

**OFFICIAL OCTOBER 2010 UPDATE SUBMISSION TO
THE NATIONAL TELECOMMUNICATIONS AND INFORMATION
ADMINISTRATION UNDER THE
STATE BROADBAND DATA AND DEVELOPMENT GRANT PROGRAM
FOR THE STATE OF KANSAS**



October 1, 2010

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COVER LETTER

September 27, 2010

Ms. Anne W. Neville
SBDD 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 Designated Entity, and in partnership with the Kansas Department of Commerce (KDOC), please accept this submission from Connected Nation on behalf of the state of Kansas' State Broadband Data and Development (SBDD) Grant Program, Connect Kansas.

These artifacts should be found to be compliant with the October 1, 2010, 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 Kansas: October 1, 2010

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

VII.A.1(a)	n/a	Accuracy and Verification Report
n/a	DataPackage.xls	Worksheets of Contact
		Information, Data Dictionary, and
		Provider Summary Table
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 initial SBDD data submission for the Connect Kansas program, on March 31, 2010. Specifically, these new requirements are:

Census Blocks

This dataset should be found to be in full compliance with the request to use Census 2000 geography with the availability of wireline broadband services in census blocks with an area of no greater than two square miles.

SBDD Data Transfer Model

The submission of the broadband dataset for October 1, 2010, is contained within the SBDD Data Transfer Model as released on the Grantee Workspace on September 9, 2010. All efforts have been made to comply with formatting, domain, and metadata requirements to include as much information on each provider as possible.

It is therefore with great pleasure that the Connect Kansas program submits this first, semi-annual data update under the State Broadband Data and Development Grant Program. We will continue in partnership with the KDOC to implement the joint purposes of the Recovery Act and the BDIA by the gathering of comprehensive and accurate state-level broadband mapping data, developing state-level broadband maps, aiding in the development and maintenance of a national broadband map, and undertaking statewide initiatives for broadband planning.

As the submission of this semi-annual data update is concentrated on the delivery of Broadband Service Availability and Community Anchor Institutions (CAI) data, we provide the following insight into the compilation of these datasets contained herein.

Broadband Service Availability — Provider Outreach

This data update submission under the SBDD includes the participation of approximately 81.1% of the Kansas provider community, or 77 of 95 total providers. Of the 77 participating providers, 27 supplied an update to their network or coverage area(s), while 34 have reported no change. The remaining 16 represents providers who supplied initial submission data but were non-responsive in the October 2010 update effort or could not verify coverage areas at the time of this submission; therefore their initial dataset is being put forward as part of this compilation. A complete roster by provider depicting participation status and contact record is contained herein. Of the 18 providers that are not represented in the attached datasets, 7 have either refused to participate in the voluntary program or have remained unresponsive to the numerous attempts at contact by Connect Kansas. The remaining 11 providers are currently in some form of progress toward data submission but were not able to either submit or verify coverage areas at the time of this submission.

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

At the program's inception, Connect Kansas launched a website to create awareness about the initiative. Connectkansas.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. These program stakeholders are an essential component in the larger Connect Kansas data validation methodology.

As an indicator of stakeholder penetration, the Connect Kansas website encountered 2,478 unique visits during this reporting period, (6,277 total to date for the life of the grant which was awarded on November 1, 2009). Additionally, this pronounced Web activity netted 12 broadband inquiries during this reporting period (354 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 Kansas website and offer the citizens a vehicle to provide information regarding availability in their respective service area, either in affirmation or contest of the reported data represented in the Connect Kansas mapping artifacts. Since the initial data collection and release of corresponding maps, feedback in the form of broadband inquiries has allowed Connected Nation to identify additional areas that are in need of field validation, which is scheduled as soon as possible. Additional information on field validation can be found in the Field Validation Narrative.

Community Anchor Institutions

Connect Kansas 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 SBDD NOFA Technical Appendix.

In conjunction with the KDOC, significant additional research and outreach was conducted during this data update reporting period by Connect Kansas to continue identification of existing, centralized sources for CAI connectivity data. Outreach was coordinated with the state of Kansas to distribute the CAI survey to institutions throughout the state. The KDOC assisted in the outreach effort by providing their contact information for their CAI partners. Connect Kansas has identified and processed a list of CAI through a combination of datasets including publicly available and privately held datasets from online sources, including:

- The National Public Safety Information Bureau
<http://www.safetysource.com>
- American Hospital Association
http://www.hospitalconnect.com/hospitalconnect_app/hospitalfinder
- National Center for Education Statistics
Public Schools: <http://nces.ed.gov/ccd/schoolsearch/>
Private Schools: <http://nces.ed.gov/surveys/pss/privateschoolsearch/>

Colleges: <http://nces.ed.gov/collegenavigator>

Libraries: <http://nces.ed.gov/surveys/libraries/librarysearch/>

- United States Fire Administration
<http://www.usfa.dhs.gov/applications/census/search.cfm>

As of this semi-annual reporting period, a total of 99.9% Kansas CAI were identified, addressed, and geocoded. As is evident in the datasets being conveyed, while we were able to document institutions and the related addresses, the connectivity data collected in most categories remains less than complete. From our work in Kansas, as well as other states, we recognize the great value of this data to future collaboration efforts within the state, and to the accomplishment of the purposes in the recently released National Broadband Plan. We plan to continue to bring best practices to the Kansas efforts, along with an investment of both human and technical resources required to reach these goals in advance of the submission of the semi-annual update of this data due in April 2011.

In acquiring both broadband availability and CAI data within the state of Kansas, Connected Nation made special effort to engage all federally recognized tribal lands in the area covered by the Kansas SBDD grant. According to the U.S. Department of the Interior — Bureau of Indian Affairs, there are four Native-American lands: Iowa Tribe (Kansas and Nebraska), Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas, Prairie Band of Potawatomi Nation, and Sac and Fox Nation of Missouri (Kansas and Nebraska) in the area covered by the Kansas SBDD grant. Connected Nation has successfully contacted all of these tribes as part of the SBDD program and is accounting for the resulting data in the creation of the artifacts for this submission.

The Connect Kansas 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 Kansas, as well as the United States, through contribution to the National Broadband Map. We look forward to the remaining work ahead.

Respectfully submitted,



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

DATA ACQUISITION: KANSAS COMMUNITY ANCHOR INSTITUTIONS

In this second reporting period of the SBDD, Connect Kansas 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 SBDD NOFA Technical Appendix. Connect Kansas has focused efforts during this reporting period on conducting outreach and raising awareness of this important project.

In partnership with the state of Kansas, Connect Kansas 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 Kansas through ESRI ArcGIS software.

Connect Kansas continues to utilize a customized online survey hosted through SurveyMonkey, with a landing page on the Connect Kansas website, that was developed during the first reporting period. This survey in combination with a customized data-gathering spreadsheet was distributed to a targeted list of CAI throughout the state. Connect Kansas 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 SBDD NOFA.

Survey Link:

http://www.connectkansas.org/mapping/Community_Anchor_Institution_Data_Collection.php

Connect Kansas has developed a customized plan for the state of Kansas to direct and guide the future of the CAI project. This plan outlines next steps and a targeted outreach effort that will be implemented during the coming months. Connect Kansas continues to conduct 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 Kansas is working to identify additional key contacts among all CAI categories. This expanded effort will allow Connect Kansas to distribute and promote the online survey, raise awareness of the importance of CAI broadband connectivity and provide data for the interactive broadband map. Additionally, Connect Kansas has formed a partnership with the State Library of Kansas, Kansas Department of Education, and the Kansas Adjutant General to promote the CAI project and target institutions within the state. Connect Kansas also continues to operate a CAI hotline to answer questions related to the survey tools and CAI data collection.

Connect Kansas 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 Connect Kansas interactive map.

The greatest challenge faced in both reporting periods continues to be the difficulty in securing CAI broadband connectivity data. Connect Kansas will continue its ongoing work with key CAI contacts in an effort to raise awareness of this project. Future efforts will involve targeted planning with representatives from each of the CAI categories, as well as a structured outreach to each category, supported by messaging and meetings showcasing the value of these data for planning and

collaboration purposes. Targeted outreach efforts will be conducted through phone calls and industry/trade association meetings and newsletters, among other methods.

SBDD DATA TRANSFER MODEL METHODOLOGY

The submission of the broadband dataset for October 1, 2010, is contained within the SBDD Data Transfer Model as released on the Grantee Workspace on September 9, 2010. Connected Nation has reviewed all literature that relates to the release and use of this data transfer model and recognizes that it does not replace or dictate how data is stored, processed, or displayed for the state, as it is meant primarily as a means to transfer the broadband data from all states and territories and populate the National Broadband Map in a seamless fashion.

In addition to the narratives and 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 SBDD Data Transfer Model for the state of Kansas.

Inventory of Deliverables, Connect Kansas: October 1, 2010

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The provider data collected by Connected Nation on behalf of the state of Kansas have been formatted per the given specifications and uploaded into the appropriate feature classes of the SBDD Data Transfer Model. Wireline availability is contained within census blocks and road segments, wireless availability is contained as polygons of coverage areas, middle-mile connections and community anchor institutions are contained as point data, and the subscriber weighted nominal speed (if available) is contained within the overview feature class. 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.

KANSAS FIELD VALIDATION NARRATIVE

Chip Spann (Connected Nation’s Director of Engineering and Technical Services), Terry Holmes (Sr. Technology Consultant), John Determan (Sr. WiMAX Engineering Consultant), Jill Lindgren (Wireless Engineering Consultant), Mike Iverson (Wireless Engineering Consultant), James Tull (Wireless Engineering Consultant), and Layne Wagner (Technical Engineering Analyst) focused on extensive validation efforts across Kansas to ensure that a significant percentage of all technology platforms were verified for accuracy.

A plethora of activities and field validation techniques were employed such as (i) on-site visits with providers, (ii) verifying data which had been received from these providers, (iii) conducting spectrum analysis on fixed, mobile, and WiMAX operations, (iv) cross-referencing the physical coordinates of remote terminals; and (v) digital photography of facilities, and randomly testing throughput speeds to compare against data submitted representing the Maximum and Average speeds as reported by the broadband providers.

The product of each field validation “test” yields a documented report which includes the actions taken and the ultimate finding from each respective engineer. These reports endeavor to provide a snapshot of each test and typically include (a) the spectrum used by each wireless provider; (b) Antenna Structure Registration verification for each reported broadcast tower; (c) confirmation of physical coordinates for “non registered” transmit locations (such as water towers and rooftops); and (d) accuracy testing for reported elevations and grades.

To date, Connected Nation has completed in-the-field validation of 25 companies totaling 26.32% of the broadband provider universe within the state of Kansas. Data validation has now been completed (and in some cases is ongoing for providers with a statewide presence) on the following companies: AT&T Mobility, Cox, Eagle Communications, Nex-Tech, Pixius, Benson Telephone Service, CenturyLink, Haviland Telephone, KanOkla, Southern Kansas Telephone, Kansas Broadband Internet, Sumner Cable, Tri-Rivers, H&B Communications, Sprint/Nextel, Moundridge Telephone, Haug Communications, IdeaTek, United Telephone, Waumega Telephone, Verizon, Tri County Telephone, Rural Telephone, S&T Communications, and Rainbow Communications.

The results of the testing provided:

1. 100% affirmation of frequencies being used (as tested by an Avcom PSA-37XP spectrum analyzer).
2. 97% affirmation of coordinates submitted.
3. 100% affirmation of mobile broadband (as tested by speed tests conducted using a 3G smart phone(s)).

ACCURACY AND VERIFICATION: METHODOLOGY - PROVIDER VALIDATION

Broadband providers maintain their service area data in many different formats, all in varying levels of complexity and granularity. In order to ensure that the data required by the NTIA is standardized across all providers and that it is as accurate as possible, Connected Nation translates and formats the data that providers are able to supply into a GIS shapefile and produces maps for the provider to

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

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

DATA VALIDATION: SURVEY RESEARCH

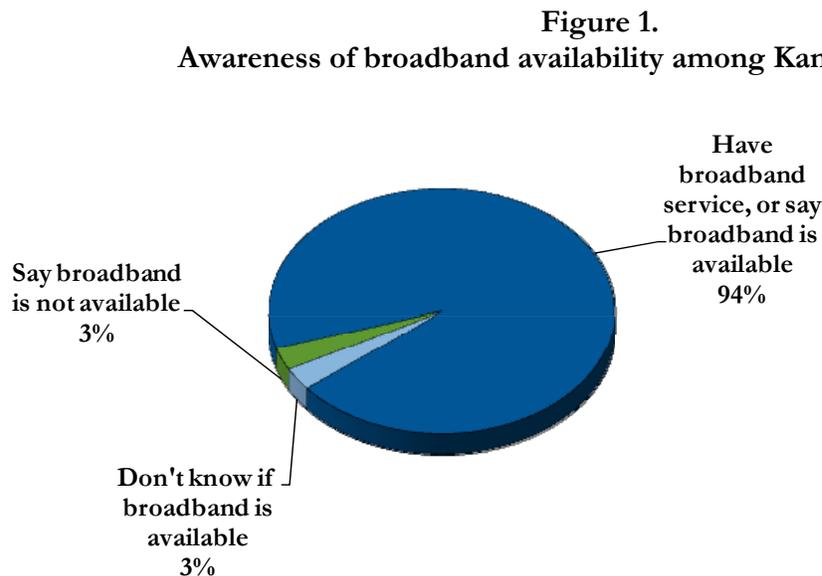
During June and July 2010, Connect Kansas conducted a statistically significant telephone survey of 805 Kansas businesses, to offer as a comparison against the provider-validated statewide broadband inventory. The survey provides an estimate of the percentage of all Kansas businesses and a subset percentage of all *rural* Kansas businesses that report that they are unaware of available broadband service at their location. These figures are then compared against broadband availability estimates derived from provider-supplied data to provide a macro-level comparison to the provider-validated data. This test measures how state businesses' awareness of broadband availability compares to provider-validated availability information. Results are reported below.

DATA VALIDATION: METHODOLOGY

Connect Kansas conducted a random digit dial (RDD) survey of 805 businesses contacted between June 23 and July 16, 2010. Data were collected by telephone through live, computer-assisted interviews, with quotas set by business size and industry sector to ensure adequate representation of all businesses across the state. Weights were applied to correct for minor variations and ensure that the sample matched U.S. Census estimates of the state's business establishments, as reported in the County Business Patterns Report. The statewide full sample (n=805) provides a margin of error of $\pm 4.9\%$ at the 95% level of confidence. The full sample of rural businesses (n=353 businesses located in rural counties) provides a margin of error of $\pm 7.3\%$ at the 95% level of confidence. These sample errors account for sample weighting, using the effective sample size. For the purposes of this survey, broadband is defined as “an Internet connection with speeds of 768 kilobits per second or higher in at least one direction.”

Results

Statewide, 3% of businesses report that broadband service is not available at their location, 3% don't know if broadband is available, and 94% report with certainty that broadband is available (Figure 1).

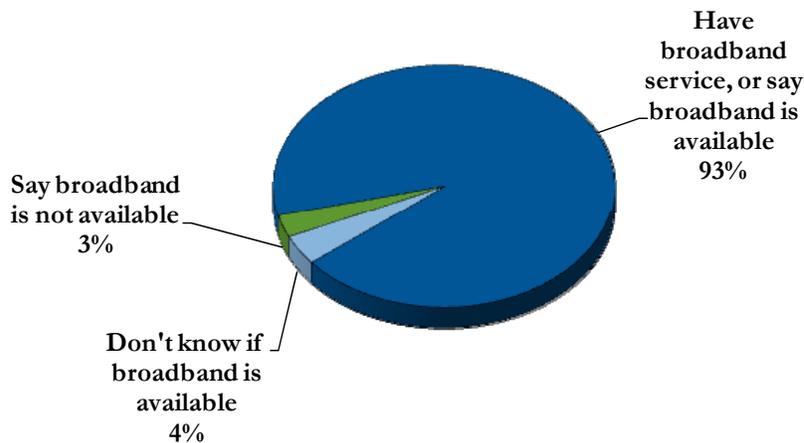


Taking into account the survey’s margin of error, the results estimate that between 0% and 7.9% of Kansas businesses do not have broadband service available.

Estimates derived from provider-validated data indicate that approximately 2.84% of Kansas households do not have terrestrial fixed broadband service available, and approximately 0.28%¹ of Kansas households have neither mobile nor fixed broadband service available.²

Among rural businesses, 3% of respondents report that broadband service is not available to them, 4% do not know if broadband is available, and 93% report with certainty that broadband is available (Figure 2).

Figure 2.
Awareness of broadband availability among *rural* Kansas businesses



Taking into account the survey’s margin of error, the results estimate that between 0% and 10.3% of rural Kansas businesses do not have broadband service available.

¹ In accordance with NTIA’s definition of available broadband service as specified in the SBDD 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 SBDD 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.

Results derived from provider-validated data indicate that approximately 5.92% of rural Kansas households do not have terrestrial fixed broadband service available, and approximately 0.62%³ of rural Kansas households have neither mobile nor fixed broadband service available.⁴

WIRELESS METHODOLOGY

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

Data is solicited from the wireless provider to include, but is not limited to:

1. The name of the structure
2. Whether the transmitting device is operational or proposed
3. The maximum advertised downstream speed and the maximum advertised upstream speed
4. The typical downstream speed and 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. Latitude in either Degrees, Minutes and Seconds and/or in Decimal Degrees (typically received as NAD 27 or NAD 83)
8. Longitude in either Degrees, Minutes and Seconds and/or in Decimal Degrees (typically received as NAD 27 or NAD 83)
9. 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)
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 manufacturers' specification sheet)
18. Power output of the transmitting device (if unknown FCC standards 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 only in metropolitan areas – accounts for types and heights of buildings)

Propagation modeling is an empirical mathematical formulation for the characterization of radio wave propagation as a function of frequency, distance, and other conditions. Propagation software typically uses the Irregular Terrain Model (also known as Longley-Rice) of radio propagation for

³ Ibid.

⁴ Ibid.

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, 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).

BROADBAND INQUIRIES METHODOLOGY

Connected Nation collects consumer feedback in the form of broadband inquiries. These inquiries represent any type of communication received from the public regarding broadband service. Once broadband inquiries are received across the state, this information is overlaid with the broadband availability information which was collected through the SBDD program. This allows for a real-world comparison of the broadband landscape to the information received from broadband inquiries. Broadband inquiries are able to provide three types of information: 1) Residents who do not have broadband but want it. 2) Residents who have broadband but want a different provider. 3) Residents who do not have broadband, but the broadband inventory maps indicate that they do.

Through the collection of broadband inquiries, a visual demand for broadband is presented. This visualization allows Connected Nation the ability to validate broadband availability maps for accuracy. If residents within a region state that they are without broadband, but the broadband inventory maps show otherwise, this allows Connected Nation to approach the providers within that area in an effort to trim down their coverage to more accurately represent real-world availability on the ground. On the other hand, if there is a region in the state in which broadband is not available, broadband inquiries allow providers close to that region to see where they can successfully expand their broadband networks, leading to a high return on investment. In short, the higher number of inquiries leads to a higher level of certainty in regard to the broadband availability maps. Since the initial data collection and release of corresponding maps, feedback in the form of broadband inquiries has allowed Connected Nation to identify additional areas that are in need of field validation, which are scheduled as soon as possible. Additional information on field validation can be found in the Field Validation Narrative.

The broadband inquiry process has been implemented in several other Connected Nation state programs with successful results. Citizens in the State of Tennessee have submitted over 10,000 broadband inquiries since 2007, allowing the Connected Tennessee program to evaluate each inquiry for broadband demand and data verification. These inquiries are continuously examined against current broadband availability, updated every three months, to determine if previously unserved households have been expanded to and can now receive broadband access at their residence. This database of broadband inquiries has also allowed Connected Tennessee 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 state 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 Connected Tennessee has 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 Tennessee has been altered to create a more accurate map based on the inquiries submitted by the public.

During this reporting period, the Connect Kansas project has received 12 inquiries (354 grant inception to date). As more inquiries are submitted to Connect Kansas, 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.

BROADBAND INVENTORY MAPS

The Broadband Inventory Maps are printer-friendly maps that include broadband coverage, cities, and towns, county boundaries, and detailed road information across the state of Kansas. The accuracy of these maps is critical to the future of broadband infrastructure planning in Kansas. The purpose of the maps is two-fold:

- **Data Verification** – Broadband providers and the public should use the map to ensure the current service area is accurately reflected.
- **Broadband Expansion Plans** – Broadband providers can use the inventory maps and unserved household density maps to learn where there are currently unserved areas that are densely populated. These maps can aid providers in identifying potential areas of expansion that could yield a high return on investment.

To date, the Connect Kansas Broadband Inventory Maps have received a total of 2,584 downloads. Of those 2,584 downloads, the Statewide Broadband Inventory Maps received 327 downloads, the County Broadband Inventory Maps received 1,574 downloads, and the Census Block-Level data received 683 downloads.

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.

The Connect Kansas project launched BroadbandStat on September 23, 2010, and has received a total of 18 visits to date.

SPEED TEST METHODOLOGY

The 375 speed tests that are represented in the Connect Kansas Speed Test Report during this reporting period (1,122 grant inception to date), are the result of a partnership between Connected Nation and Ookla Net Metrics. Utilizing this relationship increases the level of confidence in the data being collected and provides for a far greater sample size than could be collected by a single testing site.

Ookla owns and operates Speedtest.net, as well as develops and deploys speed tests, such as the Connect Kansas speed test website, for partners around the world. This network of sites that is developed and run on their 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 Kansas 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. This collection of speed information is two tiered. First, it allows for a comprehensive dataset of speeds, while also providing Connect Kansas 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 Kansas.



Broadband Provider Log

Complete	84
Non-Responsive/Refused	7
In Progress	11
Count of Datasets by Status	102
Total Unique Providers Represented	95

Provider Name	Platform	Status	NDA Execution Date	Notes
Access One Online Services	ILEC/CLEC	Data Added to Statewide Inventory		
AT&T Inc.	ILEC/CLEC	Data Added to Statewide Inventory	12/16/2009	
AT&T Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/16/2009	
CenturyLink	ILEC/CLEC	Data Added to Statewide Inventory	12/4/2009	
Comcast of Missouri, Inc	Cable	Data Added to Statewide Inventory	12/7/2009	
Cox Communications, Inc	Cable	Data Added to Statewide Inventory	1/29/2010	
Craw-Kan Telephone Cooperative, Inc.	ILEC/CLEC	Data Added to Statewide Inventory	12/7/2009	
Cunningham Telephone and Cable Company	Fiber	Data Added to Statewide Inventory	9/8/2009	
Cunningham Telephone and Cable Company	ILEC/CLEC	Data Added to Statewide Inventory	9/8/2009	
Eagle Communications, Inc.	Cable	Data Added to Statewide Inventory		
Eagle Communications, Inc.	Fiber	Data Added to Statewide Inventory		
Golden Belt Telephone Association, Inc.	Fiber	Data Added to Statewide Inventory		
Golden Belt Telephone Association, Inc.	Cable	Data Added to Statewide Inventory		
Laharpe Telephone Company, Inc.	Fiber	Data Added to Statewide Inventory	9/28/2009	
Mobil1.net	Fixed Wireless	Data Added to Statewide Inventory		
Mutual Telephone Company	Fixed Wireless	Data Added to Statewide Inventory	12/9/2009	
North Central Kansas Community Network	Fixed Wireless	Data Added to Statewide Inventory		
Peoples Telecommunications, LLC	ILEC/CLEC	Data Added to Statewide Inventory	12/1/2009	
S & A Telephone Company, Inc.	ILEC/CLEC	Data Added to Statewide Inventory	11/20/2009	
S&T Telephone Cooperative Association	ILEC/CLEC	Data Added to Statewide Inventory	8/28/2009	
S&T Telephone Cooperative Association	Fixed Wireless	Data Added to Statewide Inventory	8/28/2009	
Sprint Nextel Corporation	Mobile Wireless	Data Added to Statewide Inventory	1/14/2010	
T-Mobile USA, Inc.	Mobile Wireless	Data Added to Statewide Inventory	1/8/2010	
Time Warner Cable Inc.	Cable	Data Added to Statewide Inventory	12/21/2009	
Tri-County Telephone Association, Inc.	Fixed Wireless	Data Added to Statewide Inventory	12/1/2009	
Twin Valley Telephone Co., Inc.	ILEC/CLEC	Data Added to Statewide Inventory	10/12/2009	
United Telephone Association	Cable	Data Added to Statewide Inventory	11/23/2009	
Valnet, LLC (New)	Fixed Wireless	Data Added to Statewide Inventory		
Verizon Communications, Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/14/2009	
W.K. Communications	Cable	Data Added to Statewide Inventory	12/15/2009	
Wheat State Telephone, Inc.	Fiber	Data Added to Statewide Inventory	12/7/2009	
Wheatland Electric Cooperative, Inc.	Fixed Wireless	Data Added to Statewide Inventory	6/17/2010	
Blue Valley Tele-Communications (BVTC)		Approval for Update Not Received - Use Initial Data	11/17/2009	
Home Communications, Inc.	Fiber	Approval for Update Not Received - Use Initial Data	11/5/2009	
McLeodUSA Telecommunications Services, Inc.	ILEC/CLEC	All Data Received		
Allegiance Communications		No Update to Provide	2/4/2010	
Benson Telephone Service		No Update to Provide	12/15/2009	
Cable ONE Inc.		No Update to Provide	12/7/2009	
CenturyLink		No Update to Provide	12/4/2009	
City of Chanute		No Update to Provide		
Columbus Telephone Company		No Update to Provide	10/2/2009	
Cox Communications, Inc		No Update to Provide	1/29/2010	
CTC Wireless Internet		No Update to Provide	11/20/2009	
Diller Telephone Company		No Update to Provide		
Fairpoint Communications, Inc.		No Update to Provide	1/22/2010	
Gorham Telephone Company, Inc.		No Update to Provide	9/30/2009	
H & B Cable Services, Inc.		No Update to Provide	10/13/2009	
IdeaTek Systems, Inc.		No Update to Provide	3/4/2010	
Kansas Data Internet, Inc.		No Update to Provide		
KeyOn Communications, Inc.		No Update to Provide	10/15/2009	
Lawrence Freenet		No Update to Provide	10/5/2009	
Leap Wireless International, Inc.		No Update to Provide	4/6/2010	
Madison Telephone Company, LLC		No Update to Provide	11/17/2009	
Mediacom Communications Corporation		No Update to Provide	1/12/2010	
Mercury Wireless		No Update to Provide	3/25/2010	
Mokan Dial, Inc.		No Update to Provide	12/2/2009	
Moundridge Telephone Company, Inc.		No Update to Provide	10/7/2009	
Nautilus.Net		No Update to Provide		
Pioneer Telephone Association, Inc.		No Update to Provide	12/7/2009	
Pixius Communications LLC		No Update to Provide		
Rainbow Telecommunications Association, Inc.		No Update to Provide	12/9/2009	
Rural Telephone Service Company, Inc.		No Update to Provide	11/16/2009	
SKT, Inc.		No Update to Provide	12/31/2009	
South Central Telephone Association		No Update to Provide	12/17/2009	
Sprint Nextel Corporation		No Update to Provide	1/14/2010	
Superior iNET		No Update to Provide	1/29/2010	
The Computer Generation		No Update to Provide	1/8/2010	
Totah Communications, Inc.		No Update to Provide	9/8/2009	
Tri-Rivers Internet		No Update to Provide		
Wamego Telecommunications Company, Inc.		No Update to Provide	9/29/2009	
Wave Wireless		No Update to Provide	2/19/2010	
Wilson Telephone Company, Inc.		No Update to Provide	9/29/2009	
Benkelman Telephone Company		No Update Provided - Use Initial Data	1/12/2010	

BroadBand Wireless Internet (BBWI)		No Update Provided - Use Initial Data	12/4/2009	
Cunningham Telephone and Cable Company		No Update Provided - Use Initial Data	9/8/2009	
Cyber Lodge Wireless		No Update Provided - Use Initial Data	1/6/2010	
Elkhart Telephone Company, Inc.		No Update Provided - Use Initial Data	3/23/2010	
Galaxy Cable, Inc.		No Update Provided - Use Initial Data	2/10/2010	
Haviland Telephone Company		No Update Provided - Use Initial Data	12/3/2009	
J.B.N. Telephone Company		No Update Provided - Use Initial Data	12/14/2009	
Kanokla Telephone		No Update Provided - Use Initial Data	12/18/09	
Kansas Broadband Internet, Inc.		No Update Provided - Use Initial Data	1/15/10	
Level 3 Communications, LLC		No Update Provided - Use Initial Data	12/14/09	
Rebeltec Communications, LLC		No Update Provided - Use Initial Data		
Sumner Communications (New)		No Update Provided - Use Initial Data		
Sunflower Broadband		No Update Provided - Use Initial Data		
TwinMounds		No Update Provided - Use Initial Data		
Ace Computers		Solicited Initial Data		
Davin Wireless		Solicited Initial Data		
Flash Network		Solicited Initial Data		
SureWest Communications		Solicited Initial Data		
Vogent.net		Solicited Initial Data		
WebNet Broadband		Contact Attempted		
arcplasma.com		Refused to Participate		[JUL-10-10 John Determan] After soliciting data in accordance with the NOFA and the Clarification, Arcplasma indicated that they only offer service to approximately ten people in their neighborhood, also stating that their broadband coverage "is not map worthy."
Southeast Nebraska Communications		Refused to Participate		[JUL-10-10 John Determan] After soliciting data, in accordance with the NOFA and the Clarification, Southeast Nebraska Communications believes no benefit for it has a very small footprint in Kansas.
Midwest Connections, Inc		Non-Responsive to Multiple Attempts		In addition to numerous attempts between July 30, 2009 and March 26, 2010, two attempts were made between July 13 and August 5.
SCI Cable, Inc.		Non-Responsive to Multiple Attempts		In addition to numerous attempts between January 27 and March 26, two attempts were made between July 13 and August 5.
SWKO Wireless		Non-Responsive to Multiple Attempts		In addition to numerous attempts between February 26 and March 26, two attempts were made between July 13 and August 5.
WichitaUSA Wireless		Non-Responsive to Multiple Attempts		In addition to numerous attempts between January 24 and March 26, two attempts were made between July 13 and August 5.
WISProuter Inc.		Non-Responsive to Multiple Attempts		In addition to numerous attempts between July 30, 2009 and March 24, 2010, two attempts were made between July 13 and August 17.
DISH Network Corporation		Other	1/27/2010	[SEP-16-10 Brian Dudek] Satellite data will not be submitted due to additional information being necessary to show where service is available in the state, rather than submitting the entire state boundary as serviceable area.
Hughes Network Systems, LLC		Other	2/5/2010	[SEP-16-10 Brian Dudek] Satellite data will not be submitted due to additional information being necessary to show where service is available in the state, rather than submitting the entire state boundary as serviceable area.
Utopian Wireless Coporation		Other		[AUG-12-10 Wes Kerr] Utopian confirmed that they do not yet offer any services but will begin offering services in Quarter 4 of 2010.
WildBlue Communications, Inc.		Other	1/8/2010	[SEP-16-10 Brian Dudek] Satellite data will not be submitted due to additional information being necessary to show where service is available in the state, rather than submitting the entire state boundary as serviceable area.