

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

In the Matter of	)	
	)	
Modernizing the E-Rate	)	WC Docket No. 13-184
Program for Schools and Libraries	)	

**COMMENTS OF NTCA–THE RURAL BROADBAND ASSOCIATION AND  
THE WESTERN TELECOMMUNICATIONS ALLIANCE**

September 16, 2013

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NTCA—The Rural Broadband Association (“NTCA”)<sup>1</sup> and the Western Telecommunications Alliance (“WTA”)<sup>2</sup> hereby submit their Comments in the above-captioned proceeding.

**I. INTRODUCTION AND EXECUTIVE SUMMARY**

Much like the High-Cost Universal Service Program, the Schools and Libraries Program (“E-Rate”) has been transformative, bringing communications technology to Americans who might have otherwise been left behind in an increasingly digital age. Fifteen years into its existence, however, the Schools and Libraries Program’s goals and processes are in need of modernization as technologies have changed and the demands of school and library users continue to evolve. Responding in significant part to President Obama’s call to ensure nearly every school and library has connections that enable next-generation, high-capacity broadband

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<sup>1</sup> NTCA represents nearly 900 rural rate-of-return regulated telecommunications providers. All of NTCA’s members are full service local exchange carriers and broadband providers, and many provide wireless, video, satellite, and/or long distance services as well.

<sup>2</sup> WTA is a trade association that represents more than 250 small rural telecommunications companies that provide voice, broadband and video services in the 24 states west of the Mississippi River.

services, the current NPRM seeks comment on a number of proposals to modernize E-Rate, including perhaps most notably both the deployment of higher-capacity connections and the updating of services supported under the program.<sup>3</sup> The NPRM also explores the adoption of new program goals and ways to measure progress toward them, in an effort to support access to 21<sup>st</sup> century broadband services and “maximize the cost-effectiveness of E-Rate funds.”<sup>4</sup>

The need for a transition within E-Rate is of course part and parcel of a more fundamental shift within the communications industry and communications policy. Indeed, working together, each of the discrete programs that make up the universal service fund (“USF”) can, and must, take the next step in improving the reach and sustainability of broadband-capable networks and ensuring the affordability of innovative IP-enabled communications services. It is essential, however, that each program is also designed and carefully calibrated to solve for the specific problem(s) presented. A “one-size-fits-all” approach to problem-solving is almost certain to breeze past the very real local conditions and challenges that present actual barriers to adoption or availability in a given area or for any given consumer. Moreover, a lack of thoughtful coordination in advance with other programs that serve comparable objectives – such as the High-Cost component of the USF, the Broadband Technology Opportunities Program (“BTOP”), the Broadband Infrastructure Program (“BIP”), and other financing programs available through the U.S. Department of Agriculture’s Rural Utilities Service (“RUS”) – introduces the substantial risk of undermining the objectives of *all* of these government programs

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<sup>3</sup> In the Matter of *Modernizing the E-Rate Program for Schools and Libraries*, Notice of Proposed Rulemaking, WC Docket No. 13-184, FCC 13-100 (rel. July 23, 2013) (“NPRM”).

<sup>4</sup> *Id.* at ¶ 41.

(including E-Rate) and thus “cannibalizing,” rather than leveraging, otherwise useful complementary initiatives in the process of this much-needed “modernization.”

In rural areas, for example, rate-of-return-regulated rural local exchange carriers (“RLECs”) and the statewide networks they own and operate have already made tremendous progress in delivering high-capacity broadband connections to schools and libraries; among the largest potential customers in any rural community, it would be difficult to foresee a circumstance where any RLEC would affirmatively decline to provide the most robust connection that is feasible and sustainable to a community anchor institution (“CAI”) such as a school or library. Indeed, an NTCA survey discussed herein underscores how much effort small rural providers have already made, and how much success they have had, in connecting their CAIs. There are, of course, improvements to be made to such facilities in certain cases, as a number of residences, businesses, schools, libraries, and other CAIs may lack robust, future-proof fiber connections – although even certain last-mile copper facilities, if neither too old nor too lengthy, can enable high-speeds that satisfy the demands of many schools or libraries today. Moreover, even in the case where an existing high-capacity, broadband-capable network is already available, affordability is almost always an overarching concern in high-cost, sparsely-populated rural areas where a combination of higher operating expenses and more significant middle mile costs to cover vast distances complicate the delivery of services. Of course, it should go without saying that the E-Rate program ultimately cannot be considered a success – nor can universal service policy can be considered fulfilled – unless the services offered to and obtained by schools and libraries are sustainable; that is, it is not enough merely that broadband-capable networks “get there,” but that the networks “stay there” and that the services offered

over them remain both affordable and high-quality such that the CAI can rely upon them and make the best use of them in carrying out its own mission.

Thus, meeting the important public policy goal of ubiquitous access to high-capacity broadband service requires a faithful adherence to the principles of Section 254 *in all respects*. A carefully planned and coordinated approach to E-Rate reform, in whatever form that reform ends up taking, can contribute to the broader success of universal service as a whole by leveraging other federal programs, public-private partnerships, and private investments to achieve the broadest possible set of benefits. This is particularly critical in light of the interest in constraining growth in the USF and the corresponding need to make the most efficient and effective use of each USF component.<sup>5</sup> At bottom, the modernization of the E-Rate program as contemplated by the NPRM can and will only succeed if it is: (1) coordinated carefully with and builds upon the many successes of other USF components and other federal programs that serve complementary objectives of promoting network deployment and affordable broadband access, and if (2) the essential problem to be solved – “Affordability” or “Availability” – is identified on a sufficiently granular basis to tailor a meaningful solution.

The need to maximize effectiveness is of course not unique to E-Rate; the High-Cost and Healthcare Connect USF programs (but not the Low-Income USF program) likewise operate under budgets. Expansion of the E-Rate budget at the same time that other important USF mechanisms remain effectively capped, in the ostensible name of fiscal responsibility, would mistakenly ignore the very real need for substantial, additional investment in high-cost areas and

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<sup>5</sup> This is of particular concern to the instant proceeding in light of the fact that current demand for E-Rate funds is approximately twice its demand this year, making the NPRM’s proposed goal of improving E-Rate’s cost-effectiveness that much more critical. *Id.* at ¶ 9.

the challenges still presented in the ongoing efforts to maintain control over growth in the Low-Income program. Put another way, expansion of this singular component of the USF without thought as to the impacts on other USF programs (and also careful coordination with those programs as discussed further herein) could do long-lasting damage to the broader concept of universal service, to the detriment of the residents, businesses, and also schools and libraries and the many other CAIs that are beneficiaries of these critical programs – especially in rural areas. In short, *each* component of the USF must be viewed as important and should be sized based on a realistic assessment of the program’s challenges and the goals set forth by both Congress and the Commission. Setting artificial budgets that have no tether to reality, or even worse, pitting one program against the others, would undermine the much-needed effort to ensure that *all* Americans have sustainable and affordable access to high-quality communications services.

Modernization of the Schools and Libraries Program and the goals of connecting every school and library to the highest-capacity *sustainable* connection possible are laudable pursuits. The key to achieving these goals, however, will be efficient and cost-effective use of E-Rate support in a manner that is carefully coordinated with other federal programs and leverages existing broadband network facilities. By coordinating among these many federal initiatives and leveraging existing networks to the greatest extent possible, the Commission can maximize the use of scarce E-Rate resources and get the most “bang for the buck,”<sup>6</sup> while also ensuring “good government” practices in the administration of complementary programs and ultimately faithful service of the universal service principles of Section 254 *in all respects*.

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<sup>6</sup> *Id.* at ¶¶ 41-44.



**II. THE EFFICIENT AND COST-EFFECTIVE USE OF E-RATE FUNDS REQUIRES DEFINING, AT A GRANULAR LEVEL, THE PROBLEM(S) TO BE SOLVED RATHER THAN ADOPTING SWEEPING, ILL-FITTING, “ONE-SIZE-FITS-ALL” SOLUTIONS; THE COMMISSION SHOULD ADOPT AN ANALYTIC FRAMEWORK TO DO JUST THIS AS A FOUNDATIONAL ELEMENT OF ANY E-RATE REFORM.**

**A. A Thoughtful Analytic Framework That Distinguishes Challenges of Availability and Affordability is Essential to Make the Most of a Modernized E-Rate Program for as Many Schools as Possible, to be as Responsive as Possible to Localized Community Anchor Institution Needs, and to Avoid Cannibalizing Other Important and Complementary Federal Programs.**

***1. A Thoughtful Analytic Framework Must Rest Upon the Proper Classification of the Problems to be Solved at a Local Level***

The Commission is likely to realize the goal of modernization and maximize the impact of limited E-Rate funds for as many schools and libraries as possible only if the reformed program: (1) leverages existing “future-proof” broadband networks that are already serving, or are already near to, schools, libraries, and other CAIs; and (2) is coordinated carefully with complementary federal programs. The best way to achieve both of these objectives is to start from an analytic framework that isolates the primary issue presented and then tailors the solution in a modernized E-Rate program to address that specific problem. Each community and jurisdiction is unique. Therefore, adopting sweeping, ill-fitting, “one-size-fits-all” changes that permit, for example, use of dark fiber and wide-area network solutions across broad geographies and among consortia of schools and libraries – many of which may already have robust connections in place individually – runs the risk of depleting valuable E-Rate resources, undermining the ability of schools that already have robust connections to receive ongoing support needed to pay for those in a world of limited “budgets,” and “cannibalizing” other

federal programs that may have enabled such robust connections to already be put into place and are still playing a role in keeping those connections up-to-date and affordable.

To implement such an analytic framework and to avoid such consequences, the Commission should classify the primary problem at issue for each school and library in one of two basic ways: (1) “Affordability” or (2) “Availability.” As discussed further herein, many schools and libraries today have robust connections in place (*e.g.*, fiber or upgraded cable plant), but due to concerns of either price or demand, these schools do not procure very-high-speed broadband. In other cases, a community may be entirely unserved by an existing network, thus precluding the school or library (as well as the broader community) from obtaining any broadband at all. In yet other instances, network facilities may be present today at the school or library, but the connections may be insufficient (because of long or old copper loops or fixed wireless connections, for example) to deliver higher-capacity broadband services. (Of course, even in the latter two instances involving challenges of Availability, Affordability could very well become a concern once sufficient networks are in place.)

Put another way, to “design the right tool for each job,” the Commission should classify the problems that exist by identifying whether sufficient robust connections already exist, evaluate whether those schools that already have such connections are in fact able to make sufficient use of them, and if that is not the case, assess what drivers (affordability/price or lack of applications/interest/training) hinder those CAIs’ use of higher-speed services across the existing robust broadband-capable connections. Specifically, a sound analytic framework for making effective use of a modernized E-Rate program should classify basic problems as

involving either Affordability or Availability, with the latter classification consisting of two subsets:

1. Affordability – The school or library in question has robust connections in place today that support broadband speeds that are reasonably likely to be used by the school in the foreseeable future (or such connections are in the process of being constructed in the area). The problem to be solved then is not how to connect the school, but how to ensure that the school can obtain a reasonable level of broadband for its mission at a reasonable price on an ongoing basis.<sup>7</sup>
2. Availability –
  - a. Partial Availability – The school or library in question has some level of broadband access today (or facilities to enable such broadband access are in the process of being constructed in the area), but the last-mile connection to that school or library does not support broadband speeds that are reasonably likely to be used by the school in the foreseeable future. The problem to be solved then is how to upgrade the last-mile connection to the school to enable higher-speed broadband access, but there is no need to rebuild an entire network from scratch.
  - b. Total Unavailability – The school or library in question has no broadband access today and there is no construction planned or underway to deploy facilities to enable such broadband access in that unserved area. The problem to be solved then is one of true unavailability, where a “new build” might offer the only solution.

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<sup>7</sup> The importance of Affordability as it relates to the ability of schools and libraries to obtain high-capacity broadband connectivity must not be lost in this debate. Indeed, the NPRM recognizes that more than 1/3 of the nation’s schools and libraries cite “the cost of service as a barrier in meeting their needs.” *Id.* at ¶5. Unfortunately, all too often in USF-related debates, the focus is seemingly on “but, look how many locations became served!” to the detriment of the longer-term and equally important implications of what it means to have a sustainable network and ongoing affordable prices for users. There are many schools and libraries today, as described herein, that have access to robust broadband-capable networks; their ability to procure and retain services on those networks, and to upgrade their purchases over time, through the use of E-Rate support, should not fall victim to the consumption of E-Rate resources in deployment of large-scale networks, particularly to the extent those networks will connect locations that are already connected. Even in its current form, need exceeds available funding. *Id.* at ¶¶ 62-64. Similarly, as discussed further herein, broadband speed targets that sound attractive in a press release, but that are not yet in demand and not affordable for the schools, risk artificially and inefficiently exhausting limited E-Rate funds, thereby undermining the goal of providing sufficient access to the largest number of schools and libraries.

By contrast, if one simply treats every school as faced with an Availability problem and thereby allows (or even encourages), for example, consortia to obtain dark fiber or other facilities to “wire” every school (even if some are already fully connected by fiber), the costs of such an undertaking could be significant – especially in high-cost areas – and would leave little, if any, E-Rate support left to address Affordability.<sup>8</sup> This would ultimately leave students in already-connected schools behind and would put the networks used to connect those schools at risk. The analytic framework proposed herein can help strike a balance by tailoring solutions to the unique challenges in each area, and it can also help ensure that scarce E-Rate resources go as far as practicable in enabling as many schools and libraries as possible to obtain – and, just as importantly, retain – the best possible broadband to carry out their respective missions.

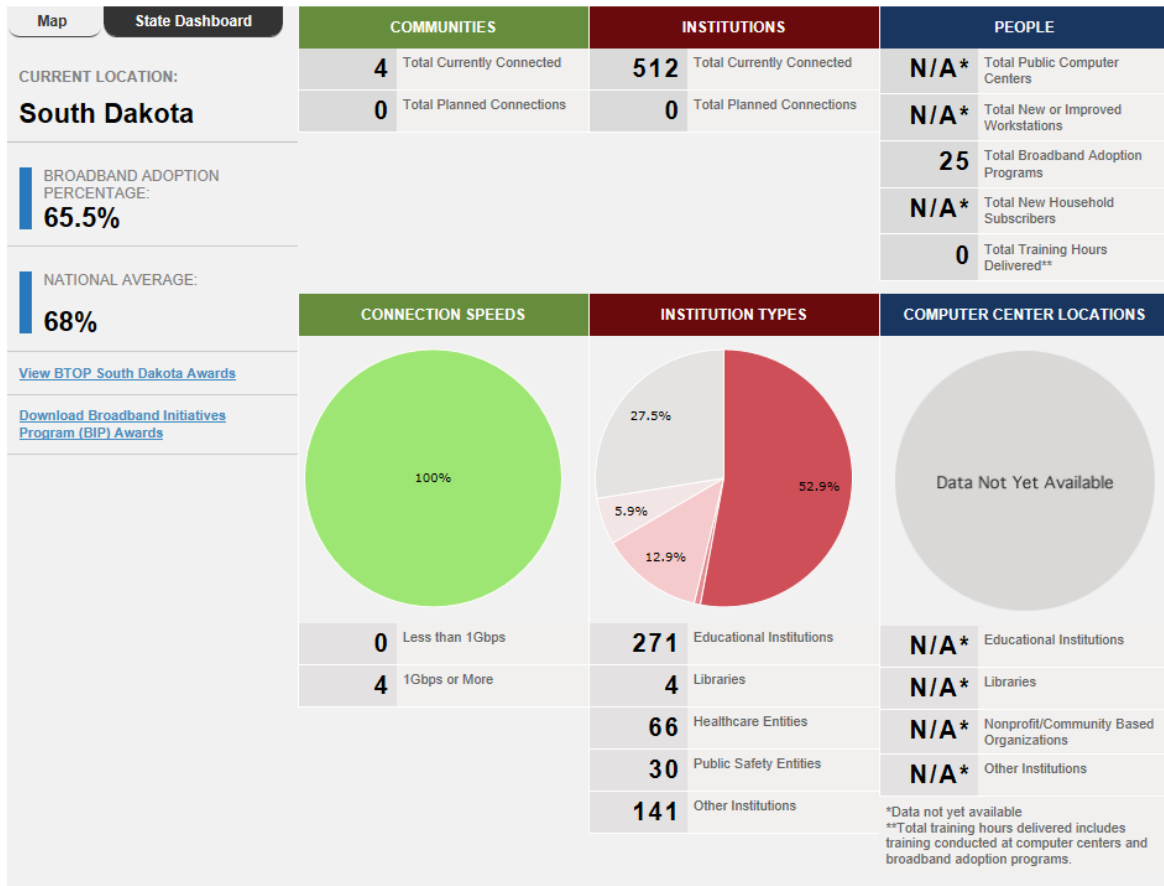
***2. A Modernized E-Rate Program Must be Coordinated with, Rather Than Compete Against, Other Important and Complementary Federal Initiatives***

Failure to adopt this kind of analytic framework that considers the granular state of existing network deployment further runs the risk of undermining other important federal initiatives and wasting resources needlessly. As just one example, the Commission should not overlook or put at risk the significant work already enabled by the National Telecommunications and Information Administration (“NTIA”) through BTOP. NTIA’s Connecting America’s Communities Map (available at: <http://www2.ntia.doc.gov/BTOPmap/>), which utilizes data provided by BTOP grant recipients to inventory broadband infrastructure deployment made

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<sup>8</sup> It is also worth noting that the mere provision of “dark fiber” is not enough to address what a consortium might need to make productive use of an advanced network. The need for electronics, the need for maintenance of the outside plant network and internal connections, and the need to upgrade over the life of a network that may have a decades-long useable life are all things that any entity must address in ensuring the sustainability of a deployment. Such factors must be taken into account in considering the “true cost of ownership” of a network, and should inform the best use of E-Rate dollars.

possible by program funds, shows that many schools, libraries, and other CAIs already enjoy robust broadband-capable connections. For example, BTOP data available through NTIA shows the significant level of connectivity already available to 512 South Dakota CAIs (including 271 schools) as result particularly of the work of a statewide fiber network provider, SDN Communications, that is owned by RLEC entities in the state:



Similar rates of connectivity exist in other states. It is also important to note that the connectivity cited in charts such as those above and others in the NTIA database do not include advanced broadband-capable network construction projects funded by the RUS' BIP or other loan and grant programs. Nor do such charts capture all of the network assets that carriers using

federal High-Cost USF (whether Connect America Fund or legacy High-Cost support) have deployed to connect the schools, libraries, and other anchor institutions in their rural communities. Indeed, it is difficult to foresee a circumstance in which any RLEC, given the chance to serve a school or library in its service territory, would decline to provide the best possible connection that is feasible and sustainable to that school or library (particularly given that those entities are often among the largest and most attractive potential customers in any rural area).

The failure to leverage existing assets that have been deployed in connection with and/or are currently supported through federal programs such as BTOP, BIP, other RUS financing programs, and High-Cost universal service support would introduce any number of troubling consequences. In addition to stimulating wasteful and inefficient “overbuilding” – including the troubling potential for *two* connections supported specifically by USF (one pre-existing via High-Cost and a new redundant facility via E-Rate) going to the same rural institution – the failure to take stock of and leverage existing assets would exhaust limited E-Rate funds that could be better spent on keeping services affordable, permitting installation of internal connections where needed, or to address the limited circumstances of true and total unavailability of outside plant network assets.

Moreover, in high-cost rural areas, turning a blind eye to what network assets are already in place could introduce new pressures as a result of “cherry-picking” the most attractive portions of those sparsely-populated areas (especially as high-value anchor institutions are selectively extracted from the broader customer base), leaving the most costly-to-serve portions to the carrier of last resort and thus ironically *increasing* reliance upon (and demand for) High-

Cost USF support through E-Rate reform. This could also place upward pressure on end-user rates in the broader community if a number of revenue-generating CAIs are suddenly and artificially extracted from the broader customer base in that community.

To the extent that any E-Rate funds might be used to support capital expenditures for outside plant infrastructure deployment, it is therefore essential that such efforts are coordinated carefully with other federal programs like BTOP and High-Cost USF. As discussed further below, such bright-line coordination can perhaps best (or only) be achieved and enforced by targeting any E-Rate funds that might be used to support capital expenditures for new wide area network or other outside plant deployment to areas where other federal programs such as BTOP, BIP, other RUS financing programs, and High-Cost USF do *not* already support or facilitate the sustainability of network deployments.

**B. In Rural Areas Served by Rural Telcos and Statewide Networks, the Problem is Often More One of Affordability than Availability. The Commission Should Therefore Ensure that E-Rate Resources in These and Other Well-Served Areas Are Used to Solve the Real Challenges Presented, Rather than Enabling Duplicative and Inefficient Network Builds.**

To provide some context for the challenges in rural areas served by smaller carriers such as those within the NTCA and WTA membership, NTCA recently surveyed its members to gain some initial understanding of the extent of their connections and service offerings to schools and libraries. Two-hundred and twenty companies, serving multiple study areas across 38 states, responded to the survey. Their responses speak volumes to the efforts that these small rural carriers, leveraging a mix of private capital, High-Cost universal service support, RUS programs, and/or BTOP have already made to deliver on the vision contemplated by the NPRM. The key initial findings from the survey are:

- Of the 1,208 K-12 schools identified by NTCA members as located within their serving areas, 907 (75%) of those are already connected by Fiber-to-the-Premises (“FTTP”), and another 132 (11%) are connected by Fiber-to-the-Node (“FTTN”). Only 60 such schools (5%) are not connected at all to the telco network, although it is quite possible that they could be served by another provider (*e.g.*, a cable company).
- Of those connected schools, NTCA members reported offering maximum speeds of 912 Mbps (mean) and 100 Mbps (median), while the average speed purchased is 128 Mbps (mean) and 20 Mbps (median).
- Of the 484 libraries identified by NTCA members as located within their serving areas, 224 (46%) of those are connected by FTTP, and another 64 (13%) are connected by FTTN. Only 30 such libraries (6%) are not connected at all to the telco network, although it is quite possible that they could be served by another provider (*e.g.*, a cable company).
- Of those connected libraries, NTCA members reported offering maximum speeds of 248 Mbps (mean) and 40 Mbps (median), while the average speed purchased is 13 Mbps (mean) and 6 Mbps (median).

Data such as these demonstrate that in many rural areas the laudable vision of connecting schools and libraries is already being realized or evolving toward success, and that RLECs in the vast majority of cases have sufficient capacity in place to meet today’s (and tomorrow’s foreseeable) demands. As a result of the commitment of carriers of last resort to their communities and through a combination of private investment and federal programs such as High-Cost USF, RUS initiatives, and/or BTOP, network facilities already abound in many rural areas and should be leveraged to serve the objectives of E-Rate rather than being ignored and then overbuilt via E-Rate. In turn, resources that might have otherwise been used to “overbuild” existing broadband infrastructure could instead make the price of broadband more affordable for schools or libraries or serve the narrower purpose of deploying or upgrading facilities in areas that truly suffer from lack of any access to a broadband-capable network.



To avoid such inefficient deployment of facilities and needless use of valuable E-Rate resources, and to avoid “cannibalizing” other federal programs in a way that defeats the purpose of both, the Commission should by rule prohibit (with an important but limited exception) the use of E-Rate funds to support capital expenditures associated with new outside plant infrastructure deployment in any area where BTOP, BIP, other RUS financing programs, and High-Cost USF (including but not limited to CAF) already support or facilitate the deployment and/or sustainability of network deployments today. In particular, all stakeholders should want to avoid – and good public policy should dictate avoiding – the troubling potential for *two* connections supported specifically by USF (one pre-existing via High-Cost and a new redundant facility via E-Rate).

As the data from RLECs and statewide networks above demonstrate, one can assume that, in most areas these providers serve, the problem faced by schools or libraries (by reference to the categorization of problems discussed earlier in these comments) is likely more one of Affordability than Availability.<sup>9</sup> Thus, in areas where these other federal programs are already at work and have delivered the benefits of cutting-edge networks to CAIs, E-Rate should be focused primarily on ensuring schools and libraries can adopt, and can continue to procure at affordable rates, high-capacity broadband services provided over those existing networks and to obtain other much-needed items, such as internal connections.

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<sup>9</sup> For purposes of clarification, the bright-line rule proposed here would apply only with respect to use of capital support for *outside plant* deployments. There may be cases, even in areas where BTOP or High-Cost USF enable robust carrier networks, to support the deployment of internal connections at schools and libraries.

This being said, even in areas that have enjoyed the benefits of network deployments and operations supported through these other federal programs, there may be limited cases in which a given last-mile connection to a school or library at the end of a road or somewhere outside of a rural town, for example, still does not enable access to higher-capacity broadband services of the kind contemplated in the NPRM.<sup>10</sup> This would be the “Partial Availability” circumstance in the basic categorization of the problems as described above. In these narrow instances, where such shortcomings in a given last-mile connection exist notwithstanding the use of BTOP, RUS financing programs or High-Cost USF/CAF support in the area, the Commission should as an exception to the rule permit E-Rate funds to be used only for the narrow purpose of upgrading the existing last-mile outside plant connection.<sup>11</sup> This would help once again to ensure that solutions from the E-Rate program are tailored to solve the problem presented – the need for an upgrade of the last-mile connection to the institution in question to resolve Partial Availability concerns – rather than pretending as if existing facilities were not in place and paying even more for an entirely new “middle mile” transport facility and loop to be deployed.<sup>12</sup>

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<sup>10</sup> The school or library may, for example, continue to be served via long copper loops, older cable plant, or fixed wireless deployments that, while providing perhaps some basic level of broadband access, do not enable high-speed access of the kind that it wishes to procure from the supplier. In that case, presumably the upgrade of the last-mile connection to an existing telco central office or cable provider’s facility would allow the school to obtain the higher-speeds it seeks to buy.

<sup>11</sup> Such upgrades could consist, for example, of a project to “finish” FTTN loops or deploy a last-mile fiber lateral to the school from a nearby fiber route, or a project to upgrade equipment on either end of a fiber route between the existing telco central office or cable provider’s facility and the CAI to enable higher speed services to the extent demanded by (and affordable for) the school or library in question.

<sup>12</sup> The best analogy might be to a pothole-marked road to a school or library. No rational administrator required to utilize his or her own budget for such a job would brazenly construct an entirely new road (and maybe even a redundant interstate or state highway) into the institution in lieu of seeking to condition or resurface the existing local road. The same responsibility and common-sense management

**C. In Areas Where Total Unavailability is Truly the Problem, Use of E-Rate Funds To Support Capital Expenditures For Outside Network Plant Should be Subject to Robust Review Procedures to Ensure the Most Cost-Effective Use of Limited Funds.**

As the discussion above indicates, the Commission should look to make the most in the first instance of E-Rate resources by ensuring that as many schools and libraries as possible have access to those resources for purposes of addressing Affordability or, in limited cases, Partial Availability problems. But for those individual schools and libraries that indeed face a problem of Total Unavailability – that is, complete lack of access to any option for a high-capacity broadband connection – there may be need to utilize E-Rate funds to support capital expenditures for deployment of physical outside plant network infrastructure so that the school or library in question will not be “shut out” of the IP evolution.<sup>13</sup> However, it is critical that the use of E-Rate funds for such purposes come about and be approved only after a thorough review process. Such an analysis is necessary to prevent deployment of redundant networks in areas where access to a privately-constructed high-capacity broadband network is already available.

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should be expected and demanded in the use of E-Rate resources to ensure that such resources are not absorbed by some schools or libraries to the detriment of others.

<sup>13</sup> The NPRM seeks comment on possible amendments to its rules on Wide Area Networks (“WANs”) and dark fiber. It also seeks comment on the issue of consortium purchasing. NPRM, ¶124. As noted throughout these comments, the key to achieving the goals of the ConnectEd initiative is a cost-effective use of E-Rate resources in coordination with existing, supported or publicly funded broadband facilities and that permits those funds to go as far as possible in supporting access by as many schools and libraries as possible to affordable, sustainable broadband services. Thus, rather than permitting individual schools and libraries (or consortia of such CAIs) to utilize WAN or dark fiber infrastructure deployment options to bypass robust connections that already exist, the Commission should take great care to ensure that E-Rate funds are not siphoned away from those schools and libraries that need them to address Affordability. For example, a consortia that is awarded E-Rate funds to lease dark fiber to serve a large number of schools in a particular area, when only a small number of those schools actually lack connectivity options and suffer from Total Unavailability, would undermine the goals of the program and likely deny the full benefits of E-Rate resources to other schools and libraries in a world of limited USF budgets.

Specifically, for those institutions seeking to use E-Rate support for the construction of physical broadband outside plant infrastructure (presumably only in areas where other federal programs are not already at work deploying such networks), rigorous safeguards should be adopted. These safeguards should at a minimum include:

- a robust, public challenge process that requires an E-Rate applicant seeking funding for any physical outside plant infrastructure construction to demonstrate that they have sought out existing providers or access to existing network facilities and that no such facilities are in fact available to support broadband services that are needed in the reasonably foreseeable future;
- a 60-day period in which an existing provider can demonstrate that their network facilities are capable of connecting, within 180 days, the school or library in question with broadband services meeting the target speed;
- a meaningful matching funds requirement that is the same for the purchase of services from an existing provider and the deployment of broadband infrastructure;<sup>14</sup> and
- a bright-line prohibition on using revenues from excess capacity as a source of matching funds.

Moreover, as in the Healthcare Connect Fund context and to ensure that funds much-needed by the many already-connected schools for Affordability (or internal connections) are not quickly consumed by massive outside plant construction costs, the Commission should establish an initial limit of \$100 million per year from the E-Rate budget to address Total Unavailability

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<sup>14</sup> The Commission should look to the HealthCare Connect Fund, in which the Commission found that a 35 percent matching contribution was appropriate to insure participants had sufficient incentives to participate, while ensuring that they have a sufficient stake to seek the most cost effective method of obtaining services. *Healthcare Connect Fund Order*, 27 FCC Rcd at 16717-19, ¶ 91 (2012) (“HealthCare Connect Fund Order”). Here, the Commission is proposing that E-Rate priority two applicants contribute only 20 percent. NPRM, ¶ 91.

concerns, with a commitment to revisit in five years whether this amount should be adjusted to address a persistent lack of connections at individual schools and libraries.<sup>15</sup>

**III. TO ENSURE THAT E-RATE FUNDS CAN HELP SATISFY AFFORDABILITY CONCERNS ACROSS AS MANY SCHOOLS AND LIBRARIES AS POSSIBLE, THE COMMISSION SHOULD ENSURE SPEED TARGETS ARE TETHERED TO REASONABLY FORESEEABLE NEED OR DEMAND AND TO WHAT A SCHOOL OR LIBRARY CAN REALISTICALLY AFFORD**

In the E-Rate NPRM, the Commission seeks comments on whether it is advisable to adopt specific broadband speed targets for connecting educational anchor institutions. As a proposed model, the NPRM offers the State Educational Technology Directors Association (“SETDA”) target of ensuring that schools have 100 Mbps of broadband service per 1,000 users with broadband speeds increasing to 1 Gbps per 1,000 users by 2017.<sup>16</sup> While the SETDA speed targets may appear reasonable or obtainable for some intuitions, focusing solely on delivering higher speeds that are unaffordable and unsustainable could result in a waste of limited resources without a clearly defined benefit or usage case. Setting a speed goal that is too high could result in overspending on unnecessary broadband speeds in some areas while leaving schools and libraries in difficult-to-serve areas behind, thereby exacerbating the already increasing rural-urban divide. Instead, the Commission should work in conjunction with schools, libraries, and their local area service providers to fully explore the feasibility and desirability for any proposed broadband speed targets. Broadband speed goals should be tailored to the actual and projected needs of educational anchor institutions with a particular on focus on achieving affordable, sustainable and reasonably comparable broadband connections across urban and rural areas.

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<sup>15</sup> HealthCare Connect Fund Order, ¶ 190.

<sup>16</sup> NPRM, ¶¶ 23-40.

Any speed goals resulting from this collaborative approach should continue to be aspirational and non-prescriptive to avoid an unobtainable and unmanageable one-size-fits-all target that could strain already stretched budgets of educational institutions.

When considering the implementation of a particular speed target for broadband connections to educational anchor institutions, the Commission should carefully consider the costs of achieving the targeted broadband connection speeds and the cost of maintaining and servicing that connection over the long-term.<sup>17</sup> The higher costs of providing broadband connections at the Commission's targeted speeds could prove to be prohibitively expensive for schools and libraries in rural areas and they could encourage overbuilding in more densely populated areas. This disparity could potentially exhaust E-Rate funds and further exacerbate the rural-urban divide.

In the case of rural institutions, the cost and feasibility of providing and sustaining high-speed broadband to anchor institutions will undoubtedly vary according to their location and size. Institutions in rural areas are faced with various challenges (e.g., shortened construction season due to weather, rugged terrain, and sparse population densities) that can increase the cost of delivering and sustaining high-speed broadband connections. Just as importantly, rural service providers frequently experience higher middle mile transport costs due to their distance from the Internet backbone. As a result of these factors, it will be more expensive to provide and

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<sup>17</sup> This is not to say that the Commission should not aim through E-Rate reforms to *future-proof* networks by encouraging deployment of scalable fiber connections where possible to CAIs. It is simply to say that there is a difference between being “Gig-capable” to respond quickly as demand and need materialize (which is efficient and very important) and offering a Gig today even where that demand and need has not yet manifested at a given institution.

maintain the Commission's proposed speed goals to institutions in rural areas than in more densely populated areas.

While rural institutions may struggle with the affordability and sustainability of achieving the Commission's proposed broadband speed goals, urban and suburban schools may more readily be able to upgrade to the targeted speeds, at a considerable expense, but potentially at one that is not totally cost prohibitive. A cursory look at the current price per gigabyte (Gbps) broadband rate in suburban and urban areas reveals that providing a capacity of 1 Gbps per 1,000 users would significantly increase the level of spending on broadband connections in heavily populated urban and suburban areas without a clear return on investment.<sup>18</sup> For example, the Round Rock Independent School District ("RRISD"), a suburban district outside of Austin, Texas consists of 48 schools with 46,000 students. According to RRISD, it currently spends \$13,000/month for two 1 Gbps connections through AT&T. RRISD explains that the price per gigabyte has gone below \$5000 per Gbps in the Austin area. However, to achieve to speed goal of 1 Gbps per 1,000 users by 2017, RRISD would need to spend roughly \$210,000/month on Internet connectivity for students alone at current rates; this represents spending increase of over 1515%. Setting unnecessarily high speed-goals – without careful thought as to how to get there in a way that keeps the prices for the school affordable and the service sustainable – could encourage unnecessary over-investments and potentially deplete limited E-Rate funding.

To avoid encouraging unsustainable, unaffordable, or unnecessary broadband speeds, it is essential that the Commission fully analyze the value proposition in achieving particular speeds

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<sup>18</sup> See Comments of Round Rock Independent School District, Notice of Ex Parte Communication, WC Docket No. 13-184 (2013), *available at*: <http://apps.fcc.gov/ecfs/document/view?id=7520937100>.

based on each institution's projected uses and planned implementation of application. The Commission should work closely with anchor institutions and local broadband service providers to assess what current demand is, what drivers affect current demand (price versus need), determine what applications and usage scenarios the institution plans on implementing in the future and what speeds are needed for those specific uses. After developing these usage cases, the Commission could then better calibrate E-Rate funding to provide a minimum broadband speed goal that is perhaps lower than the ultimate ideal, yet realistically obtainable and reasonably comparable for rural and urban anchor institutions. E-Rate funding could be used to achieve this minimum threshold, allowing each institution to then use its own funding to reach greater speed tiers as appropriate for their needs.

Ultimately, any speed target adopted by the Commission should remain aspirational rather than prescriptive. The Commission should avoid a one-size-fits-all approach when analyzing the costs associated with serving anchor institutions, particularly those in rural areas. Each institution, working in conjunction with its local service provider, is in the best position to understand its needs and budgetary limits. If not thought through with a focus on keeping rates affordable once the network is in place, creating a mandatory broadband speed target could result in an economically inefficient use of E-Rate funding to achieve unnecessary and unsustainable broadband speeds while incentivizing the construction of duplicative network infrastructure that could be used to undercut the overarching goals of the Universal Service program.



**IV. THE COMMISSION SHOULD TAKE A NUMBER OF OTHER CAREFULLY PLANNED AND IMPORTANT STEPS, BEYOND ADDRESSING FUNDAMENTAL AFFORDABILITY AND AVAILABILITY OF BROADBAND SERVICES, TO MODERNIZE AND STREAMLINE THE E-RATE PROGRAM.**

**A. The Commission Should Adopt Measures to Streamline and Measure the Success Of, and Barriers to Participation in, the E-Rate Program**

The NPRM also seeks comment on a series of measures to streamline the administration of the E-Rate program.<sup>19</sup> As the NPRM notes, the E-Rate application process has grown increasingly complicated,<sup>20</sup> and a number of potential barriers to participation (including a significant delay in releasing funding commitments) in the program may hinder its effectiveness.<sup>21</sup> In terms of speeding up the application process, the NPRM is correct that any reforms adopted to streamline the process must be balanced against the need to combat waste, fraud, and abuse. Moving towards the increased use electronic filing offers one solution that can strike that balance. The various forms submitted by E-Rate applicants can be submitted, amended, and managed by the Universal Service Administrative Company (“USAC”) much more efficiently while also ensuring that USAC continues to have access to all of the documentation it needs to combat against the improper use of E-Rate funds. The NPRM is also correct that the increased use of electronic filing will reduce errors, as USAC staff will no longer be required to enter certain information manually. Each of these will lead to faster turn-around times for applications.

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<sup>19</sup> NPRM, ¶ 45.

<sup>20</sup> *Id.*

<sup>21</sup> *Id.* at ¶ 50.

The Commission should also call upon USAC to engage a third party to analyze barriers to schools' and libraries' participation in the program.<sup>22</sup> As the State E-Rate Coordinators Alliance ("SECA") states, this would provide insight into this such as "why potential beneficiaries choose not to apply."<sup>23</sup> An anonymous survey conducted by an independent third party can provide USAC with insight into this issue in addition to the barriers (for example, costs of the application process, delays in receiving funds award letters) that current applicants and existing E-Rate participants face in terms of utilizing the E-Rate program effectively. The responses could help USAC to identify which of its processes are unnecessarily hindering the program's effectiveness or the speed of the application review process. Moreover, a survey would be far less burdensome than a data collection requiring all schools and libraries applicants to submit their cost of completing applications. The latter approach would only increase the costs of participation in the E-Rate program.

**B. The Commission Should Update the Program to Encourage Greater Efficiency and to Reflect Shifts in Technology, But Should Not "Flash-Cut" the Abandonment of Services or Functions that are Supported and Still Actively Used Today.**

The NPRM also seeks comment on phasing down E-Rate support for certain services that may be outdated or no longer necessary for educational purposes.<sup>24</sup> While it is vital that the Commission revisit the Eligible Services List ("ESL") periodically to reexamine whether particular communications services are furthering E-Rate goals, changes to the program should

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<sup>22</sup> *Id.*

<sup>23</sup> In the Matter of E-Rate Reform, *State E-Rate Coordinators Alliance White Paper*, CC Docket No 02-6, p.3 (June 24, 2013).

<sup>24</sup> NPRM, ¶¶ 90-114.

not happen on a “flash cut” basis. E-Rate participants not prepared to access (or not having access to) viable substitutes could be caught flat-footed, and thus a transition period should be included to the extent that services are removed from the ESL.

In addition, E-Rate participants are a diverse group of schools and libraries from all across the nation, and their communications services needs are likely to be just as diverse. The E-Rate program should therefore allow schools and libraries to choose services that best fit their individual needs. For example, voice services (and many of the components identified by the NPRM<sup>25</sup>) may remain critical to individual schools even as broadband services are an increasingly important part of classroom instruction. Some schools, of course, may for example choose a VoIP option for voice services, and those that wish to do so should be free to make those types of decisions based on what best fits their needs and meets the challenges they face from a technology and an affordability and/availability standpoint. A “needs assessment” should be part of any transition away from existing services and any effort to aggregate demand.

**C. The Commission Should Not Preclude or Deny Local Control of E-Rate Requests, or Undermine Meaningful Participation by Rural Schools and Libraries**

Finally, as noted above, the diversity of E-Rate participants across the nation necessitates a flexible approach that lets each school and library choose the communications services that best fit their individual needs. Compelling all schools in a district to jointly participate in the application process, without any “needs assessment” of what the individual school might require, may hinder that school from selecting a service or suite of services that best fits the needs of their students. In sparsely-populated rural areas, schools that may share a school district may in fact

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<sup>25</sup> *Id.* at ¶ 95.

be located dozens of miles apart, and as a result their needs and the availability of providers may differ. An overly rigid approach that discourages or even penalizes schools or libraries for failure to participate in such initiatives (or at least does not ensure that local needs are faithfully observed in such an initiative) may not account for this reality and may ultimately deter some needy institutions from participating in the E-Rate program.

In addition, per-student or per-building limits as proposed by the NPRM could have unintended consequences.<sup>26</sup> As discussed above, schools and libraries in rural areas face a number of barriers to broadband access, and an analytical framework that categorizes these barriers (as one of either affordability or availability) can target a solution that is most responsive to that school or library's needs. Per-student budget limits may hinder a school that faces affordability as its single biggest obstacle from receiving sufficient support to access an otherwise available connection from a local provider. Ultimately, "one-size-fits-all" solutions such as per-student limits may prevent a number of schools and libraries from seeking out connectivity solutions and services that best fit their circumstances.

## V. CONCLUSION

A carefully planned and coordinated approach to E-Rate reform can contribute to the broader success of universal service. An analytic framework that distinguishes between problems of Availability and Affordability is needed to begin to even size and scope the issues to be solved at any given school or library. It is essential that there be no "one-size-fits-all" approach that could deplete valuable E-Rate resources, undermine the ability of schools that already have robust connections to receive on-going support to procure services over those

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<sup>26</sup> *Id.* at ¶ 135.

connections, and/or cannibalize other successful federal programs that facilitate the availability and adoption of broadband technologies. Indeed, careful consideration of the other programs that serve objectives comparable to that of E-Rate and an effort to complement and leverage the success of other programs – such as the high-cost component of the USF, the BTOP, the BIP and financing programs of the RUS - is essential to ensure the ultimate success of the program.

Respectfully Submitted,

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Dated: September 16, 2013