

The SHLB Coalition

Schools, Health and Libraries Broadband Coalition

Advocating Policies to Bring Affordable, High-Capacity Broadband to Schools, Libraries, Health-Care Providers and Other Community Anchor Institutions Across the Country.

Why Community Anchor Institutions in Rural Areas Should Be Included in Universal Service Fund Reform

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The Federal Communications Commission's (FCC's) proposed reform of the high-cost funding program to support broadband in rural areas should not be limited to residential service. Anchor institutions in rural areas – schools, health care providers, libraries and others – need high-capacity broadband in order to serve the needs of their communities. Yet anchor institutions frequently lack access to the type of broadband services they need – often because it is too expensive to deploy high-capacity broadband in these rural areas. This document explains why the Universal Service Fund should be reformed to support the construction and deployment of high-capacity broadband facilities to meet the needs of these anchor institutions in high-cost and rural areas, in addition to providing broadband service to residential consumers.

Before addressing the particular needs of community anchor institutions, it is important to recognize an important principle – when the *general public* pays for a government support program, that program ought to provide the maximum possible benefits to the *general public*. The Universal Service Fund is funded by the general public through their use of telecommunications services; thus, these funds should be used to build broadband networks to community anchor institutions whose mission is to serve the general public. While it is certainly important that all residential consumers have access to broadband services, the enormously valuable broadband-based telemedicine, distance learning and other educational, media access and public safety services provided by community anchor institutions to the general public ought to be supported as well.

I. Anchor Institutions in Rural Areas Need High-Capacity Broadband to Serve Their Communities.

As stated in the National Broadband Plan, community anchor institutions often need very high-capacity bandwidth, from 10 Mbps to 10 Gbps, so that they can handle a variety of different users and applications simultaneously. Anchor institutions provide the residents of their communities with access to distance education, job-training videos, health records and medical care, e-government services, remote research and collaboration opportunities, public information and media, and many other important services. Anchor institutions' need for high-capacity broadband is especially vital for the most vulnerable segments of rural communities, such as unemployed and low-income consumers, and ill, disabled and elderly persons. Students, teachers, librarians, administrators, doctors, nurses, patients,

police, fire and rescue personnel, and many others in rural areas need high-capacity broadband to provide the full suite of services necessary to participate fully in the 21st Century society and economy.

To provide some examples, schools use broadband for advanced multimedia educational applications that help teachers address various learning styles and abilities, and tailor instructional programming to meet individual students' needs.¹ Consumers use library-provided broadband services to submit job applications, apply for e-government benefits, participate in distance education classes and complete school homework assignments.² Community colleges and higher education require high-capacity broadband to provide online degree programs and job training and to engage in innovative, next-generation research. Hospitals and health clinics need high-capacity broadband to exchange diagnostic information and medical records, and to provide remote monitoring of out-patients.³

II. Anchor Institutions in Rural Areas Do Not Have Access to the Broadband Services They Need.

A number of reports demonstrate the lack of adequate high-capacity broadband connections to anchor institutions:

- According to NTIA, community anchor institutions are "largely underserved." When the National Broadband Map was released, NTIA stated: "The data show that two-thirds of surveyed schools subscribe to speeds lower than 25 Mbps []. In addition, only four percent of libraries reported subscribing to speeds greater than 25 Mbps."⁴
- According to the American Library Association (ALA), about 2/3 of libraries in rural areas have a 3 Mbps connection or less, and about 20% of rural libraries have less than a T1

¹ The New Media Consortium's 2010 Horizon Report found that schools are increasing their use of "cloud computing", which requires advanced broadband connectivity. ("While it was difficult to find examples of the use of cloud computing in schools a year ago, there are now many, many schools that have adopted cloud-based tools for productivity, scheduling, curriculum development, and collaboration, at least at the administrative level.") pp. 9-10. <http://www.nmc.org/pdf/2010-Horizon-Report-K12.pdf>.

² See, "Economy Drives Library Computers," by Mealand Ragland-Hudgins, The Tennessean, June 7, 2010, ("In this technologically-driven age, there is still a strong need for the library to provide access to knowledge and opportunities through information technology," said Linebaugh Director Rita Shacklett. "We have heard so many stories from our computer users about how their participation in a class helped them to make connections, learn or enhance their employment skills, and apply for jobs.") See also, "Job Seekers Tap Library Computers in Doves," by Chelsea Schneider Kirk, The Post-Tribune of Northwest Indiana, May 3, 2010.

³ One study voiced the seven benefits of telemedicine as follows: 1. Increases patient access to quality care, ultimately improving outcomes; 2. Streamlines patient care, often reducing mortality and complication rates; 3. Avoids costly, potentially risky transfers to other facilities; 4. Avoids unnecessary admissions, diagnostic testing; 5. Expands referral network to include providers in rural areas ; 6. Secures greater return on existing service offerings; 7. Raises investment value by leveraging infrastructure for multiple uses. See, FCC Testimony of Protima Advani, Practice Manager, IT Insights Program, the Advisory Board Company, September 15, 2009, "Accelerating Adoption of Telemedicine Solutions: Understanding the Barriers, Aligning the Stakeholders," available at http://www.broadband.gov/ws_healthcare.html.

⁴ "COMMERCE'S NTIA UNVEILS NATIONAL BROADBAND MAP AND NEW BROADBAND ADOPTION SURVEY RESULTS," NTIA Press Release, Feb. 17, 2011 (available at http://www.ntia.doc.gov/press/2011/NationalBroadbandMap_02172011.html).

connection (1.5 Mbps). There is also a dramatic difference in the percentage of urban and rural libraries that have a fiber connection – 57% of urban libraries have fiber, compared to only 18% of rural libraries.⁵ Furthermore, more people are using public access computers in public libraries than ever before. According to the annual Public Library Funding and Technology Access Study, 76% of libraries reported growth in the use of public access computers in 2009 compared to the year before, and 45% of public libraries report that their broadband connections are inadequate all or some of the time.⁶

- The State Educational Technology Directors Association (SETDA) estimated in 2008 that most K-12 schools had only a T1 connection (at 1.5 Mbps) and that they would need at least a 100 Mbps external connection to the Internet in the next 5-7 years. SETDA also estimates that, because of cuts to the Enhancing Education Through Technology (EETT) program, K12 schools are likely to face “a very real and very steep digital education funding cliff for America’s students and teachers” after September 30, 2011.⁷
- According to the FCC’s National Broadband Plan, only 29 percent of federally funded rural health care clinics have access even to mass-market broadband.⁸

III. The FCC Should Support the Deployment of High-Capacity Broadband to Anchor Institutions in Rural and High-Cost Areas.

As proposed in the SHLB Coalition comments submitted on April 18, 2011, the easiest solution to the problem outlined above is for the FCC to require recipients of High-Cost/Connect America funding to deploy high-bandwidth networks to the schools, libraries, health providers and other community anchors in that service area in addition to the residential consumers.⁹ This requirement could be applied no matter how the funding is awarded (through a cost model, by reverse auction, or otherwise). Serving the anchor institutions would simply be rolled into the overall network build and the costs of such deployment (which are expected to be small) can be factored into the calculation of how much financial support to provide. Furthermore, the FCC should consider additional measures to ensure that the recipients of financial support to deploy broadband networks in high-cost areas do not charge excessively high prices for these broadband services.

⁵ http://www.ala.org/ala/research/initiatives/plftas/2009_2010/al_techlandscape.pdf.

⁶ Public Libraries Funding and Technology Access Study, available at http://www.ala.org/ala/research/initiatives/plftas/2009_2010/index.cfm.

⁷ “ARRA Investments in Technology, Innovation, and K12 Reform: The Digital Education Funding Cliff,” available at www.setda.org.

⁸ See, National Broadband Plan at 213, Exhibit 10-F, available at www.broadband.gov.

⁹ <http://fjallfoss.fcc.gov/ecfs/document/view?id=7021239985>.
<http://fjallfoss.fcc.gov/ecfs/document/view?id=7021239757>. This idea was also supported by the American Library Association.

IV. Communities Will Realize Several Benefits Once the FCC Provides Financial Support to Deploy High-Capacity Broadband to their Anchor Institutions.

Building high-capacity networks to anchor institutions is a high-value, low-risk proposition that will generate enormous benefits for communities around the nation. The benefits of building broadband capacity to anchor institutions in rural areas include the following:

- A. Quality of Life: As discussed above, anchor institutions will use the advanced broadband networks to improve the quality of health care, educational services, and access to information.
- B. Economic Growth: There are many studies that review the link between economic growth and broadband deployment. To cite just one example, a study released in January 2010 by the Public Policy Institute of California says that employment grows faster in places where access to broadband has expanded. This study found that economic growth was particularly noticeable where broadband was deployed in areas with low population density.¹⁰
- C. Easier to Serve Residential Consumers: Building broadband facilities to anchor institutions can also facilitate service to residential and business customers. The high-capacity broadband facilities (such as fiber optic cables) deployed to serve community anchor institutions can provide “jumping off” points for distributing additional broadband services into surrounding neighborhoods, including residences and businesses. The FCC’s National Broadband Plan, for instance, said “And once community anchors are connected to gigabit speeds, it would presumably become less expensive and more practical to get the same speeds to homes.”¹¹

However, using anchor institution broadband as a jumping off point to serve the surrounding residences will only work if the broadband networks are open to interconnection by last mile providers. In other words, if the network facilities deployed to anchor institutions are open to interconnection, then those facilities can serve as the “hub” from which to extend service to the surrounding community. The BTOP program includes an “open interconnection” requirement on all Infrastructure grantees, and NTIA Administrator Larry Strickling has reported that recipients of BTOP grants to provide middle-mile broadband facilities to anchor institutions have signed over 90 interconnection agreements with last-mile broadband providers to serve residential and business consumers.¹² The FCC should consider adopting a similar interconnection requirement for recipients of High-Cost Fund/Connect America Fund support.

¹⁰ “Does Broadband Produce Economic Growth?”, Sarmad Ali, January 12, 2010, Wall Street Journal, available at <http://blogs.wsj.com/digits/2010/01/12/does-broadband-boost-economic-growth/>.

¹¹ A National Broadband Plan, p. 10.

¹² Testimony of The Honorable Lawrence E. Strickling, Assistant Secretary for Communications and Information, National Telecommunications and Information Administration, United States Department of Commerce, Before the Committee on Energy and Commerce, Subcommittee on Communications and Technology, United States House of Representatives, April 1, 2011, available at http://www.ntia.doc.gov/presentations/2011/Strickling_House_BTOP_Testimony_04012011.html.

- D. Low Risk: There is little risk that building high-capacity broadband networks will become a stranded asset. Anchor institutions are pillars of the community. They do not pick up and move, and they have a growing demand for broadband services. Just as the NTIA determined that building to anchor institutions was a wise investment in rural communities in designing the BTOP program, the FCC should find that including anchor institutions in the reformed high-cost fund will provide substantial long-term benefits for the consumers in these regions.

The National Economic Council issued a report in 2009 that documented the economic and social benefits of publicly funded broadband infrastructure to community anchor institutions:

Evidence indicates a strong impact of broadband on economic development. A 2006 study by the Economic Development Administration in the U.S. Department of Commerce concluded that broadband access “does enhance economic growth and performance, and the assumed economic impacts of broadband are real and measurable.” A more recent academic study finds that federal broadband investments will generate significant employment effects through regional economic development and induced innovation, also known as “network externalities.” Consistent with prior research, the study finds that federal Recovery Act broadband investments could create hundreds of thousands of jobs over a four-year period by stimulating new businesses, market transactions, and innovative industries in previously underserved areas.

Recovery Act programs are targeted to maximize economic development opportunities. The Administration is directing Recovery Act investments to middle-mile connections and community anchor institutions in order to bring broadband to thousands of workers and consumers immediately and spark the spread of broadband services to homes and businesses throughout those communities. Open interconnection requirements make it easier for last-mile providers to interconnect their networks with the newly upgraded middle-mile infrastructure. [Footnotes omitted]¹³

V. The FCC has Ample Legal Authority to Provide Support for High-Capacity Broadband to Anchor Institutions.

There are a variety of statutory provisions in the Communications Act that give the FCC the authority to fund broadband networks to serve anchor institutions:

- A. Under Section 1 of the Communications Act, the FCC has plenary authority to support broadband services to all Americans. Section 1 authorizes the Commission to “make available, so far as possible, to all the people of the United States, without discrimination . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges” Broadband is most certainly a form of “communication service.”

¹³ RECOVERY ACT INVESTMENTS IN BROADBAND: LEVERAGING FEDERAL DOLLARS TO CREATE JOBS AND CONNECT AMERICA, December 17, 2009, available at <http://www.whitehouse.gov/sites/default/files/20091217-recovery-act-investments-broadband.pdf>.

- B. Furthermore, section 2(a) states “[t]he provisions of this act shall apply to all interstate and foreign communication by wire or radio.” (emphasis added) These two provisions give the FCC plenary authority to promote broadband to anchor institutions in all regions of the United States.
- C. The Commission has even more explicit statutory authority to assist anchor institutions in rural areas. Section 254 sets forth the framework for the Commission’s universal service system. Notably, this language is not limited to “households” or to “residential consumers.” Rather, the statutory provisions describe the importance of “rural areas” and “rural consumers”; community anchor institutions located in “rural areas” and serving the needs of “rural consumers,” fit squarely within this statutory language.

Furthermore, section 254(c)(1)(A) states that, in defining “universal service”, the Commission must take into account the extent to which such telecommunications services “are essential to education, public health, or public safety.” These are just the types of services provided by anchor institutions.

- D. There are several provisions that specifically address elementary schools, libraries and health care providers:
 - a. Section 254(b)(6) specifically states that one of the principles on which universal service policies should be based is that “[e]lementary and secondary schools and classrooms, health care providers, and libraries should have access to advanced telecommunications services as described in subsection (h).”
 - b. Section 254(c)(3) allows the Commission to “designate additional services for [universal service] support mechanisms for schools, libraries, and health care providers.”
 - c. Section 254(h)(2) states that the Commission “shall establish competitively neutral rules – (A) to enhance . . . access to advanced telecommunications and information services for all public and nonprofit elementary school classrooms, health care providers, and libraries.”

As noted above, however, the FCC is not limited to providing broadband services only to these specifically-defined institutions. There is no statutory barrier that prevents the FCC from supporting broadband networks that connect additional anchor institutions, such as higher education, public safety, public media, and community centers. In fact, as noted above, there are several statutory provisions that support extending universal service funding to these institutions.

VI. The Level of Broadband Services that Should Be Supported Must Be Determined on a Case-by-Case Basis, Taking Into Account the Specific Needs of Each Particular Anchor Institution.

In contrast to residential users, the broadband needs of community anchor institutions vary extensively from institution to institution to serve the needs of their communities. While the FCC has identified 4

Mbps (down) and 1 Mbps (up) as the minimum level of broadband service that should be extended to residential consumers, it is impossible to define a minimum level of broadband service that is needed by every anchor institution across the country. In fact, it is not necessary to do so. In some areas, the anchor institutions may have only a T1 available and cannot obtain a 4 Mbps channel; simply requiring the recipient of funding to deploy a 4 Mbps connection to these anchors may itself bring a significant benefit. In other cases, however, the 4 Mbps standard is much too low, and the anchor institution will need significantly greater bandwidth simply to provide basic functionality.

We recognize that it may be easier to set forth a nationwide standard for all anchor institutions, but the reality is that any single standard for anchor institutions is likely to be inappropriate and, in some cases, counterproductive. The SHLB Coalition has discussed a variety of different metrics for determining the most appropriate level of bandwidth, but we have not been able to arrive at a suitable benchmark because the broadband needs of the anchor institutions vary from region to region and institution by institution. For instance, the level of broadband service needed may depend on the number of computers at the anchor institution, the digital literacy of the users, the type of uses (web-surfing, patient monitoring, exchange of medical records, distance learning), the type of premises equipment (video conferencing capability, high-definition capability), firewalls and other network configurations, the availability of adequate backhaul facilities to connect to the Internet backbone, etc. In short, the minimum level of broadband service required by each anchor institution can only be determined on a case-by-case basis.

The variety of situations should not be a barrier to providing funding to support anchor institution broadband networks. The FCC can consider the level of service being provided to anchor institutions as one of the qualitative factors in evaluating which provider will receive support. The Commission can evaluate each application for funding based on how much the applicant has investigated the level of existing broadband service to the anchor institutions in each service territory, the level of need, and an estimate of the cost of providing an improved level of service (where needed). This process can be used whether the FCC uses a reverse auction or establishes an application process for funding.

VII. The Reform of the High-Cost Fund and Creation of the Connect America Fund Provide a Significant Opportunity to Achieve Goal #4 in the National Broadband Plan.

The FCC's National Broadband Plan set forth Goal #4 as follows:

Goal No. 4: Every American community should have affordable access to at least 1 gigabit per second broadband service to anchor institutions such as schools, hospitals and government buildings.

Unfortunately, the FCC has chosen not to open a specific proceeding to implement this goal. Rather, it has indicated informally that it will seek to make progress on this goal in the context of a variety of different proceedings. There is no better way to move the nation forward toward this goal in rural areas than to leverage this annual, multi-billion-dollar funding program to include community anchor institutions.