatched four staff members to conduct the testing from February 4 through February 8, 2013.

By way of example, of the aforementioned 1,103 mobile broadband tests were conducted:

1. 458 tests meet or exceed 768 kbps x 200 kbps.
2. 544 tests are below 768 kbps x 200 kbps.
3. 101 tests held “invalid” results.

Of 1,103 the mobile test points, 877 were collected within the boundaries of the LLBO reservation:

1. 358 tests meet or exceed 768 kbps x 200 kbps.
2. 435 tests are below 768 kbps x 200 kbps.
3. 84 tests held “invalid” results.

In addition to the field verification tests that have been conducted, Connected Nation has also conducted work in the field to collect information for the non-participating providers, Access MN, AirFiber, Lakesarea Wireless, and Nate’s Nets, which, by nature of the methodology required for this collection, are also included in the above list.

From program initiation through this reporting period, CN has completed in-the-field validation testing against 97 companies (out of a universe of 126 viable providers) totaling 76.98 percent within the state of Minnesota. This percentage also considers the non-participating provider records 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 published on the NTIA Grantee Workspace on December 14, 2012. 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.

### **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.

**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 speed in tier 8, higher than expected value range for the technology.

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

Monthly



## Internet Service Plans

\$10	1.5mbps down / 1.5mbps up (Economy/12month commitment)
\$45	5mbps down / 3mbps up
\$55	15mbps down / 5mbps up
\$65	22mbps down / 7mbps up
\$85	30mbps down / 10mbps up

### Sjoberg’s 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 40 Mbps service; screenshot below. In addition, provider representative confirmed that 40 Mbps service is available to all customers using DOCSIS 3.0.

### Internet Prices & Speeds

**Economy** - \$19.95 with cable - \$26.95 without cable - 1 email address, No Web Space 64/down/64 up - \*\*Great Dial up Alternative

**Silver** - \$29.95 with cable - \$36.95 without cable - (5 Meg) 5MEG download/256 upload - \*\*

**Gold** - \$39.95 with cable - \$46.95 without cable - (8 Meg) 8 MEG download/384 upload - \*\*

**Platinum** - \$49.95 with cable - \$56.95 without cable - (11 Meg) 11 MEG download/1024 upload - \*\*

**Extreme** - \$89.95 with cable - \$96.95 without cable - (40 Meg) 40 MEG download/6 MEG upload - \*\*

### Southern Cablevision, Inc.

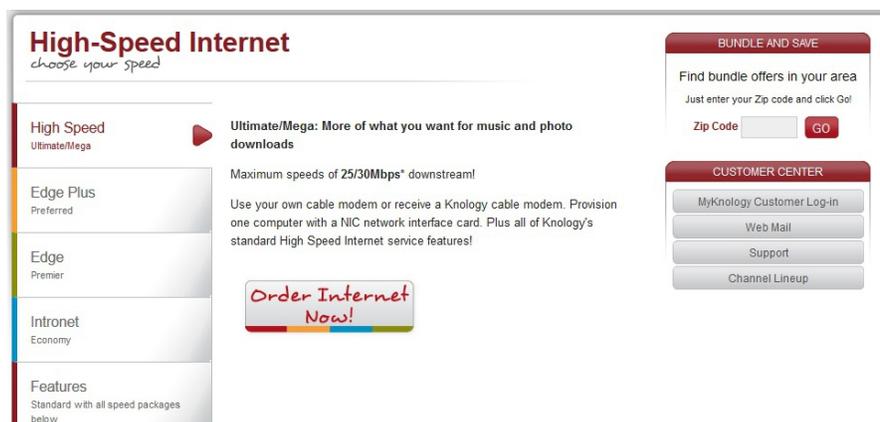
Issue: Technology of transmission 40 with maximum advertised download speed in tier 7, lower than expected value range for the technology.

Resolution: Provider representative confirmed that service area is DOCSIS 3.0, but lower speeds are still advertised and in use while customers move modems up to DOCSIS 3.0.

### 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. Please note that while WOW! acquired Knology, the WOW! website still displays Knology-based web pages for this state's coverage.



## DATA SUBMISSION AND COVERAGE ESTIMATION OF NON-PARTICIPATING PROVIDERS (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.). Appendix A presents full reports on the estimated broadband service territory for the providers in this state that have either been non-responsive or that have refused to participate in the SBI mapping initiative as of April 2013. These coverage estimation reports are for non-participating providers whose data has not been previously submitted to NTIA in past mapping cycles.

The section below provides a summary of the status of CN's outreach and findings on all non-participating provider coverage for the April 2013 SBI submission.

### Access MN

Coverage for this NPP is being submitted for the first time; please find a white paper on provider outreach and coverage estimation in Appendix A.

### AirFiber

Coverage for this NPP is being submitted for the first time; please find a white paper on provider outreach and coverage estimation in Appendix A.

### Lakesarea Wireless

Coverage for this NPP is being submitted for the first time; please find a white paper on provider outreach and coverage estimation in Appendix A.

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**Nate's Net, Inc.**

Coverage for this NPP is being submitted for the first time; please find a white paper on provider outreach and coverage estimation in Appendix A.

**Nexterra Communications**

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

**TotheHome**

The coverage estimation for TotheHome was not updated from the previous submission in October 2012. The full white paper containing the most recent coverage estimation for this provider can be found within the October 2012 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, this is the first time they have seen maps of their broadband service area. 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 is provided from various sources and through the review and revision process, local engineers who operate the networks and work in the field are 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) are remedied by CN, whether they are additions, removal of service, or any other revisions. Revised maps of service area representations are sent to the provider for review and approval; CN will revise data and return maps as many times as necessary until the provider is in agreement that the map represents their service area as accurately as possible. Once the review process has been completed and final approval of the data is provided, the data is deemed ready for NTIA submission.

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 becomes 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 allows for a follow-up to providers regarding revisions to the data as it is represented; it also allows for CN to identify locations where on-site visits may be necessary to complete field validation of available

services. Public feedback on all forms of mapping products serves as a localized validation method for provider-supplied information and allows CN to resolve inaccuracies as they are 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 are subjected to the same level of scrutiny. Occasionally, a provider may elect to voluntarily participate (thus eliminating the need for future data estimation activities in the field). However, more often than not, the NPP narrative is 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 1.47 percent of Minnesota households do not have terrestrial fixed broadband service available, and approximately 0.07 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 3.40 percent of rural Minnesota households do not have terrestrial fixed broadband service available, and approximately 0.16 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 collects 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 are 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 18,839 broadband inquiries since 2007, allowing the state programs to evaluate each inquiry for broadband demand and data verification. These inquiries are 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 9 inquiries (178 grant inception to date). As more inquiries are submitted to Connect Minnesota, a more thorough validation of the broadband landscape can be performed, while also allowing providers to see which areas have a high demand for broadband adoption.

## **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

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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 1,926 visits this reporting period; to date the interactive mapping application has received 7,266 visits.

## **SPEED TEST METHODOLOGY**

The 1,346 speed tests that are represented in the Connect Minnesota Speed Test Report during this reporting period (12,866 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 April 2013 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, etc.

	Company Name	URL	Comments
1	360networks	<a href="http://www.360networks.com/">http://www.360networks.com/</a>	Acquired by another company.
2	Access Media 3, Inc.	<a href="http://www.am3inc.com">http://www.am3inc.com</a>	Company is a bulk reseller to MDU and commercial properties.
3	Airespring, Inc.	<a href="http://www.airespring.com">http://www.airespring.com</a>	Company is a nonfacilities-based reseller.
4	Akeva	n/a	Reseller of Verizon Mobile phones in mall kiosk.
5	Arrowhead Electric Cooperative, Inc.	<a href="http://www.aecimn.com/">http://www.aecimn.com/</a>	Construction is underway; may need to indicate provider viable for October 2013 Submission.
6	Boreal Access	<a href="http://boreal.org/drupal/">http://boreal.org/drupal/</a>	Provider does not meet minimum speed requirements for participation.
7	Broadcore, Inc.	<a href="http://www.broadcore.com/">www.broadcore.com/</a>	Broadcore is a national provider of business-class hosted unified communications services and has no ISP offerings.
8	BullsEye Telecom, Inc.	<a href="http://www.bullseyetelecom.com">http://www.bullseyetelecom.com</a>	Company is a nonfacilities-based reseller.
9	Carver County Fiber Initiative	<a href="http://www.co.carver.mn.us">www.co.carver.mn.us</a>	Provider continues to be on schedule to go live with project prior to our required project completion date of July 31, 2013. They are tentatively planning to go live with the school entities in March 2013, with the remainder of the entities, which includes the county, cities, townships and other entities, in May 2013.

10	Cbeyond Communications, LLC	<a href="http://www.cbeyond.net/index.htm">http://www.cbeyond.net/index.htm</a>	Cbeyond is a national provider of business-class hosted unified communications services and has no ISP offerings.
11	City of Bagley	<a href="http://www.bagleymn.us/">http://www.bagleymn.us/</a>	Cable system does not offer Internet service currently. City has accepted RFP to get their HFC Plant upgrade to include ISP services. Completion expected Summer 2013.
12	Cloudnet Inc.	<a href="http://www.cloudnet.com">http://www.cloudnet.com</a>	Nonfacilities-based reseller for DSL services and wireless coverage upgraded to meet minimum speed requirements. Will make viable October 2013 Submission to determine Fixed wireless status.
13	Computer Pro Inc.	<a href="http://www.hickorytech.com">www.hickorytech.com</a>	Company reporting data is provided by Hickory Tech.
14	Delavan Telephone Company	<a href="http://www.bevcomm.net/">http://www.bevcomm.net/</a>	Company reporting data is provided by Blue Earth Valley Telephone Company (BEVCOMM).
15	Digital Telecommunications, Inc.	<a href="http://www.pickdti.com/">http://www.pickdti.com/</a>	No longer in business.
16	Dunnell Telephone Company	<a href="http://bevcomm.net/">http://bevcomm.net/</a>	Provider does not meet minimum speed requirements for participation.
17	EN-TEL Communications, LLC	<a href="http://www.en-tel.com/">http://www.en-tel.com/</a>	Acquired by another company.
18	Enventis Telecom, Inc.	<a href="http://www.enventis.com/">http://www.enventis.com/</a>	Provider does not offer broadband in Minnesota.
19	Global Crossing Telecommunications, Inc.	<a href="http://www.globalcrossing.com/">http://www.globalcrossing.com/</a>	Acquired by another company.
20	GN Wireless	n/a	Local phone disconnected and website not located; provider no longer in business.
21	Home Telephone Company	<a href="http://www.hmtel.com">http://www.hmtel.com</a>	Company reporting data is provided by Arvig Communications Services.
22	Lake County Fiber Network d.b.a. Lake Connections	<a href="http://www.co.lake.mn.us/">http://www.co.lake.mn.us/</a>	Phase 1 consists of 75 miles of fiber constructed in the towns of Two Harbors and Silver Bay. Construction began in June of 2012 and completion is expected by second quarter of 2013.

23	Lakedale LINK	<a href="http://www.lakedaletelephone.com/">http://www.lakedaletelephone.com/</a>	Acquired by another company.
24	Lakedale Telephone	<a href="http://www.lakedaletelephone.com/">http://www.lakedaletelephone.com/</a>	Acquired by another company.
25	LightEdge Solutions, Inc.	<a href="http://www.lightedge.com">http://www.lightedge.com</a>	Provider does not offer residential broadband service in Minnesota.
26	Lightyear Network Solutions, LLC	<a href="http://www.lightyear.net">www.lightyear.net</a>	Nonfacilities-based reseller for DSL services.
27	Lowry Telephone LLC	<a href="http://www.home.runestone.net/rta">www.home.runestone.net/rta</a>	Company acquired by Runestone Telecom Association.
28	Maple Leaf Networks	<a href="http://www.mleaf.net/">http://www.mleaf.net/</a>	No longer in business.
29	Merit Network, Inc.	<a href="http://www.merit.edu">www.merit.edu</a>	Provider has operations in Michigan; no operations in MN completed to date.
30	Metropolitan Telecommunications Holding Company	n/a	Nonfacilities-based reseller for DSL services.
31	MLM Project Services, Inc.	<a href="http://www.mlmpsinc.com">http://www.mlmpsinc.com</a>	Company does not offer residential broadband service in Minnesota.
32	M-Tek Systems	<a href="http://www.mteksystems.com">www.mteksystems.com</a>	Company does not offer residential broadband service in Minnesota.
33	New Edge Network, Inc.	<a href="http://www.newedgenetworks.com/">http://www.newedgenetworks.com/</a>	Nonfacilities-based backhaul reseller.
34	North American Communications Corp (NACC)	<a href="http://www.jaguarcommunications.com">http://www.jaguarcommunications.com</a>	Maps and data are supplied by d.b.a.Jaguar Communications.
35	Northeast Service Cooperative	<a href="http://www.nesc.k12.mn.us/">http://www.nesc.k12.mn.us/</a>	Middle mile fiber construction is underway; expect data for October 2013 submission.
36	OrbitCom, Inc.	<a href="http://www.orbitcom.biz">http://www.orbitcom.biz</a>	Reseller of CenturyLink Services and has been non-responsive to multiple contact attempts.
37	PAETEC Communications, Inc.	<a href="http://www.paetec.com/">http://www.paetec.com/</a>	Acquired by another company.
38	Popp.com, Inc.	<a href="http://www.popp.com/">http://www.popp.com/</a>	Provider is a supplier of business services only.

39	Reliance Globalcom Services, Inc.	<a href="http://www.relianceglobalcom.com/">http://www.relianceglobalcom.com/</a>	Wholesale reseller of backhaul and managed B2B circuits.
40	Renville-Sibley Fiber to the Farm	<a href="http://www.scfiber.com">http://www.scfiber.com</a>	Fiber to the Farm project still seeking funding.
41	Ridge Runner Internet Services Inc.	<a href="http://www.ridge-runner.com/index.html">http://www.ridge-runner.com/index.html</a>	No longer in business.
42	Sihope Communications	<a href="http://www.sihope.com/">http://www.sihope.com/</a>	Facilities-based company offering B2B solutions and reseller of circuits (non-residential).
43	Sioux Valley Rural Television, Inc.	n/a	Company does not offer broadband services; affiliate Sioux Valley Wireless coverage and data is provided.
44	St. Olaf College Telecommunications	<a href="http://www.stolaftelephone.com/">http://www.stolaftelephone.com/</a>	Company offers Business broadband services.
45	Tekstar Communication Systems, Inc.	n/a	Company reporting data is provided by Arvig Communications Services.
46	Telefonica USA, Inc.	<a href="http://www.us.telefonica.com/">http://www.us.telefonica.com/</a>	Provider does not offer services in Minnesota.
47	Terril Telephone Cooperative	<a href="http://www.terril.com">http://www.terril.com</a>	Provider does not offer services in Minnesota.
48	The City of Boyd, Minnesota	n/a	The City of Boyd offers cable television only over cable plant; leases cable spectrum to ISP, M'VTV Wireless.
49	United States Cellular Corporation	<a href="http://www.uscellular.com/uscellular/index.jsp">http://www.uscellular.com/uscellular/index.jsp</a>	Provider does not offer broadband services in Minnesota.
50	University Corporation for Advanced Internet Development	n/a	Nationwide Gbit network for anchor institutions; under construction utilizing existing fiber and new installations.
51	US Cable Corporation	<a href="http://www.uscablegroup.com/">http://www.uscablegroup.com/</a>	Acquired by another company.
52	US Family Internet	<a href="http://www.usfamily.net/">http://www.usfamily.net/</a>	Nonfacilities-based reseller of CenturyLink Services.
53	US Internet of Minnetonka	<a href="http://www.usiwireless.com/">http://www.usiwireless.com/</a>	Provider coverage and data is reported by d.b.a. USI Wireless.
54	Velocity Telephone, Inc.	<a href="http://www.velocitytelephone.com">http://www.velocitytelephone.com</a>	Nonfacilities-based reseller of CenturyLink Services.

55	WiTel Communications, LLC.	n/a	As of December 23, 2005, WiTel Communications Group Inc. operates as a subsidiary of Level 3.
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**APPENDIX A: ESTIMATION OF NON-PARTICIPATING PROVIDERS**

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AccessMN

AirFiber

Lakesarea Wireless

Nate's Net

## ACCESS BROADBAND

As part of its ongoing broadband mapping efforts, Connected Nation (CN) has developed a series of processes with the goal of submitting mapping data to NTIA for every known and qualifying broadband provider, regardless of whether the provider has chosen to support and participate in the State Broadband Initiative (SBI) mapping program.

The following narrative provides detail regarding the recent data collection activities related to Access Broadband (dba AccessMN), a wireless Internet service provider (WISP), located in Virginia, Minnesota, with a service area around Virginia, Ely, and Cook, Minnesota. The narrative will include information regarding how and where CN obtained publicly available data and the on-the-ground due diligence, verification, and validation techniques that support the underlying data.

### **Background**

CN staff members have continued trying to obtain the participation of the provider with 32 instances of communication via telephone and e-mail sessions since August 3, 2010 through January 31, 2013. On numerous occasions, most recently on December 17, 2012, a company representative responded indicating that the provider was electing not to provide data. Additionally, a CN staff member visited the Access Broadband office on October 16, 2012, to discuss the broadband mapping project in person with Access Broadband staff. However, upon arrival the CN staff member was informed that the contact person was unavailable.

### **The Issue**

Access Broadband, by its lack of responsiveness since August 3, 2010, has predicated its unwillingness to participate in the Connect Minnesota broadband mapping initiative.

### **Identification of Provider's Service Plans, Service Area, Legal Name, d.b.a., FRN, and Licensing**

CN began building a file based on research information and, as time progressed, enriched the file with information obtained through the public domain. For example, CN reviewed the provider's website (<http://www.accessmn.com/>) to determine the residential service plans (**Exhibit A**) and the service area (**Exhibit B**) of the provider's wireless network. A search for a Federal Registration Number (FRN) on the FCC **CO**mmission **RE**gistration **S**ystem (CORES) system yielded an FRN of 0012188371 (**Exhibit C**) with contact information relative to the owner of the company. Also, to support field validation of access points, the FRN was referenced against the FCC Universal Licensing System (ULS) to identify any authorizations the provider may hold for licensed frequencies within the service area. This process yielded a 3,650-3,700 MHz authorization for Station WQS569 (**Exhibit D**) with 0 unique locations.

## Exhibit A: Service Plans

**:: Residential Services**

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<b>Residential Broadband Basic</b> (Not Available In All Locations)	<b>\$30.00 / Month</b>
* Best-Effort Bandwidth Priority Tier ( <a href="#">Explanation</a> )	
* 256k Maximum Data Rate (Hard-Limited)	
* Private (shared) IP Address	

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<b>Residential Broadband Plus</b>	<b>\$50.00 / Month</b>
* Best-Effort Bandwidth Priority Tier ( <a href="#">Explanation</a> )	
* No Pre-Set Maximum Data Rate	
* Includes 3 E-Mail Accounts	
* Private (shared) IP Address	

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Additions pages:  
[Home Page](#) | [About Us](#) | [Services](#) | [Definitions](#) | [Support](#) | [FAQ's](#) | [Info Request](#) | [Contact Us](#)

106 S. 5th Ave. Virginia, MN 55792-2637 Phone: 218-741-4650 [Broadband@AccessMN.com](mailto:Broadband@AccessMN.com)

## Exhibit B: Service Area



### Exhibit C: Federal Registration Number

Registration Detail	
FRN:	0012188371
Registration Date:	11/22/2004 06:58:20 PM
Last Updated:	10/10/2011 09:32:00 PM
Business Name:	Access Equipment & Communications, Inc.
Business Type:	Private Sector, Corporation
Contact Organization:	Access Broadband
Contact Position:	President
Contact Name:	Jim Nyhus
Contact Address:	106 South 5th Ave Virginia, MN 55792 United States
Contact Email:	jim@accessmn.com
Contact Phone:	(218) 741-4650
Contact Fax:	

### Exhibit D: WQOS569 License Reference

Specified Search						
FRN like 0012188371						
Matches 1 - 1 (of 1)						
						Pending Application(s) Termination Pending Lease
Page 1						
Call Sign/Lease ID	Name	FRN	Radio Service	Status	Expiration Date	
1 WQOS569	Access Equipment & Communications, Inc	0012188371	NN	Active	01/18/2022	
Call Sign/Lease ID	Name	FRN	Radio Service	Status	Expiration Date	
Page 1						

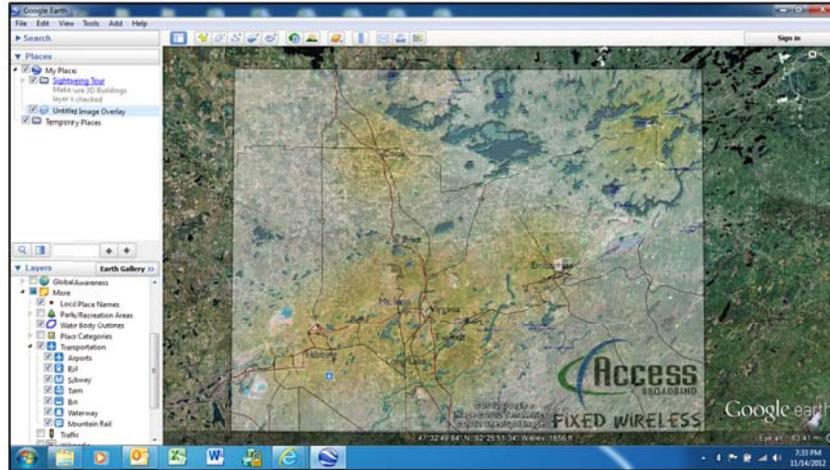
MAIN		ADMIN		LOCATIONS	
Call Sign	WQOS569	Radio Service	NN	3650-3700 MHz	
0 Total Locations		10 Locations per Summary Page			
No Locations					
0 Total Locations		10 Locations per Summary Page			

### Preliminary Identification of Provider's Coverage Area

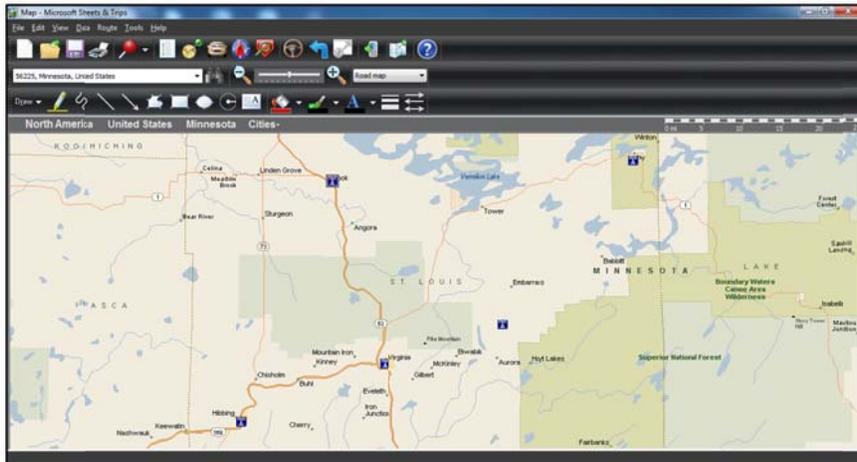
CN staff members extracted the Access Broadband service area map from the provider's website which was then utilized to create a Google Earth image overlay (**Exhibit E**). The image overlay was positioned to match the Google Earth base map's roadways, county boundaries, and water bodies. The degree of accuracy of the image overlay was maintained at less than .25 mile (1,320 ft.) to establish a minimum search criteria of a given wireless transmit site. The provider's service area depiction is represented by shaded areas as shown in **Exhibit B**. The image overlay was created as toll for potential identification of transmit facility coordinates. The image overlay was aligned in Google Earth and examined utilizing the zoom option of the aerial imagery. This provided a means

of establishing coordinates for the search rings of the wireless transmit site access point locations. All locations were entered into Microsoft *Streets & Trips* mapping application (**Exhibit F**) to develop a route for the validation process.

### Exhibit E: Google Earth: Access Broadband's Service Area Image Overlay



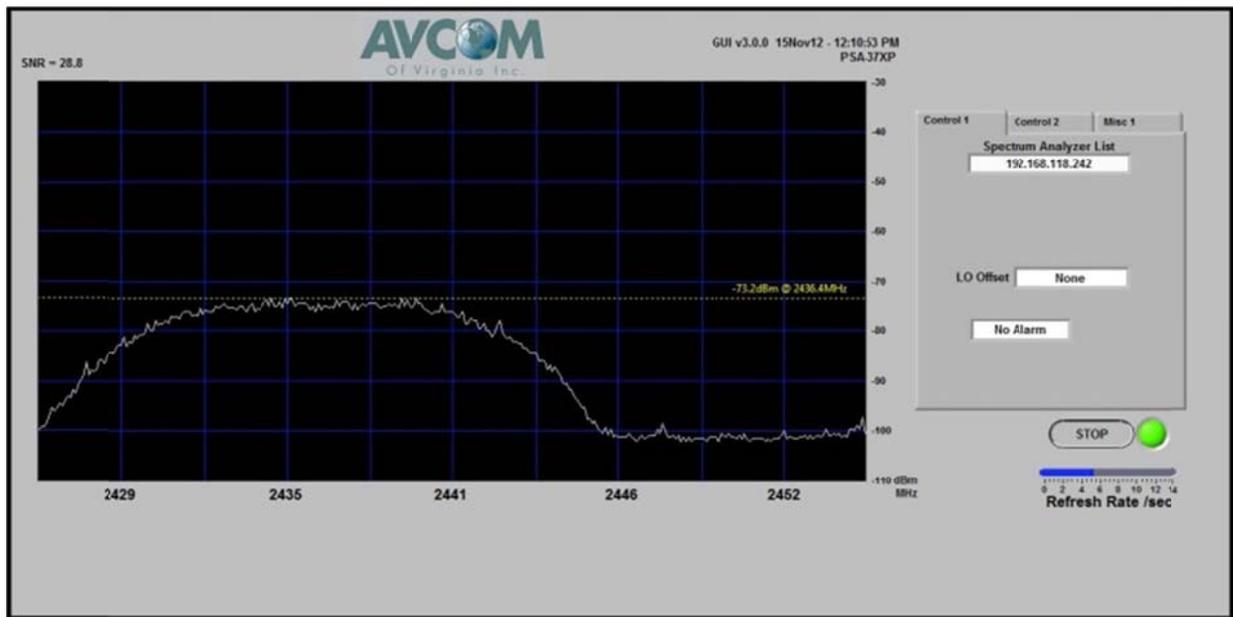
### Exhibit F: Validation Points for AP Structures

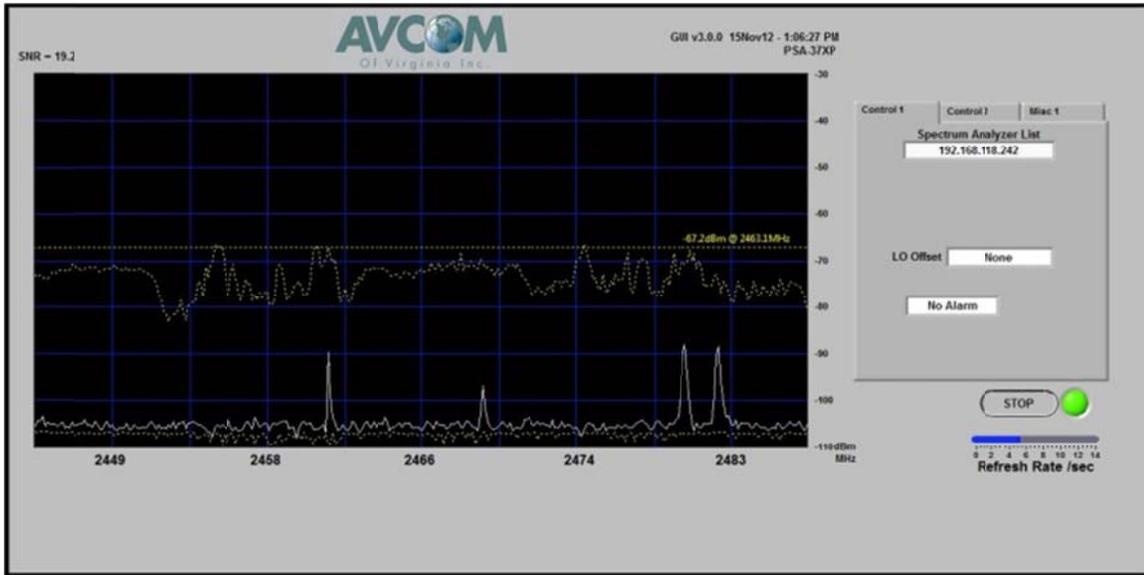


### Testing Techniques

CN staff developed a site validation route based on data established with the Google Earth image overlay. The CN wireless engineer that was dispatched into the field to gather, verify, and validate data for this provider, was equipped with an AVCOM PSA-37XP analyzer with RF detection from 1 MHz to 6 GHz and an array of antennas tuned specifically for the 900 MHz, 2.4 GHz, 3.65 GHz, and 5 GHz frequency bands (**Exhibit G**). Each validation point was scrutinized for frequency of operation. A screen image of the operating frequency (or frequencies) was captured; general notes were recorded for each location-approximate antenna height, frequency of operation, antenna type (omnidirectional or sectored) and photographs were taken of the access points.

**Exhibit G: Field Data for Access Broadband Office/Hub Location**







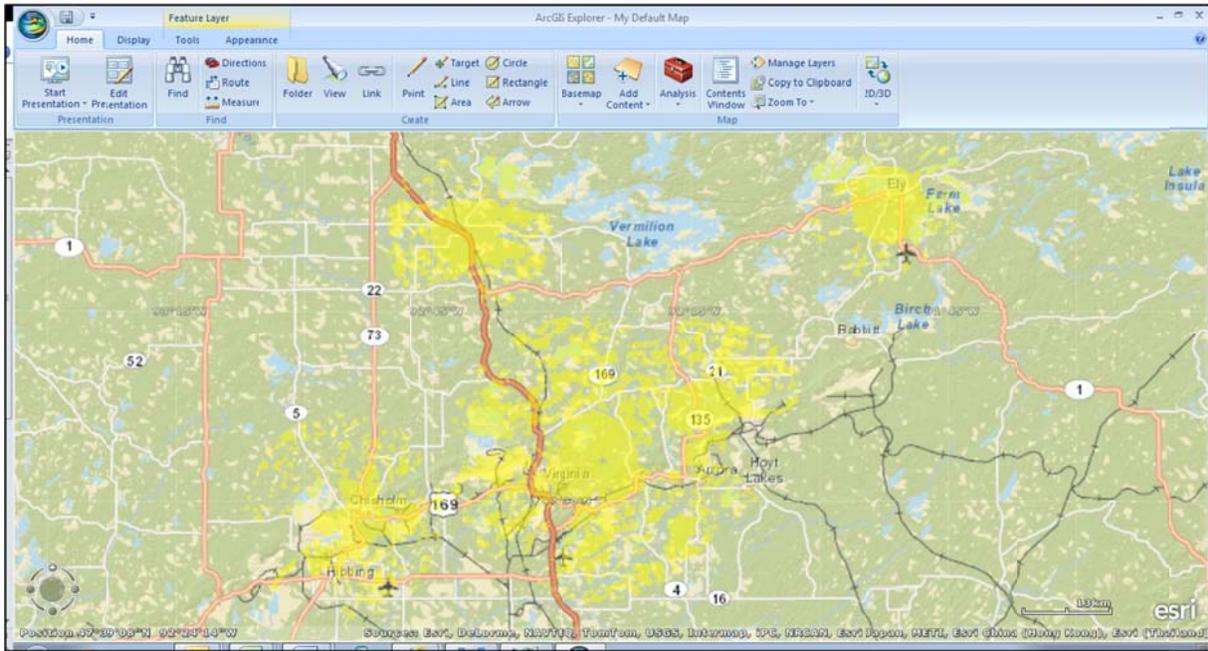
**Results and Submission for April 2013**

Of the seven locations visited during the validation point route, five access points were identified and relative information was logged into the Access Broadband field validation notes file (**Exhibit H**). The field notes and the publicly available data were transferred to the Connected Nation Provider Information file. A composite propagation study was completed based on the field data (**Exhibit I**). Both documents were forwarded to Access Broadband who was advised the information will be submitted to Connect Minnesota and the NTIA broadband mapping project for processing if there are no discrepancies of the estimated coverage received from the provider within a 48-hour period. No response has been received to date.

**Exhibit H: Field Validation Notes**

Provider	City	Latitude	Longitude	Freq	Structure	Ant Height	Notes:
Access MN	Aurora	47.5928	-92.2238	2435	Tower	150	Balance was Mobile wireless. 150' sectors
AccessMN	Ely	47.8904	-91.8672	2455	Tower	200	Tower site Only in Area 200 foot omni
Access MN	Cook	47.8528	-92.6851	3660	Watertower	140	3650 found not registered in database. City Watertank 150 sectors
Access MN	Virginia	47.5204	-92.5427	3651	Watertower	150	3650 found not registered in database. 150 Watertank sectors
Access MN	Hibbing	47.4136	-92.9246	2450	Watertower	180	Watertank 180' Omni
AccessMN	Virginia	47.522778	-92.5383		Building	35	Office antenna Downtown office
AccessMN	Virginia	47.5119	-92.5327		Building	20	CPE antenna near critter pet clinic

## Exhibit I: Access Broadband Composite Coverage



## AIRFIBER

As part of its ongoing broadband mapping efforts, Connected Nation (CN) has developed a series of processes with the goal of submitting mapping data to NTIA for every known and qualifying last-mile broadband provider, regardless of whether the provider has chosen to support and participate in the State Broadband Initiative (SBI) mapping program.

The following narrative provides detail regarding the recent data collection activities related to AirFiber, a wireless Internet service provider (WISP), located in Superior, Wisconsin with service area around Duluth, Minnesota. The narrative will include information regarding how and where CN obtained publicly available data and the on-the-ground due diligence, verification, and validation techniques that support the underlying data.

### **Background**

CN staff members have continued trying to obtain the participation of the provider with seven instances of communication via telephone and e-mail sessions since September 24, 2012, through February 26, 2013. Only one communication reply was received from a company representative on September 24, 2012, with verification of operation and speeds offered. However the provider indicated that it was electing not to participate in the process. Additionally, a CN staff member visited the AirFiber office on October 14, 2012, to discuss the broadband mapping project in person with AirFiber staff, but the office was closed upon arrival, despite the fact that this was during normal business hours.

### **The Issue**

AirFiber, by its lack of responsiveness since September 24, 2012, has predicated its unwillingness to participate in the Connect Minnesota broadband mapping initiative.

### **Identification of Provider's Service Plans, Service Area, Legal Name, d.b.a., FRN, and Licensing**

CN began building a file based on research information, and as time progressed, enriched the file with information obtained through the public domain. For example, CN reviewed the provider's website (<http://myairfiber.com/>) to determine the residential service plans (**Exhibit A**) and the service area (**Exhibit B**) of the provider's wireless network. A search for a Federal Registration Number (FRN) on the FCC Commission REgistration System (CORES) system yielded an FRN of 0021295308 (**Exhibit C**) with contact information relative to the owner of the company. Also, to support field validation of wireless transmit sites and access points, the FRN was referenced against the FCC Universal Licensing System (ULS) to identify any licenses the provider may hold which could possibly enhance locating active access points for the service area. This process yielded no results.

## Exhibit A: Service Plans

AirFiber™ delivers true broadband speeds AND saves you money !

- ✓ No data limits or overage charges
- ✓ No hidden "equipment" charges or rentals
- ✓ Plans starting under \$30.00/month
- ✓ Locally Serviced and Supported
- ✓ No loss of signal during rain/snow/cloudy days

Service Plans	Monthly Rate	Installation Cost
10 Mbps	\$49.95/Month	FREE Installation /w 12 mo. Commitment
7 Mbps	\$44.95/Month	FREE Installation /w 12 mo. Commitment
5 Mbps	\$39.95/Month	FREE Installation /w 12 mo. Commitment
3 Mbps	\$32.95/Month	FREE Installation /w 12 mo. Commitment
2 Mbps	\$29.95/Month	FREE Installation /w 12 mo. Commitment

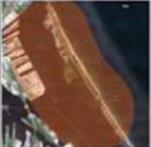
\*All customers require an AirFiber Wireless Modem to obtain quality internet and speeds. The 2 Mbps plan is perfect for the casual internet user for online gaming, social apps, email, and casual surfing. Signing up for service is not a guarantee of service, service is not established until installed by AirFiber tech and minimum requirements are met to establish quality service for each individual customer.

## Exhibit B: Service Area

[Home](#)
[Acceptable Use](#)
[Business](#)
[Contact Us](#)
[Coverage](#)
[Residential](#)
[WiFi](#)
[Terms of Service](#)

### Coverage

All coverage maps are approximate in coverage and are not exact. All businesses and residential addresses may require a site survey to ensure the quality of service, signal, and adequate AirFiber™ coverage to each and every customer. Our radios are a fixed wireless radio installed on the outside of the residence or business, to insure speeds and low latency we do not install any AirFiber™ equipment inside of a residence or business. We require landlord permission when installing AirFiber™ on apartment buildings, or rented homes.













### Exhibit C: Federal Registration Number

Registration Detail	
FRN:	0021295308
Registration Date:	11/16/2011 12:45:00 PM
Last Updated:	
Business Name:	AirFiber
Business Type:	Private Sector , Limited Liability Corporation
Contact Organization:	
Contact Position:	Director Network Services
Contact Name:	Mr shawn I hanson
Contact Address:	1910 N 54th st Superior, WI 54880 United States
Contact Email:	shawn@myairfiber.com
ContactPhone:	(715) 394-6492
ContactFax:	

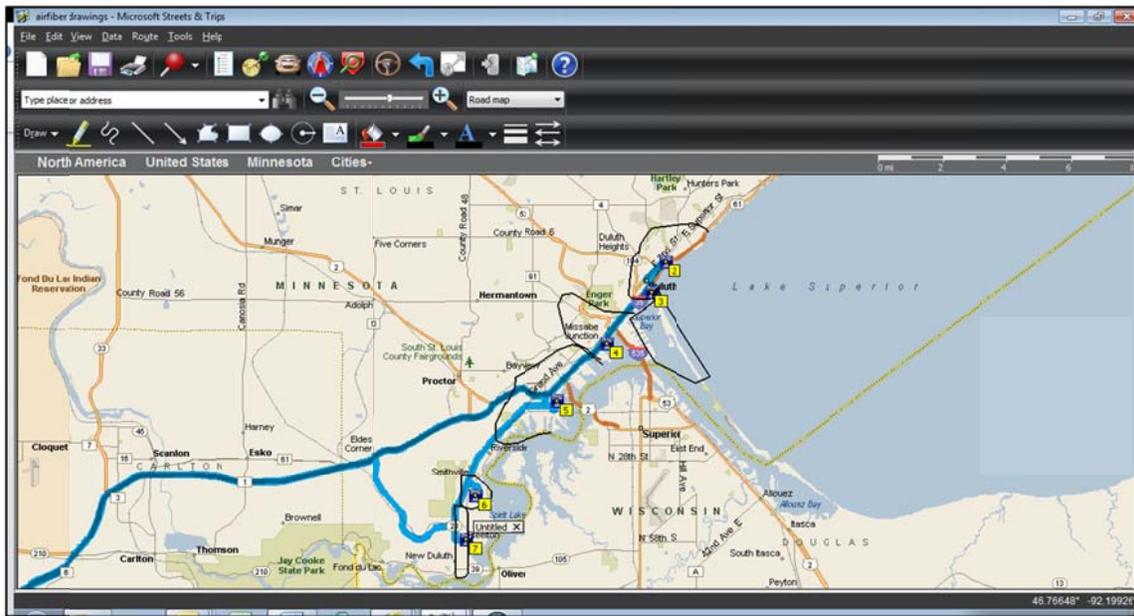
#### **Preliminary Identification of Provider's Coverage Area**

Connected Nation extracted the AirFiber service area map's from the provider's website and utilized the image to create a Google Earth image overlay (**Exhibit D**). The image overlay was positioned to match the Google Earth base map's roadways, county boundaries, and water bodies. The degree of accuracy of the image overlay was maintained at less than .25 mile (1320 ft.) to establish a minimum search criteria of a given transmit site and/or wireless access point. The provider's service area depiction is represented by shaded areas is shown in Exhibit B and cross hatched in larger scale on Exhibit D. Using the road layers as an accuracy validation tool of the image overlay, additional research was conducted to determine the feasibility of utilizing the shaded areas for identifying coordinates of the six locations identified on the provider's website. The six shaded coverage images were inputted into Google Earth and examined in detail utilizing the zoom option of the aerial imagery. Three locations structures were immediately identified. This provided a means of establishing coordinates for the remaining wireless access point locations. All six proposed locations then were entered into Microsoft *Streets & Trips* mapping application (**Exhibit E**) to develop a route for the validation process.

Exhibit D: Google Earth AirFiber's Service Area Image Overlay



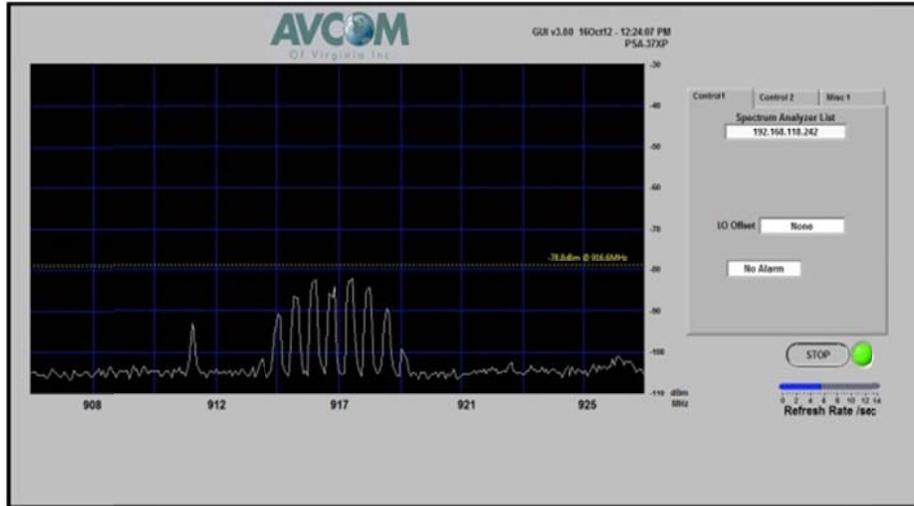
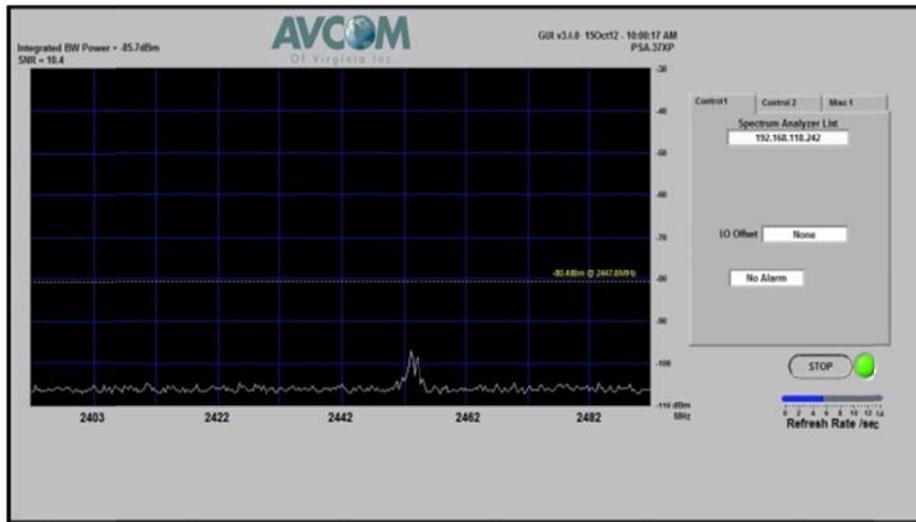
## Exhibit E: Validation Points for AP Structures



### Testing Techniques

Connected Nation staff developed a site validation route based on data established from the Google Earth image overlay. The CN wireless engineer was equipped with an AVCOM PSA-37XP analyzer with RF detection from 1 MHz to 6 GHz and an array of antennas tuned specifically for the 900 MHz, 2.4 GHz, 3.65 GHz, and 5 GHz frequency bands (**Exhibit F**). Each validation point was scrutinized for frequency of operation. A screen image of the operating frequency (or frequencies) was captured; general notes were recorded for each location—approximate antenna height, frequency of operation, antenna type (omnidirectional or sectored) and photographs were taken of the access points.

## Exhibit F: Field Data for AirFiber Office/Hub Location



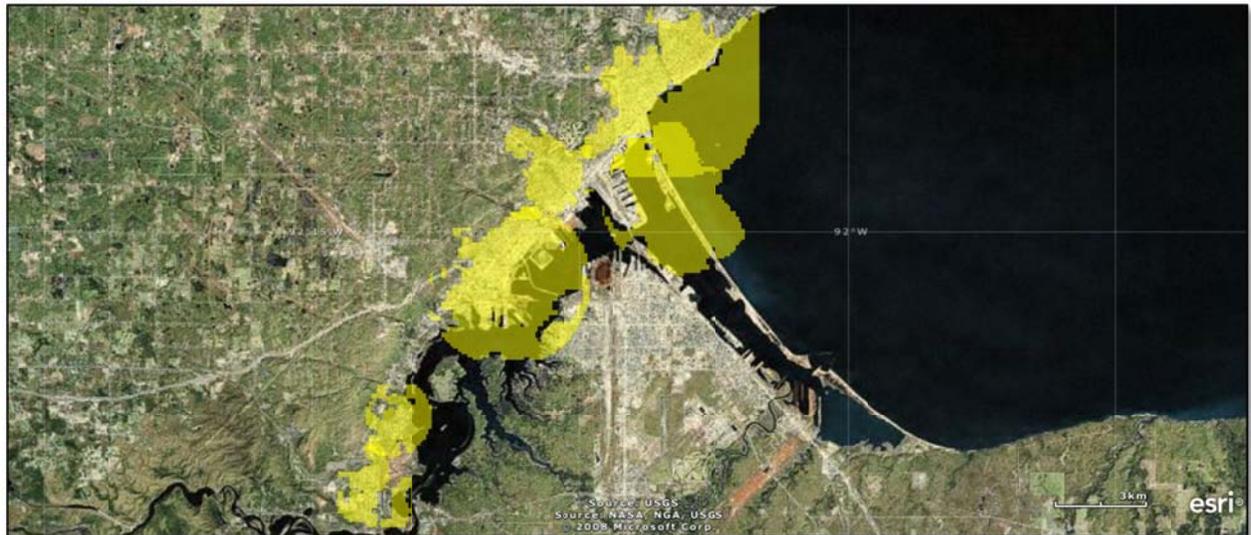
**Results and Submission for April 2013**

Of the eight locations visited during the validation point route, six access points were identified and relative information was logged into the AirFiber field validation notes file (**Exhibit G**). The field and the publicly available data were transferred to the Connected Nation provider information file. A composite propagation study was completed based on the field data (**Exhibit H**). Both documents were forwarded to AirFiber and the provider was advised the information would be submitted to Connect Minnesota and the NTIA broadband mapping project for processing unless the provider contacted CN within 48 hours to report or discuss any discrepancies of the estimated coverage area. As of this report, no response has been received.

**Exhibit G: Field Validation Notes**

Name of Access Point/Transmission Location:	Decimal Degree Conversion (automatically converted here if you completed columns K, L and M)	Decimal Degree Conversion (automatically converted here if you completed columns O, P)	Type of Sector Antenna Used (enter 360 for an Omni; others = 60, 90, 120, 180, etc.).	Transmit Radius (in miles)	Transmit Frequency (2400 MHz)	Transmit Frequency (5800 MHz)	Transmit Frequency (900 MHz)	Antenna Elevation (feet above ground)
GaryDuluth	46.670810	-92.219500	180	1.0	yes	No	No	60
Canalpark	46.783370	-92.096670	60		No	Yes	Yes	80
DowntownDuluth	46.811290	-92.097180	180		No	Yes	Yes	80
Morgan Park	46.690980	-92.213290	Omni		yes	No	No	60
Spirit Valley	46.733900	-92.158690	Omni		No	Yes	No	80
Westend	46.759550	-92.126520	60	2.0	yes	No	No	80

**Exhibit H: AirFiber Composite Coverage**



## LAKESAREA WIRELESS

As part of its ongoing broadband mapping efforts, Connected Nation (CN) has developed a series of processes with the goal of submitting mapping data to NTIA for every known and qualifying last-mile broadband provider, regardless of whether the provider has chosen to support and participate in the State Broadband Initiative (SBI) mapping program.

The following narrative provides detail regarding the recent data collection activities related to Lakesarea Wireless (LW) a wireless Internet service provider (WISP), located in Duluth, Minnesota, with a service area around Duluth. The narrative will include information regarding how and where CN obtained publicly available data and the on-the-ground due diligence, verification and validation techniques that support the underlying data.

### **Background**

CN staff members have continued trying to obtain the participation of the provider with 7 instances of communication via telephone and e-mail sessions since October 17, 2012, through February 22, 2013. Only one communication reply was received from a company representative on January 22, 2013, with a response of electing not to participate due to time constraints. Additionally, a CN staff member visited the LW office on October 31, 2012, to discuss the broadband mapping project in person with LW staff but meeting was terminated due to network outage.

### **The Issue**

LW, by its lack of responsiveness since February 22, 2013, has predicated its unwillingness to participate in the Connect Minnesota broadband mapping initiative.

### **Identification of Provider's Service Plans, Service Area, Legal Name, d.b.a., FRN, and Licensing**

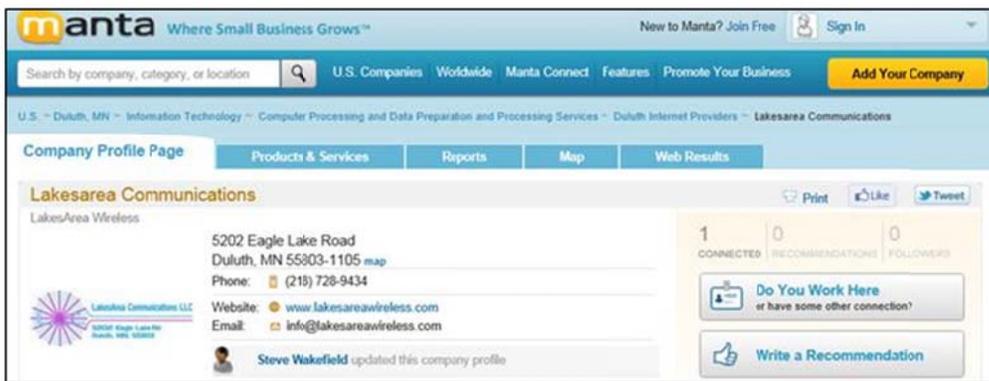
CN began building a file based on research information and, as time progressed, enriched the file with information obtained through the public domain. For example, CN reviewed the provider's website ([www.lakesareawireless.com](http://www.lakesareawireless.com))<sup>1</sup> to determine the residential service plans (**Exhibit A**) and the service area (**Exhibit B**) of the provider's wireless network. A search for a Federal Registration Number (FRN) on the FCC **CO**mmission **RE**gistration **S**ystem (CORES) system yielded no FRN so contact information relative to the owner of the company was located on Manta (**Exhibit C**).

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<sup>1</sup> This website was no longer active as of March 4, 2013.



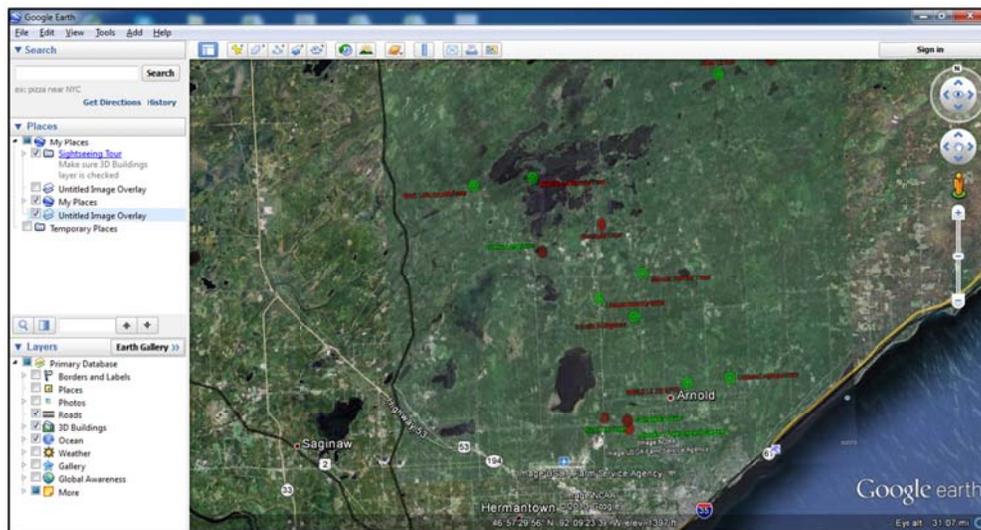
### Exhibit C: Manta Information



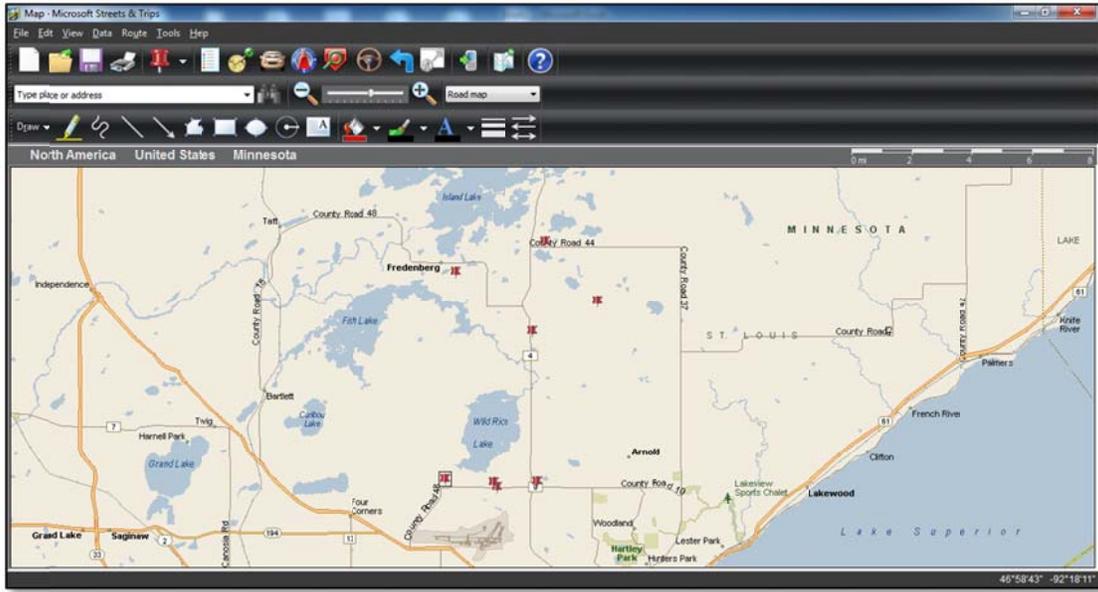
### Preliminary Identification of Provider’s Coverage Area

Connected Nation attempted to identify LW’s service area map from their website. The website service area was utilized to create a Google Earth image overlay (**Exhibit D**). The image overlay was positioned to match the Google Earth base map’s roadways, county boundaries, and water bodies. The degree of accuracy of the image overlay was maintained at less than .25 mile (1,320 ft.) to establish a minimum search criteria of a given transmit site and/or wireless access point. The provider’s service area depiction is represented as circular symbols as shown in **Exhibit B**. The coordinates of the 12 identified locations were entered into Google Earth and examined utilizing the zoom option of the aerial imagery. Three locations structures were immediately identified. This provided a means of establishing or triangulating coordinates for the remaining transmit sites and wireless access point locations and then all potential locations were entered into the Microsoft *Streets & Trips* mapping application (**Exhibit E**) to develop a route for the validation process.

### Exhibit D: Google Earth: LW’s Service Area Image Overlay



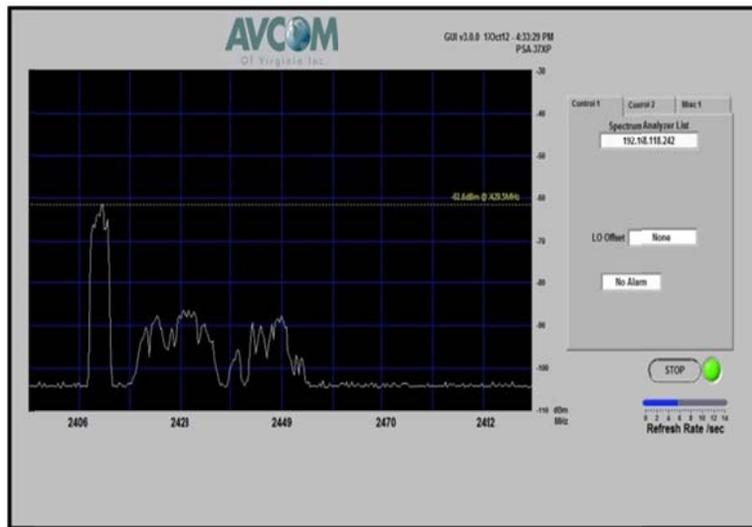
## Exhibit E: Validation Points for Transmit Sites and AP Structures

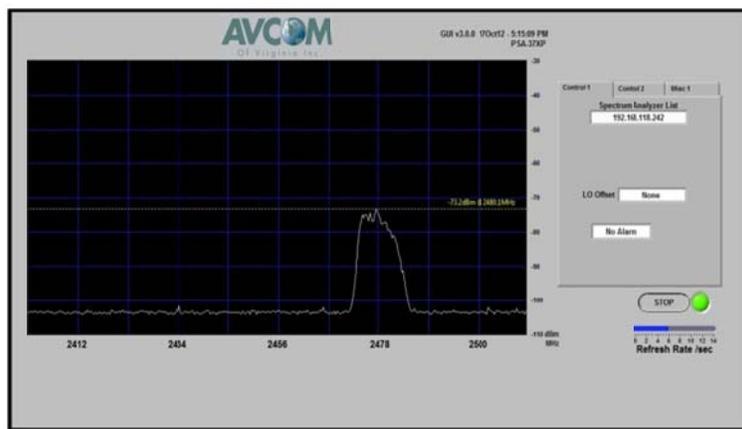
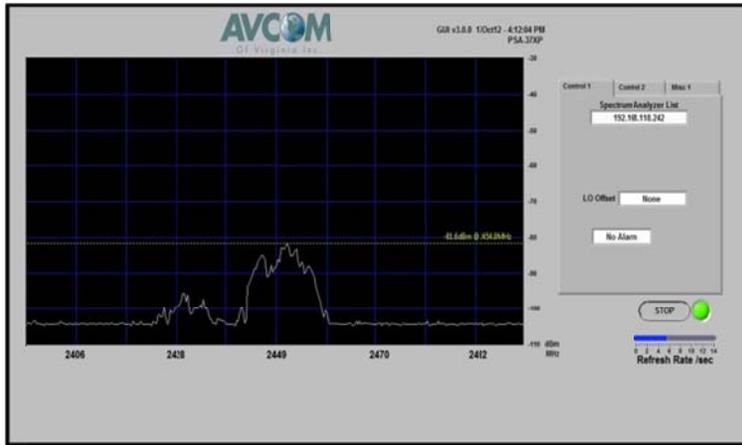


### Testing Techniques

Connected Nation staff developed a site validation route based on data established with the Google Earth image overlay for LW. The CN wireless engineer was equipped with an AVCOM PSA-37XP analyzer with RF detection from 1 MHz to 6 GHz and an array of antennas tuned specifically for the 900 MHz, 2.4 GHz, 3.65 GHz, and 5 GHz frequency bands (**Exhibit F**). Each validation point was scrutinized for frequency of operation. A screen image of the operating frequency (or frequencies) was captured; general notes were recorded for each location—approximate antenna height, frequency of operation, antenna type (omnidirectional or sectored) and photographs were taken of the tower sites or access points.

## Exhibit F: Field Data for Lakesarea Wireless Office/Hub Location





Name of Access Point/Transmission Location:	Decimal Degree Conversion (automatically converted here if you completed columns K, L and M)	Decimal Degree Conversion (automatically converted here if you completed columns O, P and Q)	Antenna Height	Comments: Tell us anything you feel is important for us to know about system .
Lakewood	46.8895	-92.0267	100	100 foot Omni 2400 MHz
Eagle Lake	46.88416667	-92.06916667	80	
Schultz RD Repeater	46.92778889	-92.11808611	80	
Rice Lake*	46.8659	-92.1496	80	80 foot 5700 MHz

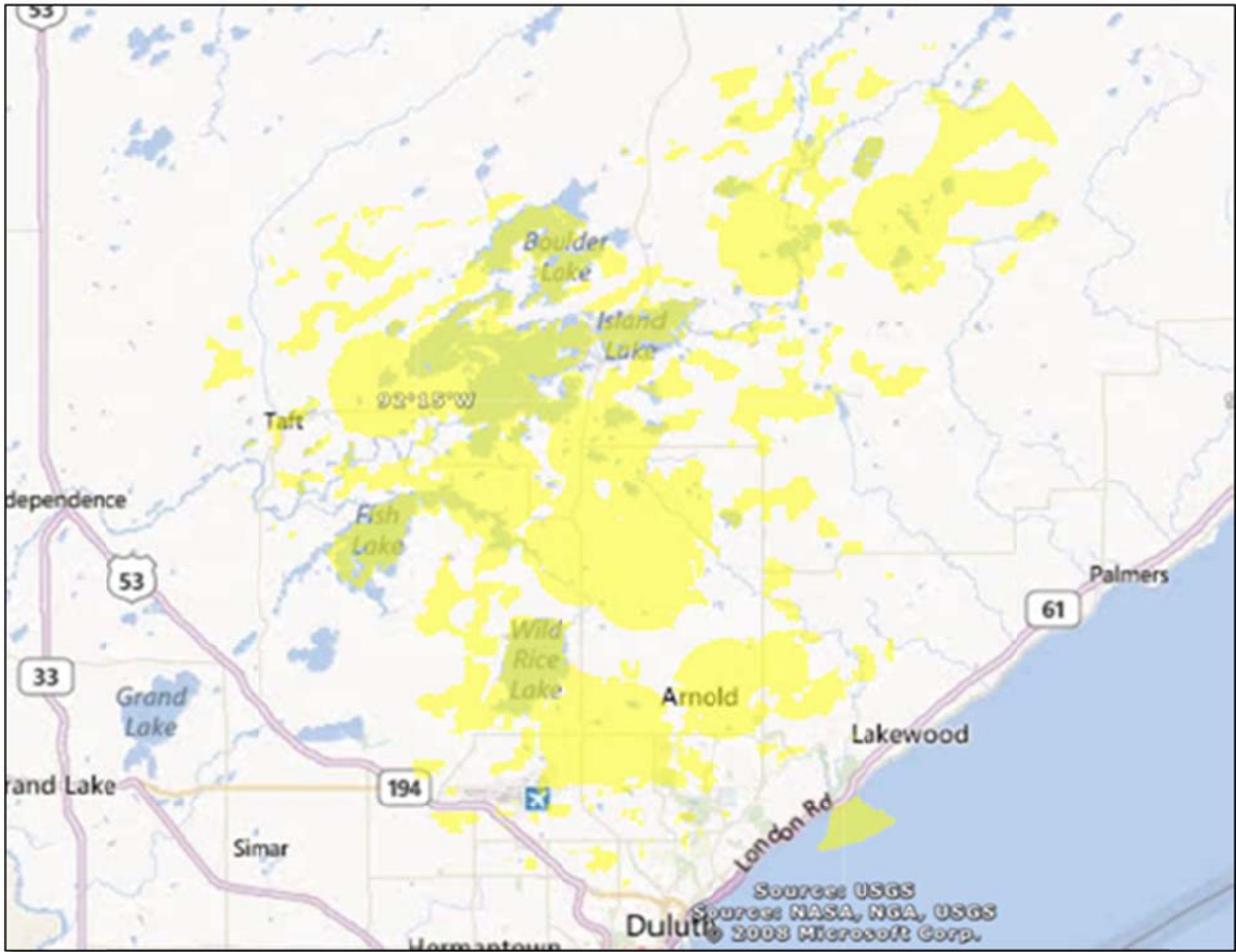
## Results and Submission for April 2013

Of the 14 locations visited during the validation point route, 12 access points were identified and relative information was logged into the LW field validation notes file (**Exhibit G**). The field and the publicly available data were transferred to the Connected Nation provider information file. A composite propagation study was completed based on the field and publicly available data gathered by the CN engineer (**Exhibit H**). Both documents were forwarded to LW and the provider was advised that the information would be submitted to Connect Minnesota and the NTIA broadband mapping project for processing if there were no discrepancies of the estimated coverage reported by the provider within 48-hours after the receipt of the documents. As of this report date, no response has been received from the provider.

### Exhibit G: Field Validation Notes

Name of Access Point/Transmission Location:	Decimal Degree Conversion (automatically converted here if you completed columns K, L and M)	Decimal Degree Conversion (automatically converted here if you completed columns O, P and Q)	Antenna Height	Comments: Tell us anything you feel is important for us to know about system .
Lakewood	46.8895	-92.0267	100	100 foot Omni 2400 MHz
Eagle Lake	46.88416667	-92.06916667	80	
Schultz RD Repeater	46.92778889	-92.11808611	80	
Rice Lake*	46.8659	-92.1496	80	80 foot 5700 MHz
Lismore*	46.9381	-92.1531	40	40 foot Omni 2400
Giessen Repeater*	46.9526	-92.1073	80	80 foot Omni 2400 MHz
Normana*	46.9815	-92.1441	90	90 feet Omni 2400Mhz
Alden Lake*	47.0631	-92.0428	100	Signal cant get to tower 100 foot Omni 2400MHz
Cook Lake*	47.00641667	-92.27273333	80	
Bear Island *	47.01327778	-92.21294444	80	
Freedenberg *	46.9669	-92.2075	140	140 foot Omni 2400MHz Could see not get close too
North Star *	47.07277778	-91.96638889	80	Location on different form added here for reference only
Gothenburg	46.86716667	-92.12902778	80	Missed initially
Lakesarea Tower One GW	46.86380556	-92.12897778	80	Missed initially

Exhibit H: Lakesarea Wireless Composite Coverage



## NATE'S NET, INC.

As part of its ongoing broadband mapping efforts, Connected Nation (CN) has developed a series of processes with the goal of submitting mapping data to NTIA for every known and qualifying broadband provider, regardless of whether the provider has chosen to support and participate in the State Broadband Initiative (SBI) mapping program.

The following narrative provides detail regarding the recent data collection activities related to Nate's Net, Inc. (Nate's), a wireless Internet service provider (WISP), located in Milbank, South Dakota, with a service area around Ortonville and Browns Valley, Minnesota. The narrative will include information regarding how and where CN obtained publicly available data and the on-the-ground due diligence, verification, and validation techniques that support the underlying data.

### **Background**

CN staff members have continued trying to obtain the participation of the provider with 10 instances of communication via telephone and e-mail sessions since October 25, 2012, through February 25, 2013. Recently a representative from Nate's provided some very basic information regarding the provider's transmit sites on February 13, 2013. Prior to the February 13, 2013, discussion, a CN staff member visited Nate's office on August 16, 2012, and again on October 24, 2012, to discuss the broadband mapping project in person with company representatives but no tangible information was provided.

### **The Issue**

Nate's Net, by its lack of responsiveness since October 25, 2012, has predicated its unwillingness to participate in the Connect Minnesota broadband mapping initiative.

### **Identification of Provider's Service Plans, Service Area, Legal Name, d.b.a., FRN, and Licensing**

CN began building a file based on research information, details collected from an October 25, 2013 phone discussion including maximum residential speed offering and, as time progressed, enriched the file with information obtained through the public domain. For example, CN reviewed the provider's website ([www.natesnet.com](http://www.natesnet.com)) to determine the residential service plans (**Exhibit A**) and the service area (**Exhibit B**) of the provider's wireless network. As illustrated by these exhibits, CN was initially unable to determine maximum advertised speeds or actual coverage areas. A search for a Federal Registration Number (FRN) on the FCC **CO**mmission **RE**gistration **S**ystem (CORES) system yielded an FRN of 0019920818 (**Exhibit C**) with contact information relative to the owner of the company. Also, to support field validation of potential wireless transmit sites and/or access points, the FRN was referenced against the FCC Universal Licensing System (ULS) to identify any authorizations the provider may hold for licensed spectrum or leasing arrangements which could possibly enhance locating active transmit sites and/or wireless access points for the service area. This process yielded a 3650 MHz authorization for Station WQMG640 (**Exhibit D**), with 0 registered unique locations.

Exhibit A: Service Plans

<b>Nate's Net, Inc.</b>		<b>Nate's Net, Inc</b> <small>www.natesnet.com</small>		<b>High Speed Internet</b>	
<a href="#">home</a>   <a href="#">contact</a>   <a href="#">Online e-mail</a>		Monday February 25th 2013			
<b>Navigation</b>		<b>Services</b>		<b>Links</b>	
Home		<b>services...</b>		- Big Stone Lake Area Realty	
Our Company		High Speed Wireless Internet		- Indian Gifts	
About Us		Dial Up Internet		High Speed Internet	
Products		Web Page		Milbank	
Services		Networking		Twin Brooks	
Special Offers		Computer Repair		Ortonville	
Links of Interest		Server Repair		Big Stone City	
Support		Computer Sales		Revillo	
F.A.Q.		and much moor call today for all your computer needs		Specials	
				Coming Soon	
					
Nate's Net, Inc. 325 South Main Milbank SD,  (605) 432-1222					

Exhibit B: Service Area

<b>Nate's Net, Inc.</b>		<b>Nate's Net, Inc</b> <small>www.natesnet.com</small>		<b>High Speed Internet</b>	
<a href="#">home</a>   <a href="#">contact</a>   <a href="#">Online e-mail</a>		Monday February 25th 2013			
<b>Navigation</b>		<b>Products</b>		<b>Links</b>	
Home		<b>products...</b>		- Big Stone Lake Area Realty	
Our Company		Coming Soon		- Indian Gifts	
About Us				High Speed Internet	
Products				Milbank	
Services				Twin Brooks	
Special Offers				Ortonville	
Links of Interest				Big Stone City	
Support				Revillo	
F.A.Q.				Specials	
				Coming Soon	
					
Nate's Net, Inc. 325 South Main Milbank SD,  (605) 432-1222					

### Exhibit C: Federal Registration Number

Registration Detail	
FRN:	0019920818
Registration Date:	06/11/2010 11:34:00 AM
Last Updated:	10/28/2012 02:32:15 PM
Business Name:	Nates Net Inc.
Business Type:	Private Sector , Corporation
Contact Organization:	Nates Net Inc.
Contact Position:	President
Contact Name:	Nathaniel Spors
Contact Address:	325 S Main St. Milbank, SD 57252-1810 United States
Contact Email:	fspors@natesnet.com
ContactPhone:	(605) 432-1222
ContactFax:	

### Exhibit D: WQMG640 License Reference

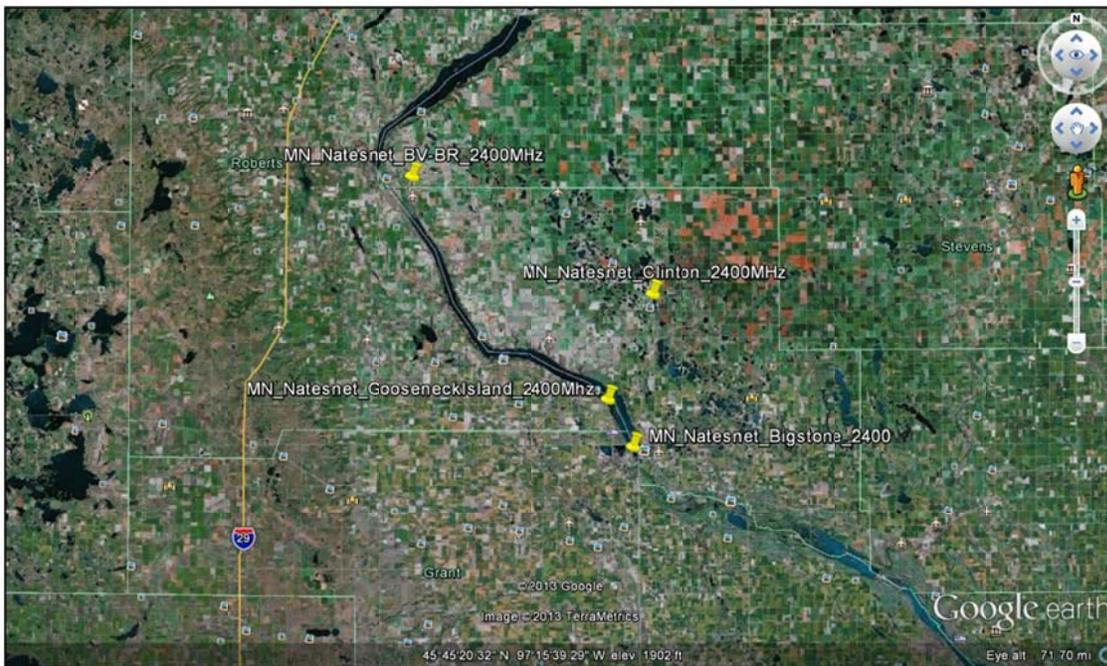
MAIN	ADMIN	LOCATIONS	
Call Sign	WQMG640	Radio Service	NN - 3650-3700 MHz
Status	Active	Auth Type	Regular
<b>Dates</b>			
Grant	08/03/2010	Expiration	08/03/2020
Effective	08/03/2010	Cancellation	
<b>Area of Operation: N</b>			
Operating Nationwide including Hawaii, Alaska, and US Territories.			
<b>Frequency Bands</b>			
003650.00000000-003700.00000000			
<b>Licensee</b>			
FRN	0019920818 <a href="#">(View Ownership Filing)</a>	Type	Corporation
Licensee Nates Net Inc. 325 S Main St. Milbank, SD 57252 ATTN Nathaniel Spors		P: (605)432-1222 E: fspors@natesnet.com	

MAIN	ADMIN	LOCATIONS	
Call Sign	WQMG640	Radio Service	NN - 3650-3700 MHz
<b>0 Total Locations</b> 10 Locations per Summary Page			
<b>No Locations</b>			
<b>0 Total Locations</b> 10 Locations per Summary Page			

### **Preliminary Identification of Provider's Coverage Area**

Connected Nation initially estimated the provider's service area from information obtained through on-the-ground research that occurred on October 17, 2012, identification of customer premise equipment (CPE) and discussions with local residents of the area. This information was then used to create a Google Earth image overlay (**Exhibit E**). The image overlay was positioned to match the Google Earth base map's roadways, county boundaries, and water bodies. The degree of accuracy of the image overlay was maintained at less than .25 mile (1320 ft.) to establish a minimum search criteria of a given access point. The provider's service area depiction is represented by tower symbols. The provider's transmit sites were then entered into Google Earth and cross-examined utilizing the zoom option of the aerial imagery. This provided a means of establishing coordinates for the access point locations. All 4 locations were entered into Microsoft *Streets & Trips* mapping application (**Exhibit F**) to develop a route for additional validation exercises.

**Exhibit E: Google Earth: Nate's Net's Service Area Image Overlay**



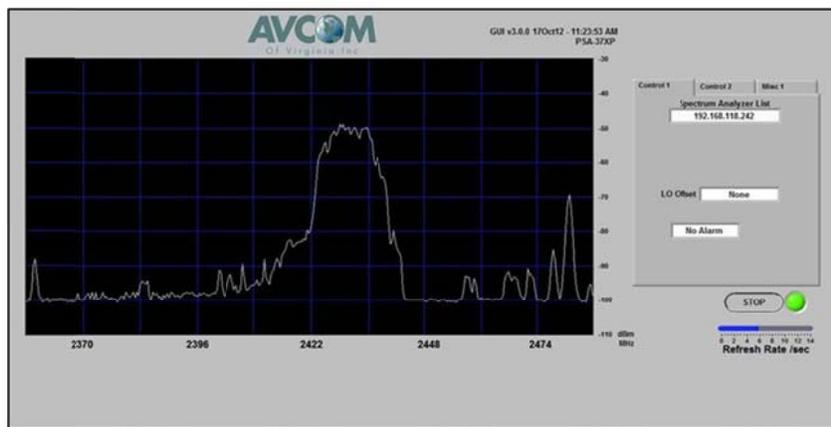
## Exhibit F: Validation Points for Tower Sites and Access Points

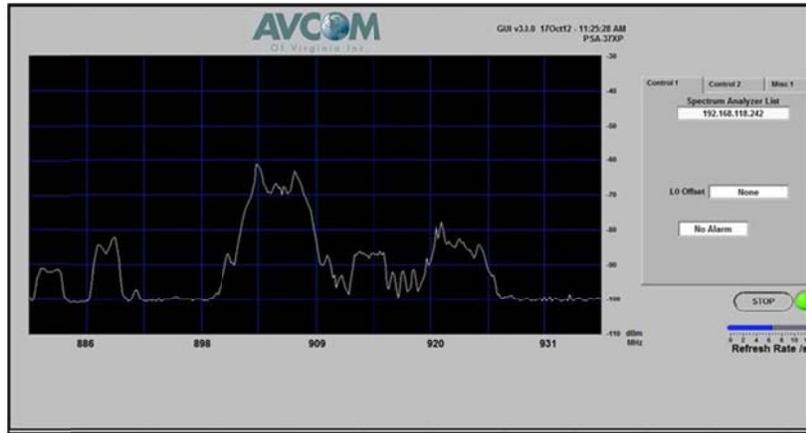


### Testing Techniques

Connected Nation staff developed a site validation route based on data established with the Google Earth image overlay. The CN wireless engineer was equipped with an AVCOM PSA-37XP analyzer with RF detection from 1 MHz to 6 GHz and an array of antennas tuned specifically for the 900 MHz, 2.4 GHz, 3.65 GHz, and 5 GHz frequency bands (**Exhibit G**). Each validation point was scrutinized for frequency of operation. A screen image of the operating frequency (or frequencies) was captured; general notes were recorded for each location-approximate antenna height, frequency of operation, antenna type (omnidirectional or sectored), and photographs were taken of the tower sites and wireless access points.

### Exhibit G: Field Data for Nate's Net





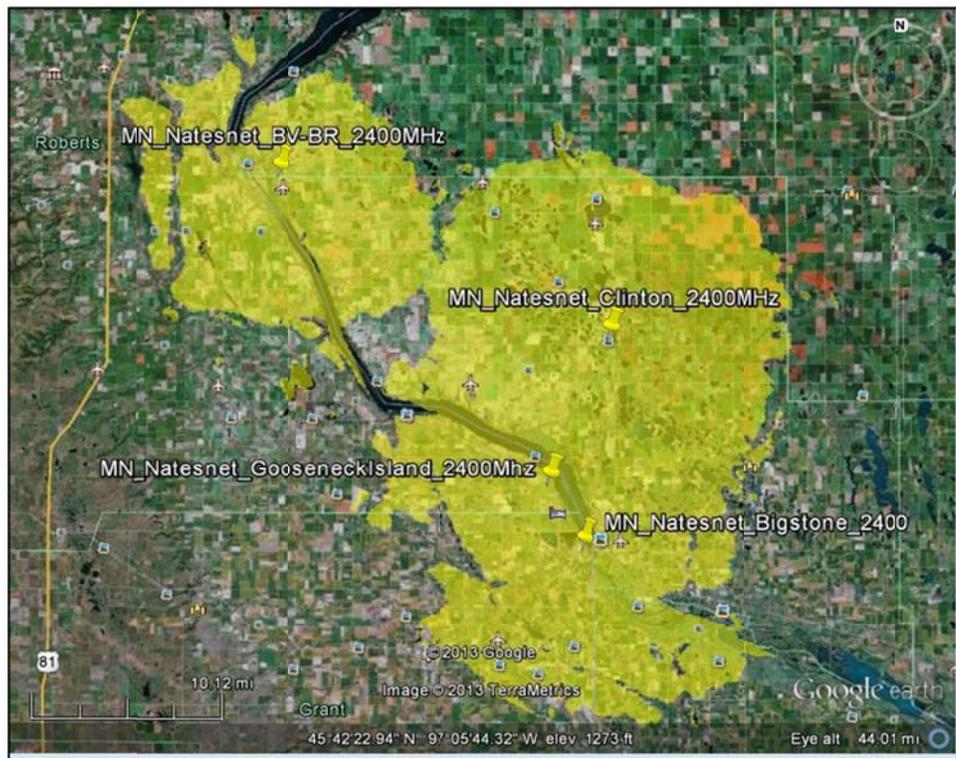
### Results and Submission for April 2013

Of the four locations visited during the validation point route, four access points were identified, and relative information was logged into the Nate's Net field validation notes file (**Exhibit H**). The field notes and the publicly available data were transferred to the Connected Nation provider information file and a composite propagation study was completed based on the field data (**Exhibit I**). This coverage estimation document was then forwarded to Nate's Net and the provider was advised that the information will be submitted to Connect Minnesota and the NTIA broadband mapping project for processing unless the provider reported discrepancies of the estimated coverage area within a 48-hour period after receipt. As of this report, no response has been received from the provider.

### Exhibit H: Field Validation Notes

Date	Provider		Test Site Info			Peak Sig Strength	Spectrum Analyzer	Time	Notes
	Test City	Test State	Physical Address	Location Description					
10/17/12	Nates Net	Big Stone Lake	SD	14340 SD Hwy 109	Small Tower Overlooking Lake	-51	Avcom PSA-37XP	11:05am	Site serves into MN across Big Stone Lake
10/17/12	Nates Net	Big Stone City	SD	14400 SD Hwy 109	Water Tower	-30	Avcom PSA-37XP	11:18am	Site serves into MN across Big Stone
10/17/12	Nates Net	Ortonville	MN	Crestview Ave/Summerset St	Residential Location	-50	Avcom PSA-37XP	12:00pm	CPE (looking back across Big Stone Lake to water tower)
10/17/12	Nates Net	Clinton	MN	428 1st Street	Water Tower	-49	Avcom PSA-37XP	12:30pm	
10/17/12	Nates Net	Milbank	SD	325 South Main	Business Office				Milbank, South Dakota Business Office

### Exhibit I: Nate's Net Estimated Composite Coverage



## APPENDIX B: BROADBAND PROVIDER LOG

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## Broadband Provider Log

Complete	198
Non-Responsive/Refused	1
In Progress	1
Reseller Providing Data	0
Count of Datasets by Status	200
Total Unique Providers Represented	126

Provider Name	Platform	Status	NDA Execution Date	Notes
A Better Wireless, NISP, LLC	Fixed Wireless	Data Added to Statewide Inventory		[JAN-22-13 Brian Dudek] Correction: Provider is now a willing participant for the April 2013 submission. Was previously Connected Nation estimated coverage.
Ace Telephone Association	Fixed Wireless	Data Added to Statewide Inventory	8/3/2010	[MAR-01-13 Brian Dudek] Correction: Initial submission of platform coverage, but they were in service previously.
Ace Telephone Association	DSL	Data Added to Statewide Inventory	8/3/2010	[FEB-28-13 Brian Dudek] Change/Correction: Provider upgraded infrastructure to allow max advertised speeds of tier 7 download and tier 3 upload in entire DSL territory. Refined coverage in some areas.
Ace Telephone Association	Fiber	Data Added to Statewide Inventory	8/3/2010	[FEB-06-13 Brian Dudek] Change: New provider platform for the April 2013 submission. Two small FTTH areas.
Arvig	DSL	Data Added to Statewide Inventory	4/20/2010	[DEC-17-12 Brian Dudek] Change: Provider expanded DSL territory SW of Kimball. Also upgraded speed capabilities to tier 5 throughout territory.
AT&T Corp, Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/16/2009	[FEB-25-13 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2013 submission. There is notable expansion in central and northeastern MN. Also added 4G services in the twin city metro area.
Benton Cooperative Telephone Company	Fixed Wireless	Data Added to Statewide Inventory	6/16/2010	[MAR-04-13 Brian Dudek] Change: New provider platform for April 2013 submission. Service covers same territory as their mobile offering.
Benton Cooperative Telephone Company	Cable	Data Added to Statewide Inventory	6/16/2010	[FEB-19-13 Brian Dudek] Change: Provider expanded cable territory around Rice. Upgraded infrastructure and can now offer max advertised download speeds of tier 7 and upload speeds of tier 4.
Benton Cooperative Telephone Company	Cable	Data Added to Statewide Inventory	6/16/2010	[FEB-19-13 Brian Dudek] Change/Correction: Provider added additional coverage to prior Milaca Local Link file, but also removed coverage where the technology changes to DSL and Fiber. Upgraded infrastructure and can now offer max advertised download speeds of tier 7 and upload speeds of tier 4.
Benton Cooperative Telephone Company	DSL	Data Added to Statewide Inventory	6/16/2010	[FEB-19-13 Brian Dudek] Change: New provider platform subsidiary for April 2013 submission.
Benton Cooperative Telephone Company	Fiber	Data Added to Statewide Inventory	6/16/2010	[FEB-19-13 Brian Dudek] Change: Provider expanded fiber territory around Rice. Upgraded infrastructure and can now offer max advertised speeds of tier 10.
Benton Cooperative Telephone Company	Fiber	Data Added to Statewide Inventory	6/16/2010	[FEB-19-13 Brian Dudek] Change: New provider subsidiary platform for April 2013 submission.
Blue Sky Broadband	Fixed Wireless	Data Added to Statewide Inventory	12/4/2012	[FEB-28-13 Brian Dudek] Change: New provider for the April 2013 submission.
Blueprint America, Inc.	Fixed Wireless	Data Added to Statewide Inventory	8/16/2012	[FEB-28-13 Brian Dudek] Change: Provider expanded wireless coverage in multiple areas and also upgraded infrastructure to allow for max advertised speeds of tier 7.
Broadband Corp	Fixed Wireless	Data Added to Statewide Inventory	5/11/2010	[MAR-01-13 Brian Dudek] Change: Provider now has additional 3650 sites expanding coverage south of Arlington and west toward Prinsburg.

Cable ONE Inc.	Cable	Data Added to Statewide Inventory	12/7/2009	[FEB-04-13 Brian Dudek] Change/Correction: possible service expansion or corrections to previous dataset; entirely new dataset for April 2013 submission.
CenturyLink	DSL	Data Added to Statewide Inventory	12/4/2009	[FEB-28-13 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2013 submission.
CenturyLink	Fiber	Data Added to Statewide Inventory	12/4/2009	[FEB-18-13 Brian Dudek] Change: New provider platform for the April 2013 submission.
Clearwire Corporation	Mobile Wireless	Data Added to Statewide Inventory	3/3/2010	[JAN-04-13 Brian Dudek] Change: Refined propagations indicate minor increase and decrease of mobile coverage in some areas.
Comcast Cable Communications, LLC	Cable	Data Added to Statewide Inventory	12/7/2009	[FEB-12-13 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2013 submission.
Consolidated Telephone Company	Fiber	Data Added to Statewide Inventory	3/1/2012	[JAN-08-13 Brian Dudek] Change: Provider expanded fiber territory into Lincoln, Randall, and Nokay Lake area.
Farmers Mutual Telephone Company	Fiber	Data Added to Statewide Inventory	4/1/2010	[FEB-04-13 Brian Dudek] Change: Provider expanded fiber territory into the majority of Lac qui Parle County.
Federated Telephone Cooperative	Fiber	Data Added to Statewide Inventory	4/1/2010	[FEB-04-13 Brian Dudek] Change: Provider indicated Hometown Solutions, LLC should now be listed as Federated Telephone Cooperative; it's included in this dataset.
Frontier Communications of Minnesota, Inc.	DSL	Data Added to Statewide Inventory	1/22/2010	[FEB-26-13 Brian Dudek] Change: Provider gave varying line distances for many areas in MN resulting in more accurate speeds. Also expanded coverage into the town of Loman and a few other small areas. Also corrected an incorrect DSLAM coverage location.
Garden Valley Telephone Company	DSL	Data Added to Statewide Inventory	2/17/2010	[JAN-30-13 Brian Dudek] Change: Provider converted DSL infrastructure to fiber in rural Fertile exchange and the entirety of the Beltrami exchange. Elsewhere max advertised speeds increased to tier 8 download and upload within the county/city boundaries.
Garden Valley Telephone Company	Fiber	Data Added to Statewide Inventory	2/17/2010	[JAN-30-13 Brian Dudek] Change: Provider expanded fiber territory into rural Fertile exchange and the entirety of the Beltrami exchange. Max advertised speeds increased to tier 8 download and upload.
Halstad Telephone Company	Fiber	Data Added to Statewide Inventory	6/16/2010	[JAN-30-13 Brian Dudek] Change: Provider expanded fiber territory slightly further north in the direction of East Grand Forks.
Harmony Telephone Company	DSL	Data Added to Statewide Inventory	1/12/2010	[JAN-16-13 Brian Dudek] Change/Correction: Provider indicated the previously reported fiber coverage was actually all DSL. Were also incorrectly reporting fiber speeds. Hence, upload corrected to tier 4.
Hiawatha Broadband Communications, Inc.	Fixed Wireless	Data Added to Statewide Inventory	3/8/2010	[JAN-09-13 Brian Dudek] Change/Correction: Provider added multiple transmission locations in the counties of Goodhue, Wabasha, and Winona. Provider also increased prior maximum advertised download and upload speeds to tier 7. Provider stated Stockholm, MN tower should be removed as it was incorrectly listed.
InvisiMax, Inc.	Fixed Wireless	Data Added to Statewide Inventory	2/29/2012	[FEB-05-13 Brian Dudek] Change: Provider expanded coverage in multiple areas, particularly East Grand Forks and east of Enok. Speeds were also changed in much of the provider's territory.
Kasson & Mantorville Telephone Company	Fiber	Data Added to Statewide Inventory	6/30/2010	[MAR-05-13 Brian Dudek] Change: New provider platform for the April 2013 submission.
Lakenet Communications	Fixed Wireless	Data Added to Statewide Inventory	10/18/2012	[JAN-22-13 Brian Dudek] Change: New provider for April 2013 submission.
MegaPath Corporation	DSL	Data Added to Statewide Inventory	2/15/2010	[FEB-14-13 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2013 submission.

Midcontinent Communications	Cable	Data Added to Statewide Inventory	12/9/2009	[FEB-05-13 Brian Dudek] Change: Provider expanded coverage in multiple areas across MN, but particularly in rural Tower, Soudan and in east central Dakota County. Also increased max advertised download and upload speeds in central MN coverage area.
Minnesota Valley TV Improvement Corporation	Fixed Wireless	Data Added to Statewide Inventory	4/13/2010	[MAR-04-13 Brian Dudek] Change: Provider expanded wireless territory in towns of Traverse and Belgrade.
Minnesota WiFi LLC	Fixed Wireless	Data Added to Statewide Inventory	1/28/2013	[FEB-28-13 Brian Dudek] Change: New provider for the April 2013 submission.
Moose-Tec	Fixed Wireless	Data Added to Statewide Inventory	2/22/2013	[MAR-01-13 Brian Dudek] Correction: Initial submission of provider's coverage, but they were in service previously.
Paul Bunyan Rural Telephone Cooperative	DSL	Data Added to Statewide Inventory	6/24/2010	[JAN-14-13 Brian Dudek] Change/Correction: Better dataset resulted in minor adjustments being made to the DSL coverage. DSL removed in areas where fiber now exists.
Paul Bunyan Rural Telephone Cooperative	Fiber	Data Added to Statewide Inventory	6/24/2010	[JAN-08-13 Brian Dudek] Change: Provider expanded fiber territory in Big Falls, Hines, Little Rock, Red Lake, south of Lake George and rural Blackduck.
Radio Link Internet	Fixed Wireless	Data Added to Statewide Inventory		[JAN-28-13 Brian Dudek] Change: Provider added transmission locations and altered others; coverage now reaches 11 counties. Additionally, provider upgraded infrastructure and can now offer max advertised speeds of tier 8 download and tier 7 upload.
Red River Rural Telephone Association	DSL	Data Added to Statewide Inventory	3/17/2010	[FEB-21-13 Brian Dudek] Change: Provided converted some of their DSL infrastructure over to fiber.
Red River Rural Telephone Association	Fiber	Data Added to Statewide Inventory	3/17/2010	[FEB-21-13 Brian Dudek] Change: Provider expanded fiber territory in their Fairmount exchange and portions of Barnesville and Rollag.
Red River Rural Telephone Association	Fixed Wireless	Data Added to Statewide Inventory	3/17/2010	[MAR-01-13 Brian Dudek] Change: Provider added a 3650 transmission in Breckenridge.
Rothsay Telephone Company Inc.	Fiber	Data Added to Statewide Inventory	2/18/2010	[JAN-07-13 Brian Dudek] Change: New provider platform in service for April 2013 submission.
Sjoberg's Inc.	Cable	Data Added to Statewide Inventory	12/21/2009	[MAR-01-13 Brian Dudek] Change: Provider upgraded infrastructure and increased max advertised cable speeds to tier 8 download and tier 6 upload in their service areas of Roseau, Baudette, and Warroad. Some territory increase in Roseau and Thief River Falls.
Skycasters	Satellite	Data Added to Statewide Inventory	10/16/2012	[OCT-29-12 Brian Dudek] Correction: Initial submission of provider's coverage, but they were in service previously.
SMBS	Fiber	Data Added to Statewide Inventory		[MAR-04-13 Brian Dudek] Change: Provider expanded fiber territory in Jackson County and parts of Cottonwood and Nobles.
Sprint Nextel Corporation	Mobile Wireless	Data Added to Statewide Inventory	1/14/2010	[FEB-22-13 Brian Dudek] Change/Correction: Coverage differences are very minor; entirely new dataset provided for April 2013 submission.
Starpont Communications, Inc.	Fixed Wireless	Data Added to Statewide Inventory	2/18/2011	[MAR-01-13 Brian Dudek] Change: Provider added multiple 5700 sites increasing max advertised download and upload speeds to tier 5 in many areas.
T-Mobile USA, Inc.	Mobile Wireless	Data Added to Statewide Inventory	1/8/2010	[FEB-25-13 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2013 submission. There is notable expansion near Hackensack and Whipholt.
TDS Telecommunications Corporation	DSL	Data Added to Statewide Inventory	1/27/2010	[FEB-22-13 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2013 submission.
TDS Telecommunications Corporation	Fiber	Data Added to Statewide Inventory	1/27/2010	[FEB-13-13 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2013 submission.

VAL-ED Joint Venture, LLP	Fixed Wireless	Data Added to Statewide Inventory	4/21/2010	[JAN-31-13 Brian Dudek] Change: 702 Communications acquired North Dakota based provider i29wireless, and this coverage is now submitted in the dataset as it extends into MN territory. Purchase expanded their wireless service area outward roughly 10 miles.
Verizon Communications, Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/14/2009	[FEB-22-13 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2013 submission. There is definitely significant 4G expansion across the state.
Winnebago Cooperative Telecom Association	DSL	Data Added to Statewide Inventory	6/17/2010	[FEB-26-13 Brian Dudek] Change: Provider converted majority of DSL territory to fiber.
Winnebago Cooperative Telecom Association	Fiber	Data Added to Statewide Inventory	6/17/2010	[FEB-26-13 Brian Dudek] Change: Provider expanded fiber territory into majority of its MN exchanges.
Woodstock Telephone Company	Fiber	Data Added to Statewide Inventory	2/18/2010	[JAN-14-13 Brian Dudek] Change: Provider expanded fiber territory into previously DSL service areas. Increased max advertised fiber speeds to tier 9 download and tier 7 upload. DSL now inactive.
Level 3 Communications, LLC	Backhaul	Backhaul Provider Only Processing	12/14/2009	
MegaPath Corporation	Backhaul	Backhaul Provider Only Processing	2/15/2010	
Midcontinent Communications	Backhaul	Backhaul Provider Only Processing	12/9/2009	
Savage Communications Inc.	Backhaul	Backhaul Provider Only Processing	2/19/2010	
Sprint Nextel Corporation	Backhaul	Backhaul Provider Only Processing	1/14/2010	
Winnebago Cooperative Telecom Association	Backhaul	Backhaul Provider Only Processing	6/17/2010	
Benton Cooperative Telephone Company	DSL	Speed Only Update; Data Processing Complete	6/16/2010	[FEB-19-13 Brian Dudek] Change: Provider upgraded infrastructure and can now offer max advertised download speeds of tier 7 and upload speeds of tier 4.
Halstad Telephone Company	DSL	Speed Only Update; Data Processing Complete	6/16/2010	[JAN-30-13 Brian Dudek] Change: Provider indicated that they now have VDSL2 capable of bonding to meet max advertised speeds of tier 10 download and tier 9 upload.
Hiawatha Broadband Communications, Inc.	Cable	Speed Only Update; Data Processing Complete	3/8/2010	[JAN-07-13 Brian Dudek] Change: Provider upgraded infrastructure and increased max advertised cable speeds to tier 10 download and tier 5 upload.
Hiawatha Broadband Communications, Inc.	Fiber	Speed Only Update; Data Processing Complete	3/8/2010	[JAN-07-13 Brian Dudek] Change: Provider upgraded infrastructure and increased max advertised fiber speeds to tier 10 download and tier 9 upload.
Hickory Tech Corporation	DSL	Speed Only Update; Data Processing Complete		[FEB-19-13 Brian Dudek] Change/Correction: Provider upgraded infrastructure and can now offer max advertised download speed of tier 7 in the Cambria exchange. Corrected Garden City max advertised download speed to tier 6.
Hughes Network Systems, LLC	Satellite	Speed Only Update; Data Processing Complete	2/5/2010	[MAR-06-13 Brian Dudek] Change: Provider upgraded infrastructure and increased max advertised satellite speeds to tier 7 download and tier 4 upload.
Hutchinson Telecommunications, Inc.	DSL	Speed Only Update; Data Processing Complete	4/14/2010	[JAN-07-13 Brian Dudek] Change: Provider upgraded infrastructure and increased their max advertised asymmetrical DSL upload to tier 5.
Kasson & Mantorville Telephone Company	DSL	Speed Only Update; Data Processing Complete	6/30/2010	[MAR-05-13 Brian Dudek] Change/Correction: Provider was only reporting maximum advertised speed regardless of area in past submissions. Multiple speeds now exist. City of Dodge Center now has max advertised speeds of tier 7.
Manchester-Hartland Telephone Company	Fiber	Speed Only Update; Data Processing Complete	4/14/2010	[JAN-22-13 Brian Dudek] Change: Provider upgraded infrastructure and increased max advertised fiber upload speed to tier 5.
Mediacom Communications Corporation	Cable	Speed Only Update; Data Processing Complete	1/12/2010	[MAR-05-13 Brian Dudek] Change/Correction: Provider sent in speed updates for entire coverage area. Nearly half of service area now advertises max speeds of tier 10 download and tier 7 upload. A quarter of service area now advertises max speeds of tier 9 download. Upload speeds were refined to tier 5 in the tier 9 and 7 download areas.

Minnesota Valley Telephone Company	DSL	Speed Only Update; Data Processing Complete	4/29/2010	[FEB-14-13 Brian Dudek] Change/Correction: Provider upgraded infrastructure in Franklin and Lucan exchanges and increased max advertised download speeds to tier 7. Decreased max advertised upload speed tier in Lucan, Milroy and Winthrop exchanges to tier 4, as business upload speeds were incorrectly reported in last submission.
New Ulm Telecom, Inc.	DSL	Speed Only Update; Data Processing Complete	2/25/2010	[JAN-07-13 Brian Dudek] Change: Provider upgraded infrastructure and increased their max advertised asymmetrical DSL upload to tier 5.
Park Region Mutual Telephone Company	DSL	Speed Only Update; Data Processing Complete	3/18/2010	[JAN-29-13 Brian Dudek] Change: Provider upgraded infrastructure to allow max advertised speed of tier 7 download and tier 5 upload within the Valley Telephone Company exchanges. Upload was also increased to tier 5 in the Park Region Mutual Telephone Company exchanges.
Park Region Mutual Telephone Company	Fiber	Speed Only Update; Data Processing Complete	3/18/2010	[JAN-31-13 Brian Dudek] Change/Correction: Provider upgraded infrastructure and increased max advertised download speeds to tier 9 within the Park Region Mutual Telephone Company and Valley Telephone Company exchanges.
Rothsay Telephone Company Inc.	DSL	Speed Only Update; Data Processing Complete	2/18/2010	[JAN-07-13 Brian Dudek] Change: Provider upgraded infrastructure and increased max advertised DSL speeds to tier 6 download.
Savage Communications Inc.	Cable	Speed Only Update; Data Processing Complete	2/19/2010	[JAN-31-13 Brian Dudek] Change: Provider upgraded infrastructure and increased max advertised speeds to tier 7 download and tier 5 upload throughout service area.
West Central Telephone Association	DSL	Speed Only Update; Data Processing Complete	2/18/2010	[FEB-13-13 Brian Dudek] Change: Provider upgraded infrastructure and increased max advertised DSL speeds to tier 7 download.
West Central Telephone Association	Fiber	Speed Only Update; Data Processing Complete	2/18/2010	[FEB-13-13 Brian Dudek] Change: Provider upgraded infrastructure and increased max advertised fiber speeds to tier 8 download and upload.
Western Telephone Company	DSL	Speed Only Update; Data Processing Complete	4/14/2010	[JAN-07-13 Brian Dudek] Change: Provider upgraded infrastructure and increased their max advertised asymmetrical DSL upload to tier 5.
Windstream Communications	DSL	Speed Only Update; Data Processing Complete		[MAR-05-13 Brian Dudek] Change/Correction: Provider supplied more accurate speed data on the block level. Previously were submitted on the MSA/RSA level.
Nextera Communications	Fixed Wireless	No Update-Estimated Coverage Submitted for Non-Participating		
totheshome.com, LLC	Fixed Wireless	No Update-Estimated Coverage Submitted for Non-Participating		
Access Broadband	Fixed Wireless	Estimated Coverage Submitted for Non-Participating Provider		[MAR-05-13 Brian Dudek] Correction: New provider for April 2013 submission that was and has been unresponsive. Connected Nation estimated coverage for this provider.
AirFiber	Fixed Wireless	Estimated Coverage Submitted for Non-Participating Provider		[MAR-05-13 Brian Dudek] Change: New provider for April 2013 submission that was unresponsive this round. Connected Nation estimated coverage for this provider.
LakesArea Wireless	Fixed Wireless	Estimated Coverage Submitted for Non-Participating Provider		[MAR-05-13 Brian Dudek] Change: New provider for April 2013 submission that has been unresponsive. Connected Nation estimated coverage for this provider.
Nates Net, Inc.	Fixed Wireless	Estimated Coverage Submitted for Non-Participating Provider		[MAR-04-13 Brian Dudek] Correction: New provider for April 2013 submission that was unresponsive this round and previously did not meet minimum broadband requirements. Connected Nation estimated coverage for this provider.
Albany Mutual Telephone Association	Fiber	Approval for Update Not Received – Data Still Submitted	3/4/2010	[FEB-13-13 Brian Dudek] Change: Provider's expansion of fiber into all of its exchanges is complete.
FTTH Communications	Fiber	Approval for Update Not Received – Data Still Submitted		[FEB-06-13 Brian Dudek] Change: Provider expanded fiber territory in two small areas in Rosemount. Upgraded infrastructure and can now offer max advertised download speeds of tier 10.
Ace Telephone Association	Backhaul	No Update to Provide	8/3/2010	
AirLink Broadband, LLC	Fixed Wireless	No Update to Provide		

Albany Mutual Telephone Association	DSL	No Update to Provide	3/4/2010
Alliance Communications Cooperative, Inc.	Backhaul	No Update to Provide	3/2/2012
Alliance Communications Cooperative, Inc.	Fiber	No Update to Provide	3/2/2012
Arrowhead Communications Corporation	DSL	No Update to Provide	4/14/2010
Arvig	Cable	No Update to Provide	4/20/2010
Arvig	Fiber	No Update to Provide	4/20/2010
Arvig Communication Systems	DSL	No Update to Provide	2/2/2011
Arvig Communication Systems	Fiber	No Update to Provide	2/2/2011
Arvig Communication Systems	Fixed Wireless	No Update to Provide	2/2/2011
AT&T Corp, Inc.	Backhaul	No Update to Provide	12/16/2009
Barnesville Municipal Telephone	DSL	No Update to Provide	3/4/2010
Benton Cooperative Telephone Company	Mobile Wireless	No Update to Provide	6/16/2010
Blue Earth Valley Telephone Company	Cable	No Update to Provide	6/16/2010
Blue Earth Valley Telephone Company	DSL	No Update to Provide	6/16/2010
Blue Earth Valley Telephone Company	Fiber	No Update to Provide	6/16/2010
CenturyLink	Backhaul	No Update to Provide	12/4/2009
Charter Communications, Inc.	Backhaul	No Update to Provide	12/15/2009
Charter Communications, Inc.	Cable	No Update to Provide	12/15/2009
Christensen Communications Company	Backhaul	No Update to Provide	2/2/2010
Christensen Communications Company	DSL	No Update to Provide	2/2/2010
CitEscape, LLC	Fixed Wireless	No Update to Provide	1/25/2010
City of Detroit Lakes	Fixed Wireless	No Update to Provide	5/10/2010
City of Windom	Fiber	No Update to Provide	
Clara City Telephone Company	DSL	No Update to Provide	2/5/2010
Clearwire Corporation	Fixed Wireless	No Update to Provide	3/3/2010
Consolidated Telephone Company	DSL	No Update to Provide	3/1/2012
Consolidated Telephone Company	Fixed Wireless	No Update to Provide	3/1/2012
Consolidated Telephone Company	Fixed Wireless	No Update to Provide	3/1/2012
Crosslake Telephone Company	Cable	No Update to Provide	6/16/2010
Crosslake Telephone Company	DSL	No Update to Provide	6/16/2010
Crosslake Telephone Company	Fiber	No Update to Provide	6/16/2010
Eagle Valley Telephone Company	DSL	No Update to Provide	4/14/2010
Emily Cooperative Telephone Company	Fiber	No Update to Provide	6/24/2010
Evertex Enterprises, Inc.	Fixed Wireless	No Update to Provide	6/17/2010
Fallsnet	Fixed Wireless	No Update to Provide	
Farmers Mutual Telephone Company	Fixed Wireless	No Update to Provide	4/1/2010
Federated Telephone Cooperative	Fixed Wireless	No Update to Provide	4/1/2010
Felton Telephone Company	DSL	No Update to Provide	4/14/2010
Fibernet Monticello	Fiber	No Update to Provide	
Frontier Communications of Minnesota, Inc.	Backhaul	No Update to Provide	1/22/2010
Gardenville Cooperative Telephone Association	DSL	No Update to Provide	2/23/2010
Gardenville Cooperative Telephone Association	Fiber	No Update to Provide	2/23/2010
Gardenville Cooperative Telephone Association	Fixed Wireless	No Update to Provide	2/23/2010
Genesis Wireless	Fixed Wireless	No Update to Provide	
Granada Telephone Company	DSL	No Update to Provide	4/14/2010
Halstad Telephone Company	Fixed Wireless	No Update to Provide	6/16/2010
Hickory Tech Corporation	DSL	No Update to Provide	
Hickory Tech Corporation	Fixed Wireless	No Update to Provide	
Hutchinson Telecommunications, Inc.	Fixed Wireless	No Update to Provide	4/14/2010
Info Link Wireless, Inc.	Fixed Wireless	No Update to Provide	4/19/2010
Interstate Telecommunications Cooperative, Inc.	DSL	No Update to Provide	2/10/2010
Interstate Telecommunications Cooperative, Inc.	Fiber	No Update to Provide	2/10/2010
Jab Wireless, Inc.	Fixed Wireless	No Update to Provide	6/14/2010
Jaguar Communications	DSL	No Update to Provide	4/12/2010
Jaguar Communications	Fiber	No Update to Provide	4/12/2010
Jaguar Communications	Fixed Wireless	No Update to Provide	4/12/2010
Johnson Telephone Company	DSL	No Update to Provide	
Lismore Cooperative Telephone Company	Fiber	No Update to Provide	
Lonsdale Telephone Company, Inc.	Fiber	No Update to Provide	
Loretel Systems, Inc.	DSL	No Update to Provide	4/14/2010
Mabel Cooperative Telephone Company	DSL	No Update to Provide	4/7/2010
Mediacom Communications Corporation	Backhaul	No Update to Provide	1/12/2010
Mille Lacs Energy Cooperative	Fixed Wireless	No Update to Provide	
Minnesota Valley TV Improvement Corporation	Cable	No Update to Provide	4/13/2010
New Ulm Telecom, Inc.	Cable	No Update to Provide	2/25/2010
NorthfieldWiFi LLC	Fixed Wireless	No Update to Provide	2/4/2011
Park Region Mutual Telephone Company	Fixed Wireless	No Update to Provide	3/18/2010
Pine Island Telephone Company	DSL	No Update to Provide	4/14/2010
Polar Telcom, Inc.	DSL	No Update to Provide	2/11/2010
Polar Telcom, Inc.	Fiber	No Update to Provide	2/11/2010
River Valley Telephone Coop.	Fixed Wireless	No Update to Provide	4/28/2010
RRC Net	Fixed Wireless	No Update to Provide	
Runestone Telecom Association	DSL	No Update to Provide	4/14/2010
Runestone Telecom Association	Fiber	No Update to Provide	4/14/2010
Sacred Heart Telephone Company	DSL	No Update to Provide	2/5/2010
Scott Rice Telephone Co.	DSL	No Update to Provide	2/15/2010
Scott Rice Telephone Co.	Fiber	No Update to Provide	2/15/2010
Sheehan Gas	Fixed Wireless	No Update to Provide	
Sioux Valley Rural Television, Inc.	Fixed Wireless	No Update to Provide	4/21/2010
Sleepy Eye Telephone Company	DSL	No Update to Provide	4/14/2010
Southern Cablevision, Inc.	Cable	No Update to Provide	3/30/2010
Spacenet, Inc.	Satellite	No Update to Provide	
Spring Grove Cooperative Telephone Co.	Fiber	No Update to Provide	1/12/2010
Starbuck Telephone Company	DSL	No Update to Provide	2/5/2010

T-Mobile USA, Inc.	Backhaul	No Update to Provide	1/8/2010	
TDS Telecommunications Corporation	Backhaul	No Update to Provide	1/27/2010	
tw telecom of minnesota, llc	Backhaul	No Update to Provide	4/20/2010	
Upsala Cooperative Telephone Association	DSL	No Update to Provide	2/29/2012	
Upsala Cooperative Telephone Association	Fiber	No Update to Provide	2/29/2012	
US Internet of Minnetoka	Fixed Wireless	No Update to Provide	2/29/2012	
VAL-ED Joint Venture, LLP	DSL	No Update to Provide	4/21/2010	
Verizon Communications, Inc.	Backhaul	No Update to Provide	12/14/2009	
ViaSat, Inc.	Satellite	No Update to Provide	1/8/2010	
WideOpenWest Finance, LLC	Cable	No Update to Provide		[MAR-07-13 Brian Dudek] Change: WideOpenWest Finance, LLC acquired Knology; they are now a broadband provider for the state.
Wikstrom Telephone Company	DSL	No Update to Provide	4/12/2010	
Wikstrom Telephone Company	Fixed Wireless	No Update to Provide	4/12/2010	
Winnebago Cooperative Telecom Association	Fixed Wireless	No Update to Provide	6/17/2010	[FEB-13-13 Layne Wagner] I received notice from a company representative that they plan to discontinue the fixed wireless platform by Q2 2013.
Wolverton Telephone Company	DSL	No Update to Provide	6/22/2010	
Wolverton Telephone Company	Fiber	No Update to Provide	6/22/2010	
XO Communications, LLC	Backhaul	No Update to Provide	2/12/2010	
Zumbrota Telephone Company	DSL	No Update to Provide	2/5/2010	
Bradco-Wisp, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data		
City of Chaska	Fixed Wireless	No Update Provided – Use Last Submission Data		
Cogent Communications, Inc.	Backhaul	No Update Provided – Use Last Submission Data		
Enterpoint Wireless	Fixed Wireless	No Update Provided – Use Last Submission Data		
Windstream Communications	Backhaul	No Update Provided – Use Last Submission Data		
Zayo Group, LLC	Backhaul	No Update Provided – Use Last Submission Data		
Windstream Communications	DSL	Solicited Initial Data		
Reliance Globalcom Services, Inc.	Backhaul	Non-Responsive to Multiple Attempts		In addition to multiple contact attempts made during previous mapping submission periods, 5 contact attempts were made this period.