December 4, 2009

Marlene H. Dortch
Office of the Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: GN Docket Nos. 09-47, 09-51, and 09-137; Comments of Connected Nation, Inc. in response to NBP Public Notice # 18 on Relationship Between Broadband and Economic Opportunity

Via: Online Submission

Dear Ms. Dortch,

In response to NBP Public Notice #18, please find attached a policy brief entitled A Call to Connect Rural America, prepared by the American Farm Bureau Federation® and Connected Nation. This policy brief addresses the FCC's questions identified under Section II.a.iii of this Request for Comment. In particular, the policy brief provides insights into the question of "[w]here are key areas where businesses are unserved/underserved?" The data presented in this policy brief discusses differences in adoption and usage rates across business and residential customers in rural and non-rural areas.

Sincerely,

Mark Maslyn
Executive Director, Public Policy
American Farm Bureau Federation

Raquel Noriega
Director, Public Policy
Connected Nation, Inc.

Attachment

A Call to Connect Rural America

An American Farm Bureau Federation® and Connected Nation® Policy Brief

December 2009

The deployment and adoption of broadband technology in rural communities is a central challenge facing the nation today. At a time when economic foundations across rural America are shifting, broadband service is an engine of economic growth and offers rural communities the hope of economic development, the promise of economic revitalization, the energy of an educated productive citizenry, and the benefit of a positive quality of life. Indeed, broadband can link rural students with online math and science tutors across the country, help farmers increase their yields and obtain the best price for their crops, and offer small local businesses opportunities to sell their products around the world.

Yet, broadband development in rural areas is lagging behind trends in other parts of the country. The American Farm Bureau Federation, a not-for-profit organization which represents 6.2 million farming and ranching member families nationwide and Connected Nation, a not-for-profit organization working with state and local government and the private sector to advance broadband across communities in our nation, have years of experience working first hand with community leaders, government officials and entrepreneurs in rural America. Rural Americans are hurting due to the lack of universal broadband availability as well as technology and broadband adoption rates that fall behind the rest of the country.

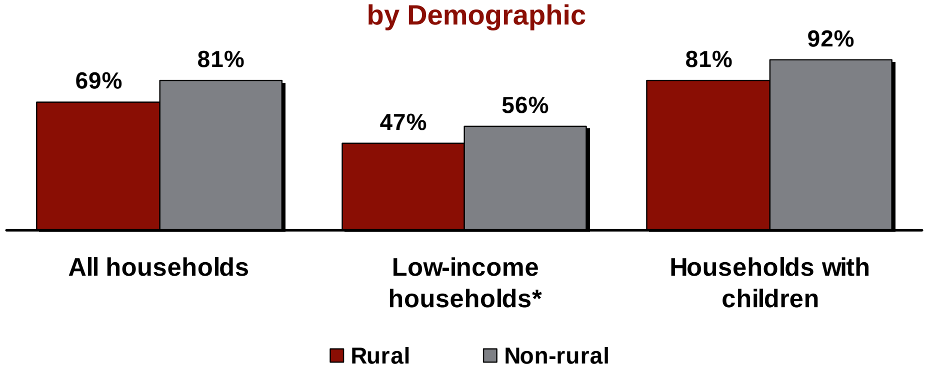
Federal policy should recognize and address the two key broadband challenges affecting rural America: the supply-side or network availability challenge, and the demand-side challenge of lagging technology adoption across rural communities. The National Broadband Plan should recognize that not only is there an infrastructure challenge in bringing broadband to rural areas, there is also a demand challenge.

Connected Nation's research conducted in the states of Tennessee and Ohio in 2009 indicates that rural America is indeed lagging behind the rest of the country in both consumer adoption patterns and business broadband adoption trends.

Technology Adoption Among Residential Consumers

Data from Connected Nation's surveys in Tennessee and Ohio show a gap across rural and non-rural households in adoption of computers and broadband. Computer ownership among rural residents is lower than among non-rural adults. While 81% of all households in non-rural areas report owning a home computer, only 69% of rural respondents do so. Similarly, 47% of rural low-income households (earning less than $25,000 annually) report owning a computer, compared to 56% of low-income non-rural households. Among households with children, computer ownership rates go up, but the rural-non-rural gap is still measurable: 81% of rural households with children report having a computer at home, compared to 92% among non-rural respondents.

Figure 1. Computer Ownership Among Rural and Non-Rural Residents by Demographic



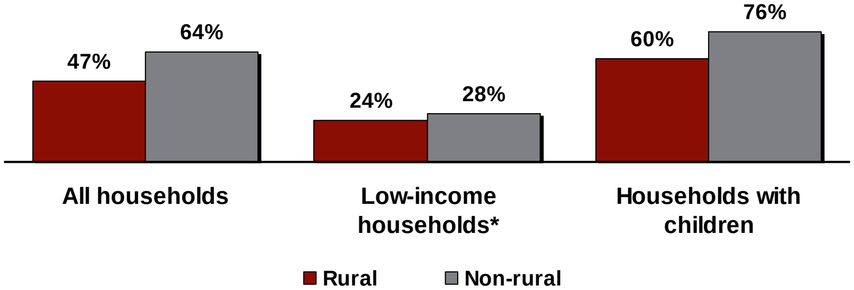
Q: Does your household have a computer? (n=2,400 adults in Tennessee and Ohio, 683 of whom are rural, 449 of whom are low-income, and 858 of whom have children under the age of 18 living at home)

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

Source: 2009 Residential Technology Assessments of Tennessee and Ohio

Broadband adoption trends reported in Figure 2 show a similar pattern. While 64% of non-rural households report subscribing to broadband in the home, only 47% of rural households adopt the service. While 28% of low-income, non-rural households subscribe to the service, only 24% of rural, low-income homes do so. Similarly, while 76% of non-rural households with children report subscribing to broadband, only 60% of households with children in rural areas have broadband at the home.

Figure 2. Broadband Adoption Among Rural and Non-Rural Residents by Demographic



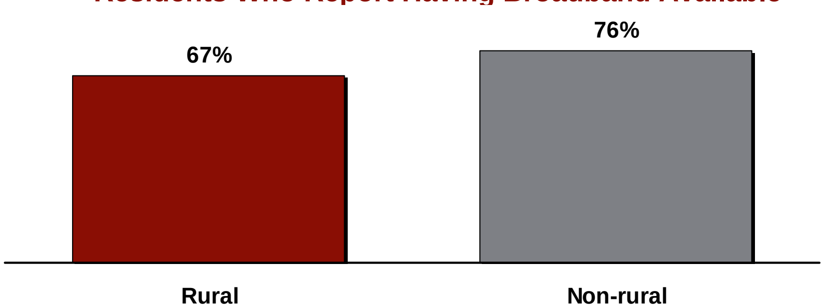
Q: Which of the following describe the type of Internet service you have at home? (Broadband, Dial-up, None, Don't Know)
(n=2,400 adults in Tennessee and Ohio, 683 of whom are rural, 449 of whom are low-income, and 858 of whom have children under the age of 18 living at home)

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

Source: 2009 Residential Technology Assessments of Tennessee and Ohio

Because the gaps in broadband network availability tend to be in rural, remote areas, some of the measured gap in broadband adoption trends across rural and non-rural areas will be due to the lack of infrastructure. However, the adoption lag in rural areas cannot be explained in full by a supply-side or network infrastructure gap. Figure 3 compares "take rates" across rural and non-rural areas in the Ohio and Tennessee. "Take rates" are defined as the percentage of broadband subscribers relative to the percentage of households that have broadband available to them (including those that report subscribing to broadband and those who do not subscribe but report having broadband available at their homes). In other words, Figure 3 compares populations that have broadband available to them. The data show that while 76% of non-rural dwellers with broadband access choose to subscribe to the service, only 67% of rural dwellers that have broadband access do so. This represents a significant gap that illustrates the demand-side challenge facing rural America.

Figure 3. Broadband "Take Rates" Among Rural and Non-rural Residents Who Report Having Broadband Available*



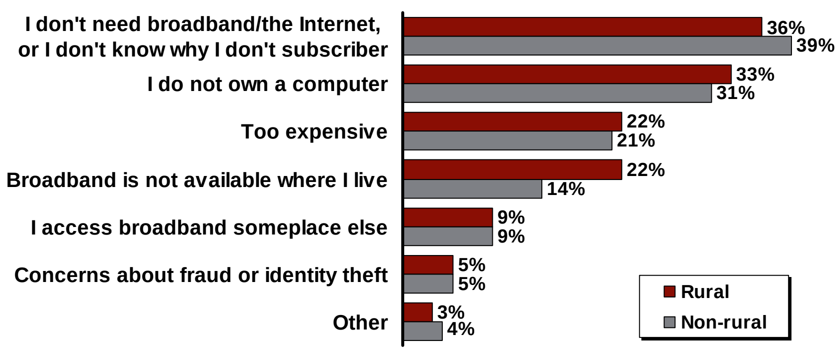
Q: Which of the following describe the type of Internet service you have at home? (Broadband, Dial-up, None, Don't Know)
(n=1,435 adults in Tennessee and Ohio who either subscribe to home broadband service or report that broadband is available where they live)

*"Take rates" = (% of home broadband subscribers) / (%of residents who EITHER subscribe to home broadband service OR report that broadband service is available where they live)

Source: 2009 Residential Technology Assessments of Tennessee and Ohio

Connected Nation's research also investigates the barriers to adoption of broadband. Here too are some revealing differences across rural and non-rural demographics. Figure 4 reports barriers to broadband among residents who do not have home broadband service. Notably, rural households report in larger percentages (22% for rural households compared to 14% for non-rural homes) that the lack of available broadband is a barrier to adoption of the service. This gap is no surprise and can readily be explained by the infrastructure gaps affecting primarily rural areas. However, similarly to non-rural dwellers, the top barriers to broadband adoption among rural households are a perceived lack of need (36%) and no computer in the home (33%). Once again, these data illustrate that, while the supply-side challenge affects rural America, the demand-side barriers to the expansion of this critical infrastructure are prevalent among rural communities as well.

Figure 4. Barriers to Home Broadband Adoption
Among residents with no home broadband service*



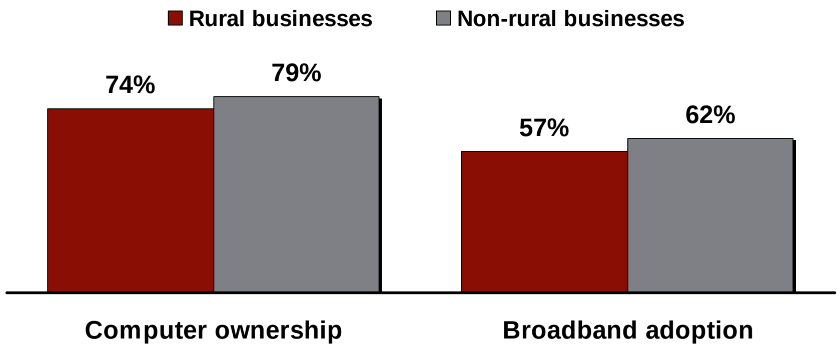
Q: Why don't you subscribe to broadband at home?
(n=550 TN residents that do not have home broadband service)
*Percentages do not add up to 100% because individuals could give multiple responses.

Source: 2009 Residential Technology Assessments of Tennessee and Ohio

Technology Adoption Among Businesses

Technology adoption trends among businesses also measure a demand-side gap across rural and non-rural areas. Connected Nation's business survey research in the states of Tennessee and Ohio measures the extent of the gap among business consumers. Figure 5 indicates that 74% of rural businesses report owning a computer, compared to 79% among non-rural businesses. Broadband adoption among rural business lags behind, at 57%, compared to adoption rates of 62% among non-rural businesses.

Figure 5. Computer Ownership and Broadband Adoption among Businesses in Tennessee and Ohio

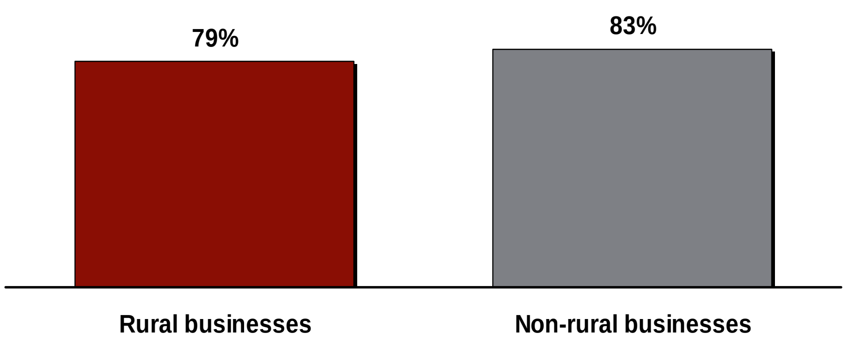


Q: Does your company use any type of computer technology to handle some or all of its business functions? And
Q: Which of the following describes the type of Internet access your company has? (n=1,609 businesses in TN and OH)

Source: 2009 Business Technology Assessments of Tennessee and Ohio

As was the case among residential consumers, this gap in broadband adoption is not fully explained by a lack of available broadband service. Among businesses who have service available, "take rates" differ across rural and non-rural businesses. Figure 6 indicates "take rates" of 79% for rural businesses compared to 83% among businesses in non-rural areas.

Figure 6. Broadband "Take Rates" among Rural and Non-rural Businesses That Report Having Broadband Available*



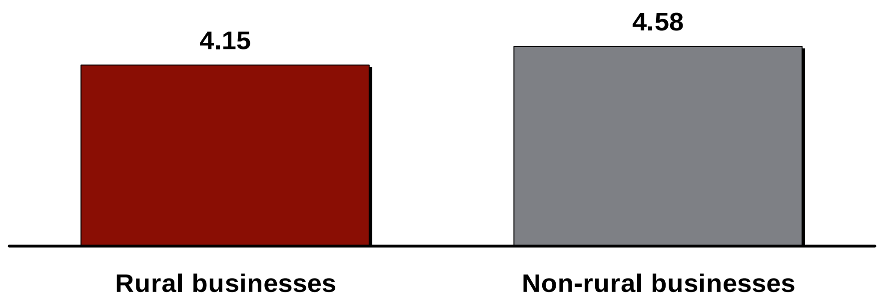
Q: Which of the following describes the type of Internet access your company has? (Broadband, Dial-up, None, Don't Know)
(n=1,306 businesses in Tennessee and Ohio, 326 of which are rural, that either subscribe to broadband service or report that broadband is available at their location)

*"Take rates" = (% of broadband subscribers) / (%of businesses who EITHER subscribe to broadband service OR report that broadband service is available at their location)

Source: 2009 Business Technology Assessments of Tennessee and Ohio

For those businesses who adopt broadband, research indicates a rural gap in average download speeds, a critical measure for effectively conducting certain online applications. Figure 7 demonstrates that rural businesses report an average download speed of 4.15 megabits per second, while non-rural businesses report an average speed of 4.58 megabits per second.

Figure 7. Average Download Speeds (Mbps) among Broadband-Connected Businesses

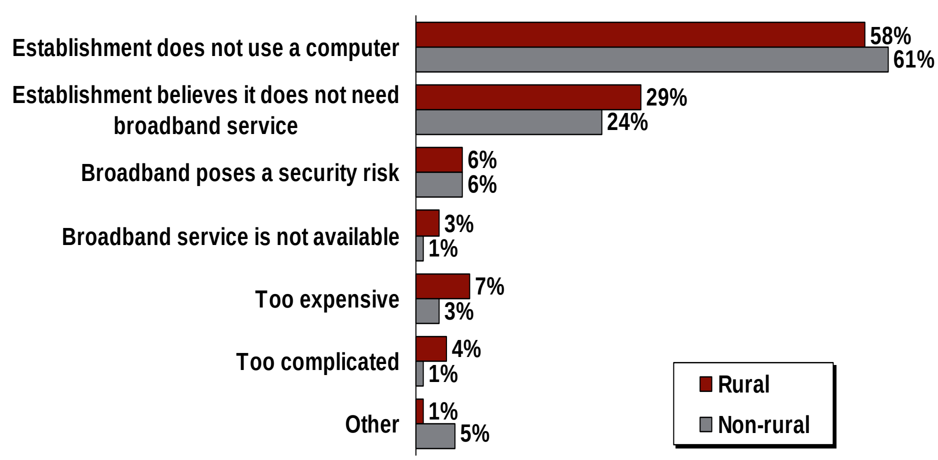


Q: To the best of your knowledge, what is the approximate bandwidth provided by your Internet service provider?
(n=573 broadband-connected TN and OH businesses that know their approximate download speed)

Source: 2009 Business Technology Assessments of Tennessee and Ohio

Among businesses who do not adopt broadband services, barriers to adoption across rural and non-rural populations indicate, once again, that demand-side factors are significant. While, as expected, a higher percentage of rural businesses report lack of broadband availability as a key barrier to adoption of the service (3% for rural businesses as compared to 1% for non-rural businesses), both rural and non-rural businesses report demand-side factors as the most prevalent barriers to adoption of broadband services. Both rural and non-rural businesses that do not subscribe to broadband report lack of computer ownership and a perceived lack of need for broadband services as top barriers to adoption.

Figure 8. Barriers to Broadband Adoption Among Ohio and Tennessee Businesses Among businesses that do not subscribe to broadband*



Q: Why doesn't (or if broadband is not available, why wouldn't) your organization subscribe to broadband?
(n=477 TN and OH businesses that do not subscribe to broadband service)
*Percentages do not add up to 100% because individuals could give multiple responses.

Source: 2009 Business Technology Assessments of Tennessee and Ohio.

Connected Nation data exploring the application usage demonstrate differences in usage patterns across rural and non-rural businesses that use broadband. Figure 9 indicates that rural businesses report more frequently than non-rural businesses the use of broadband to make online purchases (84% for rural, 80% for non-rural), shipment tracking control (69% for rural, 56% for non-rural), inventory tracking control (24% for rural, 17% for non-rural), online training (36% for rural, 33% for non-rural), and customer support (42% for rural, 41% for non-rural). By contrast, non-rural businesses report more frequent usage of the following online applications related to business development per se.: online bidding on contracts (27% for non-rural, 17% for rural), online marketing and advertising (64% for non-rural, 57% for rural), and online selling or accepting orders (47% for non-rural, 42% for rural). Non-rural businesses also report higher usage of the following online services that can potentially result in operation efficiencies: online research or booking business travel (65% for non-rural, 60% for rural), online banking (57% for non-rural, 52% for rural), online billing (45% for non-rural, 40% for rural), and employee benefits information (34% for non-rural, 27% for rural).

Figure 9. Internet Applications Used Among Internet-Connected Businesses

Q: Which of the following does your business currently use?
(n=1,176 TN and OH businesses, 282 of which are rural)

Source: 2009 Business Technology Assessments of Tennessee and Ohio

The data do not explain why these differing patterns exist. One reason may be due to differences among the type of businesses or size of the average business that chooses to locate in rural versus non-rural areas. Still, these usage patterns could also be due to a lack of awareness among some rural businesses about online resources and opportunities. Whatever the explanation may be, what is clear is that it is imperative that all businesses, whether in rural, urban or suburban areas, continue to adopt and expand the usage of online commerce, online marketing and business development, online research and information that can help businesses grow, e-government services, e-health and other online opportunities enabled by broadband. Failure to do so will imply an increasing inability to compete in the 21st century economy, which will result in loss of jobs and economic opportunity.

Conclusion

The data presented in this policy brief illustrates the existing gap across residential and business rural and non-rural populations. These findings suggest that the lag in the adoption of broadband services among rural dwellers is real and cannot be explained solely due to the remaining gaps in infrastructure availability; that is, supply-side factors. Demand-side barriers to technology adoption and usage are a significant factor affecting this technology lag among rural populations. The FCC's National Broadband Plan should address both challenges simultaneously. It should effectively address the infrastructure gaps across rural America, as well as promote effective programs to stimulate adoption of broadband technologies in rural areas. In particular, the National Broadband Plan should aim to promote localized programs, led by public-private partnerships and civic organizations invested in rural America, to address local barriers to adoption particularly prevalent among rural communities. The plan should also build awareness about the benefits of broadband services for rural businesses and dwellers, expand digital literacy programs, promote computer ownership, and strengthen rural community anchor institutions' broadband capacity and services.[1]

[1] For a more in depth discussion of policy options concerning the Rural Broadband Strategy see *Comments of Connected Nation, Inc.*, *FCC GN Docket No. 09-29*, March 25, 2009, available at http://fjallfoss.fcc.gov/ecfs/document/view?id=6520203594