Dear Sir or Madam,

Please see the attached comment. Please confirm receipt of comment.

yours,
Drew Clark
President, Rural Telecommunications Congress

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Drew Clark tracks the development of Gigabit Networks, broadband usage, the universal service fund, and wireless spectrum policy, at http://twitter.com/broadbandcensus. Nationally recognized for his knowledge on telecommunications law and policy, Clark brings experts and practitioners together to advance the benefits provided by broadband: job creation, telemedicine, online learning, public safety, the smart grid, eGovernment, and family connectedness.

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Learn more about the efforts of the Rural Telecommunications Congress to facilitate the development of a reliable and sustainable rural broadband ecosystem to ensure a strong future for rural America. Visit http://ruraltelecon.org

June 10, 2015

Comments submitted electronically to BOCrfc2015@ntia.doc.gov

Re: Broadband Opportunity Council – Request for Comments

Introduction

The Rural Telecommunications Congress (RTC) is pleased to respond to the Broadband Opportunity Council's Request for Comments. Founded in 1997, RTC is uniquely positioned to speak to key parts of the broadband ecosystem. The RTC is a national non-profit membership organization committed to promoting best practices and improving policy around broadband infrastructure, adoption, and meaningful utilization for social and economic development. The RTC maintains a geographically-dispersed volunteer Board of Directors that includes representatives of the telecom industry, technology consultancies and service providers, land grant universities, and other professionals engaged in both the supply and demand side of broadband.

Conferences hosted annually by RTC attract a national audience to share broadband deployment and utilization strategies and challenges with leaders of projects and communities around the nation. The RTC appreciates the opportunity to share its views and concerns about federal involvement in actionable broadband programs that will lead to solutions for communities lacking critical infrastructure and to leverage the broadband assets already in place to enable rural competitiveness and economic opportunities.

You can learn more about the efforts of the RTC to facilitate the development of a reliable and sustainable rural broadband ecosystem to ensure a strong future for rural America by visiting http://ruraltelecon.org.

As requested in the Request for Comments, RTC responses will follow the order in which the questions are listed in the RFC document, noting the corresponding question numbers that each comment addresses. Each RTC comment will end with actionable items for the Council to consider.

Questions and Responses

1. How can the federal government promote best practices in broadband deployment and adoption? What resources are most useful to communities? What actions would be most helpful to communities seeking to improve broadband availability and use?
2. How can the federal government best promote the coordination and use of federally-funded broadband assets?

3. What federal regulations and/or statutes could be modernized or adapted to promote broadband deployment and adoption?
6. What regulatory barriers exist within the agencies of the Executive Branch to the deployment of broadband infrastructure?
8. What inconsistences exist in federal interpretation and application of procedures, requirements, and policies by Executive Branch agencies related to broadband deployment and/or adoption, and how could these be reconciled? One example is the variance in broadband speed definitions.

Communities that lack broadband access often express confusion and frustration when realizing that broadband infrastructure passes through their communities. For example, rural residents see the orange "Buried Fiber" markers along their community's railroads and highways, yet service providers cannot have access, leaving the community without wired or wireless connectivity. Often broadband infrastructure resources are available to communities, but community leaders simply do not know resources are available or what to look for.

In recent years, tremendous effort was placed on broadband mapping, but not much exists regarding the cataloging of existing network supporting assets. Current documentation of broadband-friendly infrastructure is essentially non-existent, and there is no ready access by the public to any such existing documentation. As such, the broadband planning and deployment process is often delayed, with public and private financial investment of important projects in the balance. With little knowledge of existing network assets, there also exists the increased likelihood of duplication of effort, spending time to raise support and financial resources for infrastructure that may already be in place.

Therefore, more must be done to provide access to existing network resources, particularly for infrastructure that exists due to federally funded programs, especially in rural areas where no broadband options exist. Including such comprehensive information in an online database would be helpful for communities seeking to improve access and would be an impetus for the community explore options and form critical partnerships with operators of network resources.

Action Items: Develop and enact policies that encourage partnerships that share existing network infrastructure and resources, such as underutilized network capacity or tower access. Encourage public and private entities alike to share unused resources and network capacity with service providers at a fair and equitable arrangement.

Establish clear guidelines for access to those federally-funded assets by public or private sector service providers. Next, produce a publicly searchable online database of taxpayer-owned, broadband-friendly infrastructure assets. Ensure proper administration of federally-funded broadband assets through reporting guidelines for federal agencies to maintain the database to ensure ready identification of those assets by service providers and communities. Items included in the data should include these items, among others:
   a. Any federally-owned tower taller than 40' AGL and accompanying enclosures, space and power
   b. Any federally-owned building taller than 40' AGL
   c. Any federally-funded (Example: NTIA BIP/BTOP, USDA RUS, FCC High Cost Support Mechanism, E-Rate) microwave radios in use capable of transporting more than 100 Mbps
   d. Any federally-funded (Example: NTIA BIP/BTOP, USDA RUS, FCC High Cost Support Mechanism, E-Rate) fiber optic cabling regardless of stand count, aerial or terrestrial

e. Any power transmission routes (Example: Western Area Power Authority) that (a) have optical guide wire or other fiber optic assets in place and/or (b) capable of supporting fiber optic cabling
f. Any federally-funded (Example RUS grant or loan) power transmission pole, pylon or easement
g. Any federally-funded easement (canal, waterway, railroad, pipeline of any kind, etc.) where a fiber optic cable can be placed over multiple miles
h. Any right of way along a federally-funded road, highway or railroad

9. Are there specific regulations within the agencies of the Executive Branch that impede or restrict competition for broadband service, where residents have either no option or just one option? If so, what modifications could agencies make to promote competition in the broadband marketplace?
10. Are there federal policies or regulations within the Executive Branch that create barriers for communities or entities to share federally-funded broadband assets or networks with other non-federally funded networks?

There are some specific regulations that impede the progress of smaller broadband service providers, often creating time-consuming and costly tasks that negatively affect competition in the marketplace. Some regulations made sense when created, but have now perhaps faltered in their usefulness.

Action Items: Review the usefulness and purpose of many older regulations, such as these:

1. An Archaeological Review is required in order to place microwave equipment on a tower 10,000 feet above sea level. Example: Bureau of Reclamation tower near Twin Lakes, Colorado.
2. Post-9/11 secrecy regulations and procedures regarding power transmission routes should be relaxed in order to better identify power utility-based infrastructure assets conducive to middle mile infrastructure builds.
3. "Special Use" permitting on public lands where the senior special use permit holder cannot add microwave equipment or other innocuous broadband infrastructure without violating special use permit(s).
4. Review and revise other regulations as well as, procedures, policies and definitions (broadband, rural, etc.) that are inconsistent and make it difficult to complete all necessary steps (planning, middle and last mile infrastructure, facilities, training and ongoing costs) to deploy and use broadband.

5. How can the federal government best collaborate with stakeholders (state, local, and tribal governments, philanthropic entities, industry, trade associations, consumer organizations, etc.) to promote broadband adoption and deployment?
7. What federal programs should allow the use of funding for the deployment of broadband infrastructure or promotion of broadband adoption but do not do so now?
16. What federal programs within the Executive Branch should allow the use of funding for broadband adoption, but do not do so now?
17. Typical barriers to broadband adoption include cost, relevance, and training. How can these be addressed by regulatory change by Executive Branch Agencies?

As some recently built networks have experienced, providing access to broadband does not automatically mean services will be adopted. Further, simply because households and businesses adopt services, it does not mean they will meaningfully utilize broadband. Therefore, to drive the economic benefits that justified the federal funding for many broadband projects, residents and business owners must be aware of the costs and benefits associated with the meaningful utilization of broadband tools and applications that will satisfy their own household or business needs analysis. An awareness gap and learning curve does exist, and mitigating change often challenges established methods of behavior, whether operating a household or managing a business.

Understanding these issues, local awareness building and training is needed to take full advantage of e-learning, e-commerce, e-government and other broadband related opportunities to realize broader social and economic improvement. The RTC concurs with the comments of Larry Strickling, administrator of the U.S. Department of Commerce's National Telecommunications and Information Administration, that, "we'll make it or break it at the local level." From infrastructure planning to meaningful utilization, decades of broadband expertise by RTC members have recognized that sustainable broadband strategies are accomplished through local engagement with dedicated local partners. Technology advances constantly, with mobile technology and targeted applications leading new challenges and opportunities today, so sustained local engagement around broadband utilization and innovation is key for economic growth.

Action Item: The RTC is well positioned to partner with the nation's land grant university system, the private sector, and nonprofits to design and implement a national broadband adoption and utilization campaign. Several university extension programs have engaged their states in broadband adoption and utilization programs targeted at households and small businesses, and several State Broadband Initiative and Broadband Technology Opportunities Programs have engaged select communities in targeted awareness and training initiatives. Drawing best practices from these and other successful programs, the Administration should propose a national adoption and utilization campaign. With a presence in every state, and a network of university extension agents available for every community, a national program with proven content and consistent messaging around best practices could be designed and implemented in a focused and timely manner.

Following a train-the-trainer model, extension agents would work with community anchor institutions (CAI) to identify and develop trained and motivated mentors and technology leaders to serve their community of interest. A goal of the CAI would be to provide a broadband and technology coach, to introduce the most appropriate tech tools and applications to individuals and businesses in a peer-to-peer relationship. This would empower CAIs to serve as utilization coaches and trainers at the local and regional level, strengthening their role in the community, with extension agents available for support and regional coordination. Continued partnerships of CAIs and regional partners can identify local needs, to provide public access locations, equipment, and technical assistance to increase broadband awareness, education, and utilization.

This action item could involve the Department of Commerce, the Small Business Administration, and the U.S. Department of Agriculture. At the local and regional level, advising and coaching could be made available through Chamber of Commerce staff, Small Business Development Center advisors, or Rural Development Center staff. State and national coordination could be managed through land grant university extension services with collaborating nonprofits, such as RTC, in a consultative capacity.

Action Item: The Administration should advocate for telework and other applications that increase the use of, and the demand for, broadband infrastructure. Telework benefits employers through business efficiencies and cost savings as well as offers new rural economic development options. Telework also reduces employer and employee expenses, provides new job opportunities for rural residents, seniors and the disabled, resulting in expansion of the labor pool for employers, and economic diversification where traditional industries are on the decline.

11. Should the federal government promote the implementation of federally-funded broadband projects to coincide with other federally-funded infrastructure projects? For example, coordinating a broadband construction project funded by USDA with a road excavation funded by DOT?

To coordinate broadband deployment with other federally-funded infrastructure projects makes perfect sense. Some states have enacted "Dig Once" legislation that requires fiber cable and/or conduit to be installed whenever ground is trenched for other purposes, such as for utilities or new roads. The Administration should promote similar measures throughout the country.

Action Item: Require federal agencies to build provisions into infrastructure projects to incorporate deployment of fiber cable or conduit as a cost saving and efficiency measure.

12. How can communities/regions incentivize service providers to offer broadband services, either wired or wireless, in rural and remote areas? What can the federal government do to help encourage providers to serve rural areas?
13. What changes in Executive Branch agency regulations or program requirements could incentivize last mile investments in rural areas and sparsely populated, remote parts of the country?
15. How can Executive Branch agencies incentivize new entrants into the market by lowering regulatory or policy barriers?
20. What can the federal government do to make it easier for state, local, and tribal governments or organizations to access funding for broadband?
27. What information about existing broadband services should the Executive Branch collect to inform decisions about broadband investment, deployment, and adoption? How often should this information be updated?
28. Are there gaps in the level or reliability of broadband-related information gathered by other entities that need to be filled by Executive Branch data collection efforts?

For an organization or a community to plan, build, and sustain use of broadband, it often requires numerous funding sources through multiple organizations. Separate funding sources may cover middle mile, last mile, equipment, facilities, training programs, and ongoing monthly service fees that create confusing and disjoined process for rural communities.

Action Item: As noted in earlier comments, create a comprehensive, updatable database of broadband-related funding sources possibly building on a resource list developed through ARRA State Broadband Initiative funds for Local Technology Planning Team projects. Include funding sources for infrastructure

and broadband adoption and utilization programs to support increase broadband awareness and use. Provide clear instructions on how to apply for funds, including tools to help organizations follow the steps necessary to create a business case and secure funds to plan and build their network.

Action Item: Update and expand mapping data from earlier ARRA SBI efforts, specifically toward these topics:

1. Speed mapping – collect actual speed data (opposed to service provider advertised speeds) to demonstrate to potential service provider market entrants what speeds the market actually has.
2. Infrastructure mapping – enable county and municipal governments (assessor offices) to tally existing broadband infrastructure for business property tax purposes while simultaneously advertising those assets and potential assets to the service provider community.
3. Demand mapping – survey communities to elicit sales leads for broadband via surveys related to what services businesses and community anchors currently subscribe to and what they want to subscribe to. Demonstrate the business case for either improved service from incumbent providers or new market entrants.

Action Item: Revise USDA RUS Rural Broadband Loan Program such that it is a primary loan rather than a re-finance vehicle in its current version

Action Item: Increase Community Connect grants to $100 million/year. Current funding of less than $20 million is unrealistic for most communities.

Action Item: Provide guidance and training for county and municipal governments to explore, and where appropriate, fund and deploy their own broadband infrastructure. Empower national nonprofits, such as the RTC, to provide such training and insight into broadband infrastructure strategies, from proven broadband planning and funding strategies, to service development and operations sustainability.

14. What changes in Executive Branch agency regulations or program requirements would improve coordination of federal programs that help communities leverage the economic benefits offered by broadband?
16. What federal programs within the Executive Branch should allow the use of funding for broadband adoption, but do not do so now?
17. Typical barriers to broadband adoption include cost, relevance, and training. How can these be addressed by regulatory change by Executive Branch Agencies?

Of the three typical barriers noted (cost, relevance, and training), the Executive Branch can have tremendous influence on the relevance of broadband and broadband applications to individuals, households, and businesses. One could argue that cost is a function of market demand, and training is an outcome of increased adoption, therefore making broadband relevancy the foundational element for broadband adoption and the key driver for utilization and innovation.

The RTC is delighted to see the inclusion of so many agencies on the Broadband Opportunity Council, many of which have not traditionally been directly involved with broadband or provided broadband funding. The incorporation of broadband deployment and adoption within offerings of these agencies

will leverage previous broadband investments, infuse new, critically need funding and result in innovations that support economic opportunity, growth and community vitality.

More programs within the Executive Branch should allow funding for adoption and utilization efforts. Extending funding to federal programs that have not yet used federal funds for adoption programs will expose broadband to fresh, new perspectives, and will create opportunities for the top-down to successfully collaborate with the bottom-up, which could have a profound effect on innovation.

With the potential of this broader federal involvement and possible funding sources, the obligation of the Council will be to research and develop a comprehensive list of programs to communicate its support of broadband access, adoption, and utilization.

Action Item: Broadly share the results of the Council's survey of federal programs that support increasing broadband deployment and adoption. Create a comprehensive, updatable list or database of broadband adoption funding sources to support broadband deployment and adoption.

18. What barriers exist at the state, local, and/or tribal level to broadband deployment and adoption? How can the federal government work with and incentivize state, local, and tribal governments to remove these barriers?
19. What federal barriers do state, local, and tribal governments confront as they seek to promote broadband deployment and adoption in their communities?
24. What federal regulatory barriers can Executive Branch agencies alter to improve broadband access and adoption in rural areas?
25. Would spurring competition to offer broadband service in rural areas expand availability and, if so, what specific actions could Executive Branch agencies take to further this goal?
26. Because the predominant areas with limited or no broadband service tend to be rural, what specific provisions should Executive Branch agencies consider to facilitate broadband deployment and adoption in such rural areas?

In today's "silo"-based culture, maintaining the status quo by insular civic and government systems amid accelerating disruptive innovation is understandable, but is also counter to fueling the culture of creativity that all Americans need to become part. The Administration needs to make it clear that America can only become the global innovation leader by showing the world how we successfully made the shift from fighting change to become a culture that stimulates and rewards innovation. To make that shift, it is sometimes necessary to evolve entrenched, outdated, and sometimes misapplied policies and regulations of previous generations.

As an example, a recent FCC decision allows rural electric cooperatives and electric utilities to offer broadband services beyond their existing electric utility service area, to serve customers in neighboring counties and utility districts where no broadband exists. Special interests in some states (most recently Tennessee and North Carolina) have challenged the FCC decision to prevent successful broadband utilities from growing into adjacent underserved communities.

Action Item: The Administration should support policies, such as the example above, which allow communities to overcome the burdens of existing restrictive policies to solve today's challenges.

Administration support of game-changing policies like this would prove to be a boost of confidence for broadband efforts in rural underserved communities, reducing the risk and uncertainty around pursuing broadband partnerships with neighboring utility districts to open to doors of competition and grow services into their community.

21. How can the federal government support state, local, and tribal efforts to promote and/or invest in broadband networks and promote broadband adoption? For example, what type of capacity-building or technical assistance is needed?
22. How can specific regulatory policies within the Executive Branch agencies be altered to remove or reduce barriers that prevent vulnerable populations from accessing and using broadband technologies? Vulnerable populations might include, but are not limited to, veterans, seniors, minorities, people with disabilities, at-risk youth, low-income individuals and families, and the unemployed.

The NTIA Alaska Native Innovation Incubator model, led by Lone Eagle Consulting, an RTC member, is an example of a best practice that can be replicated across tribal and rural communities. One option is for a rural and tribal community competition as to who can generate the most innovative digital inclusion outcomes. Social media aspects recognize how good people can best learn to help themselves and others. With many rural communities and Native villages sharing their best innovations, the inevitable realization will be the value of ongoing sharing as a best practice.

23. How can the federal government make broadband technologies more available and relevant for vulnerable populations?
29. What additional research should the government conduct to promote broadband deployment, adoption, and competition?
30. How might the federal government encourage innovation in broadband deployment adoption and competition?

Meaningful use of broadband is hindered by the association of the successive levels of speed, cost, devices and training related to specific broadband benefits and measurable outcomes. A gigabit assures bandwidth is not a limitation. The world is waiting for the invention of further applications to justify gigabit speeds. This should not lead us to ignore opportunities from the huge volume of replicable innovations at lower speeds that are more commonly available. As many individuals, homes, businesses, and CAIs can thrive even on single-digit megabit speeds, the promotion and encouragement of adoption and utilization – no matter the speed – should be a major focus.

Broadband refers to multiple platforms for innovation, with widely varying speeds, processing power and benefits. Recent trends show that more online shopping is done via mobile devices than traditional computers, and mobile devices outsell desktops four to one. Social media is the new platform for civic engagement, e-commerce, e-marketing, and e-learning, and doesn't require broadband.

The concept of "low cost, high imagination" represents the most scalable and affordable solutions for all current and emerging platforms for innovation. CAIs need to participate in low-cost, high-imagination crowd-sourcing methods for generating ideas and keeping current on best practices by their sector and

to match specific needs with specific solutions. Effective online sharing and collaboration between a citizen and a CAI is a modern form of volunteerism, and one of the greatest benefits of broadband.

Unifying themes, such as "Everyone both learner and teacher, both consumer and producer" suggest citizen roles reframed as "human bandwidth" can be fundamental to whether benefits of broadband are realized, and by whom; targeting those most in need.

Action Item: Acknowledge high imagination uses and innovations that exist for every speed level. To unleash the creativity of all Americans and drive innovation through the digital ecosystem to have meaningful impact on organizations at the community level, encourage scalable innovations across platforms that have a local focus and benefit.

Action Item: Promote RTC member-led and other broadband project lessons learned and best practices. Fund and support projects that encourage use of mobile, video, and innovative technologies or approaches like crowdsourcing to connect resources to users, aggregating and mashing data for new perspectives to identify opportunities and overcome problems, increase skills, and grow jobs.

Action Item: Using crowd-sourcing methods, create a national database competition matching the five broadband sectors (health, public safety, education, economic development, energy) with peer-approved best practices. Use social gaming incentives to drive meaningful participation in public sector organizations to generate ideas, collect data, build consensus, and implement changes to drive CAI efficiencies and value to the communities they serve. Supporting CAIs in rural and vulnerable communities would be of particular benefit.

Conclusion

In closing, the Rural Telecommunications Congress has long supported a broad range of federal efforts to improve broadband access and adoption and has worked for nearly two decades to communicate those policies and programs to state and local leaders through RTC activities. The RTC strives to help community leaders stay current for what is working for other communities like theirs, and to help fuel the fires of local innovation and competitiveness through meaningful broadband utilization.

We are encouraged by the openness of the White House and the Broadband Opportunities Council to enable the prosperity of rural America through future broadband programs. The RTC appreciates your consideration of these issues and would be happy to provide any additional information that might be helpful.

Sincerely and respectfully,

The Rural Telecommunications Congress