OFFICIAL OCTOBER 2011 UPDATE SUBMISSION TO THE NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION UNDER THE STATE BROADBAND INITIATIVE GRANT PROGRAM FOR THE STATE OF MINNESOTA

October 1, 2011

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MINNESOTA COVER LETTER

October 1, 2011

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

These artifacts should be found to be compliant with the October 1, 2011, deadline for the semi-annual data update and in accordance with the terms of the July 1, 2009, Notice of Funds Availability (NOFA) and all subsequent clarifications pertaining to delivery of state-level mapping of broadband service availability. This packet includes:

Inventory of Deliverables, Connect Minnesota: October 1, 2011

NOFA Requirement	Data Transfer Model	Data Description
Appendix A: 1(a)(i)	BB_Service_CensusBlock	Broadband Service Availability of Facilities-Based Providers in Census Blocks of No Greater Than Two Square Miles in Area
Appendix A: 1(a)(ii)	BB_Service_RoadSegment	Broadband Service Availability of Facilities-Based Providers by Road Segment in Census Blocks Larger in Area Than Two Square Miles
Appendix A: 1(b)	BB_Service_Wireless	Broadband Service Availability of Wireless Services Not Provided to a Specific Address
Appendix A: 3(b)	BB_ConnectionPoint_MiddleMile	Broadband Service Infrastructure Middle-Mile and Backbone Interconnection Points
Appendix A: 4	BB_Service_CAInstitutions	Community Anchor Institutions-Listing
Appendix A: 4	n/a	Community Anchor Institutions-Narratives
VII.A.1(a)	n/a	Accuracy and Verification Report

n/a	DataPackage.xlsx	Worksheets of Contact Information, Record Count, and Provider Summary Table
n/a	n/a	List of Changes and Corrections to the Dataset
n/a	n/a	Non-Participating Provider 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 April 2011 SBI data submission for the Connect Minnesota program. Specifically, these new requirements are:

SBI Data Transfer Model
The submission of the broadband dataset for October 1, 2011, is contained within the SBI Data Transfer Model as released on the Grantee Workspace on June 30, 2011. 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
This submission also includes a list of changes and corrections made to the dataset between the April 2011 submission and the October 2011 submission. This represents a summary of why data displays and/or supplied speeds, etc. are different from the previous submission. Changes can include upgrades to infrastructure to allow for higher throughput speeds for customers, an expansion of the service area (e.g. additional fixed wireless towers, recently activated DSLAMs, etc.), or a new provider in the marketplace. Corrections can include revisions to speed tier information that was previously reported incorrectly or the addition of a previously existing provider that has not yet been submitted in a semi-annual dataset.

Another addition in this submission is a narrative describing the data and coverage estimation of a non-participating provider. 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 fourth round of data submissions. The submission of this estimated broadband service areas for a provider that has not supplied data to Connect Minnesota is essential in being able to portray a more accurate depiction of the current broadband landscape.

This October 2011 semi-annual data update under the State Broadband Initiative 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 approximately 90.83 percent of the Minnesota provider community, or 109 of 120 total providers. There are 108 participating providers and one additional non-participating provider whose estimated coverage areas have been submitted. Of the 108 participating providers, 46 supplied an update to their network or coverage area(s), while 60 have reported no change. The remaining 2 represent providers who previously supplied data but were non-responsive in the October 2011 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 record is contained herein. Of the 11 providers that are not represented in the attached datasets, 9 have refused to participate in the voluntary program or were non-responsive to multiple contact attempts, and 2 providers are currently in some form of progress toward data submission but were not able to submit coverage areas at the time of this submission.

As the aforementioned roster and attached methodology documentation will attest, it is the collective opinion of the Connect Minnesota principals that all commercially reasonable efforts 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 conducts field validation efforts. To date, 62 (51.67 percent) providers have been validated through field verification activities. Additional details on verification activities are contained within the Field Validation Methodology.

The Connect Minnesota website, www.connectmn.org, 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 3,230 unique visits during this reporting period (14,071 total to date for the life of the grant awarded on December 20, 2009). Additionally, this pronounced Web activity netted 15 broadband inquiries over this same reporting period (115 grant inception to date). The website also provides the BroadbandStat application, which allows the consumer 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 (BroadbandStat) that offer the citizens 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 Connected Nation to identify additional areas that are in need of field validation, which is scheduled as soon as possible.

Community Anchor Institutions

Connect 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.

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. Connect Minnesota has specifically focused efforts during this reporting period on a joint education and library-specific survey that was distributed by the Minnesota Department of Education. This survey was part of its bi-yearly efforts to gather connectivity data from these types of institutions within the state of Minnesota and was made possible through close coordination with the Department and Connect Minnesota. Additionally, a CAI survey continues to be made available for all institutions on the Connect Minnesota website. During this reporting period Connect Minnesota has developed a number of new relationships with statewide associations such as Minnesota Department of Education to promote the importance of broadband connectivity at anchor institutions and participation in this data collection process. 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.

During this reporting period a Connect Minnesota CAI newsletter has been drafted to assist with outreach and highlight the LqP Computer Commuter, a mobile computer lab and classroom. 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 through contribution to the National Broadband Map. We look forward to the continuing work ahead.

Respectfully submitted,

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

DATA ACQUISITION: MINNESOTA COMMUNITY ANCHOR INSTITUTIONS METHODOLOGY

In this fourth 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. During this reporting period Connect Minnesota has continued to focus efforts on conducting outreach and raising awareness of this important project.

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 to a targeted list of CAI throughout the state. 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 using the following password:
http://connectmn.org/mapping/Community_Anchor_Institution_Data_Collection.php
Password: CAI_MN_7611

Connect Minnesota and the Minnesota Department of Commerce have worked closely together during this reporting period to conduct research as part of an ongoing process to identify existing, centralized sources for CAI connectivity data. Efforts have been focused during this reporting period on the education sector and developing a strong relationship with the Minnesota Department of Education. Connect Minnesota coordinated with the Department of Education to include questions from our CAI survey in an existing survey that was distributed to all school districts across the state. The survey resulted in a high response rate and the data is being reported during this submission. Connect Minnesota will conduct follow-up over the upcoming submission period to schools that did respond to the survey and continue to coordinate with the Department of Education on future surveys and projects.

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. Connect Minnesota is prioritizing outreach to key contacts within the library, healthcare, and public safety sectors over the next reporting period and will be developing further relationships with these groups to gather data and assist with the work of the upcoming Minnesota Broadband Task Force that is being formed by the current Governor of Minnesota.

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. During this reporting period Connect Minnesota developed and distributed a CAI newsletter to CAI contacts throughout the state across all CAI sectors. This newsletter highlights the Lac qui Parle County Commuter Computer and encourages institutions to share their data by participating in the CAI online survey. This newsletter will continue to be utilized for outreach, will be made available on the CAI page of the Connect Minnesota website, and it will be updated over the next reporting period.

The greatest challenge with collecting this data continues to be the difficulty in securing CAI broadband connectivity data. Connect Minnesota is overcoming this challenge through new relationships that are being formed specifically this reporting period with the Minnesota Department of Education and the recent release of a CAI newsletter in the state. Connect Minnesota expects noted progress to continue to occur over the coming months leading up to the April 2012 submission. 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
K-12	3,685	3,685	3,685	538	468	115
Libraries	1,018	1,018	1,017	10	10	9
Healthcare	207	207	207	58	57	57
Public Safety	1,541	1,541	1,541	4	4	4
Higher Ed Institutions	182	182	182	0	0	0
Other Government	124	124	123	22	22	22
Other Non-Government	110	110	109	6	5	5
Total	**6,867**	**6,867**	**6,864**	**638**	**566**	**212**

SBI Data Submission Methodology

The submission of the broadband dataset for October 1, 2011, is contained within the SBI Data Transfer Model and additional components as released on the Grantee Workspace on June 30, 2011. Connected Nation 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. Guidance from the Technical Mapping Guide, as released on the Grantee Workspace on March 24, 2011, was also 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.

As part of the ongoing review and analysis process, NTIA has requested further information in the submission of the DataPackage spreadsheet. In addition to the information on providers whose coverage and accompanying attributes are submitted in the SBI Data Transfer Model, information on other providers that are considered to be non-viable is also included in the DataPackage. Providers deemed non-viable that have been excluded from continued outreach may have been

eliminated for reasons such as (i) the company offers Internet service but at speeds below the current definition of broadband; (ii) the company was listed in advertisements as a broadband provider, but is actually a network solution or consulting firm, etc.; (iii) the company may build or install network infrastructure, but does not actually provide the broadband service to consumers; and (iv) the company has gone out of business. The submitted DataPackage includes any relevant information that has been obtained through the course of due diligence and/or direct provider outreach, such as a Federal Registration Number (if applicable), the company's URL, the existence of an executed Nondisclosure Agreement, and brief notations regarding the status of the company.

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

Inventory of Deliverables, Connect Minnesota: October 1, 2011

NOFA Requirement	Data Transfer Model	Data Description
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.

The provider data collected by Connected Nation 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.

PROVIDER CHANGES AND CORRECTIONS FOR OCTOBER 2011

As requested by the SBI Program Office, a listing of the changes and/or corrections to the datasets between the April 2011 and October 2011 submissions is included in this narrative. This information is presented in this section as well as in the Broadband Provider Log. Changes to the data include expansion of service area(s), activation of new wireless towers, and upgrades to the network to provide higher download speeds to consumers. Corrections to the dataset include the addition of previously existing providers whose coverage has never been submitted, revision of coverage or speed information that was incorrect, and any other items that were misrepresented in the April 2011 dataset.

Changes

- AirLink Broadband, LLC. (fixed wireless): New provider in service for October 2011 submission.
- Arrowhead Communications Corporation (DSL): Provider updated upload speed capabilities.
- AT&T Corp, Inc. (mobile wireless): Provider expanded mobile territory throughout the state.
- Benton Cooperative Telephone Company (cable): Provider indicated they also have a CLEC operation in Milaca.
- Broadband Corp (fixed wireless): Recreated propagations due to additions and deletions for unlicensed and licensed area.
- Clearwire Corporation (mobile wireless): Provider pulled back on prior coverage north of Anoka.
- Crosslake Telephone Company (DSL, fiber): Provider converted some DSL infrastructure to fiber.
- Eagle Valley Telephone Company (DSL): Provider upgraded speed capabilities.
- Farmers Mutual Telephone Company (fiber): Provider upgraded speed capabilities.
- Federated Telephone Cooperative (fiber): Provider upgraded speed capabilities.
- Felton Telephone Company (DSL): Provider upgraded speed capabilities.
- Frontier Communications of Minnesota, Inc. (DSL): Provider expanded DSL territory by adding additional CO/RT's.
- Garden Valley Telephone Company (DSL, fiber): Provider converted some DSL infrastructure in two exchanges to fiber.
- Granada Telephone Company (DSL): Provider upgraded speed capabilities.
- Hickory Tech Corporation (DSL): Provider upgraded some infrastructure to higher speeds.
- Hutchinson Telecommunications, Inc. (fixed wireless): Provider upgraded speed capabilities.
- KeyOn Communications (fixed wireless): New provider in service for October 2011 submission.
- Loretel Systems, Inc. (DSL): Provider upgraded speed capabilities.
- Manchester-Hartland Telephone Company (fiber): Provider upgraded speed capabilities.
- Minnesota Valley TV Improvement Corporation (fixed wireless): Provider added additional transmission points.

- Northfield WiFi LLC (fixed wireless): Provider added additional transmission points.
- Park Region Mutual Telephone Company (fiber): Provider upgraded infrastructure in Ottertail Telcom region to speed tier 9.
- Pine Island Telephone Company (DSL): Provider upgraded speed capabilities.
- Red River Rural Telephone Association (DSL): Provider expanded DSL territory into Traverse and Wilkin Counties.
- Savage Communications (cable): Provider expanded cable territory by acquiring properties in Bovey and Coleraine from Jaguar Communications.
- Scott Rice Telephone Co. (DSL): Provider upgraded speed capabilities.
- Sheehan Gas (fixed wireless): Provider upgraded speed capabilities.
- Sleepy Eye Telephone Company (DSL): Provider upgraded speed capabilities.
- Sprint Nextel Corporation (mobile wireless): Provider expanded mobile territory into a few areas.
- T-Mobile USA, Inc. (mobile wireless): Provider expanded mobile territory further in east and southeast MN. Upgraded speed capabilities with HSPA+ 42.
- Verizon Communications, Inc. (mobile wireless): Provider expanded mobile territory further in south MN. Upgraded speeds in 700 MHz spectrum.
- Windstream Communications (DSL): Provider submitted entirely new data in the form of 2010 census blocks for their Lakedale Telephone acquisition only. Entel Communications and Lakedale Link not included. Windstream indicated that these two operations should be changed to the Windstream provider name, dba, and FRN.
- Windstream Communications (fixed wireless): Windstream indicated that the acquired fixed wireless operations from Lakedale should be changed to the Windstream provider name, dba, and FRN.

Corrections

- Arrowhead Communications Corporation (DSL): Provider corrected coverage from a received broadband inquiry.
- CitEscape, LLC (fixed wireless): Corrected 3650 MHz maximum advertised download speeds to speed tier 7 from previously submitted 8.
- City of Chaska (fixed wireless): New provider for October 2011 submission that is still unresponsive. Connected Nation estimated coverage for this provider.
- Clear Choice Communications (fixed wireless): Provider service area is now a real-world propagation unlike prior submission. Cut to licensed border.
- Clearwire Corporation (fixed wireless): Provider service area is now a real-world propagation unlike prior submissions.
- Consolidated Telephone Company (fiber): Nisswa and Baxter coverage was added back. Coverage was inadvertently removed in the April submission and was not caught by the provider.
- DISH Network Corporation (satellite): Satellite data is being submitted and was not included in the April 2011 submission. While coverage is currently the entire state boundary, work continues on having more granular data available.
- Fibernet Monticello (fiber): New provider for October 2011 submission that was previously unresponsive.

- Frontier Communications of Minnesota, Inc. (DSL): Provider modified coverage throughout where incorrect CO/RT coordinates were given in the past that went unnoticed.
- Gardonville Cooperative Telephone Association (fixed wireless): Provider service area is now a real-world propagation unlike prior submissions.
- Hughes Network Systems, LLC (satellite): Satellite data is being submitted and was not included in the April 2011 submission. While coverage is currently the entire state boundary, work continues on having more granular data available.
- Knology of the Plains, Inc. (cable): New provider for October 2011 submission that previously refused to participate.
- Jaguar Communications (fixed wireless): Provider service area is now a real-world propagation unlike prior submissions.
- Minnesota Valley TV Improvement Corporation (cable): New provider platform for October 2011 submission, which was previously unknown.
- Park Region Mutual Telephone Company (DSL): Provider reported DSL speeds incorrectly in Ottertail Telcom region. Reduced speed tiers.
- Paul Bunyan Rural Telephone Cooperative (DSL, fiber): Provider coverage added in the Red Lake exchange. Although available, this coverage was not provided in the past submission.
- Sjoberg's Inc. (cable): Provider indicated that maximum upload speed tier needed to be lowered to 3.
- WildBlue Communications, Inc. (satellite): Satellite data is being submitted and was not included in the April 2011 submission. While coverage is currently the entire state boundary, work continues on having more granular data available.

Changes and/or Corrections – Entirely New Dataset Submitted

- Cable ONE Inc. (cable)
- CenturyLink (DSL): Also of note, CenturyLink acquired Qwest Corporation.
- Charter Communications (cable)
- Comcast Cable Communications, LLC (cable)
- Midcontinent Communications (cable): Also of note, provider upgraded speed capabilities in its DOCSIS 3.0 cable regions.
- TDS Telecommunications Corporation (DSL, fiber)

MINNESOTA FIELD VALIDATION METHODOLOGY

Connected Nation 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 and Trips;
- locating physical wire-line attributes (such as 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 Connected Nation's state specific websites.

Additionally, Connected Nation cross-referenced numerous public documents in order to ensure that all known broadband providers were located and contacted. This included searching membership logs from the 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: Albany Mutual Telephone Association; Alliance Communications; Arvig Communications Systems; AT&T, Inc.; Barnesville Municipal Telephone; Benton Cooperative Telephone Company; Bradco-WISP, Inc.; CenturyLink; Charter Communications; Chaska.Net; Christensen Communications Company; CitiScape Communications; Clear Choice; Clearwire Corporation; Cloudnet, Inc.; Comcast Cable Communications LLC; CTC Telecom; diversiCOM; Enterpoint; Evertek Enterprises LLC; Farmers Mutual Telephone; Frontier Communications Corporation; Garden Valley Telephone Company; Gardonville Cooperative Telephone Association; Genesis Wireless; Halsted Telephone; Harmony Telephone Company; Info Link Wireless, Inc.; Invisimax; Jaguar Communications; Lakedale LINK; Lonsdale Telephone; Loterel Systems, Inc.; Mable Cooperative Telephone Company; Maple Leaf Networks; Midcontinent Communications; Min-Kota Wireless; Minnesota Valley Telephone Company; Minnesota Valley TV Improvement Corporation; New Ulm Telecom, Inc.; Northfield Wireless; Otter Tail Telecom; Polar Telcom, Inc.; Qwest Corporation; Red River Rural Telephone Association; Ridge Runner Internet Service, Inc.; River Valley Telecommunications Cooperative; SCI Cable; Scott Rice Telephone; Sioux Valley Wireless; Sleepy Eye Telephone Company; Spring Grove Cooperative Telephone Company; Sprint Nextel Corporation; TDS Telecommunications Corporation; T-Mobile USA, Inc.; U.S. Internet (d.b.a. USI Wireless); Upsala Cooperative Telephone Company; US Cable Corporation; VAL-ED Joint Venture; Verizon Communications, Inc.; and Winnebago Cooperative Telephone Association.

From program initiation through this reporting period, Connected Nation has completed in-the-field validation testing against 62 companies (out of a universe of 120 viable providers) totaling 51.67 percent within the state of Minnesota.

Connected Nation 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. Any providers whose submitted coverage and attributes are anticipated to come into

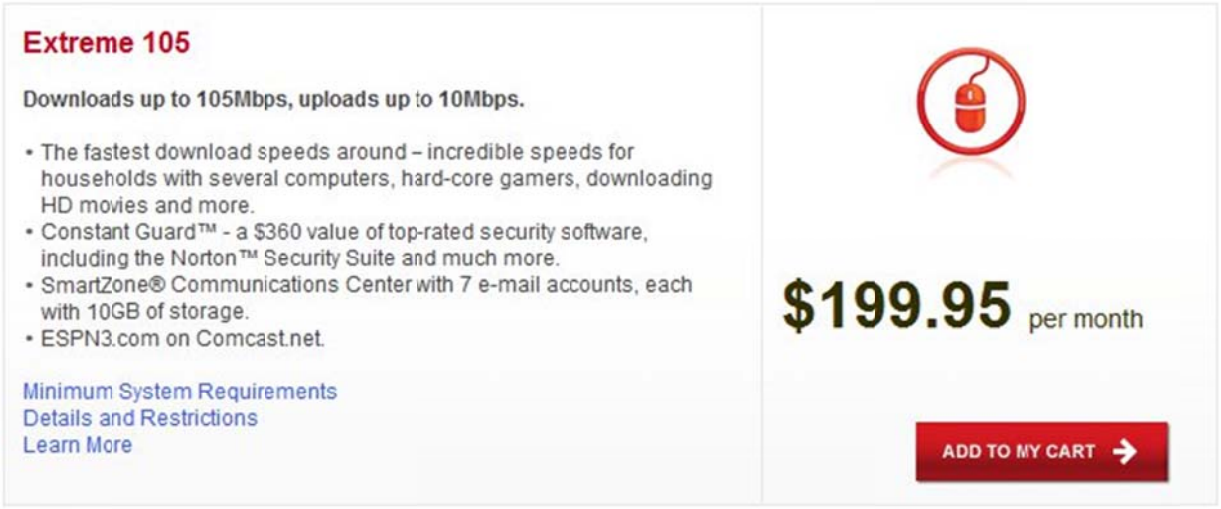
question have been further reviewed and confirmed; details on a case-by-case basis are presented below.

Broadband Corp
Issue: Fixed wireless platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.
Resolution: The equipment being used for the 3650 MHz spectrum allows for 14 Mbps speeds.

Charter
Issue: Technology of transmission 41 with maximum advertised download speed in tier 8, higher than expected value range for the technology.
Resolution: Provider representative confirmed that speed tier 8 is available without the use of DOCSIS 3.0 technology.

CitEscape
Issue: Fixed wireless platform with maximum advertised download speeds in tiers 7, higher than expected value range for the technology.
Resolution: The documentation on the equipment being used indicates that 16.5 Mbps is achievable speed depending on the settings.

Comcast
Issue: Technology of transmission 41 with maximum advertised download speed in tier 10, higher than expected value for the technology.
Resolution: Provider website advertises 105 Mbps; screenshot available below. However, additional input from provider on the technology listings and corresponding speed tiers was not received prior to the submission; dataset submitted as-is and work will continue to provide more accurate dataset in April 2012.



Crosslake Communications
Issue: Technology of transmission 40 with maximum advertised download speed in tier 7, lower than expected value 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.

Home Telephone – Southern Cablevision
Issue: Technology of transmission 40 with maximum advertised download speed in tier 7, lower than expected value for the technology.
Resolution: Provider representative indicated DOCSIS 3.0 is used in its service area, but customer modems are mostly still on 1.1 or 2.0, leading to the lower speed being reported.

Invisimax
Issue: Fixed wireless platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.
Resolution: The equipment being used allows for 14 Mbps speeds.

Midcontinent Communications
Issues: 1) Cable platform with maximum advertised download speed in tier 10, higher than expected value for the technology; and 2) technology of transmission 41 with maximum advertised download speed in tier 8, higher than expected value range for the technology.
Resolution: Provider's website advertises 100 Mbps; screenshot available below. For the technology issue, documentation on the equipment in use allows for speeds in tier 8 without use of DOCSIS 3.0.

Top Internet Speeds for Midcontinent Customers
Posted: 07/15/2011 11:34 AM (MidcoNet Xstream)

By Jon Pederson, Vice President of Technology for Midcontinent Communications

We have been making some technology improvements designed to enhance our broadband capacity. MidcoNet Xstream Wideband is a shift in technology, allowing Midcontinent Communications to deliver up to 100 Mbps downloads and 15 Mbps uploads–speeds unmatched in the three-state area we serve. Our goal is to deploy advanced technologies to ensure an outstanding customer experience now and well into the future.

Current customers will receive an automatic boost in Internet speeds at no additional cost.

MidcoNet Xstream® Wideband 3.0 will offer up to 100 Mbps downloads and 15 Mbps uploads
MidcoNet Xstream® Wideband 2.0 will offer up to 50 Mbps downloads and 10 Mbps uploads
MidcoNet Xstream® Wideband 1.0 will offer up to 30 Mbps downloads and 5 Mbps uploads

Northfield WiFi
Issue: Fixed wireless platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.
Resolution: Provider representative confirmed that higher speeds are available on their fixed wireless network.

Val-ED Joint Venture
Issue: Fixed wireless platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.
Resolution: The equipment being used allows for 14 Mbps speeds.

DATA SUBMISSION AND COVERAGE ESTIMATION OF NON-PARTICIPATING PROVIDER

chaska.net

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 SBDD mapping initiative.

The following narrative provides detail regarding the recent data collection activities related to chaska.net, a wireless Internet service provider (WISP), located in Chaska, Minnesota. Owned by the City of Chaska, the network is actually an unlicensed, metro-mesh network that provides service to the residents and businesses of Chaska, as well as some surrounding areas. The narrative will include information regarding how and where CN obtained publicly available data and the on-the-ground validation techniques that support the underlying data.

Background

CN staff members have continued trying to obtain the participation of the provider with 11 instances of communication via telephone and e-mail sessions since August 4, 2010, through August 12, 2011. Only one communication reply was received from a company representative on June 29, 2011, with a response indicating it is willing to participate, however no time could be allocated for this project. Additionally, a CN staff member visited the chaska.net office on November 2, 2010, to discuss the broadband mapping project in person with chaska.net staff, but necessary staff was not available to discuss the project.

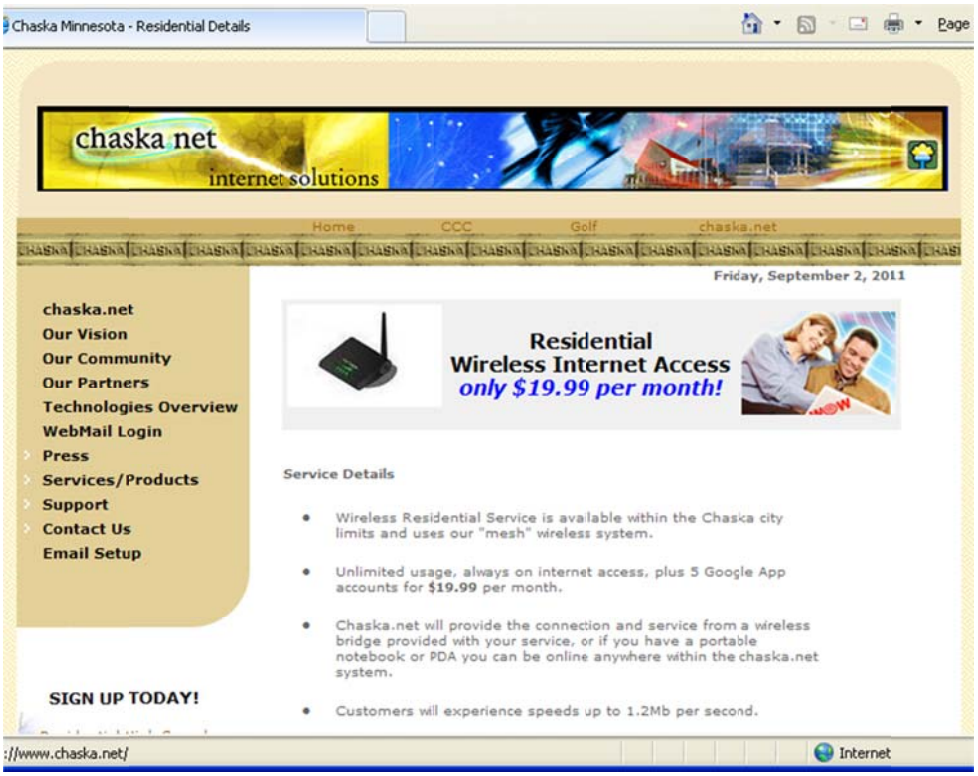
The Issue

By its lack of data submission since August 4, 2010, chaska.net 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.chaskamn.com/internet-solutions/) 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 0002606630 **(Exhibit C)** with contact information relative to the owner of the company. Also, to support field validation of access points, the FRN was referenced to 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 one active License: KRX-344 **(Exhibit D)**, Radio Service: Public Safety License with Mobile applications. It is licensed to the City of Chaska and not affiliated with the chaska.net business venture.

Exhibit A: Service Plans



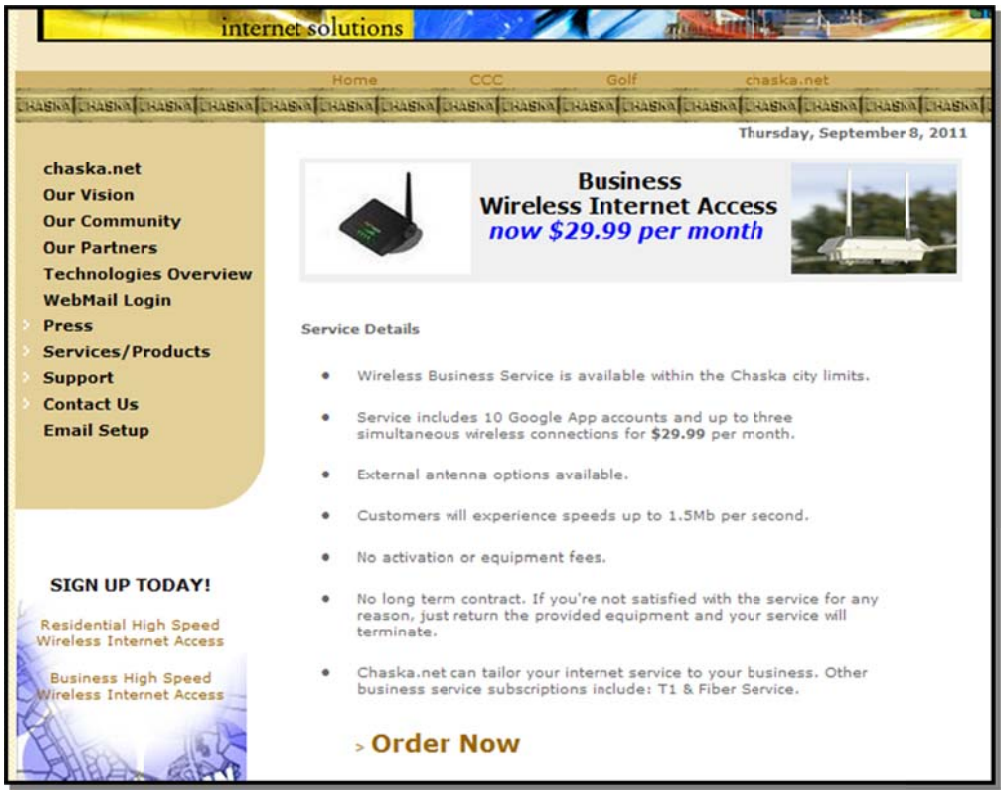


Exhibit B: Service Area

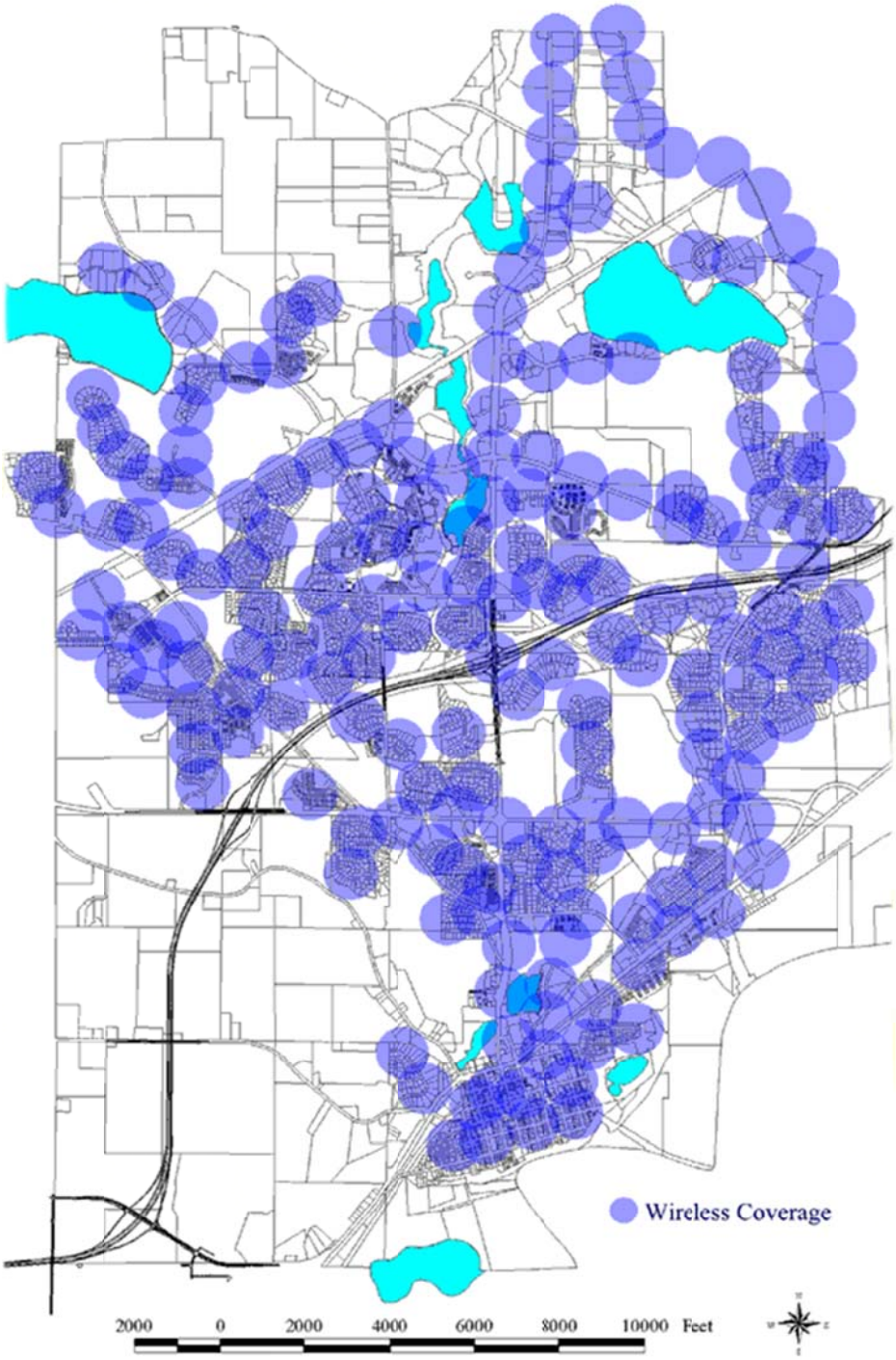


Exhibit C: Federal Registration Number

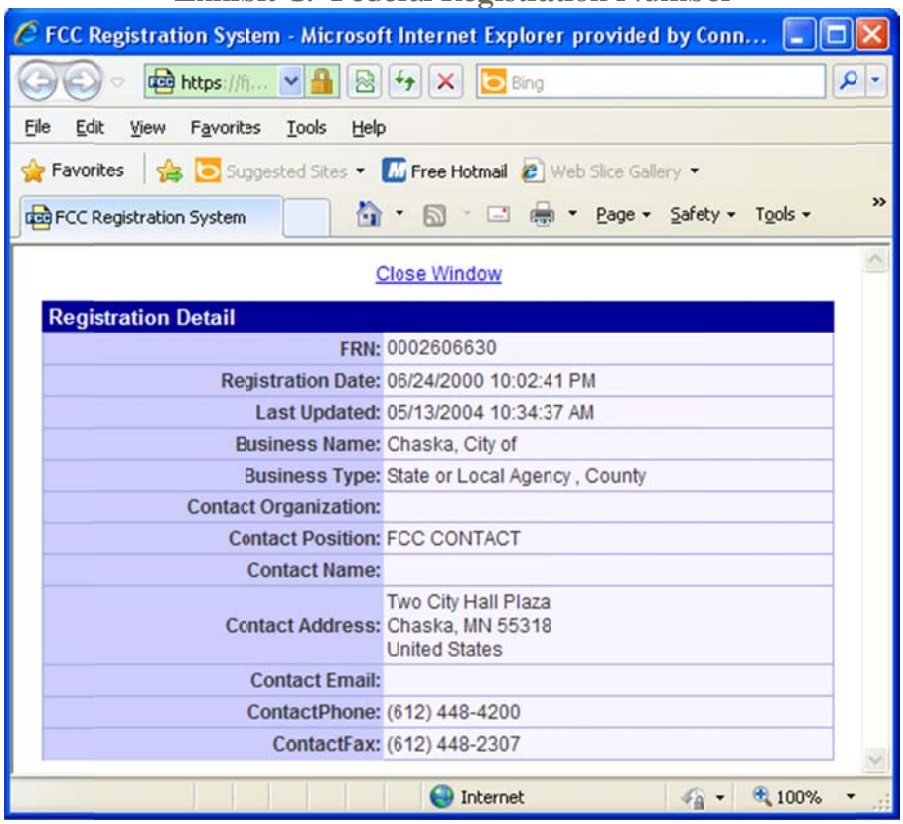
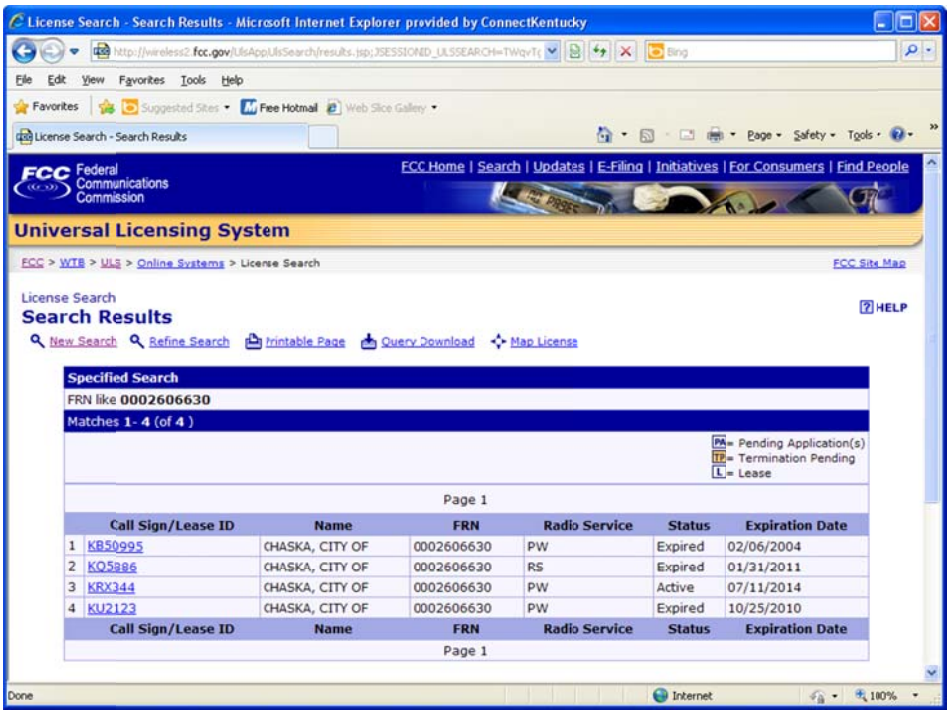


Exhibit D: KRX344 License Reference



Preliminary Identification of Provider's Coverage Area

Connected Nation extracted the chaska.net service area polygon (Exhibit B) from its website. The website service area was 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 .2 mile (1058 ft.) to establish a minimum search criteria of a given access point. By estimating the coordinates for each polygon, search rings were created with the image overlay to determine the most probable locations for the transmit sites and/or structures. The estimated center coordinates were geocoded into Google Earth and examined utilizing the zoom option of the aerial imagery. This established the means of determining coordinates for the access point locations. A CN engineer then conducted an on-site field verification, and validation trip to the targeted areas to verify the theorems, related to transmit frequencies, locations, and device types. One hundred sixty-four (164) locations were entered into a GPS-enabled version of Microsoft's *Streets and Trips* software **(Exhibit F)** to develop a route for the validation process.

Exhibit E: Google Earth – chaska.net's Service Area Image Overlay

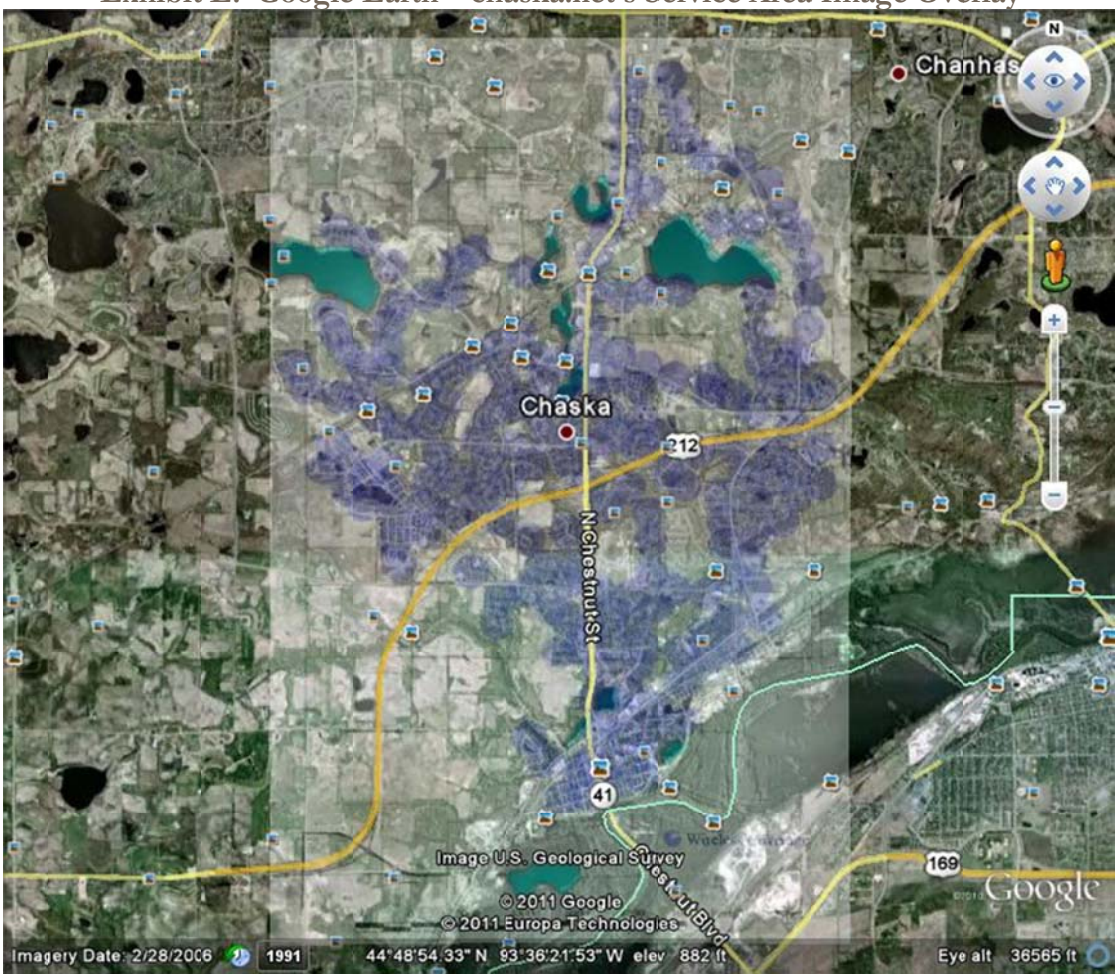
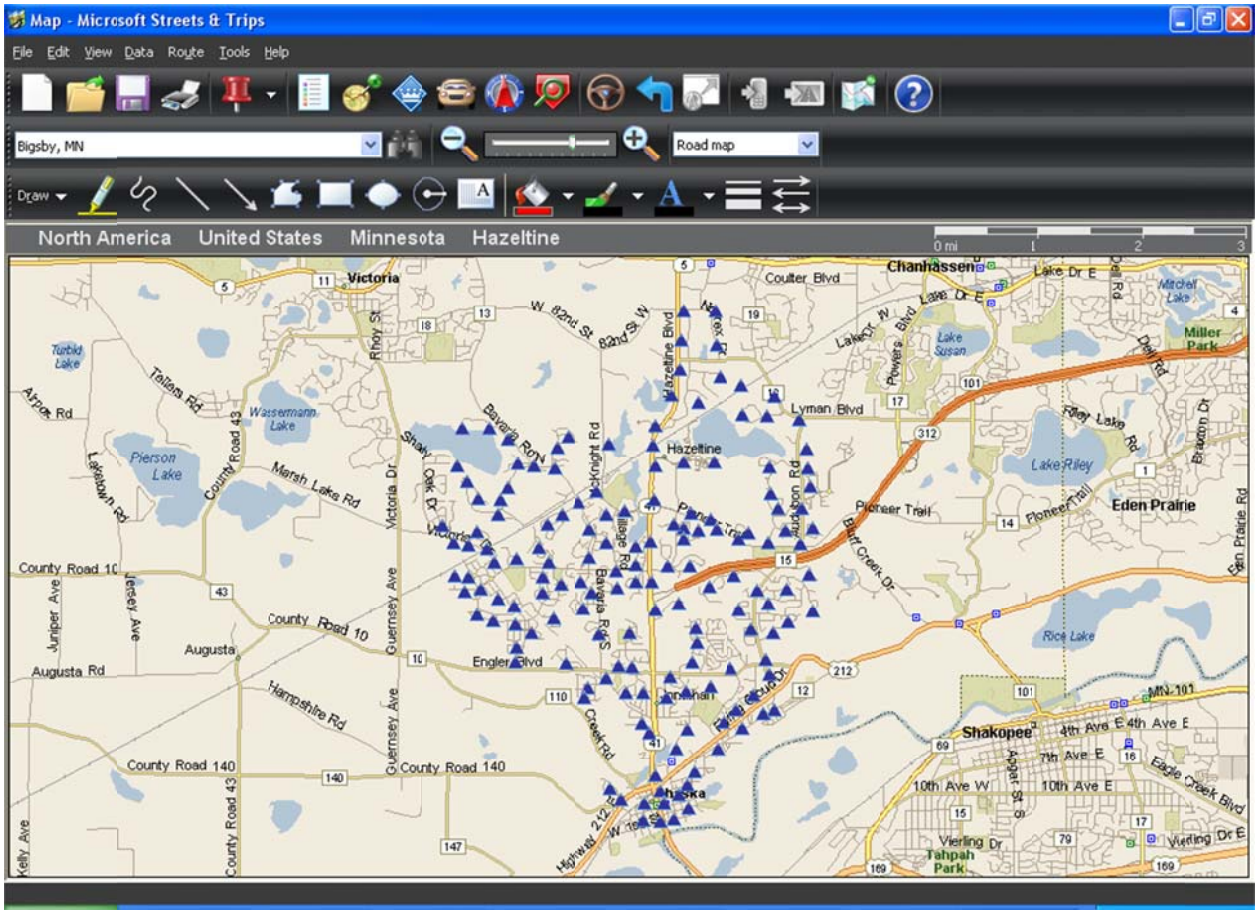


Exhibit F: Validation Points for AP Structures



Testing Techniques

At this juncture, a Connected Nation engineer developed a site test route based on the estimated coordinates for the center of each polygon. The CN wireless engineer was equipped with an AVCOM PSA-37XP spectrum 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 **(see tabular chart contained within Exhibit G)**. Numerous validation points were scrutinized for frequency of operation, general notes were recorded for each location including approximate antenna height, frequency of operation, antenna type (omni or sectored), and exact coordinates, and digital photographs were taken of the wireless access points as each was discovered throughout the process.

Exhibit G: Field Data for chaska.net Office/Hub Location

Unit name	DL	UL	Latitude(°	Longitude	Elevation(	Frequency	Ant Height	Ant Type
Chaskanet1	1.2 Mbps	1.2 Mbps	44.7847	-93.6039	222	2400	15	Omni
2	1.2 Mbps	1.2 Mbps	44.78453	-93.6006	219	2400	15	Omni
3	1.2 Mbps	1.2 Mbps	44.78497	-93.5977	217	2400	15	Omni
4	1.2 Mbps	1.2 Mbps	44.78646	-93.595	220	2400	15	Omni
5	1.2 Mbps	1.2 Mbps	44.78708	-93.6037	222	2400	15	Omni
6	1.2 Mbps	1.2 Mbps	44.78717	-93.5997	223.5	2400	15	Omni
7	1.2 Mbps	1.2 Mbps	44.7884	-93.5969	220.8	2400	15	Omni
8	1.2 Mbps	1.2 Mbps	44.78963	-93.5951	221	2400	15	Omni

CASCADE DR
TUPELO WAY
STOP

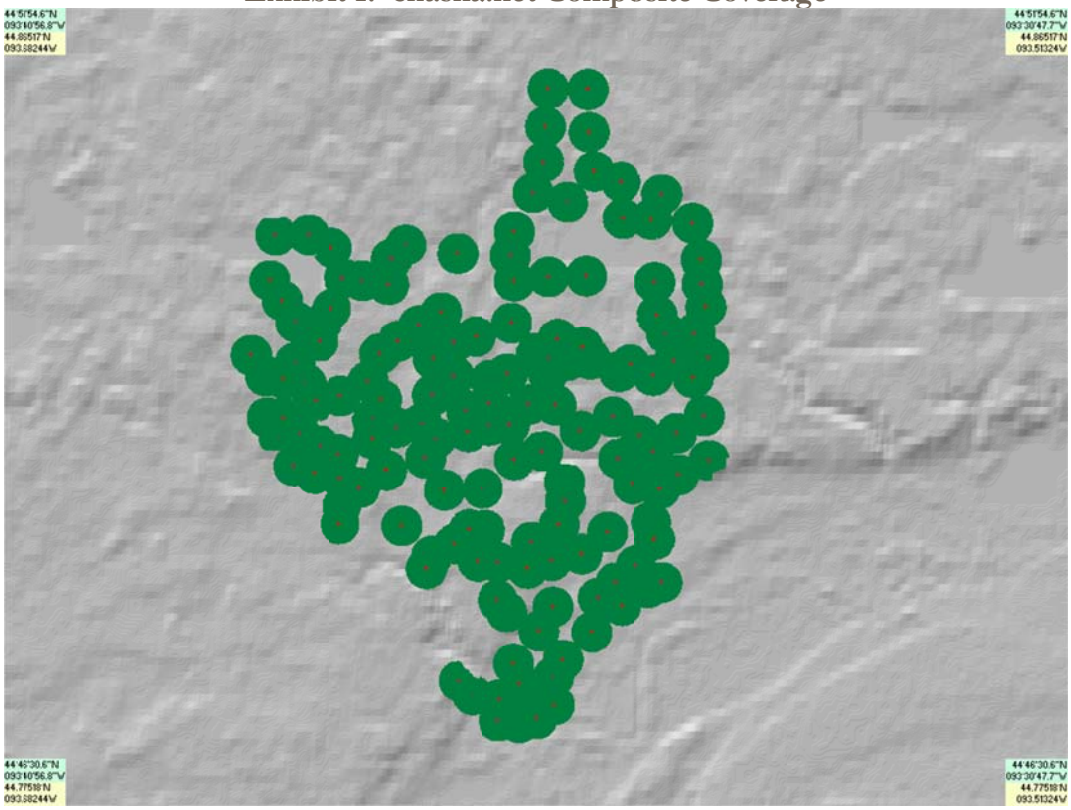
Results and Submission for October 2011

Of the locations visited during the validation point route, 15 access points were identified and relative information was logged into the chaska.net data form and field validation notes file **(Exhibit H)**. The extensive field analysis and the publicly available data were transferred to the Connected Nation Provider Information file and a composite propagation study was completed, which yielded the propagation representation shapefiles **(Exhibit I)**. The CN developed propagation shapefiles and supporting documentation were e-mailed to chaska.net on August 22, 2011, with a request for confirmation or comment; it was advised that, unless someone from chaska.net contested the findings, this information would be submitted to the NTIA during the October 2011 mapping cycle.

Exhibit H: Field Validation Notes

Platform Type		Test Data		Visual Confirmation
Type	Presence Confirmed	Type	Pass or Fail?	Type
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip
Fixed Wireless	Yes	Visual	Pass	Pole Mounted Equip

Exhibit I: chaska.net Composite Coverage



ACCURACY AND VERIFICATION: 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, Connected Nation 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 Connected Nation, 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; Connected Nation 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, BroadbandStat, 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 Connected Nation 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 Connected Nation 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 Connected Nation to resolve inaccuracies as they are identified to ensure that only the highest quality information is provided to stakeholders.

Estimates derived from provider-validated data indicate that approximately 3.17 percent of Minnesota households do not have terrestrial fixed broadband service available, and approximately 0.13 percent[1] of Minnesota households have neither mobile nor fixed broadband service available.[2]

Within rural areas of the state, results derived from provider-validated data indicate that approximately 6.13 percent of rural Minnesota households do not have terrestrial fixed broadband service available, and approximately 0.14 percent[3] of rural Minnesota households have neither mobile nor fixed broadband service available.[4] Please note that the availability estimates presented are based on Census 2000 household information; these figures will be updated in the near future with Census 2010 household information.

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

[1] In accordance with NTIA's definition of available broadband service as specified in the SBI NOFA, this estimate includes both terrestrial fixed *and* mobile broadband service, if the service offers download speeds of at least 768 Kbps and upload speeds greater than 200 Kbps.

[2] 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.

[3] See footnote 1.

[4] See footnote 2.

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)
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. omni-directional, 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 Federal Communications Commission Universal Licensing System and the **CO**mmission **RE**gistration **S**ystem

Propagation modeling is an 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, hillshade, 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

Connected Nation 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 three categories: 1) residents who do not have broadband but want it; 2) residents who have broadband but want a different provider; and 3) residents who do not have broadband, but the broadband inventory maps indicate that they do.

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 Connected Nation 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.

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 requested 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 other 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 Connected Nation state programs with successful results. Altogether Connected Nation has received over 17,000 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 Connected Nation 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 15 inquiries (115 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.

BroadbandStat Methodology

BroadbandStat is an online, interactive mapping tool for viewing, analyzing, and validating broadband data. Developed through a partnership with ESRI, the market leader in geographic information system (GIS) software, BroadbandStat 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, BroadbandStat 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 education and population demographics, broadband availability, and research about the barriers to adoption.

New functionality in BroadbandStat allows the consumer to 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 Connected Nation 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 Connected Nation 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 BroadbandStat on May 21, 2010, and has received a total of 3,100 visits to date, of which 768 occurred this reporting period.

SPEED TEST METHODOLOGY

The 2,330 speed tests that are represented in the Connect Minnesota Speed Test Report during this reporting period (8,182 grant inception to date) are the result of a partnership between Connected Nation 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 was 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.

Broadband Provider Log

Complete	171
Non-Responsive/Refused	10
In Progress	6
Count of Datasets by Status	**187**
Total Unique Providers Represented	**120**

Provider Name	Platform	Status	NDA Execution Date	Notes
AirLink Broadband, LLC	Fixed Wireless	Data Added to Statewide Inventory		[SEP-12-11 Brian Dudek] Change: New provider in service for October 2011 submission.
Arrowhead Communications Corporation	DSL	Data Added to Statewide Inventory	4/14/2010	[SEP-12-11 Brian Dudek] Change/Correction: Provider upgraded upload speed capabilities and corrected coverage from a received broadband inquiry.
AT&T Corp, Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/16/2009	[SEP-12-11 Brian Dudek] Change: Provider expanded mobile territory throughout the state.
Benton Cooperative Telephone Company	Cable	Data Added to Statewide Inventory	6/16/2010	[SEP-12-11 Brian Dudek] Change: Provider indicated they also have a CLEC operation in Milaca.
Broadband Corp	Fixed Wireless	Data Added to Statewide Inventory	5/11/2010	[SEP-12-11 Brian Dudek] Change: Recreated propagations due to additions and deletions for unlicensed and licensed area.
Cable ONE Inc.	Cable	Data Added to Statewide Inventory	12/7/2009	[SEP-12-11 Brian Dudek] Change/Correction: possible service expansion or corrections to previous dataset; entirely new dataset for October 2011 submission. Coverage change likely a result of the 2000-2010 census change.
CenturyLink	DSL	Data Added to Statewide Inventory	12/4/2009	[SEP-12-11 Brian Dudek] Change/Correction: possible service expansion or corrections to previous dataset; entirely new dataset for October 2011 submission. Provider expanded DSL territory by acquiring Qwest Corporation.
Charter Communications, Inc.	Cable	Data Added to Statewide Inventory	12/15/2009	[SEP-12-11 Brian Dudek] Change/Correction: possible service expansion or corrections to previous dataset; entirely new dataset for October 2011 submission. Coverage change likely primarily a result of the 2000-2010 census change.
CitEscape, LLC	Fixed Wireless	Data Added to Statewide Inventory	1/25/2010	[AUG-30-11 Brian Dudek] Correction: Corrected 3650 MHz maximum advertised download speeds to speed tier 7 from previously submitted 8.
Clearwire Corporation	Mobile Wireless	Data Added to Statewide Inventory	3/3/2010	[SEP-12-11 Brian Dudek] Change: Provider pulled back on prior coverage north of Anoka.
Comcast Cable Communications, LLC	Cable	Data Added to Statewide Inventory	12/7/2009	[SEP-12-11 Brian Dudek] Change/Correction: possible service expansion or corrections to previous dataset; entirely new dataset for October 2011 submission. Coverage change likely primarily a result of the 2000-2010 census change.
Consolidated Telephone Company	Fiber	Data Added to Statewide Inventory		[SEP-12-11 Brian Dudek] Correction: Nisswa and Baxter coverage was added back. Coverage was inadvertently removed in the April submission and was not caught by the provider.
Crosslake Telephone Company	DSL	Data Added to Statewide Inventory	6/16/2010	[SEP-12-11 Brian Dudek] Change: Provider converted some DSL infrastructure to fiber.

Crosslake Telephone Company	Fiber	Data Added to Statewide Inventory	6/16/2010	[SEP-12-11 Brian Dudek] Change: Provider expanded fiber territory.
Eagle Valley Telephone Company	DSL	Data Added to Statewide Inventory	4/14/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
Farmers Mutual Telephone Company	Fiber	Data Added to Statewide Inventory	4/1/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
Federated Telephone Cooperative	Fiber	Data Added to Statewide Inventory	4/1/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
Felton Telephone Company	DSL	Data Added to Statewide Inventory	4/14/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
Fibernet Monticello	Fiber	Data Added to Statewide Inventory		[SEP-12-11 Brian Dudek] Correction: New provider for October 2011 submission that was previously unresponsive.
Frontier Communications of Minnesota, Inc.	DSL	Data Added to Statewide Inventory	1/22/2010	[AUG-17-11 Brian Dudek] Change/Correction: Provider expanded DSL territory by adding additional CO/RT's. Modified coverage throughout where incorrect CO/RT coordinates were given in the past that went unnoticed.
Garden Valley Telephone Company	DSL	Data Added to Statewide Inventory	2/17/2010	[SEP-12-11 Brian Dudek] Change: Provider converted some DSL infrastructure in two exchanges to fiber.
Garden Valley Telephone Company	Fiber	Data Added to Statewide Inventory	2/17/2010	[SEP-12-11 Brian Dudek] Change: Provider expanded fiber territory into two exchanges.
Granada Telephone Company	DSL	Data Added to Statewide Inventory	4/14/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
Hickory Tech Corporation	DSL	Data Added to Statewide Inventory		[AUG-15-11 Brian Dudek] Change: Provider upgraded some infrastructure to higher speeds.
Hutchinson Telecommunications, Inc.	Fixed Wireless	Data Added to Statewide Inventory	4/14/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
KeyOn Communications, Inc.	Fixed Wireless	Data Added to Statewide Inventory		[SEP-12-11 Brian Dudek] Change: New provider in service for October 2011 submission.
Knology of the Plains, Inc.	Cable	Data Added to Statewide Inventory	7/13/2011	[AUG-22-11 Brian Dudek] Correction: New provider for October 2011 submission that previously refused to participate.
Loretel Systems, Inc.	DSL	Data Added to Statewide Inventory	4/14/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
Manchester-Hartland Telephone Company	Fiber	Data Added to Statewide Inventory	4/14/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
Midcontinent Communications	Cable	Data Added to Statewide Inventory	12/9/2009	[SEP-12-11 Brian Dudek] Change/Correction: possible service expansion or corrections to previous dataset; entirely new dataset for October 2011 submission. Coverage change likely primarily a result of the 2000-2010 census change. Provider upgraded speed capabilities in their DOCSIS 3.0 cable regions.
Minnesota Valley TV Improvement Corporation	Cable	Data Added to Statewide Inventory	4/13/2010	[AUG-30-11 Brian Dudek] Correction: New provider platform for October 2011 submission, that was previously unknown.
Minnesota Valley TV Improvement Corporation	Fixed Wireless	Data Added to Statewide Inventory	4/13/2010	[SEP-12-11 Brian Dudek] Change: Provider added additional transmission points.
NorthfieldWiFi LLC	Fixed Wireless	Data Added to Statewide Inventory	2/4/2011	[SEP-12-11 Brian Dudek] Change: Provider added additional transmission points.
Park Region Mutual Telephone Company	DSL	Data Added to Statewide Inventory	3/18/2010	[SEP-12-11 Brian Dudek] Correction: Provider reported DSL speeds incorrectly in Ottertail Telcom region. Reduced speed tiers.
Park Region Mutual Telephone Company	Fiber	Data Added to Statewide Inventory	3/18/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded infrastructure in Ottertail Telcom region to speed tier 9.

Paul Bunyan Rural Telephone Cooperative	DSL	Data Added to Statewide Inventory	6/24/2010	[SEP-12-11 Brian Dudek] Correction: Provider coverage added in the Red Lake exchange. Although available, this coverage was not provided in the past submission.
Paul Bunyan Rural Telephone Cooperative	Fiber	Data Added to Statewide Inventory	6/24/2010	[SEP-12-11 Brian Dudek] Correction: Provider coverage added in the Red Lake exchange. Although available, this coverage was not provided in the past submission.
Pine Island Telephone Company	DSL	Data Added to Statewide Inventory	4/14/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
Red River Rural Telephone Association	DSL	Data Added to Statewide Inventory	3/17/2010	[SEP-12-11 Brian Dudek] Change: Provider expanded DSL territory into Traverse and Wilkin Counties.
Savage Communications Inc.	Cable	Data Added to Statewide Inventory	2/19/2010	[SEP-12-11 Brian Dudek] Change: Provider expanded cable territory by acquiring properties in Bovey and Coleraine from Jaguar Communications.
Scott Rice Telephone Co.	DSL	Data Added to Statewide Inventory	2/15/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
Sheehan Gas	Fixed Wireless	Data Added to Statewide Inventory		[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
Sjoberg's Inc.	Cable	Data Added to Statewide Inventory	12/21/2009	[SEP-12-11 Brian Dudek] Correction: Provider indicated that maximum upload speed tier needed to be lowered to 3.
Sleepy Eye Telephone Company	DSL	Data Added to Statewide Inventory	4/14/2010	[SEP-12-11 Brian Dudek] Change: Provider upgraded speed capabilities.
Sprint Nextel Corporation	Mobile Wireless	Data Added to Statewide Inventory	1/14/2010	[SEP-12-11 Brian Dudek] Change: Provider expanded mobile territory into a few areas.
T-Mobile USA, Inc.	Mobile Wireless	Data Added to Statewide Inventory	1/8/2010	[SEP-12-11 Brian Dudek] Change: Provider expanded mobile territory further in east and southeast MN. Upgraded speed capabilities with HSPA+ 42.
TDS Telecommunications Corporation	DSL	Data Added to Statewide Inventory	1/27/2010	[SEP-12-11 Brian Dudek] Change/Correction: possible service expansion or corrections to previous dataset; entirely new dataset for October 2011 submission. Coverage change likely primarily a result of the 2000-2010 census change.
TDS Telecommunications Corporation	Fiber	Data Added to Statewide Inventory	1/27/2010	[SEP-12-11 Brian Dudek] Change/Correction: possible service expansion or corrections to previous dataset; entirely new dataset for October 2011 submission. Coverage change likely primarily a result of the 2000-2010 census change.
Verizon Communications, Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/14/2009	[SEP-12-11 Brian Dudek] Change: Provider expanded mobile territory further in south MN. Upgraded speeds in 700 MHz spectrum.
Windstream Communications	Fixed Wireless	Data Added to Statewide Inventory		[SEP-12-11 Brian Dudek] Change: Windstream indicated that the acquired fixed wireless operations from Lakedale should be changed to the Windstream provider name, dba, and FRN.
Windstream Communications	DSL	Data Added to Statewide Inventory		[SEP-09-11 Brian Dudek] Change: Provider submitted entirely new data in the form of 2010 census blocks for their Lakedale Telephone acquisition only. Entel Communications and Lakedale Link not included. Windstream indicated that these two operations should be changed to the Windstream provider name, dba, and FRN.
CenturyLink	Backhaul	Backhaul Provider Only Processing Complete	12/4/2009	
Level 3 Communications, LLC	Backhaul	Backhaul Provider Only Processing Complete	12/14/2009	
Savage Communications Inc.	Backhaul	Backhaul Provider Only Processing Complete	2/19/2010	
T-Mobile USA, Inc.	Backhaul	Backhaul Provider Only Processing Complete	1/8/2010	

Windstream Communications	Backhaul	Backhaul Provider Only Processing Complete		
Zayo Group, LLC	Backhaul	Backhaul Provider Only Processing Complete		
City of Chaska	Fixed Wireless	Estimated Coverage Submitted for Non-Participating Provider		[SEP-1-11 Brian Dudek] Correction: New provider for October 2011 submission that is still unresponsive. Connected Nation estimated coverage for this provider.
360networks	Backhaul	No Update to Provide	1/19/2010	
Ace Telephone Association	Backhaul	No Update to Provide	8/3/2010	
Ace Telephone Association	DSL	No Update to Provide	8/3/2010	
Alliance Communications Cooperative, Inc.	Backhaul	No Update to Provide		
Alliance Communications Cooperative, Inc.	DSL	No Update to Provide		
Alliance Communications Cooperative, Inc.	Fiber	No Update to Provide		
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	DSL	No Update to Provide	6/16/2010	
Benton Cooperative Telephone Company	Fiber	No Update to Provide	6/16/2010	
Benton Cooperative Telephone Company	Cable	No Update to Provide	6/16/2010	
Benton Cooperative Telephone Company	Mobile Wireless	No Update to Provide	6/16/2010	[JUL-7-11 Brian Dudek] According to provider representative, service area is derived from a real-world wireless propagation and the south/southwest coverage border is the licensed border for the associated spectrum band. Will not serve outside it.
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	
Bradco-Wisp, Inc.	Fixed Wireless	No Update to Provide		
Christensen Communications Company	Backhaul	No Update to Provide	2/2/2010	
Christensen Communications Company	DSL	No Update to Provide	2/2/2010	
City of Windom	Fiber	No Update to Provide		
Clara City Telephone Company	DSL	No Update to Provide	2/5/2010	
Clear Choice Communications	Fixed Wireless	No Update to Provide		[SEP-7-11 Brian Dudek] Correction: Provider service area is now a real-world propagation unlike prior submission. Cut to licensed border.
Clearwire Corporation	Fixed Wireless	No Update to Provide	3/3/2010	[SEP-7-11 Brian Dudek] Correction: Provider service area is now a real-world propagation unlike prior submissions.
Consolidated Telephone Company	DSL	No Update to Provide		
Consolidated Telephone Company	Fixed Wireless	No Update to Provide		
Crosslake Telephone Company	Cable	No Update to Provide	6/16/2010	
DISH Network Corporation	Satellite	No Update to Provide	1/27/2010	[SEP-16-11 Brian Dudek] Correction: Satellite data is being submitted and was not included in the April 2011 submission. While coverage is currently the entire state boundary, work continues on having more granular data available.
diversiCOM	DSL	No Update to Provide	4/20/2010	
diversiCOM	Cable	No Update to Provide	4/20/2010	
diversiCOM	Fixed Wireless	No Update to Provide	4/20/2010	
diversiCOM	Fiber	No Update to Provide	4/20/2010	
Emily Cooperative Telephone Company	DSL	No Update to Provide	6/24/2010	
Emily Cooperative Telephone Company	Fiber	No Update to Provide	6/24/2010	
Enterpoint Wireless	Fixed Wireless	No Update to Provide		
Evertek Enterprises, Inc.	Fixed Wireless	No Update to Provide	6/17/2010	
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	
Frontier Communications of Minnesota, Inc.	Backhaul	No Update to Provide	1/22/2010	
FTTH Communications	Fiber	No Update to Provide		
Gardonville Cooperative Telephone Association	DSL	No Update to Provide	2/23/2010	
Gardonville Cooperative Telephone Association	Fiber	No Update to Provide	2/23/2010	
Gardonville Cooperative Telephone Association	Fixed Wireless	No Update to Provide	2/23/2010	[SEP-7-11 Brian Dudek] Correction: Provider service area is now a real-world propagation unlike prior submissions.
Genesis Wireless	Fixed Wireless	No Update to Provide		
Halstad Telephone Company	DSL	No Update to Provide	6/16/2010	
Halstad Telephone Company	Fixed Wireless	No Update to Provide	6/16/2010	
Harmony Telephone Company	Fiber	No Update to Provide	1/12/2010	
Hiawatha Broadband Comunications, Inc.	Fiber	No Update to Provide	3/8/2010	
Hiawatha Broadband Comunications, Inc.	Cable	No Update to Provide	3/8/2010	
HomeTown Solutions LLC	Fiber	No Update to Provide	4/1/2010	

Hughes Network Systems, LLC	Satellite	No Update to Provide	2/5/2010	[SEP-16-11 Brian Dudek] Correction: Satellite data is being submitted and was not included in the April 2011 submission. While coverage is currently the entire state boundary, work continues on having more granular data available.
Hutchinson Telecommunications, Inc.	DSL	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	
InvisiMax, Inc.	Fixed Wireless	No Update to Provide		
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	[SEP-7-11 Brian Dudek] Correction: Provider service area is now a real-world propagation unlike prior submissions.
Johnson Telephone Company	DSL	No Update to Provide		
Kasson & Mantorville Telephone Company	DSL	No Update to Provide	6/30/2010	
Lonsdale Telephone Company, Inc.	DSL	No Update to Provide		
Lonsdale Telephone Company, Inc.	Fiber	No Update to Provide		
Mabel Cooperative Telephone Company	DSL	No Update to Provide	4/7/2010	
Mediacom Communications Corporation	Backhaul	No Update to Provide	1/12/2010	
Mediacom Communications Corporation	Cable	No Update to Provide	1/12/2010	
MegaPath Inc.	Backhaul	No Update to Provide	2/15/2010	
Midcontinent Communications	Backhaul	No Update to Provide	12/9/2009	
Minnesota Valley Telephone Company	DSL	No Update to Provide	4/29/2010	
New Ulm Telecom Inc.	DSL	No Update to Provide	2/25/2010	
Polar Telcom, Inc.	DSL	No Update to Provide	2/11/2010	
Red River Rural Telephone Association	Fixed Wireless	No Update to Provide	3/17/2010	
Red River Rural Telephone Association	Fiber	No Update to Provide	3/17/2010	
River Valley Telephone Coop.	Fixed Wireless	No Update to Provide	4/28/2010	
Rothsay Telephone Company Inc.	DSL	No Update to Provide	2/18/2010	
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.	Fiber	No Update to Provide	2/15/2010	
Sioux Valley Wireless	Fixed Wireless	No Update to Provide	4/21/2010	
Southern Cablevision, Inc.	Cable	No Update to Provide	3/30/2010	
Spring Grove Cooperative Telephone Co.	Fiber	No Update to Provide	1/12/2010	
Sprint Nextel Corporation	Backhaul	No Update to Provide	1/14/2010	
Starbuck Telephone Company	DSL	No Update to Provide	2/5/2010	
Starpoint Communications, Inc.	Fixed Wireless	No Update to Provide	2/18/2011	
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		
Upsala Cooperative Telephone Association	Fiber	No Update to Provide		
US Cable Corporation	Cable	No Update to Provide	5/20/2010	
US Internet of Minnetoka	Fixed Wireless	No Update to Provide		[JUL-5-11 Brian Dudek] According to provider representative, service area is derived from a real-world wireless propagation and is cut to the allowed service boundary. It is a city funded project and the provider is required to only provide within this service boundary.
VAL-ED Joint Venture, LLP	DSL	No Update to Provide	4/21/2010	
VAL-ED Joint Venture, LLP	Fixed Wireless	No Update to Provide	4/21/2010	
Verizon Communications, Inc.	Backhaul	No Update to Provide	12/14/2009	
West Central Telephone Association	DSL	No Update to Provide	2/18/2010	
West Central Telephone Association	Fiber	No Update to Provide	2/18/2010	
Western Telephone Company	DSL	No Update to Provide	4/14/2010	
Wikstrom Telephone Company	DSL	No Update to Provide	4/12/2010	
Wikstrom Telephone Company	Fixed Wireless	No Update to Provide	4/12/2010	
WildBlue Communications, Inc.	Satellite	No Update to Provide	1/8/2010	[SEP-16-11 Brian Dudek] Correction: Satellite data is being submitted and was not included in the April 2011 submission. While coverage is currently the entire state boundary, work continues on having more granular data available.
Winnebago Cooperative Telecom Association	Backhaul	No Update to Provide	6/17/2010	
Winnebago Cooperative Telecom Association	DSL	No Update to Provide	6/17/2010	
Winnebago Cooperative Telecom Association	Fiber	No Update to Provide	6/17/2010	
Winnebago Cooperative Telecom Association	Fixed Wireless	No Update to Provide	6/17/2010	
Wolverton Telephone Company	DSL	No Update to Provide	6/22/2010	
Woodstock Telephone Company	DSL	No Update to Provide	2/18/2010	
Woodstock Telephone Company	Fiber	No Update to Provide	2/18/2010	
XO Communications, LLC	Backhaul	No Update to Provide	2/12/2010	
Zumbrota Telephone Company	DSL	No Update to Provide	2/5/2010	
Albany Mutual Telephone Association	DSL	No Update Provided - Use Last Submission Data	3/4/2010	

Albany Mutual Telephone Association	Fiber	No Update Provided - Use Last Submission Data	3/4/2010	
Cogent Communications, Inc.	Backhaul	No Update Provided - Use Last Submission Data		
Knology of the Plains, Inc.	Backhaul	Provider Gathering Data	7/13/2011	
Superior Broadband	Backhaul	Provider Gathering Data		
Arvig Communication Systems	Cable	Other	2/2/2011	[SEP-14-11 Brian Dudek] Cable properties are reported under Arvig Communications subsidiary company Home Telephone, dba Southern Cablevision.
Jaguar Communications	Cable	Other	4/12/2010	[SEP-15-11 Brian Dudek] Data is now submitted under Savage Communications as they have acquired Jaguar Communications' original cable properties.
Manchester-Hartland Telephone Company	DSL	Other	4/14/2010	[SEP-15-11 Brian Dudek] Provider indicated DSL is now inactive.
PAETEC Communications, Inc.	DSL	Other		[SEP-08-11 Wes Kerr] Multiple outreach attempts were conducted but no response was received. PAETEC was bought out during the collection phase of this round by Windstream and we intend to be able to include the PAETEC coverage as a part of the Windstream footprint during the next round.
A Better Wireless, NISP, LLC	Fixed Wireless	Refused to Participate		[AUG-15-11 James Tull] While attempting to solicit data in accordance with the NOFA and the Clarification, a representative of A Better Wireless stated that they refused to participate because they disputed data already reflected on the map. This person further agreed to provide e-mail details of these stated discrepancies but never did. Subsequent attempts at contact have all been unsuccessful. We will continue to attempt to gain A Better Wireless' participation in Minnesota's broadband mapping project.
Ideaone Telecom Group, LLC	DSL	Refused to Participate		[JUL-19-11 James Tull] After speaking with a receptionist and leaving several messages to no avail, received an e-mail stating, "We are not interested in completing the survey you are requesting. We have limited customers in Minnesota."
Ideaone Telecom Group, LLC	Fixed Wireless	Refused to Participate		[JUL-19-11 James Tull] After speaking with a receptionist and leaving several messages to no avail, received an e-mail stating, "We are not interested in completing the survey you are requesting. We have limited customers in Minnesota."
Nextera Communications	DSL	Refused to Participate		[JUL-29-11 John Determan] In addition to multiple contact attempts made between May 5, 2009 and April 28, 2011, multiple attempts were made during this submission period; however after discussions with executive management, Nextera is not prepared to commit the resources needed for a project of this magnitude and therefore fefused to participate.
Access Broadband	Fixed Wireless	Non-Responsive to Multiple Attempts		8 contact attempts were made between May 24, 2011 and August 24, 2011.
City of Detroit Lakes	Fixed Wireless	Non-Responsive to Multiple Attempts	5/10/2010	In addition to multiple contact attempts made between June 22, 2010 and February 24, 2011, 9 additional attempts were made this period.
Global Crossing Telecommunications, Inc.	Backhaul	Non-Responsive to Multiple Attempts		In addition to multiple contact attempts made between July 1, 2010 and February 17, 2011, 3 additional attempts were made this period.

Reliance Globalcom Services, Inc.	Backhaul	Non-Responsive to Multiple Attempts		In addition to contact attempts made between November 18, 2010 and February 3, 2011, 3 additional attempts were made this period.
Ridge Runner Internet Services Inc.	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to multiple contact attempts made between April 6, 2010 and February 15, 2011, 5 additional attempts were made this period.
Utopian Wireless Corporation	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to multiple contact attempts made between August 9, 2010 and January 4, 2011, 4 additional attempts were made this period.