



COMMENTS OF CONNECTED NATION

TO

REQUEST FOR INFORMATION

BY THE

**DEPARTMENT OF AGRICULTURE, RURAL UTILITIES
SERVICE**

AND THE

**DEPARTMENT OF COMMERCE, NATIONAL
TELECOMMUNICATIONS AND INFORMATION
ADMINISTRATION**

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EXECUTIVE SUMMARY

Connected Nation hereby offers comments to the Request for Information issued by the Department of Agriculture, Rural Utilities Program (RUS), and the Department of Commerce, National Telecommunications and Information Administration (NTIA), regarding the implantation of the second round of available grants under the Broadband Initiatives Program (BIP) and the Broadband Technology Opportunities Program (BTOP). Connected Nation's comments to the questions posed by the RUS and NTIA can be summarized as follows.

1. Connected Nation recommends that a portion of remaining available funds at the RUS and NTIA for infrastructure build-out should be targeted towards programs that contemplate a regional or state-wide economic development approach to broadband deployment. This strategy should link broadband deployment and planning to a variety of complementary economic actions, such as workforce training, entrepreneurial development or the reinforcement of broadband through community institutions through targeted regional economic development strategic plans that promote comprehensive sustainable adoption programs and economic growth. There are two important reasons for this linkage. First, a community or region will not reap the benefits of federal funding to finance broadband deployment until its citizens, businesses and institutions make use of broadband to improve their quality of life and productivity of their endeavors. And, second, because ensuring sustainable adoption of broadband service is the only means to ensure sustainability of the infrastructure investments, an important goal of the BTOP and BIP programs. Private and or local investment in these networks, or perhaps new

competitive networks, will be encouraged as more Americans use these networks and make this empowering technology a part of their lives and business endeavors.

While broadband infrastructure is a necessary condition to bridge the digital divide and stimulate economic growth and opportunity across these communities, it is not sufficient. According to Connected Tennessee's latest data from July 2009, 55% of surveyed adults subscribe to broadband in the home and 84% of all business surveyed use broadband services. Statewide, the Connected Tennessee broadband inventory map estimates that 90.5% of households in the state have access to broadband services, leaving almost 40% of homes with broadband service available that have not adopted this technology.

Regional economic growth will be maximized if these regional planning entities are focusing efforts on promoting sustainable adoption of broadband services across the communities and regions where broadband deployment is proposed. The goal of such programs should be to expand the use of the services across different sectors and institutions in the community, targeting those segments of society that research suggests are less likely to use broadband, and thus more likely to find themselves disenfranchised within a society ever more dependent upon broadband. As more consumers, businesses, and community and government institutions use these broadband services in ever more creative and productive ways, maximum value and economic impact of the infrastructure grants upon the community will be realized.

2. Connected Nation recommends that the NTIA expand federal funding for sustainable adoption and public computing centers programs beyond the minimum thresholds mandated by Congress in an effort to further the adoption and use of broadband services. NTIA's first round of grant funding received over 650 requests totaling approximately \$4.5 billion through the BTOP sustainable adoption and public computing center programs. The need for federal funds to jump-start demand-side broadband initiatives is clearly evident.

Broadband infrastructure projects funded by the ARRA will only be sustainable in the long run if end-users access the networks that these projects create. Sustained and increased use of existing and future networks will help prevent the need for ongoing federal funds to maintain and improve the country's broadband infrastructure.

Increasing the focus of BTOP on comprehensive and sustainable adoption increases, digital literacy and inclusion, and increased access at public sites will ensure maximum use of existing networks and those funded by the ARRA. Furthermore, the true economic benefits of broadband occur when adoption rates increase. Thus, if we are to accomplish the ARRA's primary goal of stimulating the economy, remaining BTOP and BIP resources should focus on: (1) Supply-side funding on cost-effective projects for the remaining unserved areas, particularly tribal lands that are historically unserved, and (2) Demand-side funding for state and regional programs that use localized research as the driver for targeted and cost-effective regional initiatives to increase broadband adoption and use, particularly among vulnerable populations.

3. Connected Nation recommends that the BTOP public computer center program encourage libraries as potential grantees, but not limit the program only to libraries. Connected Nation’s recent policy brief “Connecting America through Broadband at the Library: A Connected Nation Policy Brief” demonstrates that libraries are vital in filling an access void in local communities where the library is most often the only source of free Internet availability. Key findings of this survey research include:
- Significant percentages of those who normally don't subscribe to broadband – specifically single parents, minorities and low-income residents – are relying on the local library as their sole or primary Internet resource: 25% of single parents, 25% of minorities, 18% of low income residents, and 11% of people with disabilities depend on libraries for Internet connections.
 - More than one-half of library Internet users (51%) have children at home, suggesting that a significant portion of library Internet users are children. Of this group, 42% do not have a broadband connected computer at home. Library Internet users are significantly more likely than other Internet users (those who connect at home or elsewhere) to use a number of online applications related to workforce development and education, civic engagement and healthcare.
 - Nearly half of library Internet users (46%) search for jobs online, compared to 29% of other Internet users.

- Library Internet users are significantly more likely than other Internet users to communicate online with local government officials (25% compared to 14%).
 - 28% of library Internet users communicate online with healthcare professionals, compared to 16% of other Internet users.
4. The SBDD program and its forthcoming dataset on broadband availability holds tremendous potential value for subsequent rounds of BTOP and BIP and other federal programs, however, its relative value within the 2010 calendar year will be largely dependent upon the effective implementation by federal and state governments of web-based and user-friendly tools for displaying and easily analyzing the SBDD broadband availability data in combination with other factors. Additionally, because delays in SBDD awards have stalled data collection and project work in the majority of US states and territories, SBDD data will likely not be available as early as anticipated, and this delay may hinder its use in the subsequent rounds of the BTOP and BIP programs. Considering the timeframe challenges associated with the SBDD program and the use of SBDD data for Round 2 of BIP and BTOP, Connected Nation makes the following recommendations for making the most effective use of existing and forthcoming broadband availability data for the purposes of BIP and BTOP:

- (1) NTIA should adopt a universal geodatabase data model for ArcGIS data submitted through the SBDD program, seeking input from the National States Geographic Information Council who has already created a geodatabase model

and SBDD designated entities. A consistent geodatabase data model would enable consistent data collection, support workflows and analysis for comparing availability data across states.

- (2) NTIA should develop a web-based, user-friendly GIS platform for SBDD data, enabling both the intuitive display as well as meaningful analysis of broadband availability data across states and in relation to demographic and relevant market data. An analytics-based GIS platform would enable a transparent system for federal officials and other interested stakeholders to help ensure that federal dollars are allocated appropriately – both for targeting grants and loans to the areas in greatest need as well as confirming that the technical specifications of proposed broadband networks are sustainable within the confines of the geographic, topographic, and market conditions of a proposed service area.
- (3) NTIA should publicly release through its website the geographic specifications of approved Round 1 BIP and BTOP applications, as soon as possible after the projects are approved, to allow states and potential Round 2 applicants to account for the Round 1 projects under construction. These data would be most effectively displayed through a web-based GIS platform described above; however, in the interim, these data could be presented in a downloadable tab-delimited file indicating the census blocks proposed to be served with Round 1 funding.

I. COMMENTS ON RFI SECTION II.A.2 - ECONOMIC DEVELOPMENT

Should RUS and/or NTIA allocate a portion of the remaining funds available under the BIP and BTOP programs to promote a regional economic development approach to broadband deployment? This option would focus the Federal broadband investment on communities that have worked together on a regional basis to develop an economic development plan. It would encompass a strategy for broadband deployment, and would link how various economic sectors benefit from broadband opportunities. Such a regional approach would seek to ensure that communities have the “buy-in,” and the capacity, and the long-term vision to maximize the benefits of broadband deployment.

Connected Nation recommends that a portion of remaining available funds at the Rural Utilities Service (RUS) and National Telecommunications and Information Administration (NTIA) for infrastructure build-out should be targeted towards programs that contemplate a regional or state-wide economic development approach to broadband deployment. This strategy should link broadband deployment and planning to a variety of complementary economic actions, such as workforce training, entrepreneurial development or the reinforcement of broadband through community institutions through targeted regional economic development strategic plans that promote comprehensive sustainable adoption programs and economic growth. There are two important reasons. First, a community or region will not reap the benefits of federal funding to finance broadband deployment until its citizens, businesses and institutions make use of broadband to improve their quality of life and productivity of their endeavors. And, second, because ensuring sustainable adoption of broadband service is the only means to ensure sustainability of the infrastructure investments, an important goal of the Broadband Technology Opportunities Program (BTOP) and Broadband Initiatives Program (BIP) programs. Private and or local investment in these networks, or perhaps new competitive networks, will be encouraged as

more Americans use these networks and make this empowering technology a part of their lives and business endeavors.

Further, regional economic growth will be maximized if these regional planning entities are focusing efforts on promoting sustainable adoption of broadband services across the communities and regions where broadband deployment is proposed. The goal of such programs should be to expand the use of the services across different sectors and institutions in the community, targeting those segments of society that research suggests are less likely to use broadband, and thus more likely to find themselves disenfranchised within a society ever more dependent upon broadband. As more consumers, businesses, and community and government institutions use these broadband services in ever more creative and productive ways, maximum value and economic impact of the infrastructure grants upon the community will be realized.

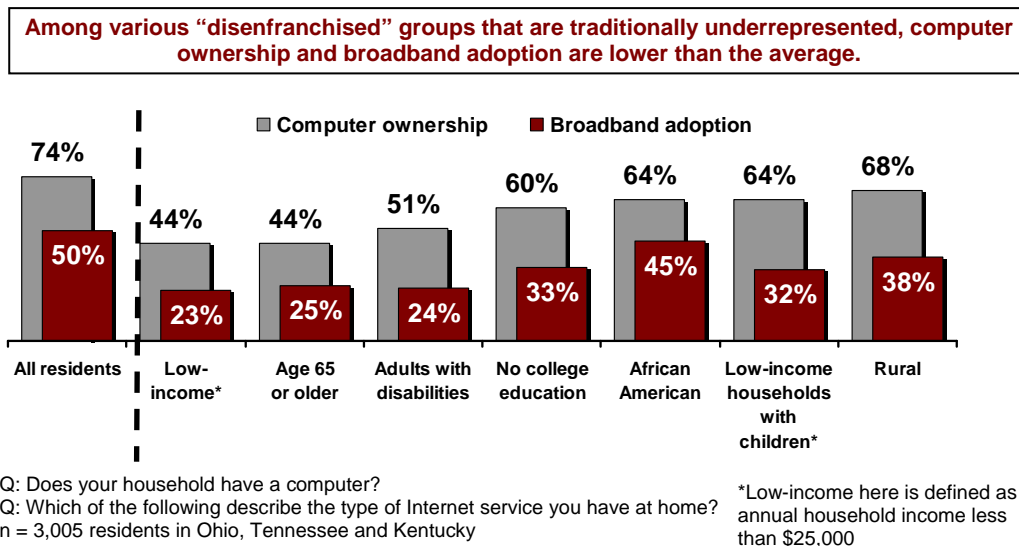
While broadband infrastructure is a necessary condition to bridge the digital divide and stimulate economic growth and opportunity across these communities, it is not sufficient. According to Connected Nation's latest data from July 2009, collected in the State of Tennessee by Connected Tennessee®, 55% of surveyed adults subscribe to broadband in the home and 84% of all business surveyed use broadband services.¹ Statewide, the Connected Tennessee broadband inventory map estimates that 90.5% of households in the state have access to broadband services, leaving almost 40% of homes with broadband service available that have not adopted this technology.² Broadband is available to a vast majority of Americans, and private as well as public investment continues to expand the

¹ Connected Tennessee, Technology Assessment of Tennessee Consumers, July 2009, available at <http://www.connectedtennessee.org/documents/July2009ExecSummary.pdf>

² http://connectedtn.org/broadband_landscape/availability_maps.php

network. However, many Americans are either unable or choose not to use broadband, and these Americans are at risk of losing the social and economic opportunity that broadband brings. This is especially true among certain demographics, including the elderly, low income Americans, adults with disabilities, minority citizens, and those residing in rural areas. Connected Nation’s survey data from our research series “Consumer Insights to America’s Broadband Challenge” indicates that adoption rates among these demographic groups lag behind those of the general population, at times dangerously so³. While state-wide broadband adoption rates in Tennessee, Kentucky and Ohio were estimated at 50% in October of 2008, only 25% of citizens over the age of 65, 23% of households earning less than \$25,000 per year, 24% of adults with disabilities, 33% of adults with no college education, 45% of African American households, 32% of low-income households with children and 38% of rural households subscribe to home broadband service (Figure 1).

Figure 1- Low Adoption Demographics



³ *Consumer Insights into American Broadband Challenge, A Connected Nation Policy Brief*, Oct. 2008, available at http://www.connectednation.org/documents/ConsumerInsightsBroadbandChallenge_20081013.pdf

A bipartisan Congress understood the need to address this challenge and has taken action to harness the power of the federal government to address it through the passage of the Broadband Data Improvement Act (BDIA) and the American Recovery and Reinvestment Act (ARRA), particularly in its funding of the BDIA and the Public Computing Centers program and Sustainable Adoption programs managed at the NTIA. The NTIA and RUS have the opportunity in this second round of funding availability to promote this goal by encouraging local, regional and state-wide programs that address the broadband challenge holistically and comprehensively, tackling both the supply side challenge where network infrastructure is lacking or underserved, as well as the demand side challenge through programs that stimulate technology adoption among “at risk” segments of the population.

The RUS and NTIA have an opportunity through this second round of stimulus funding to continue promoting such goals by leveraging deployment infrastructure funding to encourage and promote such regional and statewide economic strategies that link broadband deployment and planning to a variety of complementary economic actions, such as workforce training, entrepreneurial development or the reinforcement of community institutions, through targeted regional economic development strategic plans that promote comprehensive sustainable adoption programs and economic growth.

There are successful examples across the nation of local and regional programs that have collaborated on a regional or statewide level to understand the region’s challenge for broadband expansion both from the perspective of deployment of more and better networks as well as the expansion of broadband usage and adoption among those being left behind in the digital revolution. Connected Nation has been involved in a number of such local, regional and state-wide programs in various states and has seen the fruits of such efforts on

many occasions. Over the last six years Connected Nation has partnered in demand-side programs with the states of Kentucky, Tennessee and Ohio, and is now embarking in similar partnerships across other states to help develop comprehensive local economic plans for broadband expansion. Connected Nation works with states to harness the power of the state to enable regional and local action aimed at promoting broadband infrastructure expansion and the usage of broadband technologies, especially among segments of the population that are lagging behind in the uptake of this technology. These programs leverage state and federal funding as well as ongoing state-wide programs managed by agencies such as the departments of education, health, commerce, agriculture, geographic services, state higher education institutions and others. By doing so, these programs that are intended to stimulate the expansion of broadband and related technologies can be leveraged to meet other socio-economic goals in areas such as education, social services, better healthcare delivery and the creation of job opportunities.

Working on behalf of the state, Connected Nation aims to leverage these statewide resources to empower local communities through local research and GIS mapping analysis to better understand the specific broadband challenges facing their communities across all sectors, and then take actions that can directly address those local problems. The idea is to use state resources to encourage and promote a bottom-up approach to resolving these challenges. Federal and state leadership can help in this process, but, ultimately, it is regional and local leadership that is better equipped to understand the challenges of their community and more motivated to take action to address those challenges.

As part of our state mandate, Connected Nation engages in a partnership with local community leaders and elected officials at the regional and county level. These efforts

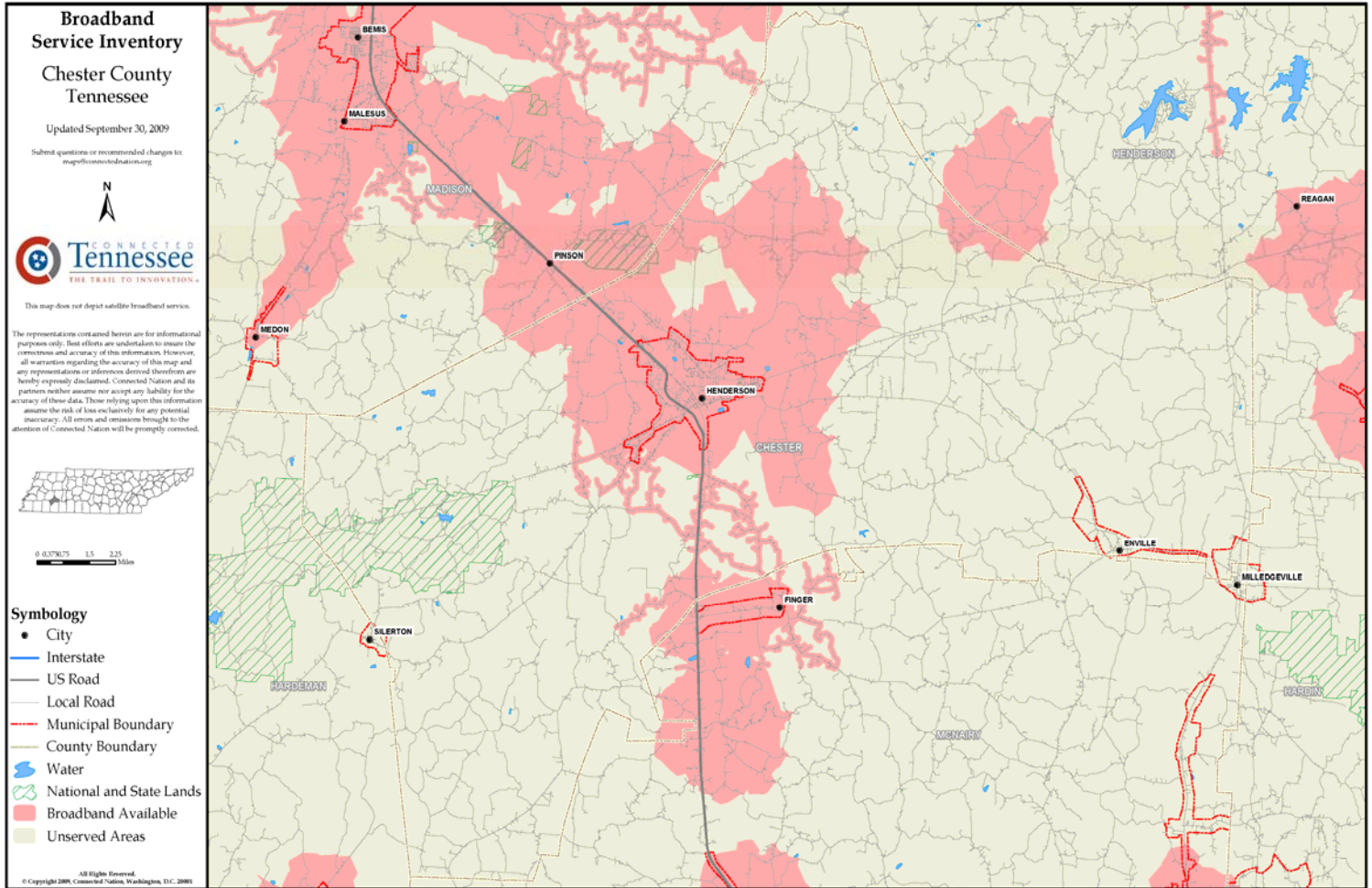
follow a programmatic structure that starts with data: broadband mapping to identify the gaps in the network and survey research at the county level to identify factors driving broadband demand or the lack thereof in each community. These supply-side and demand-side data combine to inform the tactical strategy for county and community leaders.

For an example of a county level broadband map indentifying the gaps in the location and number of households that remain unserved, see (Figure 2) or Chester County, TN,

broadband inventory map at

ftp://ftp.connectedtn.org/CTPublic/Connected_Tennessee_Mapping/County_Maps/County_Broadband/Broadband_Chester.pdf

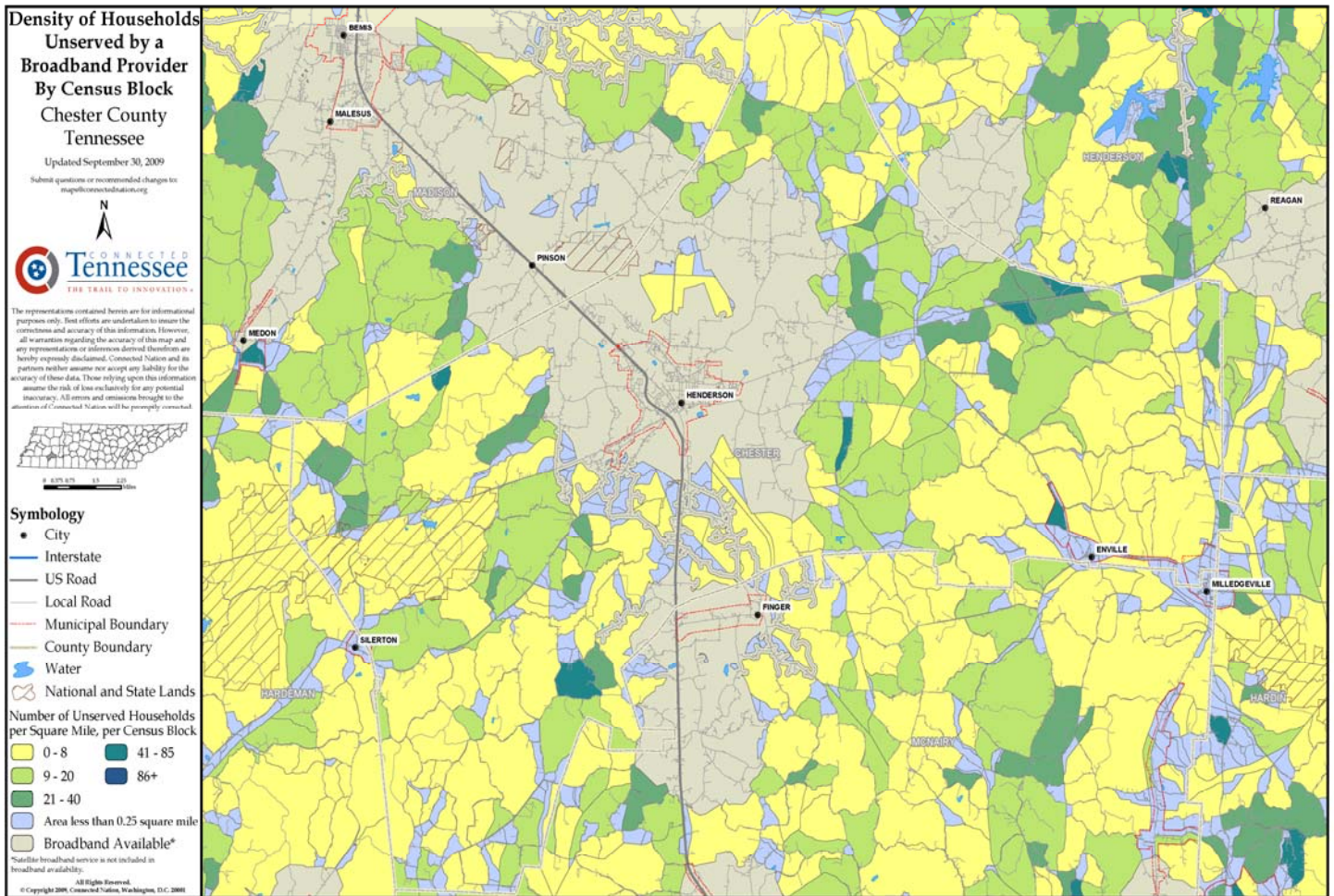
Figure 2



and the associated unserved territory map (Figure 3) at

[ftp://ftp.connectedtn.org/CTPublic/Connected Tennessee Mapping/County Maps/County Density/Density_Chester.pdf](ftp://ftp.connectedtn.org/CTPublic/Connected_Tennessee_Mapping/County_Maps/County_Density/Density_Chester.pdf)

Figure 3



For an example of a customized county level technology assessment see Chester County Technology Assessment, Tennessee, at http://connectedtn.org/_documents/Chester.pdf

Similar maps and county-level technology assessments can be found for all counties in the states of Kentucky, Tennessee, and Ohio at the following links:

http://www.connectkentucky.org/find_your_county/counties/

http://connectedtn.org/ecommunity_strategies/find_your_county/

http://www.connectohio.org/mapping_and_research/county_profiles/.

This research about broadband demand drivers is also presented at the state-wide level. For examples of such statewide mapping and technology assessment studies see

<http://12.180.242.34/TnBroadband/default.aspx> and

<http://www.connectedtennessee.org/research/>.

Armed with this tactical information, Connected Nation works with local leaders to facilitate and encourage public-private partnerships aimed at developing county-wide technology expansion plans and, ultimately, encouraging broadband adoption and partnerships to expand broadband deployment. While leaders in Washington are working hard to develop a “National Broadband Plan,” Connected Nation works with local leaders to facilitate “County Broadband Plans.” These County Broadband Plans aim to identify pragmatic solutions to real, local challenges that communities and regions are facing as they embrace the broadband opportunity.

These County Broadband Plans are developed and led by community leaders, both elected officials and private leaders from key sectors including health, education, commerce, labor,

tourism, agriculture, libraries, and other community anchor institutions. These county-wide technology plans identify and address multiple challenges that are specific to that community. Challenges range from the lack of available or underserved broadband infrastructure, low computer penetration at the business or household level, low broadband adoption patterns by specific segments of the community, lack of effective public computing resources at key institutions such as local libraries and community colleges, lagging opportunities due to lack of IT-literacy skills among certain segments of the population, or low adoption at the local level of eGovernment services, e-Education resources and tools, e-Health solutions, etc.

Identifying and cataloguing these challenges is a significant and necessary step towards proposing effective solutions to address them. Connected Nation leverages state and federal resources to provide communities with the tactical information necessary to start meeting these challenges. As a result, a community can start thinking pragmatically and constructively of how to resolve them. For examples of community led County Technology Plans, Chester County's, TN, Strategic Technology Plan can be found at http://connectedtennessee.org/documents/ConnectedChesterCounty-StrategicTechnologyPlan_Final_08.19.09.pdf. This plan identifies and addresses strategic challenges in Chester County's key sectors, including: Agriculture, Business & Industry, Community-Based Organizations, Government Services, Healthcare, Higher Education, K-12 Education, Libraries, Tourism, and Recreation & Parks.

Importantly, these localized, granular maps, research information and tactical plans play a critical role in the promotion of successful local ventures to expand broadband deployment into unserved areas, which is the primary goal and purpose of the entire mapping exercise.

In a letter filed before the Commission in last year's broadband mapping proceeding (WC No. 07-38), Hal Goode, executive director of the Springfield-Washington County Economic Development Authority in Kentucky, explained the link between on-the-ground mapping and meaningful results for communities in his firsthand account to the Commission in this proceeding. According to Mr. Goode,

“[u]sing the detailed maps that they create, ConnectKentucky conducted an extensive engineering assessment of our county's unserved areas, identifying vertical assets such as water towers and existing cell towers that could be used for the network. And as a result, we have been able to construct a network without building any additional towers, using our existing resources in partnership with Springfield Water and Sewer and cellular companies. It was ConnectKentucky who brought all of these players together and conducted the technical work to enable the project's success.”⁴

Mr. Goode also reports on the success of this strategy, which was made viable because of the collaborative and comprehensive inventory maps created by ConnectKentucky:

“The broadband project implementation is well underway. At project completion, over 90% of Washington County's households will have access to broadband. That's up from 50% of households just last year. Many residents and businesses are now using broadband for education, healthcare, government services, working from home, buying and selling products online, and a whole host of other activities that dramatically improves their quality of life.”⁵

Another example is the ConnectGRADD project, which is developing the nation's largest municipal wireless broadband project in the Green River Area Development District of Kentucky (GRADD). Spanning an area roughly the size of the State of Delaware, the wireless broadband project called ConnectGRADD was created by the seven Kentucky counties in the GRADD district to fill the region's broadband gaps with a wireless

⁴ Letter from Hal Goode, Springfield-Washington Economic Development Authority, to FCC Chairman Kevin J. Martin, WC Docket No. 07-38 (Jul. 9, 2008) (available at:

http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520033622).

⁵ *Id.*

broadband service. Working on behalf of the State of Kentucky with the local government, ConnectKentucky helped put together the RFP for the ConnectGRADD network and provided free, technical consulting services throughout the project's development. Leaders of the Green River Area Development District of Kentucky decided to leverage these state offered resources to develop a private public partnership for this wireless broadband project.

Jiten Shah, Director of GRADD, had this to say about this collaborative effort:

“As director of the Green River Area Development District (GRADD) in western Kentucky, I have been part of a remarkable regional project that is now culminating in a broadband wireless network that spans seven rural counties – an area roughly the size of Delaware. This project, named ConnectGRADD, is led by the seven county judge executives of the region, and was undertaken to help bridge the urban-rural digital divide by expanding affordable, high-speed broadband access to our rural residents. Chip Spann, and other staff members from ConnectKentucky, provided valuable assistance in helping us develop an RFP for network construction and service provision. Mr. Spann served on a local committee that made the recommendation to our Selection Committee; his knowledge of wireless technology was invaluable in providing the local Judge Executives a level of confidence in the winning proposal. Ultimately the winning bid came from a collaborative effort between Digital Connections Inc (DCI) and Cinergy Communications.”⁶

Kentucky's Coal to Broadband program provides another example of how local and regional planning, aided by state and federal government initiatives, can lead to innovative solutions to bring broadband deployment into unserved areas. The Coal to Broadband project is a collaborative effort launched in October 2009 to provide high-speed Internet access to people living in the rural areas of Breathitt, Estill, Lee and Powell counties in Eastern Kentucky and is named the Breathitt, Estill, Lee, Powell Regional Technology Authority, Inc. (RTA), which will work to deploy high speed Internet service to the four counties.

⁶ Comments of Jiten Shah, Executive Director, Green River Area Development District, KY, to the Federal Communications Commission, August 22, 2008
http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520034452

The project leverages federal funding granted by the Appalachian Regional Commission and matching multi-county coal severance funds that these local communities have determined should be reinvested in the community to build these broadband networks. Initial funding for the project is nearly \$600,000, and is a collaboration of RTA, ConnectKentucky, the Kentucky Department for Local Government; the Breathitt County (KY) Fiscal Court; the Estill County (KY) Fiscal Court; the Lee County (KY) Fiscal Court and the Powell County (KY) Fiscal Court. ConnectKentucky, a state subsidiary of Connected Nation, will provide research services, technical assistance and advisory services to RTA.⁷

Such local technology plans take into account the strengths of the community to find solutions for these challenges. For example, a community can leverage the strength of local institutions that are already providing valuable services for the community, such as the local library, youth outreach programs or church institutions that serve the community in a variety of ways. For a vibrant example of such how local and regional leadership can leverage existing community resources, see the testimonial from Pastor and Representative Shaw and other members of his rural community of Stanton, TN, who have leveraged state, local, and donated private resources to expand a public computing center catering to children and the elderly in their community, available at this link

http://www.connectedtn.org/multimedia/one_community_at_a_time/. This public computing center is only one of its kind in this rural community of Stanton and today provides essential high-speed access resources as well as educational and training programs to this otherwise unconnected community.

⁷ For more information about this program see <http://www.wkyt.com/wymtnews/headlines/68919452.html>

These examples represent just a few of the many local and regional initiatives which aim to harness the power of state and federal resources to expand, promote and make the most of broadband in their communities. Such local, concerted planning efforts view broadband policy in a holistic way and have successfully brought together private and public resources and knowledge from local, regional and statewide resources to identify and address both the supply-side and the demand-side broadband challenges facing their communities. Such models for broadband expansion within a broader economic development agenda are essential to fully leverage the federal funding available via the ARRA and managed by the RUS and NTIA.

II. COMMENTS TO RFI SECTION II.A.3. - TARGETED POPULATIONS

Should RUS and NTIA allocate a portion of the remaining funds to specific population groups? For example, should the agencies revise elements of the BIP and BTOP programs to ensure that tribal entities, or entities proposing to serve tribal lands, have sufficient resources to provide these historically unserved and underserved areas with access to broadband service? How can funds for Public Computer Centers and Sustainable Broadband Adoption projects be targeted to increase broadband access and use among vulnerable populations? Should NTIA shift more BTOP funds into public computer centers than is required by the Recovery Act? In what ways would this type of targeted allocation of funding resources best be accomplished under the statutory requirements of each program? Should libraries be targeted as sites for public computer access, and if so, how would BTOP funding interact with e-Rate funding provided through the Schools and Libraries program?

Some estimates place U.S. broadband availability at 92%.⁸ Some broadband advocates argue that this estimate is too high, but almost all reasonable estimates place broadband availability well above broadband adoption rates.⁹ Furthermore, adoption of broadband technologies is not homogenous across all segments of society. Certain demographic groups are particularly at risk of being left behind this digital experience and, as such, potentially excluded from the economic, civic and social fabric of our country.

Connected Nation's research indicates that broadband adoption rates fall far from the average when disadvantaged demographic groups or low-income households are isolated. Figure 1 in Section I, presenting data collected by Connected Nation in three states, indicates that while broadband adoption rates were estimated at 50% at the end of 2007 and early 2008, 25% of citizens over the age of 65, 23% of households earning less than \$25,000 per year, 24% of adults with disabilities, 33% of adults with no college education, 45% of

⁸ Source: SNL Kagan

⁹ <http://www.pewinternet.org/Reports/2009/10-Home-Broadband-Adoption-2009.aspx> and *Consumer Insights into American Broadband Challenge, A Connected Nation Policy Brief*, Oct. 2008, available at http://www.connectednation.org/documents/ConsumerInsightsBroadbandChallenge_20081013.pdf

African American households, 32% of low-income households with children and 38% of rural households subscribe to home broadband service.¹⁰

The fact that the supply of broadband services exceeds the demand for those services strikes at the heart of Connected Nation's efforts to increase broadband deployment with simultaneous efforts across a population to improve broadband adoption rates.

The U.S. Congress recognized the importance of broadband demand-side programs by passing the Broadband Data Improvement Act¹¹ (BDIA) and creating the BTOP sustainable adoption and public computing center programs as part of the American Recovery and Reinvestment Act.¹²

Section 106 of the BDIA created the State Broadband Data and Development Grant Program (SBDD), which was intended to fund comprehensive statewide broadband initiatives through competitive grants from NTIA. NTIA was directed in P.L. 111-5 to use up to \$350 million to fund the State Broadband Data and Development Grant Program in addition to creating and maintaining a national broadband inventory map.

To date, the NTIA has logically focused on using the SBDD to ensure compliance with the statutory mandate for a national broadband inventory map contained in the ARRA by Congress' enacted deadline of February 17, 2011. However, during development of the BDIA, the SBDD's activities were created to be comprehensive and co-dependent upon each other – to include not only broadband mapping, but also significant demand-side programs to increase broadband adoption and computer use.

¹⁰ *Consumer Insights into American Broadband Challenge, A Connected Nation Policy Brief*, Oct. 2008, available at http://www.connectednation.org/documents/ConsumerInsightsBroadbandChallenge_20081013.pdf

¹¹ Public Law 110-385

¹² Public Law 111-5

In fact, Section 106 of the BDIA, which establishes the State Broadband Data and Development Grant Program, can and should provide grants to state-based public-private partnerships for statewide broadband expansion programs. According to the BDIA, the statewide programs shall include:

- Creation of a “geographic inventory map of broadband service” within each state. The map shall identify broadband gaps through GIS technology, based on “the geographic boundaries of where service is available or unavailable among residential or business customers.” The map shall also include a baseline number of statewide households with broadband availability.
- A baseline assessment of broadband deployment in each state.
- Tracking of unserved and underserved areas within a state.
- Tracking of broadband adoption and related information technology services among residents and businesses.
- Tracking possible suppliers of broadband and related services.
- Identification of barriers to adoption among residents and businesses.
- Identification of available broadband speeds, in accordance with FCC speed tiers.
- Creation and facilitation of a local technology planning team in each county or designated region within a state. Each team shall represent a cross section of the community, including government, education, healthcare, business, organized labor, libraries, agriculture, tourism, and community-based organizations. Each team shall benchmark technology use across sectors, set goals for improved use within each

sector, and develop a “tactical business plan” to reach its goals, “with specific recommendations for online application development and demand creation.”

- Collaborative work with broadband and IT providers to encourage deployment and adoption, especially in unserved and low-adoption areas, through “local demand aggregation, mapping analysis, and the creation of market intelligences to improve the business case for providers to deploy.”
- Establishment of programs to improve computer ownership and Internet access for unserved and low-adoption areas.
- Collection and analysis of detailed market data on the adoption of and demand for broadband and other IT services.
- Facilitation of information exchange between public and private sectors regarding adoption of and demand for broadband.

Broadband mapping activity in each state should work in concert with a statewide and grassroots demand-stimulation program, and with local consumer research on technology trends designed to support and target efforts to drive deployment and increase adoption, particularly among vulnerable populations. Digital inclusion programs to provide computers to disadvantaged populations were also included as part of the SBDD program in order to tackle one of the documented greatest barriers to broadband adoption: lack of a computer in the home.

In the Broadband Data Improvement Act, Congress states:

“The Federal Government should also recognize and encourage complementary State efforts to improve the quality and usefulness of broadband data and should

encourage and support the partnership of the public and private sectors in the continued growth of broadband services and information technology for the residents and businesses of the Nation.”¹³

Taken together, the Broadband Data Improvement Act and the American Recovery and Reinvestment Act contain a holistic broadband policy laid out by the U.S. Congress that will do much to improve broadband deployment and adoption in the United States.

This role of enabling initiatives that are driven by the public sector at the state and local government level, with information aggregated upward, will allow the Federal government the greatest efficiency from its allocated resources. The State Broadband Data and Development Grant Program can (and was intended to) be utilized well beyond the current Fiscal Year to fund statewide efforts that map broadband inventory, drive broadband deployment into unserved and underserved areas, and conduct localized consumer research to identify and understand the specific challenges to broadband adoption in each region, resulting in targeted and cost-effective programs to stimulate demand, improve digital literacy, and grow broadband adoption rates, particularly among vulnerable populations in greatest need.¹⁴

In the July 2009 Notice of Funding Availability for the State Broadband Data and Development Grant Program, the NTIA noted it was authorized by the ARRA to spend up to \$350 million for state-based broadband mapping programs and was capping broadband planning program awards at \$500,000. These broadband planning programs are designed to accomplish the demand-side goals of the Broadband Data Improvement Act; however, at only \$500,000 for each state, the demand-side programs within the State Broadband Data

¹³ Public Law 110-385, Sec. 102 (4)

¹⁴ See Public Law 110-385, Section 106.

and Development Grant Program were woefully under funded. Although the broadband planning grant program is beneficial for developing a state level strategic plan, the program does not provide the resources for states or other entities to develop effective and targeted, regional programs to drive demand and increase broadband adoption in a sustainable way.

Due to the current under funding of demand-side programs, combined with the documented need for research-based programs to improve digital literacy and increase broadband adoption, Connected Nation recommends that the NTIA expand federal funding for sustainable adoption and public computing center programs beyond the minimum thresholds mandated by Congress in an effort to further the adoption and use of broadband services. NTIA's first round of grant funding received over 650 requests totaling approximately \$4.5 billion through the BTOP sustainable adoption and public computing center programs. Available funds for these programs in round 1 amounted to only \$200 million. The need for federal funds to jump-start demand-side broadband initiatives is clearly evident.

Broadband infrastructure projects funded by the ARRA will only be sustainable in the long run if end-users access the networks that these projects create. Sustained and increased use of existing and future networks will help prevent the need for ongoing federal funds to maintain and improve the country's broadband infrastructure.

Increasing the focus of BTOP on comprehensive and sustainable adoption increases, digital literacy and inclusion, and increased access at public sites will ensure maximum use of existing networks and those funded by the ARRA. Furthermore, the true economic benefits

of broadband occur when adoption rates increase.¹⁵ Thus, if we are to accomplish the ARRA's primary goal of stimulating the economy, remaining BTOP and BIP resources should focus on: (1) Supply-side funding on cost-effective projects for the remaining unserved areas, particularly tribal lands that are historically unserved, and (2) Demand-side funding for state and regional programs that use localized research as the driver for targeted and cost-effective regional initiatives to increase broadband adoption and use, particularly among vulnerable populations.

Should libraries be targeted as sites for public computer access, and if so, how would BTOP funding interact with e-Rate funding provided through the Schools and Libraries program?

Public libraries are a critical community asset for expanded access to broadband enabled computers. Connected Nation recommends that the BTOP public computer center program encourage libraries as potential grantees, but not limit the program only to libraries.

Connected Nation has conducted surveys across the states of Tennessee and Ohio to better understand the role of community anchor institutions in the expansion of broadband services.¹⁶ This survey research focused on the role of libraries as a key community anchor institution in the effort to improve broadband access and adoption. On October 28, 2009 Connected Nation filed a policy brief on the subject in the Federal Communication Commission's National Broadband Plan public debate entitled "Connecting America

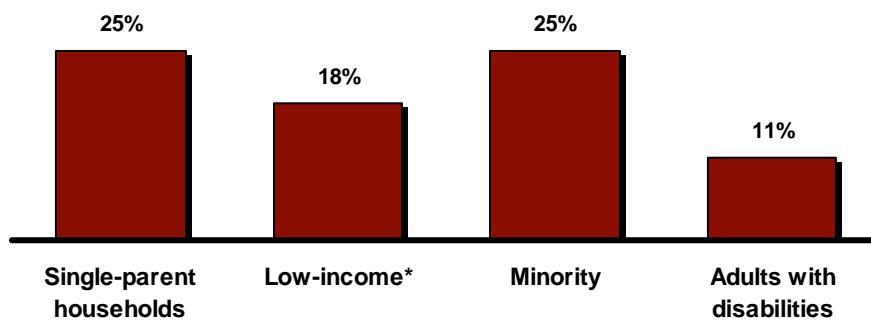
¹⁵ *The Economic Impact of Stimulating Broadband Nationally*, February 2008, available at http://www.connectednation.com/research/economic_impact_study/

¹⁶ Source: Connected Nation's 2009 Residential Technology Assessment of Ohio (www.connectohio.org) and July 2009 Residential Technology Assessment of Tennessee (www.connectedtennessee.org). n=2,400 adults in Tennessee and Ohio.

through Broadband at the Library: A Connected Nation Policy Brief.”¹⁷ This policy brief demonstrates that libraries are vital in filling an access void in local communities where the library is most often the only source of free Internet availability. According to the findings, library Internet users tend to be more assertively building skills through online learning opportunities, classes and training resources, improving employability through job searches and resume building, searching for healthcare information and communicating with care givers, and engaging with government online. Key findings of this survey research include:

- Significant percentages of those who normally don't subscribe to broadband – specifically single parents, minorities and low-income residents – are relying on the local library as their sole or primary Internet resource: 25% of single parents, 25% of minorities, 18% of low income residents, and 11% of people with disabilities depend on libraries for Internet connections. (Figure 4)

Figure 4- Percent of adults by demographic group using library Internet services



*Low-income=annual household incomes below \$25,000

¹⁷ Comments by Connected Nation, GN Docket Nos. 09-47, 09-51, and 09-137; Comments of Connected Nation, Inc. in response to NBP Public Notice # 12, Available at http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=7020243836

- More than one-half of library Internet users (51%) have children at home, suggesting that a significant portion of library Internet users are children. Of this group, 42% do not have a broadband connected computer at home.
- Library Internet users are significantly more likely than other Internet users (those who connect at home or elsewhere) to use a number of online applications related to workforce development and education, civic engagement and healthcare.
- Nearly half of library Internet users (46%) search for jobs online, compared to 29% of other Internet users.
- Library Internet users are significantly more likely than other Internet users to communicate online with local government officials (25% compared to 14%).
- 28% of library Internet users communicate online with healthcare professionals, compared to 16% of other Internet users.

Connected Nation's research supports and builds upon the need for libraries across the country to offer high speed Internet connections within their communities, and it demonstrates the critical role that libraries and other community anchor institutions play in connecting America's unconnected especially in unserved areas. As RUS and NTIA consider the potential impact of community anchor institutions, the agencies should encourage and support improved broadband infrastructure for key community anchor institutions such as libraries.

To view more data from this survey and relevant graphs, use this link:

http://connectednation.com/documents/LibraryApps_102809_FINAL.ppt

III. COMMENTS TO RFI SECTION II.C. - PUBLIC NOTICE OF SERVICE AREAS

Section VII.B of the NOFA allowed for existing broadband service providers to comment on the applicants' assertions that their proposed funded service areas are unserved or underserved.¹¹ Some stakeholders have suggested that this rule may reduce incentives for applicants to participate in the BIP and BTOP programs because of the risk that their applications may be disqualified from funding on the basis of information submitted by existing broadband service providers that they have no means to substantiate or rebut. How should the public notice process be refined to address this concern? What alternative verification methods could be established that would be fair to the applicant and the entity questioning the applicant's service area? Should the public notice process be superseded where data becomes available through the State Broadband Data and Development Grant Program that may be used to verify unserved and underserved areas? What type of information should be collected from the entity questioning the service area and what should be publicly disclosed?

The ability to effectively analyze broadband availability data in relation to demographic and market data at a granular level is essential for the BTOP and BIP programs and future federal programs that could potentially fund broadband deployment, such as the universal service fund. These data in combination are critical in order to ensure that federal dollars are allocated appropriately – for targeting grants and loans to the areas in greatest need as well as confirming that the technical specifications of proposed broadband networks are sustainable within the confines of the geographic, topographic, and market conditions of a proposed service area.

Thus, the SBDD program and its forthcoming dataset on broadband availability holds tremendous potential value for subsequent rounds of BTOP and BIP and other federal programs, however, its relative value within the 2010 calendar year will be largely dependent upon the effective implementation by federal and state governments of web-based and user-friendly tools for displaying and easily analyzing the SBDD broadband availability data in combination with other factors. Additionally, because delays in SBDD awards have stalled

data collection and project work in the majority of US states and territories, SBDD data will possibly not be available as early as anticipated, and this delay may hinder its use in the subsequent rounds of the BTOP and BIP programs. The SBDD Notice of Fund Availability (NOFA), published July 9, 2009, states that NTIA will announce awards starting on or about September 15, 2009.¹⁸ However, at the time of this document's writing, there were 41 states and territories still awaiting approval on grant awards for the SBDD mapping program. The NTIA has not announced an extension of the February 1, 2010 deadline for states to submit a substantially complete set of broadband availability data; however, without federal approval on grant awards, those states that are awaiting an approval of their SBDD applications cannot begin the work to collect the broadband data. This timing conundrum for the SBDD grant program implementation calls into question the timeliness of the broadband availability data across some states for use in the second round of BTOP and BIP.

Another challenge for states is the ability to identify with specificity the proposed service areas of those BTOP and BIP projects that have been (or will be) approved in Round 1. In order for states to effectively make recommendations on BTOP and BIP proposals for Round 2, it is necessary to account for Round 1 approved projects within the context of unserved areas (or soon-to-be served areas) in real time. Otherwise state officials risk recommending projects that propose to spend federal dollars building networks that are already underway in the same neighborhood.

¹⁸ *Notice of Funds Availability*, Department of Commerce, National Telecommunications and Information Administration, State Broadband Data and Development Grant Program, Docket No. 0660-ZA29. Available at [http://www.broadbandusa.gov/files/BroadbandMappingNOFA\(FederalRegisterVersion\).pdf](http://www.broadbandusa.gov/files/BroadbandMappingNOFA(FederalRegisterVersion).pdf)

Ultimately, the State Broadband Data and Development Grant Program (SBDD) should result in a number of critical outcomes for nationwide broadband expansion. These outcomes include the identification of unserved and underserved areas across the United States, a geographic understanding of broadband availability for consumers through interactive, online tools, and effective state and local broadband planning based on a compilation of broadband maps and timely data. All of these outcomes support the efficiency and effectiveness of the BIP and BTOP programs.

However, in order to achieve these outcomes, including the verification of unserved and underserved areas for the purposes of BIP and BTOP, the state programs of the SBDD must have publicly accessible and user-friendly online tools for federal, state, and local officials, as well as consumers and broadband providers and investors, to understand broadband availability within a geographic context. While online mapping tools are a requirement of the SBDD, there remains some question as to the ultimate usefulness of these tools within any given state and across states, as there is no standard mapping platform on which states are operating.

A number of states are implementing (or proposing through SBDD applications to implement) an open-access mapping platform and planning tool for state and local decision-makers. This GIS solution captures all broadband data in association with any other dataset for a web-based geographic display of served and unserved areas, along with the demographic and market data for those areas. Entitled BroadbandStat, the solution is built on ESRI technology and analytics to enable an interactive online map of broadband availability along with other relevant broadband data. Such data would include survey based data on demand trends, Census Bureau demographic information and other relevant federal,

state, and local data. The BroadbandStat platform is built to enable the analysis of this data by location as well as demographic, socioeconomic category, region, or some combination. BroadbandStat enables state and local planners to set priorities and identify target populations based on a combination of factors, including broadband availability, household/population density, income and education levels, and minority population.

Figure 5 below shows a screen shot illustrating the household density of targeted contiguous census blocks depicting served and unserved areas. (Gray areas represent areas with broadband service available; cool shades of yellow, blue, and green represent unserved areas with varying household density levels; warm shades of red represent the targeted census blocks for proposed service). The BroadbandStat platform also provides in a user friendly format necessary information to indentify targeted census blocks.

Household density is a critical factor in the determination of broadband technology type, network specifications, and project sustainability. However, household density data is of little use for BTOP and BIP unless it can be understood in relation to unserved areas.

Figure 5

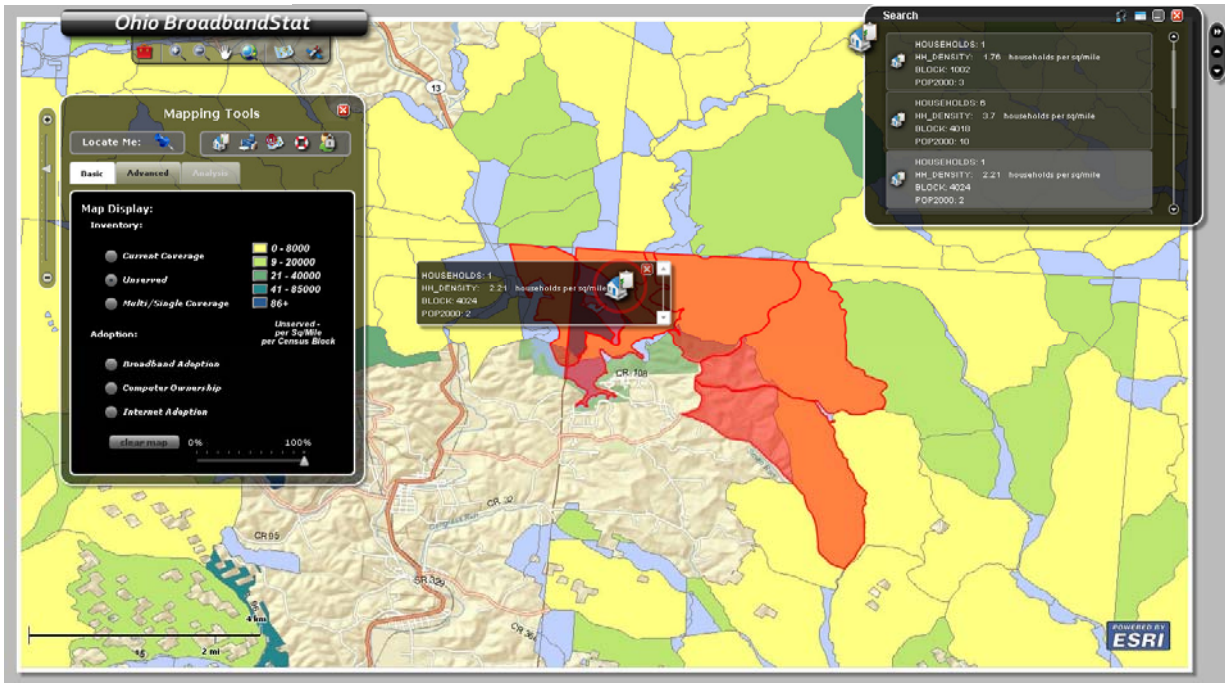
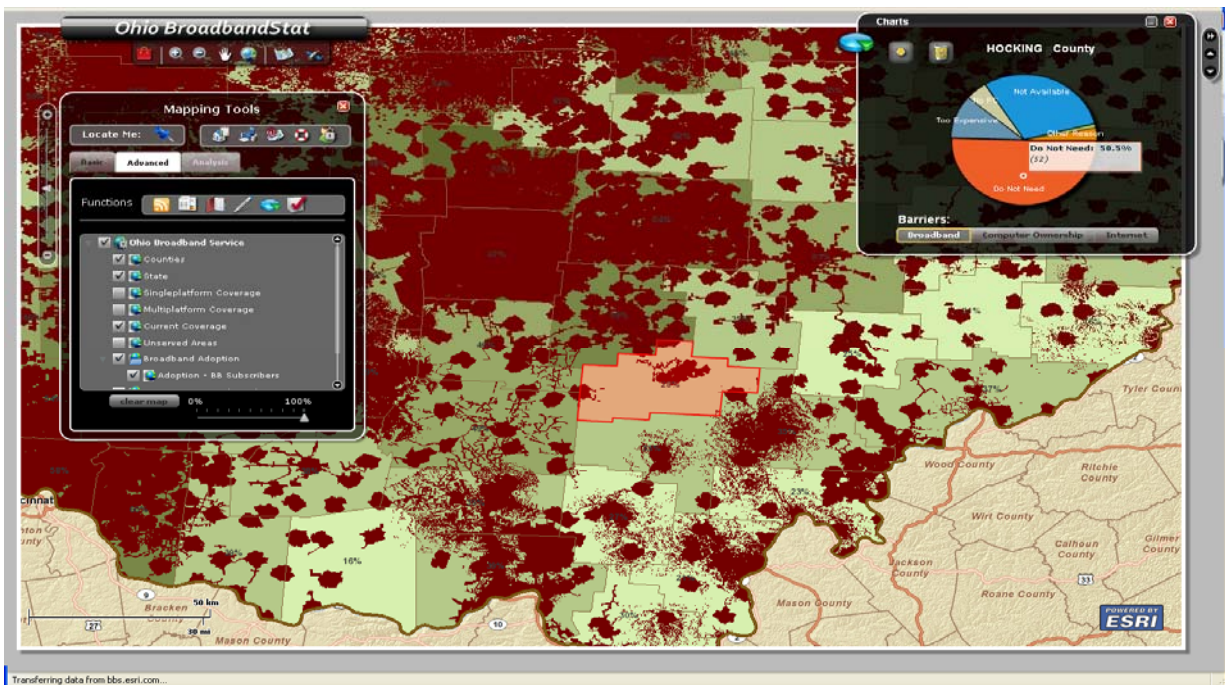


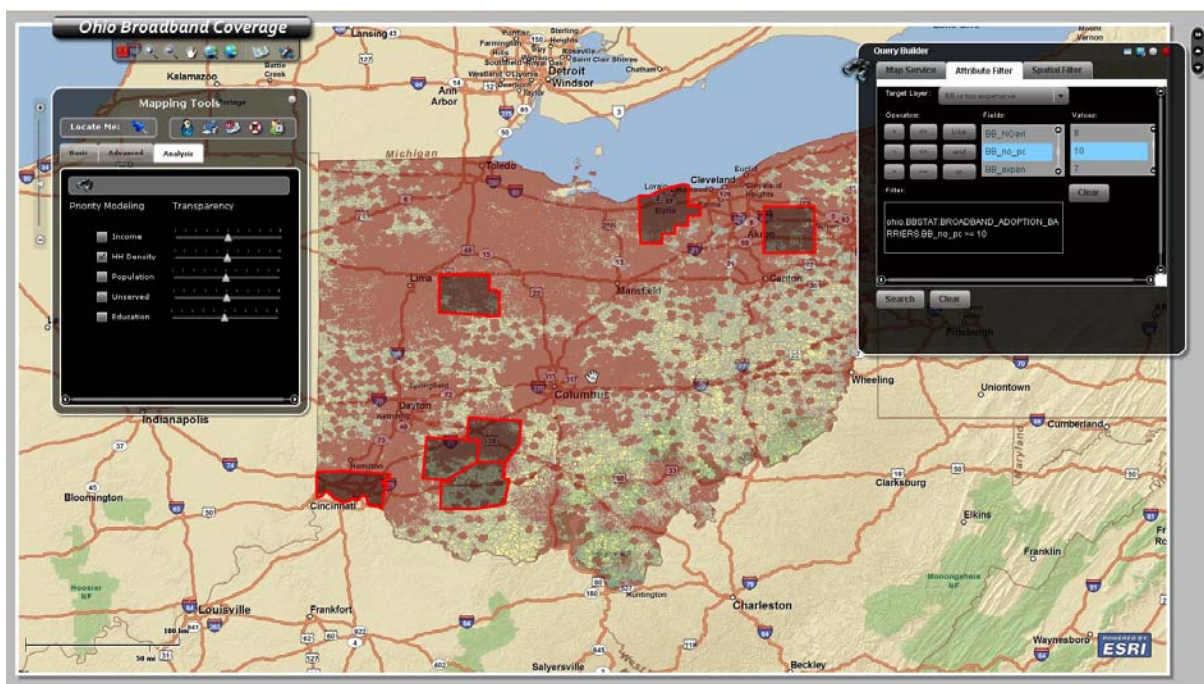
Figure 6 shows a screen shot illustrating the ability to analyze demographic data in association with broadband availability, by census block.

Figure 6



For states with county level data on broadband and computer adoption and usage, such as Tennessee and Ohio, BroadbandStat incorporates these consumer adoption data, giving state and local decision-makers a means to target areas with low broadband adoption and low computer ownership among vulnerable populations. In the screen shot below (Figure 7), Ohio counties are highlighted where a certain percentage of residents who do not subscribe to home broadband service cite lack of a computer as a barrier to broadband adoption. This data could point to potential targets for public computing programs, for example. The counties are shown in relation to broadband availability and household density statewide.

Figure 7



An effective GIS platform and associated tools also enables easy reporting and manipulation of broadband availability data for production of aggregate datasets that are critical tools for BTOP and BIP applicants and evaluators. The states of Ohio, Tennessee, and Minnesota

produced broadband availability maps through state-led programs prior to the announcement of the federal SBDD, and were therefore able to produce comprehensive datasets of unserved and served households per census block for every census block statewide. These datasets were posted publicly online in July of 2009 and used for the first round of BTOP and BIP. Under the SBDD, these states plan to incorporate the datasets into BroadbandStat for greater functionality and ease of use through the interactive analysis tools. The current datasets used for the first round can be found for each county at the following links:

http://connectohio.org/mapping_and_research/stimulus_funding_tools.php

http://connectedtn.org/ecommunity_strategies/find_your_county/

http://connectmn.org/mapping/Broadband_Stimulus_Data_Tools.php

Considering the timeframe challenges associated with the SBDD program and the use of SBDD data for Round 2 of BIP and BTOP, Connected Nation makes the following recommendations for making the most effective use of existing and forthcoming broadband availability data for the purposes of BIP and BTOP:

- (1) NTIA should adopt a universal geodatabase data model for ArcGIS data submitted through the SBDD program, seeking input from the National States Geographic Information Council who has already created a geodatabase model and SBDD designated entities. A consistent geodatabase data model would enable consistent data collection, support workflows and analysis for comparing availability data across states.

- (2) NTIA should develop a web-based, user-friendly GIS platform for SBDD data, enabling both the intuitive display as well as meaningful analysis of broadband availability data across states and in relation to demographic and relevant market data. An analytics-based GIS platform would enable a transparent system for federal officials and other interested stakeholders to help ensure that federal dollars are allocated appropriately – both for targeting grants and loans to the areas in greatest need as well as confirming that the technical specifications of proposed broadband networks are sustainable within the confines of the geographic, topographic, and market conditions of a proposed service area.
- (3) NTIA should publicly release through its website the geographic specifications of approved Round 1 BIP and BTOP applications, as soon as possible after the projects are approved, to allow states and potential Round 2 applicants to account for the Round 1 projects under construction. These data would be most effectively displayed through a web-based GIS platform described in (2) above; however, in the interim, these data could be presented in a downloadable tab-delineated file indicating the census blocks proposed to be served with Round 1 funding.