OFFICIAL APRIL 2012 UPDATE SUBMISSION TO THE NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION UNDER THE STATE BROADBAND INITIATIVE GRANT PROGRAM FOR THE STATE OF NEVADA

April 1, 2012

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COVER LETTER

April 1, 2012

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

Dear Ms. Neville:

As the State Broadband Designated Entity, in partnership with the Nevada Broadband Task Force, please accept this submission from Connected Nation on behalf of the state of Nevada's State Broadband Initiative (SBI) Grant Program, known as Connect Nevada.

It is with highest regard that the collective stakeholders of Connect Nevada offer congratulations to the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA) on the one-year anniversary of the release of the National Broadband Map. This extraordinary milestone demonstrates the ongoing intense and 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, resulting in smarter investments and targeted state and local broadband policies and programs. We are proud of the role that Connect Nevada has played in creating and maintaining such a powerful tool that has benefitted and surely will continue to benefit not just Nevadans, but consumers and businesses nationwide.

These artifacts should be found to be compliant with the April 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, Connect Nevada: April 1, 2012

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

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

In addition, this data update submission should be found to be compliant with the additional program requirements instituted by the National Telecommunications and Information Administration since the time of the October 2011 SBI data submission for the Connect Nevada program. Specifically, these new requirements are:

SBI Data Transfer Model

The submission of the broadband dataset for April 1, 2012, is contained within the SBI Data Transfer Model as released on the Grantee Workspace on January 17, 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

This submission continues to follow the speed technology guidance released by the Program Office on December 22, 2011, to review speed tier codes in correspondence with technology of transmission codes. In the October 2011 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.

In addition to the requirements mentioned above, please find this methodology paper to be inclusive of a new section pertaining to industry mergers and acquisitions – specifically this section will detail any and all mergers or acquisitions that have taken place in Nevada, since the October 2011 submission. The intent of this new section is to provide a better understanding of how the broadband provider landscape has changed over time.

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

Broadband Service Availability — Provider Outreach and Verification

This data update submission under the SBI program includes datasets for approximately 98.11 percent of the Nevada provider community, or 52 of 53 total providers. There are 51 participating providers and one additional non-participating provider whose estimated coverage areas have been submitted. Of the 51 participating providers, 20 supplied an update to their network or coverage area(s), while 26 have reported no change. The remaining 5 represent providers who previously supplied data but were non-responsive in the April 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. The provider that is not represented in the attached datasets was non-responsive to multiple contact attempts.

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

Connect Nevada has also continued to perform broadband verification activities through several means. In addition to confirmation of service area(s) by each provider, Connect Nevada conducts field validation efforts. To date, 38 (69.09 percent) providers have been validated through field verification activities. Additional details on verification activities are contained within the Field Validation Methodology.

The Connect Nevada website, (www.connectnv.org), continues to serve a prominent role in the outreach and data collection effort. This program asset provides a way for the general public to participate in the process by offering interactive tools for users to test their connection speed, submit broadband inquiries, or contact a program representative.

As an indicator of stakeholder penetration, the Connect Nevada website encountered 4,543 unique visits during this reporting period (10,010 total to date for the life of the grant awarded on December 20, 2009). Additionally, this pronounced Web activity netted 14 broadband inquiries over this same reporting period (40 grant inception to date). The website also provides the BroadbandStat application, which allows the consumer to confirm or dispute the coverage represented on the broadband inventory map. These consumer-initiated actions are facilitated through the Connect Nevada website and the Connect Nevada interactive mapping tool (BroadbandStat) that offer the citizens the vehicles to provide information regarding availability in their respective service area, either in affirmation or contest of the reported data represented in the Connect Nevada mapping artifacts. Since the initial data collection and release of corresponding maps, feedback in the form of broadband inquiries has allowed Connect Nevada to identify additional areas that are in need of field validation, which is scheduled as soon as possible.

Community Anchor Institutions

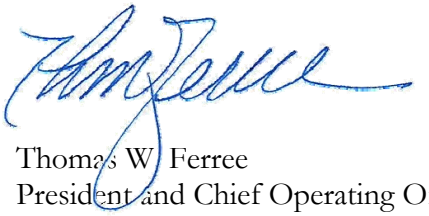
Connect Nevada has established an ongoing mechanism for gathering data on the location and broadband connectivity of Community Anchor Institutions (CAI), in accordance with the data requirements of the SBI NOFA Technical Appendix.

Outreach was conducted during this data update reporting period by Connect Nevada to continue identification of existing, centralized sources for CAI connectivity data. Additionally, outreach was coordinated to distribute the CAI survey to institutions throughout the state through multiple methods including a customized online survey available on the Connect Nevada website. Connect Nevada worked with Nevada State Library and Archives to call and e-mail library directors the CAI survey. Connect Nevada also worked with the Department of Education and the Nevada Association of Superintendents to distribute the CAI survey to school contacts. Lastly, Connect Nevada partnered with the Department of Health and Human Services to obtain data from state healthcare institutions. Connect Nevada will continue to build upon these relationships over the coming months and utilize its contacts throughout the state to collect data and raise awareness of this project.

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

The Connect Nevada 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 Nevada, as well as the United States and its territories through contribution to the National Broadband Map. We look forward to the continuing work ahead.

Respectfully submitted,



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

DATA ACQUISITION: NEVADA COMMUNITY ANCHOR INSTITUTIONS METHODOLOGY

In this fifth reporting period of the SBI, Connect Nevada, working in close coordination with the state of Nevada, has established an ongoing mechanism for gathering data on the location and broadband connectivity of Community Anchor Institutions (CAI), in accordance with the data requirements of the SBI NOFA Technical Appendix. During this reporting period Connect Nevada has continued to focus efforts on conducting outreach and raising awareness of this important project.

Connect Nevada 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 Nevada through ESRI ArcGIS software.

Connect Nevada continues to utilize a customized online survey hosted through SurveyMonkey, with a landing page on the Connect Nevada 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. Connect Nevada 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/7RSHPBS.

Connect Nevada 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 Nevada continues to identify key CAI contacts in an effort to distribute and promote the online survey and raise awareness of the importance of CAI broadband connectivity.

Connect Nevada 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. Connect Nevada worked closely with Nevada State Libraries and Archives to administer the CAI survey. Moreover, Connect Nevada partnered with the department of Education and the Nevada Association of Superintendents to distribute the CAI survey to school technology contacts. In addition, Connect Nevada worked with the Department of Health and Human Services to collect data from state healthcare institutions.

The greatest challenge with collecting CAI data continues to be educating the CAI about the Connect Nevada project as well as self-awareness of their own CAI connectivity (specifically upload and download speeds). Connect Nevada will continue to research key CAI organizations and agency contacts in an effort to raise awareness of this project among CAI.

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	866	866	865	161	152	148
Libraries	91	91	89	60	64	64
Healthcare	5004	5004	5004	26	4965	4965
Public Safety	112	112	109	8	11	11
Higher Ed Institutions	66	66	64	49	48	48
Other Government	842	842	837	54	101	101
Other Non-Government	1714	1714	1694	25	557	559
Total	**8695**	**8695**	**8662**	**383**	**5898**	**5896**

During the coming months, CAI data collection will be supported by regular reporting to the Connect Nevada team. The CAI data is proving an invaluable resource to all components of the Connect Nevada effort. The data identifies potential local champions, sector trends, and opportunities for improvement as well as opportunities to educate CAI not familiar with their current connectivity.

SBI Data Submission Methodology

The submission of the broadband dataset for April 1, 2012, is contained within the SBI Data Transfer Model and additional components as released on the Grantee Workspace on January 17, 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. Guidance from the Technical Mapping Guide, as released on the Grantee Workspace on March 24, 2011, was also followed to ensure the completeness and validity of the submission through completion steps and checklists, completing the DataPackage spreadsheet, uploading broadband datasets into the Data Transfer Model, and checking the dataset using the SBDD_CheckSubmission receipt process.

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

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Appendix A: 1(b)	BB_Service_Wireless	Broadband Service Availability of Wireless Services Not Provided to a Specific Address.
Appendix A: 3(b)	BB_ConnectionPoint_MiddleMile	Broadband Service Infrastructure Middle-Mile and Backbone Interconnection Points.
Appendix A: 4	BB_Service_CAInstitutions	Community Anchor Institutions-Listing.

The provider data collected by CN on behalf of the state of Nevada 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 Nevada 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.

MERGERS AND ACQUISITIONS

Throughout the course of the SBI program, CN has maintained a repository of electronic records related to its provider outreach activities. Recently, due to the high volume of mergers and acquisitions (M&A) within the provider community, CN elected to create a listing of M&A activities for this mapping cycle as a way of supplementing the Provider Changes and Corrections section of

this document. M&A activities for this state are listed below with a brief description and date as obtained through public records or provider disclosure.

- **CenturyLink Merged with Qwest**
  On April 1, 2011, CenturyLink, Inc. (NYSE: CTL) and Qwest Communications completed their merger, creating the nation's third largest telecommunications company. The combined companies will deliver a broader range of communications services to consumers and small businesses throughout its 37-state service area and to business, wholesale, and government customers nationwide via its 190,000 route mile fiber network.

- **KeyOn Acquired the Wireless Broadband Assets of Wells Rural Electric Company**
  On February 3, 2011, KeyOn Communications Holdings, Inc. (OTCBB: KEYO), one of the largest providers of wireless broadband, satellite video, and voice over Internet protocol (VoIP) services in the United States, announced it had completed its acquisition of substantially all of the wireless broadband assets of Wells Rural Electric Company (WREC).

- **Satview Broadband Ltd. Acquired Portions of Baja Broadband**
  On Wednesday, January 26, 2011, elkodaily.com confirmed that Satview Broadband Ltd., a Nevada-based company, bought Baja Broadband to provide the Elko, Carlin ,and Battle Mountain areas with cable television programming services. The switch happened on January 1.

- **TelePacific Acquired NextWeb, Inc.**
  The News section of the TelePacific Communications website confirmed that on April 1, 2011, TelePacific Communications had received regulatory approval for and completed the acquisition of NextWeb, Inc., d.b.a. Covad Wireless, a broadband fixed wireless carrier operating in California, Nevada, and the Chicago, Illinois area.

- **Zayo Acquired 360networks**
  On December 2, 2011, the Zayo website announced that it had completed its transaction to purchase 360networks. The resulting company is one of the largest Bandwidth Infrastructure companies in North America with an estimated annualized pro forma revenue of $393 million.

- **Zayo Acquired American Fiber Systems**
  On October 1, 2011, Zayo Group, a provider of telecom and Internet infrastructure services, announced that it had closed its previously announced transaction to purchase American Fiber Systems (AFS), a leading provider of metropolitan fiber network and telecom services. The acquisition adds approximately 1,000 route miles of metropolitan fiber footprint and over 600 incremental buildings. AFS operated in nine markets, six of which are new markets for Zayo Group and three of which bolster Zayo's network in existing markets.

NEVADA 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 state specific websites.

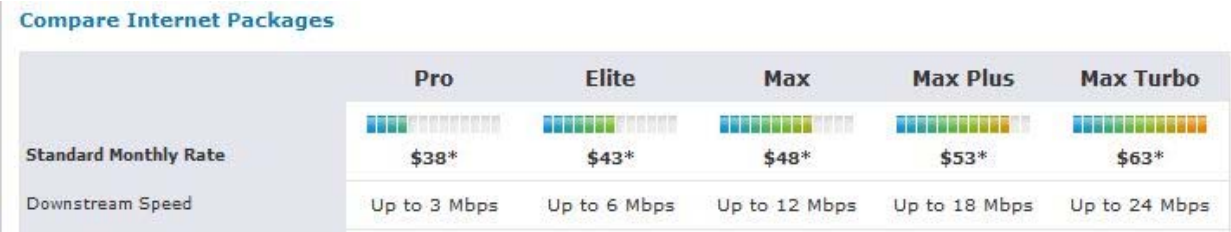
Additionally, CN cross-referenced numerous public documents in order to ensure that all known broadband providers were located and contacted. This included searching membership logs from trade associations (WISPA, WCAI, PCIA, etc.), the Cable Television Fact Book, Public Utility Commission records, Public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

To date, Connected Nation's staff conducted on-site validation tests in Nevada on the following providers: Above All Communications, LLC; Air-Internet, Inc.; Arizona Nevada Tower Corporation; AT&T, Inc.; Avant Wireless LLC; Baja Broadband LLC; Beehive Telephone Company, Inc.; CalNeva Broadband LLC; CC Communications; CenturyLink; Charter Communications; Citizens Telecommunications Company of Nevada (d.b.a. Frontier Communications of Nevada); Clearwire Corporation; Cox Communications; ETAN Industries (d.b.a. Clark Cablevision, CMA Cablevision); Ezznet, Inc.; Great Basin Internet Services; High Desert Internet Services; Highlands Wireless, Inc.; Hot Spot Broadband, Inc.; InfoWest, Inc.; KeyOn Wireless (also formerly Wells Rural Electric Telephone; Las Vegas.Net; Leap (d.b.a. Cricket License Company LLC); Lincoln County Telephone; Moapa Valley Telephone Company; Mount Wheeler Power; Oasis Online, Inc.; Performance Computing Internet Reliance Connects (d.b.a. Virgin Telephone & Cablevision); Robinson Communications Corporation (formerly Oregon-Idaho Utilities, Inc. and Humboldt Telephone Company); Schatnet Internet LLC; Sprint Nextel Corporation; TelePacific Communications (formerly Nextweb, Covad); T-Mobile USA, Inc.; Vegas Wi-Fi Communications LLC; Verizon Wireless; and Yonder Media (also formerly High Speed Networks-Mound House, LLC).

From program initiation through this reporting period, CN has completed in-the-field validation testing against 38 companies (out of a universe of 55 viable providers) totaling 69.09 percent within the state of Nevada. This percentage also considers the non-participating provider records submitted to NTIA as may be contained herein (see "Data Submission and Coverage Estimation of Non-Participating Provider" below).

CN has also continued to review provider datasets for accurate speed information, platform listings, and other intricacies that may fall outside of the standard SBI Data Transfer Model parameters. 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.

AT&T Inc.
Issue: DSL platform with a maximum advertised download speed in tier 7, higher than the expected value range for the technology.
Resolution: Provider website advertises 24 Mbps service; screenshot below.



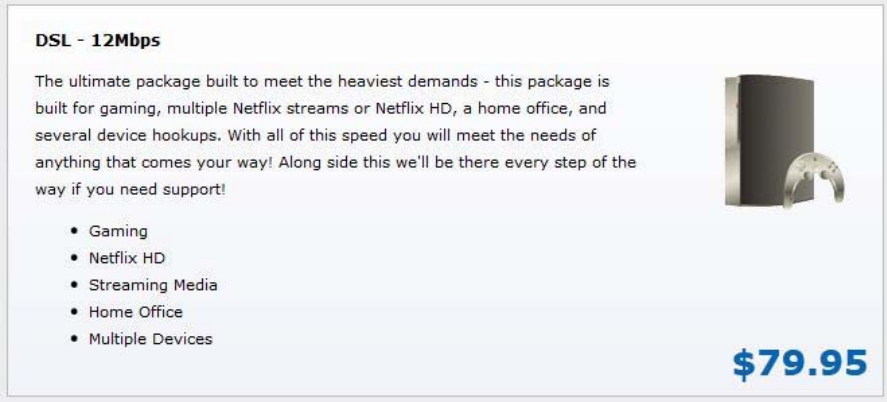
Compare Internet Packages

	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

CalNeva Broadband, LLC
Issue: Technology of transmission 40 with maximum advertised download speed in tier 4, lower than expected value range for the technology.
Resolution: Provider representative confirmed that service area is DOCSIS 3.0, but lower speeds are still in use.

CenturyLink
Issue: DSL platform with a maximum advertised download speed in tiers 7, 8, and 9, higher than the expected value range for the technology.
Resolution: Provider website advertises 25 and 40 Mbps service; screenshot below. Provider representative indicated that tier 9 DSL service is indeed available, but to less than 10% of its customers, which is why it is not widely advertised.

Filer Mutual Telephone Company
Issue: DSL platform with a maximum advertised download speed in tier 7, higher than the expected value range for the technology.
Resolution: Provider website advertises 12 Mbps service; screenshot below.



Great Basin Internet Services, Inc.
Issue: Fixed wireless platform with a maximum advertised download speed in tier 7, higher than the expected value range for the technology.
Resolution: Provider website advertises 12 Mbps service; screenshot below.

STARTER	1 x 1 (down vs. up mbps speed)	$24.95 (monthly)
	2 x 1 (down vs. up mbps speed)	$29.95 (monthly)
	4 x 2 (down vs. up mbps speed)	$39.95 (monthly)
	8 x 2 (down vs. up mbps speed)	$49.95 (monthly)
	12 x 3 (down vs. up mbps speed)	$69.95 (monthly)

Lincoln Communications, Inc.
Issue: DSL platform with a maximum advertised download speed in tier 7, higher than the expected value range for the technology.
Resolution: Provider representative confirmed that tier 7 service is indeed available.

Moapa Valley Telephone
Issue: DSL platform with a maximum advertised download speed in tier 7, higher than the expected value range for the technology.
Resolution: Provider website advertises 15 Mbps service; screenshot below.

Bundle	Description	Pricing
1	6 Mb Internet	$59.95
2	10 Mb Internet	$69.95
3	15 Mb Internet	$79.95

Rio Virgin Telephone Company
Issue: DSL platform with a maximum advertised download speed in tier 7, higher than the expected value range for the technology.
Resolution: Provider website advertises 12 Mbps service; screenshot below.

Nevada	ADSL				
Introductory DSL Pricing	3.0Mb down/1.0Mb up	6.0Mb down/1.0Mb up	9.0Mb down/1.0Mb up	12.0Mb down/1.0Mb up	768Kb down/768Kb up
Total DSL/Internet Recurring Charge	$34.95	$39.95	$47.95	$54.95	$24.95
*DSL Activation Service Order Charge	**$185.00**	$185.00	$185.00	$185.00	$185.00

T-Mobile USA, Inc.
Issue: Mobile wireless platform with a maximum advertised download speed in tier 7, higher than the expected value range for the technology.
Resolution: Provider website advertises download speed 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.

As requested of SBI grantees through e-mail correspondence on February 22, 2012, CN has also reviewed the fixed wireless coverage of providers in the state that NTIA has recognized as "having an unusual shape" that does not appear to be propagated service. Descriptions on the data collection and methodology used for each provider are supplied below.

Avant Wireless LLC
Background: This provider has not participated in the mapping initiative; therefore, data has been gathered from various public resources and through field validation. In the previous submission, coverage developed from the boundaries posted on their website, which were not model propagations.

Resolution: Based on the information gathered through additional field validation and research, model propagations were created and are being submitted in the April 2012 datasets.

DATA SUBMISSION AND COVERAGE ESTIMATION OF NON-PARTICIPATING PROVIDER

Avant 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 broadband provider, regardless of whether the provider has chosen to support and participate in the State Broadband Initiative (SBI) program.

This provider information was submitted to the NTIA in October of 2011 and the following accounts for updates to the coverage for this mapping cycle. The following narrative provides detail regarding the recent data collection and coverage estimation activities related to Avant Wireless LLC (Avant), a wireless Internet service provider (WISP), located in Carson, Nevada with a service area around Reno, Washoe Valley, Spanish Springs, Palomino Valley, Pleasant Valley, and Stead Airport. The narrative will include information regarding how and where CN obtained publicly available data.

April 2012 Submission Commentary

Connected Nation created this coverage estimation document during the October 2011 submission period as a result of the ongoing non-participatory status of the provider. In addition to the 4 instances of e-mail and/or telephone communication during the October 2011 submission period (as previously reported), CN conducted field validation activities on December 8, 2011. This action was precipitated by the response received from the provider on August 4, 2011 (see background information below). On March 5, 2012, CN created the propagation studies included in this report as a replacement for the unusually shaped polygons represented on the provider's website.

CN closely monitored the provider's website to identify any changes in the coverage area or maximum advertised speeds but did not locate evidence of any recent changes. To that end, CN is resubmitting this coverage estimation narrative, substantially in its original format, and will continue to monitor the provider's website as well as ensure ongoing outreach until either the expiration of the SBI grant or until such time as the provider voluntarily contributes data.

Background

The provider responded on April 17, 2011, and again on August 4, 2011, ("We continue to decline to participate") demonstrating their non-participatory status.

The Issue

Avant's responses since February 11, 2010, have predicated its unwillingness to participate in the Nevada broadband mapping initiative.

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

CN began building a file based on research information and, as time progressed, enriched the file with information obtained through the public domain. For example, CN reviewed the provider's

website (www.avantwireless.com)to determine the residential service plans **(Exhibit A)** and the service area **(Exhibit B)** of the provider's wireless network. A search for a Federal Registration Number ("FRN") on the FCC **CO**mmission **RE**gistration **S**ystem ("CORES") system for Avant Wireless LLC, Avant Wireless and Avant * (where * indicates wildcard search) and yielded no FRN **(Exhibit C)**.

Exhibit A: Service Plans

Avant Wireless, LLC

Typical Residential service is $45.95/month and $150 Installation fee
1 Install Rate
Basic One-time Installation $150 standard $200-$400 for special/business installations, $300 typical • If customer purchases equipment (not recommended*) installation is free • If customer purchases equipment monthly, one time installation fee is $75 • Beyond Basic Installation contact us for details
2 Equipment Purchase Price (Not Recommended*)
• Radio, antenna, power supply and cable $249.99 + tax
3 Equipment Lease Price
• Radio, antenna, power supply and cable $17 + tax for 12 months
Choose Only One of the above 3 options
Monthly Service Fees(Residential) this is guaranteed rate, speed will typically be around Max speed. Our outbound speeds are the same as the inbound speeds.
1. 128 kilobits/sec min rate - **7** megabits/sec Max$45.95/month $60/month Mt Rose area
2. 1 megabit/sec min rate - **10** megabits/sec Max $60/month

Exhibit B: Service Area

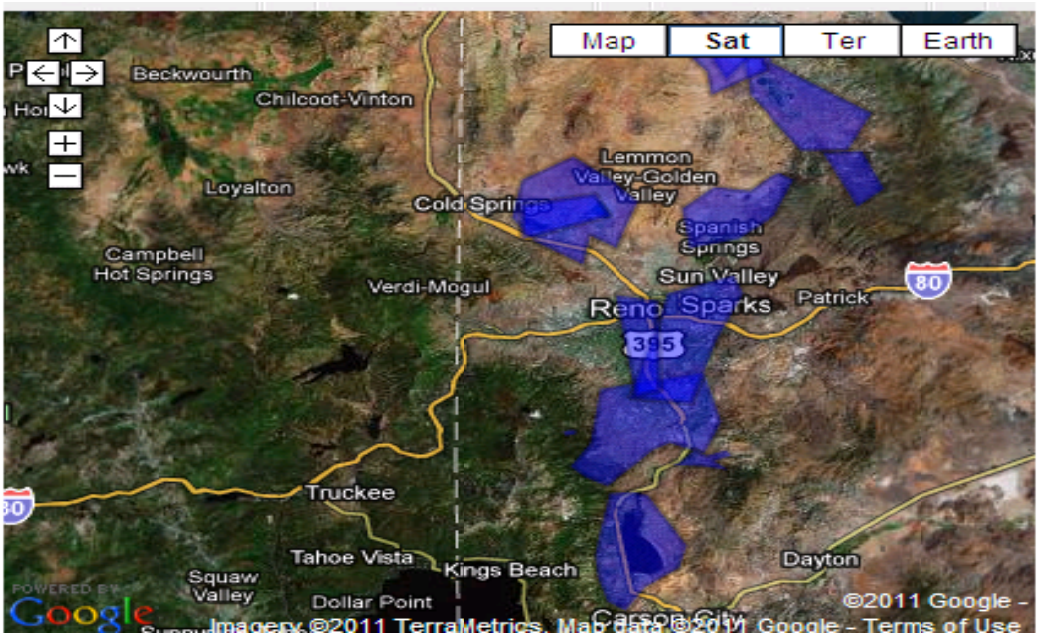
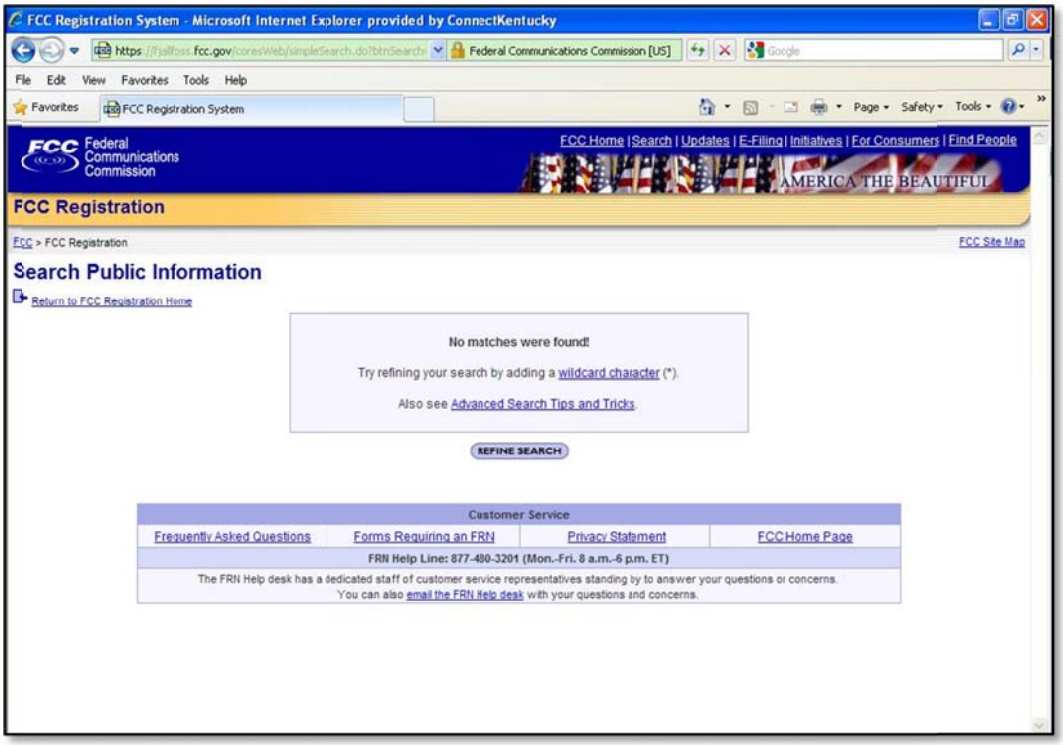


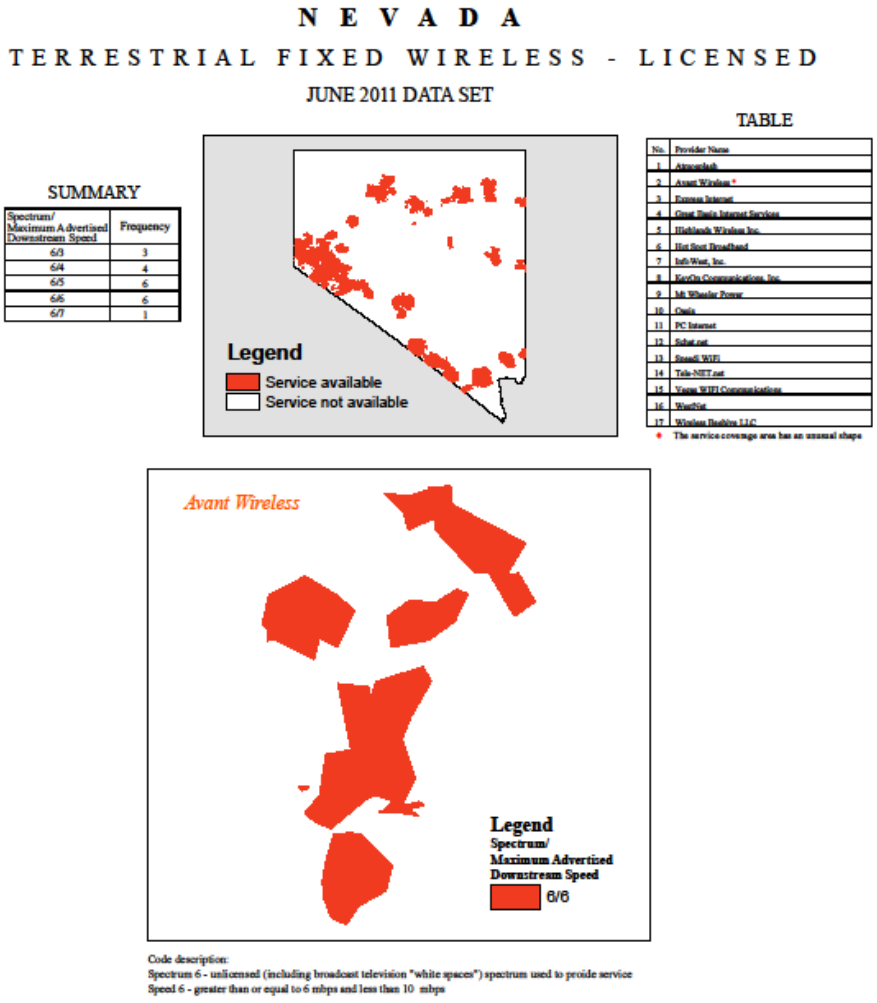
Exhibit C: Federal Registration Number Search Results



Preliminary Identification of Provider's Coverage Area

During the October 2011 mapping cycle, CN extracted the Avant service area polygons from the provider's website **(Exhibit B)** submitted the polygons to NTIA. Information from that website was utilized to create a spectrum analysis testing route.

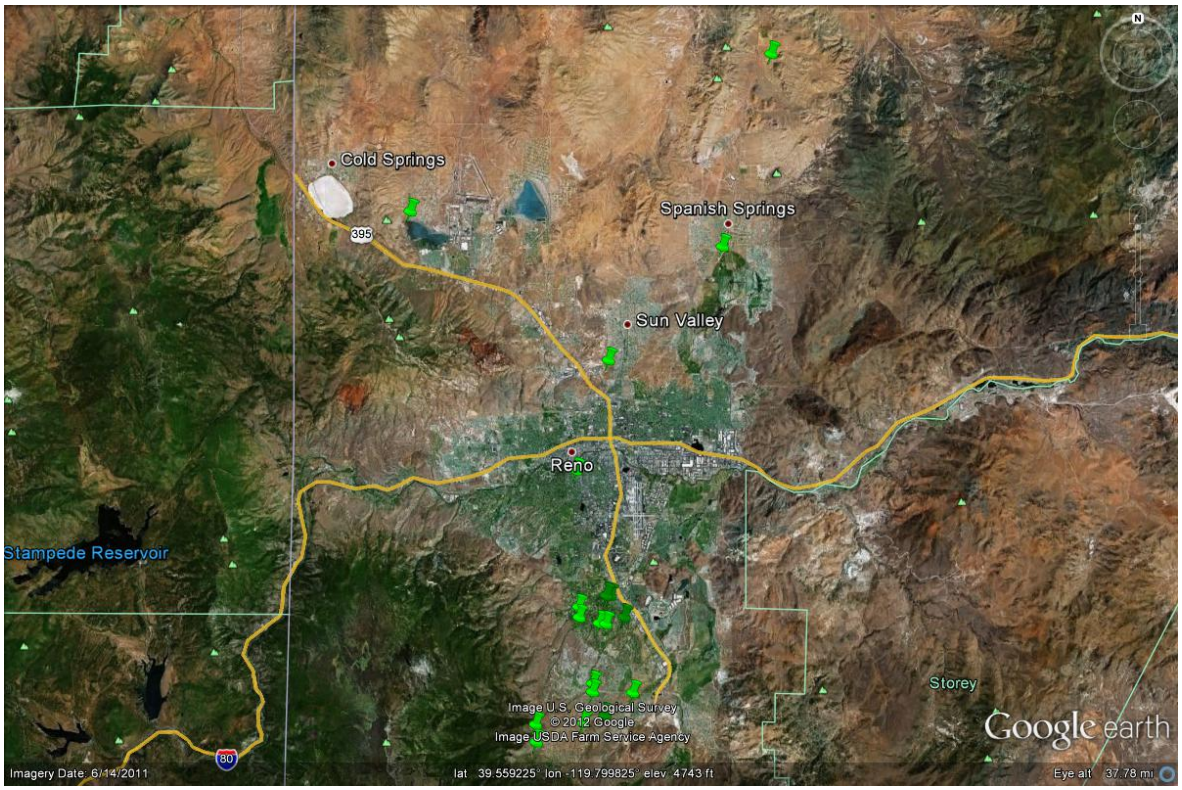
On February 22, 2012, CN received an e-mail from the NTIA stating "While reviewing the fixed wireless portion of each grantee's data, we have noticed that some of the broadband providers' coverage areas do not appear to be propagated coverage shapes, and in some cases are greater than the reported coverage on the providers' website" (see below). As a result, CN endeavored to create a wireless propagation model to replace the provider-referenced polygons (as identified on its website).



Testing Techniques

CN staff then developed a spectrum analysis data collection and site validation plan **(Exhibit D)** based on information derived from Avant's coverage depiction from its website. From December 5, 2011, through December 8, 2011, the CN engineer measured signal strength at 33 different locations throughout South Reno, Washoe Valley, along Mt Rose Highway, parts of downtown Reno, Sparks, Spanish Springs, and Palomino Valley. 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. Each validation point was scrutinized for frequency of operation to ascertain if multiple frequencies were being utilized by the provider. A screen image of the operating frequency (or frequencies) was captured and general notes were recorded for each location **(Exhibit E)**.

Exhibit D: Avant Spectrum Analysis Survey Locations



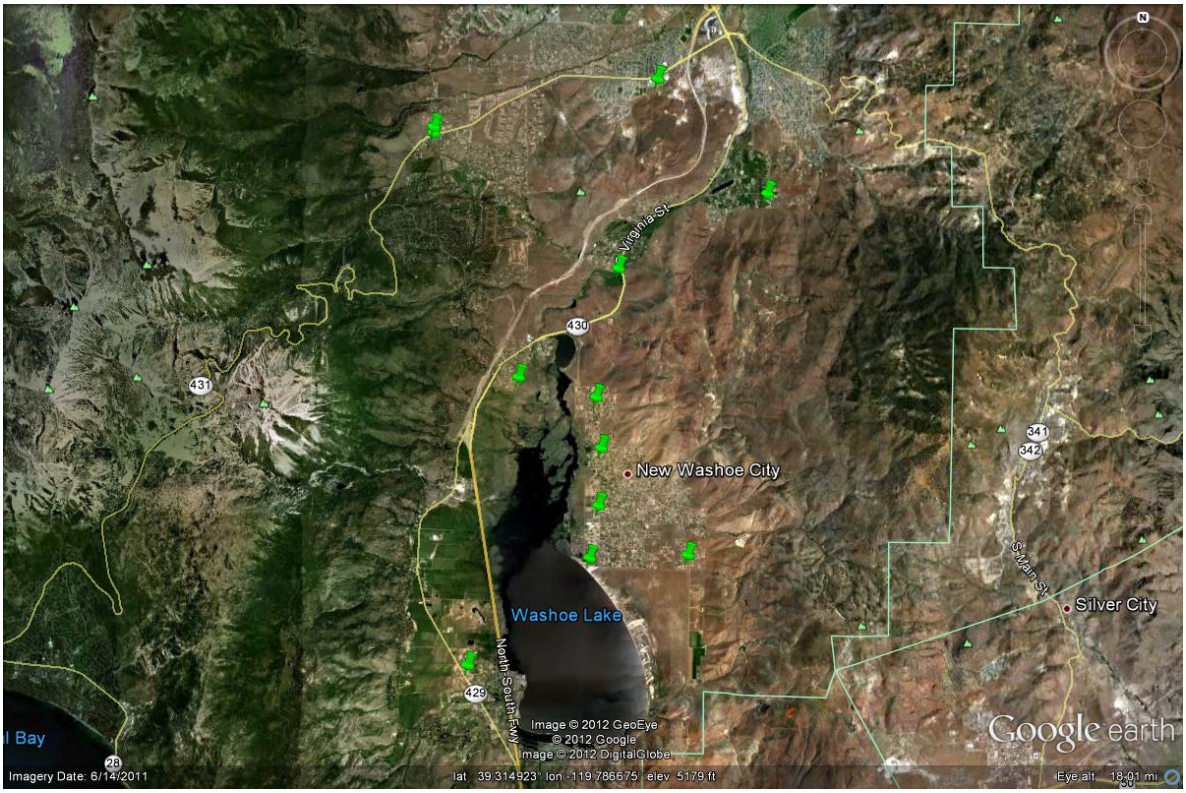
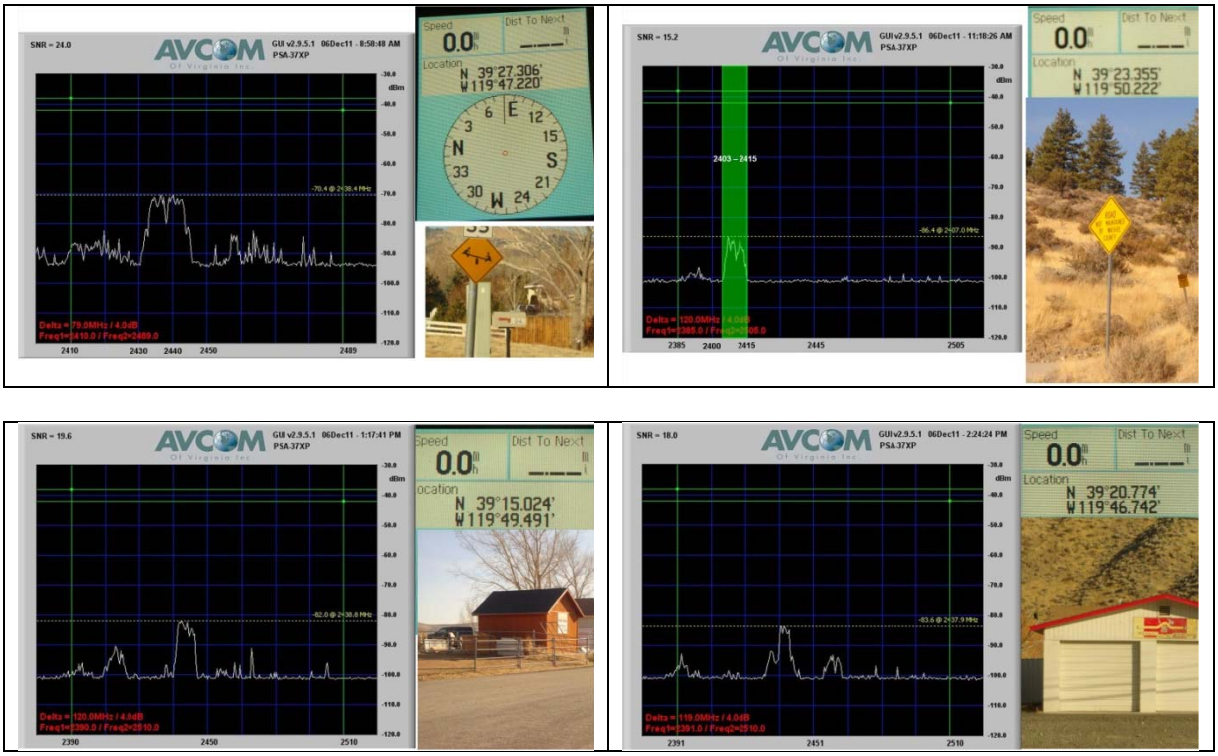


Exhibit E: Avant Field Verification Tests & Notes

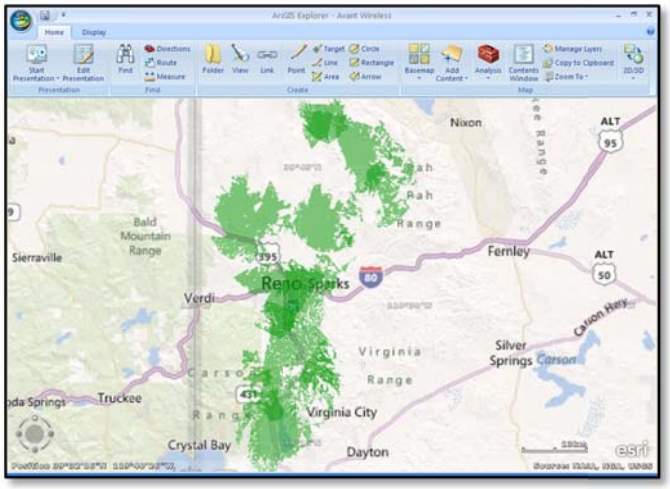
Site #	Date	Provider	(N) Lat Decimal	(-)(W) Long Decimal	Peak Freq	Peak Sig Strength	Spectrum Analyzer	Time	Images
21	12/6/11	Avant Wireles	39.379217	-119.836500	2424.4	-63.6	Avcom PSA	11:32 AM	Yes
22	12/6/11	Avant Wireles	39.377800	-119.836483	2434.3	-65.6	Avcom PSA	11:37 AM	Yes
23	12/6/11	Avant Wireles	39.391817	-119.767400	2431.9	-60.4	Avcom PSA	12:19 PM	Yes
24	12/6/11	Avant Wireles	39.364617	-119.732750	2436.4	-88.0	Avcom PSA	12:41 PM	Yes
25	12/6/11	Avant Wireles	39.250400	-119.824850	2438.8	-82.0	Avcom PSA	1:17 PM	Yes
26	12/6/11	Avant Wireles	39.277433	-119.756767	2410.2	-89.6	Avcom PSA	1:32 PM	Yes
27	12/6/11	Avant Wireles	39.276467	-119.787233	2462.5	-95.0	Avcom PSA	1:56 PM	Yes
28	12/6/11	Avant Wireles	39.289083	-119.784600	2410.2	-80.8	Avcom PSA	2:02 PM	Yes
29	12/6/11	Avant Wireles	39.302933	-119.783950	2452.9	-80.8	Avcom PSA	2:04 PM	Yes
30	12/6/11	Avant Wireles	39.315150	-119.785633	2442.5	-83.6	Avcom PSA	2:12 PM	Yes
31	12/6/11	Avant Wireles	39.346233	-119.779033	2437.9	-83.6	Avcom PSA	2:24 PM	Yes
32	12/6/11	Avant Wireles	39.319800	-119.809800	2414.3	-78.8	Avcom PSA	2:38 PM	Yes
33	12/7/11	Avant Wireles	39.520183	-119.780017	2421.9	-53.2	Avcom PSA	11:09 AM	Yes



Results and Submission for April 2012

The publicly available data was transferred to the CN Provider Information file. A composite propagation study was completed **(Exhibit F)** based on the service area map polygons extracted from the provider's website and based on the field verification data established during the data collection exercise.

Exhibit F: Avant Coverage Estimation (Propagation Model)



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, BroadbandStat, to create customized views of broadband service areas and analyze corresponding demographic information. Leveraging broadband service data on various platforms allows for public users, providers, and other stakeholders to review, scrutinize, and provide feedback on the represented data. This feedback becomes a validation method in itself as consumers submit inquiries to 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 1.03 percent of Nevada households do not have terrestrial fixed broadband service available, and approximately 0.36 percent[1] of Nevada households have neither mobile nor fixed broadband service available.[2]

Within rural areas of the state, results derived from provider-validated data indicate that approximately 5.70 percent of rural Nevada households do not have terrestrial fixed broadband service available, and approximately 1.18 percent[3] of rural Nevada households have neither mobile nor fixed broadband service available.[4] Please note that the availability estimates presented are based on Census 2010 household information.

WIRELESS METHODOLOGY

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

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

1. The name of the structure.
2. Whether the transmitting device is operational or proposed.
3. The maximum advertised downstream speed, the maximum advertised upstream speed.
4. The typical downstream speed, the typical upstream speed (peak periods for both).
5. The frequency range of spectrum being used (as prescribed by NTIA). In the case of NPP documents, this may include (but is not limited to) spectrum authorizations identified within the Federal Communications Commission (FCC) Universal Licensing System (ULS) database or located on the FCC's Spectrum Dashboard.
6. The primary population center(s) being served (for geopolitical boundary reference).
7. The physical address of the transmit site (in the event latitude/longitude is unavailable from the provider this allows a quick reference point for geocoding).

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

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

[3] See footnote 1.

[4] See footnote 2.

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 **CO**mmission **RE**gistration **S**ystem.

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

After converting propagation models into a geospatial format, additional processing is completed to remove the small pixels representing service present in the resulting dataset. These areas are initially created based on the parameters entered in the software from the provider equipment information, the underlying data parameters of elevation, 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 three categories: 1) residents who do not have broadband but want it; 2) residents who have broadband but want a different provider; and 3) residents who do not have broadband, but the broadband inventory maps indicate that they do.

BBIs are submitted frequently by consumers via the Connect Nevada 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 18,000 broadband inquiries since 2007, allowing the state programs to evaluate each inquiry for broadband demand and data verification. These inquiries are continuously examined against current broadband availability, updated every six months, to determine if previously unserved households have been expanded to and can now receive broadband at their residence. This database of broadband inquiries has also allowed the 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 Nevada project has received a total of 14 inquiries (40 grant inception to date). As more inquiries are submitted to Connect Nevada, a more thorough validation of the broadband landscape can be performed, while also allowing providers to see which areas have a high demand for broadband adoption.

BROADBANDSTAT METHODOLOGY

BroadbandStat is an online, interactive mapping tool for viewing, analyzing, and validating broadband data. Developed through a partnership with ESRI, the market leader in geographic information system (GIS) software, BroadbandStat is a multi-functional, user-friendly way for local leaders, policymakers, consumers, and technology providers to devise a plan for the expansion and adoption of broadband.

First and foremost, BroadbandStat allows consumers to locate their residence and identify providers that offer broadband Internet service to that location. The interactive platform allows for users to build and evaluate broadband expansion scenarios using a wealth of data, including education and population demographics, broadband availability, and research about the barriers to adoption.

New functionality in BroadbandStat allows the consumer to provide feedback on the broadband data displayed on the interactive map. Through the collection of this feedback, a visual demand for broadband is presented. This visualization allows the 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 Nevada project launched BroadbandStat on June 3, 2010, and has received a total of 2,052 visits to date, of which 666 occurred this reporting period.

SPEED TEST METHODOLOGY

The 419 speed tests that are represented in the Connect Nevada Speed Test Report during this reporting period (956 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 Nevada 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 Nevada 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 Nevada 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 Nevada.

PROVIDERS DEEMED NON-VIABLE

The following list of companies represents the remainder of the broadband provider universe that was originally identified as complete for outreach to begin for the State Broadband Initiative. These providers are not included in the Data Package for the April 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, etc.

	Company Name	URL	Comments
1	21Globe, Inc.	www.21globe.com/is/access/	General Reseller of DSL and backhaul
2	360networks	http://www.360networks.com/	Acquired by another company
3	650Net	www.650net.net/	Dial up only except CA DSL Reseller
4	A & J Hardy Enterprises, Inc.	http://comnett.net	Acquired by InfoWest
5	A 007 Access	www.a007.com/	dba of Cyberonic Communications Inc. reselling DSL and mobile wireless; general reseller of Quest DSL and mobile wireless; DSL does not qualify as the max advertised speed is 768 kbps x 128 kbps
6	A-1 Vegas.com	www.zekes.com	dba Zeke's Internet Service resells Qwest DSL
7	AAA Internet Service	n/a	No longer in business
8	Aaccess Network Communications	www.aaccess.net/	Not a broadband provider; provides services for business IT, home computer, web design
9	Access123.net	n/a	No longer in business
10	ACERX.NET	www.acerx.net/	General reseller of cable, DSL, and satellite broadband access
11	ACI, Inc.	http://www.aci.net	Reseller; unresponsive to multiple attempts to gather data
12	ACS Wireless	n/a	No longer in business
13	Advanced Communications Integration	http://www.aci.net/	Company is difficult to track with several name changes; is currently not a viable provider
14	Airewaves Broadband, LLC	n/a	No longer in business
15	Airmail247.com	www.airmail247.com/	Business mailing list search site; not an ISP
16	Amigo.Net	www.amigo.net/cms/	Qwest reseller in Alamosa, CO offering fixed wireless in CO and NM
17	Antioch Wireless Broadband	n/a	Resells DSL and cellular service in Antioch, IL only
18	Arrowheadnet.com	www.arrowheadnet.com/	Domain registration and web-hosting company

19	ATEK Communications	www.atekcommunications.com	Not an ISP; ATEK is a national data contractor specializing in structured data cabling and fiber optic distribution designs and installations
20	bargainisp.net	www.bargainisp.net/	Generic web directory site; company does not offer broadband
21	Big Kahuna Network	n/a	No longer in business
22	Broadband National	www.broadbandnational.com	Nonfacilities-based general reseller of DSL and satellite for 36 companies (e.g. ACC Business, HughesNet et al.)
23	CAC MediaNet, Inc.	www.cac.net/	DSL reseller; dba First Step
24	California Broadband Cooperative, Inc.	www2.ntia.doc.gov/grantee/california-broadband-cooperative-inc	$81 million BIP/BTOP grant to construct 10 Gbps middle mile fiber network that would mainly follow U.S. Route 395 from Carson City to Topaz Lake; project 5% done as of 8/11 report
25	Camino-Net Internet Services	www.camino-net.com	Reseller; no longer in business; was dial-up only
26	CCIS.net	www.ccis.net	Verizon reseller in DE and NJ
27	Celito Communications	www.celito.net/	Raleigh, NC company supplying tech services to businesses (networks, VoIP, and broadband access) in North Carolina
28	Cheetah Wireless Technologies, Inc.	www.cwti.us/cheeweb/homepage/	LV.Net has assumed CWTI's assets and is operating its networks
29	Cleartouch.Com	www.cleartouch.com/	Reseller of DSL and cable and mobile wireless broadband for various national providers
30	Clover Cable	n/a	Not an ISP; cable television line construction in Las Vegas, NV
31	Colorado River Internet	n/a	No longer in business
32	Comtech Communications Systems	www.comtechlv.com	Not an ISP; business telephone systems
33	Connecting America	www.coam.net/	Dial-up ISP
34	Corridor Communications	www.corridorcomms.ca	URL redirects to http://www.cciwireless.ca/, CCI Wireless, a Canadian company providing broadband access to Alberta

35	Cyberonic Internet Communications, Inc.	http://www.cyberonic.com/	Reseller; A 007 Access (above) is dba of Cyberonic
36	Deltaforce	www.deltaforce.net	Dial-up provider located in Raleigh, NC
37	deluxehost.com	www.deluxe-host.com	Offers web hosting only
38	DGUI	www.dgui.com/	No longer in business; domain name for sale
39	Dial National	www.dialnational.com/	Bad URL; out of business
40	Dialer.net	www.dialer.net/internet_access/United_States.html	International reseller of dial-up and 3G wireless reseller
41	DSL @ Interlync	www.interlync.com	Reseller of business DSL, T-1 and wireless
42	DTS-NET.COM	www.dts-net.com/	Reseller; provides wholesale and retail telecommunications services
43	Elko Broadband	n/a	No URL found; no info
44	estream Wireless	www.estreamwireless.net/	Reseller; no longer in business
45	ETI LLC	www.cyberenet.net/	General reseller of DSL services from infrastructure owned by Verizon, AT&T and Covad
46	Exwire	www.exwire.com/	Wi-Fi hotspot network where Exwire customers can easily access the Internet at several cafes, ski resorts, and other convenient public locations throughout Truckee and Lake Tahoe with Wi-Fi enabled devices
47	Fast Dependable Access	www.fda.net/	No longer in business
48	Go Mango Technologies	n/a	Can find no evidence that Go Mango is a company providing broadband in Nevada
49	Hubwest Protected Networks LLC	www.hubwest.com	Dial-up and web hosting only; not a WISP, merged with Southwest Cyberport
50	Imbris, Inc.	www.imbris.com	Broadband referral site
51	IMGISP.NET	www.imgisp.net/	Broadband referral site
52	In the Air Data	n/a	No URL found; no info
53	Incredible Networks	n/a	No URL found; no info
54	Inercom Communications Inc.	www.inercom.com	No longer in business

55	Interactiveinfo.com Inc.	www.rocketbroadband.com	Redirects to drumbeatnetworks.com, a Buffalo NY company designing, developing, and managing the network infrastructure; offers cable television services in NY only
56	iRadical	n/a	No URL found; no info
57	Ironwood Communications	www.ironwoodcommunications.com	Direct TV
58	ISPartner.net	n/a	No URL found; no info
59	Jenco Speed Web	www.jencospeed.net	Ohio WISP only
60	Jetstream Wireless	n/a	No URL found; no info
61	LANwaves	n/a	No longer in business
62	LARIAT.NET	www.lariat.net/	WISP in Wyoming only
63	LCSisp.com	www.lcsisp.com/index.cfm	National dial-up only
64	Light Link Broadband	www.light-link.net/	Redirects to www.digis.net, a provider of fixed wireless broadband internet in Utah
65	Lightyear Network Solutions, LLC	www.lightyear.net/	Telecommunications network company
66	LinkAmerica.Net	www.linkamerica.net/	Shopping site
67	MainBoard	www.mainboard.cc/internet.htm	VA-based computer store; general reseller; not a WISP
68	Maine Cable and Wireless	www.mainecableandwireless.com	Broadband referral site
69	Marcin Company	n/a	No URL found; no info
70	Millenicom Inc.	www.millenicom.com/internet_access.html	Resells mobile wireless on Sprint network EVDO cards
71	Nanomega.Com	www.nanomega.com	Redirects to GoDaddy; out of business
72	Nanosecond, Inc.	www.nanosecond.com	Provides computer repair, website design, website hosting, SEO, e-mail, and technology consultant
73	Net Nevada	www.netnevada.net/	dba Intuitive Logic, providing IT management and consulting and solutions including colocation, remote network backup and monitoring, shared server hosting, and bandwidth aggregation
74	NetAccess, Inc.	www.nas.net/	Not a WISP; business portal site
75	Netriplex	www.netriplex.com/	Data center
76	NetSpeed Online	www.netspeed-	No URL found; no info

		online.net	
77	NetVoice	www.netvoice.net/	VoIP search site
78	Nevada Comstock Communications, LLC	nevadacomstock.com	Phone systems
79	Nevada Hospital Association	www.nvha.net/	Not a broadband provider
80	Nevada Telecommunications Association	www.nevtelassn.org	Not a broadband provider
81	Nextlink Wireless, Inc.	www.nextlink.com	Acquired by XO Communications
82	NextWeb, Inc.	n/a	www.nextweb.net redirects to http://www.telepacific.com/offer/data-network/wireless-internet-access.asp. NextWeb was a broadband network service acquired by Covad acquired by TelePacific that provides high-speed Internet access over its fixed wireless network to businesses. NextWeb also offers web hosting, dial-up network access, and network consulting and firewall services. Its network covers over 3,000 square miles throughout California and is available in more than 175 cities, including the metropolitan areas of Los Angeles, Orange County, and the San Francisco Bay Area.
83	Northwest ISP	www.northwestisp.com/	No longer in business
84	NuTel Broadband Corporation	www.nutelbroadband.com/	No evidence that this company offers broadband services in Nevada; it appears that this company made a lot of noise in 2006 then disappeared
85	Overarch Broadband	www.overarch.com/	Broadband access in Idaho
86	Pacific Internet Exchange	www.pie.us/, www.pacificinternetexchange.com	URLs not active; no longer in business
87	Paknet Limited	www.ptcl.com.pk/pd_content.php?pd_id=279	Subsidiary of Pakistan Telephone Company; no USA services
88	Planet Online	www.planetonline.net/	Offers website hosting services

89	PremoWeb	www.premoweb.com/about_us/contact_us.html	URL inactive, out of business
90	PrimeVision Communications, LLC	www.myprimevision.net	URL inactive, out of business
91	Priority Wire & Cable	www.prioritywire.com	Not an ISP; priority wire and cable is a distributor of wire and cable serving electrical, utility, telecommunications, mining, and welding wholesale distributors
92	Pyramid Lake Paiute Tribe	n/a	Not operational, BIP/BTOP funded project to deploy fiber-optic middle mile network across 742 square mile reservation
93	Pyramid Net	http://www.pyramid.net/	Offers service, but below broadband threshold.
94	Rapid Cable	n/a	Rapid Cable was recently acquired by CalNeva Broadband in December 2008
95	Renaissance Networks	www.renaissancenetworks.com/	Company based in New Mexico; IT support; not a WISP
96	Sierra Internet Services, Corp.	http://www.sierranv.net/	Reseller of DSL services
97	Silver State Internet	www.ssinternet.net	URL inactive; out of business
98	Simply Dialup A Metrogeek Company	www.simplydialup.com/	Dial-up only; not a broadband supplier
99	Sky Technologies, Inc.	www.skyforall.com	Dish network reseller
100	SkyBridge Wireless	n/a	Not an ISP; renamed SkyBridge Technology Group; acquired aviation business
101	Sling Broadband	www.slingbroadband.com/	Florida WISP
102	SONNET Networking, LLC	www.sonnet.com/	California WISP
103	Sparkplug Las Vegas, Inc.	www.airband.com/	Provides fixed wireless broadband to businesses
104	Speakeasy, Inc.	www.speakeasy.net/	Business phone systems; not an ISP
105	Spring Creek Wireless	www.springcreekwireless.com/index.htm	WiFi access for trailer court in Spring Creek
106	StarNetWX	www.starnetinc.com/	Dial-up and VoIP
107	Surferz.Net	www.surferz.net/	Dial-up in upstate NY only; not a WISP

108	Switch Communications Group LLC	www.switchnap.com/	Colocation; NOC services
109	T1 Shopper	www.t1shopper.com/	Search engine for general reseller
110	The-OnRamp.Net	www.the-onramp.net/	Access provider below NTIA definition
111	Total Access Networks, Inc.	www.totalaccess.net	Fixed wireless provider in Elgin, TX
112	TSISP.NET	www.tsisp.net	Shopping site
113	U.S. TELEPACIFIC CORP	www.telepacific.com	Acquired by MegaPath
114	UNEV Communications, Inc.	n/a	UNEV (Lovelock) does not offer Internet Access
115	United Cable Management, Inc.	n/a	Out of business March 2011
116	University Corporation for Advanced Internet Development	www2.ntia.doc.gov/grantee/university-corporation-for-advanced-internet-development	BIP/BTOP recipient proposes a comprehensive 50-state network benefitting approximately 121,000 CAIs; the project proposes a large-scale, public-private partnership to interconnect more than 30 existing research and education networks, creating a dedicated 100-200 Gbps nationwide fiber backbone with 3.2 terabits per second (Tbps) total capacity that would enable advanced networking features such as IPv6 and video multicasting
117	UNUM Telecommunications, Inc.	www.utinet.net/	URL inactive; out of business
118	USA Airnet, Inc.	www.usaairnet.com	URL inactive; out of business
119	Velocitus	www.velocitus.net	URL inactive; out of business
120	Verde Communications	www.sparkplug.net/	Acquired by Sparkplug in July 2007
121	Washoe Weblinks	www.washoeweblink.com	URL inactive; out of business
122	Wireless Roanoke, Inc.	www.wirelessroanoke.com/	URL inactive; out of business
123	Wireless TelCorp, Inc.	www.wirelesstelcorp.com/	Fixed wireless provider with offices in TX, NV, and NC
124	Wireless Think Tank	www.wirelessthinktank.com/	URL inactive; out of business
125	wisbin	www.wisbin.com/	Wisconsin ISP resells DSL

126	WUE Inc.	www.lctsys.com/index.php?page=home	WUE provides mobile cellular and wireless services
127	www.AmericanAngel.us	www.americanangel.us/	URL inactive; out of business
128	YEYZOO.NET	www.yeyzoo.net/	URL inactive; out of business
129	YLISP (Your Local ISP)	www.itsyournet.com	Provider inactive; no longer in business
130	YourT1Wifi.com	www.yourt1wifi.com/	Providing service In Idaho, Washington, and Alaska
131	ZOOM Internet Services, LLC	n/a	www.zoomon.net redirects to www.fnw.us (FreedomNet) in December 2006; FreedomNet Solutions began offering wireless broadband service in western Michigan in 2002; currently expanding service throughout Michigan and other states; services target businesses and residential service

Broadband Provider Log

Complete	71
Non-Responsive/Refused	1
In Progress	0
Count of Datasets by Status	**72**
Total Unique Providers Represented	**53**

Provider Name	Platform	Status	NDA Execution Date	Notes
Above All Communications, LLC	Fixed Wireless	Data Added to Statewide Inventory		[MAR-12-12 Jess Cary] Change: New fixed wireless tower in operation.
AT&T Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/16/2009	[MAR-12-12 Jess Cary] Change: Expansion of service.
CalNeva Broadband, LLC	Cable	Data Added to Statewide Inventory	4/8/2010	[MAR-12-12 Jess Cary] Change: Expanded coverage area.
CenturyLink	DSL	Data Added to Statewide Inventory	12/4/2009	[MAR-12-12 Jess Cary] Change: Provider updated coverage area.
Charter Communications, Inc.	Cable	Data Added to Statewide Inventory	12/15/2009	[MAR-12-12 Jess Cary] Change: Expanded coverage area
Clearwire Corporation	Fixed Wireless	Data Added to Statewide Inventory	3/3/2010	[MAR-16-12 Jess Cary] Change: Updated service area.
Clearwire Corporation	Mobile Wireless	Data Added to Statewide Inventory	3/3/2010	[MAR-12-12 Terry Holmes] Provider supplied additional information on coverage for substantial service sites in October 2011, however requested that CN not submit or publish this coverage since they do not market to these areas.□ [MAR-12-12 Jess Cary] Change: Coverage area expanded.
Ezznet, Inc.	Fixed Wireless	Data Added to Statewide Inventory		[MAR-12-12 Jess Cary] Change: New provider this submission.
Fort Mojave Telecommunications, Inc.	Fiber	Data Added to Statewide Inventory		[MAR-12-12 Jess Cary] Change: New Fiber provider.
High Desert Internet Services	Fixed Wireless	Data Added to Statewide Inventory		[MAR-12-12 Jess Cary] Change: New fixed wireless tower in operation.
Hot Spot Broadband, Inc.	Fixed Wireless	Data Added to Statewide Inventory		[MAR-12-12 Jess Cary] Change: New fixed wireless tower in operation.
Leap Wireless International, Inc.	Mobile Wireless	Data Added to Statewide Inventory	4/6/2010	[MAR-12-12 Jess Cary] Change: Expansion of service area.
MetroPCS Wireless, Inc.	Mobile Wireless	Data Added to Statewide Inventory	2/10/2012	[MAR-12-12 Jess Cary] Change: New provider this submission.
Moapa Valley Telephone	DSL	Data Added to Statewide Inventory	2/22/2010	[MAR-12-12 Jess Cary] Change: Expanded coverage area.
Moapa Valley Telephone	Fiber	Data Added to Statewide Inventory	2/22/2010	[MAR-12-12 Jess Cary] Change: Expanded coverage area.
Sprint Nextel Corporation	Mobile Wireless	Data Added to Statewide Inventory	1/14/2010	[MAR-12-12 Jess Cary] Change: Service expansion.
T-Mobile USA, Inc.	Mobile Wireless	Data Added to Statewide Inventory	1/8/2010	[MAR-12-12 Jess Cary] Change: Expansion of service area.
Verizon Communications, Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/14/2009	[MAR-12-12 Jess Cary] Change: Service area expansion.
ViaSat, Inc.	Satellite	Data Added to Statewide Inventory	1/8/2010	[MAR-12-12 Jess Cary] Change: ViaSat has acquired WildBlue and coverage will be represented as ViaSat, Inc. starting with the April 2012 submission.
Wireless Beehive, LLC	Fixed Wireless	Data Added to Statewide Inventory	4/5/2010	[MAR-16-12 Jess Cary] Change: Added new tower.
Charter Communications, Inc.	Backhaul	Backhaul Provider Only Processing Complete	12/15/2009	
MegaPath Inc.	Backhaul	Backhaul Provider Only Processing Complete	2/15/2010	
Sprint Nextel Corporation	Backhaul	Backhaul Provider Only Processing Complete	1/14/2010	
T-Mobile USA, Inc.	Backhaul	Backhaul Provider Only Processing Complete	1/8/2010	
Zayo Bandwidth, LLC	Backhaul	Backhaul Provider Only Processing Complete		
Avant Wireless LLC	Fixed Wireless	Updated-Estimated Coverage Submitted for Non-Participating Provider		[MAR-12-12 Jess Cary] Correction: Field validation was completed to create estimated service area. Coverage was revised to propagations after field validation and other research.
AT&T Inc.	DSL	Approval for Update Not Received – Data Still Submitted	12/16/2009	[MAR-12-12 Jess Cary] Dataset not officially approved, but provider representative instructed CN to proceed with using the new dataset for the April 2011 submission.□ [MAR-19-12 Jess Cary] Change: Provider updated coverage area. Possible expansion.
Above All Communications, LLC	DSL	No Update to Provide		
Arizona Nevada Tower Corporation	Fixed Wireless	No Update to Provide	3/8/2010	
Arizona Nevada Tower Corporation	Fixed Wireless	No Update to Provide	3/8/2010	
Baja Broadband Holding Company, LLC	Cable	No Update to Provide	2/22/2010	
CC Communications	DSL	No Update to Provide	6/11/2010	
CC Communications	Fiber	No Update to Provide	6/11/2010	

CenturyLink	Backhaul	No Update to Provide	12/4/2009	
CenturyLink	Backhaul	No Update to Provide	12/4/2009	
Citizens Telecommunications Company of Nevada	Backhaul	No Update to Provide	1/22/2010	
Citizens Telecommunications Company of Nevada	DSL	No Update to Provide	1/22/2010	
CoxCom, Inc.	Backhaul	No Update to Provide	2/3/2010	
CoxCom, Inc.	Cable	No Update to Provide	2/3/2010	
DISH Network Corporation	Satellite	No Update to Provide	1/27/2010	
ETAN Industries	Cable	No Update to Provide		
Filer Mutual Telephone Company	DSL	No Update to Provide	2/9/2010	
Fort Mojave Telecommunications, Inc.	DSL	No Update to Provide		
Great Basin Internet Services, Inc.	Fixed Wireless	No Update to Provide	4/6/2010	
Highlands Wireless Inc.	Fixed Wireless	No Update to Provide		
Hughes Network Systems, LLC	Satellite	No Update to Provide	2/5/2010	
InfoWest, Inc.	Fixed Wireless	No Update to Provide		
LasVegas.Net LLC	Fixed Wireless	No Update to Provide		
Lincoln Communications, Inc.	DSL	No Update to Provide	3/5/2010	
Lincoln Communications, Inc.	Fiber	No Update to Provide	3/5/2010	
Martell Telecommunications	DSL	No Update to Provide	3/23/2010	
Mt. Wheeler Power	DSL	No Update to Provide	4/5/2010	
Mt. Wheeler Power	Fixed Wireless	No Update to Provide	4/5/2010	
Oasis Online, Inc.	Fixed Wireless	No Update to Provide		
Rio Virgin Telephone Company	DSL	No Update to Provide		
Rio Virgin Telephone Company	Fiber	No Update to Provide		
Robinson Communications Corporation	DSL	No Update to Provide	2/25/2010	
Schatnet Internet LLC	Fixed Wireless	No Update to Provide		
SMS Computing, Inc.	Fixed Wireless	No Update to Provide	3/19/2010	
Tele-NET.net LLC	Fixed Wireless	No Update to Provide		
tw telecom of nevada, llc	Backhaul	No Update to Provide	4/27/2010	
Vegas Wifi Communications LLC	Fixed Wireless	No Update to Provide	4/7/2010	
WENR Corporation	Cable	No Update to Provide	1/11/2010	
Wireless Beehive, LLC	DSL	No Update to Provide	4/5/2010	
Yonder Media	Fixed Wireless	No Update to Provide		
Cogent Communications, Inc.	Backhaul	No Update Provided - Use Last Submission Data		
KeyOn Communications, Inc.	Fixed Wireless	No Update Provided - Use Last Submission Data	10/15/2009	
Level 3 Communications, Inc.	Backhaul	No Update Provided - Use Last Submission Data	12/14/2009	
Nevada System of Higher Education	Backhaul	No Update Provided - Use Last Submission Data		
Verizon Communications, Inc.	Backhaul	No Update Provided - Use Last Submission Data	12/14/2009	
XO Communications, LLC	Backhaul	No Update Provided - Use Last Submission Data	6/2/2010	
Air-Internet, Inc.	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to contact attempts made during past mapping submission periods, 3 additional contact attempts were made this period.