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

October 1, 2011

TABLE OF CONTENTS

MICHIGAN 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 Michigan Public Service Commission, please accept this submission from Connected Nation on behalf of the state of Michigan's State Broadband Initiative (SBI) Grant Program, known as Connect Michigan.

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 Michigan: 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 Michigan 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.

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 84.44 percent of the Michigan provider community, or 114 of 135 total providers. Of the 114 participating providers, 40 supplied an update to their network or coverage area(s), while 58 have reported no change. The remaining 16 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. The 21 providers that are not represented in the attached

datasets have refused to participate in the voluntary program or were non-responsive to multiple contact attempts.

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

Connect Michigan has also continued to perform broadband verification activities through several means. In addition to confirmation of service area(s) by each provider, Connect Michigan conducts field validation efforts. To date, 75 (55.56 percent) providers have been validated through field verification activities. Additional details on verification activities are contained within the Field Validation Methodology.

The Connect Michigan website, www.connectmi.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 Michigan website encountered 6,608 unique visits during this reporting period (22,131 total to date for the life of the grant awarded on Deceer 20, 2009). Additionally, this pronounced Web activity netted 176 broadband inquiries over this same reporting period (1,185 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 Michigan website and the Connect Michigan 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 Michigan 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 Michigan 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.
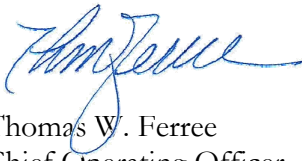
In conjunction with the Michigan Public Service Commission outreach was conducted during this data update reporting period by Connect Michigan to continue identification of existing, centralized sources for CAI connectivity data. Connect Michigan has worked with the Michigan Department of Education to secure a distribution list for approximately 5,000 schools throughout the state. Additionally, outreach was coordinated to distribute a CAI survey to additional institutions throughout the state through multiple methods including a customized online survey available on the Connect Michigan website. During this reporting period Connect Michigan has developed a number of new relationships with statewide associations to promote the importance of broadband connectivity at anchor institutions and participation in this data collection process. Connect

Michigan 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 Michigan CAI newsletter has been drafted to assist with outreach and highlight education grants within the state awarded as part of the FCC's Learning-On-The-Go Program. From our work in Michigan, 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 Michigan 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 Michigan 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 Michigan, 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: MICHIGAN COMMUNITY ANCHOR INSTITUTIONS METHODOLOGY

In this fourth reporting period of the SBI, Connect Michigan, working in close coordination with the Michigan Public Service Commission, 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 Michigan has continued to focus efforts on conducting outreach and raising awareness of this important project.

Connect Michigan 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 Michigan through ESRI ArcGIS software.

Connect Michigan continues to utilize a customized online survey hosted through SurveyMonkey, with a landing page on the Connect Michigan 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 Michigan 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://connectmi.org/mapping/Community_Anchor_Institution_Data_Collection.php
Password: CAI_MI_9124

Connect Michigan and the Michigan Public Service Commission 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. The Michigan Department of Education provided an extensive contact database for all public schools within the state and Connect Michigan distributed a customized CAI survey to this list. Follow-up will continue over the next reporting period to continue to collect data from this important CAI sector. Additionally, the State Library of Michigan is updating the data it previously provided and Connect Michigan will provide the updated data for the April 2012 submission.

In tandem with these efforts to identify existing data, Connect Michigan 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 Michigan has focused efforts on identifying new contacts within the Healthcare and Education sectors and will continue to follow-up with all contacts who have previously contributed to the CAI data collection efforts.

Connect Michigan 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 Michigan developed and distributed a CAI newsletter to CAI contacts throughout the state across all CAI sectors. This

newsletter highlights Michigan schools participating in the FCC's Learning-On-The-Go-Program and encourages institutions to share their data by participating in the CAI online survey. This newsletter will continue to be utilized for outreach, be made available on the CAI page of the Connect Michigan website, and 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 Michigan is overcoming this challenge through new relationships that are being formed, our work with the Michigan Public Service Commission, and the recent release of a CAI newsletter in the state. Connect Michigan expects noted progress to occur over the coming months leading up to the April 2012 submission.

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	4,605	4,605	4,605	330	305	306
Libraries	2,269	2,269	2,268	828	849	36
Healthcare	263	263	263	3	3	3
Public Safety	958	958	957	18	17	17
Higher Ed Institutions	146	146	146	35	34	34
Other Government	89	89	89	25	22	22
Other Non-Government	512	512	512	5	5	5
Total	8,842	8,842	8,840	1,244	1,235	423

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 Michigan.

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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 Michigan 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 Michigan 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

- Air Advantage, LLC (fixed wireless): New fixed wireless towers in operation.
- AIRGRANT.COM, INC. (fixed wireless): New fixed wireless provider in the market.
- AT&T Inc. (mobile wireless): Network expansion to include more of central/western Michigan, with additional coverage in Marquette (upper peninsula).
- Baraga Telephone Company (fiber): Network expansion to include additional FTTH areas and provider upgrade infrastructure to provide speed tier 9 in most FTTH areas.
- Bloomington Telephone Company, Inc. (DSL): Provider upgraded infrastructure and can now offer speed tier 6 download speeds.
- Crystal Automation Systems, Inc. (fixed wireless): New fixed wireless towers in operation.
- D&P Communications, Inc. (fixed wireless): Provider launched new fixed wireless platform with 3 towers.
- Farmers Mutual Telephone Company of Chapin, Inc. (DSL): Provider changed name from "Farmers Mutual Telephone Company" to "Farmers Mutual Telephone Company of Chapin, Inc."
- Fast-Air Internet, Inc. (fixed wireless): New fixed wireless provider in the market.
- FNW, LLC (fixed wireless): New fixed wireless towers in operation.
- Frontier Communications Corporation (DSL): Network expansion to include several new Central Offices and Remote Terminals.
- Hiawatha Communications, Inc. (DSL): Network expansion (new Remote Terminals).
- I-2000, Inc. (DSL): Network expansion (added additional DSLAM locations).
- I-2000, Inc. (fixed wireless): Provider deactivated 7 fixed wireless tower sites.
- Iron Bay Computer & Design (fixed wireless): Provider decommissioned 3 tower sites.
- PAETEC Communications, Inc. (DSL): PAETEC purchased Talk America/Cavalier Telephone. Submitted Cavalier Tel. coverage based on April 2011 data.
- Parish Communications (cable): Provider upgraded infrastructure and can now offer speed tier 6 download speeds in select areas, and speed tier 4 in other areas.
- SonicNet, Inc. (fixed wireless): New fixed wireless provider in the market.
- Springcom, Inc. (cable): Provider upgraded infrastructure and can now offer tier 6 download speeds.
- The Computer Care Company, Inc. (fixed wireless): New fixed wireless towers in operation.
- The Computer Care Company, Inc. (DSL): Network expansion (new Central Office).

- Waldron Communication Company (fixed wireless): Provider upgraded tower infrastructure (raised transmit antenna heights), therefore propagations were recreated.
- Waldron Communication Company (DSL): Provider upgraded infrastructure and can now offer speed tier 3 upload speeds.
- Xyotek, LLC (fixed wireless): New fixed wireless provider in the market.

Corrections

- Air Advantage, LLC (fixed wireless): Corrected speeds (all 3650-3700 MHz towers should be speed tier 6 download and all unlicensed towers should be speed tier 4 download).
- Baraga Telephone Company (DSL): Fixed some alignment issues within its coverage area and changed speeds to match DSL-only, per the advertised speeds listed on its website.
- Block Communications, Inc. (cable): Provider corrected speed offerings to what is available to the general public (tier 7 download speeds) and updated d.b.a.name to "Buckeye CableSystem."
- Broadstripe LLC (cable): Incorrectly reported DOCSIS 3.0 as technology type; changed to "Cable Modem – Other."
- 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.
- DMCI Broadband, LLC (fixed wireless): Changed speed tier 7 to speed tier 6 on some towers to reflect the residential speed packages offered (provider accidentally reported business speeds).
- FNW, LLC (fixed wireless): Corrected speeds (all towers should be speed tier 4 download).
- Great Lakes Satellite Group (fixed wireless): Great Lakes Satellite Group was previously non-responsive, but it provided data this round.
- 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.
- Springcom, Inc. (cable): Corrected some coverage that was misaligned, per field audit.
- Tucker Communications, Inc. (fixed wireless): Recreated 900 MHz signal propagation to decrease/refine coverage area.
- West Michigan Broadband, LLC (fixed wireless): West Michigan Broadband was previously non-responsive, but it provided data this round.
- WideOpenWest Michigan, LLC (cable): WideOpenWest Michigan, LLC previously refused to participate, but it provided data this round.
- 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

- AT&T Inc. (DSL)
- CenturyLink (DSL)
- Charter Communications, Inc. (cable)
- Clearwire Corporation (mobile wireless)
- Comcast Cable Communications, LLC (cable)
- Leap Wireless International, Inc. (mobile wireless)
- Sprint Nextel Corporation (mobile wireless)
- T-Mobile USA, Inc. (mobile wireless)
- TDS Telecommunications Corporation (DSL)
- Time Warner Cable LLC (cable)
- United States Cellular Corporation (mobile wireless)
- Verizon North Inc. (mobile wireless)

MICHIGAN 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 Michigan on the following providers: 123Net; 2125 Cable Company LLC (d.b.a. Sunrise Communications); ACD Net; Ace Telephone Company of Michigan, Inc.; Agri-Valley Communications, Inc.; AIRGRANT; Allendale Telephone Company; Arialink; AT&T, Inc.; Azulstar, Inc.; Baraga Telephone; Barry County Telephone; Bloomingdale Communications, Inc.; Boardman River Communications LLC; Broadstripe; Cable America Michigan LLC; Camp Communications Services, Inc.; Carr Communications; Cassair; CenturyLink; Charter Communications; Cherry Capital Connections LLC; Clearwire Corporation; COLI, Inc.; Comcast Cable Communications LLC; Custom Software, Inc.; D & P Communications, Inc.; DMCI Broadband LLC; Drenthe Telephone Company; FreedomNet Solutions; Frontier Communications Corporation; Hiawatha Telephone (d.b.a. Jamadots, Chippewa County Telephone); Hidden Lake Wireless; I-2000, Inc.; Interlink Computers Technology, Inc.; Iron Bay Computer and Design; ISP Management; KEPS Technologies, Inc.; Leap Wireless International, Inc.; Lighthouse Computers; Merit Network; MetaLINK Technologies, Inc.; Michigan Cable Partners; Michwave Technologies, Inc.; Microtech Services, Inc.; Mutual Data Services; NCATS; Nodin Communications; Ogden Communications, Inc.; Parish Communications; Pasty.Net, Inc.; Peninsula Fiber Network LLC; Peninsula Telephone Company; Pigeon Telephone; Reliable Internet; Sister Lakes Cable TV; Small Business Solutions Group (d.b.a. RuralReach.Com); SpeedNet LLC; Sprint Nextel Corporation; T2 Communications LLC; TalkAmerica, Inc.; TC3Net; TDS Telecommunications Corporation; The ISERV Company; T-Mobile; Town & Country CATV; Tucker Communications; Upper Peninsula Telephone (d.b.a. LIPC, Alphacomm.net); Verizon North, Inc.; Waldron Telephone Company; West Michigan Broadband; Winn Telephone Company; Wireless Technology Solutions; Wyandotte Municipal Services; and Xyotek.

From program initiation through this reporting period, Connected Nation has completed in-the-field validation testing against 75 companies (out of a universe of 135 viable providers) totaling 55.56 percent within the state of Michigan.

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.

Comcast
Issues: 1) Technology of transmission 40 with maximum advertised download speed in tier 7, lower than expected value range for the technology; and 2) technology of transmission 41 with maximum advertised download speed in tier 9, higher than expected value range for the technology. Resolution: 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.

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 2.95 percent of Michigan households do not have terrestrial fixed broadband service available, and approximately 0.21 percent[1] of Michigan households have neither mobile nor fixed broadband service available.[2]

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[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.

Within rural areas of the state, results derived from provider-validated data indicate that approximately 5.88 percent of rural Michigan households do not have terrestrial fixed broadband service available, and approximately 0.44 percent[3] of rural Michigan 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
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)

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[3] See footnote 1.
[4] See footnote 2.

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 Michigan 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 Michigan project has received a total of 176 inquiries (1,185 grant inception to date). As more inquiries are submitted to Connect Michigan, 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 Michigan project launched BroadbandStat on May 20, 2010, and has received a total of 6,461 visits to date, of which 1,670 occurred this reporting period.

SPEED TEST METHODOLOGY

The 4,531 speed tests that are represented in the Connect Michigan Speed Test Report during this reporting period (8,489 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 Michigan 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 Michigan 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 Michigan 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 Michigan.

Broadband Provider Log

Complete	163	
Non-Responsive/Refused	22	
In Progress	2	
Count of Datasets by Status	**187**	
Total Unique Providers Represented	**136**	

Provider Name	Platform	Status	NDA Execution Date	Notes
Air Advantage, LLC	Fixed Wireless	Data Added to Statewide Inventory	3/15/2010	[AUG-24-11 Sarah Finne] Change and Correction: New fixed wireless towers in operation and corrected speeds (all 3650-3700 MHz towers should be speed tier 6 download and all Unlicensed towers should be speed tier 4 download).
AIRGRANT.COM, INC.	Fixed Wireless	Data Added to Statewide Inventory		[AUG-18-11 Sarah Finne] Change: New fixed wireless provider in the market.
AT&T Inc.	DSL	Data Added to Statewide Inventory	12/16/2009	[AUG-23-11 Sarah Finne] Change and/or Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
AT&T Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/16/2009	[AUG-15-11 Sarah Finne] Change: Network expansion to include more of central/western Michigan, with additional coverage in Marquette (upper peninsula).
Baraga Telephone Company	DSL	Data Added to Statewide Inventory	1/14/2010	[SEP-16-11 Sarah Finne] Correction: Fixed some alignment issues within their coverage area and changed speeds to match DSL-only, per the advertised speeds listed on their website.
Baraga Telephone Company	Fiber	Data Added to Statewide Inventory	1/14/2010	[SEP-16-11 Sarah Finne] Change: Network expansion to include additional FTTH areas and provider upgrade infrastructure to provide speed tier 9 in most FTTH areas.
Block Communications, Inc.	Cable	Data Added to Statewide Inventory	4/12/2010	[SEP-16-11 Sarah Finne] Correction: Provider corrected speed offerings to what is available to the general public (tier 7 download speeds) and updated DBA name to "Buckeye CableSystem."
Bloomingdale Telephone Company, Inc.	DSL	Data Added to Statewide Inventory	1/25/2010	[SEP-16-11 Sarah Finne] Change: Provider upgraded infrastructure and can now offer speed tier 6 download speeds.
CenturyLink	DSL	Data Added to Statewide Inventory	12/4/2009	[AUG-17-11 Sarah Finne] Change and/or Correction: possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
Charter Communications, Inc.	Cable	Data Added to Statewide Inventory	12/15/2009	[AUG-16-11 Sarah Finne] Change and/or Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
Clearwire Corporation	Mobile Wireless	Data Added to Statewide Inventory	3/17/2011	[AUG-16-11 Sarah Finne] Change and/or Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
Comcast Cable Communications, LLC	Cable	Data Added to Statewide Inventory	12/7/2009	[AUG-26-11 Sarah Finne] Change and/or Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
Crystal Automation Systems, Inc.	Fixed Wireless	Data Added to Statewide Inventory	6/25/2010	[AUG-24-11 Sarah Finne] Change: New fixed wireless towers in operation.
D&P Communications, Inc.	Fixed Wireless	Data Added to Statewide Inventory	3/8/2011	[AUG-24-11 Sarah Finne] Change: Provider launched new fixed wireless platform with 3 towers.
Farmers Mutual Telephone Company of Chapin, Inc.	DSL	Data Added to Statewide Inventory	10/26/2010	[SEP-16-11 Sarah Finne] Change: Provider changed name from "Farmers Mutual Telephone Company" to "Farmers Mutual Telephone Company of Chapin, Inc."
Fast-Air Internet, Inc.	Fixed Wireless	Data Added to Statewide Inventory		[AUG-18-11 Sarah Finne] Change: New fixed wireless provider in the market.
FNW, LLC	Fixed Wireless	Data Added to Statewide Inventory	2/12/2010	[AUG-24-11 Sarah Finne] Change and Correction: New fixed wireless towers in operation and corrected speeds (all towers should be speed tier 4 download).
Frontier Communications Corporation	DSL	Data Added to Statewide Inventory	1/22/2010	[AUG-18-11 Sarah Finne] Change: Network expansion to include several new Central Offices and Remote Terminals.
Great Lakes Satellite Group	Fixed Wireless	Data Added to Statewide Inventory		[SEP-16-11 Sarah Finne] Correction: Great Lakes Satellite Group was previously non-responsive, but they provided data this round.
Hiawatha Communications, Inc.	DSL	Data Added to Statewide Inventory	2/2/2010	[AUG-08-11 Sarah Finne] Change: Network expansion (new Remote Terminals).
I-2000, Inc.	DSL	Data Added to Statewide Inventory	3/7/2011	[AUG-22-11 Sarah Finne] Change: Network expansion (added additional DSLAM locations).
I-2000, Inc.	Fixed Wireless	Data Added to Statewide Inventory	3/7/2011	[AUG-24-11 Sarah Finne] Change: Provider deactivated 7 fixed wireless tower sites.
Iron Bay Computer & Design	Fixed Wireless	Data Added to Statewide Inventory	1/14/2010	[SEP-16-11 Sarah Finne] Change: Provider decommissioned 3 tower sites.
Leap Wireless International, Inc.	Mobile Wireless	Data Added to Statewide Inventory	4/5/2010	[AUG-22-11 Sarah Finne] Change and/or Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
Parish Communications	Cable	Data Added to Statewide Inventory	7/1/2010	[SEP-16-11 Sarah Finne] Change: Provider upgraded infrastructure and can now offer speed tier 6 download speeds in select areas, and speed tier 4 in other areas.
SonicNet, Inc.	Fixed Wireless	Data Added to Statewide Inventory	8/4/2011	[AUG-24-11 Sarah Finne] Change: New fixed wireless provider in the market.

Springcom, Inc.	Cable	Data Added to Statewide Inventory	2/25/2010	[SEP-16-11 Sarah Finne] Change and Correction: Corrected some coverage that was mis-aligned, per field audit, and provider upgraded infrastructure and can now offer tier 6 download speeds.
Sprint Nextel Corporation	Mobile Wireless	Data Added to Statewide Inventory	1/14/2010	[AUG-16-11 Sarah Finne] Change and/or Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
T-Mobile USA, Inc.	Mobile Wireless	Data Added to Statewide Inventory	1/8/2010	[AUG-16-11 Sarah Finne] Change and/or Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
TDS Telecommunications Corporation	DSL	Data Added to Statewide Inventory	1/27/2010	[AUG-16-11 Sarah Finne] Change and/or Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
The Computer Care Company, Inc.	DSL	Data Added to Statewide Inventory	3/8/2011	[AUG-08-11 Sarah Finne] Change: Network expansion (new Central Office).
The Computer Care Company, Inc.	Fixed Wireless	Data Added to Statewide Inventory	3/8/2011	[AUG-08-11 Sarah Finne] Change: New fixed wireless towers in operation.
Time Warner Cable LLC	Cable	Data Added to Statewide Inventory	12/21/2009	[AUG-16-11 Sarah Finne] Change and/or Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
Tucker Communications, Inc.	Fixed Wireless	Data Added to Statewide Inventory	2/17/2011	[AUG-08-11 Sarah Finne] Correction: Recreated 900 MHz signal propagation to decrease/refine coverage area.
United States Cellular Corporation	Mobile Wireless	Data Added to Statewide Inventory	2/15/2011	[AUG-16-11 Sarah Finne] Change and/or Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
Verizon North Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/14/2009	[AUG-16-11 Sarah Finne] Change and/or Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2011 submission.
Waldron Communication Company	Fixed Wireless	Data Added to Statewide Inventory	1/12/2010	[SEP-16-11 Sarah Finne] Change: Provider upgraded tower infrastructure (raised transmit antenna heights), therefore propagations were recreated.
Waldron Communication Company	DSL	Data Added to Statewide Inventory	1/12/2010	[SEP-16-11 Sarah Finne] Change: Provider upgraded infrastructure and can now offer speed tier 3 upload speeds.
West Michigan Broadband, LLC	Fixed Wireless	Data Added to Statewide Inventory		[AUG-29-11 Sarah Finne] Correction: West Michigan Broadband was previously non-responsive, but they provided data this round.
WideOpenWest Michigan, LLC	Cable	Data Added to Statewide Inventory		[SEP-16-11 Sarah Finne] Correction: WideOpenWest Michigan, LLC previously refused to participate, but they provided data this round.
Xyotek, LLC	Fixed Wireless	Data Added to Statewide Inventory		[AUG-24-11 Sarah Finne] Change: New fixed wireless provider in the market.
AT&T Inc.	Backhaul	Backhaul Provider Only Processing Complete	12/16/2009	
Charter Communications, Inc.	Backhaul	Backhaul Provider Only Processing Complete	12/15/2009	
Level 3 Communications, LLC	Backhaul	Backhaul Provider Only Processing Complete	12/14/2009	
MegaPath Inc.	Backhaul	Backhaul Provider Only Processing Complete	2/15/2010	
Sprint Nextel Corporation	Backhaul	Backhaul Provider Only Processing Complete	1/14/2010	
T-Mobile USA, Inc.	Backhaul	Backhaul Provider Only Processing Complete	1/8/2010	
TDS Telecommunications Corporation	Backhaul	Backhaul Provider Only Processing Complete	1/27/2010	
Windstream Communications	Backhaul	Backhaul Provider Only Processing Complete		
Zayo Bandwidth, LLC	Backhaul	Backhaul Provider Only Processing Complete		
2125 Cable Company, LLC	Cable	No Update to Provide	3/22/2010	
Ace Telephone Company of Michigan Inc.	DSL	No Update to Provide	1/12/2010	
Agri-Valley Communications, Inc.	Backhaul	No Update to Provide	1/22/2010	
Agri-Valley Communications, Inc.	Fixed Wireless	No Update to Provide	1/22/2010	
Agri-Valley Communications, Inc.	DSL	No Update to Provide	1/22/2010	
Agri-Valley Communications, Inc.	Mobile Wireless	No Update to Provide	1/22/2010	
Allband Communications Cooperative	Fiber	No Update to Provide	2/2/2010	
Allendale Telephone Company	DSL	No Update to Provide	2/4/2010	
Allendale Telephone Company	Fiber	No Update to Provide	2/4/2010	
Azulstar, Inc.	Fixed Wireless	No Update to Provide	1/27/2010	
Barry County Telephone Company	DSL	No Update to Provide		
Barry County Telephone Company	Fiber	No Update to Provide		
Barry County Telephone Company	Fixed Wireless	No Update to Provide		
Blanchard Telephone Association, Inc.	DSL	No Update to Provide	6/17/2010	
Blanchard Telephone Association, Inc.	Backhaul	No Update to Provide	6/17/2010	
Bloomingdale Telephone Company, Inc.	Fixed Wireless	No Update to Provide	1/25/2010	
Bloomingdale Telephone Company, Inc.	Fiber	No Update to Provide	1/25/2010	
Bright House Networks, LLC	Cable	No Update to Provide	4/26/2010	
Broadstripe LLC	Cable	No Update to Provide	3/5/2010	[SEP-12-11 Sarah Finne] Correction: Incorrectly reported DOCSIS 3.0 as technology type; changed to "Cable Modem - Other."
Cable America Michigan, LLC	Cable	No Update to Provide	3/9/2011	
Camp Communication Services, Inc.	Fixed Wireless	No Update to Provide		
Carr Communications, Inc.	DSL	No Update to Provide	1/15/2010	
CCI Systems, Inc.	Cable	No Update to Provide	6/29/2010	
CenturyLink	Backhaul	No Update to Provide	12/4/2009	
City of Norway	Cable	No Update to Provide	3/14/2011	
Climax Telephone Company	Backhaul	No Update to Provide	1/14/2010	
Climax Telephone Company	DSL	No Update to Provide	1/14/2010	
Coldwater Board of Public Utilities	Cable	No Update to Provide	3/1/2010	
Crystal Automation Systems, Inc	Backhaul	No Update to Provide	6/25/2010	
Custom Software Inc.	DSL	No Update to Provide	2/3/2010	
D&P Communications, Inc.	Cable	No Update to Provide	3/8/2011	
D&P Communications, Inc.	Fiber	No Update to Provide	3/8/2011	
Daystarr Communications, LLC	Backhaul	No Update to Provide		
Daystarr Communications, LLC	DSL	No Update to Provide		
Daystarr Communications, LLC	Fiber	No Update to Provide		

DISH Network Corporation	Satellite	No Update to Provide	1/27/2010	[SEP-16-11 Sarah Finne] 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.
DMCI Broadband, LLC	Fixed Wireless	No Update to Provide	2/3/2010	[SEP-16-11 Sarah Finne] Correction: Changed speed tier 7 to speed tier 6 on some towers to reflect the residential speed packages offered (provider accidentally reported business speeds).
Endless Journey, Inc.	Fixed Wireless	No Update to Provide		
Frontier Communications Corporation	Backhaul	No Update to Provide	1/22/2010	
Great Lakes Comnet, Inc.	Backhaul	No Update to Provide		
Great Lakes Internet, Inc.	Fixed Wireless	No Update to Provide	3/11/2010	
Hiawatha Communications, Inc.	DSL	No Update to Provide	2/2/2010	
Hiawatha Communications, Inc.	DSL	No Update to Provide	2/2/2010	
Hiawatha Communications, Inc.	Fiber	No Update to Provide	2/2/2010	
Hiawatha Communications, Inc.	DSL	No Update to Provide	2/2/2010	
Hidden Lake Wireless, Inc.	Fixed Wireless	No Update to Provide	3/12/2010	
Hughes Network Systems, LLC	Satellite	No Update to Provide	2/5/2010	[SEP-16-11 Sarah Finne] 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.
Interlink Computers Technology, Inc.	Fixed Wireless	No Update to Provide	3/12/2010	
Iron River Cooperative TV Antenna Corp	Cable	No Update to Provide	7/27/2010	
ISP Management, Inc.	Fixed Wireless	No Update to Provide	3/22/2010	
Kaltelco, LLC	DSL	No Update to Provide	3/5/2010	
Lennon Telephone Company	DSL	No Update to Provide	1/25/2010	
Lennon Telephone Company	Cable	No Update to Provide	1/25/2010	
Ligonier Telephone Company, Inc.	Fixed Wireless	No Update to Provide	3/31/2010	
Mercury Network Corporation	Backhaul	No Update to Provide	3/9/2011	
Mercury Network Corporation	Fixed Wireless	No Update to Provide	3/9/2011	
Merit Network, Inc.	Backhaul	No Update to Provide	6/21/2010	
MetaLINK Technologies, Inc.	Fixed Wireless	No Update to Provide	3/22/2010	
Michigan Cable Partners Inc.	Cable	No Update to Provide	6/18/2010	
Michwave Technologies, Inc.	Fixed Wireless	No Update to Provide	3/12/2010	
Newaygo County Advanced Technology Services	Fixed Wireless	No Update to Provide		
Niagara Telephone Company	Backhaul	No Update to Provide	1/22/2010	
Niagara Telephone Company	DSL	No Update to Provide	1/22/2010	
Northside TV Corporation	Cable	No Update to Provide		
Ogden Communications, Inc.	DSL	No Update to Provide	1/19/2010	
Ogden Communications, Inc.	Fixed Wireless	No Update to Provide	1/19/2010	
One Communications Corporation	Backhaul	No Update to Provide	3/18/2010	
Peninsula Fiber Network, LLC	Backhaul	No Update to Provide	1/14/2010	
Sand Creek Communications Company	DSL	No Update to Provide	3/2/2010	
Sand Creek Communications Company	Backhaul	No Update to Provide	3/2/2010	
Sister Lakes Cable TV	Cable	No Update to Provide		
Small Business Solutions Group L.L.C.	Fixed Wireless	No Update to Provide	7/20/2010	
SpeedNet, LLC	Fixed Wireless	No Update to Provide	1/7/2010	
SpeedNet, LLC	Backhaul	No Update to Provide	1/7/2010	
Springcom, Inc.	DSL	No Update to Provide	2/25/2010	
Summit Digital Holdings, Inc.	Cable	No Update to Provide		
Summit Digital Holdings, Inc.	Fixed Wireless	No Update to Provide		
T2 Communications, LLC	Backhaul	No Update to Provide	3/10/2010	
T2 Communications, LLC	Fiber	No Update to Provide	3/10/2010	
The Computer Care Company, Inc.	Backhaul	No Update to Provide	3/8/2011	
The Iserv Company, LLC	Backhaul	No Update to Provide	6/21/2010	
The Iserv Company, LLC	DSL	No Update to Provide	6/21/2010	
The Iserv Company, LLC	DSL	No Update to Provide	6/21/2010	
The Iserv Company, LLC	Fiber	No Update to Provide	6/21/2010	
Town & Country Cable and Telecommunications, LLC	Cable	No Update to Provide	6/18/2010	
Upper Peninsula Telephone Company	DSL	No Update to Provide	1/11/2010	
US Signal Company, LLC	Backhaul	No Update to Provide	2/25/2010	
Verizon North Inc.	Backhaul	No Update to Provide	12/14/2009	
Westphalia Telephone Company	DSL	No Update to Provide	1/20/2010	
WildBlue Communications, Inc.	Satellite	No Update to Provide	1/8/2010	[SEP-16-11 Sarah Finne] 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.
Winn Telephone Company	DSL	No Update to Provide	6/28/2010	
Winn Telephone Company	Fiber	No Update to Provide	6/28/2010	
Winn Telephone Company	Fixed Wireless	No Update to Provide	6/28/2010	
Wyandotte Municipal Services	Cable	No Update to Provide	3/23/2010	
XO Communications, LLC	Backhaul	No Update to Provide	2/12/2010	
BigTube Wireless, LLC	Fixed Wireless	No Update Provided - Use Last Submission Data	6/17/2010	
Boardman River Communications, LLC	Cable	No Update Provided - Use Last Submission Data	2/10/2010	
Cherry Capital Connection, LLC	Fixed Wireless	No Update Provided - Use Last Submission Data	12/28/2009	
CMS Internet LLC	Fixed Wireless	No Update Provided - Use Last Submission Data	3/11/2010	
Cogent Communications, Inc.	Backhaul	No Update Provided - Use Last Submission Data		
COLI, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data		
CSInet Internet Access Corp.	Fixed Wireless	No Update Provided - Use Last Submission Data	3/31/2010	
Drenthe Telephone Company	DSL	No Update Provided - Use Last Submission Data	2/4/2010	
Fourway Computer Products, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data		
Ideal Wireless, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data		
Invisalink Wireless Enterprises LLC	Fixed Wireless	No Update Provided - Use Last Submission Data	4/13/2010	

KEPS Technologies, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data		
KEPS Technologies, Inc.	DSL	No Update Provided - Use Last Submission Data		
Lighthouse Computers, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data	2/17/2011	
Nodin Communications, LLC	Fixed Wireless	No Update Provided - Use Last Submission Data	4/22/2010	
PAETEC Communications, Inc.	DSL	No Update Provided - Use Last Submission Data		[SEP-16-11 Sarah Finne] Change: PAETEC purchased Talk America/Cavalier Telephone. Submitted Cavalier Tel. coverage based on April 2011 data.
PAETEC Communications, Inc.	Backhaul	No Update Provided - Use Last Submission Data		
Pasty.Net, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data	1/6/2010	
Endless Journey, Inc.	DSL	Solicited Initial Data		[SEP-16-11 Sarah Finne] Provider hasn't had time to gather DSL data.
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.
Dreamscape Communications	Fixed Wireless	Refused to Participate		[MAY-26-11 Terry Holmes] Found this company through a WISPA listserv e-mail and located an active website. Called listed phone number and spoke with company representative who confirmed they are an active WISP, but would not provide his name and stated he was not interested then hung up the phone. E-mailed NDA and data collection spreadsheet to support@dreamscp.com.
M3 Wireless	Fixed Wireless	Refused to Participate		[JUN-28-11 Terry Holmes] Spoke with company representative. They have no interest in the program and refuse to participate.
Banyan OnLine Services, LLC.	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to multiple contact attempts made between June 4, 2010 and February 15, 2011, 7 additional attempts were made this period.
Bitwise Wireless, LLC	Fixed Wireless	Non-Responsive to Multiple Attempts		7 contact attempts were made between May 24, 2011 and August 8, 2011.
Boardman River Communications, LLC	Fixed Wireless	Non-Responsive to Multiple Attempts	2/10/2010	In addition to multiple contact attempts made between July 23, 2010 and February 15, 2011, 6 additional attempts were made this period.
DSTech	Fixed Wireless	Non-Responsive to Multiple Attempts		4 contact attempts were made between May 24, 2011 and July 29, 2011.
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.
Hi-Tech SMR Communications	Fixed Wireless	Non-Responsive to Multiple Attempts		5 contact attempts were made between May 24, 2011 and August 8, 2011.
Internet 123, Inc.	Fixed Wireless	Non-Responsive to Multiple Attempts		6 contact attempts were made between May 24, 2011 and August 9, 2011.
Lewiston Communications	Cable	Non-Responsive to Multiple Attempts		In addition to multiple contact attempts made between July 1, 2010 and February 15, 2011, 6 additional attempts were made this period.
M55 WiFi Wireless Internet Service	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to multiple contact attempts made between July 1, 2010 and February 15, 2011, 5 additional attempts were made this period.
Microtech Services, Inc.	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to multiple contact attempts made between July 1, 2010 and February 14, 2011, 5 additional attempts were made this period.
Mutual Data Services, Inc.	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to multiple contact attempts made between July 1, 2010 and February 14, 2011, 5 additional attempts were made this period.
Network Computers, LLC	Fixed Wireless	Non-Responsive to Multiple Attempts		Initial contact was made on July 28, 2010, but they did not have any active wireless broadband at that time. During this perioed, 5 contact attempts were made between June 6, 2011 and August 9, 2011.