From:	Rodney Carlson
To:	BOCrfc2015
Subject:	Broadband Opportunity Council Notice and Request for Comment 1540414365-5365-01
Date:	Tuesday, June 09, 2015 9:28:18 PM
Attachments:	RFC-1540414365-5365-01_06082015_OHGIS.pdf

To: The Broadband Opportunity Council

The PDF letter attached to this email is in response to the Requests for Comments for the Broadband Opportunity Council.

I would like to thank the Broadband Opportunity Council for seeking public input on how to remove barriers from the federal broadband initiative and hope this letter addresses similar concerns that other stakeholders have across the nation.

Thank you,
Rodney Carlson, CEO
Owen Holdings, LLC, (OH GIS!)

Letter to the “Broadband Opportunity Council Notice and Request for Comment”

Policy Recommendations for consideration by the Broadband Opportunity Council, dated April 28, 2015. Docket number: 1540414365-5365-01

Rodney Carlson, CEO, Owen Holdings, LLC. (OH GIS!)

Table of Contents

1. Scope

This letter is in response to the "Broadband Opportunity Council Notice and Request for Comments" (RFC), Docket Number: 1540414365-5365-01, based on the Presidential Memorandum "Expanding Broadband Deployment and Adoption by Addressing Regulatory Barriers and Encouraging Investment and Training". The qualification for these comments falls under Section 3(a) of the Presidential Memorandum, as an interested party.[1] The RFC letter is adhering to the Open Government Directive on public comments[2].

1.1 Letter of Intent and Data References

The intent of this RFC letter is to assist the Broadband Opportunity Council (BOC) in identifying barriers that restrict or even prohibit economic growth. Broadband Deployment efforts instituted by both the President and the Congress, in a bi-partisan effort, provide an enormous boost to the economy[3]. However, due to the slow implementation of the Grants awarded by the NTIA and other government agencies, causes the reports issued by the FCC and the NTIA to lose its luster. The timing of reports based on the constant changing broadband landscape will actually have a better than expected year in 2015.

All data references are from governmental websites or reports and indicated in the footnotes, where appropriate. This letter will several aspects of Broadband services and policies within: wireline Broadband, download speeds and best standard construction practices within the area of interest. The policy recommendations should be applicable to other government

[1] http://www.ntia.doc.gov/press-release/2015/broadband-opportunity-council-seeks-comment
[2] http://www.ntia.doc.gov/comment-policy
[3] http://www.ntia.doc.gov/blog/2015/broadband-infrastructure-case-studies-released-how-broadband-changes-game

agencies and shared freely, to reduce the waste of resources and promote commerce in accordance to the Open Government Directive[4].

1.2 Introduction and Geographical Area of Interest

This RFC letter is focusing on the area of Arizona Congressional District 06 (AZ-06)[5]. The AZ-06 Congressional District has a unique blend of high-income housing, mixed with lower income native nations and rural landowners. There are two native nations located within the AZ-06, the Salt River-Pima[6] and the Fort McDowell[7]. This gives the BOC and the NTIA an excellent location to determine the effectiveness of the various NTIA programs, as listed below.

1.3 The NTIA Broadband Initiative and Local Impacts

The Broadband initiative is an example of well-intended action, but contains some misguided policy execution. Since 2009, with the passing of the American Recovery and Reinvestment Act of 2009 (ARRA), numerous federal programs have attempted to bridge the Broadband gap and they include Broadband Technology Opportunities Program (BTOP), State and Local Implementation Grant Program (SLGIP), State Broadband Initiative (SBI) and the National Broadband Map (NBM)[8]. Beginning in 2015, the NTIA started to terminate the grant programs. Without the funding from the grant programs, the task of providing Broadband to rural communities will be even more difficult, if not impossible. Every day, the

[4] Whitehouse.gov Memorandum on the Broadband Assets in 2010: https://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m10-06.pdf
[5] Arizona Congressional District 06: http://www.broadbandmap.gov/summarize/state/arizona/congressional-districts/06
[6] Salt River http://www.broadbandmap.gov/summarize/native-nations/salt-river
[7] Fort McDowell: http://www.broadbandmap.gov/summarize/native-nations/fort-mcdowell
[8] http://www.ntia.doc.gov/category/grants

rural broadband divide increases. Despite all of the efforts and new programs put forth by the federal government. There is not a one size fits all solution to fixing the broadband divide, due to missing several barriers that affect local delivery of broadband services.

The local impacts of the Broadband Initiative have been profound. Within AZ-06, several new companies have started up and construction is completing on new Fiber-to-the-Home (FTTH) within the district.

Reliability and accessibility are only two components of a stable broadband network and they are the most often talked about[9]. However, there is a third component, affordability.

1.4 Broadband Reliability, Accessibility and Affordability

Reliability, due to single points of failure, the Broadband system has vulnerabilities at critical choke points throughout the country. Safety and security of our nation's broadband networks should be a high priority considering the economic impacts[10]. Compounding these choke points are the various stakeholder positions at the federal, state, county, city, native nations, non-incorporated rural towns and other independent government agencies. Not to mention the TELCOM providers, both private and public have varied interests and methods to provide their services. These varied positions cause numerous project delays, cost overruns, and in extreme cases, cancellation of Broadband service expansions.

Accessibility for wireline services within AZ-06, are at 97.4 percent accessibility rate to the greater than 100Mbps data range as compared to the nation at 64.8 percent. In AZ-06, only

[9] Arizona Congressional District 06: http://www.broadbandmap.gov/summarize/state/arizona/congressional-districts/06

[10] NTIA Broadband Infrastructure Changes the Game: http://www.ntia.doc.gov/blog/2015/broadband-infrastructure-case-studies-released-how-broadband-changes-game

2.5 percent of the population has access to the 1Gbps or higher range compared to 7.9 percent for the rest of the nation. AZ-06 has a population of 742,940 with 377,846 household units[11]. The Salt-River native nation has 57.4 percent accessibility rate to the 100Mbps data range and no access to the 1Gbps range. The Salt-River native nation has a population of 6,231 with 2,873 housing units[12]. The Fort McDowell native nation has 11.6 percent accessibility rate to the 100Mbps data range and no access to the 1Gbps data range. The Fort McDowell native nation only has a population of 1,012 and 340 housing units[13].

Not all of the benefits that broadband services provide are satisfying the individual subscribers at Cox and CenturyLink, the two largest TELCOM providers of broadband services in the AZ-06 district, saw their customer satisfaction scores fall in 2015[14].

Affordability, an average broadband consumer can expect roughly ten to twenty-five percent increase to their monthly subscription rates. These increases come in the form of monthly charges, usage surcharges, taxes, fees and surcharges, placed on their monthly subscriber bill by multiple governmental agencies[i]. These rate increases can cause a broadband subscriber to drop service, even though they have accessibility to the service. When an individual subscriber drops their service, it places a burden on other businesses (such as a coffee shops), public facilities (libraries) and other TELCOM providers to "provide free access[ii]" via an alternate method.

[11] Arizona US Congressional District 06: http://www.broadbandmap.gov/summarize/state/arizona/congressional-districts/06
[12] Salt River Native Nation: http://www.broadbandmap.gov/summarize/native-nations/salt-river
[13] Fort McDowell Native Nation: http://www.broadbandmap.gov/summarize/native-nations/fort-mcdowell
[14] American Consumer Satisfaction Index: http://www.theacsi.org/news-and-resources/customer-satisfaction-reports/reports-2015/acsi-telecommunications-and-information-report-2015/acsi-telecommunications-and-information-report-2015-download

Roughly, 29 percent of nation has not adopted home internet service due to the cost of the broadband services[15]. In AZ-06, the vast range of incomes, gives a deceptive look at who is actually subscribing to Broadband services. The Fort McDowell native nation, population of 1,012, receives 91.2 percent coverage at speed up to 3Mbps[16], which is far below the new standards, but was acceptable prior to the FCC updating the rules on January 29, 2015[17]. The policy issue is, did the FCC consider the costs due to the sudden policy change to disadvantaged subscribers? Does the FCC consider it fair to change the regulation after many years of reliable service to a group of disadvantaged citizens?

Reliability, accessibility and affordability are not the only barriers TELCOM providers face; they also have to procure extra fees from subscribers to compensate for the lost income from the fees paid to the government. These service fees can include completing installation of new Broadband services, update existing networks, or provide service to a new location outside of their existing franchise agreements.

1.5 Government and TELCOM Fees Affect Project Completion

The government at all levels are charging onerous amounts of fees to TELCOM providers, TELCOM design engineers, permit requestor(s) and general contractors during the broadband construction phase. These numerous fees play a significant role in how efficiently federal broadband projects meet deadlines.

[15] Competition Among US Broadband Service Providers: http://www.esa.gov/sites/default/files/competition-among-us-broadband-service-providers.pdf
[16] Fort McDowell Native Nation: http://www.broadbandmap.gov/summarize/native-nations/fort-mcdowell
[17] https://transition.fcc.gov/Daily_Releases/Daily_Business/2015/db0129/DOC-331760A1.pdf

There was a particular project within AZ-06, to connect a TELCOM provider tier-3 (middle mile) to a tier-4 (outer mile) [18] neighborhood, at the ISP network level, prior to distribution to the households. While the project was in the design and implementation phase, there was over $22,000 in fees to the government agencies, which caused a delay of thirty-one (31) days. The design was approved, another set of fees were paid to the same government agencies for the inspections, safety and other stakeholder fees to install the equipment these fees totals ~$16,000. The final fee was the municipal bond that was paid in full totaling $135,050 to begin the construction. Reducing these fees lowers the cost of delivery and in turn passed on to the subscribers; the federal government should be proactive in creating an open market for lower cost for broadband services.

Consolidating or eliminating the numerous fees, mentioned above to TELCOM providers will be a great first step in delivering broadband services more effectively on federally awarded grant projects. All of the TELCOM providers understand that there are numerous stakeholders involved in the process and that a review and proper implementation of the design plan must take place prior to beginning any construction project. The issue becomes the amount of time and wasted resources due to not getting all parties onboard with the project in a timely manner.

1.6 Time of Delivery for Broadband Services

TELCOM providers face a time crunch for the delivery of Broadband services to the subscriber. There are a myriad of cost overruns ranging from redesigns, reroutes, and in extreme cases cancellations of customer orders. Many subscribers will drop services, or

[18] Figure 1 Simplified View of Internet Network Connections: http://www.esa.doc.gov/reports/competition-among-us-broadband-service-providers

cancel new orders with TELCOM providers for not being able to deliver on the before or on the date promised by the TELCOM provider. When the TELCOM provider is losing revenue on required broadband service areas based on a national standard. The TELCOM providers in turn, start aggressively pushing these cost overruns onto the subscriber(s) in the form of fees and lengthy contracts, to make providing the service profitable. This tactic forms a barrier for expanding Broadband service to the disadvantaged Broadband communities by TELCOM providers. These barriers have set back the American people several years, especially in the disadvantaged areas like the Salt-River and Fort McDowell native nations. The government will have to provide some form of assistance that is agreeable to the native nations due to the lack of incentive and density of subscribers to make it affordable.

2. **Policy Recommendations**

The BOC can make substantial improvements in eight key policy areas.

- Governmental agency permit timeframes
- Create a National Broadband Permit Bond system (NBPB)
- Continue and improve the National Broadband Map (NBM), and the National Broadband Network System (NBNS)
- Provide specific tax and fee relief to subscribers
- Incentivize the 1Gbps or higher broadband network infrastructure build-out
- Expand the Digital Literacy Training programs nationwide
- Provide rebates and/or price caps on outdated broadband services under 25Mbps/3Mbps to lower income families and disadvantaged locales.
- Reduce or eliminate fees for TELCOM providers on broadband expansion projects

2.1 Governmental Agency Permit Timeframes

The NTIA can address the way which federal, state, county, city, native nations and other independent governing agencies review Right-of-Way, access easements or other Broadband network improvements for the TELCOM providers (and their assignees). There are three primary areas that need reviewing are time, fees and delays.

- Many public agencies take anywhere from two days to six months, or even longer to review plans. The large variance on approval times costs TELCOM providers millions of dollars a year in construction delays, moving construction crews to multiple locations to avoid loss of productivity, pulling crews and equipment from a project site due to complications out of the TELCOM providers control and unnecessary work stoppages due to governmental agency interference with a Broadband construction project.
- The public agencies charge fees, which can run into the tens of thousands of dollars, need paying prior to issuing of the construction permit
- The public agencies can delay a permit due to:
    - Location, such as busy intersections or major, minor or arterial streets
    - TELCOM provider requesting the service upgrades
    - Conflicting projects within the same area
- Implementing multiple permit bonds for a single build projects when there are multiple TELCOM providers within the same location

2.2 National Broadband Permit Bond (NBPB)

The BOC needs to simplify the construction practices within our Federal lands when it pertains to Broadband infrastructure. The goal of the BOC should be to build a system to

alleviate the 'red tape' and to simplify the process by creating a certified National Broadband Permit Bond (NBPB) system. The NBPB bond is enforceable across multiple governmental agencies and contains legal language to give the superior rights for the duration of a TELCOM construction project. The NBPB must be issued for any TELCOM project that contains any of the following elements that fall under the NTIA's jurisdiction, such as, but not all inclusive to: permit construction, TELCOM line and/or conduit inspections (known as proofing) and design review to be initiated within 48 hours of permit submittal. The NBPB shall give the TELCOM provider unfettered access to execute the approved bond within the timeline agreed upon within the NBPB. The certified NBPB will contain a review timeline, project viability study and site visit(s) and project supervision at the BOC's discretion. The NBPB does not replace local jurisdiction, merely suspends the rights of the owner(s) until the Broadband project is complete and that all parties involved are working for the common goal of expanding the broadband network.

2.3 NTIA National Broadband Map and National Broadband Network System

The NBM[19] provides the basic framework of coverage at Broadband.gov website. However, the map does not get into detail on where the Broadband network improvement projects are physically located. It is very difficult to determine who the TELCOM providers are on a street-by-street and house-by-house location. The map uses polygon geometry for a line-based feature, which is not a correct data type. A line-based feature can only be either a regular line or polyline with a width attribute attached to the feature as an element of the feature. The NBM is a great framework it will be a shame to leave behind to gather dust. The BOC needs to appropriate the proper funding to keep a maintained and updated dataset, with

[19] http://www.broadbandmap.gov/blog/3328/national-broadband-map-has-helped-chart-broadband-evolution/

proper staffing, at least a minimum of twice a year, if not more often, so it can be a resource for all agencies to use.

There are several pressing issues facing the TELCOM providers. The NBM needs to be the go to map for all interested parties. What the TELCOM providers forget is that even though they own the conduits, they exist with the permission of the public when placed in the rights-of-way, even when in a specifically dedicated Public Utility Easement (PUE)[iii]. Fierce competition between TELCOM providers in the middle and last mile rings has driven costs up, not down, due to the increased demand for Broadband services[20]. The NBM does not differentiate between land barriers, such as streets, houses, property fences, etc. which impede in construction efforts to provide Broadband services.

The next action is the creation of a National Broadband Network System (NBNS) that tracks all forms of broadband services and their location using the NBPB. As taxpayers, we have the right to know where these assets exist within our public rights-of-way, excluding those for national security, and under the FOIA made available to the public in a format similar to the NBM. The NBNS must be setup as the "one-stop" resource for all things broadband by all of the interested parties. This will provide information necessary to make better decisions and provide a better portrait of the state of the nation's broadband network, than the aggregated data provided in most reports and letters referenced in this letter.

Moving forward, no agency, in any form or capacity, can collect fees on Federal Grant projects. This includes other federal, state, county, city, native nation or other independent government agency that wins a Federal Grant. Example: The Arizona State Broadband Initiative approves a project that was awarded to it from the NBI. The national award number

[20] http://www.esa.doc.gov/reports/competition-among-us-broadband-service-providers

will be track able, on the yet to be created, National Broadband Network System (NBNS), which is similar to the recovery.gov website[21].

Upgrading the reporting systems to cover multiple agencies will reduce the amount of wasted resources. The new reporting system will not be all-inclusive; however, the reporting system shall provide enough information for the interested parties to determine the success or failure of a given TELCOM project. All TELCOM project awards database that all agencies are required to verify prior to project review. The agency must get the case award number from the National Broadband Initiative (NBI) website prior to review and must place case number on the National Broadband Network System (NBNS).

2.4 Provide Tax and Fee Relief to Subscribers

Taxes and Fees at all levels of the TELCOM industry are overwhelming. Some of the fees are the 911, Federal Access Charge, Universal Service Fund (USF)[22], and the Federal Telecom Relay Service. There has not been a significant upgrade to the federal telecom tax system since The Telecommunications Act of 1996[23]. These taxes are still a barrier to the cost of entry to low income subscribers. The TELCOM broadband providers avoid low-income areas for the higher services. The TELCOM providers do not want to provide services without just compensation. Many low-income families avoid paying the bill or default. On a sample bill from a consumer in the AZ-06 district stated, they pay over 20 percent of their monthly bill in taxes to multiple agencies. This takes a once reasonable amount for the broadband services and pushes the rate into the unaffordable or unsustainable area for lower income families.

[21] Sample report taken from the recovery.gov website from the transparency section http://www.recovery.gov/arra/Transparency/RecoveryData/Pages/RecipientProjectSummary508.aspx?AwardIdSur=78200

[22] https://www.fcc.gov/encyclopedia/universal-service-fund

[23] Telecommunications Act of 1996: https://transition.fcc.gov/telecom.html

2.5 Incentivize Greater than 1Gbps Services

For the TELCOM providers the cost of providing "state of the art" or the "latest and greatest" broadband services runs into the billions of dollars. From upgrading the infrastructure, changing equipment and installation techniques, the move to fiber is expensive. Many of the mid to large scale TELCOM providers are putting off, at least for now large-scale improvements, except for their highest performing markets. The BOC can propose tax incentives to smaller TELCOM providers to open up market competition. Subsidizing these TELCOM providers, for a limited amount of time or give them a very low interest rate loans or surety bonds for improving broadband services. Federally provided loans with a maximum of 3 percent interest can create stimulus in construction and procuring equipment to improve our nation's entire broadband network. Another method to incentivize the 1Gbps push is by phasing out to lower T1 or DSL line based technology.

2.6 Digital Literacy Training

Provide further digital literacy training programs in disadvantaged areas. This was in the conclusion of the Lifeline Broadband Pilot Program Staff Report (LBPPSR)[24], dated 5/22/2015. In the AZ-06 congressional district, Scottsdale Community College is located on the Salt River-Pima native nation land, and can provide excellent central location to provide resources and training for the native nations in the district. A free to the public digital literacy training workshop can be held once a semester for a few hours in a day to help bridge the gap in the digital divide for native nations.

Expanding the digital literacy training programs to a nationwide event can bring positive changes to bridging the digital divide. Many areas of the nation know what broadband or the

[24] http://transition.fcc.gov/Daily_Releases/Daily_Business/2015/db0522/DA-15-624A1.pdf

internet is in general terms, however lack the fundamental understanding of how these services can benefit their daily lives. Digital literacy programs can educate participants in small-scale community based economies by providing discounted rates on services they commonly used based on their individual free market economy.

2.7 Provide Rebates, Subsidies or Price Caps on Under 25Mbps/3Mbps Services

The LBPPSR report[25] provides a good framework for solving many of the problems lower income subscribers face. The issue with the report now invalid due the FCC's implementation of the new Broadband definition[26]. The LBPPSR study uses a multiple tier and discount rates in relationship to TELCOM providers cost, allowing for an emerging market. As the speeds, increase the rate of the subsidy decreases.

There were two native nations selected in the report, however, they are not in the AZ-06 congressional district and the data may not be relatable. There was no indication of a price cap or a maximum speed in tables 7, 8a and 8b. The last line in the tables could be the fastest available speed to be in the program, which is sensible, as not all TELCOM providers have reached the new broadband regulations in all areas[27]. This could be a factor in relationship to digital literacy of the individual subscriber.

The Household Value Index[28] rates the United States at $3.52 per Megabit per second (pmps). This is higher than the EU $3.23 pmps, and the G8 $3.44 pmps, Russia is at $0.63 pmps. This is due in part to the higher monthly rates charged subscribers, the GDP per capita does play a part in this equation, but to look strictly as geographic area as a problem for the United States to provide broadband coverage is simply not true.

[25] http://transition.fcc.gov/Daily_Releases/Daily_Business/2015/db0522/DA-15-624A1.pdf
[26] https://transition.fcc.gov/Daily_Releases/Daily_Business/2015/db0129/DOC-331760A1.pdf
[27] https://transition.fcc.gov/Daily_Releases/Daily_Business/2015/db0129/DOC-331760A1.pdf
[28] Household Value Index: http://www.netindex.com/value/

2.8 Reduce or Eliminate Fees on Broadband Expansion Projects

Fees is one area the BOC to must reorganize, there are simply too many of them, some examples are: franchise, construction and right-of-way access fees, paid by TELCOM providers (and their assignees) on federally awarded grant projects, within any public right-of-way.

The BOC can address the issue through a streamlined permit policy that holds jurisdiction over project construction process, through the by NBPB, per agency[29], for the duration of the project. After the project is complete, the 'bonding agency' for the NBPB relinquishes control to the rights-of-way to the original owner. This process is not eminent domain, merely a bond function to assume responsibility for improving the Broadband network in sensitive locations where competing interests exist.

The BOC needs to address the single points of failure within the Broadband network, some are forced upon TELCOM providers, due to physical limitations, land ownership, and environmental risks (whether real or perceived) from governmental policy decisions.

3. Conclusion

The BOC can continue the excellent progress the United States has made as a country in providing broadband services. There are many well-known struggles, such the rural areas, native nations, low-income and higher crime neighborhoods that lack the broadband technologies based on the FCC's latest regulations. Those areas that have under 25Mbps/3Mbps need classifying into a separate upgrade broadband map product at the

[29] A Sample Permit Bond as issued by the Central Arizona Water Conservation District (CAWCD) http://www.cap-az.com/Portals/1/Documents/2012-03/Lands/Permit%20Bond%20Example.pdf. This bond needs modifying to cover the additional legal requirements, as needed.

NBM website. The eight policy areas that are recommended in this letter were implemented in part, in some locales, under test pilot programs by either the FCC or another governmental agency in cooperation with the NTIA. Some of these programs should be reviewed based on the constantly changing standards in broadband technology and need to have a proper set of rules establishing the future of broadband services.

3.1 Disclaimer and Retainer of Rights

All information provided in this letter is published to the public in good faith and is for general purposes only. This general disclaimer holds the author harmless from any claim or warranties about the completeness, reliability and accuracy of the information contained within. All material is subject to copyright by their respective owners and not reproduced in any form without their expressed written consent, and from this author. While every effort was made to make the information as accurate as possible, the author makes no claims, promises or guarantees about the data and expressly disclaims any liability for errors and omissions in the contents of this letter.

No references to commercial products, services or processes are contained within, all NDA's are provided at request, however, must be approved by the third party, in writing, prior to release. If a third party company mentioned herein refuses to release the NDA, the requestor, will be notified by this author of their decision, in writing. HTTP hyperlinks contained within the document were removed for security reasons. All links in the footnotes were functional as of June 4, 2015. The links should be copied beginning from the http:// and removing any spaces at the end of the link and pasted into a web browser. Acknowledgements for adopting original policy recommendation(s), even in part, must cite the author of this letter. The author retains all rights to the individual opinions and policy recommendation provided herein.

3.2 Acknowledgements

The author would like to recognize the efforts provided by district office of Arizona's US Congressional District 06, R- David Schweikert and Arizona's US Congressional District 09 D- Kyrsten Sinema. The valuable staff members provided assistance and the gentle nudges necessary to produce this letter. Both representatives are interested in how the BOC, FCC and NTIA are going to address the need for providing state of the art broadband services in the State of Arizona to promote more business opportunities. The Eliances business network "Where Entrepreneurs Align", after two sessions with members and other guests provided feedback to the struggles facing Arizona business in the TELCOM and broadband industry. The Eliance members are vibrant business owners that have Arizona economic interests at heart show that one person can make a difference, when they take action. Finally, the Federal agencies staff, at the White House, NTIA, FCC and other federal agencies for making all of the resources available to provide up to date information on the state of the broadband infrastructure in the State of Arizona.

Thank you,

_____

Rodney Carlson, CEO
Owen Holdings, LLC, (OH GIS!)

[i] A sample bill from CenturyLink for a broadband subscriber, dated May 28, 2015.
[ii] "Provide free access" was a term used by a TELCOM provider 'to provide a service without proper compensation for the service(s) provided'. The provider will remain anonymous.
[iii] Note: There are many forms of Public Utility Easements (PUE) across the country that is dependent on the location. The PUE's intent is that provide services for all forms of wet or dry utilities in either aerial or underground locations, often times these easement locations are overloaded with existing utilities and other forms of infrastructure.