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

CONNECT Michigan®

October 1, 2014

Table of Contents

October 1, 2014

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

Dear Ms. Neville:

As the State Broadband Designated Entity, in partnership with the Michigan Public Service Commission, please accept this final submission from Connected Nation on behalf of Connect Michigan, the state of Michigan State Broadband Initiative (SBI) Grant Program.

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

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

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

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

Inventory of Deliverables, Connect Michigan: October 1, 2014

NOFA Requirement	Data Transfer Model	Data Description
Appendix A: 1(a)(i)	BB_Service_CensusBlock	Broadband Service Availability of Facilities-Based Providers in

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

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

SBI Data Transfer Model

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

Additional Submission Guidance

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

residential/business service areas. Further, all contacted providers were asked if they provide broadband services to business customers within their existing coverage areas and, if so, this information was noted.

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

Broadband Service Availability — Provider Outreach and Verification

This data update submission under the SBI program includes datasets for 96.32 percent of the Michigan provider community, or 131 of 136 total providers. There are 131 participating providers. Of the 131 participating providers, 47 supplied an update to their network or coverage area(s), while 45 have reported no change. The remaining 39 represent providers who previously supplied data but were non-responsive in the October 2014 update effort; therefore, their previous dataset is being put forward as part of this compilation. The 5 providers that are not represented in the attached datasets were non-responsive to multiple contact attempts. A complete roster by provider depicting participation status and contact history is contained herein.

This submission also includes business/commercial providers; of the 167 residential datasets represented in this submission, including providers that offer multiple technology types, 96 are broadband datasets that do not distinguish between serving primarily residential or primarily non-residential users (end user category 5). There are 15 business-only broadband datasets (end user category 2) also included in this submission.

In addition to the facilities-based and middle-mile broadband providers tracked above, this submission contains datasets for 4 resellers that were able to provide sufficient information on their service area(s) to be included in the data transfer model.

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 have been made to account for 100 percent of the known Michigan broadband provider community, pursuant to this final 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 has conducted field validation efforts. As of this final submission, 125 (91.91 percent) viable 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) has served a prominent role in the outreach and data collection effort. This program asset has provided a way for the general public to participate in the process by offering interactive tools for users to test their connection speed, submit broadband inquiries, or contact a program representative.

As an indicator of stakeholder penetration, the Connect Michigan website encountered 9,743 unique visits during this final reporting period (78,111 total to date for the life of the grant awarded on December 20, 2009). Additionally, this pronounced Web activity netted 33 broadband inquiries over this same reporting period (1,624 grant inception to date). The website also provides access to the My ConnectView™ interactive mapping application, which allows consumers and broadband providers to confirm or dispute the coverage represented on the broadband inventory map. These consumer-initiated actions have been facilitated through the Connect Michigan website and the Connect Michigan interactive mapping tool (My ConnectView™) that offer the stakeholders the vehicles to provide information regarding availability in their respective service area, either in affirmation or contest of the reported data represented in the Connect Michigan mapping artifacts. Since the initial data collection and release of corresponding maps, feedback in the form of broadband inquiries has allowed Connect Michigan to identify additional areas that are in need of field validation.

Community Anchor Institutions

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

In conjunction with the Michigan Public Service Commission, Connect Michigan conducted final outreach during this data update reporting period to continue identification of existing, centralized sources for CAI connectivity data. Additionally, outreach was coordinated to distribute the CAI survey to institutions throughout the state through multiple methods, including a customized online survey available on the Connect Michigan website. Building on existing relationships with statewide associations has reinforced the importance of broadband connectivity at anchor institutions and encouraged participation in this data collection process. The value of these relationships has impacted the entire success of the Grant Program, and the CAI engagement has been a logical extension of new and existing relationships.

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

Respectfully submitted,

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

MICHIGAN COMMUNITY ANCHOR INSTITUTIONS METHODOLOGY

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

Connect Michigan has continued 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 on a regular basis to a targeted list of CAI throughout the state as well as organizations and agencies that work closely with the CAI. The distributions were completed with the support of the state client.

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

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

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

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

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

CAI Type	Total	Lat/Long	Technology of Transmission	Download Speed	Upload Speed
K-12 Schools	4,589	4,575	347	322	322
Libraries	1,960	1,947	687	684	176
Healthcare	259	258	3	3	3
Public Safety	1,525	1,489	215	101	90
Higher Ed Institutions	308	305	42	42	42
Other Government	51	42	28	25	23
Other Non-Government	444	440	10	9	10
Total	9,136	9,056	1,332	1,186	666

Michigan's slight improvement to the library sector is based on data obtained from the Digital Inclusion Survey (http://digitalinclusion.pnmi.com/).

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

SBI Data Submission Methodology

The submission of the broadband dataset for October 1, 2014, is contained within the SBI Data Transfer Model and additional components as provided to SBI Grantees on May 29, 2014. Connected Nation (CN) has reviewed all literature that relates to the release and use of this data transfer model and recognizes that it does not replace or dictate how data is stored, processed, or displayed for the state, as it is meant primarily as a means to transfer the broadband data from all states and territories and populate the National Broadband Map in a seamless fashion. Connected Nation has complied with the following guidance documents published by NTIA:

- Technical Mapping Guide, as released on the Grantee Workspace on March 24, 2011, was followed to ensure the completeness and validity of the submission through completion steps and checklists, completing the DataPackage spreadsheet, uploading broadband datasets into the Data Transfer Model, and checking the dataset using the SBDD_CheckSubmission receipt process.
- Naming Conventions and Category of End User, as released on the Grantee Workspace on March 26, 2012, was followed to ensure the consistency of individual file and zip package naming.
- Wireless Data Processing Guidance, as sent to SBI grantees on February 8, 2013, was followed to ensure that all fixed and mobile wireless provider coverage records are

submitted to NTIA as separate, closed polygons whenever there is a variation in any of the required fields.

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

Inventory of Deliverables, Connect Michigan: October 1, 2014

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 CN 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.

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

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

MICHIGAN FIELD VALIDATION METHODOLOGY

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

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

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

To date, Connected Nation's staff has conducted on-site validation tests in Michigan on the following viable providers: 2125 Cable Company, LLC; Ace Telephone Company of Michigan Inc.; Agri-Valley Communications, Inc.; Air Advantage, LLC; Allband Communications Cooperative; Allendale Telephone Company; Applied Technology Internet Solutions Inc. ; AT&T Inc.; ATI Networks, Inc. ; Azulstar, Inc.; Banyan OnLine Services, LLC.; Baraga Telephone Company; Barry County Telephone Company; Bitwise Wireless, LLC; Blanchard Telephone Association, Inc.; Block Communications, Inc.; Bloomingdale Telephone Company, Inc.; Bright House Networks, LLC; Cable America Michigan, LLC; Camp Communication Services, Inc.; Carr Communications, Inc.; CCI Systems, Inc.; CenturyLink; Charter Communications, Inc.; Cherry Capital Connection, LLC; Climax Telephone Company; CMS Internet LLC ; Coldwater Board of Public Utilities; COLI, Inc.; Comcast Cable Communications, LLC; Cricket License Company, LLC; Crystal Automation Systems, Inc; CSInet Internet Access Corp. ; Custom Software Inc.; D&P Communications, Inc.; Daystarr Communications, LLC; DMCI Broadband, LLC; Endless Journey, Inc.; Farmers Mutual Telephone Company of Chapin; Fast-Air Internet, Inc.; FiberTower Corporation; FNW, LLC; Fourway Computer Products, Inc.; Frontier Communications Corporation; Great Lakes Comnet, Inc.; Great Lakes High Speed, LLC; Hiawatha Communications, Inc.; Hidden Lake Wireless, Inc.; Hughes Network Systems, LLC; I-2000, Inc.; Ideal Wireless, Inc.; Interlink Computers Technology, Inc.; Internet 123, Inc.; Invisalink Wireless Enterprises LLC; Iron Bay Computer & Design; Iron River Cooperative TV Antenna Corp; ISP Management, Inc. ; Kaltelco, LLC; KEPS Technologies, Inc.; KPBIZnet LLC; LakeNet, LLC; Lennon Telephone Company; Level 3 Communications, LLC;

Lewiston Communications; Lighthouse Computers, Inc.; Lynx Network Group, Inc.; M-22 Internet Project, LLC; M3 Wireless; Martell Cable Services, Inc.; MegaPath Corporation; Merit Network, Inc.; MetaLINK Technologies, Inc.; MetroPCS Wireless, Inc.; Michigan Cable Partners Inc.; Michwave Technologies, Inc.; Midwest Energy Cooperative; Mutual Data Services, Inc.; Negaunee Cable Company; Network Computers, LLC; Newaygo County Advanced Technology Services ; Nodin Communications, LLC; Ogden Communications, Inc.; Parish Communications; Pasty.net, Inc.; Peninsula Fiber Network, LLC; QHP Internet LLC; RACC Enterprises, LLC; Reliable Internet, LLC; Sand Creek Communications Company; Scott Cook, Inc.; Sebewaing Light and Water; Sister Lakes Cable TV; Skyweb Networks, Inc.; Small Business Solutions Group L.L.C.; SMR Communications, Inc.; SpeedNet, LLC; Springcom, Inc.; Sprint Nextel Corporation; Stratos Networks, LLC; Summit Digital Holdings, Inc.; SyncWave, LLC; T2 Communications, LLC; TDS Telecommunications Corporation; The Iserv Company, LLC; Time Warner Cable Inc.; T-Mobile USA, Inc.; Town & Country Cable and Telecommunications, LLC; Tri-County Wireless, Inc.; Upper Peninsula Telephone Company; US Signal Company, LLC; Vergennes Broadband LLC; Verizon North Inc.; ViaSat, Inc. ; Vision Quest Technology Solutions; Vogtmann Engineering, Inc.; Waldron Communication Company; West Michigan Broadband, LLC; WideOpenWest Michigan, LLC; Windstream Communications; Winn Telephone Company; Wyandotte Municipal Services; XO Communications, LLC; Xyotek, LLC; Zayo Bandwidth, LLC; and Zing Networks, Inc.

Additionally Connected Nation had previously validated 23 providers which are now considered non-viable, due to mergers and acquisitions or because they are no longer in business: 20/20 Communications, LLC; AIRGRANT.COM, INC.; Arialink Telecom LLC; Broadstripe LLC; City of Negaunee ; Clearwire Corporation; Custom Software Inc.; Dreamscape Communications; Drenthe Telephone Company; Endless Journey, Inc.; Great Lakes Internet, Inc.; Halo Wireless, Inc.; I-2000, Inc.; ISP Management, Inc.; Mercury Network Corporation; Microtech Services, Inc.; Peninsula Telephone Company; RACC Enterprises, LLC; Rural Communications, Inc.; Talk America Inc.; The Computer Care Company, Inc.; The Iserv Company, LLC; and Wireless Technology Solutions.

From program initiation through this reporting period, CN has completed in-the-field validation testing against 125 viable companies (out of a universe of 136 viable providers) totaling 91.91 percent within the state of Michigan.

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

Agri-Valley Communications, Inc. (Subsidiary: miSpot)
Issue: Fixed wireless platform with a maximum advertised download speed in tiers 8 and 9, higher than the expected value range for the technology.
Resolution: Provider confirmed that these higher speeds are available and were confirmed in the field by a third-party contractor.

PROVIDER VALIDATION METHODOLOGY

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

Once the data collection has been aggregated at a statewide level, static maps of statewide and county-level availability are produced and made publicly available. In addition, consumers can visit the interactive online tool, My ConnectView, to create customized views of broadband service areas and analyze corresponding demographic information. Leveraging broadband service data on various platforms allows for public users, providers, and other stakeholders to review, scrutinize, and provide feedback on the represented data. This feedback has been a validation method in itself, as consumers submit inquiries to CN either affirming where service is not available or identifying areas where broadband service is shown on the map, but in actuality is not available. This has allowed for a follow-up to providers regarding revisions to the data as it is represented; it also allowed CN to identify locations where on-site visits may have been necessary to complete field validation of available services. Public feedback on all forms of mapping products served as a localized validation method for provider-supplied information and allowed CN to resolve inaccuracies as they were identified to ensure that only the highest quality information is provided to stakeholders.

Estimates derived from provider-validated data indicate that approximately 0.81 percent of Michigan households do not have terrestrial fixed broadband service available, and approximately 0.01 percent of Michigan households have neither mobile nor fixed broadband service available.

Within rural areas of the state, results derived from provider-validated data indicate that approximately 1.36 percent of rural Michigan households do not have terrestrial fixed broadband service available, and approximately 0.03 percent of rural Michigan households have neither mobile

nor fixed broadband service available. Please note that the availability estimates presented are based on Census 2010 household information.

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

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

WIRELESS METHODOLOGY

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

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

1. The name of the structure.
2. Whether the transmitting device is operational or proposed.
3. The maximum advertised downstream speed, the maximum advertised upstream speed.
4. The typical downstream speed, the typical upstream speed (peak periods for both).
5. The frequency range of spectrum being used (as prescribed by NTIA). This may include (but is not limited to) spectrum authorizations identified within the Federal Communications Commission (FCC) Universal Licensing System (ULS) database or located on the FCC's Spectrum Dashboard.
6. The primary population center(s) being served (for geopolitical boundary reference).
7. The physical address of the transmit site (in the event latitude/longitude is unavailable from the provider this allows a quick reference point for geocoding).
8. Latitude in either Degrees, Minutes, and Seconds and/or in Decimal Degrees (typically received as NAD 27 or NAD 83).
9. Longitude in either Degrees, Minutes and Seconds and/or in Decimal Degrees (typically received as NAD 27 or NAD 83).
10. Antenna pattern (e.g. omnidirectional, 180°, 120°, 90°, etc.).
11. Azimuth of antenna (e.g. 360° with magnetic declination if known).
12. Approximate transmit radius (in feet, miles, or kilometers).
13. Polarity of transmit antenna (Vertical or Horizontal).
14. Transmit antenna gain (in dBi).

15. Line loss (applicable only to providers using coax, heliax, waveguide or other forms of cabling – excludes power-over-Ethernet devices).
16. Mechanical and/or Electrical beam tilt (if applicable).
17. Equipment Manufacturer (allows easy cross-reference against manufacturer's specification sheet).
18. Power output of the transmitting device (if unknown, FCC standards or manufacturer specifications are applied).
19. AMSL at base of tower site.
20. Antenna centerline AGL (height of antenna above ground level measured at the centerline of the actual antenna).
21. Foliage factors (Evergreens/Deciduous and percent of ground cover).
22. Ground Clutter (primarily used in rural areas to account for foliage and in metropolitan areas to account for types and heights of buildings if known).
23. Average gain of receive antenna.
24. Receive antenna is estimated at height above average terrain (HAAT) of 6.2 meters/20 feet.
25. Federal Registration Numbers (if applicable) which may allow opportunities to cross-reference and/or obtain additional data from the FCC's ULS and the **CO**mmission **RE**gistration **S**ystem.

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

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

submitted to NTIA on January 20, 2011, all independent pixels representing service that are less than 0.125 square miles in area have been removed from the geospatial representation of each wireless provider.

BROADBAND INQUIRIES METHODOLOGY

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

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

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

The broadband inquiry process has been implemented in each of the CN state programs with successful results. Altogether CN has received over 19,388 broadband inquiries since 2007, allowing the state programs to evaluate each inquiry for broadband demand and data verification. These inquiries have been continuously examined against current broadband availability, updated every six months, to determine if previously unserved households have been expanded to and can now

receive broadband at their residence. This database of broadband inquiries has also allowed the CN state programs to aggregate demand in concentrated areas to show providers the exact locations where the population has made it clear that they would purchase broadband if it was made available to them. Providers in the states have responded to this process and have expanded to areas knowing that their investment will be worthwhile. Data verification methods have also proven successful, as the state programs have been able to show those inquiries that indicate the broadband service areas are misrepresented on the map to providers, who then verify where service cannot reach in regard to that residence(s). The broadband coverage in these states has been altered to create a more accurate map based on the inquiries submitted by the public.

During this reporting period, the Connect Michigan project has received a total of 33 inquiries (1,624 grant inception to date).

MY CONNECTVIEW METHODOLOGY

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

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

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

The Connect Michigan project launched My ConnectView on April 2, 2012, and has received 4,455 visits this reporting period; to date the interactive mapping application has received 27,578 visits.

Speed Test Methodology

The 7,580 speed tests that are represented in the Connect Michigan Speed Test Report during this reporting period (45,118 grant inception to date) are the result of a partnership between CN and Ookla Net Metrics. Utilizing this relationship increases the level of confidence in the data being collected and provides for a far greater sample size than could be collected by a single testing site.

Ookla owns and operates Speedtest.net, as well as develops and deploys speed tests, such as the Connect 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 may be received through the data collection process, the use of speed tests provide real-world information on the speeds that currently exist within the state of Michigan.

Providers Deemed Non-Viable

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

	Company Name	URL	Comments
1	20/20 Communications, LLC	n/a	Company has been sold to another area WISP.
2	21Globe, Inc.	http://www.21globe.com/	Does not offer broadband services; not a broadband provider. Website works but not updated since December 2012.
3	650Net	http://www.650net.net/	Website references emergency food and power items.
4	A 007 Access	n/a	Acquired by another company.
5	Aaccess Network Communications	n/a	Not a broadband provider.
6	ACERX.NET	http://acerx.net	Nonfacilities-based reseller of national and regional broadband companies with cable, DSL, and mobile wireless applications.
7	Airbaud, Inc.	http://www.airbaud.net/	No longer a fixed wireless provider in Michigan.
8	Airespring, Inc.	http://www.airespring.com	Nonfacilities-based reseller.
9	Airewaves Broadband, LLC	www.airewaves.com	Airewaves website is an audio-based web service and domain is listed as for sale.
10	Airmail247.com	n/a	Company is no longer in business.
11	All-In-One Wireless, Inc.	n/a	No longer in business; acquired by another company.
12	Antioch Wireless Broadband	www.antiochwirelessbroadband.com/	Not a broadband provider.
13	Arrowheadnet.com	http://www.arrowheadnet.com/	Not a broadband provider
14	bargainisp.net	http://www.bargainisp.net/	Not a broadband provider.

15	Bayville Wireless	n/a	Company is no longer in business.
16	Beanstalk Internet	n/a	Company is no longer in business.
17	Beaver Island Broadband, Inc.	n/a	Not a broadband provider.
18	BlazeConnect, Inc.	n/a	Company is no longer in business.
19	Blue Communications, LLC	http://www.bluecommunicationsllc.com	Not a broadband provider.
20	Broadband National	http://www.broadbandnational.com	Nonfacilities-based reseller of national and regional broadband companies offering residential/business cable and DSL services.
21	Broadview Networks Holdings, Inc.	http://www.broadviewnet.com	Not a Michigan provider.
22	BullsEye Telecom, Inc.	http://bullseyetelecom.com	Nonfacilities-based reseller.
23	Cable Vision, Inc.	n/a	Company is no longer in business.
24	Cablemax Communications	n/a	Company is no longer in business.
25	CAC MediaNet, Inc.	n/a	Not a broadband provider.
26	Camino-Net Internet Services	http://www.camino-net.com	Website is redirected to http://www.mytechproservices.com/ offering ancillary (not broadband) services.
27	Caspian Community TV Corporation	n/a	Not a broadband provider.
28	CCIS.net	http://www.ccis.net	Not a Michigan provider.
29	Celito Communications	http://www.celito.net/	Nonfacilities-based reseller.
30	CIMCO Communications, Inc.	n/a	This company is not a broadband provider.

31	City of Crystal Falls	http://www.crystalfalls.org/Electric%20Department.htm	This company is not a broadband provider.
32	Clear Rate Communications, Inc.	http://clearrate.com/	This company provides dial-up only in Michigan.
33	Cleartouch.Com	n/a	Company is no longer in business.
34	CMC Telecom, Inc.	http://cmctelecom.net	Nonfacilities-based reseller.
35	Deltaforce	http://www.deltaforce.net	Nonfacilities-based reseller.
36	deluxehost.com	http://deluxe-host.com	Company delivers web hosting services.
37	DGUI	n/a	Company is no longer in business.
38	Dial National	n/a	Company is no longer in business.
39	Dialer.net	www.dialer.net	England-based, international pay-as-you-go mobile wireless and hot spot reseller.
40	DIECA Communications, Inc.	http://www.covad.com/	Company has been acquired by another company.
41	DSTech	http://www.dstech.us/	They only provide wireless hotspots for the City of Escanaba and are not a fixed wireless provider.
42	DTS-NET.COM	http://www.dts-net.com/	Web-hosting and non-facilities based reseller.
43	Dundee Internet Services, Inc.	n/a	Company is no longer in business.
44	Eagles Internet Services	n/a	Company is no longer in business.
45	Enventis Telecom Inc.	http://www.enventis.com	Company does not provide broadband services in Michigan.
46	ETI - Connecting Your World	http://www.cyberenet.net/	Nonfacilities-based reseller.
47	Fast Dependable Access	n/a	Company is no longer in business.

48	First Communications, LLC	www.firstcomm.com	Company has been non-responsive.
49	Global Crossing Telecommunications, Inc.	http://www.globalcrossing.com/	Acquired by another company.
50	Grid4 Communications, Inc.	http://www.grid4.com	Nonfacilities-based reseller; company has refused to participate.
51	Holland Board of Public Works	http://www.hollandbpw.com	This company is not a broadband provider.
52	Hubwest Protected Networks LLC	http://www.hubwest.com	Company does not provide broadband services in Michigan.
53	IMGISP.NET	http://www.imgisp.net/	Domain name is for sale.
54	Incredible Networks	www.incredible-networks.com	Incredible Networks is an independent network engineering services business based in Adelaide Australia.
55	Industrial Grade Broadband, LLC	n/a	This company is not a broadband provider.
56	Inercom Communications Inc.	http://www.inercom.com	Company is no longer in business.
57	Interactiveinfo.com Inc.	http://www.rocketbroadband.com	Company does not provide broadband services in Michigan.
58	International Broadband Electric Communications, Inc.	http://ibec.net	This company is not a broadband provider.
59	Intouch Internet Services, Inc.	http://www.intouchmi.com	Nonfacilities-based reseller.
60	iRadical	n/a	Could not locate any information on company.
61	ISG	http://www.leapfrogbroadband.com	This company is not a broadband provider.
62	ISPartner.net	n/a	Could not locate any information on company.
63	ITWifi, Inc.	http://www.fnw.us/	Company has been sold to another area WISP.

64	Jackpine Internet	http://www.jackpine.com	Nonfacilities-based reseller.
65	Jenco Speed Web	http://www.jencospeed.net	Company does not provide broadband services in Michigan.
66	LARIAT.NET	http://www.lariat.net/	Company does not provide broadband services in Michigan.
67	LCSisp.com	http://www.lcsisp.com/index.cfm	Website no longer in service.
68	Lightyear Network Solutions, LLC	http://lightyear.net	Nonfacilities-based reseller.
69	LinkAmerica.Net	n/a	Company is no longer in business.
70	Local Exchange Networks of Michigan, Inc.	n/a	Company is no longer in business.
71	M55 WiFi Wireless Internet Service	http://www.m55wifi.net/	No longer in business.
72	MainBoard, LLC	http://www.mainboard.cc/internet.htm	Website no longer in service.
73	Maine Cable and Wireless	http://www.mainecableandwireless.com	Could not locate any information on company. Redirects to a "coming soon" website for Maine Culinary Workshop.
74	Maple River Networks, LLC	n/a	Company is no longer in business.
75	Marcin Company	n/a	No longer in business; phone and website are both inactive.
76	MediaNet		Company is no longer in business.
77	Mercury Network	n/a	Acquired by another company.
78	Metropolitan Telecommunications Holding Company	http://www.mettel.net	Non-facilities based reseller.
79	Mich1 Internet, Inc.	http://www.mich1.net	Nonfacilities-based reseller.

80	Michiana Wireless, Inc.	http://www.michianawireless.com	Company does not provide broadband services in Michigan.
81	Michigan Department of Information Technology	http://www.michigan.gov/dit/	This company is not a broadband provider.
82	Microwave Communications, Inc.	n/a	This company is not a broadband provider.
83	Midwest Communications Services, Inc.	http://mwcomm.com	This company is not a broadband provider.
84	Midwest Energy Cooperative	http://teammidwest.com/	No longer a broadband provider.
85	Millenicom Inc.	http://www.millenicom.com	Reseller of 3G and 4G mobile wireless services.
86	MIMesh	http://www.mimesh.com	This company is not a broadband provider.
87	Nanomega.Com	n/a	Website is listed on Go-Daddy as for sale.
88	NetAccess, Inc.	http://www.nas.net/	Canadian based ISP; does not offer service in U.S.
89	NetSpeed Online	http://www.netspeed-online.net	Website no longer in service.
90	New Edge Network, Inc.	www.newedgenetworks.com	Acquired by another company.
91	Nextlink Wireless, Inc.	n/a	Company does not provide broadband services in Michigan.
92	Northern Michigan Online	http://www.nmo.net	This company is not a broadband provider.
93	Northwest ISP	www.northwestisp.com/	Company is no longer in business.
94	NSIGHTTEL WIRELESS, LLC	www.nsighttel.com	Company does not provide broadband services in Michigan.
95	Overarch Broadband	www.overarch.com	Company does not provide broadband services in Michigan.
96	Pacific Internet Exchange	http://www.pie.us/	Website is for sale.

97	PAETEC Communications, Inc.	http://www.paetec.com/	Acquired by another company.
98	Paknet Limited	n/a	This company is not a broadband provider.
99	Planet Online	www.planetonline.net/	This company is not a broadband provider.
100	PremoWeb	http://www.premoweb.com/about_us/contact_us.html	Website no longer in service.
101	Raser, Inc.	http://www.wmis.net/	Company has been non-responsive.
102	Renaissance Networks	www.renaissancenetworks.com/	This company is not a broadband provider.
103	Rural Communications, Inc.	http://www.ruralcommunications.net/	No longer in business.
104	Saturn Telecommunication Services, Inc.	n/a	Acquired by another company.
105	Seneca Communications	www.senecacommunications.com	This company is not a broadband provider.
106	Simply Dialup A Metrogeek Company	www.simplydialup.com/	Dial-up services and general reseller of DSL, satellite and cable modem.
107	Sling Broadband	www.slingbroadband.com/	Company does not provide broadband services in Michigan.
108	Star Video	n/a	Company is no longer in business.
109	State of Michigan	n/a	Not a broadband provider.
110	StoneBridge Wireless Broadband	n/a	Acquired by another company.
111	Surferz.Net	www.surferz.net/	Website manager and developer.
112	T1 Shopper	www.t1shopper.com	Non-facilities based reseller.
113	Talk America Inc.	n/a	Acquired by another company.
114	Telefonica USA, Inc.	www.telefonica.com/	Company does not provide broadband services in Michigan.

115	TelNet Worldwide, Inc.	www.telnetww.com	Company has been non-responsive.
116	Telovations, Inc.	www.telovations.com	Company does not provide broadband services in Michigan.
117	Thumbnet	n/a	Acquired by another company.
118	Total Access Networks, Inc.	http://www.totalaccess.net	Website no longer in service.
119	TRANSWORLD NETWORK, CORP	n/a	Not a broadband provider.
120	True Connections, LLC	n/a	Company is no longer in business.
121	TSISP.NET	www.tsisp.net	Website no longer in service.
122	TVC Inc.	www.tvcinc.com	Not a broadband provider.
123	University Corporation for Advanced Internet Development	n/a	Not a broadband provider.
124	UNUM Telecommunications, Inc.	n/a	Company does not provide broadband services in Michigan.
125	U.S. Cellular; Telephone and Data Systems, Inc.		Acquired by another company.
126	WilTel Communications, LLC	n/a	Acquired by another company.
127	WingsComm Communications	n/a	Company is no longer in business.
128	Wireless First LLC	n/a	Acquired by another company.
129	Wireless Roanoke, Inc.	n/a	Company is no longer in business.
130	Wireless Ypsi	www.wireless.ypsi.com	Company provides free hotspots in Ypsilanti area.
131	wisbin	www.wisbin.com/	Reseller of DSL Internet service in Wisconsin.

132	www.AmericanAngel.us	www.AmericanAngel.us	Website no longer in service.
133	YEYZOO.NET	www.yeyzoo.net/	Appears to no longer be in business.
134	YLISP (Your Local ISP)	http://www.itsyournet.com	Redirects to https://www.securepaynet.net - website and indicates for sale.
135	YourT1Wifi.com	www.yourt1wifi.com/	Company does not provide broadband services in Michigan.
136	Z-Comm, LLC	n/a	Company is no longer in business.
137	ZOOM Internet Services, LLC	n/a	Acquired by another company.

APPENDIX A: BROADBAND PROVIDER LOG

Broadband Provider Log

Complete	198
Non-Responsive/Refused	5
In Progress	6
Reseller Providing Data	4
Count of Datasets by Status	**213**
Total Unique Providers Represented	**136**

Provider Name	Platform	Status	NDA Execution Date	Notes	End User Category
Ace Telephone Company of Michigan Inc.	DSL	Data Added to Statewide Inventory	1/12/2010	[AUG-21-14 Sarah Finne] Change and Correction: Some data fell outside their official exchange boundary. Data has now been clipped to the appropriate boundaries. Also, provider upgraded infrastructure and can now offer tier 7 download speeds across all exchanges.	5 Both Residential/Business
Agri-Valley Communications, Inc.	Fixed Wireless	Data Added to Statewide Inventory	1/22/2010	[SEP-03-14 Sarah Finne] Change: Network expansion (provider installed 11 new towers).	5 Both Residential/Business
Agri-Valley Communications, Inc.	Mobile Wireless	Data Added to Statewide Inventory	1/22/2010	[SEP-02-14 Sarah Finne] Change: Network expansion (provider installed several new LTE towers).	5 Both Residential/Business
Air North Communications, Inc.	Fixed Wireless	Data Added to Statewide Inventory		[SEP-02-14 Brian Dudek] Correction: New provider for the October 2014 submission that was previously unresponsive.	5 Both Residential/Business
Allendale Telephone Company	Fiber	Data Added to Statewide Inventory	2/4/2010	[SEP-05-14 Sarah Finne] Change: Network expansion (provider added additional FTTH areas) and provider upgraded infrastructure to allow tier 10 download and upload speeds across entire FTTH service area.	5 Both Residential/Business
AT&T Inc.	DSL	Data Added to Statewide Inventory	12/16/2009	[AUG-28-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission.	1 Residential Only
AT&T Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/16/2009	[AUG-06-14 Brian Dudek] Change: Provider expanded coverage in the Upper Peninsula and the northeast Lower Peninsula. Filled in many prior gaps in coverage. LTE expansion is also present, particularly from the central part of the state to up north.	5 Both Residential/Business
Barry County Telephone Company	Fiber	Data Added to Statewide Inventory		[JUL-31-14 Sarah Finne] Change and Correction: Provider expanded FTTH offerings to two additional small areas. Existing FTTH areas were refined.	5 Both Residential/Business
CenturyLink	DSL	Data Added to Statewide Inventory	12/4/2009	[AUG-26-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission. Significant reduction in number of census blocks and greater than 2 square mile census block road segments being submitted. Provider now offers maximum advertised download and upload speeds of tier 8 and tier 5, respectively.	5 Both Residential/Business
Cogent Communications, Inc.	Fiber	Data Added to Statewide Inventory		[AUG-27-14 Brian Dudek] Correction: Provider reported fiber to the business coverage in Oakland County, which was previously offered.	2 Business Only
Comcast Cable Communications, LLC	Cable	Data Added to Statewide Inventory	12/7/2009	[AUG-26-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission. Provider upgraded infrastructure increasing maximum advertised upload speeds to tier 10 in the South Bend-Mishawaka MSA.	5 Both Residential/Business
Cricket License Company, LLC	Mobile Wireless	Data Added to Statewide Inventory	4/5/2010	[AUG-26-14 Brian Dudek] Correction: Provider decreased coverage slightly on the eastern portion of coverage area in Cass County.	5 Both Residential/Business
Crystal Automation Systems, Inc	Fixed Wireless	Data Added to Statewide Inventory	6/25/2010	[SEP-03-14 Brian Dudek] Change/Correction: Provider activated additional transmissions and also deactivated some as well resulting in minute coverage changes. Corrected some spectrum issues.	5 Both Residential/Business
D&P Communications, Inc.	Fiber	Data Added to Statewide Inventory	3/8/2011	[SEP-02-14 Sarah Finne] Change: Network expansion (provider installed additional FTTH within service area).	1 Residential Only
DMCI Broadband, LLC	Fixed Wireless	Data Added to Statewide Inventory	2/3/2010	[AUG-20-14 Sarah Finne] Change and Correction: New propagation downloaded from towercoverage.com. Speeds corrected to tier 3 download and tier 2 upload, to match the single common speed tier across all towers.	5 Both Residential/Business
Frontier Communications Corporation	DSL	Data Added to Statewide Inventory	1/22/2010	[AUG-27-14 Brian Dudek] Change: Provider expanded coverage west of Mio in Oscoda County and upgraded DSLAM infrastructure in multiple locations of Frontier North, Inc. increasing advertised speeds.	5 Both Residential/Business
Great Lakes Comnet, Inc.	Fiber	Data Added to Statewide Inventory		[SEP-22-14 Ashley Hitt] Correction: Provider has had fiber service that is being submitted for the first time.	5 Both Residential/Business
Great Lakes Comnet, Inc.	DSL	Data Added to Statewide Inventory		[AUG-04-14 Brian Dudek] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users. [SEP-22-14 Ashley Hitt] Correction: Provider has had additional copper service outside of the exchange that is being submitted for the first time.	5 Both Residential/Business
I-2000, Inc.	Fixed Wireless	Data Added to Statewide Inventory	3/7/2011	[SEP-02-14 Brian Dudek] Change/Correction: Provider added transmission point, added missing but previously existing transmission, and upgraded infrastructure for 5700 mhz transmissions increasing maximum advertised download speed to tier 6.	5 Both Residential/Business

ISP Management, Inc.	Fixed Wireless	Data Added to Statewide Inventory	3/22/2010	[SEP-02-14 Brian Dudek] Change: Provider expanded coverage with additional transmissions near cities of Elwell, Farwell, and Gladwin. Also removed a transmission north of Alma.	5 Both Residential/Business
LakeNet, LLC	Fixed Wireless	Data Added to Statewide Inventory	12/27/2011	[AUG-22-14 Brian Dudek] Change: Provider supplied entirely new dataset through towercoverage.com. New transmission(s) in southern Gladwin County and northern Midland County.	5 Both Residential/Business
Level 3 Communications, LLC	Fiber	Data Added to Statewide Inventory	12/14/2009	[AUG-18-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission.	2 Business Only
M-22 Internet Project, LLC	Fixed Wireless	Data Added to Statewide Inventory		[AUG-29-14 Brian Dudek] Correction: New fixed wireless provider for the October 2014 submission that was previously in service.	5 Both Residential/Business
Midwest Energy Cooperative	Fiber	Data Added to Statewide Inventory		[JUL-31-14 Sarah Finne] Change: Provider now offers fiber service; previously offered BPL that was below broadband speed threshold.	5 Both Residential/Business
Negaunee Cable Company	Cable	Data Added to Statewide Inventory		[AUG-20-14 Sarah Finne] Change: New cable operator on the market. They purchased the existing City of Negaunee plant and now market the broadband as "Negaunee Cable Company" with tier 7 download speeds to both business and residential end users. FRN field has been left blank since the new operator has yet to apply for one.	5 Both Residential/Business
Sebewaing Light and Water	Fiber	Data Added to Statewide Inventory		[AUG-04-14 Brian Dudek] Change: New FTTH provider for the October 2014 submission; previously offered service, but it was below broadband speeds.	1 Residential Only
Sebewaing Light and Water	Fiber	Data Added to Statewide Inventory		[AUG-04-14 Brian Dudek] Change: New FTTB provider for the October 2014 submission; previously offered service, but it was below broadband speeds.	2 Business Only
Sprint Nextel Corporation	Mobile Wireless	Data Added to Statewide Inventory	1/14/2010	[AUG-07-14 Brian Dudek] Change: Provider expanded coverage in multiple areas in the state, but most prominently in the counties of Cass, Charlevoix, and Emmet. Upgraded infrastructure increasing maximum advertised download and upload speeds to tier 6 and tier 4, respectively, in a large portion of their coverage area.	5 Both Residential/Business
SyncWave, LLC	Fixed Wireless	Data Added to Statewide Inventory	2/24/2014	[SEP-02-14 Brian Dudek] Change: Provider expanded coverage by adding a transmission in Mason County near the city of Fountain.	1 Residential Only
T-Mobile USA, Inc.	Mobile Wireless	Data Added to Statewide Inventory	1/8/2010	[AUG-08-14 Brian Dudek] Change/Correction: Provider increased their non-3G coverage, particularly their HSPA and LTE coverage. Also removed areas of coverage around Saint Johns, Sanford, and Vernon in particular.	5 Both Residential/Business
TDS Telecommunications Corporation	DSL	Data Added to Statewide Inventory	1/27/2010	[AUG-20-14 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2014 submission.	5 Both Residential/Business
TDS Telecommunications Corporation	Fiber	Data Added to Statewide Inventory	1/27/2010	[JUL-29-14 Brian Dudek] Change: Provider expanded fiber territory slightly in the Chatham Telephone exchange area. Also upgraded infrastructure in some areas increasing maximum advertised download and upload speed to tier 9 and tier 7, respectively.	5 Both Residential/Business
Vergennes Broadband LLC	Fixed Wireless	Data Added to Statewide Inventory	1/23/2013	[SEP-02-14 Brian Dudek] Change: Provider expanded coverage with additional transmissions in the counties of Ionia and Kent around the cities of Lowell and Alto.	1 Residential Only
Verizon North Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/14/2009	[AUG-08-14 Brian Dudek] Change: Provider expanded their coverage in many gaps throughout the state. LTE coverage expansion is apparent.	5 Both Residential/Business
Vogtmann Engineering, Inc.	Cable	Data Added to Statewide Inventory		[SEP-13-14 Sarah Finne] Change/Correction: Provider submitted new cable data, showing an increase in some areas and a decrease in others.	5 Both Residential/Business
Vogtmann Engineering, Inc.	Fiber	Data Added to Statewide Inventory		[SEP-13-14 Sarah Finne] Change/Correction: Provider submitted entirely new coverage file that shows additional fiber lines, but also some lines removed that were not supposed to be mapped previously.	5 Both Residential/Business
Winn Telephone Company	Fixed Wireless	Data Added to Statewide Inventory	6/28/2010	[AUG-20-14 Sarah Finne] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users. [SEP-22-14 Ashley Hitt] Change: Provider representative indicated that they have removed services from the Gaylord area.	5 Both Residential/Business
Agri-Valley Communications, Inc.	Backhaul	Backhaul Provider Only Processing Complete	1/22/2010		N/A Backhaul
Lynx Network Group, Inc.	Backhaul	Backhaul Provider Only Processing Complete	8/13/2013		N/A Backhaul
MegaPath Corporation	Backhaul	Backhaul Provider Only Processing Complete	2/15/2010		N/A Backhaul
TDS Telecommunications Corporation	Backhaul	Backhaul Provider Only Processing Complete	1/27/2010		N/A Backhaul
US Signal Company, LLC	Backhaul	Backhaul Provider Only Processing Complete	2/25/2010		N/A Backhaul
Allendale Telephone Company	DSL	Speed Only Update; Data Processing Complete	2/4/2010	[SEP-10-14 Sarah Finne] Change: Typical speed increased to tier 7 download.	5 Both Residential/Business
Applied Technology Internet Solutions Inc.	Fixed Wireless	Speed Only Update; Data Processing Complete	2/17/2011	[SEP-04-14 Sarah Finne] Correction: Split out residential and business services and corrected residential-only speeds to tier 5 download and tier 3 upload.	1 Residential Only
Applied Technology Internet Solutions Inc.	Fixed Wireless	Speed Only Update; Data Processing Complete	2/17/2011	[SEP-04-14 Sarah Finne] Change: New business-only record added for provider who offers higher upload speeds (tier 5) to business end users.	2 Business Only
Blanchard Telephone Association, Inc.	DSL	Speed Only Update; Data Processing Complete	6/17/2010	[SEP-17-14 Sarah Finne] Correction: Lowered some speeds to tier 6 and 5 download where the distance from their DSLAM is too great to receive tier 7 download speeds.	5 Both Residential/Business
Bloomingdale Telephone Company, Inc.	DSL	Speed Only Update; Data Processing Complete	1/25/2010	[SEP-22-14 Ashley Hitt] Correction: Provider has offered higher speeds for business service previously, but they were unreported.	2 Business Only

Bloomingdale Telephone Company, Inc.	DSL	Speed Only Update; Data Processing Complete	1/25/2010	[SEP-22-14 Ashley Hitt] Correction: Provider refined speed data where it is higher closer to DSLAMs and lower further out in the exchange.	1 Residential Only
CCI Systems, Inc.	Cable	Speed Only Update; Data Processing Complete	6/29/2010	[JUL-31-14 Sarah Finne] Change: Provider upgraded infrastructure and can now offer tier 9 download and tier 5 upload speeds. Also, end user category updated from 1 to 5, as this provider offers services to both residential and business end users.	5 Both Residential/Business
Pasty.net, Inc.	Fixed Wireless	Speed Only Update; Data Processing Complete	1/6/2010	[AUG-27-14 Brian Dudek] Change: Provider upgraded its infrastructure to their previously lower speed locations increasing maximum advertised download and upload speeds to tier 5 and tier 3, respectively.	5 Both Residential/Business
Sister Lakes Cable TV	Cable	Speed Only Update; Data Processing Complete		[SEP-22-14 Ashley Hitt] Change: Provider upgraded upload speed to tier 4.	1 Residential Only
Sister Lakes Cable TV	Cable	Speed Only Update; Data Processing Complete		[SEP-21-14 Ashley Hitt] Correction: Business service being submitted for the first time, but was previously in service.	2 Business Only
Upper Peninsula Telephone Company	DSL	Speed Only Update; Data Processing Complete	1/11/2010	[JUL-31-14 Sarah Finne] Change: Provider upgraded infrastructure and can now offer tier 6 download in some areas, and tier 5 in the remaining areas (and tier 3 upload across entire service territory).	5 Both Residential/Business
Waldron Communication Company	Fixed Wireless	Speed Only Update; Data Processing Complete	1/12/2010	[SEP-12-14 Sarah Finne] Change: Provider upgraded infrastructure and can now offer tier 5 download speeds across entire service territory. Also, end user category updated from 1 to 5, as this provider offers services to both residential and business end users.	5 Both Residential/Business
WideOpenWest Michigan, LLC	Cable	Speed Only Update; Data Processing Complete		[SEP-15-14 Sarah Finne] Change: Provider upgraded infrastructure in the Detroit, MI to offer tier 9 download and tier 5 upload speeds using DOCSIS 3.0 technology.	1 Residential Only
Winn Telephone Company	Fiber	Speed Only Update; Data Processing Complete	6/28/2010	[AUG-20-14 Sarah Finne] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users. [OCT-15-14 Sarah Finne] Correction: Name change to Winn Telephone d/b/a in the Winn exchange and Winn Telecom outside, tier 11 down/up in all but Gaylord, MI which is tier 8 down/up.	5 Both Residential/Business
Winn Telephone Company	DSL	Speed Only Update; Data Processing Complete	6/28/2010	[AUG-20-14 Sarah Finne] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users. [OCT-15-14 Sarah Finne] Correction: Name change to Winn Telephone d/b/a in the Winn exchange and Winn Telecom outside, speeds changed to match 477 data.	5 Both Residential/Business
Great Lakes High Speed, LLC	Fixed Wireless	End User Category Update Only; Data Processing Complete		[JUL-31-14 Sarah Finne] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users.	5 Both Residential/Business
Interlink Computers Technology, Inc.	Fixed Wireless	End User Category Update Only; Data Processing Complete	3/12/2010	[JUL-31-14 Sarah Finne] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users.	5 Both Residential/Business
Michigan Cable Partners Inc.	Cable	End User Category Update Only; Data Processing Complete	6/18/2010	[JUL-31-14 Sarah Finne] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users.	5 Both Residential/Business
The Iserv Company, LLC	DSL	End User Category Update Only; Data Processing Complete	6/21/2010	[AUG-28-14 Brian Dudek] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users.	5 Both Residential/Business
The Iserv Company, LLC	Fiber	End User Category Update Only; Data Processing Complete	6/21/2010	[AUG-28-14 Brian Dudek] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users.	5 Both Residential/Business
The Iserv Company, LLC	DSL	End User Category Update Only; Data Processing Complete	6/21/2010	[AUG-28-14 Brian Dudek] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users.	5 Both Residential/Business
Town & Country Cable and Telecommunications, LLC	Cable	End User Category Update Only; Data Processing Complete	6/18/2010	[JUL-31-14 Sarah Finne] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users.	5 Both Residential/Business
Waldron Communication Company	DSL	End User Category Update Only; Data Processing Complete	1/12/2010	[SEP-12-14 Sarah Finne] Change: End user category updated from 1 to 5, as this provider offers services to both residential and business end users.	5 Both Residential/Business
QHP Internet LLC	Fixed Wireless	Approval for Update Not Received – Data Still Submitted		[AUG-29-14 Brian Dudek] Correction: New provider for the October 2014 submission that was previously unresponsive. Approval was not received, but data is still being submitted (note: this is not a data update, it is the first submission for this provider).	1 Residential Only
2125 Cable Company, LLC	Cable	No Update to Provide	3/22/2010		5 Both Residential/Business
Agri-Valley Communications, Inc.	Fixed Wireless	No Update to Provide	1/22/2010		5 Both Residential/Business
Agri-Valley Communications, Inc.	DSL	No Update to Provide	1/22/2010		5 Both Residential/Business
Air Advantage, LLC	Fixed Wireless	No Update to Provide	3/15/2010		5 Both Residential/Business
Allband Communications Cooperative	Fiber	No Update to Provide	2/2/2010		5 Both Residential/Business
Allband Communications Cooperative	Fiber	No Update to Provide	2/2/2010		5 Both Residential/Business
AT&T Inc.	Backhaul	No Update to Provide	12/16/2009		N/A Backhaul
Baraga Telephone Company	DSL	No Update to Provide	1/14/2010		5 Both Residential/Business
Baraga Telephone Company	Fiber	No Update to Provide	1/14/2010		5 Both Residential/Business
Barry County Telephone Company	DSL	No Update to Provide			5 Both Residential/Business
Barry County Telephone Company	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Big Bay Broadband, Inc.	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Blanchard Telephone Association, Inc.	Backhaul	No Update to Provide	6/17/2010		N/A Backhaul
Block Communications, Inc.	Fiber	No Update to Provide	4/12/2010		1 Residential Only
Block Communications, Inc.	Cable	No Update to Provide	4/12/2010		1 Residential Only
Bloomingdale Telephone Company, Inc.	Fiber	No Update to Provide	1/25/2010		1 Residential Only
Bloomingdale Telephone Company, Inc.	Fiber	No Update to Provide	1/25/2010		2 Business Only
Bright House Networks, LLC	Cable	No Update to Provide	4/26/2010		5 Both Residential/Business
Cable America Michigan, LLC	Cable	No Update to Provide	3/9/2011		1 Residential Only
Carr Communications, Inc.	DSL	No Update to Provide	1/15/2010		5 Both Residential/Business
CenturyLink	Backhaul	No Update to Provide	12/4/2009		N/A Backhaul

Charter Communications, Inc.	Backhaul	No Update to Provide	12/15/2009		N/A Backhaul
Charter Communications, Inc.	Cable	No Update to Provide	12/15/2009		5 Both Residential/Business
City of Norway	Cable	No Update to Provide	3/14/2011		1 Residential Only
Climax Telephone Company	Backhaul	No Update to Provide	1/14/2010		N/A Backhaul
Climax Telephone Company	DSL	No Update to Provide	1/14/2010		5 Both Residential/Business
Climax Telephone Company	Fiber	No Update to Provide	1/14/2010		5 Both Residential/Business
Cogent Communications, Inc.	Backhaul	No Update to Provide			N/A Backhaul
Conterra Ultra Broadband, LLC	Backhaul	No Update to Provide			N/A Backhaul
Crystal Automation Systems, Inc	Backhaul	No Update to Provide	6/25/2010		N/A Backhaul
Crystal Automation Systems, Inc	Fiber	No Update to Provide	6/25/2010		1 Residential Only
Crystal Automation Systems, Inc	Fiber	No Update to Provide	6/25/2010		2 Business Only
Custom Software Inc.	DSL	No Update to Provide	2/3/2010		5 Both Residential/Business
Custom Software Inc.	Fiber	No Update to Provide	2/3/2010		5 Both Residential/Business
Custom Software Inc.	Fixed Wireless	No Update to Provide	2/3/2010		5 Both Residential/Business
Farmers Mutual Telephone Company of Chapin	DSL	No Update to Provide	10/26/2010		5 Both Residential/Business
Frontier Communications Corporation	Backhaul	No Update to Provide	1/22/2010		N/A Backhaul
Great Lakes Comnet, Inc.	Backhaul	No Update to Provide			N/A Backhaul
Hiawatha Communications, Inc.	DSL	No Update to Provide	2/2/2010		5 Both Residential/Business
Hiawatha Communications, Inc.	DSL	No Update to Provide	2/2/2010		5 Both Residential/Business
Hiawatha Communications, Inc.	DSL	No Update to Provide	2/2/2010		5 Both Residential/Business
Hiawatha Communications, Inc.	DSL	No Update to Provide	2/2/2010		5 Both Residential/Business
Hiawatha Communications, Inc.	Fiber	No Update to Provide	2/2/2010		5 Both Residential/Business
Hidden Lake Wireless, Inc.	Fixed Wireless	No Update to Provide	3/12/2010		1 Residential Only
Hughes Network Systems, LLC	Satellite	No Update to Provide	2/5/2010		1 Residential Only
I-2000, Inc.	DSL	No Update to Provide	3/7/2011		5 Both Residential/Business
Iron Bay Computer & Design	Fixed Wireless	No Update to Provide	1/14/2010		5 Both Residential/Business
Iron River Cooperative TV Antenna Corp	Cable	No Update to Provide	7/27/2010		5 Both Residential/Business
ISP Management, Inc.	DSL	No Update to Provide	3/22/2010		5 Both Residential/Business
Kaltelco, LLC	DSL	No Update to Provide	3/5/2010		5 Both Residential/Business
KPBIZnet LLC	Backhaul	No Update to Provide	10/30/2012		N/A Backhaul
KPBIZnet LLC	Fixed Wireless	No Update to Provide	10/30/2012		2 Business Only
KPBIZnet LLC	Fixed Wireless	No Update to Provide	10/30/2012		1 Residential Only
Level 3 Communications, LLC	Backhaul	No Update to Provide	12/14/2009		N/A Backhaul
Lewiston Communications	Cable	No Update to Provide			1 Residential Only
Ligonier Telephone Company, Inc.	Fixed Wireless	No Update to Provide	3/31/2010		1 Residential Only
Martell Cable Services, Inc.	Cable	No Update to Provide			1 Residential Only
MegaPath Corporation	DSL	No Update to Provide	2/15/2010		2 Business Only
MetaLINK Technologies, Inc.	Fixed Wireless	No Update to Provide	3/22/2010		5 Both Residential/Business
MetroPCS Wireless, Inc.	Mobile Wireless	No Update to Provide	2/10/2012		5 Both Residential/Business
Newaygo County Advanced Technology Services	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Niagara Telephone Company	Backhaul	No Update to Provide	1/22/2010		N/A Backhaul
Niagara Telephone Company	DSL	No Update to Provide	1/22/2010		1 Residential Only
Parish Communications	Cable	No Update to Provide	7/1/2010		5 Both Residential/Business
Peninsula Fiber Network, LLC	Backhaul	No Update to Provide	1/14/2010		N/A Backhaul
RACC Enterprises, LLC	DSL	No Update to Provide			5 Both Residential/Business
RACC Enterprises, LLC	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Scott Cook, Inc.	Fixed Wireless	No Update to Provide			5 Both Residential/Business
Skycasters	Satellite	No Update to Provide	10/16/2012		1 Residential Only
Small Business Solutions Group L.L.C.	Fixed Wireless	No Update to Provide	7/20/2010		1 Residential Only
SonicNet, Inc.	Fixed Wireless	No Update to Provide	8/4/2011		5 Both Residential/Business
Spacenet, Inc.	Satellite	No Update to Provide			1 Residential Only
SpeedNet, LLC	Backhaul	No Update to Provide	1/7/2010		N/A Backhaul
SpeedNet, LLC	Fixed Wireless	No Update to Provide	1/7/2010		1 Residential Only
Sprint Nextel Corporation	Backhaul	No Update to Provide	1/14/2010		N/A Backhaul
T-Mobile USA, Inc.	Backhaul	No Update to Provide	1/8/2010		N/A Backhaul
The Iserv Company, LLC	Backhaul	No Update to Provide	6/21/2010		N/A Backhaul
Time Warner Cable Inc.	Cable	No Update to Provide	12/21/2009		5 Both Residential/Business
ViaSat, Inc.	Satellite	No Update to Provide	1/8/2010		1 Residential Only
Wyandotte Municipal Services	Cable	No Update to Provide	3/23/2010		1 Residential Only
XO Communications, LLC	Backhaul	No Update to Provide	2/12/2010		N/A Backhaul
Zayo Bandwidth, LLC	Backhaul	No Update to Provide			N/A Backhaul
ATI Networks, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data	2/10/2010	[AUG-18-14 Sarah Finne] Change: Provider's d/b/a name changed from Boardman River Communications, LLC to ATI Networks, Inc.	1 Residential Only
ATI Networks, Inc.	Cable	No Update Provided – Use Last Submission Data	2/10/2010	[AUG-18-14 Sarah Finne] Change: Provider name changed from Boardman River Communications, LLC to ATI Networks, Inc.	1 Residential Only
Azulstar, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data	1/27/2010		1 Residential Only
Banyan OnLine Services, LLC.	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
Bitwise Wireless, LLC	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
Camp Communication Services, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
Cherry Capital Connection, LLC	Fixed Wireless	No Update Provided – Use Last Submission Data	12/28/2009		5 Both Residential/Business
CMS Internet LLC	Fixed Wireless	No Update Provided – Use Last Submission Data	3/11/2010		1 Residential Only
Coldwater Board of Public Utilities	Cable	No Update Provided – Use Last Submission Data	3/1/2010		1 Residential Only
Coldwater Board of Public Utilities	Cable	No Update Provided – Use Last Submission Data	3/1/2010		2 Business Only
COLI, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			5 Both Residential/Business
CSInet Internet Access Corp.	Fixed Wireless	No Update Provided – Use Last Submission Data	3/31/2010		1 Residential Only
D&P Communications, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data	3/8/2011		1 Residential Only
D&P Communications, Inc.	Backhaul	No Update Provided – Use Last Submission Data	3/8/2011		N/A Backhaul
D&P Communications, Inc.	Cable	No Update Provided – Use Last Submission Data	3/8/2011		1 Residential Only

D&P Communications, Inc.	DSL	No Update Provided – Use Last Submission Data	3/8/2011		1 Residential Only
Daystarr Communications, LLC	DSL	No Update Provided – Use Last Submission Data			1 Residential Only
Daystarr Communications, LLC	Backhaul	No Update Provided – Use Last Submission Data			N/A Backhaul
Daystarr Communications, LLC	Fiber	No Update Provided – Use Last Submission Data			1 Residential Only
Endless Journey, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
Fast-Air Internet, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
FNW, LLC	Fixed Wireless	No Update Provided – Use Last Submission Data	2/12/2010		1 Residential Only
Fourway Computer Products, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
Ideal Wireless, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
Internet 123, Inc.	Backhaul	No Update Provided – Use Last Submission Data			N/A Backhaul
Invisalink Wireless Enterprises LLC	Fixed Wireless	No Update Provided – Use Last Submission Data	4/13/2010		1 Residential Only
KEPS Technologies, Inc.	DSL	No Update Provided – Use Last Submission Data			1 Residential Only
KEPS Technologies, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
Lennon Telephone Company	Cable	No Update Provided – Use Last Submission Data	1/25/2010		5 Both Residential/Business
Lennon Telephone Company	DSL	No Update Provided – Use Last Submission Data	1/25/2010		5 Both Residential/Business
Lighthouse Computers, Inc.	Cable	No Update Provided – Use Last Submission Data	2/17/2011		5 Both Residential/Business
Lighthouse Computers, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data	2/17/2011		1 Residential Only
Merit Network, Inc.	Backhaul	No Update Provided – Use Last Submission Data	6/21/2010		N/A Backhaul
Michwave Technologies, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data	3/12/2010		1 Residential Only
Network Computers, LLC	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
Nodin Communications, LLC	Fixed Wireless	No Update Provided – Use Last Submission Data	4/22/2010		1 Residential Only
Northside TV Corporation	Cable	No Update Provided – Use Last Submission Data			5 Both Residential/Business
Ogden Communications, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data	1/19/2010		1 Residential Only
Ogden Communications, Inc.	DSL	No Update Provided – Use Last Submission Data	1/19/2010		1 Residential Only
Sand Creek Communications Company	DSL	No Update Provided – Use Last Submission Data	3/2/2010		1 Residential Only
Sand Creek Communications Company	Backhaul	No Update Provided – Use Last Submission Data	3/2/2010		N/A Backhaul
Skyweb Networks, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
SMR Communications, Inc.	Cable	No Update Provided – Use Last Submission Data			1 Residential Only
SMR Communications, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
Springcom, Inc.	DSL	No Update Provided – Use Last Submission Data	2/25/2010		5 Both Residential/Business
Springcom, Inc.	Cable	No Update Provided – Use Last Submission Data	2/25/2010		5 Both Residential/Business
Summit Digital Holdings, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			5 Both Residential/Business
Summit Digital Holdings, Inc.	Cable	No Update Provided – Use Last Submission Data			5 Both Residential/Business
T2 Communications, LLC	Backhaul	No Update Provided – Use Last Submission Data	3/10/2010		N/A Backhaul
Tri-County Wireless, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
Verizon North Inc.	Backhaul	No Update Provided – Use Last Submission Data	12/14/2009		N/A Backhaul
Vision Quest Technology Solutions	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
West Michigan Broadband, LLC	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
Windstream Communications	DSL	No Update Provided – Use Last Submission Data			1 Residential Only
Windstream Communications	Backhaul	No Update Provided – Use Last Submission Data			N/A Backhaul
Windstream Communications	Backhaul	No Update Provided – Use Last Submission Data			N/A Backhaul
Xyotek, LLC	Fixed Wireless	No Update Provided – Use Last Submission Data			5 Both Residential/Business
Zing Networks, Inc.	Fixed Wireless	No Update Provided – Use Last Submission Data			1 Residential Only
ATI Networks, Inc.	Cable	Solicited Initial Data	2/10/2010		2 Business Only
ATI Networks, Inc.	Fixed Wireless	Solicited Initial Data	2/10/2010		2 Business Only
Lighthouse Computers, Inc.	Fixed Wireless	Solicited Initial Data	2/17/2011		2 Business Only
Sand Creek Communications Company	Fiber	Solicited Initial Data	3/2/2010		1 Residential Only
Windstream Communications	DSL	Solicited Initial Data			1 Residential Only
Wyandotte Municipal Services	Cable	Solicited Initial Data	3/23/2010		2 Business Only
FiberTower Corporation	Backhaul	Non-Responsive to Multiple Attempts			N/A Backhaul

M3 Wireless	Fixed Wireless	Non-Responsive to Multiple Attempts		[SEP-23-14 Wes Kerr] This company has refused to participate since March 2010. Connect Michigan personnel stopped by their office in May 2012; no one was there and the office was locked. Connect Michigan staff tried to conduct field data discovery, but there are two fixed wireless providers in their service area and none of them broadcast SSID, so it was impossible to ascertain which company was broadcasting from each located tower site to estimate coverage area.	1 Residential Only
Mutual Data Services, Inc.	Fixed Wireless	Non-Responsive to Multiple Attempts		[SEP-23-14 Wes Kerr] This company informed Connect Michigan they had participated in original state mapping program facilitated by the Michigan Department of Information Technology and it was a bad experience. Connect Michigan staff stopped by their office unannounced in January of 2011 and met the owner. He would not provide any data and has been non-responsive since that time. Attempts were made to conduct non-participating provider coverage estimation, but there are multiple fixed wireless providers in the same area and Connect Michigan staff could not correlate any SSID to this company.	1 Residential Only
Reliable Internet, LLC	Fixed Wireless	Non-Responsive to Multiple Attempts		[SEP-23-14 Wes Kerr] Connect Michigan only spoke to a company representative one time in five years, and he was adamant that he was not interested in participating. The company has no office, no registered FRN, and no active website. Connect Michigan does not know where its service area is and has no way to determine the location of service without provider assistance.	1 Residential Only
Stratos Networks, LLC	Fixed Wireless	Non-Responsive to Multiple Attempts		[SEP-23-14 Wes Kerr] Connect Michigan just became aware of this company in June 2014. Contact was made and the company owner expressed a desire to participate. Stratos develops its prop maps on MyCoverage.com, but it failed to select the option to allow Connect Michigan to pull its coverage map. CMI was able to perform validations on this company at Blue Lake Township offices where they have a transmit site. Time did not allow opportunity to conduct non-participating provider field research to develop adequate prop maps.	5 Both Residential/Business