

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



April 1, 2012

TABLE OF CONTENTS

Cover Letter	3
Data Acquisition: Alaska Community Anchor Institutions Methodology	7
SBI Data Submission Methodology	8
Alaska Field Validation Methodology.....	9
Accuracy and Verification: Provider Validation Methodology	12
Wireless Methodology	13
Broadband Inquiries Methodology	15
BroadbandStat Methodology	16
Speed Test Methodology.....	16
Providers Deemed Non-Viable	17
Broadband Provider Log	22

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 Alaska Department of Commerce, Community and Economic Development, please accept this submission from Connected Nation on behalf of the state of Alaska's State Broadband Initiative (SBI) Grant Program, known as Connect Alaska.

It is with highest regard that the collective stakeholders of Connect Alaska 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 Alaska has played in creating and maintaining such a powerful tool that has benefitted and surely will continue to benefit not just Alaskans, 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 Alaska: April 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

Appendix A: 1(b)	BB_Service_Wireless	Segment in Census Blocks Larger in Area Than Two Square Miles
Appendix A: 3(b)	BB_ConnectionPoint_MiddleMile	Broadband Service Availability of Wireless Services Not Provided to a Specific Address
Appendix A: 4	BB_Service_CAInstitutions	Broadband Service Infrastructure Middle-Mile and Backbone Interconnection Points
Appendix A: 4	n/a	Community Anchor Institutions-Listing
VII.A.1(a)	n/a	Community Anchor Institutions-Narratives
n/a	DataPackage.xlsx	Accuracy and Verification Report
n/a	n/a	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 Alaska 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.

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 95.45 percent of the Alaska provider community, or 21 of 22 total providers. Of the 21 participating providers, 7 supplied an update to their network or coverage area(s), while 13 have reported no change. The remaining provider previously supplied data but was 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 is currently in some form of progress toward data submission.

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

Connect Alaska has also continued to perform broadband verification activities through several means. In addition to confirmation of service area(s) by each provider, Connect Alaska conducts field validation efforts. To date, 16 (69.57 percent) providers have been validated through field verification activities. Additional details on verification activities are contained within the Field Validation Methodology.

The Connect Alaska website, (www.connectak.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 Alaska website encountered 2,695 unique visits during this reporting period (10,462 total to date for the life of the grant awarded on June 1, 2010). Additionally, this pronounced Web activity netted 7 broadband inquiries over this same reporting period (46 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 Alaska website and the Connect Alaska 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 Alaska mapping artifacts. Since the initial data collection and release of corresponding maps, feedback in the form of

broadband inquiries has allowed Connect Alaska to identify additional areas that are in need of field validation, which is scheduled as soon as possible.

Community Anchor Institutions

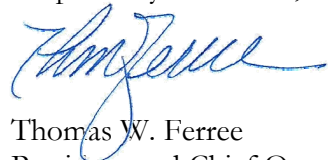
Connect Alaska has established an ongoing mechanism for gathering data on the location and broadband connectivity of Community Anchor Institutions (CAI), in accordance with the data requirements of the SBI NOFA Technical Appendix.

In conjunction with the Alaska Department of Commerce, Community and Economic Development, outreach was conducted during this data update reporting period by Connect Alaska 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 Alaska website. During this reporting period Connect Alaska partnered with Roxie Mourant at the Alaska Department of Education to combine surveys and distribute them to district technology contacts in an effort to promote the importance of broadband connectivity at anchor institutions and participation in this data collection process. Connect Alaska will continue to build upon this new relationship and others over the coming months and utilize its contacts throughout the state to collect data and raise awareness of this project.

From our work in Alaska, 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 Alaska 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 Alaska 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 Alaska, 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: ALASKA COMMUNITY ANCHOR INSTITUTIONS METHODOLOGY

In this fifth reporting period of the SBI, Connect Alaska, working in close coordination with the state of Alaska, 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 Alaska has continued to focus efforts on conducting outreach and raising awareness of this important project.

Connect Alaska 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 Alaska through ESRI ArcGIS software.

Connect Alaska continues to utilize a customized online survey hosted through SurveyMonkey, with a landing page on the Connect Alaska 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 Alaska 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.connectak.org/policy>.

Connect Alaska 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 Alaska 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 Alaska works with the Alaska Department of Commerce, Community and Economic Development to identify existing relationships that can support CAI outreach.

Connect Alaska 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 Alaska worked closely with the Alaska Department of Education by combining surveys to distribute to school technology contacts.

The greatest challenge with collecting CAI data continues to be educating the CAI about the Connect Alaska project as well as self-awareness of their own CAI connectivity (specifically upload and download speeds). Connect Alaska will continue to research key CAI organizations and agency contacts in an effort to raise awareness of this project among CAI. When applicable, the Alaska Department of Commerce, Community and Economic Development will continue to be briefed on the current CAI data and provided information so they 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	721	721	651	425	291	279
Libraries	128	128	128	46	44	44
Healthcare	295	295	89	191	189	6
Public Safety	323	323	323	3	3	3
Higher Ed Institutions	14	14	14	8	8	8
Other Government	568	568	565	23	18	17
Other Non-Government	447	447	440	6	7	4
Total	2496	2496	2210	702	560	361

During the coming months, CAI data collection will be supported by regular reporting to the Connect Alaska team. The CAI data is proving an invaluable resource to all components of the Connect Alaska 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 Alaska.

Inventory of Deliverables, Connect Alaska: April 1, 2012

NOFA Requirement
Appendix A: 1(a)(i)

Data Transfer Model
BB_Service_CensusBlock

Data Description
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 Alaska 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 Alaska 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.

ALASKA 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 System (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 Alaska on the following providers: Ace Tekk Wireless Internet; AlasConnect, Inc.; Alaska Communications Systems Holding, Inc.; Alaska Power & Telephone, Inc.; AT&T, Inc.; Borealis Broadband; Clearwire Corporation; Copper Valley Telephone Cooperative, Inc.; Cordova Telephone Cooperative, Inc.; GCI Internet; Ketchikan Public Utilities; Matanuska Telephone Association, Inc.; SPITwSPOTS LLC; TelAlaska Long Distance, Inc.; Verizon; and Yukon Telephone Company.

From program initiation through this reporting period, CN has completed in-the-field validation testing against 16 companies (out of a universe of 23 viable providers) totaling 69.57 percent within the state of Alaska.

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.

Alaska Communications Systems Holding, Inc. (ACS)

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

Resolution: Provider representative indicated that 10 Mbps service is available to anyone in the service area, but it is not advertised.

Matanuska Telephone Association, Inc.

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 service; screenshot below.



INTERNET PACKAGES available when you also have MTA PHONE service					
Download Speed	Usage				
	10GB	25GB	40GB	70GB	100GB
256K	\$25				
768K	\$40	\$45	\$55	\$65	\$95
2M		\$50	\$60	\$70	\$100
5M		\$60	\$70	\$80	\$110
10M		\$70	\$80	\$90	\$120
Additional GB	\$5		\$4	\$3	\$2

SPITwSPOTS, 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 12 Mbps service; screenshot below.

Internet Subscription Rates:

- 400k Service \$20 monthly
- 2Mb Service \$59 monthly
- 3Mb Service \$90 monthly
- 4Mb Service \$107 monthly
- 5Mb Service \$128 monthly
- 6Mb Service \$146 monthly
- 7Mb Service \$162 monthly
- 8Mb Service \$176 monthly
- 9Mb Service \$189 monthly
- 10Mb Service \$200 monthly
- 11Mb Service \$210 monthly
- 12Mb Service \$218 monthly

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.

Estimates derived from provider-validated data indicate that approximately 8.63 percent of Alaska households do not have terrestrial fixed broadband service available, and approximately 6.70 percent¹ of Alaska households have neither mobile nor fixed broadband service available.²

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

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

Within rural areas of the state, results derived from provider-validated data indicate that approximately 17.03 percent of rural Alaska households do not have terrestrial fixed broadband service available, and approximately 13.55 percent³ of rural Alaska 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).
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).

³ See footnote 1.

⁴ See footnote 2.

19. AMSL at base of tower site.
20. Antenna centerline AGL (height of antenna above ground level measured at the centerline of the actual antenna).
21. Foliage factors (Evergreens/Deciduous and percent of ground cover).
22. Ground Clutter (primarily used in rural areas to account for foliage and in metropolitan areas to account for types and heights of buildings if known).
23. Average gain of receive antenna.
24. Receive antenna is estimated at height above average terrain (HAAT) of 6.2 meters/20 feet.
25. Federal Registration Numbers (if applicable) which may allow opportunities to cross-reference and/or obtain additional data from the FCC's ULS and the **CO**mmission **RE**gistration 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 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 Alaska 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 Alaska project has received a total of 7 inquiries (46 grant inception to date). As more inquiries are submitted to Connect Alaska, 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 Alaska project launched BroadbandStat on September 1, 2010, and has received a total of 1,357 visits to date, of which 244 occurred this reporting period.

SPEED TEST METHODOLOGY

The 905 speed tests that are represented in the Connect Alaska Speed Test Report during this reporting period (2,193 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 Alaska 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 Alaska 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 Alaska 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 Alaska.

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	650Net	http://www.650net.net	Offer dial-up only, except offer DSL as a reseller in California.
2	AAA Internet Service	http://aaainter.net/dsl	Dial-up service with nonfacilities-based DSL. Does not offer in Alaska on searches.
3	Access123.net	http://www.access123.net	Offer dial-up services only.
4	ACERX.NET	http://acerx.net	Nonfacilities-based reseller of 13 national companies with cable, DSL, and mobile wireless applications.
5	Airewaves Broadband, LLC	www.airewaves.com	Airewaves is an Internet media download center.
6	Alaska Wireless Cable	n/a	Provider is no longer in business; URL is inactive.
7	Alaska Wireless Systems	n/a	Provider is no longer in business; URL is inactive.

8	Angoon Cablevision	n/a	Provider is no longer in business; URL is inactive.
9	Arctic Slope Tel. Assn. Coop. Inc.	http://www.astac.net	Provider does not meet the broadband speed requirements in either upload or download.
10	Bay Cablevision	www.bristolbay.com	Provider does not meet the broadband speed requirements in either upload or download.
11	Bristol Bay Telephone Cooperative, Inc.	http://www.bristolbay.com/	Provider does not meet the broadband speed requirements in either upload or download.
12	Broadband National	http://www.broadbandnational.com	Nonfacilities-based reseller of 30 national companies with cable and DSL applications.
13	Bush-Tell Inc.	n/a	Per CSR, they are local exchange services only; no website.
14	Camino-Net Internet Services	http://www.camino-net.com	No longer in business; phone and website are both inactive.
15	Circle Telephone Co.	n/a	Per CSR, they are local exchange services only; no website.
16	Communications Unlimited	http://www.cuicable.com/	Communications services company; does not provide broadband.
17	Core Communications	http://www.corecomm.us/	Printer and visual communications supplier.
18	deluxehost.com	http://deluxe-host.com	Company delivers web hosting services.
19	Denali Wireless Television	http://www.denalitelevision.com/	Nonfacilities-based reseller.
20	DGUI	http://www.dgui.com/	No longer in business; phone and website are both inactive.
21	Dialer.net	http://international.dialer.net	England-based, international pay-as-you-go mobile wireless and hot spot reseller.
22	DTS-NET.COM	http://www.dts-net.com/	Nonfacilities-based reseller for over 30 companies.
23	Echostar	http://www.echostar.com/	Does not provide service in Alaska.
24	Eyecom Cable	www.telalaska.com	Subsidiary company of Tel Alaska and Eyecom; does not provide broadband service.
25	Freedom Internet	http://freedominternet.net/	Dial-up services only.
26	Haines Cable TV	http://www.hainescable.tvheaven.com/	Company offers cable TV services only.

27	High Frequency Wireless	http://www.hfwireless.com/	Company is a reseller of GCI Mobile Wireless and Clearwire along with an electronics repair depot.
28	Hoonah.Net	n/a	Information located on company is not viable; phone number inactive.
29	ICE Communications	http://www.ice-com.net	Information located on company is not viable; phone number inactive.
30	Imbris, Inc.	http://www.imbris.com	Nonfacilities-based web engine reseller for multiple companies.
31	IMGISP.NET	http://www.imgisp.net/	Nonfacilities-based web engine reseller for multiple companies.
32	Incredible Networks	n/a	Could not locate any information on company.
33	Interactiveinfo.com Inc.	http://interactiveinfo.com/vice.com/	Performs internet search services.
34	iRadical	n/a	Could not locate any information on company.
35	ISPartner.net	n/a	Could not locate any information on company.
36	LCSisp.com	http://www.lcsisp.com/index.cfm	Dial-up services only.
37	Level 3 Communications, LLC	www.level3.com	Does not provide service in Alaska.
38	Lou's TV & Satellite Service, Inc.	http://www.lousatellite.biz/	Reseller of Wild Blue services.
39	MainBoard	http://www.mainboard.cc/internet.htm	Offer dial-up and are a nonfacilities-based reseller of DSL, cable, and wireless.
40	Maine Cable and Wireless	http://www.maineableandwireless.com	Could not locate any information on company.
41	Marcin Company	n/a	Could not locate any information on company.
42	Microcom	http://www.microcom.tv/	Reseller of Hughesnet, Starband, and Spacenet.
43	Millenicom Inc.	http://www.millenicom.com	Reseller of 3G and 4G mobile wireless services.
44	Mitkof.net	n/a	Information located on company is not viable; phone number inactive.
45	Nanomega.Com	www.nanomega.com	Information located on company is not viable; phone number and URL inactive.
46	NetAccess, Inc.	http://www.nas.net/	Canada business only provider with an array of services.

47	NetSpeed Online	http://www.netspeed-online.net	Could not locate any information on company.
48	Nook Net	n/a	Information located on company is not viable; phone number inactive.
49	Nushagak Electric & Telephone Cooperative Inc.	http://www.nushtel.com/	Provider does not meet the broadband speed requirements in either upload or download.
50	Overarch Broadband	http://www.overarch.com	Provider does not offer service in Alaska; provider services Treasure Valley, Idaho.
51	Pacific Internet Exchange	http://www.pie.us/	Provider is a web hosting company.
52	PremoWeb	http://www.premoweb.com/about_us/contact_us.html	Dial-up services only.
53	Qwest Communications Company, LLC	www.qwest.com/	Provider does not offer service in Alaska.
54	Sea Lion International, LLC	http://www.sealioncompanies.com	Provider still working with securing funding and working out network design issues.
55	Simply Dialup A Metrogeek Company	http://www.simplydialup.com	Dial-up services only.
56	Skagway Cable TV	www.hainescable.tvheaven.com	Cable TV services only.
57	SkyFrames	http://www.skyframes.com	Information located on company is not viable; phone number and URL inactive.
58	Smith Cable Systems	n/a	Company is a contractor for the installation of cable; no ISP operations.
59	Surferz.Net	http://www.surferz.net	Dial-up services only.
60	The Summit Telephone and Telegraph Company of Alaska, Inc.	n/a	Provider does not meet the broadband speed requirements in either upload or download.
61	Total Access Networks, Inc.	http://www.totalaccess.net	Supplies in-home solutions for multiple types of home networking and other types of services.
62	TransAria	http://www.transaria.net	Website points to backhaul provider, Cutthroat Communications; does not serve Alaska.
63	TSISP.NET	www.tsisp.net	Website search engine.

64	University Corporation for Advanced Internet Development	n/a	Nationwide GBit network for anchor institutions; network under testing and construction; no website found.
65	VPM Global Internet Services, Inc.	http://www.vpm.com	Reseller of HughesNet services.
66	Wireless Roanoke, Inc.	http://www.wirelessroanoke.com	Information located on company is not viable; phone number and URL inactive.
67	wisbin	http://www.wisbin.com	Reseller of DSL Internet service in Wisconsin; does not serve Alaska.
68	www.AmericanAngel.us	http://www.americanangel.us	Information located on company is not viable; website is a social website.
69	YEEZOO.NET	http://t1.vedy.net	Provider is a nonfacilities-based reseller of backhaul.
70	YLISP (Your Local ISP)	http://www.itsyournet.com	Nonfacilities-based reseller for local ISP companies.
71	MCI Communications Services, Inc.	http://www22.verizon.com/	Company rep noted they do not offer service in AK at this time, but provided blank data because AK was solicited.



Broadband Provider Log

Complete	30
Non-Responsive/Refused	0
In Progress	2
Count of Datasets by Status	32
Total Unique Providers Represented	23

Provider Name	Platform	Status	NDA Execution Date	Notes
Alaska Communications Systems Holding,	DSL	Data Added to Statewide Inventory	6/2/2011	[MAR-05-12 Brian Dudek] Change/Correction: Provider provided entirely new dataset that was much more comprehensive. Previous dataset was subscriber-based.
AT&T Corp, Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/16/2009	[FEB-03-12 Brian Dudek] Change: Provider expanded mobile territory in multiple areas, most noticeably in the Matanuska, Kenai and Valdez regions.
Copper Valley Telephone Cooperative, Inc.	DSL	Data Added to Statewide Inventory	1/11/2010	[JAN-26-12 Brian Dudek] Change: Provider expanded DSL territory.
Copper Valley Telephone Cooperative, Inc.	Mobile Wireless	Data Added to Statewide Inventory	1/11/2010	[JAN-25-12 Brian Dudek] Change: Provider added four additional transmission points and removed one. Increased maximum advertised download speeds on multiple towers.
Ketchikan Public Utilities	DSL	Data Added to Statewide Inventory	1/8/2010	[FEB-13-12 Brian Dudek] Change: Provider expanded DSL territory into Loring.
Ketchikan Public Utilities	Fiber	Data Added to Statewide Inventory	1/8/2010	[FEB-13-12 Brian Dudek] Change: Provider expanded fiber territory and increased maximum advertised upload speed to tier 4.
Matanuska Telephone Association, Inc.	DSL	Data Added to Statewide Inventory	6/15/2010	[JAN-25-12 Brian Dudek] Change: Provider upgraded speed capabilities in parts of their coverage area.
SPITwSPOTS LLC	Fixed Wireless	Data Added to Statewide Inventory		[MAR-06-12 Brian Dudek] Change: Provider added additional transmission points and upgraded infrastructure to higher upload speeds.
Kodiak Kenai Cable Company	Backhaul	Backhaul Provider Only Processing Complete	2/7/2011	
Ace Tekk Wireless Internet	Fixed Wireless	No Update to Provide		
Adak Eagle Enterprises, LLC	DSL	No Update to Provide	12/22/2009	
AlasConnect, Inc.	Fixed Wireless	No Update to Provide		
Alaska Communications Systems Holding,	Backhaul	No Update to Provide	6/2/2011	
Alaska Communications Systems Holding,	Mobile Wireless	No Update to Provide	6/2/2011	
Alaska Power & Telephone, Inc.	DSL	No Update to Provide	2/26/2010	
Alaska Power & Telephone, Inc.	Fixed Wireless	No Update to Provide	2/26/2010	
American Broadband Communications	DSL	No Update to Provide	6/7/2010	
ATCONTACT COMMUNICATIONS	Backhaul	No Update to Provide		
Borealis Broadband Inc.	Fixed Wireless	No Update to Provide	2/1/2010	
Borealis Broadband Inc.	Backhaul	No Update to Provide	2/1/2010	
Clearwire Corporation	Fixed Wireless	No Update to Provide	3/3/2010	
Craig Cable TV, Inc.	Cable	No Update to Provide	7/27/2010	
GCI Internet	Backhaul	No Update to Provide	2/25/2010	
GCI Internet	Cable	No Update to Provide	2/25/2010	
GCI Internet	Mobile Wireless	No Update to Provide	2/25/2010	
Hughes Network Systems, LLC	Satellite	No Update to Provide	2/5/2010	
OTZ Telephone Cooperative, Inc.	DSL	No Update to Provide		
Yukon Tech Inc	Cable	No Update to Provide	6/23/2010	
Yukon Tech Inc	Fixed Wireless	No Update to Provide	6/23/2010	
Cordova Telephone Cooperative, Inc.	DSL	No Update Provided - Use Last Submission Data		
MCI Communications Services, Inc.	Backhaul	Other	12/14/2009	[MAR-06-12 Wes Kerr] A company representative sent a message noting that these sites have been decommissioned and shouldn't be submitted any longer.