**From:** Doug Brake
**To:** BOCrfc2015
**Subject:** ITIF Broadband Opportunity Council RFC Comment Submission
**Date:** Wednesday, June 10, 2015 2:22:23 PM
**Attachments:** ITIF BOC Filing Final.pdf

Hello,

Please accept the attached comments on the Broadband Opportunity Council from the Information Technology and Innovation Foundation. We welcome the opportunity to comment on the Council's work and would be happy to assist going forward. Thanks so much.

Best,
Doug Brake

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Before the
Department of Agriculture
Rural Utilities Service

and

Department of Commerce
National Telecommunications and Information Administration

In the Matter of                                    )
                                                    )
Broadband Opportunity Council                       )          Docket No. 1540414365-5365-01
Request for Comment                                 )

Comments of
The Information Technology and Innovation Foundation (ITIF)

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June 10, 2015

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## INTRODUCTION AND GUIDING PRINCIPLES

The Information Technology and Innovation Foundation (ITIF)[1] welcomes this opportunity to respond to the request for comment issued by the Rural Utilities Service (RUS) and the National Telecommunications and Information Administration (NTIA).[2]

ITIF has long supported policies to see continued investment and expansion of our nation's broadband infrastructure. Ensuring that our society fully benefits from the information technology revolution means policymakers must devote the same, if not higher, level of attention to it than they give to more conventional economic policy areas. Broadband networks are the tendrils of information technology—an optimal broadband industry structure is critical to deliver the dividends of productivity growth through information technology.

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[1] The Information Technology and Innovation Foundation (ITIF) is a non-partisan research and educational institute—a think tank—whose mission is to formulate and promote public policies to advance technological innovation and productivity internationally, in Washington, and in the states. Recognizing the vital role of technology in ensuring prosperity, ITIF focuses on innovation, productivity, and digital economy issues.

[2] Dep't of Commerce & Dep't of Agriculture, *Broadband Opportunity Council Notice and Request for Comment*, 80 Fed. Reg. 23785, Docket No. 1540414365-5365-01 (rel. Apr. 29, 2015) ("RFC").

As a general matter, ITIF encourages all policymakers to craft and execute on national broadband plans; ensure that tax policies allow providers to depreciate network investments quickly; subsidize build-out to high-cost areas; ensure adequate spectrum availability while using spectrum auctions as a way to allocate a scarce resource, rather than as a way to raise revenues; and provide flexible pole attachment and tower siting policies. We also support facilitating broadband adoption by providing subsidies for computers and connectivity in schools and low-income households.[3]

For these reasons, we support the goals articulated in the March Presidential Memorandum establishing the Broadband Opportunity Council (BOC).[4] The federal government should identify and address regulatory barriers that may unduly impede wired and wireless broadband deployment and investment as well as promote the adoption of broadband technology. We offer these comments to assist the BOC in achieving these goals. Coordinating across a broad cross-section of the executive branch is an extensive undertaking, and while our recommendations are by no means comprehensive, we offer a few specific recommendations for what are some of the most obvious actions the federal government can take. But before delving into the specifics, we would like to offer a few guiding principles and general remarks on the BOC's undertaking.

### Strive for lasting, narrow, bipartisan reforms

ITIF research has repeatedly shown that our general approach to broadband policy—light touch regulation of intermodal competition—is working well.[5] According to Akamai's most recent State of the Internet report, all 50 states, plus Washington, D.C., saw increases on a year-over-year basis in average connection speeds, and those ranked among the top 10—Virginia, Delaware, D.C., Massachusetts, Rhode Island, Utah, Washington, Oregon, North Dakota and New York—experienced double-digit gains.[6] The fact that our broadband industry has achieved competitive speeds while also maintaining low entry-level pricing is

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[3] For a general guide to spurring ICT adoption, s*ee* Robert D. Atkinson & Ben Miller, "A Policymaker's Guide to Spurring ICT Adoption" *ITIF* (June, 2015), http://www2.itif.org/2015-policymaker-ict-adoption.pdf.

[4] The White House, Presidential Memorandum, *Expanding Broadband Deployment and Adoption by Addressing Regulatory Barriers and Encouraging Investment and Training* (Mar. 23, 2015), *available at* https://www.whitehouse.gov/the-press-office/2015/03/23/presidential-memorandum-expanding-broadband-deployment-and-adoption-addr.

[5] *See* Richard Bennett, Luke A. Stewart, & Robert D. Atkinson, "The Whole Picture: Where America's Broadband Networks Really Stand" *ITIF* (Feb. 12, 2013), http://www.itif.org/publications/2013/02/12/whole-picture-where-america%E2%80%99s-broadband-networks-really-stand.

[6] Akamai, "State of the Internet" (Q4, 2014), http://www.akamai.com/dl/content/q4-2014-soti-report.pdf.

remarkable considering the hurdles we face with sprawling suburbs, rural states, relatively low levels of computer ownership, and relatively high rates of poverty.[7]

Furthermore, in no small part due to the initiative of Google Fiber and the follow-through of the Gig.U project, a so-called "Game of Gigs" has been sparked in the broadband industry, with more and more extremely high-speed networks being announced.[8] Competitive markets in developing and deploying broadband access technologies have seen tremendous growth in broadband speed.

All this is to say that the BOC need not re-invent the wheel. The BOC process should not be one of wholesale re-evaluation of broadband policies, but a set of targeted reforms, streamlining processes and procedures to facilitate broadband investment and adoption. The BOC should strive to lay a foundation for the next administration to build on by focusing on bipartisan, common-sense reforms. Furthermore, the BOC should make these reforms lasting by building in processes to ensure accountability, both at an agency and inter-agency level. By periodically re-evaluating progress made and implementing dashboard comparisons, the BOC can make meaningful changes to build on our broadband successes instead of formulating a one-off list of good ideas.

Coordinating across multiple agencies on narrow policy issues is a daunting challenge. In order to be most successful, BOC members should recognize that broadband deployment and adoption, while tremendously beneficial to society and the economy in the abstract, can greatly assist them in fulfilling their specific federal missions. Focusing on the ways in which agencies can leverage broadband services themselves will help ensure agency buy-in and continued success.

### Encourage cooperation on the state and local level

Many of the impediments to broadband build-out and infrastructure upgrades are at a local level. As a part of considering federal policies and regulations that impede broadband investment and adoption, the BOC should consider ways in which it can offer best-practices and encourage cooperation of officials closer to the ground.

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[7] *See* The Whole Picture, *supra* note 5.
[8] *See, e.g.*, Mary Schultz, "Rolling Out More Gigabit Services," USTelecom (May, 28, 2015), http://www.ustelecom.org/blog/rolling-out-more-gigabit-services; *see also* Gig.U, "From Gigabit Testbeds to the 'Game of Gigs,'" Third Annual Report (Aug. 2014) http://www.gig-u.org/cms/assets/uploads/2012/12/81714-Gig.U-Final-Report-Draft-1.pdf.

Likewise, adoption is, to a great extent, a problem that is necessarily addressed at a local level. Research consistently shows that one of the primary reasons for non-adoption is a perceived lack of relevance and lack of digital literacy.[9] The BOC should consider ways in which the federal government can coordinate with local entities to build on existing federal programs to encourage broadband adoption.[10]

### Enable, but do not promote, competition

Competition in broadband networks is not an unalloyed good—more competitors in a given geographic market are not *always* better.[11] Having more firms with smaller market shares competing at low margins will necessarily raise overall production costs while reducing average firm revenues. The result, therefore will be higher prices overall.  As such, spurring more competition through proactive government subsidies or other policies is almost always less effective in lowering prices and improving service than effective competition between fewer firms. Market fragmentation is especially problematic when thinking about longer-term policy goals such as investment in infrastructure and research and development, introduction of new products and services, and offering such innovations at scale. In many cases, higher levels of concentration can better deliver such long-term benefits.[12] For these reasons, governments should not proactively subsidize the deployment of additional networks in areas that are already serviced.[13] Scarce subsidy dollars at the state and federal levels should be targeted at bringing service to unserved areas, not adding yet another competitor to areas with existing broadband service.

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[9] *See, e.g.,* Octavian Carare *et. al.*, "The Willingness to Pay for Broadband of Non-Adopters in the U.S.: Estimates from a Multi-State Survey" (Nov. 18, 2014), *Information Economics and Policy*; John Horrigan, "Digital Readiness" (June, 2014), *available at* http://www.silicon-flatirons.org/documents/conferences/2014-04-29%20LA%20Cable%20Workshop/Horrigan_John.pdf.

[10] In short, NTIA should continue to build on its Broadband Adoption Toolkit and other adoption resources.

[11] For an examination of competition in broadband policy, *see* Robert D. Atkinson, "The Role of Competition in a National Broadband Policy" (Oct., 2007), ITIF, *available at* http://www.itif.org/files/BroadbandCompetition.pdf.

[12] While the economic literature is largely inconclusive about a generalizable relationship between firm size and R&D or innovation, there is good evidence that, especially in capital-intensive markets with strong economies of scale—the hallmarks of telecom networks and equipment manufacturing—there is an inverted-U shaped relationship between concentration and innovation. *See, e.g.*, F.M. Scherer, "Firm size, market structure, opportunity, and the output patented inventions," American Economic Review, 55: 1097-1125.

[13] Obviously, those areas genuinely without any broadband service should be subsidized, either at a federal level through the Universal Service Fund or RUS grants, or at a local level through municipal broadband.

But, conversely, public policy should also not erect or maintain barriers to the emergence of additional networks in areas that can economically support an additional network. The Google Fiber project and other fiber build-outs suggest that with targeted deployment and cost-reduction through streamlining of local impediments, a third wired network can be viable in at least some urban areas.

## DEPLOYMENT AND INVESTMENT IN WIRELINE

### Streamline access to rights-of-way, utility poles, and other infrastructure

Facilitating access to conduit, rights-of-way, and access to utility poles represent some of the remaining low-hanging fruit to encourage broadband deployment. The cost of building-in broadband infrastructure while undertaking public projects is minimal and the upside is tremendous. Substantial savings can be had when broadband deployment or upgrade is coordinated with other infrastructure projects in which a particular right-of-way is already being dug up.

Federally funded projects should be subject to these "dig once" policies. For example, the Department of Transportation should make federal financing of highways, roads and bridges contingent on allowing joint deployment of conduits by qualified parties. At the very least, construction projects that are financed by the federal government should be required to give notice to allow private contractors to add conduit for cables that do not impair the project.

Construction work on sewers and power lines should likewise build conduit deployment into their processes. The EPA, for example, should evaluate existing rules and ensure that they do not impede conduit or fiber deployment as a part of required sewer or flood drain work. Similarly the BOC should coordinate with the FCC to review rules affecting access to poles, including rules that would streamline the make-ready processes.

Similarly, agencies should facilitate fiber deployment on federal lands, with a uniform, expedited process for backbone deployment or buildout to end-users on federal or federal-managed lands where.

Participating BOC agencies are also important buyers of telecommunications services. Agencies should utilize the BOC process to evaluate their role as community broadband anchor institutions and ensure their telecommunications purchases are up-to-date and forward thinking. The ongoing IP transition should be factored into this evaluation.

### Develop best practices around information gathering and sharing

Agency processes that potentially impede broadband buildout should be identified, and, to the extent possible, consolidated and streamlined. For example, access to information about EPA environmental review or the wide range of management and conservation efforts under the Department of the Interior should be made as transparent and uniform as possible. The goal should be to consolidate necessary approval processes and add accountability to decision-making. Timeliness of agency approval processes should be tracked, shared, and consolidated into a single dashboard.

While there are tremendous benefits to wider deployment of broadband, we recognize parts of the deployment process are not necessarily consistent with the missions of all of the BOCs member agencies. But where this is the case, it should not come as a surprise to those deploying broadband—information about possible federal impediments should be as up-front as possible.

Information about available infrastructure itself is important as well. Federal agencies and the FCC should develop best practices to improve the collection of and access to information about availability of poles, ducts, conduits and rights of way. Information about existing infrastructure is a large factor in evaluating construction scenarios. While this is inevitably a local issue, the BOC should encourage uniform record-keeping and mapping of available conduit, ducts, and other rights-of-way that could be leveraged for broadband.

## DEPLOYMENT AND INVESTMENT IN WIRELESS

### Free up additional spectrum

It is well established that demand for wireless broadband is increasing at remarkable rates. According to Cisco's research, United States mobile data traffic grew 63% in 2014.[14] Cisco estimates that in 2019 mobile data traffic will be equivalent to 210x the volume of mobile traffic ten years earlier (in 2009).[15] A significant component of the wireless spectrum needed to economically meet this demand will come from effective sharing or repurposing of federal spectrum.

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[14] Cisco, "VNI Global Mobile Data Traffic Forecast, 2014-2019" (Feb. 2015), http://www.cisco.com/c/en/us/solutions/service-provider/visual-networking-index-vni/index.html#~vniforecast.
[15] *Id.*

Federal agencies do not face the same pressure as the private sector to use spectrum efficiently, and, as a result, some agencies may be relying on outdated systems or claiming rights to more of this valuable resource than actually required. While a broader reform to either introduce incentives or otherwise ease commercial access to federal spectrum is likely outside the scope of the BOC, participating agencies can independently take steps to use spectrum more efficiently. The BOC should consider upgrades to new, more effective equipment or use of commercial alternatives. Likewise, consideration of further inter-agency sharing to consolidate federal spectrum may make sense in some situations.

### Facilitate wireless infrastructure installation

Similar to the dig-once policies in the wireline context, facilitating wireless equipment installation, especially on federal lands, is low-hanging fruit in expanding wireless broadband. As it stands, building a new tower or simply collocating an antenna on an existing structure can be a lengthy, involved process. New tower construction generally requires local approval, compliance with the National Environmental Policy Act, compliance with the National Historic Preservation Act, notification to the Federal Aviation Administration, and registration with the FCC.[16] The BOC should consider the extent to which this process can be streamlined consistent with law and agency mission.

Participating BOC agencies exercise more direct authority over facilities to be built on federal property. Currently different agencies have different processes for approving tower and antenna siting on federal property. Standardizing the siting process, even, for example, within the Department of Defense alone, would be an important first step. But ideally the BOC would go further to standardize this process across agencies. For example, the GSA should develop a master contract to expedite placement of wireless towers on federal properties.

Standardizing the variety of processes in place before constructing towers or placing antennas on federal lands would go a long way towards reducing the timeline for review and possible approval, but the BOC should also investigate ways to otherwise expedite the wireless siting process and bring accountability to agency review. The BOC should consider other mechanisms to bring down the time required for the review process, such as a federal shot-clock or a dashboard to compare improvements across agencies.

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[16] *See* The FCC, "Tower and Antenna Siting," *FCC Encyclopedia*, https://www.fcc.gov/encyclopedia/tower-and-antenna-siting.

## ADOPTION

The benefits and promise of the digital services broadband enables are immense. As more and more services migrate online, taking full advantage of information technology requires that the vast majority of citizens participate in the digital economy. Yet, recent surveys show that roughly 14 percent of American adults do not go online at all, and about 30 percent do not have an Internet connection at home.[17] There are multiple reasons why these rates are not higher, including in some cases affordability, particularly for broadband telecommunications. But the most important factor is lack of perceived relevance, lack of digital literacy, and lack of ownership of a computer.[18]

NTIA should continue to build on its Broadband Adoption Toolkit and other adoption resources and work with the BOC to investigate ways in which the federal agencies can work with the for-profit, nonprofit, and state and local government sectors to spur digital literacy and take-up.

In addition to the important reforms to the Lifeline program the FCC is investigating, federal agencies can take some steps to lower the cost of broadband where it is an impediment to adoption. For example, the Department of Housing and Urban Development should coordinate wiring of subsidized housing up-front and additionally consider providing WiFi equipment to housing.

Finally, the BOC should consider creating a digital literacy and broadband adoption clearinghouse. One challenge with expanding the scope and effectiveness of community-based digital literacy and broadband adoption programs is that there is considerable work that gets duplicated. Notwithstanding the fact that communities differ, there is considerable commonalities efforts share. For example, effective programs may deal with issues such as the optimal design of a computer donation and refurbishment program, curriculum for community technology centers, etc. Often communities and organizations within communities are investing valuable resources to what often is a case of "reinventing the wheel." As a result, there is a need for a national organization to track effective practices and compile and disseminate shared tools (e.g., curricula, how-to manuals, software tools, etc.) that can be easily customized for local initiatives. Toward that end, the NTIA should fund an organization to work to provide these shared services.

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[17] *See* Pew Research Center: Internet, Science & Tech, "Offline Adults," http://www.pewinternet.org/data-trend/internet-use/offline-adults/.

[18] *See* Kathryn Zickuhr, "Who's Not Online and Why" (Sept. 25, 2013), Pew Research Center: Internet, Science & Tech, http://www.pewinternet.org/2013/09/25/whos-not-online-and-why/; *See also*, "The Willingness to Pay for Broadband of Non-Adopters in the U.S.: Estimates from a Multi-State Survey," *supra* note 9.

The BOC participating agencies often play an important role of buyer and user of digital services. To help spur adoption of digital services, agencies should ensure that any end user-facing forms are digital and available online. Considering the growing evidence that wireless services are bringing previous non-adopters online, agencies should strive to make digital services mobile friendly.[19]

**CONCLUSION**

The Broadband Opportunity Council has the ability to make important policy changes that can speed our nation's continued transformation to a digital economy. With a focus on narrow, bipartisan reforms, the BOC can and should pick the low-hanging fruit of standardizing and streamlining access to infrastructure. Easing access to federal property for wireless equipment as well as facilitating conduit deployment alongside federally-funded projects would go a long way towards achieving the BOC's goals of broadband deployment, adoption, and competition.

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[19] *See, e.g.*, NTIA, "Exploring the Digital Nation: Embracing the Mobile Internet," *U.S. Dep't of Commerce* (Oct., 2014), http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_embracing_the_mobile_internet_101620 14.pdf; Kathryn Zickuhr & Aaron Smith, "Home Broadband 2013," *Pew Research Center: Internet, Science & Tech* (Aug. 26, 2013), http://www.pewinternet.org/2013/08/26/home-broadband-2013/.