

**OFFICIAL OCTOBER 2012 UPDATE SUBMISSION TO
THE NATIONAL TELECOMMUNICATIONS AND INFORMATION
ADMINISTRATION UNDER THE
STATE BROADBAND INITIATIVE GRANT PROGRAM FOR THE
STATE OF MICHIGAN**



October 1, 2012

TABLE OF CONTENTS

Cover Letter	3
Data Acquisition: Michigan Community Anchor Institutions Methodology.....	8
SBI Data Submission Methodology	9
Michigan Field Validation Methodology	11
Data Submission and Coverage Estimation of Non-Participating Providers	19
Accuracy and Verification: Provider Validation Methodology	19
Wireless Methodology	20
Broadband Inquiries Methodology	22
My ConnectView Methodology.....	23
Speed Test Methodology	24
Providers Deemed Non-Viable	24
Appendix A: Estimation of Non-Participating Providers.....	31
Appendix B: Broadband Provider Log.....	47

October 1, 2012

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 submission from Connected Nation on behalf of the state of Michigan's State Broadband Initiative (SBI) Grant Program, known as Michigan.

The Michigan program and its collective stakeholder community continue to be faithful and energized contributors to the National Telecommunications and Information Administration's (NTIA) SBI program. Now more than ever, the significance of complete and validated data as compiled through the Federal Communications Commission's (FCC) National Broadband Map is instrumental in forging the innovation economy of the 21st century. As the Commission relies upon this unique resource to distribute monies under the Connect America Fund, through the Universal Service Fund reform, the Michigan program equally values this data in informing meaningful program interventions relating to broadband access, adoption, and use initiatives. Truly, this coordination embodies the spirit of the SBI and demonstrates the joint effort of the NTIA, FCC, state governments, industry, and non-profits like Connected Nation as it continues to serve as a key tool for the American public and policymakers. We are proud of the role that Michigan has played in creating and maintaining such a powerful tool that has benefitted and surely will continue to benefit broadband providers, consumers, and businesses nationwide.

The artifacts that comprise this submission should be found to be compliant with the October 1, 2012, 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, Michigan: October 1, 2012

<u>NOFA Requirement</u>	<u>Data Transfer Model</u>	<u>Data Description</u>
Appendix A: 1(a)(i)	BB_Service_CensusBlock	Broadband Service Availability of Facilities-Based Providers in Census Blocks of No Greater Than Two Square Miles in Area

Appendix A: 1(a)(ii)	BB_Service_RoadSegment	Broadband Service Availability of Facilities-Based Providers by Road Segment in Census Blocks Larger in Area Than Two Square Miles
Appendix A: 1(b)	BB_Service_Wireless	Broadband Service Availability of Wireless Services Not Provided to a Specific Address
Appendix A: 3(b)	BB_ConnectionPoint_MiddleMile	Broadband Service Infrastructure Middle-Mile and Backbone Interconnection Points
Appendix A: 4	BB_Service_CAInstitutions	Community Anchor Institutions-Listing
Appendix A: 4	n/a	Community Anchor Institutions-Narratives
VII.A.1(a)	n/a	Accuracy and Verification Report
n/a	DataPackage.xlsx	Worksheets of Contact Information, Record Count, and Provider Summary Table
n/a	n/a	List of Changes and Corrections to the Dataset
n/a	n/a	Non-Participating Provider (NPP) Narratives
n/a	n/a	Broadband Provider Roster and Participation Status

In addition, this data update submission 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 2012 SBI data submission for the Michigan program. Specifically, these new requirements are:

SBI Data Transfer Model

The submission of the broadband dataset for October 1, 2012, is contained within the SBI Data Transfer Model as released on the Grantee Workspace on August 9, 2012. All efforts have been made to comply with formatting, domain, and metadata requirements to include as much information on each provider as possible.

Additional Submission Guidance

New to the semi-annual submission for October 2012 is a more robust version of the ReadMe text file. As per the template released on the Grantee Workspace on May 18, 2012, this file contains a high-level summary of the items contained within the submission, including the exact file deliverables, a description of the errors and warnings from the Check Submission report, and extraneous information of which the NTIA and other users of the dataset should be made aware.

This submission continues to follow the speed technology guidance released by the Program Office on August 9, 2012, to review speed tier codes in correspondence with technology of transmission codes. In the April 2012 submission, descriptions were provided in the

methodology paper that offered an explanation for any submitted technology of transmission and speed combinations that were outside of the expected value range. That practice continues in this submission as technology and speed combinations are reviewed and scrutinized; any questionable information supplied by providers is reviewed more in depth with the provider to ensure the information is accurately captured or a proper explanation is provided as to why the speed information should be submitted as supplied even if it falls outside the expected value range.

Also in this submission are narratives describing the data and coverage estimation of non-participating providers. While Michigan continues outreach to all providers prior to each submission period, the need to submit broadband service data for all providers regardless of their participation is evident as the SBI program continues into this sixth round of data submissions. The submission of this estimated broadband service area for providers that have not supplied data to Michigan is essential in being able to portray a more accurate depiction of the current broadband landscape.

In addition to the requirements mentioned above, please find this methodology paper to be inclusive of the ongoing section pertaining to industry mergers and acquisitions – specifically this section details any and all mergers or acquisitions that have taken place in Michigan since the April 2012 submission. The intent of this updated section is to provide a better understanding of how the broadband provider landscape has changed since the last submission cycle.

This October 2012 semi-annual data update under the SBI Grant Program continues to demonstrate our dedication to implementing the joint purposes of the Recovery Act and the Broadband Data Improvement Act (BDIA) by gathering comprehensive and accurate state-level broadband mapping data, developing state-level broadband maps, aiding in the development and maintenance of the National Broadband Map, and undertaking statewide initiatives for broadband planning.

Broadband Service Availability — Provider Outreach and Verification

This data update submission under the SBI program includes datasets for approximately 91.97 percent of the Michigan provider community, or 126 of 137 total providers. There are 124 participating providers and 2 additional non-participating providers whose estimated coverage areas have been submitted. Of the 124 participating providers, 44 supplied an update to their network or coverage area(s), while 47 have reported no change. The remaining 33 represent providers who previously supplied data but were non-responsive in the October 2012 update effort; therefore their previous dataset is being put forward as part of this compilation. A complete roster by provider depicting participation status and contact record is contained herein. Of the 11 providers that are not represented in the attached datasets, 10 have refused to participate in the voluntary program or were non-responsive to multiple contact attempts, and one provider is currently in some form of progress toward data submission but was not able to submit coverage areas at the time of this submission.

In addition to the facilities-based and middle-mile broadband providers tracked above, this submission contains datasets for four 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 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.

Michigan has also continued to perform broadband verification activities through several means. In addition to confirmation of service area(s) by each provider, Michigan conducts field validation efforts. To date, 97 (70.80 percent) providers have been validated through field verification activities. Additional details on verification activities are contained within the Field Validation Methodology.

The 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 Michigan website encountered 8,305 unique visits during this reporting period (37,702 total to date for the life of the grant awarded on December 20, 2009). Additionally, this pronounced Web activity netted 101 broadband inquiries over this same reporting period (1,477 grant inception to date). The website also provides access to the My ConnectView™ interactive mapping application, which allows consumers and broadband providers to confirm or dispute the coverage represented on the broadband inventory map. These consumer-initiated actions are facilitated through the Michigan website and the 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 Michigan mapping artifacts. Since the initial data collection and release of corresponding maps, feedback in the form of broadband inquiries has allowed Michigan to identify additional areas that are in need of field validation, which is scheduled as soon as possible.

Community Anchor Institutions

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. Since the April 2012 data submission, the CAI outreach process method has been modified to improve data collection. Specifically, the outreach process is a more focused sector-specific and relationship-oriented approach that generates more responses than general contact.

In conjunction with Michigan Public Service Commission, outreach was conducted during this data update reporting period by Michigan 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 Michigan website. During this reporting period Michigan has developed a number of new relationships with statewide associations such as the following:

Michigan Association of Counties
Michigan Community College Association

Michigan Department of Community Health
Michigan Health and Hospital Association
Michigan Local Government Management Association
Michigan Municipal League
Michigan Nonprofit Association
Michigan Primary Care Association
Michigan Township Association

Building relationships with entities such as these yields a positive impact in promoting the importance of broadband connectivity at anchor institutions and participation in this data collection process. It became apparent that these relationships are beneficial to the entire success of the Grant Program, and the CAI engagement is a logical extension of new and existing relationships. 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.

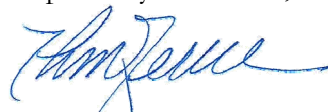
In addition to fostering and building relationships with state agencies, associations, and organizations, Michigan has also developed a sector-specific calendar that supports CAI outreach as well as research and communications efforts. This focused approach allows a corporate commitment to capturing CAI data in addition to developing meaningful sector-specific content.

Michigan is also working hard to clarify CAI information associated with wireless broadband. NTIA has requested in-depth questioning of CAI listing a wireless broadband service as their sole form of connectivity. This follow-up allows us to better understand the reason for adopting the wireless broadband service.

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 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 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 and its territories through contribution to the National Broadband Map. We look forward to the continuing work ahead and improving upon our data collection methods.

Respectfully submitted,



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

DATA ACQUISITION: MICHIGAN COMMUNITY ANCHOR INSTITUTIONS METHODOLOGY

In this sixth reporting period of the SBI, Connect Michigan, working in close coordination with the state of 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. Since the April 2012 data submission, the CAI outreach process method has been modified to improve data collection. Specifically, the outreach process is a more focused sector-specific and relationship-oriented approach that generates more responses than general contact.

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

The survey can be accessed at this link:

<http://www.surveymonkey.com/s/RTWDM66>

In addition to the survey, Connect Michigan has developed a number of new relationships with statewide associations such as: Michigan Association of Counties, Michigan Community College Association, Michigan Department of Community Health, Michigan Health and Hospital Association, Michigan Local Government Management Association, Michigan Municipal League, Michigan Nonprofit Association, Michigan Primary Care Association, and Michigan Township Association to promote the importance of broadband connectivity at Community Anchor Institutions and participation in this data collection process. It is apparent that these relationships are beneficial to the entire success of the grant program, and the CAI engagement is a logical extension of new and existing relationships. Connect 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.

In addition to fostering and building relationships with state agencies, associations, and organizations, Connect Michigan has also developed a sector-specific calendar that supports CAI outreach as well as research and communications efforts. This focused approach allows a corporate commitment to capturing CAI data in addition to developing meaningful sector-specific content.

Connect Michigan conducts significant research as part of an ongoing process to identify existing, centralized sources for CAI connectivity data. In tandem with these efforts to identify existing data, Connect 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. Also, when possible, Connect Michigan works with the Michigan Public Service Commission to identify existing relationships that can support CAI outreach.

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.

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 CAI connectivity (specifically upload and download speeds). Connect Michigan will continue to research key CAI organizations and agency contacts in an effort to raise awareness of this project among CAI. When applicable, the Michigan Public Service Commission will continue to be briefed on the current CAI data and provided information so it can assist with outreach and promotion within the state.

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

CAI Type	Total	Physical Address	Lat/Long	Technology of Transmission	Download Speed	Upload Speed
K-12 Schools	4612	4612	4608	356	327	328
Libraries	2300	2300	2296	897	900	38
Healthcare	259	259	258	4	4	4
Public Safety	956	956	949	18	17	17
Higher Ed Institutions	242	242	238	35	34	34
Other Government	89	89	88	26	23	23
Other Non-Government	512	512	512	8	7	7
Total	8,970	8,970	8,970	1,344	1,312	451

During the coming months, CAI data collection will be supported by regular reporting to the Connect Michigan team. The CAI data is proving 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, 2012, is contained within the SBI Data Transfer Model and additional components as released on the Grantee Workspace on August 9, 2012. Connected Nation (CN) has reviewed all literature that relates to the release and use of this data transfer model and recognizes that it does not replace or dictate how data is stored, processed, or displayed for the state, as it is meant primarily as a means to transfer the broadband data from all states and territories and populate the National Broadband Map in a seamless fashion.

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

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

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, 2012

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

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.

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. Process development is underway at CN as well to be able to create more granular satellite coverage based on satellite equipment positioning and geographic inputs.

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 and Trips;
- locating physical wire-line attributes (such as Central Offices, Remote Terminals, CATV plant, etc.) and comparing them against provider submitted data; and
- conducting on-net and off-net speed tests using the FCC portal at <http://www.broadband.gov/qualitytest/about/> or using the Ookla Net Metrics enabled speed test utility located on each of CN's program specific websites.

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

To date, Connected Nation's staff conducted on-site validation tests in Michigan on the following providers: 2020 Communications LLC (d.b.a. 123 Net); ACD Net; Ace Telephone Company of Michigan Inc. (also d.b.a. Peninsula Telephone Company); Agri-Valley Communications Inc.(also d.b.a. Pigeon Telephone Company); Air Advantage (also d.b.a. Bigtube Wireless, Great Lakes Internet, and Internet 123.net); AIRGRANT; Allendale Telephone Company; AT&T; Azulstar Inc.; Banyon Online Services LLC; Baraga Telephone; Barry County Telephone; Bitwise Wireless; Bloomingdale Communications Inc.; Boardman River Communications LLC; Cable America Michigan LLC; Camp Communication Services Inc.; Carr Communications; CenturyLink; Charter Communications; Cherry Capital Connection LLC; Clearwire Corporation; CMS Internet LLC; COLI Inc.; Comcast Cable Communications LLC; Crystal Automation Systems Inc. (d.b.a. Casair); Custom Software Inc.; D&P Communications Inc.; DMCI Broadband LLC; Dreamscape Communications; Drenthe Telephone Co.; Fourway Computer Products Inc. (d.b.a. Fourway.net); FreedomNet Solutions; Frontier Communications Corporation; Halo Wireless Inc.; Hiawatha

Telephone (d.b.a. Jamdots and Chippewa Valley Telephone); Hidden Lake Wireless Inc.; I-2000 Inc.; Interlink Computers Technology Inc.; Iron Bay Computer and Design; ISP Management; KEPS Technologies Inc. (d.b.a. ACD.Net); LakeNet LLC; Leap Wireless International Inc.; Lennon Telephone; Lighthouse Computers; M3 Wireless; M33 Access; Martell Cable Services Inc.; Merit Network; MetaLINK Technologies Inc.; MetroPCS Wireless Inc.; Michigan Cable Partners; Michwave Technologies Inc.; Microtech Services Inc.; Mutual Data Services; NCATS; Network Computers LLC.; Nodin Communications; Ogden Communications Inc.; Packerland Broadband; PAETEC Communications Inc. (d.b.a. Talk America Inc.); Parish Communications; Pasty.Net Inc.; Peninsula Fiber Network LLC; Reliable Internet; Rural Communications Inc.; Sister Lakes Cable TV; Skyweb Network Inc.; Small Business Solutions Group (d.b.a. RuralReach.com); SMR Communications Inc. (d.b.a. Michiana Supernet); SpeedNet LLC; Springcom Inc.; Sprint Nextel Corporation; T2 Communications LLC; TC3Net; TDS Telecommunications Corporation; The ISERV Company; Time Warner Cable; T-Mobile; Town & Country CATV; Tri-County Wireless Inc.; Tucker Communications Inc.; Upper Peninsula Telephone (d.b.a. LIPC and Alphacomm.net); Verizon North Inc.; Vision Quest Technology Solutions; Vogtmann Engineering; Waldron Telephone Company; West Michigan Broadband; Wide Open West (d.b.a. Broadstripe); Winn Telephone Company; Wireless Technology Solutions; Wyandotte Municipal Services; Xyotek; and Zing Networks Inc.

In addition to the field verification tests that have been conducted, Connected Nation has also conducted work in the field to collect information for the non-participating providers (NPP), Bitwise Wireless LLC and Dreamscape Communications, which, by nature of the methodology required for this collection, are also included in the above list.

From program initiation through this reporting period, CN has completed in-the-field validation testing against 97 companies (out of a universe of 137 viable providers) totaling 70.80 percent within the state of Michigan. This percentage also considers the non-participating provider records submitted to NTIA as may be contained herein (see “Data Submission and Coverage Estimation of Non-Participating Providers” below).

CN has also continued to review provider datasets for accurate speed information, platform listings, and other intricacies that may fall outside of the standard SBI Data Transfer Model parameters, as published on the NTIA Grantee Workspace on August 9, 2012. Any providers whose submitted coverage and attributes are anticipated to come into question have been further reviewed and confirmed; details on a case-by-case basis are presented below.

AIRGRANT.COM, INC.

Issue: Fixed wireless platform with maximum advertised download and upload speeds in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises 10 Mbps service; screenshot below. In addition, provider confirmed that tier 7 upload speeds are available.

Residential as of 7/2012	
\$45.00	768Kbps
\$55.00	1.5Mbps
\$65.00	3Mbps
\$75.00	6Mbps
\$85.00	10Mbps

AT&T, Inc.

Issue: DSL platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises download speed of up to 24 Mbps; screenshot below.

Compare Internet Packages					
	Pro	Elite	Max	Max Plus	Max Turbo
Standard Monthly Rate	\$38*	\$43*	\$48*	\$53*	\$63*
Downstream Speed	Up to 3 Mbps	Up to 6 Mbps	Up to 12 Mbps	Up to 18 Mbps	Up to 24 Mbps

Barry County Telephone Company

Issue: DSL platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises 10 Mbps; screenshot below.

<p>10Mb/1Mb [†]</p> <p>150 X's FASTER than Dial up...</p> <p>\$99.00 * per month</p> <p>7 hours free USA long distance!</p> <p>(select MEI Long Distance as your carrier)</p>	<p>10Mb/1Mb [†] + 5 Features + Unlimited Long Distance</p> <p>150 X's FASTER than Dial up... (select MEI Long Distance as your carrier)</p> <p>\$79.90 * per month</p> <p>Call Waiting, Caller ID, Voicemail, 3-way calling, and Call Forwarding</p>
---	--

Bright House Networks, LLC

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

Resolution: Provider website advertises 40 Mbps; screenshot below.

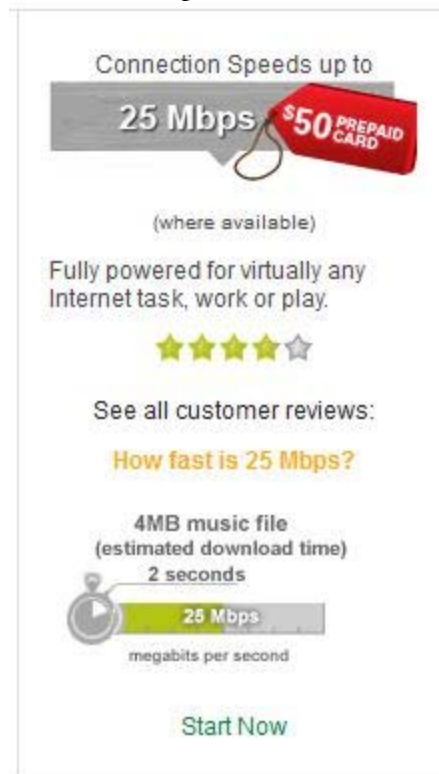
Features

- Choice of speeds up to 40 Mbps
- PowerBoost™, available with Road Runner Turbo – giving you the speed you need for a fast Web experience
- Always-on Internet connection that allows you to be on the Internet and your Home Phone at the same time
- Up to 25 email accounts
- Wireless home networking available
- Free advanced features like spam blockers, personal firewall and anti-virus protection
- No contracts to sign or equipment to buy

CenturyLink

Issue: DSL platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

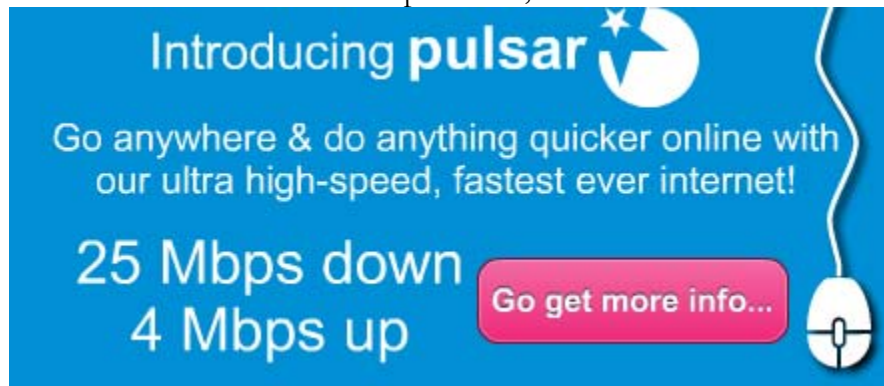
Resolution: Provider website advertises 25 Mbps; screenshot below.

A screenshot of a CenturyLink website page. At the top, it says 'Connection Speeds up to 25 Mbps' in a grey box. To the right of this is a red tag that says '\$50 PREPAID CARD'. Below this, it says '(where available)'. Then, it says 'Fully powered for virtually any Internet task, work or play.' followed by five yellow stars. Below the stars, it says 'See all customer reviews:'. Then, it says 'How fast is 25 Mbps?' in orange. Below that, it says '4MB music file (estimated download time) 2 seconds'. Then, there is a green progress bar with a play button icon on the left, and the text '25 Mbps' in the middle, with 'megabits per second' below it. At the bottom, there is a green button that says 'Start Now'.

Hiawatha Communications, Inc.

Issue: DSL platform with maximum advertised download speed in tiers 7 and 8, higher than expected value range for the technology.

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

**KEPS Technologies, Inc.**

Issue: DSL platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises 20 Mbps; screenshot below.

ACD.net 20Mbps ADSL2+ Broadband	\$59.95
1st 3 Months @ \$39.95*	
Benefits:	
<ul style="list-style-type: none">● Up to 20Mbps download and 1.5Mbps upload speeds● Email Virus Scanning● Email Spam Filters - User Configurable● Online Web Interface Email● Free Dialup Account● CustomerAccount access for online billing & support● Phone Service Not Required!	

MegaPath, Inc.

Issue: DSL platform with maximum advertised download speed in tiers 7 and 8, higher than expected value range for the technology.

Resolution: Provider website advertises 20 Mbps and 45 Mbps service; screenshots below.

DSL service provides download speeds up to 20 Mbps over a nationwide, multi-redundant private network that optimizes performance and security. DSL is an ideal broadband solution for small and medium-sized businesses that download large files or use the Internet extensively.

For maximum connectivity at a minimum cost, there's no greater value than MegaPath Business Ethernet. Choose the bandwidth—2 Mbps up to 45 Mbps—that best fits your business' needs.

Newaygo County Advanced Technology Services

Issue: Fixed wireless platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises 10 Mbps service; screenshot below.

Broadband:

\$45 768 Kbps

\$55 1.5 Mbps

\$65 3 Mbps

\$75 6 Mbps

\$85 10 Mbps

SpeedNet, LLC

Issue: Fixed wireless platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises 10 Mbps; screenshot below.

Saginaw, MI – SpeedConnect, a premium wireless broadband provider offering services designed to support high usage demands, announced today it will launch a 4G network, providing up to 10Mbps x 2Mbps connections, throughout Michigan. The new network, deployed by Huawei using the company's SingleRAN solution, will offer comprehensive and secure fixed and mobile broadband solutions for homes and businesses in the Thumb of Michigan.

T-Mobile USA, Inc.

Issue: Mobile wireless platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises download speeds greater than tier 6; screenshot below.

T-Mobile customers with 4G phones are already experiencing data speeds that are comparable to or faster than the speed of a home broadband network. And with recent improvements to our 4G network-doubling our theoretical download speeds-we're giving our customers enhanced 4G data speeds. We've seen average download speeds on our HSPA+ 42 Mbps-capable data stick approaching 10 Mbps with peak speeds of 27 Mbps, and download speeds approaching 8 Mbps with peak speeds of 20 Mbps on our upcoming HSPA+ 42 Mbps-capable smartphones.

TDS Telecom

Issue: DSL platform with maximum advertised download speed in tiers 7 and 8, higher than expected value range for the technology.

Resolution: Provider website advertises 15 and 25 Mbps; screenshot below.

A screenshot of the TDS Telecom website showing three internet plans. Each plan is represented by a header, a speedometer icon, a description, and a 'Check Availability' button. The 25Mbps plan is described as 'High-Speed Internet' and mentions handling simultaneous connections. The 15Mbps plan is also 'High-Speed Internet' and mentions video watching and gaming. The 5Mbps plan is 'Broadband Internet' and mentions faster online tasks.

25Mbps High-Speed Internet 
▶ Check availability to see pricing information!

This speed makes it easy to handle simultaneous connections from multiple devices in the home. You can stream video, download large files, play online games, etc. all at the same time.

Check Availability ▶

15Mbps High-Speed Internet 
▶ Check availability to see pricing information!

Serious Internet speed for serious Web surfers. Great for video watchers, gamers, and those who work from home but don't care for the new meaning of whoosh.

Check Availability ▶

5Mbps High-Speed Internet 
▶ Check availability to see pricing information!

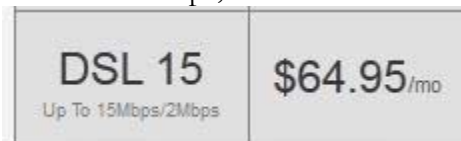
5Mbps Broadband Internet makes everything you do online faster and easier. Enjoy a fast high-speed connection, and quicker uploads and downloads.

Check Availability ▶

The Computer Care Company, Inc.

Issue: DSL platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises 15 Mbps; screenshot below.

A screenshot of a website showing a DSL 15 plan. The plan is listed as 'DSL 15' with 'Up To 15Mbps/2Mbps' and a price of '\$64.95/mo'.**The Iserv Company, LLC**

Issue: DSL platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises 10 Mbps; screenshot below.

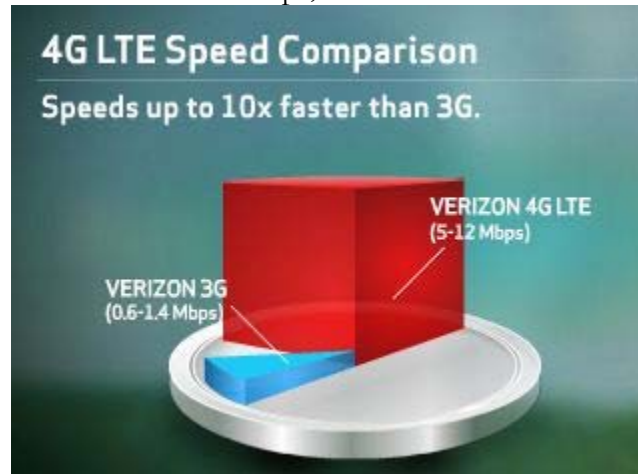
Internet Connections

Surf, download, Tweet, connect with friends, catch the news – with everything from Digital Broadband options up to 10Mb starting at \$19.95 per month to Residential T1 lines if that's what you need.

Verizon North, Inc.

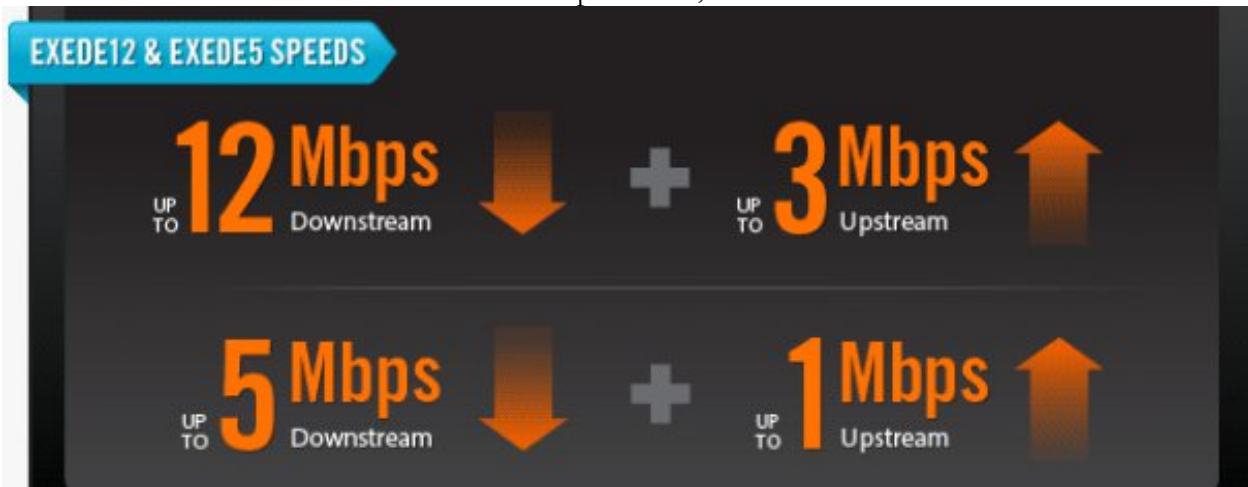
Issue: Mobile wireless platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises 12 Mbps; screenshot below.

**ViaSat, Inc.**

Issue: Satellite platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises 12 Mbps service; screenshot below.

**Vision Quest Technology Solutions**

Issue: Fixed wireless platform with maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider advertises 12 Mbps service on their direct mail pieces, but has not yet updated their website.

DATA SUBMISSION AND COVERAGE ESTIMATION OF NON-PARTICIPATING PROVIDERS

As part of its ongoing broadband mapping efforts, CN has developed a series of processes with the goal of submitting coverage estimation mapping data to NTIA for every known and qualifying last-mile broadband provider, regardless of platform type (cable modem, DSL, fixed wireless, etc.). This state specific collection of coverage estimation methodology papers (see Appendix A) demonstrates the estimated broadband service territory for the providers in this state that have either been non-responsive or that have refused to participate in the SBI mapping initiative.

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, CN translates and formats the data that providers are able to supply into a GIS shapefile and produces maps for the provider to review. The resulting map(s) and review process allow for providers to see their service area in a geographic format – for some providers, this is the first time they have seen maps of their broadband service area. Having the mapped service area allows providers to quickly identify any issues that appear in the data representation, whether the issue is in the data translation into a GIS format or from the original data collection and submission. Often data is provided from various sources and through the review and revision process, local engineers who operate the networks and work in the field are able to ensure that the tabular data that has been submitted is accurate and represents the real-world network extent. Any issues in how the service area is represented on the map(s) are remedied by CN, whether they are additions, removal of service, or any other revisions. Revised maps of service area representations are sent to the provider for review and approval; CN will revise data and return maps as many times as necessary until the provider is in agreement that the map represents their service area as accurately as possible. Once the review process has been completed and final approval of the data is provided, the data is deemed ready for NTIA submission.

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

Additionally, NPP narratives that were submitted in previous mapping cycles are subjected to the same level of scrutiny. Occasionally, a provider may elect to voluntarily participate (thus eliminating

the need for future data estimation activities in the field). However, more often than not, the NPP narrative is updated with a combination of data gleaned from the provider's website, data obtained through FCC research and/or data collected/verified in the field by a CN staff engineer.

Estimates derived from provider-validated data indicate that approximately 1.29 percent of Michigan households do not have terrestrial fixed broadband service available, and approximately 0.09 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 2.20 percent of rural Michigan households do not have terrestrial fixed broadband service available, and approximately 0.16 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. This research often proves to be exceptionally effective when estimating the coverage area of an NPP.
6. The primary population center(s) being served (for geopolitical boundary reference).

7. The physical address of the transmit site (in the event latitude/longitude is unavailable from the provider this allows a quick reference point for geocoding).
8. Latitude in either Degrees, Minutes, and Seconds and/or in Decimal Degrees (typically received as NAD 27 or NAD 83).
9. Longitude in either Degrees, Minutes and Seconds and/or in Decimal Degrees (typically received as NAD 27 or NAD 83).
10. Antenna pattern (e.g. omni-directional, 180°, 120°, 90°, etc.).
11. Azimuth of antenna (e.g. 360° with magnetic declination if known).
12. Approximate transmit radius (in feet, miles, or kilometers).
13. Polarity of transmit antenna (Vertical or Horizontal).
14. Transmit antenna gain (in dBi).
15. Line loss (applicable only to providers using coax, heliax, waveguide or other forms of cabling – excludes power-over-Ethernet devices).
16. Mechanical and/or Electrical beam tilt (if applicable).
17. Equipment Manufacturer (allows easy cross-reference against manufacturer's specification sheet).
18. Power output of the transmitting device (if unknown, FCC standards or manufacturer specifications are applied).
19. AMSL at base of tower site.
20. Antenna centerline AGL (height of antenna above ground level measured at the centerline of the actual antenna).
21. Foliage factors (Evergreens/Deciduous and percent of ground cover).
22. Ground Clutter (primarily used in rural areas to account for foliage and in metropolitan areas to account for types and heights of buildings if known).
23. Average gain of receive antenna.
24. Receive antenna is estimated at height above average terrain (HAAT) of 6.2 meters/20 feet.
25. Federal Registration Numbers (if applicable) which may allow opportunities to cross-reference and/or obtain additional data from the FCC's ULS and the **COMmission REGistration System**.

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

characteristics of a selected frequency range based on defined variables (receiver sensitivity of the home/mobile device, foliage factor, and digital elevation terrain input).

After converting propagation models into a geospatial format, additional processing is completed to remove the small pixels representing service present in the resulting dataset. These areas are initially created based on the parameters entered in the software from the provider equipment information, the underlying data parameters of elevation, 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

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

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

New BBIs are assigned to either the GIS department or the Engineering & Technical Services (ETS) team depending on the category entered by the consumer on the website submission form. The GIS or ETS team members respond to each inquiry according to the information 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 CN state programs with successful results. Altogether CN has received over 18,600 broadband inquiries since 2007, allowing the state programs to evaluate each inquiry for broadband demand and data verification. These inquiries are continuously examined against current broadband availability, updated every six months, to determine if previously unserved households have been expanded to and can now receive broadband at their residence. This database of broadband inquiries has also allowed the CN state programs to aggregate demand in concentrated areas to show providers the exact locations where the population has made it clear that they would purchase broadband if it was made available to them. Providers in the states have responded to this process and have expanded to areas knowing that their investment will be worthwhile. Data verification methods have also proven successful, as the state programs have been able to show those inquiries that indicate the broadband service areas are misrepresented on the map to providers, who then verify where service cannot reach in regard to that residence(s). The broadband coverage in these states has been altered to create a more accurate map based on the inquiries submitted by the public.

During this reporting period, the Connect Michigan project has received a total of 101 inquiries (1,477 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.

MY CONNECTVIEW METHODOLOGY

My ConnectView is an online, interactive 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 2,956 visits this reporting period; to date the interactive mapping applications have received 11,300 visits.

SPEED TEST METHODOLOGY

The 6,855 speed tests that are represented in the Connect Michigan Speed Test Report during this reporting period (18,239 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 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.

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 2012 submission because they have been deemed non-eligible under the parameters and guidance of the SBI grant program. This list of companies includes, but is not limited to: providers offering service but below the current definition of broadband, those that have gone out of business, technology consulting firms, infrastructure or network construction companies, non-facilities based general resellers, etc.

	Company Name	URL	Comments
1	20/20 Communications, LLC	n/a	Company has been sold to another area WISP.
2	21Globe, Inc.	n/a	Company is no longer in business.
3	650Net	http://www.650net.net/	This company provides dial-up only in Michigan.
4	A 007 Access	n/a	Acquired by another company.
5	Aaccess Network Communications	n/a	Not a broadband provider.
6	Access123.net	http://www.access123.net/	Not a broadband provider.
7	ACERX.NET	n/a	Not a broadband provider.
8	Airbaud, Inc	http://www.airbaud.net/	No longer a fixed wireless provider in Michigan.
9	Airespring, Inc.	http://www.airespring.com	Nonfacilities-based reseller.
10	Airewaves Broadband, LLC	n/a	Company is no longer in business.
11	Airmail247.com	n/a	Company is no longer in business.
12	All-In-One Wireless, Inc.	n/a	No longer in business; acquired by another company.
13	Antioch Wireless Broadband	www.antiochwirelessbroadband.com/	Not a broadband provider.
14	Arrowheadnet.com	http://www.arrowheadnet.com/	Not a broadband provider
15	bargainisp.net	http://www.bargainisp.net/	Not a broadband provider.
16	Bayville Wireless	n/a	Company is no longer in business.
17	Beanstalk Internet	n/a	Company is no longer in business.
18	Beaver Island Broadband, Inc.	n/a	Not a broadband provider.
19	BlazeConnect, Inc.	n/a	Company is no longer in business.
20	Blue Communications, LLC	http://www.bluecommunicationsllc.com	Not a broadband provider.
21	Broadband National	http://www.broadbandnational.com	Nonfacilities-based reseller.
22	Broadview Networks Holdings, Inc.	http://www.broadviewnet.com	Not a Michigan provider.
23	BullsEye Telecom, Inc.	http://bullseyetelecom.com	Nonfacilities-based reseller.
24	Cable Vision, Inc.	n/a	Company is no longer in business.
25	Cablemax Communications	n/a	Company is no longer in business.

26	CAC MediaNet, Inc.	n/a	Not a broadband provider.
27	Camino-Net Internet Services	http://www.camino-net.com	This company provides dial-up only in Michigan.
28	Caspian Community TV Corporation	n/a	Not a broadband provider.
29	CCIS.net	http://www.ccis.net	Not a Michigan provider.
30	Celito Communications	http://www.celito.net/	Nonfacilities-based reseller.
31	CIMCO Communications, Inc.	n/a	This company is not a broadband provider.
32	City of Crystal Falls	http://www.crystalfalls.org/Electric%20Department.htm	This company is not a broadband provider.
33	City of Negaunee	http://cityofnegaunee.com/Cable.html	This company is not a broadband provider.
34	Clear Rate Communications, Inc.	http://clearrate.com/	This company provides dial-up only in Michigan.
35	Cleartouch.Com	n/a	Company is no longer in business.
36	CMC Telecom, Inc.	http://cmctelecom.net	Nonfacilities-based reseller.
37	Deltaforce	http://www.deltaforce.net	Nonfacilities-based reseller.
38	deluxehost.com	http://deluxe-host.com	This company is not a broadband provider.
39	DGUI	n/a	Company is no longer in business.
40	Dial National	n/a	Company is no longer in business.
41	Dialer.net	http://www.dialer.net	Nonfacilities-based reseller of mobile 3G services.
42	DIECA Communications, Inc.	http://www.covad.com/	Company has been acquired by another company.
43	DSTech	http://www.dstech.us/	They only provide wireless hotspots for the City of Escanaba and are not a fixed wireless provider.
44	DTS-NET.COM	http://www.dts-net.com/	Nonfacilities-based reseller.
45	Dundee Internet Services, Inc.	n/a	Company is no longer in business.
46	Eagles Internet Services	n/a	Company is no longer in business.
47	Enventis Telecom Inc.	http://www.enventis.com	Company does not provide broadband services in Michigan.
48	ETI - Connecting Your World	http://www.cyberenet.net/	Nonfacilities-based reseller.
49	Fast Dependable Access	n/a	Company is no longer in business.
50	First Communications,	www.firstcomm.com	Company has been non-responsive.

	LLC		
51	Global Crossing Telecommunications, Inc.	http://www.globalcrossing.com/	Acquired by another company.
52	Grid4 Communications, Inc.	http://www.grid4.com	Nonfacilities-based reseller; company has refused to participate.
53	Holland Board of Public Works	http://www.hollandbpw.com	This company is not a broadband provider.
54	Hubwest Protected Networks LLC	http://www.hubwest.com	Company does not provide broadband services in Michigan.
55	Imbris, Inc.	http://www.imbris.com	Company does not provide broadband services in Michigan.
56	IMGISP.NET	http://www.imgisp.net/	This company is not a broadband provider.
57	Incredible Networks	n/a	Company is no longer in business.
58	Industrial Grade Broadband, LLC	n/a	This company is not a broadband provider.
59	Inercom Communications Inc.	http://www.inercom.com	Company is no longer in business.
60	Interactiveinfo.com Inc	http://www.rocketbroadband.com	Company does not provide broadband services in Michigan.
61	International Broadband Electric Communications, Inc.	http://ibec.net	This company is not a broadband provider.
62	Intouch Internet Services, Inc.	http://www.intouchmi.com	Nonfacilities-based reseller.
63	iRadical	n/a	Company is no longer in business.
64	ISG	http://www.leapfrogbroadband.com	This company is not a broadband provider.
65	ISPartner.net	n/a	Company is no longer in business.
66	ITWiFi, Inc.	http://www.fnw.us/	Company has been sold to another area WISP.
67	Jackpine Internet	http://www.jackpine.com	Nonfacilities-based reseller.
68	Jenco Speed Web	http://www.jencospeed.net	Company does not provide broadband services in Michigan.
69	LARIAT.NET	http://www.lariat.net/	Company does not provide broadband services in Michigan.
70	LCSisp.com	http://www.lcsisp.com/index.cfm	This company provides dial-up only in Michigan.

71	Lightyear Network Solutions, LLC	http://lightyear.net	Nonfacilities-based reseller.
72	LinkAmerica.Net	n/a	Company is no longer in business.
73	Local Exchange Networks of Michigan, Inc.	n/a	Company is no longer in business.
74	M55 WiFi Wireless Internet Service	http://www.m55wifi.net/	No longer in business.
75	MainBoard, LLC	http://www.mainboard.cc/internet.htm	Company does not provide broadband services in Michigan.
76	Maine Cable and Wireless	n/a	Company is no longer in business.
77	Maple River Networks, LLC	n/a	Company is no longer in business.
78	Marcin Company	n/a	Company is no longer in business.
79	MediaNet	n/a	Company is no longer in business.
80	Metropolitan Telecommunications Holding Company	http://www.mettel.net	Non-facilities based reseller.
81	Mich1 Internet, Inc.	http://www.mich1.net	Nonfacilities-based reseller.
82	Michiana Wireless, Inc.	http://www.michianawireless.com	Company does not provide broadband services in Michigan.
83	Michigan Department of Information Technology	http://www.michigan.gov/dit/	This company is not a broadband provider.
84	Microwave Communications, Inc.	n/a	This company is not a broadband provider.
85	Midwest Communications Services, Inc.	http://mwcomm.com	This company is not a broadband provider.
86	Midwest Energy Cooperative	http://teammidwest.com/	No longer a broadband provider.
87	Millenicom Inc.	http://www.millenicom.com	Oregon-based reseller of mobile broadband plans.
88	MIMesh	http://www.mimesh.com	This company is not a broadband provider.
89	Nanomega.Com	n/a	Company is no longer in business.
90	NetAccess, Inc.	http://www.nas.net/	This company is not a broadband provider.
91	NetSpeed Online	n/a	Company is no longer in business.
92	New Edge Network,	www.newedgenetworks.co	Acquired by another company.

	Inc.	m	
93	Nextlink Wireless, Inc.	n/a	Company does not provide broadband services in Michigan.
94	Northern Michigan Online	http://www.nmo.net	This company is not a broadband provider.
95	Northwest ISP	www.northwestisp.com/	Company is no longer in business.
96	NSIGHTTEL WIRELESS, LLC	www.nsighttel.com	Company does not provide broadband services in Michigan.
97	Overarch Broadband	www.overarch.com	Company does not provide broadband services in Michigan.
98	Pacific Internet Exchange	n/a	Company does not provide broadband services in Michigan.
99	PAETEC Communications, Inc.	http://www.paetec.com/	Acquired by another company.
100	Paknet Limited	n/a	This company is not a broadband provider.
101	Planet Online	www.planetonline.net/	This company is not a broadband provider.
102	PremoWeb	n/a	This company is not a broadband provider.
103	Raser, Inc.	http://www.wmis.net/	Company has been non-responsive.
104	Renaissance Networks	www.renaissancenetworks.com/	This company is not a broadband provider.
105	Rural Communications, Inc.	http://www.ruralcommunications.net/	No longer in business.
106	Saturn Telecommunication Services, Inc.	n/a	Acquired by another company.
107	Seneca Communications	www.senecacommunications.com	This company is not a broadband provider.
108	Simply Dialup A Metrogeek Company	www.simplydialup.com/	This company is not a broadband provider.
109	Sling Broadband	www.slingbroadband.com/	Company does not provide broadband services in Michigan.
110	Star Video	n/a	Company is no longer in business.
111	State of Michigan	n/a	Not a broadband provider.
112	StoneBridge Wireless Broadband	n/a	Acquired by another company.
113	Surferz.Net	www.surferz.net/	This company is not a broadband provider.

114	T1 Shopper	www.t1shopper.com	Non-facilities based reseller.
115	Talk America Inc.	n/a	Acquired by another company.
116	Telefonica USA, Inc.	www.telefonica.com/	Company does not provide broadband services in Michigan.
117	TelNet Worldwide, Inc.	www.telnetww.com	Company has been non-responsive.
118	Telovations, Inc.	www.telovations.com	Company does not provide broadband services in Michigan.
119	Thumbnet	n/a	Acquired by another company.
120	Total Access Networks, Inc	n/a	Not a broadband provider.
121	TRANSWORLD NETWORK, CORP	n/a	Not a broadband provider.
122	True Connections, LLC	n/a	Company is no longer in business.
123	TSISP.NET	n/a	Company is no longer in business.
124	TVC Inc.	www.tvcinc.com	Not a broadband provider.
125	University Corporation for Advanced Internet Development	n/a	Not a broadband provider.
126	UNUM Telecommunications, Inc.	n/a	Company does not provide broadband services in Michigan.
127	WilTel Communications, LLC.	n/a	Acquired by another company.
128	WingsComm Communications	n/a	Company is no longer in business.
129	Wireless First LLC	n/a	Acquired by another company.
130	Wireless Roanoke, Inc.	n/a	Company is no longer in business.
131	Wireless Ypsi	www.wireless.ypsi.com	Company provides free hotspots in Ypsilanti area.
132	wisbin	www.wisbin.com/	Company does not provide broadband services in Michigan.
133	www.AmericanAngel.us	www.AmericanAngel.us	Company is no longer in business.
134	YEEZOO.NET	www.yeyzoo.net/	Not a broadband provider.
135	YLISP (Your Local ISP)	www.itsyournet.com	Not a broadband provider.
136	YourT1Wifi.com	www.yourt1wifi.com/	Company does not provide broadband services in Michigan.
137	Z-Comm, LLC	n/a	Company is no longer in business.
138	ZOOM Internet Services, LLC	n/a	Acquired by another company.

APPENDIX A: ESTIMATION OF NON-PARTICIPATING PROVIDERS

Bitwise Wireless, LLC

Dreamscape

BITWISE WIRELESS, LLC

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

The following narrative provides detail regarding the recent data collection and coverage estimation activities related to Bitwise Wireless, LLC, a wireless Internet service provider (WISP), located in Davison, Michigan, with a service area around Genesee and Lapeer counties. The narrative will include information regarding how and where CN obtained publicly available data and the on-the-ground validation and site verification techniques that support the underlying data.

Background

Historically, CN staff members have continued trying to obtain the participation of the provider with 18 instances of communication via telephone and e-mail sessions since May 24, 2011, through February 21, 2012. Telephone discussions were held with a company representative June 13, 2011, and January 3, 2012, with a response of wanting to participate, but too busy to collect the data necessary to develop propagation maps on its own. Additionally, a CN staff member visited the business office of Bitwise Wireless, LLC on January 25, 2012, to discuss the broadband mapping project in person with Bitwise Wireless staff. A company representative provided certain transmit site locations and broadcast frequencies.

Recently, a CN staff member spoke with a company representative on June 6, 2012, and August 29, 2012. The company representative stated they would like to participate in the Connect Michigan broadband mapping program, but they simply do not have the time to accumulate their tower site information for reporting purposes. They appreciate the propagation coverage maps that CN has provided as part of the last coverage estimation document and feel that the propagation studies are accurate. In fact, Bitwise Wireless, LLC has posted the CN produced map on their website to show prospective customers the broadband coverage area (see second illustration under Exhibit B – note the CN embedded “Confidential” watermark clearly present on the illustration).

The Issue

CN staff e-mailed technical data and propagation maps to Bitwise Wireless, LLC, though its lack of responsiveness since January 25, 2012, has predicated its inability to participate in the Connect Michigan broadband mapping initiative simply because of a lack of resources.

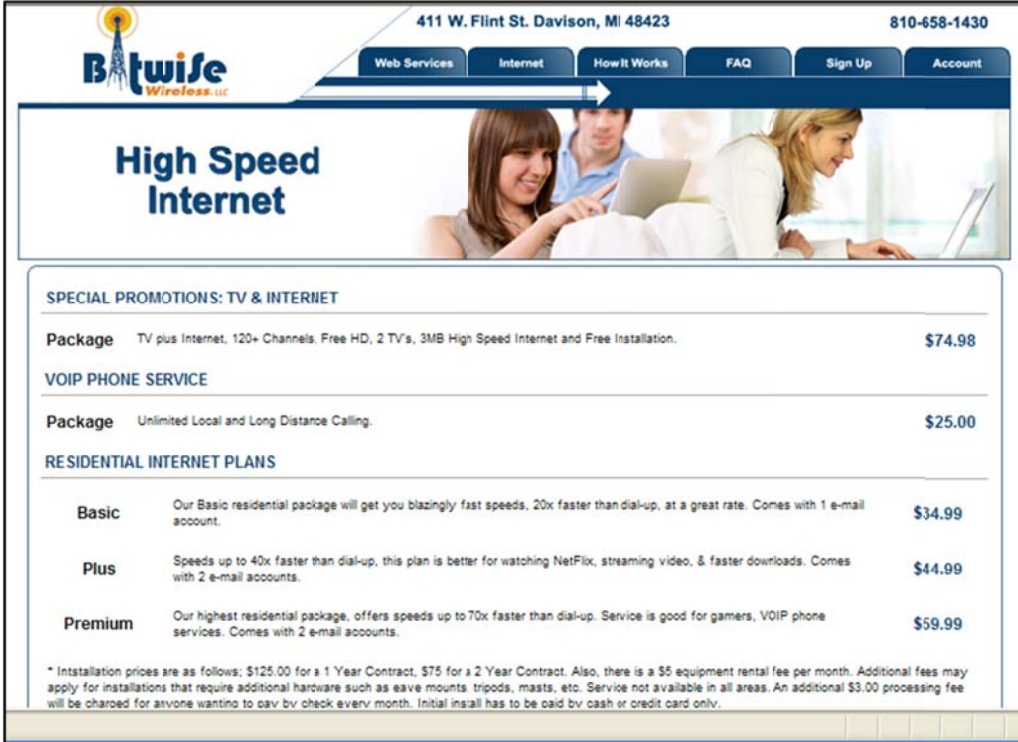
Though Bitwise Wireless, LLC has indicated they want to participate in the Connect Michigan broadband mapping program, they have yet to submit the necessary tower site information needed to produce propagation modeling.

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

CN has built a file based on research information and, as time progressed, enriched the file with information obtained through the public domain and on-the-ground data collection and site verification. For example, CN reviewed the provider’s website (<http://www.bitwisewireless.com>)

to determine the residential service plans (**Exhibit A**) and the service areas (**Exhibit B**) of the provider's wireless network. A search for a Federal Registration Number (FRN) on the FCC **CO**mmission **RE**gistration **S**ystem (CORES) system yielded an FRN of 0019402494 (**Exhibit C**) with contact information relative to the owner of the company. Also, to support field validation of access points, the FRN was referenced against the FCC Universal Licensing System (ULS) to identify any spectrum authorizations that may be held by the provider that could supplement the dataset of estimated coverage by isolating and identifying active wireless access points for the service area. This process yielded license WQLJ361 (**Exhibit D**), Radio Service: NN - 3650-3700 MHz with 0 active locations.

Exhibit A: Service Plans



The screenshot shows the Bitwise Wireless website. The header includes the company logo, address (411 W. Flint St. Davison, MI 48423), phone number (810-658-1430), and navigation links (Web Services, Internet, How It Works, FAQ, Sign Up, Account). The main banner features the text "High Speed Internet" and a photo of three people using laptops. Below the banner, there are sections for "SPECIAL PROMOTIONS: TV & INTERNET", "VOIP PHONE SERVICE", and "RESIDENTIAL INTERNET PLANS".

SPECIAL PROMOTIONS: TV & INTERNET		
Package	TV plus Internet, 120+ Channels, Free HD, 2 TV's, 3MB High Speed Internet and Free Installation.	\$74.98

VOIP PHONE SERVICE		
Package	Unlimited Local and Long Distance Calling.	\$25.00

RESIDENTIAL INTERNET PLANS		
Basic	Our Basic residential package will get you blazingly fast speeds, 20x faster than dial-up, at a great rate. Comes with 1 e-mail account.	\$34.99
Plus	Speeds up to 40x faster than dial-up, this plan is better for watching NetFlix, streaming video, & faster downloads. Comes with 2 e-mail accounts.	\$44.99
Premium	Our highest residential package, offers speeds up to 70x faster than dial-up. Service is good for gamers, VOIP phone services. Comes with 2 e-mail accounts.	\$59.99

* Installation prices are as follows: \$125.00 for a 1 Year Contract, \$75 for a 2 Year Contract. Also, there is a \$5 equipment rental fee per month. Additional fees may apply for installations that require additional hardware such as eave mounts, tripods, masts, etc. Service not available in all areas. An additional \$3.00 processing fee will be charged for anyone wanting to pay by check every month. Initial install has to be paid by cash or credit card only.



411 W. Flint St. Davison, MI 48423
810-658-1430

Web Services
Internet
How It Works
FAQ
Sign Up
Account



High Speed Internet

Internet Service

Call for a free consultation. We will evaluate your current services for internet and phone lines. If your business is outside our local area we can still offer a cost saving solution for internet and local toll service. T1, DS3 and PRI lines available with free installation on a 3 year contract.

FREE consultation visit for all new customers.

Current speeds up to 6MB down and up to 3MB up

Service is provided via a wireless point to multi-point connection from our main office in Davison, MI. secured through PPPoE.

Additional services include:

- VOIP
- Static IP Address
- Web Design
- Off-Site Backups (Through a Hi-Speed connection your data will securely be sent back to our office on our servers whit your own dedicated space.) **Enquire at office for plans and pricing on backups.
- Business web filtering (limit and monitor user access to internet)

If you are signing up for new service please read our terms and conditions at the following link: [Wireless Internet Service Agreement](#)

To request services, click the link to the right. [Request](#)



Exhibit B: Service Area

Call for a free consultation. We will evaluate your current services for internet and phone lines. If your business is outside our local area we can still offer a cost saving solution for internet and local toll service. T1, DS3 and PRI lines available with free installation on a 3 year contract.

FREE consultation visit for all new customers.

Current speeds up to 6MB down and up to 3MB up


Service is provided via a wireless point to multi-point connection from our main office in Davison, MI. secured through PPPoE.

Additional services include:

- VOIP
- Static IP Address
- Web Design
- Off-Site Backups (Through a Hi-Speed connection your data will securely be sent back to our office on our servers whit your own dedicated space.) **Enquire at office for plans and pricing on backups.
- Business web filtering (limit and monitor user access to internet)

If you are signing up for new service please read our terms and conditions at the following link: [Wireless Internet Service Agreement](#)

To request services, click the link to the right. [Request](#)



We Currently Service the Following Areas:

☒ Davison
☒ Columbiaville
☒ Lapeer
☒ Otter Lake
☒ Otisville

Home | How It Works | FAQ | Sign Up
Michigan Hi-Speed Internet: Bitwise Wireless, LLC

Login
Admin Login | Tech Login

Bitwise Wireless, LLC now displays the broadband coverage map produced by Connect Michigan on their website as their service coverage map:

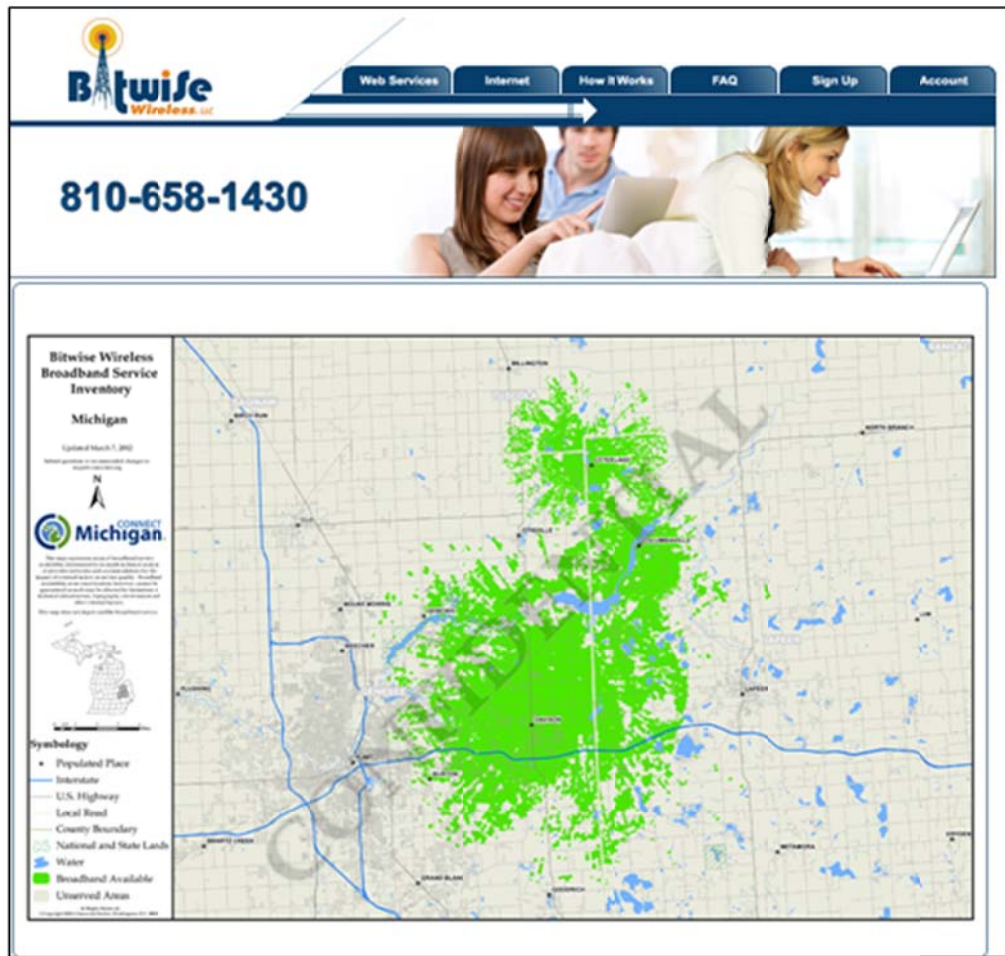


Exhibit C: Federal Registration Number

Registration Detail	
FRN:	0019402494
Registration Date:	12/13/2009 09:27:00 PM
Last Updated:	04/10/2010 10:27:59 AM
Business Name:	Bitwise Connection, LLC
Business Type:	Private Sector , Limited Liability Corporation
Contact Organization:	Bitwise Connection, LLC
Contact Position:	Owner
Contact Name:	Mr Brian Wills
Contact Address:	410 West Flint Street Davison, MI 48423 United States
Contact Email:	bwills@bitwiseconnection.com
ContactPhone:	(810) 658-6476 22
ContactFax:	

Exhibit D: WQLJ361 License Reference

The screenshot shows the FCC Universal Licensing System search results for the license WQLJ361. The page includes a header with the FCC logo and navigation links. The search results table shows one match for the license WQLJ361, owned by Bitwise Wireless, LLC, with an FRN of 0019402494. The license is active and expires on 02/09/2020.

Call Sign/Lease ID	Name	FRN	Radio Service	Status	Expiration Date
WQLJ361	Bitwise Wireless, LLC	0019402494	NN	Active	02/09/2020

The screenshot shows the FCC Universal Licensing System locations summary for the license WQLJ361. The page includes a header with the FCC logo and navigation links. The locations summary table shows that there are no locations for this license.

Call Sign	Radio Service
WQLJ361	NN - 3650-3700 MHz

0 Total Locations
10 Locations per Summary Page

No Locations

Preliminary Identification of Provider's Coverage Area

The CN engineer, using the information provided by Bitwise Wireless, drove to the four disclosed transmit locations and confirmed coordinates and the existence of fixed wireless equipment. The website service area was utilized to create a Google Earth image overlay (**Exhibit E**). The image overlay was positioned to match the Google Earth base map's roadways, county boundaries, and water bodies. The provider's service area depiction is represented by tower symbols as shown in **Exhibit E**. The four referenced locations were identified in Google Earth and examined utilizing the zoom option of the aerial imagery. All four location structures were identified as matching the descriptions provided by company representative as can be seen in the Google Earth screen shot of the water tower in Columbiaville, Michigan (**Exhibit F**), identified as a transmit site. This provided a means of establishing coordinates for the all wireless access point locations and these coordinates were then entered into Microsoft *Streets & Trips* mapping application (**Exhibit G**) to develop a route for the validation process.

Exhibit E: Google Earth: Provider's Service Area Image Overlay

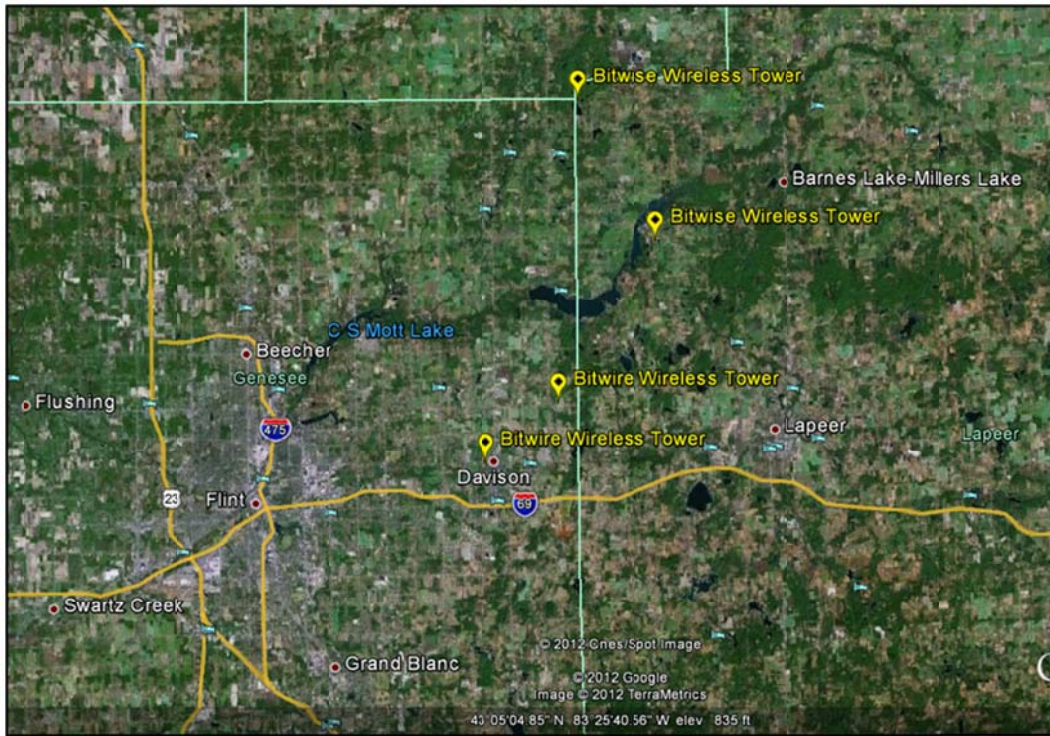
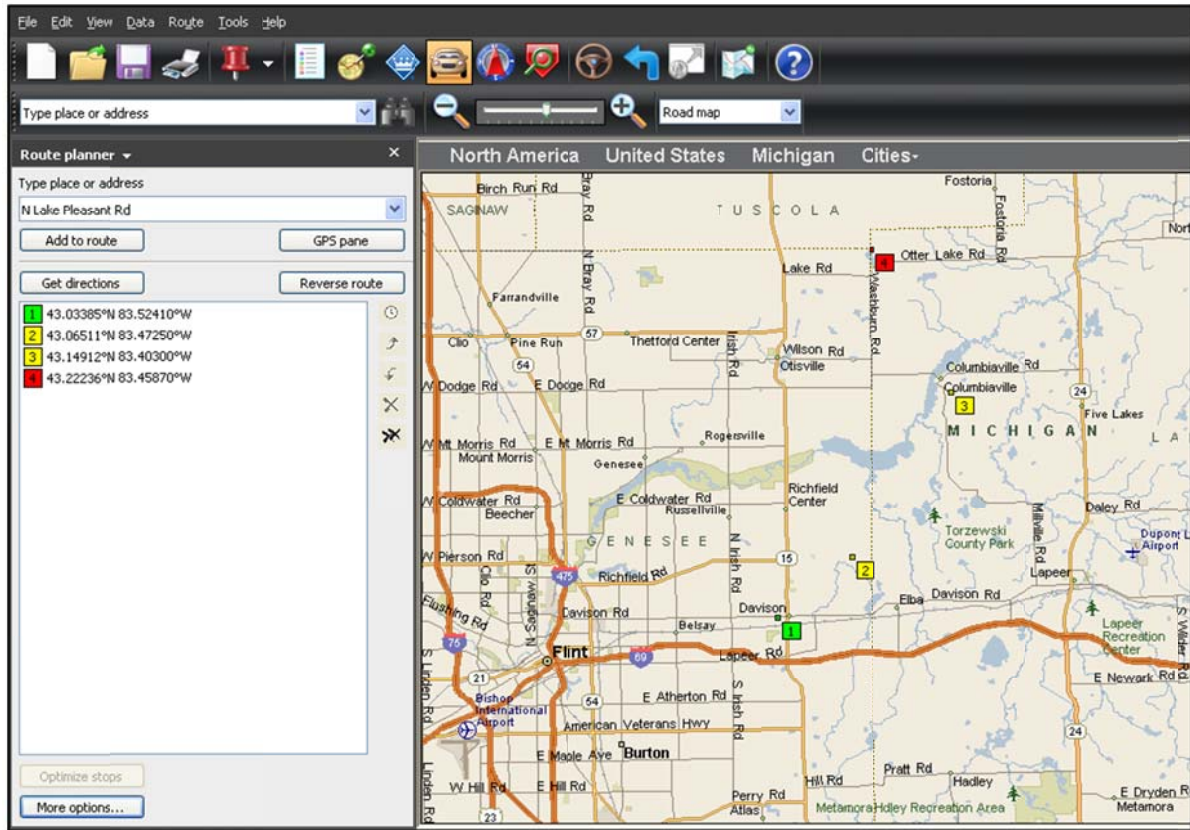


Exhibit F: Google Earth Screenshot of Columbiaville, MI Water Tower



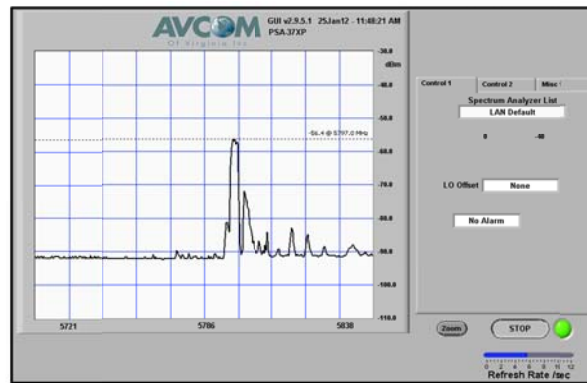
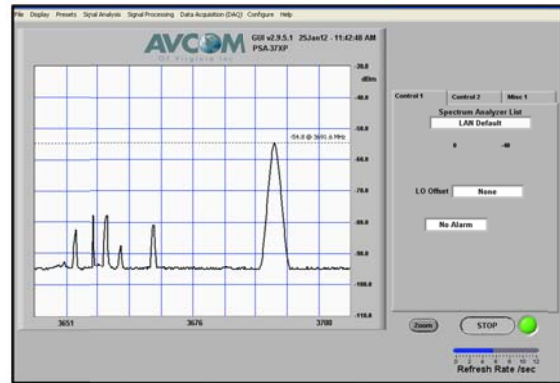
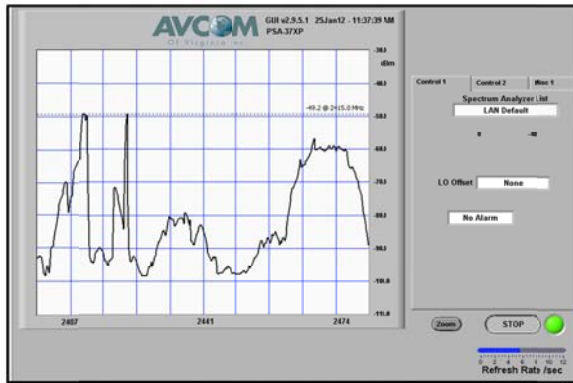
Exhibit G: Validation Points for AP Structures



Testing Techniques

Connected Nation staff developed a data collection and site validation route based on data provided by Bitwise Wireless representative, derived from the Google Earth image overlay and the sites selected in *Streets and Trips*. The CN wireless engineer was equipped with an AVCOM PSA-37XP analyzer with RF detection from 1 MHz to 6 GHz and an array of antennas tuned specifically for the 900 MHz, 2.4 GHz, 3.65 GHz, and 5 GHz frequency bands as can be seen from the screen shots taken at the Davison tower site (**Exhibit H**). Each validation point was scrutinized for frequency of operation. A screen image of the operating frequency (or frequencies) was captured; general notes were recorded for each location—approximate antenna height, frequency of operation, antenna type (omnidirectional or directional antenna), and photographs were taken of the wireless transmit site and related access points.

Exhibit H: Field Data for Bitwise Wireless Davison Tower Location



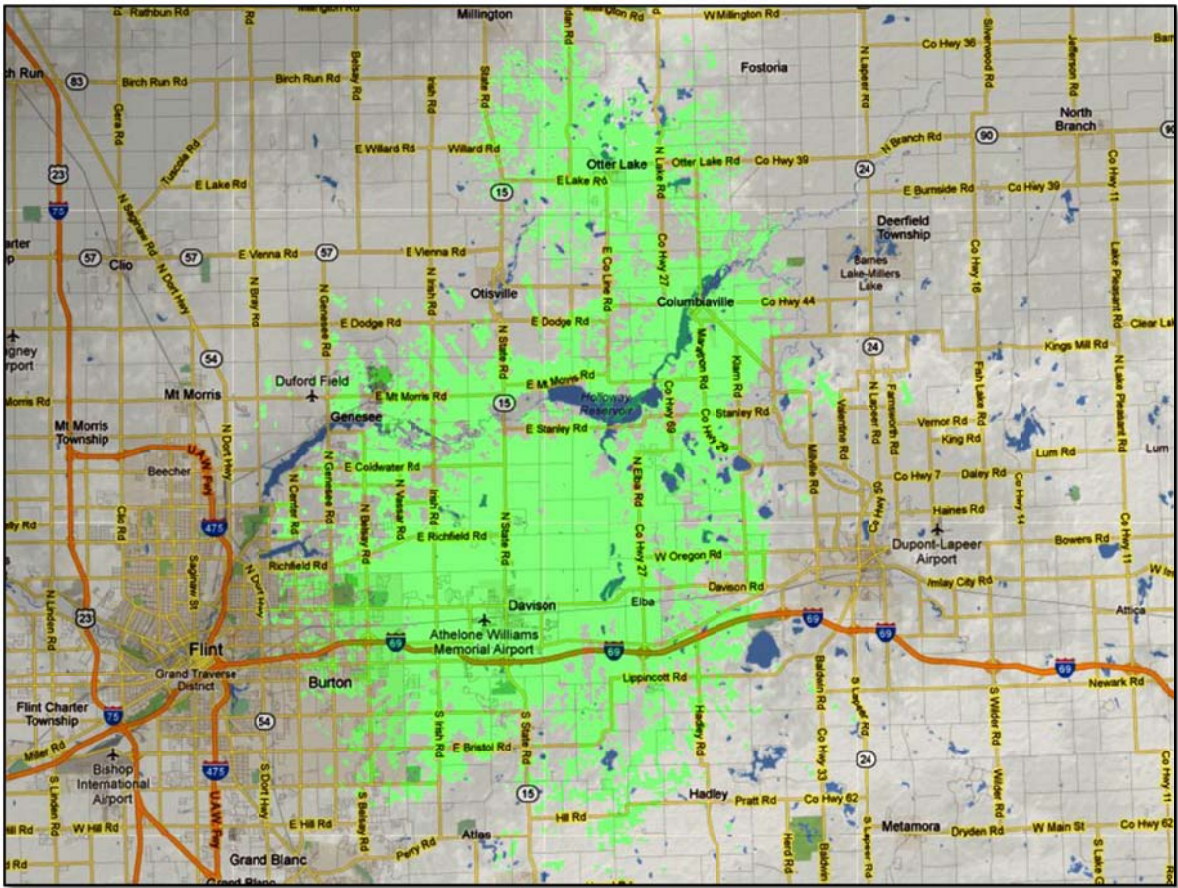
Results and Submission for October 2012

Of the 4 locations visited during the April 2012 validation point route, 10 access points were identified and relative information was logged into the Bitwise Wireless field validation notes file (**Exhibit I**). The field and the publicly available data were transferred to the CN Provider Information file. A composite propagation study was completed based on the field data (**Exhibit J**). Although Bitwise Wireless, LLC has indicated they want to participate in the Connect Michigan broadband mapping program, they have yet to submit the necessary tower site information needed to produce propagation modeling. For that reason, CN staff has determined that an update of “No Change” should be filed for this submission cycle and immediate attempts are underway to work with this provider to secure future data updates for propagation modeling and broadband coverage mapping.

Exhibit I: Field Validation Notes

	A	B	C	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
1				(N) Lat Decimal	(W) Long Decimal	Platform Type	Presence Confirmed	Test Data Type	Pass or Fail?	Utility	Time	Ping Time (ms)	Upload Speed (kbps)	Download Speed (kbps)	Min Speed Met?	Images	Visual Confirmation Type	Images	Signal Verification Peak Freq	Spectrum Analyzer Peak Sig Strength	Time	Image	
2	Site #	Date	Provider	Decimal	Decimal	Type	Confirmed	Type	Pass or Fail?	Utility	Time	Ping Time (ms)	Upload Speed (kbps)	Download Speed (kbps)	Min Speed Met?	Images	Type	Images	Peak Freq	Peak Sig Strength	Spectrum Analyzer	Time	Image
3	1	1/25/12	Bitwise Wire	43.0339	-83.5241	Fixed Wire	Yes	Signal Ver	Pass								Wireless	Yes	2415	-49.2	Avcom PS4	11:37 AM	Yes
4	2	1/25/12	Bitwise Wire	43.0339	-83.5241	Fixed Wire	Yes	Signal Ver	Pass								Wireless	Yes	3691.6	-54.8	Avcom PS4	11:42 AM	Yes
5	3	1/25/12	Bitwise Wire	43.0339	-83.5241	Fixed Wire	Yes	Signal Ver	Pass								Wireless	Yes	5797	-54.4	Avcom PS4	11:48 AM	Yes
6	4	1/25/12	Bitwise Wire	43.0651	-83.4725	Fixed Wire	Yes	Signal Ver	Pass								Wireless	Yes	912.1	-66.8	Avcom PS4	1:07 PM	Yes
7	5	1/25/12	Bitwise Wire	43.0651	-83.4725	Fixed Wire	Yes	Signal Ver	Pass								Wireless	Yes	2408.1	-62.4	Avcom PS4	1:05 PM	Yes
8	6	1/25/12	Bitwise Wire	43.0651	-83.4725	Fixed Wire	Yes	Signal Ver	Pass								Wireless	Yes	5761.1	-58.8	Avcom PS4	1:10 PM	Yes
9	7	1/25/12	Bitwise Wire	43.1491	-83.403	Fixed Wire	Yes	Signal Ver	Pass								Wireless	Yes	2432.8	-48	Avcom PS4	1:39 PM	Yes
10	8	1/25/12	Bitwise Wire	43.1491	-83.403	Fixed Wire	Yes	Signal Ver	Pass								Wireless	Yes	5842.3	-73.2	Avcom PS4	1:36 PM	Yes
11	9	1/25/12	Bitwise Wire	43.2224	-83.4587	Fixed Wire	Yes	Signal Ver	Pass								Wireless	Yes	2413.7	-47.6	Avcom PS4	2:02 PM	Yes
12	10	1/25/12	Bitwise Wire	43.2224	-83.4587	Fixed Wire	Yes	Signal Ver	Pass								Wireless	Yes	5749.8	-63.6	Avcom PS4	2:09 PM	Yes
13	11			0	0																		
14	12			0	0																		
15	13			0	0																		
16	14			0	0																		
17	15			0	0																		
18	16			0	0																		
19	17			0	0																		
20	18			0	0																		
21	19			0	0																		
22	20			0	0																		
23																							
24																							
25																							
26																							
27																							
28																							
29																							
30																							
31																							
32																							
33																							
34																							
35																							
36																							
37																							
38																							
39																							
40																							
41																							
42																							
43																							
44																							
45																							
46																							
47																							
48																							
49																							
50																							
51																							
52																							
53																							
54																							
55																							
56																							
57																							
58																							
59																							
60																							
61																							
62																							
63																							
64																							
65																							
66																							
67																							
68																							
69																							
70																							
71																							
72																							
73																							
74																							
75																							
76																							
77																							
78																							
79																							
80																							
81																							
82																							
83																							
84																							
85																							
86																							
87																							
88																							
89																							
90																							
91																							
92																							
93																							
94																							
95																							
96																							
97																							
98																							
99																							
100																					</		

Exhibit J: Bitwise Composite Coverage



DREAMSCAPE COMMUNICATIONS

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

The following narrative provides detail regarding the recent data collection and coverage estimation activities related to Dreamscape Communications (Dreamscape), a Michigan wireless Internet service provider (WISP), with an advertised service area in Stephenson, Ingalls and Wallace, Michigan. The narrative will include information regarding how and where CN obtained publicly available data and the on-the-ground validation techniques that support the underlying data.

Background

From May 26, 2011, to July 9, 2012, CN staff members attempted to obtain the participation of the provider with 11 instances of communication (via telephone and e-mail sessions). On January 3, 2012, the provider answered the call from a CN staff member and stated that they were not interested. On July 11, 2012, a CN staff member was sent into the field to independently gather the data and to conduct site verification activities. In a last attempt effort to obtain “maximum advertised speeds,” a CN staff member called Dreamscape on September 6, 2012, and was informed by a customer service representative that (i) she did not know what the maximum speeds were, (ii) that only the Stephenson tower was operational; and (iii) that the provider intends to decommission that tower “sometime next month” also noting that the company is moving.

Accordingly, while CN is pleased to submit this coverage estimation narrative on Dreamscape and confirmed operational status as of June 30, 2012, (pursuant to NTIA criteria) this provider’s status will most likely be changed to “Out of Business” for subsequent SBI submissions.

The Issue

On January 3, 2012, Dreamscape Communications predicated its unwillingness to participate in the Connect Michigan broadband mapping initiative.

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

CN began building a file based on research available through the public domain, such as the provider’s website (<http://www.dreamscpc.com>) and, as time progressed, enriched the file with information obtained through the public domain (e.g. Federal Communications Commission (FCC) **CO**mmission **RE**gistration **S**ystem (CORES), FCC Universal Licensing System, etc.) prior to conducting in-field spectrum testing. Despite the fact that Dreamscape Communications displays the towns where it says it has coverage, it offers no service plans publicly (**Exhibit A**). The provider has refused to offer any data that could be used for the construction of a dataset for submission to NTIA (including refusal to discuss maximum advertised speeds).

A search for a Federal Registration Number (FRN) on the FCC CORES system yielded “no match” (**Exhibit B**). Additionally, the FCC ULS was searched to determine if the provider was the

authorization holder of any spectrum (such as a 3650 MHz license); this search also yielded “no match” (**Exhibit C**).

Exhibit A: Service Area (as of July 11, 2012)

The screenshot shows the Dreamscape Communications website. The header features the company name and tagline "Connecting you since 1996" next to a map of Michigan. The main content area is divided into three columns. The left column, titled "Services", lists: Home, High Speed Wireless, Dial-Up Internet, Wild Blue Satellite Internet, Computer Repair, and Computers for Sale. The middle column, titled "High Speed Wireless", shows the date "Sunday, 20 April 2008 11:18" and states: "Dreamscape offers high speed wireless internet to the communities of Stephenson, Ingalls, and Wallace." It lists rates: Residential Rate: \$29.95/month and Commercial Rate: \$69.95/month. A note mentions a one-time equipment fee of \$200. The right column, titled "Pay Your Bill Online", includes a "Buy Now" button and logos for Visa, MasterCard, American Express, Discover, and PayPal. Below this is a "Stephenson Weather" section showing current conditions from Intellicast.

Exhibit B: Federal Registration Number

The screenshot shows the FCC Registration website. The header includes the FCC logo and navigation links: FCC Home, Search, Updates, E-Filing, Initiatives, For Consumers, and Find People. The main content area is titled "FCC Registration" and "Search Public Information". It displays a message: "No matches were found! Try refining your search by adding a wildcard character (*). Also see Advanced Search Tips and Tricks." Below this is a "REFINE SEARCH" button. At the bottom, there is a "Customer Service" section with links for "Frequently Asked Questions", "Forms Requiring an FRN", "Privacy Statement", and "FCC Home Page". It also provides the FRN Help Line: 877-480-3201 (Mon.-Fri. 8 a.m.-6 p.m. ET) and mentions a dedicated staff of customer service representatives.

Exhibit C: License Reference



Preliminary Identification of Provider's Coverage Area: Only one of the three advertised transmit sites was verified as operational during the course of the field research and its location was captured in a GPS route using Microsoft *Streets and Trips* (**Exhibit D**).

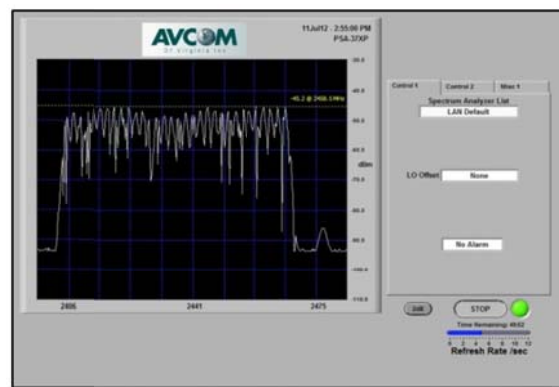
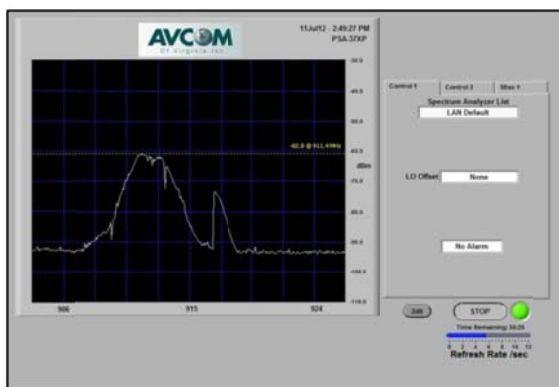
Exhibit D: Validation Points for AP Structures



Testing Techniques

CN staff developed a data collection and site verification and validation route based on information as outlined above. To ensure accuracy of coverage estimates, the CN wireless engineer was equipped with an AVCOM PSA-37XP analyzer with RF detection from 1MHz to 6 GHz and an array of antennas tuned specifically for the 900 MHz, 2.4 GHz, 3.65 GHz, and 5 GHz frequency bands. Each validation point was scrutinized for frequency of operation. A screen image of the operating frequency (or frequencies) was captured; general notes were recorded for each location-approximate antenna height, frequency of operation, antenna type (omnidirectional or directional antenna) and photographs were taken of the single wireless access point. The result of tests conducted at the central office location is depicted below in **(Exhibit E)**.

Exhibit E: Field Data for Dreamscape Communications



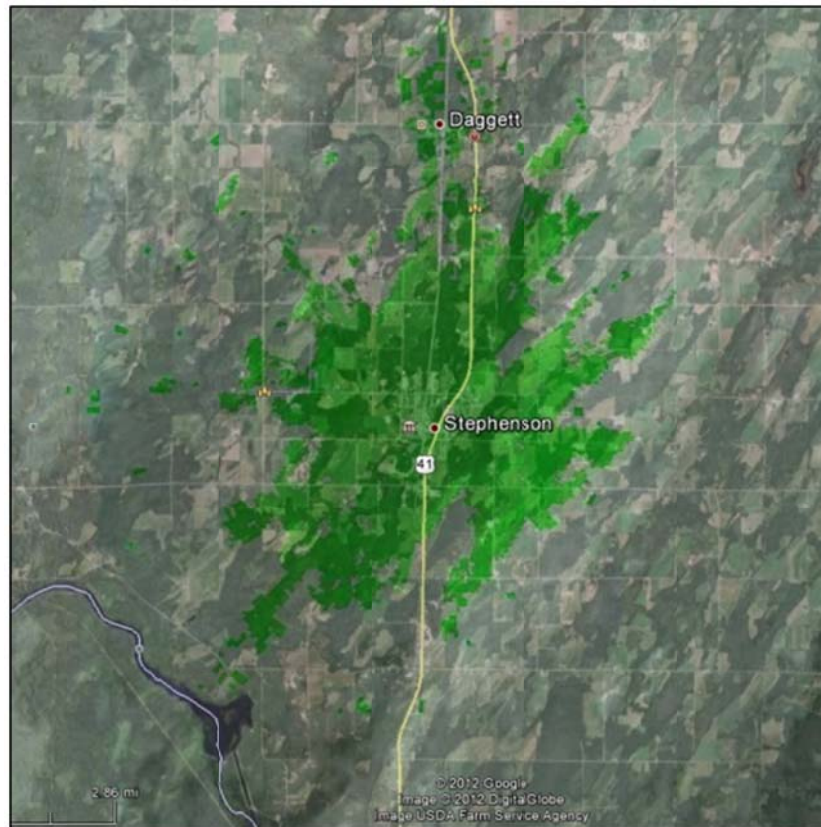
Results and Submission for October 2012

Through the analysis of the locations tested, two of the wireless access points were deemed “non-operational” and the single transit tower located at the central office was verified as “operational.” Accordingly, relative information was logged into the Dreamscape field validation file (**Exhibit F**). The CN engineer was able to create a composite propagation study based on the information in hand and collected during the field validation (**Exhibit G**).

Exhibit F: Field Validation Notes

Site #	Date	Provider		(N) Lat		(-)(W) Long		Test Data		Signal Verification/Spectrum Analyzer			
		Provider	Physical Address	Decimal	Decimal	Decimal	Decimal	Type	Pass or Fail?	Peak Freq	Peak Sig Strength	Spectrum Analyzer	Time
1	7/11/12	Dreamscape Communications	US-41, Stephenson, MI	45.41802	-87.60470			Signal Verification	Pass	2458 MHz	-45	Avcom PSA-37XP	2:55 PM
1	7/11/12	Dreamscape Communications	US-41, Stephenson, MI	45.41802	-87.60470			Signal Verification	Pass	911 MHz	-60	Avcom PSA-37XP	2:49 PM
2	7/11/12	Dreamscape Communications	17.5 In, Wallace, MI	45.37033	-87.60941			Signal Verification	Fail				
3	7/11/12	Dreamscape Communications	CRF-342, Wallace, MI	45.32615	-87.61404			Signal Verification	Fail				

Exhibit G: Composite Propagation Study



APPENDIX B: BROADBAND PROVIDER LOG



Broadband Provider Log

Complete	180
Non-Responsive/Refused	11
In Progress	2
Count of Datasets by Status	193
Total Unique Providers Represented	137

Provider Name	Platform	Status	NDA Execution Date	Notes
Air Advantage, LLC	Fixed Wireless	Data Added to Statewide Inventory	3/15/2010	[SEP-10-12 Sarah Finne] Change and Correction: Provider supplied their own propagation coverage that includes Great Lakes Internet acquisition. They also acquired two additional WISPs: BigTube Wireless and 5 towers from 123.Net (the rest went commercial only), which have also been added to Air Advantage's total coverage.
AIRGRANT.COM, INC.	Fixed Wireless	Data Added to Statewide Inventory		[AUG-24-12 Brian Dudek] Change: Provider expanded and upgraded their fixed wireless network in Kent, Muskegon, and Newaygo counties.
AT&T Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/16/2009	[AUG-21-12 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2012 submission. Increased speeds to tier 5 in HSPA+ areas.
AT&T Inc.	DSL	Data Added to Statewide Inventory	12/16/2009	[AUG-27-12 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2012 submission.
Banyan OnLine Services, LLC.	Fixed Wireless	Data Added to Statewide Inventory		[AUG-17-12 Brian Dudek] Correction: New provider for October 2012 submission that was previously non-responsive.
Big Bay Broadband, Inc	Fixed Wireless	Data Added to Statewide Inventory		[AUG-28-12 Brian Dudek] Correction: Initial submission of provider's coverage, but they were in service previously.
CenturyLink	DSL	Data Added to Statewide Inventory	12/4/2009	[AUG-06-12 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2012 submission. Increased max advertised download speed to tier 7 across the state.
Charter Communications, Inc.	Cable	Data Added to Statewide Inventory	12/15/2009	[AUG-24-12 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2012 submission.
Comcast Cable Communications, LLC	Cable	Data Added to Statewide Inventory	12/7/2009	[SEP-06-12 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2012 submission.
Crystal Automation Systems, Inc	Fixed Wireless	Data Added to Statewide Inventory	6/25/2010	[AUG-31-12 Brian Dudek] Change: Provider upgraded infrastructure on multiple towers, added transmission points and also removed some transmission locations.
Custom Software Inc.	Fiber	Data Added to Statewide Inventory	2/3/2010	[AUG-13-12 Brian Dudek] Change: New provider platform for the October 2012 submission.
DMCI Broadband, LLC	Fixed Wireless	Data Added to Statewide Inventory	2/3/2010	[AUG-27-12 Brian Dudek] Change: New transmission locations in operation increasing coverage in Branch, Calhoun, Hillsdale, and Jackson counties. Also disabled some other transmission points.
FNW, LLC	Fixed Wireless	Data Added to Statewide Inventory	2/12/2010	[AUG-07-12 Brian Dudek] Change/Correction: Provider upgraded infrastructure on multiple towers, but also refined coverage area and removed towers.
Frontier Communications Corporation	DSL	Data Added to Statewide Inventory	1/22/2010	[AUG-22-12 Brian Dudek] Change: Provider expanded DSL territory by adding additional remote terminals.
Hidden Lake Wireless, Inc.	Fixed Wireless	Data Added to Statewide Inventory	3/12/2010	[SEP-04-12 Brian Dudek] Change: Provider added an additional transmission point providing service to rural Cohoctah and rural Fowlerville.
I-2000, Inc.	Fixed Wireless	Data Added to Statewide Inventory	3/7/2011	[AUG-28-12 Brian Dudek] Change: Provider upgraded infrastructure on multiple towers, added five transmission points and also removed some towers.
Invisalink Wireless Enterprises LLC	Fixed Wireless	Data Added to Statewide Inventory	4/13/2010	[AUG-28-12 Brian Dudek] Change: Provider expanded coverage by adding 11 transmission points.
ISP Management, Inc.	Fixed Wireless	Data Added to Statewide Inventory	3/22/2010	[AUG-28-12 Brian Dudek] Change: Provider expanded coverage NE of Harrison and W of Rosebush by adding 6 transmission points.
Leap Wireless International, Inc.	Mobile Wireless	Data Added to Statewide Inventory	4/5/2010	[JUL-17-12 Brian Dudek] Change/Correction: Provider altered coverage SW of Three Oaks.
Lighthouse Computers, Inc.	Fixed Wireless	Data Added to Statewide Inventory	2/17/2011	[JUN-25-12 Brian Dudek] Change: New fixed wireless tower in operation in Newberry with higher speed capabilities.
Lighthouse Computers, Inc.	Cable	Data Added to Statewide Inventory	2/17/2011	[JUN-22-12 Brian Dudek] Change: New cable provider for the October 2012 submission.
Martell Cable Services, Inc.	Cable	Data Added to Statewide Inventory		[JUN-21-12 Brian Dudek] Correction: Initial data submission for this provider, who has been in service previously.
MegaPath Inc.	DSL	Data Added to Statewide Inventory	2/15/2010	[AUG-30-12 Brian Dudek] Correction: Service was offered previously, but data is being submitted for the first time in the October 2012 submission.

MetalINK Technologies, Inc.	Fixed Wireless	Data Added to Statewide Inventory	3/22/2010	[AUG-28-12 Brian Dudek] Change: Provider added two transmission points increasing coverage into Deerfield and Petersburg area. Additionally, deactivated Lyons tower from IA reducing portion of MI coverage.
MetroPCS Wireless, Inc.	Mobile Wireless	Data Added to Statewide Inventory	2/10/2012	[AUG-30-12 Brian Dudek] Change/Correction: Added coverage south of Rockford. Decreased coverage south of Schoolcraft. Increased max advertised download and upload speed tier to 4.
Network Computers, LLC	Fixed Wireless	Data Added to Statewide Inventory		[AUG-28-12 Brian Dudek] Correction: Initial submission of provider's coverage, but they were in service previously.
Newaygo County Advanced Technology Services	Fixed Wireless	Data Added to Statewide Inventory		[JUL-12-12 Brian Dudek] Change: Provider increased coverage area (W of Fremont, S of Newaygo) and modified some prior reported coverage areas. Increased maximum advertised download speed to tier 7 and upload to tier 4.
Ogden Communications, Inc.	Fixed Wireless	Data Added to Statewide Inventory	1/19/2010	[JUN-27-12 Brian Dudek] Change: New fixed wireless tower (3650) in operation increasing coverage in a number of townships.
Parish Communications	Cable	Data Added to Statewide Inventory	7/1/2010	[JUL-17-12 Brian Dudek] Change: Provider expanded cable territory in the area of Hope and Fraser. Upload speeds also increased in two other service areas.
Scott Cook, Inc.	Fixed Wireless	Data Added to Statewide Inventory		[AUG-29-12 Brian Dudek] Change: New transmission locations in operation increasing coverage in rural areas of the towns of Petoskey and Harbor Springs.
Spacenet Inc.	Satellite	Data Added to Statewide Inventory		[SEP-04-12 Brian Dudek] Correction: Initial submission of provider's coverage, but they were in service previously.
Sprint Nextel Corporation	Mobile Wireless	Data Added to Statewide Inventory	1/14/2010	[JUL-12-12 Brian Dudek] Change: Provider expanded mobile territory in a couple small areas.
T-Mobile USA, Inc.	Mobile Wireless	Data Added to Statewide Inventory	1/8/2010	[AUG-08-12 Brian Dudek] Change/Correction: Expansions and corrections to previous dataset; entirely new dataset provided for October 2012 submission. Expansions in S-SW Michigan.
TDS Telecommunications Corporation	DSL	Data Added to Statewide Inventory	1/27/2010	[AUG-20-12 Brian Dudek] Change/Correction: Possible service expansion or corrections to previous dataset; entirely new dataset provided for October 2012 submission.
Verizon North Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/14/2009	[JUL-18-12 Brian Dudek] Change/Correction: Provider increased 3G mobile territory in the upper peninsula. Increased LTE coverage in state and refined existing LTE coverage.
ViaSat, Inc.	Satellite	Data Added to Statewide Inventory	1/8/2010	[AUG-08-12 Brian Dudek] Change: Provider added speed boundaries according to their Exede and ProPlus services.
Vision Quest Technology Solutions	Fixed Wireless	Data Added to Statewide Inventory		[AUG-02-12 Brian Dudek] Change: Provider is now participating in project and indicated additional transmission locations. As advertised, max download is now tier 7.
Vogtmann Engineering, Inc.	Fiber	Data Added to Statewide Inventory		[JUN-28-12 Brian Dudek] Correction: Initial submission of provider's coverage, but they were in service previously.
Vogtmann Engineering, Inc.	Cable	Data Added to Statewide Inventory		[JUN-28-12 Brian Dudek] Correction: Initial submission of provider's coverage, but they were in service previously.
WideOpenWest Michigan, LLC	Cable	Data Added to Statewide Inventory		[SEP-02-12 Sarah Finne] Change: WideOpenWest acquired Broadstripe, therefore their service territory has been expanded.
Conterra Ultra Broadband, LLC	Backhaul	Backhaul Provider Only Processing Complete		
MegaPath Inc.	Backhaul	Backhaul Provider Only Processing Complete	2/15/2010	
Merit Network, Inc.	Backhaul	Backhaul Provider Only Processing Complete	6/21/2010	
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	
Verizon North Inc.	Backhaul	Backhaul Provider Only Processing Complete	12/14/2009	
Blanchard Telephone Association, Inc.	DSL	Speed Only Update; Data Processing Complete	6/17/2010	[JUN-22-12 Brian Dudek] Change: Provider upgraded infrastructure and can now offer maximum speed tier 7 download speeds.
Fast-Air Internet, Inc.	Fixed Wireless	Speed Only Update; Data Processing Complete		[JUN-22-12 Brian Dudek] Change: Provider upgraded infrastructure and can now offer max advertised speeds of tier 6 download and tier 5 upload.
Hiawatha Communications, Inc.	DSL	Speed Only Update; Data Processing Complete	2/2/2010	[AUG-06-12 Brian Dudek] Change: Provider upgraded infrastructure and can now offer maximum speed tier 8 download and 5 upload.
Hiawatha Communications, Inc.	DSL	Speed Only Update; Data Processing Complete	2/2/2010	[AUG-06-12 Brian Dudek] Change: Provider upgraded infrastructure and can now offer maximum speed tier 8 download and 5 upload.
Lennon Telephone Company	Cable	Speed Only Update; Data Processing Complete	1/25/2010	[AUG-20-12 Sarah Finne] Change: Provider upgraded infrastructure and can now offer tier 7 download speeds.
Time Warner Cable LLC	Cable	Speed Only Update; Data Processing Complete	12/21/2009	[AUG-17-12 Brian Dudek] Change: Provider upgraded infrastructure and can now offer DOCSIS 3.0 maximum speed tier 9 download in southern MI.
Bitwise Wireless, LLC	Fixed Wireless	No Update-Estimated Coverage Submitted for Non-Participating Provider		
Dreamscape Communications	Fixed Wireless	Estimated Coverage Submitted for Non-Participating Provider		[SEP-07-12 Brian Dudek] Correction: Estimated coverage created and submitted for non-participating provider.
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.	DSL	No Update to Provide	1/22/2010	
Agri-Valley Communications, Inc.	Fixed Wireless	No Update to Provide	1/22/2010	
Agri-Valley Communications, Inc.	Mobile Wireless	No Update to Provide	1/22/2010	
AT&T Inc.	Backhaul	No Update to Provide	12/16/2009	
Azulstar, Inc.	Fixed Wireless	No Update to Provide	1/27/2010	
Baraga Telephone Company	DSL	No Update to Provide	1/14/2010	

Baraga Telephone Company	Fiber	No Update to Provide	1/14/2010	
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.	Backhaul	No Update to Provide	6/17/2010	
Block Communications, Inc.	Cable	No Update to Provide	4/12/2010	
Bloomington Telephone Company, Inc.	DSL	No Update to Provide	1/25/2010	
Bloomington Telephone Company, Inc.	Fiber	No Update to Provide	1/25/2010	
Bloomington Telephone Company, Inc.	Fixed Wireless	No Update to Provide	1/25/2010	
Cable America Michigan, LLC	Cable	No Update to Provide	3/9/2011	
Carr Communications, Inc.	DSL	No Update to Provide	1/15/2010	
CenturyLink	Backhaul	No Update to Provide	12/4/2009	
Cherry Capital Connection, LLC	Fixed Wireless	No Update to Provide	12/28/2009	
City of Norway	Cable	No Update to Provide	3/14/2011	
Cleanwire Corporation	Mobile Wireless	No Update to Provide	3/17/2011	
Climax Telephone Company	Backhaul	No Update to Provide	1/14/2010	
Climax Telephone Company	DSL	No Update to Provide	1/14/2010	
Climax Telephone Company	Fiber	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	
Custom Software Inc.	Fixed Wireless	No Update to Provide	2/3/2010	
Farmers Mutual Telephone Company of Chapin, Inc.	DSL	No Update to Provide	10/26/2010	
Frontier Communications Corporation	Backhaul	No Update to Provide	1/22/2010	
Great Lakes Comnet, Inc.	Backhaul	No Update to Provide		
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	
Hughes Network Systems, LLC	Satellite	No Update to Provide	2/5/2010	
Interlink Computers Technology, Inc.	Fixed Wireless	No Update to Provide	3/12/2010	
Internet 123, Inc.	Backhaul	No Update to Provide		
Iron Bay Computer & Design	Fixed Wireless	No Update to Provide	1/14/2010	
Iron River Cooperative TV Antenna Corp	Cable	No Update to Provide	7/27/2010	
Kaltelco, LLC	DSL	No Update to Provide	3/5/2010	
Lennon Telephone Company	DSL	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	
Niagara Telephone Company	Backhaul	No Update to Provide	1/22/2010	
Niagara Telephone Company	DSL	No Update to Provide	1/22/2010	
Ogden Communications, Inc.	DSL	No Update to Provide	1/19/2010	
Peninsula Fiber Network, LLC	Backhaul	No Update to Provide	1/14/2010	
RACC Enterprises, LLC	Fixed Wireless	No Update to Provide		
Sand Creek Communications Company	Backhaul	No Update to Provide	3/2/2010	
Sand Creek Communications Company	DSL	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	
SMR Communications, Inc.	Cable	No Update to Provide		
SMR Communications, Inc.	Fixed Wireless	No Update to Provide		
SonicNet, Inc	Fixed Wireless	No Update to Provide	8/4/2011	
SpeedNet, LLC	Backhaul	No Update to Provide	1/7/2010	
Springcom, Inc.	Cable	No Update to Provide	2/25/2010	
Springcom, Inc.	DSL	No Update to Provide	2/25/2010	
T2 Communications, LLC	Backhaul	No Update to Provide	3/10/2010	
The Computer Care Company, Inc.	Backhaul	No Update to Provide	3/8/2011	
The Computer Care Company, Inc.	DSL	No Update to Provide	3/8/2011	
The Computer Care Company, Inc.	Fixed Wireless	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	Fiber	No Update to Provide	6/21/2010	
Town & Country Cable and Telecommunications, LLC	Cable	No Update to Provide	6/18/2010	
				[MAY-01-12 Terry Holmes] Received email from company representative stating their company declines to participate. [JUN-08-12 Terry Holmes] Received call from company representative. He acknowledged receipt of NPP report and stated we accurately captured his coverage area. He has no updates to provide at this time.
Tri-County Wireless, Inc.	Fixed Wireless	No Update to Provide		
United States Cellular Corporation	Mobile Wireless	No Update to Provide	2/15/2011	
Upper Peninsula Telephone Company	DSL	No Update to Provide	1/11/2010	
US Signal Company, LLC	Backhaul	No Update to Provide	2/25/2010	
Waldron Communication Company	DSL	No Update to Provide	1/12/2010	
Waldron Communication Company	Fixed Wireless	No Update to Provide	1/12/2010	
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	
Allband Communications Cooperative	Fiber	No Update Provided - Use Last Submission Data	2/2/2010	
Allendale Telephone Company	DSL	No Update Provided - Use Last Submission Data	2/4/2010	
Allendale Telephone Company	Fiber	No Update Provided - Use Last Submission Data	2/4/2010	
Boardman River Communications, LLC	Cable	No Update Provided - Use Last Submission Data	2/10/2010	
Bright House Networks, LLC	Cable	No Update Provided - Use Last Submission Data	4/26/2010	
Camp Communication Services, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data		
CCI Systems, Inc.	Cable	No Update Provided - Use Last Submission Data	6/29/2010	
Charter Communications, Inc.	Backhaul	No Update Provided - Use Last Submission Data	12/15/2009	
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	
D&P Communications, Inc.	Cable	No Update Provided - Use Last Submission Data	3/8/2011	
D&P Communications, Inc.	Fiber	No Update Provided - Use Last Submission Data	3/8/2011	
D&P Communications, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data	3/8/2011	
Daystarr Communications, LLC	Backhaul	No Update Provided - Use Last Submission Data		
Daystarr Communications, LLC	DSL	No Update Provided - Use Last Submission Data		
Daystarr Communications, LLC	Fiber	No Update Provided - Use Last Submission Data		
Drenthe Telephone Company	DSL	No Update Provided - Use Last Submission Data	2/4/2010	
Endless Journey, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data		
Fourway Computer Products, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data		
Great Lakes High Speed, LLC	Fixed Wireless	No Update Provided - Use Last Submission Data		
Ideal Wireless, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data		
KEPS Technologies, Inc.	DSL	No Update Provided - Use Last Submission Data		
KEPS Technologies, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data		
LakeNet LLC	Fixed Wireless	No Update Provided - Use Last Submission Data	12/27/2011	
Level 3 Communications, LLC	Backhaul	No Update Provided - Use Last Submission Data	12/14/2009	
Michigan Cable Partners Inc.	Cable	No Update Provided - Use Last Submission Data	6/18/2010	
Michwave Technologies, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data	3/12/2010	
Nodin Communications, LLC	Fixed Wireless	No Update Provided - Use Last Submission Data	4/22/2010	
Northside TV Corporation	Cable	No Update Provided - Use Last Submission Data		
Pasty.Net, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data	1/6/2010	
SpeedNet, LLC	Fixed Wireless	No Update Provided - Use Last Submission Data	1/7/2010	
Sprint Nextel Corporation	Backhaul	No Update Provided - Use Last Submission Data	1/14/2010	
Summit Digital Holdings, Inc.	Cable	No Update Provided - Use Last Submission Data		
Summit Digital Holdings, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data		
Tucker Communications, Inc	Fixed Wireless	No Update Provided - Use Last Submission Data	2/17/2011	
West Michigan Broadband, LLC	Fixed Wireless	No Update Provided - Use Last Submission Data		
Westphalia Telephone Company	DSL	No Update Provided - Use Last Submission Data	1/20/2010	
Windstream Communications	Backhaul	No Update Provided - Use Last Submission Data		
Windstream Communications	Backhaul	No Update Provided - Use Last Submission Data		
Windstream Communications	DSL	No Update Provided - Use Last Submission Data		
Xyotek, LLC	Fixed Wireless	No Update Provided - Use Last Submission Data		
Zayo Bandwidth, LLC	Backhaul	No Update Provided - Use Last Submission Data		
Zing Networks, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data		
Windstream Communications	DSL	Solicited Initial Data		
EarthLink Business	Backhaul	Other		[AUG-08-12 Wes Kerr] A company representative noted that they do not currently have what is necessary to accurately report this data.
M3 Wireless	Fixed Wireless	Refused to Participate		[AUG-09-12 Terry Holmes] Spoke with company representative who stated they do not want to participate.
Boardman River Communications, LLC	Fixed Wireless	Non-Responsive to Multiple Attempts	2/10/2010	In addition to numerous contact attempts made during past mapping submission periods, 4 contact attempts were made this period.
FiberTower Corporation	Backhaul	Non-Responsive to Multiple Attempts		4 contact attempts were made this period between May 2, 2012 and August 7, 2012.
Lewiston Communications	Cable	Non-Responsive to Multiple Attempts		In addition to numerous contact attempts made during past mapping submission periods, 4 contact attempts were made this period.
Lynx Network Group, LLC	Backhaul	Non-Responsive to Multiple Attempts		In addition to multiple contact attempts made during the last mapping submission period, 5 contact attempts were made this period.
Microtech Services, Inc.	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to numerous contact attempts made during past mapping submission periods, 4 contact attempts were made this period.
Mutual Data Services, Inc.	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to numerous contact attempts made during past mapping submission periods, 4 contact attempts were made this period.

Niagara Wireless, LLC	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to multiple contact attempts made during the last mapping submission period, 4 contact attempts were made this period.
Reliable Internet, LLC	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to numerous contact attempts made during past mapping submission periods, 4 contact attempts were made this period.
Sky Web Network, Inc	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to numerous contact attempts made during past mapping submission periods, 5 contact attempts were made this period.
Wireless Technology Solutions	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to numerous contact attempts made during past mapping submission periods, 4 contact attempts were made this period.