



November 30, 2009

The Honorable Lawrence Strickling
Assistant Secretary for Communications
and Information
U.S. Department of Commerce
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

The Honorable Jonathan Adelstein
Administrator, Rural Utilities Service
U.S. Department of Agriculture
1400 Independence Avenue, S.W.
Washington, D.C. 20250

Dear Assistant Secretary Strickling and Administrator Adelstein:

The Quilt (www.thequilt.net) and StateNets (www.educause.edu/StateNets) organizations wish to thank the NTIA and RUS for the opportunity to provide our input on ways to improve the applicant experience and strengthen the program impact for second round of the BTOP and BIP to achieve the objectives of the Recovery Act. Collectively, we speak for 30 of our country's state and regional advanced networks that support our nation's anchor institutions. We connect over 2200 colleges and universities; thousands of K-12 school districts, libraries, municipalities, museums and hospitals; numerous high-technology corporations.

State and regional R&E networks provide advanced networking services to urban and rural community anchor institutions that otherwise would not have such services. Our networks enable anchor institutions to join together within their communities' geographic areas to cost-effectively carry out research, education and public service that require high broadband speeds.

Executive Summary

As evidenced by the number of proposals and requested funds in the first round to implement new broadband infrastructure projects, there is not enough funding in the Act to deliver broadband to every place in the country in need. Through this next round, the NTIA and RUS have the opportunity to make the most impact and efficient use of the remaining funds by focusing on the needs of community anchor institutions. These anchor institutions provide vital educational services, health care to the general public and can have the greatest impact on the greatest number with broadband funds invested in these institutions. In addition, projects that connect community anchor institutions also deploy broadband infrastructure in such a way to create hubs that facilitate future broadband build-outs to residences and businesses. We recommend the following changes to the second round NOFA to better target the remaining funds to achieve the goals of the Recovery Act.

- In the spirit of the Recovery Act, proposals serving community anchor institutions should be eligible for prioritized consideration independent of service area designation.
- Community anchor institutions have very different broadband needs than residential and these needs are best served by fiber-based facilities. Fiber capacity is more future proof and will scale over longer periods to accommodate the increasing capacity needs of the anchor institutions.



- Building open, high-capacity fiber facilities to these institutions can provide the “jumping off” points to which Last Mile broadband providers can interconnect and from which they can provide broadband services to residential and commercial entities in the area.

We offer the following suggestions to the NTIA and RUS to improve the application process and strengthen the programs for future rounds to accomplish their objectives and the priorities of Congress and the Obama Administration in enacting the ARRA.

I. The Application and Review Process

a. Streamlining the Application

i. Application User Interface

The Quilt and StateNets believe there are many opportunities to streamline the application submission process to make it less burdensome on the proposer while fulfilling the requirements set forth in the act. We offer our recommendations to improve the application user interface, human design and other application process issues under Appendix A to this document.

ii. New Entities

Program applicants should be allowed to create a new 501(c)3 organization subsequent to the notification that their application has been successful. Creating a 501(c)3 is not a trivial task or an investment to be lightly undertaken, especially when the chances of receiving proposal funding are statistically low due to number of applicants.

In the new coalitions which are forming around BTOP application opportunities, it should be the credentials and track record of the lead applicant and other major partners which should be examined by NTIA to evaluate the abilities and potential to perform of the team assembled in the project application. Furthermore, there should be a relatively simple administrative mechanism to transfer the status of the lead applicant to the new 501(c)3 once it comes into existence, especially if that eventuality was foreseen in the application itself.

iii. Specification of Service Areas

As originally written, the legislation identified four criteria for which the funds were eligible; unserved areas, underserved areas, anchor institutions, and public safety institutions. The first NOFA, however, stated that only anchor institutions and public safety institutions that were *within unserved and underserved* areas were eligible, and therefore must adhere to the restrictive definitions of unserved and underserved. In the spirit of the original Reinvestment Act, proposals serving community anchor institutions should be eligible for prioritized consideration independent of service area designation.



The 2000 U.S. Census data is not accurate in projecting households and current population growth. RUS and NTIA should allow applicants another reasonable method to supplement household and population affected by broadband projects which is not solely reliant on the dated RUS/NTIA mapping tool.

iv. *Relationship Between BIP and BTOP*

Applicants should have the option to select which program best fits the components of the individual proposals. Even if an application includes service to an area considered rural, the applicant should not be forced into the position to accept a loan when the preference would be for a grant with a matching funds requirement. Applicants in the first round had to strongly weigh the importance of rural areas in their proposals against the risk of being forced into a loan situation when a grant was preferable. Numerous people commented that the loan prospect of the BIP was a deterrent in the first round. Rather than define a requisite path for proposals based on the definition of rural areas, we feel that applications containing rural service areas have the ability to select which type of funds, grant or loan, best accomplishes the goals of the proposal.

b. *Transparency and Confidentiality*

The Quilt and StateNets request that NTIA require all applicants to provide a more complete public response for future BTOP/BIP funding rounds. This public response should be structured with required elements. A potential list of elements for the NTIA to consider is as follows:

- Project addresses compelling problem or presents an opportunity consistent with the BTOP statutory goals.
- Opportunity the proposed system seeks to address.
- A general description of the proposed funded service areas (location, number of communities, etc.)
- Qualifications of the applicant that demonstrate the ability to implement and operate a broadband infrastructure, and/or be a sustainable broadband services provider.
- Type of broadband system that will be deployed (network type and technology standard).
- Proposed services and applications for the proposed funded service areas and users.
- Anticipated fee structure.
- Range of fees for the end user.
- Identify your strategy for partnering with unaffiliated organizations in the project area (from the public, non-profit, and private sectors), particularly community anchor institutions and public safety entities that will play an integral role in the Project's planning and ongoing operations.
- Overall cost of the project and requested funding



c. Outreach and Support

We recommend that in lieu of future in-person workshops that NTIA and RUS convene on-line forums with an opportunity to submit questions ahead of time. More effort and attention should be given to maintaining a timely, authoritative, on-line FAQ updated once a consensus is reached on a particular issue. If a question has yet to be officially answered, the question should still be added to the FAQ with the annotation: No answer yet. We also suggest that the NTIA and RUS staff a service desk that is available during regular business hours to answer questions.

d. NTIA Expert Review Process

The NTIA should continue to rely on resources that provide the most efficient means to complete the application review process in a timely manner. At this time it seems that the volunteer reviewers are the most efficient means to accomplish the application review process. The time to interview, employ and train resources Federal staff elongates the amount of time the application funding process takes which conflicts with the goals of the ARRA to put stimulus funds back into the economy in a quick timeframe. These salaried resources shift funds away from potential broadband projects to support these additional administrative costs.

While we support the volunteer review process as the most efficient means to accomplish the application reviews, this volunteer reviewer process must be improved in the second round. Many qualified candidates to be expert reviewers found the conflict of interest provisions for the first round too restrictive and choose not to apply. If the NTIA continues to rely on expert reviewers in the next round, this panel review process should be modeled after the National Science Foundation's grant review process and conflict of interest practice.

II. Policy Issues Addressed in NOFA

a. Funding Priorities and Objectives

i. Middle Mile "Comprehensive Community" Projects

The regional and state research and education networks echo the comments of the Schools, Health and Libraries Broadband Coalition on the importance of prioritizing funding to connect community anchor institutions. Community anchor institutions often serve as economic and social "hubs" of their regions. Building open, high-capacity fiber facilities to these institutions can provide the "jumping off" points to which Last Mile broadband providers can interconnect and from which they can provide broadband services to residential and commercial entities in the area. Since many community anchor institutions serve the public, funding proposals to connect these sites is supporting broadband projects with the potential to serve a greater number of the general population than targeted last mile projects.



High capacity fiber networks that connect community anchor institutions achieve even greater efficiencies through demand aggregation. As evidenced by our country's regional and state research and education networks, connecting community anchor institutions through one network infrastructure allows these institutions to share initial and on-going network infrastructure costs among a larger number of participants. To this point, favor should be given to infrastructure projects that facilitate the aggregation of multiple community anchor institutions.

While comprehensive community proposals that include commitment from last mile providers to utilize the networks should certainly be viewed favorably, perhaps receiving bonus points in a review scorecard, worthy proposals that are absent a last mile provider commitment should be equally considered. It is often the case that there are significant administrative, legal and practical hurdles to identifying a last mile partner, as long as a middle mile project is open and available for interconnection, it should receive similar consideration.

b. Program Definitions

We feel anchor institutions should be eligible for funding regardless of where they are located. Our suggestion would be to provide a higher rating for those applications that address the needs of anchor institutions and public safety institutions that address multiple needs such as the socioeconomic and elements, affordability and underserved and unserved areas.

i. Anchor Institutions Transcend the Categories of Underserved and Unserved

The rules governing the current Notice of Funds Availability (BB NOFA FINAL 07092009) treat "middle mile" segments as though each segment was discrete and severable from an integrated structure. Under the current rules, each segment is subject to evaluations of unserved or underserved areas served by that segment. The current rules award points to middle mile projects starting with at least 75% of these segments terminating in unserved or underserved areas. This is a significant barrier for state-wide education and other public sector networks which will use middle-mile grants to create a consistent, integrated structure connecting a majority of anchor institutions in the state. Many of these anchor institutions are not in unserved or underserved service areas and will dilute the percentage of unserved and underserved service areas transited by this type of middle-mile project.

Further the NOFA requires that a middle-mile proposal have a predominate purpose other than providing broadband service to end users such as connecting anchor institutions and the backhaul of



Internet connectivity. Generally, the most affordable Internet connectivity and other services are available in urban areas. Again, state-wide networks reaching into these urban areas for affordable costs will transit ineligible services areas, reducing the percentage of unserved and underserved areas.

The current rules encourage middle mile infrastructures to take longer, more circuitous routes to live within the unserved or underserved service areas. Such oblique routes require more fiber at a greater cost and can expose the infrastructure to greater risks and lower reliability. While in some cases, the applicant and community served may see advantages to the circuitous routes, it often does little more than to seriously inflate the cost of the project or limit the number of anchor institutions served.

ii. Satellite-Based Proposals

While we promote fiber based facilities as future-proof broadband technology to community anchor institutions where feasible, we recognize there are states with geographic circumstances that make fiber-based build-outs to anchor institutions impractical for the foreseeable future. In these instances, we would support evaluating satellite-based proposals which can help address the near-term needs of these institutions and their communities in these geographically challenged areas. Satellite services have shown they can meet most very basic broadband requirements, with certain exceptions (e.g., high-speed streaming or synchronous applications), and it remains to be seen to what extent the new generation of satellites can evolve to provide higher levels of service in support of new and advanced applications.

iii. Affordability

We feel it would be appropriate to consider affordability of broadband as one of the definitions of underserved. Anchor institutions face the dichotomy of having the greatest need for broadband to serve the community, yet have the least ability to pay for the broadband they need. For example, public libraries have become the portal to the Internet for those seeking employment, for students whose families have cancelled home broadband access, and those trying to improve their skills for the 21st century. Yet libraries are struggling to afford the amount of broadband needed.

iv. Definition of Broadband

Community anchor institutions have very different broadband needs than residential and these needs are best served by fiber-based facilities. Fiber capacity is more future proof and will scale over longer periods to accommodate the increasing capacity needs of the anchor institutions.

We are in support of NTIA and RUS changing the definition of broadband to incorporate actual speeds versus advertised speeds. In



our country's situation where broadband mapping data is scarce, measuring broadband by advertised speeds is a subjective and ineffective way to qualify broadband availability. We recommend that the NTIA and RUS support publicly available tools that allow the public end-user to measure and report on broadband availability in their areas. One such tool is Measurement Lab (M-Lab) which is an open, distributed server platform for researchers to deploy Internet measurement tools. The goal of M-Lab is to advance network research and empower the public with useful information about their broadband connections. More information on this tool can be found at <http://measurementlab.net/about>.

v. *Definition of Remote Area*

Distance is an inaccurate measure in defining non-rural areas. We would argue that distance be removed from the criteria list to define remoteness. If it remains, it should be the lowest on the list of prioritized non-rural criteria. We suggest non-rural criteria be defined as follows:

1. Populations densities
2. Geographic barriers
3. Income levels

Capability and availability of existing service provider(s) should also be considered. Short distance to a large population center should have no bearing on funding considerations when there are no services or where services are greatly restricted.

c. *Public Notice of Service Areas*

The public notice process should include a mechanism through which applicants are notified of comments relevant to their proposals as they are entered into the system. The applicants should then have immediate access to the public portions of those comments. An existing provider might refer to publicly available mapping data as part of its comments, but the expectation is that this would be done only to show how its service area or offerings have changed since the data were collected. For each asserted unserved or underserved service area upon which it is commenting, the provider should include its service footprint, service offerings (and price schedule), number of available customers and number of actual customers.

In addition, the comments should be relevant to the type of proposal (for example, a provider's last-mile service offerings would be appropriate comments on a middle-mile proposal only if the provider's intent is that the comments be supportive of that proposal). The guiding principle in public disclosure is that there should be parity between the information disclosed by the applicant and that disclosed by the commenting provider.



d. Interconnection and Nondiscrimination Requirements

No changes are necessary for the infrastructure principles of BTOP and BIP; nondiscrimination, interconnection, and choice of provider. Publicly funded broadband infrastructure projects should allow for these facilities to be shared in order to provide broadband service to members of the community.

Conclusion

We appreciate the work of the NTIA and RUS to fulfill the goals of the Recovery Act. We also appreciate the opportunity to comment on how to improve the applicant experience and strengthen the program impact of BIP and BTOP.

Respectfully Submitted,

Jen Leasure

Jen Leasure
President and CEO
The Quilt
206-782-1091
jen@thequilt.net
www.thequilt.net

George Laskaris

George Laskaris
President and CEO, NJEDge.net
Chair of StateNets
973-596-5490
Laskaris@njedge.net
www.educause.edu/StateNets
www.njedge.net



Appendix A - Recommendations on BIP/BTOP Application User Interface / Human Design / Other Issues

In completing the BIP/BTOP on-line application, applicants encountered several items for which we have constructive suggestions. We offer suggestions on increasing the clarity of instructions and in producing revised user interfaces for this web-based application.

- 1) Streamline the data input process for the middle mile service data.

As an example, one middle-mile applicant was able to encapsulate all middle mile service input data into a spreadsheet with roughly 400 rows and 12 columns. This straightforward spreadsheet took an estimated 100 person-hours to enter into the online application, due to the myriad form entry and quality control required. As an alternative entry format, we suggest specifying a comma-separated value ASCII format that would be accepted as input to the system through uploading to the application. The online application could do quality control checking for conformance to the formatting guidelines. In this way significant time could be saved, as well as human errors reduced.

- 2) Improve the service area mapping input/export process.

In one case the middle mile applicant chose to break regional service areas into last-mile service areas specified by county boundaries. Though these boundaries are widely available public information, staff needed to spend hours tracing the county boundaries in the application process. We can imagine alternate scenarios where applicants might want to specify by state, by census-designated community, by census-block, etc. Or perhaps they would like to specify through GIS shape files that could easily be uploaded. Since this is all publically available information we suggest building it into the online system, so all users have to do is click/drag to turn on/off regions or individual areas. Similarly the household counts, population, and total square miles could all be automatically populated. We respectfully suggest that RUS/NTIA consider having applicants refer to rather than replicate data that is already publically available. This could also save quite a bit of time and reduce human error.

- 3) Remove the census-block export/import size restrictions.

We suggest revising the user-interfaces to allow export / import of unbounded numbers of census-block records, in addition to download/uploads of data such as spreadsheets or comma-separated value files.

- 4) In general, we suggest revising the user interface and instructions, perhaps with many examples targeted towards middle-mile applicants, to reduce confusion and reduce the hours to complete these portions of the application.

To help with this process we recommend utilizing the services of an experience human computer interface expert, combined with sufficient testing and vetting large test cases with real users. Please consider displaying all three of these fields at the top-level page rather than simply "Service Area": a) Middle Mile Span Name; b) Last Mile Service Area



Name, and c) Community Name. We also suggest revising the online instructions, perhaps with many examples targeted towards middle-mile applicants, to reduce confusion on this point. In addition, providing a more detailed explanation of the semantics of the entered fields in terms of how they will be used in the back-end system would be additionally helpful. Finally, part of the confusion may stem from the combination of BIP vs. BTOP, and Service Area vs. Census Designated Community Area data all being entered on the same page. Please consider alternate input methods to alleviate this problem.

- 5) Be consistent throughout the guidelines and application process with regards to size limit requirements.

For example, the written application documents sometimes specified limits in terms of number of pages. Then the online application had a requirement that instead was a specific number of ASCII characters (example: 4000 characters). Please make sure if there is a character limit to what can be uploaded by the system to specify that exact same character limit throughout all of the application materials, rather than using different limits in different places.

- 6) PDF generation issues.

Many applicants encountered problems generating a PDF version of their submitted application. Some of them were unable to ever generate a PDF of what they had submitted. Please work to improve this process.

- 7) Consistency on Unserved, Underserved, Rural requirements.

We weren't 100% sure based on the application whether a middle-mile service area needed to be 75% (rural AND un- or underserved) in order to be required to apply for RUS, vs. (75% rural) AND (at least SOME part un- or under-served). This was a point of much discussion and confusion. Please try to make these requirements crystal clear in the next tranche.