

Before the
Federal Communications Commission
Washington, D.C. 20554

In The Matter Of)
)
Modernizing the E-rate Program) WC Docket No. 13-184
For Schools and Libraries)
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COMMENTS OF THE
SCHOOLS, HEALTH & LIBRARIES BROADBAND (SHLB) COALITION

Sept. 15, 2014

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The Schools, Health & Libraries Broadband (SHLB) Coalition (“SHLB Coalition”) respectfully submits these comments in response to the Further Notice of Proposed Rulemaking (FNPRM) in this docket released on July 23, 2014 requesting comment on certain additional E-rate modernization issues.¹

The SHLB Coalition is a broad-based coalition of organizations that share the goal of promoting open, affordable, high-capacity broadband for anchor institutions and their communities.² High-capacity broadband is the key infrastructure that libraries, K-12 schools, community colleges, colleges and universities, health clinics, public media and other anchor institutions need for the 21st century. Enhancing the broadband capabilities of these community anchor institutions is especially important to the most vulnerable segments of our population – those in rural areas, low-income consumers, disabled and elderly persons, students, minorities, and many other disadvantaged members of our society.

I. Introduction

The SHLB Coalition has previously submitted several comments and reply comments in this proceeding. We are very pleased that the Commission adopted some of our recommendations in the

¹ *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Report and Order and Further Notice of Proposed Rulemaking, FCC 14-99 (rel. July 23, 2014) (*E-Rate Modernization Order* or *Further Notice*).

² Our members include representatives of schools, libraries, state broadband mapping organizations, private sector companies, state and national research and education networks, foundations, and consumer organizations. See www.shlb.org for a complete list of SHLB Coalition members.

July Report and Order, such as making “managed” Wi-Fi services eligible for E-rate support³ and allowing health care providers, colleges and universities to participate in consortia with schools and libraries.⁴ Further, the allocation of additional funding for internal connections should improve the ability of schools and libraries to handle their broadband needs inside the school and library buildings.

More work is needed, however, to ensure schools and libraries have the affordable, high-capacity broadband capabilities outside the building that they need for the 21st century. President Obama has set broadband goals in the next four years, the National Broadband Plan calls for all anchor institutions to have gigabit connections by the year 2020, and SETDA has called for schools to have 1 Gbps Internet connections per 1,000 students by the year 2017-2018 school year. As shown below, the actual levels of connectivity fall far short of these goals today. The SHLB Coalition believes that there are four types of actions that the Commission can take to address this broadband shortage, which we summarize as 1) investment, 2) competitive options, 3) funding, and 4) harmonization.

II. The Commission Should Create a Build-Out Fund within the E-rate Program to Foster Investment in High-Capacity Broadband Networks Serving Schools, Libraries and the Surrounding Community.

The E-rate program rules must be changed to encourage investment in high-capacity broadband networks. Until now, the E-rate program has correctly focused most of its attention on providing support for recurring expenses, while permitting some support for capital investment in limited circumstances. As documented in the survey of schools’ broadband needs conducted by CoSN,⁵ the up-front capital costs are an important hurdle that often prevent schools and libraries from obtaining the broadband connections that they need, and the E-rate program should address this issue head-on with a capital investment fund and distribution rules that are specifically designed to incent broadband investment.

³ See, *E-rate Modernization Order*, paras. 123-129.

⁴ See, *E-rate Modernization Order*, para. 182.

⁵ “Schools need both financial support for ongoing monthly costs AND cost of capital or upfront / nonrecurring expenses covered by E-rate if we are to achieve broadband in schools. According to the survey, ongoing monthly costs (79 percent agreement) and cost of capital or upfront / nonrecurring expenses (59 percent agreement) are the two biggest barriers for schools.” See <http://www.cosn.org/about/news/cosn-survey-highlights-need-greater-e-rate-funding-and-overwhelming-lack-broadband#sthash.8VMkQSCu.dpuf>.

There are several reasons for the E-rate program to incorporate a capital investment fund, or build-out fund, within the E-rate program:

First and foremost, schools and libraries are suffering from a severe shortage of affordable broadband connectivity.⁶ The FCC's staff analysis shows that, at best, 65% of schools have fiber (though the report suggests this number may be overstated because the states with better connectivity also have better data) and only 15% of libraries have fiber.⁷ Since fiber is the most scalable technology that is most suitable to accommodate future growth in demand, these figures demonstrate that substantial work is needed for the E-rate program to succeed in reaching these goals. NTCA – the Rural Broadband Association estimates that 75% of schools and only 47% of libraries are served by fiber to the premises today, which is impressive but still demonstrates the gap in fiber connectivity.⁸ While these estimates are higher than the FCC's staff report, it is important to recognize that these companies serve a minority of the anchor institutions in rural areas and they often receive USF – High cost Fund support. The price cap telephone companies receive proportionally less USF support and control much larger rural areas than the NTCA members. The current E-rate program has not “solved” this problem. A build-out fund that is dedicated to supporting investment in high-capacity broadband networks can help to address this shortage of adequate fiber connections.⁹

Second, creating a capital investment fund in addition to continuing the support for monthly recurring expenses can better align the E-rate program with the two financial barriers (capex and opex) to deploying broadband networks. Currently, the E-rate program is structured largely to support monthly recurring expenses. While recovery of capital investment (capex) costs are permitted in some limited circumstances, these proposals often have to be “shoe-horned” into the program through a complicated set of rules that may vary from project to project. For instance, many of the policies for

⁶ See, “School Readiness Assessment Project Report,” prepared by MOREnet, January 2014, available at <http://dese.mo.gov/ccr/documents/School-Readiness-Assessment-Report.pdf>, p. 17 (finding that 335 of 399 external bandwidth connections in 308 school districts will need additional bandwidth to meet the SETDA 2014-2015 bandwidth goals, and nearly one-third of these connections will need upgrades of greater than 100 Mbps per connection). See also, “High-Speed Broadband in California Public Libraries: An Initiative of the California State Library: Needs Assessment and Analysis,” Feb. 3, 2014, p. 33, available at http://www.cenic.org/wp-content/uploads/2013/08/Public_Library_Broadband_Assessment_2014.pdf (reporting that 71% of California libraries have Internet speeds below 20 Mbps, and 84% of Internet speeds that it finds are “slow”, a result that the report calls “stunning.”).

⁷ Wireline Competition Bureau & Office of Strategic Planning and Policy Staff Report, WC Docket No. 13-184, August 12, 2014.

⁸ <http://tinyurl.com/qdr4nol>.

⁹ The SHLB Coalition has engaged a firm to estimate the costs deploying fiber to the remaining schools and libraries without such facilities. We will have more to say about our cost estimates later in this proceeding.

determining E-rate support for capital expenditures are set forth in the *Tennessee Order* and the *Brooklyn Order* which were decided before the Commission's 2010 E-rate Reform Order and the 2014 *E-rate Modernization Order*. Funding decisions regarding capital ex projects are made by USAC on a case-by-case basis, and the uncertainty over the process and USAC's decisions can discourage applicants from exploring build-out options. Furthermore, the Commission's decision not to make multi-year awards places a risk that broadband companies will not be able to receive support for their investments. It would be far better for the FCC to set aside a certain portion of funds with its own rules dedicated to supporting the up-front deployment costs. Rather than requiring that costs be amortized over several years, the build-out fund could provide immediate support for capital expenditures as long as the recurring rates are affordable for the school/library thereafter. Data regarding the recurring rates is available to USAC through the Item 21 pricing information, which may prove useful in allowing applicants and USAC in determining what rates are affordable.

The Rural Health Care (RHC) pilot program (which was the model for the Healthcare Connect Fund (HCF), the recent modernization of the RHC program) provides a useful example of how support for up-front expenses can provide incentives for broadband deployment.¹⁰ In one RHC pilot consortium, USAC was able to commit the full amount of needed capital expenditures funding in year one for the entire contract (providing 4 years of funding).¹¹ An E-rate program that only offers annual commitments may make such innovative arrangements impossible. Indeed, in the example above, the carrier would likely not have agreed to make 4 years of network investments with a commitment of ¼ of the needed funds – and only the hope that future funding would be available and committed. If the Commission wants broadband providers to offer long-term low-pricing guarantees in exchange for significant upfront payments, it will be important to allow commitments to span more than a year's worth of funding.

Third, a capital investment fund will be especially valuable to schools and libraries in rural and high-cost areas where the commercial marketplace often does not provide adequate and affordable broadband coverage. Funding network deployment by schools and libraries in rural areas will go a long

¹⁰ The HCF supports so-called "upfront" payments for consortium applicants. See 47 C.F.R. § 54.638 (supporting non-recurring costs in excess of \$5000 for bandwidth of 1.5 Mbps or greater for consortium applicants). HCF is in its infancy, however, so there are not yet examples of successful deployments to highlight.

¹¹ See New England Telehealth Consortium, *Ex Parte* Slide Presentation, Docket 02-60, at 12-13 (Jan. 6, 2012) (explaining spreading of NRCs for eligible and ineligible consortium participants, respectively).

way toward making rural areas more economically viable, and may provide incentives for the deployment of additional broadband investment to homes and businesses in the region.

Fourth, a build-out program within the E-rate program can be structured to benefit the entire community. Recipients of build-out funds should be expected to share their network facilities with other providers and users. For instance, the networks deployed with build-out funds should allow for interconnection with other broadband providers who can build off of their facilities to serve surrounding residential and business customers. Any entity should be eligible to apply for and receive such funding, including commercial companies, non-profit providers, municipalities, and schools and libraries themselves. In addition, recipients of these build-out funds can sell or lease excess capacity (fiber strands) to other providers, which both increases the financial viability of the fiber build and benefits other private sector or non-commercial broadband providers. Finally, an open interconnection policy can allow these facilities to reach other broadband deployment sites like cell towers, service provider central offices, small cell sites in rural unserved census tracts.

To be clear, we are not advocating for E-rate dollars should be used to pay for excess capacity or interconnection with other providers. Cost allocation can identify the school/library usage that can be funded by E-rate while allowing the network owner to generate additional revenue for the non-school/library capacity. Under the current E-rate rules, there is some uncertainty about whether a school or library can build off of E-rate funded infrastructure to additional locations in the community.¹² Some schools and libraries have been reluctant to allow others to interconnect with and extend E-rate funded facilities out of fear that they might lose their E-rate funding. Clarifying the rules to allowing E-rate funded facilities to be extended for additional uses, even if not funded by the E-rate program, could make the most efficient use of these deployments and could avoid the additional costs of deploying duplicative infrastructure. The costs of such extensions should be borne entirely by the entity providing the extension, not the E-rate program, and cost allocation rules should be clarified to ensure that such entity pays for its share of the E-rate funded facilities.

¹² The HCF program provides a guide to another way this might work. HCF rules permit eligible health care providers (HCPs) to pay out-of-pocket to install excess capacity fiber, provided the excess capacity does not increase the cost to the program for supported facilities. *See* 47 C.F.R. § 633(d). Installation of HCP-owned excess capacity can only occur after the competitive bidding process has established that building HCP-owned network facilities is more cost-effective than leasing services from existing providers. *See* 47 C.F.R. § 636(a). Because this excess capacity fiber is not funded with RHC funds, it can be used for non-healthcare uses, including leasing it to third parties such as local broadband providers. This helps the local community while giving the HCF consortium a funding source to help maintain the subsidized network (potentially reducing the need for future program funds).

Fifth, several states are already exploring broadband build-out programs, and the E-rate program can learn from and leverage these state programs. The SHLB Coalition previously provided examples of these state programs in California, Iowa, Georgia, Nebraska, Pennsylvania and Illinois.¹³ One or more of these programs can provide models for the FCC's build-out fund.

Sixth, the capital investment fund can promote the efficient use of E-rate dollars by funding investment in long-term, future-proof technology such as fiber. No matter what level of broadband connections schools and libraries have today, they will need more five years from now, and they will need even more in 10 years. The demands for Internet capability continue to grow at a geometric rates. As students engage in more on-line research and collaboration, as schools replace textbooks with personal devices, as government programs replace paper with electronic services, as the "Internet of things" becomes commonplace, as library collections increasingly include streaming and downloadable content, the demand for bandwidth will continue to explode. It would be inefficient for E-rate to support the use of infrastructure that will need to be replaced in 5 or 10 years. Operating fiber-based networks can often be less expensive than operating legacy network technologies. The FCC should seek to make the E-rate program as cost-effective as possible by investing in high-capacity and scalable infrastructure, such as fiber, that will last for decades.

III. The Commission Should Expand the Broadband Options Available to Schools and Libraries.

Competition for E-rate services is difficult to find; most schools and libraries receive only one bid or often no bids at all when they seek to procure services. The E-rate program should provide the schools and libraries with as many options as possible for satisfying their broadband needs. Here are some of the steps that the FCC can take to expand the options available to schools and libraries:

1. The Commission asks several questions about the proper length of contracts and suggests that E-rate supported contracts should be limited to 5 years. We disagree. Limiting E-rate support to contracts that are a certain length of time simply reduces the options available to applicants. SHLB favors allowing broadband providers maximum flexibility in how they recover capital investment as they build and enhance their networks. Long-term contracts can be structured to be useful in this way. For example, a broadband provider for a consortia might recover capital costs in the first four years of a ten-year contract – with the contract then fixing low recurring

¹³ See SHLB Comments in this proceeding submitted on April 14, 2014.

costs in years four through ten. As noted above, a similar approach was taken by at least one RHC consortia in the pilot program which preceded RHC modernization. Thus, the Commission should allow broadband providers to recover their capital investment in contracts that extend longer than five years.

We understand the Commission's concern that service providers might try to lock applicants into long-term contracts as a way to foreclose competition or forestall declining prices. On the other hand, some service providers and applicants may wish to amortize the deployment costs over a long period of time in order to keep monthly rates low and affordable. The Commission should not take this option away from applicants by putting a limit on contract terms. If the Commission is concerned that long-term contracts will not reflect declining prices, it can require contracts longer than five years to demonstrate a decline in prices over time.

2. The E-rate program should equalize the treatment of dark fiber and lit fiber. The current FCC rules discriminate against dark fiber (the rules are not "technologically neutral") because the 2010 reforms do not allow E-rate to support dark fiber electronics or special construction; in contrast, lit fiber services are eligible for full E-rate support. The rules discourage schools and libraries from using dark fiber, even when it may be the most cost-effective alternative. The E-rate rules should be changed to allow electronics and dark fiber construction to be eligible for E-rate support.
3. Finally, and perhaps most importantly, the Commission should revoke the provision that bars school and library applicants from owning their own network facilities. Allowing schools and libraries to deploy and own their networks could provide the most efficient means of serving their needs, especially if the broadband provider(s) in the area are not able to do so. Simply the "threat" that the applicant may deploy its own facilities can incent the commercial companies to deploy broadband where they might not otherwise.¹⁴ Local ownership can also promote efficiency where there are multiple providers.¹⁵ Furthermore, allowing schools and libraries to own their infrastructure promotes the important value of "localism." Communities will be more invested in the success of their broadband network if they are responsible for its management

¹⁴ See *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Report and Order, 27 FCC Rcd 16678, 16712-715, ¶¶ 72-78 ("HCF Order").

¹⁵ One SHLB Coalition member is aware of several school districts where two service providers overbuilt each other's fiber networks, both funded by E-rate. The program could operate more efficiently if the school or library were able to own the fiber itself and service providers could then bid to win the right to provide ISP service to the schools over that WAN.

and operations. The E-rate program should be designed, like the RHC Pilot Program and the HCF, to allow applicants and their supporting communities this opportunity if it is the most economically feasible option. We provide an extensive discussion of this important issue at the end of these comments in Section VI.

IV. The Commission Should Provide Additional Funding for the E-rate Program.

To accomplish these goals, it is clear that more funding will need to be added to the E-rate “pot.” The demand for now-Category 1 services has been growing steadily, exceeding the cap over the last few years. The E-rate program should be fully resourced to support one-to-one learning and digital access, so that every student and library patron has the opportunity for personalized content, research, study, assessment within the school or library. Increased funding is thus absolutely essential for internal connections (wired and wireless), for capital investment in long-term, future-proof, broadband connections, and for the recurring costs of high-speed broadband services. We expect that demand for all services will increase even higher once applicants are able to integrate the reforms of the *E-rate Modernization Order* and seek to acquire the high-capacity broadband services that they need.

V. The Commission Should Seek to Harmonize the Variety of USF Programs So That They Work Together Efficiently.

The FCC should also consider taking steps to harmonize all the Universal Service Fund (USF) programs. To achieve the maximum efficiencies, high-capacity broadband networks should be shared, open and accessible by others in the community. Yet the rules for the Healthcare Connect Fund, the Connect America Fund, and the Lifeline Program are not always synchronized with the E-rate program and at times can make it difficult to collaborate across sectors. The FCC should reform E-rate program with an eye toward providing consistency among these programs.

VI. The Commission Should Expressly Permit School and Library Applicants to Use E-rate Funds to Own Their Own Network Facilities.

The SHLB Coalition supports changing the current E-rate rules to permit schools and libraries to invest directly in network infrastructure that they can own and control.¹⁶ This can include either self-

¹⁶ According to the USAC web site, “Costs of eligible telecommunications services and Internet access must not provide ownership interest to applicants. Eligible costs in these two categories of service are for provision of services only, not applicant ownership.” See, <http://www.usac.org/sl/applicants/beforeyoubegin/eligible-services/wan.aspx>.

construction or obtaining long-term IRUs.¹⁷ Such investments may involve substantial up-front payments at first but ultimately can provide the most cost-effective solution because they yield long-term affordable and predictable network costs. Permitting applicants to consider such options will increase price competition with existing broadband providers and result in more efficient utilization of E-rate funds. The Commission adopted this approach in the RHC Pilot program and confirmed it in the HCF,¹⁸ and many *E-rate Modernization* NPRM commenters supported moving E-rate in this direction. Moreover, increasing competition in this way would give substance to Chairman Wheeler's stated strong commitment to broadband competition.¹⁹

Many commenters, especially representatives from school districts and state agencies, supported allowing E-rate for ownership or construction of WAN facilities where it proves to be more cost effective.²⁰ As the Kansas Department of Education (KDOE) explained:

We strongly support allowing schools to own their WAN circuits when this is shown to be cost effective. Feedback from Kansas schools indicate *the current prohibition on WAN ownership means they are paying far more annually to lease circuits vs. owning the circuits outright* (or sharing ownership as part of a consortia or regional network). District feedback indicates strong support for . . . [E-rate] support of fiber/WAN connections as Priority 1 services.

See KDOE comments at 3 (emphasis added; internal citation omitted); see also Wisconsin Department of Public Instruction (WDPI) comments at 5; Illinois Department of Central Management Services (ICMS)

¹⁷ "IRU" is the acronym for infeasible rights of use. It typically refers to a long-term lease (usually of 20 years) that provides an unrestricted right to use a certain amount of capacity on a fiber cable. The typical IRU contract calls for a significant up-front investment and smaller recurring payments thereafter to cover the shared costs of maintaining the cable.

¹⁸ The RHC program uses a competitive bidding process similar to E-rate which allows health care providers to leverage competition to lower costs. The FCC recognized situations in the RHC proceeding cases where the most cost-effective option offered by a competitive bidder proved to be an offer to build middle- and last-mile fiber to its members' facilities. The Commission explained:

[W]e do not expect HCPs to choose to self-construct facilities very often, and when they do, it will be because they have shown that they have no other cost-effective option for obtaining needed broadband. The self-construction option was rarely exercised in the Pilot Program.

See *HCF Order*, 27 FCC Rcd at 16714, ¶ 77 (noting two of 50 projects fully self-constructed their networks).

¹⁹ "The underpinning of broadband policy today is that competition is the most effective tool for driving innovation, investment, and consumer and economic benefits. Unfortunately, the reality we face today is that as bandwidth increases, competitive choice decreases." "The Facts and Future of Broadband Competition", prepared remarks of Chairman Tom Wheeler, Sept. 4, 2014, available at <http://www.fcc.gov/document/charman-remarks-facts-and-future-broadband-competition>.

²⁰ The SHLB Coalition is indebted to the Health Information Exchange of Montana (HIEM) who surveyed comments in the E-rate proceeding supportive of allowing schools and libraries to use E-rate to directly invest in their networks. See *HIEM E-rate Modernization Reply Comments*, WC Docket 13-185 (Nov. 8, 2013).

comments at 11 (“[W]e believe a school district group should be the recipient of [any] construction funds”); Utah Education Network (UEN) comments at 7; (“UEN would support purchasing/build out of WANs when it is more cost effective to build rather than to lease.”); State of Hawaii comments at 10 (“[P]ermitting schools and libraries to construct or purchase their own WANs could provide a long-term, lost-cost alternative to leasing.”); North East Florida Educational Consortium (NEFEC) comments at 1 (E-rate should “allow educational consortia to build and manage their own networks where other providers’ pricing is not competitive for the needs of the rural schools and libraries within the consortia.”); Panhandle Area Educational Consortium (PAEC) at 1; Florida Association of District School Superintendents comments at 1; State Educational Technology Directors Association (SETDA) comments at 21 (“[E-rate] applicants should be given the freedom to build and manage their own broadband infrastructure where it can be demonstrated that this is sustainable over time and the most cost-effective option.”); State of Vermont Agency of Education (VAE) comments at 2 (“FCC should allow for a system allowing schools to make long term investments in infrastructure.”).

These commenters recognize the lack of competition in most rural areas. For example, as Montana State Library explained: “In rural Montana, we have little or no competition among telecommunications or Internet service providers. . . . Most libraries receive no bids at all for their [FCC Form] 470 [request for services] posting.” Montana State Library comments at 3; *see also* ICMS Comments at 11 (“In very rural, very remote areas, there may be no desire by the private providers to serve the school or library”); Comments of Shannon Capps, Troup, TX (“Acquiring fairly priced, adequate bandwidth at the local level can be problematic for those of us who are located in rural areas with limited providers”). Moreover, information submitted by the Washington State Office of Superintendent of Public Instruction (WOSPI) strongly suggests that forcing schools to lease existing circuits can have the perverse effect of subsidizing old technology rather than supporting the adoption of new. WOSPI offers an example where the cost to lease bonded T1 circuits far exceeds the cost to lease an exponentially larger Ethernet circuit²¹ – and such situations are apparently not unusual.²²

²¹ WOSPI Comments at 3; *cf.* Fatbeam, LLC reply comments at 2 (short bidding and solution implementation timeframes may be “discouraging more robust and higher bandwidth solutions in the marketplace”).

²² *See, e.g.*, Weslaco Independent School District (WISD) comments at 4-5:

Weslaco ISD has invested a significant amount of money in establishing a private fiber-optic ring for our school district that is extremely cost effective. When compared to the cost of leasing a comparable telecommunications circuit, the installation of the fiber-optic cable was shown to have a

WSOPI further observes: “We are familiar with situations in which the current prohibition on WAN ownership [by schools] has led to higher costs for leased circuits.”²³

In some areas no amount of subsidy is going to provide sufficient incentives for private sector carriers to provide affordable, cost effective broadband that is sufficient to meet President Obama’s goals.²⁴ While incumbent providers – many of whom are subsidized – should have the opportunity to bid to offer equivalent service; if they cannot (or will not) do so, then the Commission must allow the competitive market to fill the need by allowing the school or library system to build its own facilities.

50 day payback period (without E-rate discounts) and a 1.26 year payback if you factor in our 89% E-rate discount.

Many school districts currently lease telecommunications circuits to interconnect their network operations center with the individual schools. In situations where the circumstances allow, installation of private fiber-optic cable, owned by the school district, could save millions of dollars annually. In a study conducted in 2011, Weslaco ISD calculated that to lease the circuits necessary to provide the 1 Gigabit and 10 Gigabit connections that we were providing to each of our campuses would have cost approximately \$12,957,840 per year. That breaks down to \$11,532,477 in E-rate funding and \$1,425,362 in school funding. If Weslaco ISD had not invested \$1.8m to install this private fiber-optic ring, we would not be able to provide the same level of connectivity to our schools that we are now able to provide. Unnecessary leasing of telecommunications circuits that could be replaced over time with school owned fiber-optic cable amounts to hundreds of millions of dollars annually. For Weslaco ISD alone, we are NOT requesting \$11.5m in funding each year solely because we own our own fiber to most of our schools.

²³ *Id.*; see also WDPI Comments at 5 (“The current prohibition on WAN ownership means schools and libraries may be paying far more annually to lease circuits vs. own the circuits outright or sharing ownership with other anchor institutions as part of a regional network.”).

²⁴ See *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Report and Order, 27 FCC Rcd 16678, ¶ 71 (2012) (*Healthcare Connect Fund Order*) (recognizing that “[health anchor institution]-owned infrastructure will be most useful in providing last-mile broadband connectivity where it is currently unavailable and where existing service providers lack sufficient incentives to construct it.”); cf. Liz Zucco, ConnectEducation, *Findings for PAEC, NEFEC and Heartland Educational Consortium Rural Schools Technology Transformation Plan*, at 3-4 (submitted in WC Docket No. 13-184 by Dr. James Surrency, Executive Director, North East Florida Educational Consortium):

It is unreasonable to expect a Carrier to shoulder the full expense of bringing fiber to any rural area, no matter what state you are in. This is specifically due to the cost to lay fiber, \$26,250 or higher per mile depending on conditions, vs. the return on investment for the use of the fiber in the area. Carriers must responsibly use their investment funds for areas that bring them the best return on investment. Rural areas typically do not give the kinds of ROI that a Carrier needs to lay vast amounts of fiber. Typically, a Carrier looks for at least 25 “homes per mile” passed in order to even consider a fiber build. A rural area just cannot sustain the revenue to justify spending the money. It’s not economically feasible.

The Commission recognized (in the RHC program) that the option for applicants to own/control their network infrastructure increases competition:

Providing a self-construction option will also promote our goal of ensuring fiscal responsibility and cost-effectiveness by placing downward pressure on the bids for services. . . . The option to construct the network may constrain pricing offered by existing providers, particularly in areas that have little or no competition.²⁵

The Commission determined that the existing RHC competitive bidding process – with certain added safeguards to ensure appropriate “build-vs.-buy” decisions – were more than adequate to protect against overbuilds. Just as important, the Commission recognized very important benefits to allowing competition between service providers that build or lease capacity (*i.e.*, dark fiber IRUs), and service providers that will only lease services:

[A]llowing the self-construction option should create incentives for service providers to charge competitive prices for the services offered to anchor institutions such as [health care providers], which reduces burden on the rural health care mechanism. Moreover, experience under the [RHC] Pilot Program suggests that a self-construction option for [health care providers] can provide incentives for commercial service providers to work cooperatively together with [health care providers] to construct new broadband networks in rural areas, with each party building a portion of the network, and providing excess capacity to the other party under favorable terms, to the benefit of both the HCPs and the greater community.²⁶

There is no reason such benefits cannot also be realized in the E-rate program to stretch program dollars as far as reasonably possible.

VII. Conclusion

We respectfully suggest that the Commission should embrace a capital investment approach within the E-rate program and articulate clear, allow schools and libraries to own their own infrastructure, and establish clear and consistent rules to encourage greater investments in high-capacity, future-proof, long-term, connections to schools and libraries. The capital investment approach can also be used to encourage greater sharing of network infrastructure among schools and libraries, which was one of the major recommendations of the National Broadband Plan. We further suggest that establishing an intermediate-term broadband capital investment program of five to eight years will go a

²⁵ See *HCF Order*, 27 FCC Rcd at 16712, ¶ 72.

²⁶ *Id.*, 27 FCC Rcd at 16714-715, ¶ 78; see also *HIEM E-rate Modernization Comments and Reply Comments* (explaining in detail how this worked in practice).

long way toward upgrading our nation's schools and libraries' broadband capabilities, giving them the time they will need to provide the broadband infrastructure they need to access "advanced services" (as called for in the statutory language) and serve their students, teachers, library patrons and communities more effectively.

Libraries and schools need additional high-capacity broadband services today, and this need will become even more urgent over the next few years. Many K-12 schools are implementing national Common Core testing, and these schools will need greater broadband capacity to satisfy their testing obligations. Public education is increasingly embracing individualized, "personalized learning" that uses mobile devices in the classroom. Public libraries are increasingly using advanced technology to provide digital literacy training, offering "maker spaces" to young entrepreneurs that demand robust upload as well as download, supporting e-books and videoconferencing, and providing on-line access to e-government, health and job training services. All of these trends demand that schools and libraries have affordable and higher-capacity broadband services than they have today. The SHLB Coalition urges the Commission to adopt the recommendations above to help schools and libraries obtain the affordable, high-capacity broadband that they need to meet the challenges of the 21st century.

Respectfully Submitted,

A handwritten signature in black ink that reads "John Windhausen, Jr." with a stylized flourish at the end.

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