

Improving the Administration of E-Rate: Ensuring All Schoolchildren Get the High-Speed Broadband Connections They Need

Jonathan Sallet on behalf of
Benton Foundation & EducationSuperHighway
March 2019

Jonathan Sallet is a Benton Senior Fellow. He joined Benton in mid-2017 after serving as FCC General Counsel/Acting General Counsel (2013-2016), and Deputy Assistant Attorney General for Litigation, Antitrust Division, US Department of Justice (2016-2017).

Benton Foundation's goal is to bring open, affordable, high-capacity broadband to all people in the U.S. to ensure a thriving democracy.

EducationSuperhighway's mission is to upgrade the Internet access in every public-school classroom in America so that every student has the opportunity to take advantage of the promise of digital learning.

This Benton Foundation and EducationSuperhighway paper is published by:



727 Chicago Ave.
Evanston, IL 60202
www.benton.org

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“Improving the Administration of E-Rate: Ensuring All Schoolchildren Get the High-Speed Broadband Connections They Need.” Evanston, IL: Benton Foundation, March 2019.

<https://www.benton.org/publications/improving-erate-administration>

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Foreword

Since 1981, the Benton Foundation has fought for a singular goal: to bring open, affordable, high-capacity broadband to all people in the United States to ensure a thriving democracy – and to deliver new opportunities and strengthen communities to bridge our divides.

An important aspect of Benton's work has focused on schools and libraries. As far back as 1995, Benton published *The Learning Connection: Schools in the Information Age*, examining how educators were grappling with the difficult interplay of technological change and educational values. We began by reviewing the potential for technology-driven education reform and outlining an agenda for building the human infrastructure of the Information Age by addressing such issues as content, curriculum reform, professional development, assessment, equity, and community involvement.

The following year, thanks to the leadership of Senators Jay Rockefeller (D-WV), Olympia Snowe (R-ME), and Representative Ed Markey (D-MA), President Bill Clinton signed into law the bipartisan Telecommunications Act of 1996, which took the bold step of creating the “E-Rate program” to connect schools and libraries to the internet. The goals of this immensely successful program are just as vital today as the day the Act was signed – helping to connect every school and library to high-speed broadband, every classroom to Wi-Fi, and every student to digital learning opportunities.

When first conceived, just 4% of classrooms had access to the internet. By 1999, 95% of U.S. schools were connected to the internet. But in the 21st century, as broadband's potential expanded, educators realized that connection speeds had not kept pace, and they needed higher-capacity networks to ensure that every child could take full advantage of the digital learning opportunities now becoming available.

Through reports issued in 2002 and 2003, Benton laid out the critical need for delivering high-capacity broadband to schools and libraries. In 2008, we released *An Action Plan for America: Using Technology and Innovation to Address Our Nation's Critical Challenges*. This plan called for the creation of a national broadband strategy that among other things would help maximize broadband to transform the way teachers teach and students learn.

Following development of the 2010 National Broadband Plan, which set ambitious connectivity goals for schools and libraries, the FCC took historic action in 2014 to modernize the E-Rate program to provide schools and libraries critical new tools to extend the reach of high-speed broadband, and set ambitious goals to ensure students acquire the speeds they need for digital learning.

With enormous progress being made by the FCC's E-Rate modernization, it became clear that some schools were nonetheless being left behind. As a result, Benton commissioned *Improving the Administration of E-Rate: Ensuring All Schoolchildren Get the High-Speed Broadband Connections They Need* to help the FCC make good on the 2014 reforms -- and ensure that every student, regardless of income or geography, had access to the same digital learning opportunities. I want to especially thank EducationSuperHighway for their partnership in this effort.

Because high-speed broadband can be a learning accelerator and opportunity equalizer, ubiquitous access is as important to learning today, as pencils and chalkboard were yesterday. This connectivity can unleash innovation that improves the way teachers, students, and adults prepare to face the opportunities and challenges of a 21st century economy.

Over the past months, Benton been discussing the future of broadband with a broad range of community leaders from around the nation; from state research and education networks in Michigan and California, to local efforts in Colorado, Kansas, Idaho, Maryland, New Mexico, Washington, Tennessee, and Wyoming. We've learned about game-changing strategies to improve libraries in Georgia, including with the help of the E-Rate program. We've heard about new ways to reach schools, libraries, and other anchor institutions in a county along the California-Mexico border.

Building off these and other insights, in the fall of 2019, Benton will be releasing a comprehensive and forward-looking new report, *A Vision for the 2020s: Access to Broadband in the Next Decade*, to offer an agenda for broadband access and availability over the next ten years. The more we talk to state and local leaders, the more we realize that community leadership is a cornerstone to any public-policy agenda. Recognition of the importance of that kind of leadership is critical to the successful administration of the E-Rate program, as it will be critical to meeting the new broadband challenges of the 2020's.

Adrienne B. Furniss
Executive Director
Benton Foundation

Preface

In 2014, the Federal Communications Commission (FCC) met the challenge of sizing the E-Rate program to the new age of broadband. In two Modernization Orders, the FCC adopted three goals for the E-Rate program, which the FCC has itself described as:

1. Ensure “affordable access to high-speed broadband sufficient to support digital learning in schools and robust connectivity for all libraries,”
2. Maximize “the cost-effectiveness of spending for E-rate supported purchases,” and
3. Make “the E-rate application process and other E-rate processes fast, simple and efficient.”

In the past five years, much has been accomplished; indeed, as *Improving the Administration of E-Rate: Ensuring All Schoolchildren Get the High-Speed Broadband Connections They Need* states, more than 35 million students have gained access to high-speed broadband in their schools since 2013 and EducationSuperHighway research concludes that ninety-eight percent of public schools now meet the FCC’s interim goal of 100 kbps per student for internet access.

But there is still more to do. Over 1,300 schools, with 2.3 million students, still need access to the fiber-optic cables that deliver today’s broadband capacity, speed, and performance. And there is still much work to be done to achieve the FCC’s ultimate goal of 1 Gbps per 1,000 students (or 1 Mbps per student).

This analysis, which has been presented to the FCC, recommends tangible steps that the commission should take to instruct the Universal Service Administrative Company on how best to speed the approval of E-Rate projects that meet the legal requirements of the Telecommunications Act. The issues may seem arcane, bureaucratic, and/or legalistic. But they are important for two interlocking reasons.

First, of course, the goal of bringing broadband to schools and libraries remains absolutely critical. To be unconnected from broadband is more and more of a disadvantage in America today. And, if anything, the importance of broadband connections to public institutions is only becoming more critical. Today’s students need broadband where they learn, not only where they go to school (a phenomenon rightly termed by Commissioner Rosenworcel as the “homework gap”). And, as trusted guides, libraries are increasingly important as institutions where digital inequality can be combatted.

Second, competition is a critical component of America’s broadband future. One of the issues discussed in this white paper is the importance of recognizing the competitive bidding process schools and libraries undertake so they can receive the benefits of the best broadband facilities at the most cost-effective terms. Sometimes that process will result in new fiber construction rather than merely subscribing to an existing service but, of course, that is a fundamental promise of competition – to introduce new and better ways of doing things.

The opportunity to extend transformative digital learning is vast; to grasp that opportunity requires both bold vision and effective administration. With both, we can extend the ability of our children to learn – not just to the next school building or for the next school year, but for the entire next generation. That’s because the one thing we can be sure of is that while today’s students may make up just 15% of our population, they make up 100% of our future.

Jonathan Sallet
Benton Senior Fellow

Executive Summary

The Federal Communication Commission's Schools and Libraries program, popularly known as E-rate, has accomplished a great deal in its two decades. And the FCC has kept its eye on the future, recognizing that schools require big broadband connections to serve their students, connections robust enough to deliver at least 100 Mbps per 1,000 students and staff in the short term and 1 Gbps per 1,000 users in the longer term.

But administration of the E-rate program, and particularly the work of the Universal Service Administrative Company (known as USAC), is delaying and frustrating the ability of schools to gain the broadband connections their students need, especially where the most cost-effective approach is to empower new fiber connections through a process known as "special construction."¹

Indeed, EducationSuperHighway's analysis of the treatment of special construction projects in 2016 and 2017 paints a portrait of a program being administered contrary to USAC's role, the FCC's purposes, and even the legal requirements that bind USAC.² During the 2016-17 funding cycles, EducationSuperHighway found a pattern of mistakes in the rejection of special construction applications as a result of USAC's administration of the E-rate program.³ By that analysis, USAC erred by:

- Using an undisclosed cost model (13% of all denied special construction projects),
- Requiring that applicants attempt to answer unvetted, unapproved and often unnecessary questions (10% of all denied special construction projects), and
- Rejecting an applicant's choice of the most cost-effective approach without adequate justification (5% of all denied special construction projects).⁴

In other words, USAC has constructed barriers to schools that are properly seeking support for precisely the kind of services that the FCC has expressly approved, including "[c]onstruction of network facilities that the applicant will own."⁵

As this white paper explains, USAC has, and continues to:

- Delay and deny special construction and other applications through the use of a cost model that has neither been approved for use by USAC, nor was subject to any form of public-comment process to test its suitability for the E-rate program (Section III),
- Reject applications for failure to satisfy questions that are confusing and opaque but that, in any event, have not received approval under the Paperwork Reduction Act from the Office of Management and Budget (OMB) and thus cannot justify the denials that USAC has issued, (Section IV), and
- Invoke the so-called "cardinal change rule" to force denial or re-institution of bidding processes without fair notice or appropriate guidance (Section V).

The program's principles and goals cannot be effectively carried out in the absence of clear, timely, and effective management of the program. It is not simple, timely, or efficient for USAC to take 245 days

to process a typical fiber application,⁶ nor does it meet the goal of advancing universal service when USAC forces almost 20% of applicants to reapply after experiencing a delay in processing or even an outright denial.⁷ Use of undisclosed criteria in a selective fashion and the targeting of special construction applications looks to be a secret shift in policy, which is not within the scope of USAC's responsibilities. It is time for the FCC to step in and instruct USAC how to run a sound and timely review process. The FCC must act to ensure that school districts whose children need access to fiber are not unfairly prevented from using fiber.

Separately, and discussed in Section VI, the FCC should make permanent its recent decision to waive the requirement that schools and libraries amortize over three years upfront, non-recurring charges of \$500,000 or more.⁸ In 2014's *Second Modernization Order*, the FCC revoked a pre-existing policy that had required amortization of significant upfront costs, the kind that can easily arise when new fiber connections are deployed.⁹ But that FCC decision has expired, requiring the recent decision to grant a temporary waiver of the requirement while the FCC engages in a rulemaking proceeding to decide the policy's ultimate fate.¹⁰ If the FCC ultimately decides to reinstate the requirement, schools will be forced back into a process that the FCC itself has found to be unjustified. The better course is for the FCC to eliminate the amortization issue permanently.

These issues may sound technical, legal, complex and/or bureaucratic. But every delayed or denied application proposing a cost-effective plan is a chicken that has come home to roost. And students, even elementary-school students, know it. The Woodman School is a small schoolhouse located in rural Montana, in a place that lacks even cellphone service. In January 2018, Woodman students wrote letters explaining why they need access to the internet – although USAC denied the requested funding. One third-grader wrote:

We should have the internet by now. We can't do anything without the internet. We should be able to learn important stuff, but we can't do cool stuff and cool projects on our computers. We need internet or otherwise we can't learn new things about stuff we don't know on computers. We would like to do reports about Rosa Parks and Martin Luther King, Jr. on the internet, but we can't do that.

Please can we have internet like schools in the city? Even people in the country need internet!¹¹

I. Introduction: Connecting Schools to the Internet

More than twenty years ago, Congress recognized the critical importance of connecting America's schools to the internet.¹² The creation of the Schools and Libraries Program (also known as the E-rate program) targeted an ambitious goal: to provide "access to advanced telecommunications and information services for all public and nonprofit elementary and secondary school classrooms."¹³ And that is what the Federal Communications Commission (FCC or Commission) in the wake of the Telecommunications Act of 1996 set out to do. When Congress established the goal of connecting schools and libraries in the Telecommunications Act,¹⁴ only 14% of classrooms had access to the internet, and three-quarters of those connections were at slow, dial-up speeds.¹⁵ By 2014, almost all schools had some access to the internet but only 65% of schools had access to adequate broadband. This "connectivity gap" is especially acute in rural schools, which might not be able to afford the cost of broadband connections or may have no choice at all as to what broadband provider to use.¹⁶

That is why in 2014 the FCC adopted two modernization orders designed to speed the deployment of high-speed broadband by widening the effective options available to schools, including through the use of so-called "special construction" projects in which fiber is installed or otherwise provisioned.¹⁷ As the FCC explained, "the E-rate program must evolve to focus on providing support for the high-speed broadband that schools need to take advantage of bandwidth-intensive digital learning technologies. . . . Access to high-speed broadband is crucial to improving educational experiences and expanding opportunities for all of our nation's students, teachers, parents and communities."¹⁸ Emphasizing the need for high-speed broadband, the FCC pointed to the potential that broadband provides for cutting-edge science, technology, engineering, and mathematics education; customized learning; better assessments and analytical tools that can help parents track their child's progress; and increased opportunity for collaborative distance learning.¹⁹

The E-rate program has accomplished much, but there is much work to be done to bring big broadband to all U.S. schools.

To achieve these ends, the FCC established performance goals adequate to support the broadband mission. For schools, the FCC "set a high-speed broadband Internet access target of at least 100 Mbps per 1,000 students and staff in the short term and 1 Gbps per 1,000 users in the longer term."²⁰ Fiber networks are often essential for enabling schools to cost-effectively scale their speeds to meet the demands of learners and achieve the Commission's speed goals.²¹

Of course, it will often be possible for schools to meet these goals through on-going service plans provided by local, commercial providers. But that is not always the case, which is why the FCC emphasized the importance of giving schools the option to construct fiber facilities. As the FCC said, schools should have the opportunity "to self-construct and operate connections to their school and library buildings," while incentivizing "federal-state cooperation in deploying broadband infrastructure to schools and libraries in hard-to-connect areas."²² In simple terms, special construction allows a school or library to pay for the provisioning of a fiber connection as a cost-effective means of obtaining broadband access. Special construction can include, for example, paying a service provider to install the equipment needed to "light" dark fiber, or it can include the cost of the actual deployment of fiber to a location fiber did not previously

reach. Where there is no broadband provider offering service, special construction may be necessary if a school or library is to have any broadband at all; where broadband service does exist, special construction may nonetheless prove to be the most cost-effective solution.

To effectuate special construction, the FCC adopted administrative and rule changes²³ and provided up to an additional 10% in support “to match state funding for special construction charges for last-mile facilities to support high-speed broadband, with special consideration for Tribal schools.”²⁴ As the FCC itself has said, “allowing E-rate applicants to own all or portions of their own networks can help deliver the most cost-effective broadband services and provide financial stability for certain E-rate recipients.”²⁵

With the FCC’s support, much has been accomplished. Indeed, more than 35 million students have gained access to high-speed broadband in their schools just since 2013.²⁶ EducationSuperHighway has calculated that ninety-eight percent of public schools now meet the FCC’s interim goal of 100 kbps per student for internet access.²⁷

And yet over 1,300 schools, with 2.3 million students,²⁸ still need access to the fiber-optic cables that deliver today’s broadband capacity, speed, and performance. And there is still much work to be done to achieve the FCC’s ultimate goal of 1 Gbps per 1,000 students (or 1 Mbps per student). As of 2018, only 28% of school districts have achieved this goal,²⁹ even though the federal E-rate budget is sufficient to get that job done. As EducationSuperHighway has explained, the interim FCC goal is simply a starting point:

Once digital learning enters a school, bandwidth demand continues to rise. Students and teachers find more ways to enhance the learning experience with technology, and other teachers begin using it in their classrooms. Ultimately, digital learning becomes fully integrated into teaching and learning throughout the school as teachers leverage technology in every classroom, every day.³⁰

II. The Disproportionate Impact of Special Construction Review

Despite the FCC’s orders, the special construction projects necessary for provisioning or building these fiber networks, and enabling schools to achieve the FCC’s established short-term and long-term speed goals, seem to be treated differently than other applications by the Universal Service Administrative Company (USAC). In the 2018 funding cycle, out of \$430 million in K-12 special construction fiber requests, exactly zero were approved by the FCC’s own deadline of September 1, 2018.³¹ By contrast, in funding year 2018, the FCC had, by September 1, 2018, approved \$17.4 million in voice telephone lines – only capable of dial-up speed internet access.³² Using voice lines for internet access is not only likely the least cost-effective option on a price-per-bit basis, but because of its limited usefulness, the Commission has already decided to phase out support for traditional voice lines in favor of more cost-effective options like fiber. Despite these delays, more special construction projects from the 2018 funding cycle have been approved than in previous years, reflecting progress on the issue. According to Education SuperHighway’s analysis – between September 1, 2018 and February 12, 2019 – 265 of the 368 fiber projects (or about 72%) from across 37 states received positive funding decisions totaling \$240 million,³³ and only 17 (5%) were denied, a substantially lower rate than in 2016 and 2017.³⁴ That is movement in the right direction. Yet there are, by this analysis, still 23 pending projects (6%), and 64 project applications (17%) have been withdrawn, often due to the excessive burdens resulting from the questionnaires.

The failure to move forward effectively in processing fiber applications disproportionately impacts rural communities, which generated 55% of the 2018 special construction applications.³⁵ Moreover, delaying fiber upgrades and requiring schools anywhere in the nation to continue to rely upon outdated and less cost-effective technologies (on a per megabit basis) or forcing them to adopt less cost-effective, non-scalable approaches will mean that schools end up paying more. For example, schools may be forced to aggregate commercial T1 connections in circumstances where those services are the more expensive option.

A sobering example comes from the Corporation for Education Network Initiatives in California (CENIC), which administers E-rate funding on behalf of K-12 schools throughout the state.³⁶ In 2015, CENIC began a competitive process to select a broadband provider for four of its schools. It considered bids from six providers, and chose the least expensive over five years, which proved to be special construction:³⁷

SITE	BANDWIDTH	NO. OF BIDS RECEIVED	TIME WARNER CABLE	AT&T	CYBERNET	CALIFORNIA EDISON	WILCON	ZAYO
			TOTAL FIVE YEAR COST	TOTAL FIVE YEAR COST	TOTAL FIVE YEAR COST	TOTAL FIVE YEAR COST	TOTAL FIVE YEAR COST	
GOALS Academy	1 Gbps	5	\$ 69,852.42	\$144,969.60	\$272,300.00	No Bid	\$157,500.00	\$479,617.12
Lynwood Unified	1 Gbps	4	\$ 86,991.00	\$144,969.60	\$272,300.00	\$278,611.89	No Bid	No Bid
Vista High School	1 Gbps	5	\$ 81,218.00	\$144,969.60	\$272,300.00	\$414,656.42	No Bid	\$345,630.84
Will Rogers Elementary	1 Gbps	5	\$106,640.00	\$144,969.60	\$272,300.00	\$450,595.42	No Bid	\$344,272.52

Notably, AT&T’s bid (the second lowest of the bids per school) was about 2.7 times higher than Time Warner’s winning special construction bid. In other words, as CENIC explained to USAC, “the competitive bidding process did what it was intended to do: it facilitated the most cost-effective service for E-rate eligible schools.”³⁸

The harm to students is obvious, but it is also exacerbated because delay threatens schools' access to state matching funds, which were expressly endorsed in the FCC's *Second Modernization Order*.³⁹ Twenty-three states provide such funding for special construction projects,⁴⁰ but USAC delay is threatening the use of those funds. For example, Texas Governor Greg Abbot in 2018 requested review of special construction projects in a "quick and timely manner" because "the \$25 million Texas state matching funds **will expire on August 31, 2019.**"⁴¹ Similarly, the State of Illinois emphasized the danger of USAC delay to the execution of special construction projects.⁴² And the then-Governor of New Mexico, Susana Martinez, accused USAC of "failing to reimburse our state public schools in a timely manner."⁴³

The difficulties appear to arise from the manner in which USAC is running the E-rate program, one of the universal-service efforts that it oversees.⁴⁴ In executing its limited duties, USAC is expressly instructed not to "make policy, interpret unclear provisions of the statute or rules, or interpret the intent of Congress."⁴⁵ Indeed, the prohibition on USAC policymaking is so strict that it is not even permitted to interpret the FCC's governing legal authority. Rather, "[w]here the Act or the Commission's rules are unclear, or do not address a particular situation, [USAC] shall seek guidance from the Commission."⁴⁶ What USAC is supposed to do is this: administer the E-rate application process in a manner that is "fast, simple and efficient."⁴⁷

Nonetheless, and without public acknowledgement, USAC has implemented significant policy changes to the administration of the E-rate program. These actions are beyond USAC's authority and, independently, inconsistent with the purpose of the E-rate program because those actions unfairly and unnecessarily burden the ability of school districts to gain access to funds to which those school districts are properly

entitled. According to EducationSuperHighway, the impact has been nationwide, affecting 32 states, stalling \$108 million in investments, and unfairly denying or delaying 90 projects that impacted more than 750,000 students as of January 2018.⁴⁸

Speed up special construction review process

Use of undisclosed criteria focused on special construction applications looks to be the creation of policy, not the application of established standards. It is not simple, timely or efficient for USAC to take 245

days to process a typical fiber application⁴⁹ nor does it meet USAC's mandate to force almost 20% of applicants to reapply after experiencing a delay in processing or after having their applications denied.⁵⁰ The program's principles and goals cannot be effectively carried out in the absence of clear, timely, and effective management of the program. It is time for the FCC to step in and instruct USAC how to run a sound and timely review process. The FCC must ensure that school districts whose children need access to fiber are not unfairly prevented from using fiber.

Separately, and discussed in Section VI, the FCC faces an important issue that must be addressed in a current Notice of Proposed Rulemaking ("NPRM"). In 2014's *Second Modernization Order*, the FCC revoked a pre-existing policy that requires amortization of significant upfront costs; these upfront costs can easily arise when new fiber connections are deployed. But the FCC's decision to allow for the reimbursement of upfront costs expired, requiring the FCC to recently grant a temporary waiver of the requirement for this funding year while it engages in a rulemaking proceeding to decide the policy's ultimate fate.⁵¹ If the FCC decides to reinstate the requirement, schools would be forced back into a process that the FCC itself has found to be unjustified. The FCC has taken the right initial step; now it should permanently eliminate the amortization requirement.

III. Denial and Delay of Fiber Applications Based on an Undisclosed Cost Model

Governing E-rate regulations require that schools and libraries select the most cost-effective service provider that submits a bid, but the regulations fail to define the term “cost-effective.”⁵² The FCC has simply said that “[i]n determining which service offering is the most cost-effective, entities may consider relevant factors other than the pre-discount prices submitted by providers but price should be the primary factor considered.”⁵³

Earlier in the program’s administration, there was a presumption that whichever service applicants chose was cost effective. The reasoning held that because the applicant was matching the investment with its own dollars, it had every incentive to select the most cost-effective bid. That was and remains good reasoning. As the Schools, Health & Libraries Broadband (SHLB) Coalition has explained to USAC, “In cases where the applicant has conducted a valid competitive bidding process, USAC and the Commission should — as they do with other eligible services — defer to the cost-effectiveness analysis of the school.”⁵⁴ And as the FCC itself explained in the *Second Modernization Order*, “because applicants are responsible for paying the non-discounted portion of the services they purchase, we expect that this requirement will deter some applicants from undertaking expensive construction projects,” and in the case of special construction projects taking advantage of a state-matching program, “the state itself will have an incentive to spend its funds wisely.”⁵⁵

But now, rather than allowing the marketplace to define the best price and thus most cost-effective option, USAC appears to be employing undisclosed metrics and measurements to decide (entirely or as a critical part of its process) which bids are cost effective, and presumably to determine when the use of price, as the primary factor, is outweighed by other legitimate factors. This lack of transparency has resulted in disproportionate denial rates of applicants seeking special construction. And, as a result of these delays and denials, schools are often left paying for their legacy, expensive, and no-longer-cost-effective DSL, cable modem, and T1 lines as compared to the high-performance, scalable fiber connections endorsed by the FCC in the modernization orders.

It is no answer to assert that USAC must independently assess the cost-effectiveness of each and every application. Of course, applicants are required “to select the most-cost effective service offering,”⁵⁶ and USAC can play a role in assuring cost-effectiveness.⁵⁷ But nothing in the FCC’s orders authorize USAC to administer its duties through a hidden process, based on non-transparent criteria, issuing orders that fail to reveal the factual bases for USAC’s conclusions. This is a recipe for arbitrary outcomes.

Moreover, the FCC has made plain, and USAC must respect, the conclusion that “the competitive bidding process ... is the E-rate program’s primary tool for ensuring schools and libraries select the most cost-effective option.”⁵⁸ Indeed, the FCC has emphasized that it maximized the “cost-effectiveness of E-rate supported purchases” by, *inter alia*, “increasing competitive options, and thus lowering prices, for schools and libraries to meet their connectivity needs.”⁵⁹ And the FCC has expressly explained to USAC that “[w]e expect that we can generally rely on local and/or state procurement processes that include a competitive bid requirement as a means to ensure compliance with our competitive bid requirements.”⁶⁰ But with its current practices, USAC fails to respect competitive processes, too often relying on undisclosed analysis to second guess the market’s lowest bid. USAC simply is not permitted to do this.

Indeed, USAC could play an important role in helping schools navigate its administrative process. The FCC has specifically ordered USAC to participate in the work “to develop reference prices or other guidelines for E-rate supported purchases that could provide guidance...to applicants about prices that are likely to be considered cost-effective.”⁶¹ That guidance would eliminate the guessing game and provide applicants with a basis to challenge USAC’s cost analysis if it seems out of line with local economic and competitive realities.

USAC has yet to fulfill its part in implementing this explicit FCC mandate, perhaps in fear that too much guidance would allow “gaming” of the system. But that reasoning would be curious, at best, given the FCC’s use of transparent cost models in other settings.⁶²

Consider how the E-rate application process proceeds. In seeking funding to construct fiber or use dark fiber, each applicant is required to file FCC Form 470, which seeks bids and information necessary to select a cost-effective approach, and then FCC Form 471, which asks for E-rate funding at the conclusion of the competitive process. USAC reviews the completed Form 471 and either poses questions (including through a questionnaire discussed below) or provides a response that, in requests for support of fiber construction, have been disproportionately negative and inconsistent.⁶³

In fact, in roughly 13% of all denied fiber projects (and 3% of all special construction projects) at issue in 2016-17,⁶⁴ USAC asserts that a request failed to reflect some calculation of reasonable costs. For example,

Undisclosed metrics and measurements

USAC told schools that “[t]he special construction charges you requested were determined to be outside of the excepted [sic] range of construction costs”⁶⁵ or that “[t]he special construction charges related to this [Funding Request Number] have been deemed as outside of the expected industry range of special construction charges.”⁶⁶

These are comparative judgments. But to what are the schools’ calculations of special construction costs being compared? It appears that USAC is using a cost model created, and suited, for a very different purpose. The FCC uses a forward-looking cost model (Connect America Fund or CAF2 cost model) to estimate the support necessary to serve rural areas when it funds build-out to rural residences.⁶⁷ But use of the CAF2 model (or any other undisclosed model or methodology) to assess E-rate applications spawns a series of errors.

First, and as indicated by these concerns, the use of any cost model or similar methodology is improper without a public, administrative process to decide its usefulness. Schools have had no prior ability to assess, question, challenge, or even affirm the structure of the model and any inputs that are used, in marked contrast to the open process that the FCC used to assess whether the CAF cost model should be used to guide negotiations with incumbent carriers in rural areas.⁶⁸ Nor does USAC even reveal publicly the existence of the cost-evaluation methodology it is using to justify its terse conclusions.

Fair process requires USAC to “give interested persons an opportunity to participate...through submission of written data, views, or arguments.”⁶⁹ Notably, USAC has issued “Administrative Procedures” for the E-rate program, but that guidance conspicuously fails to provide any insight into the procedures USAC uses to assess the validity of prices established through a competitive-bidding process. Nor does it even publicly acknowledge the use of a cost model or other mechanism to make such decisions⁷⁰ – an omission that furthers the conclusion that USAC is intentionally employing undisclosed criteria in a manner that is impermissible and beyond the scope of USAC’s authority.

The need for process is heightened because the use of this cost model to review E-rate applications is significantly different from its use in the CAF context. After all, a carrier is free to decline the CAF

support that is generated by the CAF2 model's estimate; in other words, the CAF2 model was designed to generate an offer that might be accepted or declined based on an "estimate" of the necessary support. If a carrier declines, the model is not used; the FCC turns to competitive bidding.⁷¹

But, of course, the process of funding construction to schools is very different. To the extent that USAC uses the cost model to judge the cost-effectiveness of an application, compliance with the model has become mandatory for any school district that seeks needed E-rate special construction funding. And USAC denials are not part of any negotiation process, do not lead to an alternative market-based approach, and are being applied to non-profit school districts that, by in large, are not experts on the deployment of broadband networks. But USAC has failed to establish that the CAF2 cost model has the requisite degree of accuracy to be applied in this very different context.⁷²

Particularly disturbing is USAC's suggestion that an applicant is outside an acceptable "range" of costs. But what is that range? Even if it is a range that spans costs on both sides of an estimate, how is the breadth of the range calculated? On what basis has USAC concluded that its estimate is reliable enough to support overturning the result of a competitive bidding process?⁷³

Second, the CAF model is constructed to assess the cost of an "economically efficient network [that] would cover all or most locations in a given service territory, rather than only serving a small subset of locations that lack broadband."⁷⁴ But residential construction has very different characteristics than the construction of basically point-to-point school networks. Under the E-rate program, the eligibility of funding focuses on the "costs necessary to get the fiber to the school."⁷⁵ For example, common costs amortized over a host of residential locations may produce economies of scale that are not present in E-rate construction. In 2013, the FCC provided a Connect America Cost Model Overview emphasizing that network facilities must pass every location and that in deploying neighborhood connections a critical outcome is to determine – for every block or street segment – the precise location of neighborhood pedestals.⁷⁶ USAC has not explained how the analysis of that kind of network topology applies to the different goals of an essentially point-to-point school network or how a cost model used to estimate the costs of a residential network can account for the distinct circumstances of school construction. Moreover, CAF-supported networks are required merely to deliver download speeds of 10 Mbps, much less than the long-term goal of 1 Gbps per 1,000 students established by the FCC, which is a critical difference in network construction and deployment.⁷⁷

Third, USAC's approach to scrutinizing costs appears to be one-sided. When a school applies for funding of on-going subscription costs, which are charged much in the manner of a monthly bill sent to a consumer for residential broadband, USAC does not appear to apply any cost model to review the application, even if special construction costs are included within the monthly charges. But USAC does single out applications that seek upfront funding for special construction. The inevitable effect of USAC's selective approach is to drive school districts toward less-cost-effective alternatives – a result entirely at odds with the purposes of the E-rate program. Indeed, the CENIC analysis described above is a real-life example: the next lowest bid was about 2.7 times the total five-year cost of a special construction bid.⁷⁸ Moreover, the state matching grant programs that are in effect apply only to the special construction applications, not those based on on-going subscriptions, which means that those state funds are sacrificed when special construction is singled out for disparate treatment. In instances featuring costs that are otherwise comparable between on-going subscription projects and special projects eligible for state grants, this approach not only blocks the less costly option, it also frustrates the states' preferences toward developing longer-term infrastructure to support their schools. The combined effect is to drive schools away from less-expensive alternatives.

IV. USAC's Inappropriate Use of An Unapproved Questionnaire

While an application is pending, USAC operates a compliance review process, known as Program Integrity Assurance (PIA), to review Forms 471 in advance of making funding commitments.⁷⁹ As part of its PIA process, USAC seeks information in order “to review applications for compliance with program rules and policies.”⁸⁰

But USAC has required special construction applicants to complete a novel, detailed, unrealistic, and unauthorized questionnaire. Appendix A to this memorandum contains the text of three forms of the questionnaire sent to multiple applicants.

CENIC's experience is telling. Ten months after the award of its contract to Time Warner, USAC “began to issue very detailed and specific questions to the Applicant regarding the component costs of the lit fiber special construction.”⁸¹ Among the inquiries USAC directed to CENIC were instructions to provide:

- “details of the fiber route(s) being constructed and the cost breakdown of the Network Equipment and Labor,”
- “a detailed Map and a Network Diagram of the fiber route being constructed,”
- “the average cost of the Fiber Material per foot,”
- “the average cost of the Fiber Placement per foot,”
- “the average cost of the Structure Placement per foot,” and
- “the average cost of the Structure Material per foot.”⁸²

As CENIC explained to USAC, “[t]hese questions had never been experienced before by the applicant or service provider communities, and had never been addressed by USAC in training or other outreach vehicles.”⁸³ And, not surprisingly, they were not answered to USAC's satisfaction. Twenty-two months after the award of contract, USAC simply said, without any further explanation, that “[d]ocumentation was not provided to determine the eligibility of the special construction charges.”⁸⁴ But that terse explanation fails to explain either why the inquiries were justified or, just as importantly, why CENIC's answers were found lacking.

USAC is not simply using a questionnaire; it appears to be using a questionnaire to apply new criteria that have not been subject to public comment or any governmental approval. For example, the focus in the questions above on whether alternative routes had been explored attacks the purpose of the competitive bidding process, which is to seek the best outcome. It would be one thing for USAC to ensure that a competitive process was actually implemented; it is entirely another thing for USAC to review *ab initio* the outcome of competitive processes on the basis of undisclosed criteria, while it gathers information in a manner that appears overly burdensome and unnecessary. The manner in which USAC is questioning competitive outcomes is an unjustified burden, not a benefit, to the E-rate program.

The dilemma faced by CENIC is not an isolated example. The SHLB Coalition has told USAC that “[t]he lack of clarity about the reasons for denial create an impression that decisions are being made on an *ad hoc* basis, or that the reviewers are using criteria for evaluating applications that are not made available to

applicants beforehand.”⁸⁵ For example, USAC questions the allocation of costs between used and un-used strands of fiber on a basis that is confusing and unclear.⁸⁶

In addition, USAC insists that broadband providers submit proprietary information that is not needed for its review. A good – if sobering – example concerns a school in Woodman, Montana, that was working with its local provider, CenturyLink. When confronted with a series of detailed, technical questions that the school district was unable to answer, the school turned to its provider for the answers. CenturyLink explained that the information USAC sought was both inapplicable and “effectively unanswerable.”⁸⁷ As Governor Bullock of Montana explained to USAC, the “questionnaire asks for excessive information that is difficult for companies and small school districts to deliver to the FCC.”⁸⁸ Schools in Arizona, Massachusetts, Minnesota, Missouri, Montana, New Jersey, New Mexico, and Texas have similarly found themselves caught in this maze.⁸⁹

Of course, federal agencies need information, but Congress passed the Paperwork Reduction Act (PRA) to establish standards under which agencies are permitted to gather that information. The PRA applies to any “collection of information,” which includes “answers to identical questions posed to, or identical reporting or recordkeeping requirements imposed on, ten or more persons, other than agencies, instrumentalities, or employees of the United States.”⁹⁰ The PRA bars an agency from collecting such information unless the agency has followed the prescribed public process for seeking approval from the Office of Management and Budget (OMB) after interested parties have had the opportunity to comment; a process that, as explained below, has been followed in connection with universal-service programs administered by USAC.⁹¹ The PRA applies to applications and other techniques “used to monitor compliance with agency requirements,”⁹² which fully describes USAC’s PIA process.

A novel, detailed, unrealistic, and unauthorized questionnaire

An important part of the PRA process is the requirement that an agency provides public notice and seeks comment on its proposed questions.⁹³ One purpose is to ensure that the information collected is necessary to the administration of the corresponding agency program. In addition, the

law also recognizes that confusing or impractical (or impossible) questions do not further the effective administration of administrative programs like E-rate.

To accomplish its purpose, the PRA imposes procedural requirements on information collections. Section 2506(a) requires consideration of the “practical utility” of the proposed collection.⁹⁴ Section 3507 covers the procedure required prior to information collection, including that an agency must conduct an internal review of the desired information as well as provide public notice and gather public comment on the proposed information collection.⁹⁵ USAC’s actions are covered by the PRA because it acts only as an agent of the FCC;⁹⁶ any contrary contention would be flatly inconsistent with the FCC’s consistent practice of seeking OMB approvals for information collections that pertain to USAC’s activities, such as with Form 470 itself.⁹⁷

USAC’s use of this questionnaire thus implicates at least two independent legal requirements.

First, without regard to the PRA, USAC lacks authority to make substantive changes in the standards for approval of E-rate applications. As noted above, USAC is expressly prohibited from making “policy;” rather it has been instructed to “seek guidance from the Commission” where any governing legal authority is unclear. The decision as to what information is relevant to a legal determination is clearly a

policy decision. But in USAC's hands the questionnaire seems to engender unexplained and/or arbitrary outcomes. As CENIC has explained, "[w]hat is especially egregious in this case is the complete lack of transparency as to the purpose of these 'new' types of inquiries."⁹⁸

Second, the available information suggests that the use of this questionnaire violates the PRA.⁹⁹ Its use implicates each of the PRA's concerns, including the burden on parties created by the obligation to provide information, the question as to whether benefits are gained from the information collection, and the separate issue of whether the quality of governmental decision-making would be improved by the sought-after information.¹⁰⁰ In other words, the collection of information must be necessary to the administration of the corresponding agency program. But there has been no discussion and, as far as the public record demonstrates, no decision as to whether the questionnaire and its contents are, in fact, necessary to USAC's review of E-rate applications.

The requirements of the PRA are not new to either the FCC or USAC. The FCC regularly submits its public information collection requests to OMB for approval; over 400 have been approved or are pending.¹⁰¹ The FCC acknowledges OMB submission and approval as a requirement for new collections,¹⁰² and publishes lists of approved and pending information collections on its website.¹⁰³

Indeed, USAC could not operate without PRA approvals. Consider, for example, the historic treatment of Form 470, which schools use to initiate an E-rate application and that must be filed before initiation of a competitive bidding process. That form has been approved by OMB¹⁰⁴ and the FCC has sought renewed approval.¹⁰⁵ Similarly, USAC has sought OMB review for the form USAC uses to solicit business-process outsourcing services to be provided to the E-rate program, as it has a variety of other USAC forms.¹⁰⁶ In addition, USAC knows that the PRA governs the form under which subscribers must annually certify their eligibility for Lifeline, information that is "used by USAC to verify the applicant's continued eligibility for Lifeline services,"¹⁰⁷ much as the new questionnaire is used to verify a school's eligibility to receive E-rate support for its proposed project.¹⁰⁸

There is more. As the FCC explained forthrightly in the notice seeking public comment as part of the OMB approval process:

The Commission may not conduct or sponsor a collection of information unless it displays a currently valid Office of Management and Budget (OMB) control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the PRA that does not display a valid OMB control number.¹⁰⁹

But the questionnaire now being used by USAC does not appear to bear a valid OMB control number, and yet it is being used to deprive applicants of the ability to obtain E-rate funding "for failing to comply" with its directions. The absence of OMB approval appears to provide any E-rate applicant with a complete, statutory defense to any agency action.¹¹⁰

All of these problems could have been avoided had USAC followed the needed, fair, public process to determine whether the new questionnaire should be used. Schools and broadband providers could have commented on the practicality and burden of the information request. USAC could have better determined the need for specific categories of information. And, as beneficiaries of a more efficient process, schools would now be using the better broadband connections their students need.

V. The Uncertainty of the Cardinal Change Rule

Applicants for E-rate discounts must adhere to competitive bidding requirements that include submitting FCC Form 470 to initiate the competitive bidding process. USAC has informed applicants that if an applicant makes one or more significant (so-called “cardinal”) changes that are outside the scope of the original bid, it should file a new FCC Form 470, which starts the application process anew.¹¹¹ USAC has told applicants that “[a] cardinal change is a change that is outside of the scope of your original project, and is significant enough that bids submitted in response to your original submission would not adequately address the change in scope.”¹¹² Outside of the E-rate context, USAC has said that “[i]n assessing whether a change is considered to be minor or a cardinal change, USAC takes into consideration the extent of changes in the type of work, performance period, and cost terms as a result of the modification.”¹¹³

The consequences of non-compliance are stark. Submitting a new form means restarting the 28-day clock that must expire before an applicant can choose a service provider and contract for services. Failing to submit a new form after a cardinal change can mean denial.

The difficulty faced by schools is that USAC has provided no guidance to help applicants understand what kinds of changes are “cardinal,” and it is difficult, perhaps even impossible, for an applicant to therefore conform its conduct to USAC’s view in advance of a denial. Indeed, the newly-issued

Administrative Processes that govern administration of the E-rate program fail even to note the cardinal change requirement, much less explain it.¹¹⁴

Define cardinal change rule

So, for example, in 2016, USAC required the DeSoto County School District in Florida to restart its special construction application, which sought E-rate support to build a fiber link from a local provider’s end office to an early childhood center and to an elementary school. As EducationSuperHighway has determined, DeSoto County had listed only the end office on its submitted request for proposals, but then, at the local provider’s request, updated the pricing sheet to include the addresses of the early childhood center and elementary school, which had already been included in the application. USAC denied the application, claiming the existence of a “cardinal” change even though the very same information had been included in the application. (It is difficult to imagine that bidders could have been confused about the locations of the school district buildings to be served.)¹¹⁵

USAC is on notice of the problem, but has failed to fix it. For example, in 2018 EducationSuperHighway suggested that USAC simply publish all previous examples of what USAC has previously considered to be a cardinal change. That would not be as helpful as forward-looking guidance, but it would, at least, allow applicants to avoid crossing lines that USAC has (rightly or wrongly) already drawn. As of now, USAC has not responded to that suggestion.

VI. Amortization: An Old Problem Should Be Permanently Resolved

In its *Second Modernization Order*, the FCC determined (contrary to pre-existing practice) to permit schools (and libraries) to seek funding for the upfront costs of special construction in the first year of E-rate funding, rather than being forced to amortize those one-time costs over a period of years.¹¹⁶ Unlike the payment of monthly or annual subscription costs to a broadband provider, special construction projects will often include initial, one-time costs whose value is spread over a number of years, such as installing equipment to “light” dark fiber or paying for the actual deployment of new fiber.

As the FCC explained, payment of cost-effective, upfront costs can reduce the total cost of deployment (by eliminating financing costs) while providing a more certain path for reimbursement, which incentivizes schools and libraries to launch special construction projects.¹¹⁷

But, with an eye towards the possibility that reimbursement of upfront costs would strain the E-rate program’s financial resources, the FCC put this policy in effect only through funding year 2018.¹¹⁸ The policy expired, but education and library communities highlighted the confusion and problems likely to occur as a result of this lapse. The FCC recently granted a temporary waiver of the requirement two weeks into the 2019 funding application cycle.¹¹⁹ Now, the FCC should permanently eliminate the requirement that schools and libraries amortize over three years upfront, non-recurring charges of \$500,000 or more. “[A]t least 40% of the K-12 public schools that require fiber construction will need builds in excess of \$500,000.”¹²⁰

Eliminate the amortization requirement

Without permanent resolution of this issue, the ability of schools and libraries to initiate special construction projects will be threatened in future years, and USAC will be forced to administer an amortization policy that the FCC has already concluded was based on unfounded concerns.¹²¹ In the recent NPRM and temporary waiver, the FCC explained that the upfront costs without amortization would not have drained the fund over the past four years, with projects that would have faced the amortization requirement comprising less than 5% of all E-rate funding commitments between funding years 2015 and 2017.¹²² Recent experience supports that conclusion: “E-rate applicants have entered into numerous special construction projects in the past four years and funding the one-time upfront costs did not put a strain on the fund. Indeed, overall E-rate demand last year was less than it was in 2014.”¹²³ Since the *Second Modernization Order*, “requests for E-rate funds have been lower than the program cap every year.”¹²⁴

By contrast, a return to the requirement that upfront or non-recurring costs above \$500,000 be amortized would threaten cost-effective special construction efforts like the ones that are underway or being planned in states that include Arizona, California, Colorado, Illinois, Nevada, North Carolina, and Texas (where at least ten projects are under consideration).¹²⁵ If required to comply with a new requirement of amortization in the future, schools and libraries will face: (i) greater costs, such as the cost of financing recognized in the *Second Modernization Order*; (ii) the risk that approval in year one of a project will not be followed by approval in the following years, which could discourage schools, libraries and broadband providers from launching a multi-year project, and (iii) the potential loss of state-matching funds.

The FCC should eliminate the amortization requirement.

VII. Conclusion

The FCC's expansion of options for the construction and purchase of affordable high-speed broadband connectivity¹²⁶ and development of a state-matching fund to incentivize special construction in the *Second Modernization Order* are important policies that have, and will, help schools and libraries. But USAC appears now to be administering the E-rate program in a manner that fails to advance those policies.

The FCC needs to step in. Case-by-case review will not confront the systemic errors in USAC processes soon enough or comprehensively enough. The FCC should instruct USAC on how it must now comply with the law and how it must employ processes that fairly evaluate special construction, and all other, E-rate applications. Accordingly, the FCC should tell USAC to:

- Disclose the basis for its cost-effectiveness reviews, including any economic models that are used as any part of the process of review,
- Set forth in any order finding that the cost-effectiveness standard has not been met the precise and specific bases for its conclusion,
- Suspend the use of any or all questionnaires to delay or deny E-rate applications until the substance of those questionnaires has been subject to a public notice-and-comment process including the process of the Paperwork Reduction Act to the extent that it applies. USAC should also be instructed that the suspension of such questionnaires must not be allowed itself to cause delay in the review of E-rate applications.
- Immediately publish all examples of what USAC has previously considered to be a cardinal change.

And, at the same time, it is critical that the FCC make permanent the wise policy adopted in the *Second Modernization Order* of allowing reimbursement of cost-effective upfront and recurring costs.

Appendix A

Fiber Special Construction Charges

Issue

USAC's Program integrity Assurance (PIA) team is currently reviewing your FCC form 471 Application and we have identified an issue that we need you to help us resolve.

What is the issue?

On your form, FRIN XXXXXXXXXXXX is requesting charges associated with the special construction of leased lit fiber, leased dark fiber, or a self-provisioned network. Special construction charges must be cost effective and reasonable to be considered eligible for funding. In order to determine the reasonableness of this request, we have additional questions. (For Reference, please read USAC's information at <http://usac.org/si/applications/step01/requirements-for-fiber-asp>).

Read all of the questions, descriptions, and requests below. Please give enough detail, insight, and clarity to help the reviewers fully understand your specific situation.

Check the boxes for statements that apply, and where applicable, type the information requested into the text boxes. If your information is too detailed for the text box, or if you need to provide additional documentation, click "Browse" to upload relevant files or documentation.

Questions

Please answer the following questions, check all options that apply and/or provided the documentation requested.

1. Did you explore any alternative routes for the fiber build requested in the FSN reference above?
Note: You may consult your service provider if you need assistance with answering this question. If yes, please provide the cost estimates and route specifics for these alternative routes explored.
If no alternatives were explored, please explain how the chosen route was identified as the most cost-effective route.
2. Please identify and explain in detail the most expensive items on the construction invoice/bill of materials.

For example, if labor is the most expensive line item provide details such as:
-the size of the labor crew
-the number of hours of estimated work
-was there a minimum number of hours for which the crew had to be hired that exceeded the labor hours required for the build.
3. Were there unique construction issues (e.g., a directional bore requirement because of rocky soil or a surface that could not be plowed; expensive make ready for pole attachments, bridge crossings, waterway crossings, railroad crossings, historic preservation issues or environmental issues) that caused the cost per foot to be inflated? If so, please provide a detailed explanation of these issues.

Fiber Special Construction Cost Per Foot Details

Issue

USAC's Program integrity Assurance (PIA) team is currently reviewing your FCC form 471 Application and we have identified an issue that we need you to help us resolve.

What is the issue?

On your form, FRIN XXXXXXXXXXXX is requesting charges associated with the special construction of leased lit fiber, leased dark fiber, or a self-provisioned network. Special construction charges must be cost effective and reasonable to be considered eligible for funding. In order to determine the reasonableness of this request, we have additional questions. (For Reference, please read USAC's information at <http://usac.org/si/applications/step01/requirements-for-fiber-asp>).

Read all of the questions, descriptions, and requests below. Please give enough detail, insight, and clarity to help the reviewers fully understand your specific situation.

Check the boxes for statements that apply, and where applicable, type the information requested into the text boxes. If your information is too detailed for the text box, or if you need to provide additional documentation, click "Browse" to upload relevant files or documentation.

Questions

Please answer the following questions, check all options that apply and/or provided the documentation requested.

1. Were the values provided on the FRIN for route fees and costs per foot correct?

Route feet: 54001

Cost per foot: \$4.43

Please note: the route feet and cost per foot provided should only include new fiber build. It should not include the distance or cost of any existing infrastructure.

- a. If no, please provide the revised value for route fee and cost per foot and an explanation of why the incorrect value was entered on the FCC form 471.

Proceed to question 2.

Please note: the remaining questions should be answered based on the revised values provided here.

2. Please provide the details of the fiber route(s) being constructed and the cost breakdown of the network equipment and labor in the format shown in the attached document.

Please note: The total cost per foot for all 3 types of plant mix fiber installation (aerial, buried which is direct bury of the fiber with no conduit placement, underground which is buried in conduit should equal the overall average cost per foot you indicated on your FCC Form 471 or in question 1 a.

Sample document: San Elizario Indep School District

3. Please provide a .kmz or .json map file of the route being constructed. If you do not have a copy of this file, please contact your service provider.

Note: When your selected service provider decided to submit a bid for your requested services, they probably mapped out the route they are suggesting to be constructed on one of the mapping websites such as google maps, map quest, etc. That mapped out route should be available in either a .kmz or .json file. Please request this file from your service provider and upload it here.

4. If not previously submitted please provide vendor document which supports the funding request amount of \$XXXXXX.XX.

Note: Any vendor documentation (e.g. contracts, vendor quotes, vendor bills, invoices, etc.) provided should clearly identify any ineligible charges that were cost allocated out of your request. Also, please be sure to explain any discrepancies between the amount requested and the amount supported.

Issue

USAC's Program integrity Assurance (PIA) team is currently reviewing your FCC form 471 Application and we have identified an issue that we need you to help us resolve.

What is the issue?

FRN(s) XXXXXXXXXXXX is/are a request(s) for the type(s) of product self-provisioned Fiber (with Special Construction). Applicants that seek bids for Self-provisioned Fiber (with Special Construction) must also seek bids for Lit & Dark Fiber, and evaluate all responsive bids received to determine the most cost-effective solution. We have determined that additional information is required to evaluate the cost-effectiveness of the requested services relative to the other bids received. (For reference, please read USAC's information at <http://usac.org/si/applications/step01/requirements-for-fiber.aspx>).

Questions

1. Please provide a copy of the cost comparison documents used to determine which option is the most cost effective option over a specific period of time.
2. Please provide an explanation of how the total cost of the requested type(s) of production were compared with the equivalent type(s) of products and provide any supporting documentation that was created during the cost comparison process.
3. Did you consider cost associated with network equipment needed to light the fiber and maintenance and operation in your cost comparison.
 - a. If yes, please indicate the dollar amount you estimated for network equipment and maintenance and operation costs.
 - b. If no please explain why.
4. Please provide the specific period time over which each option was compared based on the anticipated use of assets and provide any supporting documentation that was created during the bidding process.

Endnotes

- 1 *Modernizing the E-rate Program for Schools and Libraries, Connect America Fund*, WC Docket Nos. 13-184, 10-90, Second Report and Order and Order on Reconsideration, 29 FCC Rcd 15538, 15543-44, ¶¶ 10-12, n.21 (Dec. 19, 2014)(“*Second Modernization Order*”).
- 2 EducationSuperHighway, *Delays and Denials: Stalled Fiber Projects in America’s Schools*, 2018 (“Delays and Denials”).
- 3 *Id.*
- 4 See *Id.* These specific findings were the result of EducationSuperHighway’s analysis of all denied special construction projects in the 2016 and 2017 funding years due to issues related to cost and cost effectiveness. The information relating to these denials can be found using USAC’s “FRN Status Tool.” Available at <https://data.usac.org/publicreports/FRN/Status/FundYear>
- 5 *Second Modernization Order*, 29 FCC Rcd at 15609, amending 47 C.F.R. § 54.503(1)(iii)(A).
- 6 EducationSuperHighway, “Accelerating E-rate Fiber Construction Upgrades,” 4, Jan. 2018; see also Henry Kronk, “Bridging the digital divide among schools is within reach despite FCC red tape,” Connect Americans Now (website), Oct. 5, 2018, available at <https://connectamericansnow.com/bridging-the-digital-divide-among-schools-is-within-reach-despite-fcc-red-tape/>
- 7 See *Delays and Denials*.
- 8 FCC, E-Rate Program Amortization Requirement, *Modernizing the E-Rate Program for Schools and Libraries*, WC Docket Nos. 19-2, 13-184, Notice of Proposed Rulemaking and Order, ¶ 13 (Jan. 29, 2019)(“*Amortization Temporary Waiver Order and NPRN*”).
- 9 See *Second Modernization Order*, 29 FCC Rcd at 15543-44, ¶¶ 10-12, n.17 & n.21.
- 10 *Amortization Temporary Waiver Order and NPRN*, ¶ 13.
- 11 Available at https://1drv.ms/f/s!AhW4eV2CMXljg95Jluh7HCQr7_XICw
- 12 47 U.S.C. § 254(b)(6).
- 13 47 U.S.C. § 254(h)(2). Congress established the same goal for libraries and health care facilities.
- 14 47 U.S.C. § 254(b)(6).
- 15 *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 8870, 8875, ¶ 10 (July 23, 2014)(“*First Modernization Order*”).
- 16 *Second Modernization Order*, 29 FCC Rcd at 15538, 15552 & 15555, ¶¶ 36, 43 (Dec. 19, 2014); see also *Second Modernization Order* ¶ 4 & n.10.
- 17 *Second Modernization Order*, 29 FCC Rcd at 15543-44, ¶ 12, n.21 (This “special construction (or installation) . . . include[s] costs for design and engineering, project management, digging trenches, and laying fiber”).
- 18 *First Modernization Order*, 29 FCC Rcd at 8872, ¶ 1.
- 19 *Id.* at 8872-73, ¶ 2.
- 20 *Second Modernization Order*, 29 FCC Rcd at 15539, ¶ 3. The Commission established “an Internet access target of 100 Mbps for libraries that serve fewer than 50,000 people and 1 Gbps for libraries that serve 50,000 people or more.” *Id.* Although the discussion of special construction in this white paper focuses on schools, that means of obtaining internet access is important to libraries as well. See, e.g., American Library Association, “E-rate and Universal Service,” available at <http://www.ala.org/advocacy/erate> (visited Jan. 3, 2019).
- 21 *Second Modernization Order*, 29 FCC Rcd at 15541, ¶ 5 (“Ensuring schools and libraries have affordable access to high-speed, scalable connections is a critical step in accomplishing our goals”)(citing EducationSuperHighway *First Modernization Order* Comments at 6 (“98 percent of public schools will require a fiber connection to meet the Commission’s connectivity targets”)).
- 22 *Second Modernization Order*, 29 FCC Rcd at 15543-44, ¶ 12; see *Second Modernization Order*, 29 FCC Rcd at 15552 & 15555, ¶¶ 36, 43. USAC defines “special construction” as “the deployment of new fiber or upgraded facilities to E-rate eligible entities” and explains that: “For the purposes of the E-rate program, special construction charges are the upfront, non-recurring costs of deploying new fiber or upgraded facilities to eligible entities. Special construction consists of three components:

(1) construction of network facilities; (2) design and engineering; and (3) project management.” USAC, “Fiber – Summary Overview,” available at <https://www.usac.org/sl/applicants/beforeyoubegin/fiber.aspx> (visited Jan. 3, 2018). “Applicants may seek funding for special construction charges in connection with leased lit fiber, leased dark fiber, and self-provisioned networks.” USAC, “FAQs: Eligible Fiber Services,” available at <https://www.usac.org/sl/about/faqs/faqs-fiber.aspx> (answering the question of “What is special construction?”)(visited Oct, 12, 2018).

23 E.g., *Second Modernization Order*, 29 FCC Rcd at 15546, ¶ 16 (reversing the Commission’s prior policy of requiring amortization). See Section VI infra (discussing the threat to schools and libraries if this policy is not retained for funding years 2019 and beyond).

24 *Second Modernization Order*, 29 FCC Rcd at 15541, ¶ 6.

25 Id. at 15555, ¶ 43.

26 EducationSuperHighway, “Accelerating E-rate fiber construction upgrades,” Jan. 2018, p. 2.

27 EducationSuperHighway, *2018 State of the States Report*, 24 (Oct. 2018), available at <https://s3-us-west-1.amazonaws.com/esh-sots-pdfs/2018%20State%20of%20the%20States.pdf> (visited January 2, 2019)(“*State of the States Report*”).

28 Id. at 8, 19.

29 Id. at 20.

30 Id. at 18.

31 Id. at 15.

32 John Harrington, “No Funds Yet for WAN Construction in 2018,” *Funds for Learning*, Aug. 17, 2018, available at <https://www.fundsforlearning.com/blog/2018/08/no-funds-yet-for-wan-construction-in-2018>; see also Letter from Evan Marwell, EducationSuperHighway, to Ajit Pai, Chairman, Federal Communications Commission, August 30, 2018, available at <https://cde.educationsuperhighway.org/wp-content/uploads/2018/08/Letter-to-Chairman-Pai-from-EducationSuperHighway-8-30-2018.pdf>

33 EducationSuperHighway calculates that in 2016 and 2017, a total of \$80 million and \$137 million in projects were funded, respectively.

34 In 2016, 28% of special construction applications were denied (83 of 295 projects), and in 2017, 12% were denied (45 of 363 projects).

35 See Delays and Denials.

36 CENIC, *Request for Review of a Decision of the Universal Service Administrative Co. for CENIC--Corporation for Education Network Initiatives in California*, CC Docket Nos. 02-6, 13-184, Request for Review of Decision of the Universal Service Administration Company, Schools and Libraries Division by CENIC-Corporation for Education Network Initiatives in California, or in the Alternative, Request for a Waiver of the Commission’s Rules, submitted April 20, 2018, 2 (“CENIC Appeal”).

37 Id. at 3-4.

38 CENIC Appeal at 13. USAC denied funding for the application, which is discussed further below, and CENIC has appealed that decision.

39 *Second Modernization Order*, 29 FCC Rcd at 15544, 58, & 60, ¶¶ 15, 49, 56, n.107 & n.127.

40 USAC, “Additional Discount to Match State/Tribal Funding for Special Construction,” available at <https://www.usac.org/sl/applicants/beforeyoubegin/state-matching-provision.aspx> (visited Jan. 4, 2019).

41 Letter from Greg Abbott, Governor of Texas, and Mike Morath, Texas Commissioner of Education, to Catriona Ayer, Acting Vice President, Schools and Libraries Division, USAC, March 15, 2018 (emphasis in original); see Texas Educational Agency, “*Texas State Match Fund FAQ*,” available at https://tea.texas.gov/Academics/Learning_Support_and_Programs/Technology_Planning/Classroom_Connectivity/Texas_State_Match_Fund_FAQ/#question5 (visited January 2, 2019).

42 Letter from Emily Bastedo, Senior Advisor to the Governor of Illinois, to Marlene Dortch, Secretary, Federal Communications Commission, at 3 (October 31, 2018)(“Illinois Letter”).

43 Letter from Susanna Martinez, Governor of New Mexico, to Chris Henderson, CEO, USAC (October 25, 2016).

44 47 C.F.R. § 54.701(a).

45 47 CFR § 54.702(c).

46 47 CFR § 54.702(c)(emphasis added).

47 FCC, “Summary of the E-rate Modernization Order,” available at <https://www.fcc.gov/general/summary-E-rate-modernization-order> (visited January 2, 2019).

48 EducationSuperHighway, “Accelerating E-rate Fiber Construction Upgrades,” 5.

49 See supra endnote 6 and accompanying text; see also EducationSuperHighway, “DelaysAndDenials.Org” (This website was launched specifically to identify the extent of this problem and develop solutions to it).

50 See Delays and Denials.

51 *Amortization Temporary Waiver Order and NPRN*, WC Docket Nos. 19-2, 13-184, ¶ 13.

52 47 C.F.R. § 511.

53 47 C.F.R. § 54.511(a).

54 Letter from John Windhausen, Jr., Executive Director, SHLB, to Marlene Dortch, Secretary, Federal Communications Commission, at 2 (Jan. 24, 2018)(“SHLB Letter”).

55 *Second Modernization Order*, 29 FCC Rcd at 15546-47, ¶ 20 & n.38.

56 Id. at ¶ 20.

57 See e.g., id. at 15557, ¶ 48.

58 Id. at 15558, ¶ 51 (emphasis added).

59 Id. at 15569-70, ¶ 77.

60 *Request for Review by the Department of Education of the State of Tennessee of the Decision of the Universal Service Administrator*, CC Docket No. 96-45, 97-21, Order, 14 FCC Rcd 13734, 39-40, ¶ 10 (Aug. 11, 1999).

61 Id. at 15589, ¶ 127.

62 USAC has not publicly announced that it is using a cost model or other methodology to assess special construction costs, which is a substantial part of the problem, but it has not publicly disputed that notion either.

63 For example, USAC in 2016 denied four applications from Seattle’s public schools for renovated school overhead entrance facilities and related trenching on the basis that the Form 470 submission for “entrance facility fiber and trenching for new or renovated schools” was substantially different from “special construction” listed on Form 471 and was otherwise no longer supported. City of Seattle-Department of Information Technology, Special Construction Application, FRN 1699116941, 1699117514, 1699117564, and 1699125364 (2016). EducationSuperHighway has assisted another organization with a similar filing for a substantially similar project at another campus that was approved.

64 See Delays and Denials.

65 USAC Response to Chapel Hill-Carrboro City School District, NC, Application No. 161052451, Application Date May 26, 2016.; USAC Response to Atwater Elementary School District, CA, Application No. 161036163, Application Date May 20, 2016.

66 USAC Response to Hardin Independent School District, TX, Application No. 171030666, Application Date May 11, 2017; USAC Response to Maine Cons. School District 10, Application No. 171020899, Application Date March 20, 2017.

67 Connect America Fund, et. al., WC Docket N. 10-90, et. al., Report and Order, Further Notice of Proposed Rulemaking, and Order of Reconsideration (not yet printed in FCC rec), at ¶¶ 6-11 (Dec. 13, 2018)(“*A-CAM Revision & A-CAM II Order*”); Connect America Fund, WC Docket No. 10-90, Report and Order, Declaratory Ruling, Order, Memorandum Opinion and Order, Seventh Order on Reconsideration, and Further Notice of Proposed Rulemaking, Second Report and Order and Order on Reconsideration, 29 FCC Rcd 7051, 7057, ¶ 20 (April 2014).

68 See, e.g., Connect America Fund High-Cost Universal Service Support, FCC Rcd at 5304-05, ¶¶ 7-9.

69 Administrative Procedure Act, 5 U.S.C. § 553(c)(as applied to rulemakings); see Fed. Express Corp. v. Mineta, 373 F.3d 112, 120 (D.C. Cir. 2004)(examining whether interested parties to an administrative proceeding had “a meaningful opportunity to comment”)(citation omitted).

70 USAC, “Administrative Procedures - Schools & Libraries Program,” at 21-22 (Oct. 31, 2018), available at <https://ecfsapi.fcc.gov/file/1031358907488/USAC-%202018%20Procedures%20Nor%20in%20Rules%20Document.pdf> (“USAC Procedures”).

71 Connect America Fund, 29 FCC Rcd at 7057, ¶ 20.

72 Indeed, the Commission has recognized that the CAF-2 cost model may at times vary from the facts on the ground. Connect America Fund, WC Docket No. 10-90, 29 FCC Rcd 15644, 15659, ¶ 38 (Dec. 18, 2014).

73 The Commission has acknowledged circumstances in which, compared to the cost model, “[p]otential service providers that have done the appropriate due diligence are in a better position to know local conditions on the ground.” Connect America Fund, 29 FCC Rcd at 7060-61, ¶ 31 (April 2014). Yet, it is exactly that knowledge, and a school’s reliance on it, that USAC has summarily rejected.

74 Connect America Fund High-Cost Universal Service Support, WC Docket Nos. 10-90 & 05-337, Report and Order, FCC Rcd 5301, 5318-19, ¶ 40 (April 22, 2013); FCC, “Alternative Connect America Cost Model Overview,” April 1, 2015, available at <https://transition.fcc.gov/wcb/ACAM040115.pdf> (graphical representation of network topology).

75 USAC, “2015 Applicant Training – Fiber Options” at 22.

76 FCC, “Connect America Cost Model Overview” at 6-7 (Sept. 12, 2013).

77 Illinois Letter at 6. In December, 2018, the Commission in the context of rural broadband made “a new model offer to those [rate-of-return carriers] on legacy support in return for specifically tailored obligations to build out broadband networks providing speeds of 25/3 Mbps.” *A-CAM Revision & A-CAM II Order* at ¶ 3. Of course, the broadband connections needed to provide connectivity to a school full of students far exceeds that download speed. *Second Modernization Order* at ¶ 3 (“For schools, we set a high-speed broadband Internet access target of at least 100 Mbps per 1,000 students and staff in the short term and 1 Gbps per 1,000 users in the longer term, and connections scalable to 10 Gbps per 1,000 students for wide area networks (WANs) for schools”).

78 CENIC Appeal at 13.

79 USAC Glossary of Terms, https://www.usac.org/_res/documents/sl/pdf/handouts/SL-Glossary-of-Terms.pdf

80 USAC, “New Process for Receiving and Answering PIA Questions,” *Schools and Libraries Program News Brief*, April 27, 2016, available at <https://www.usac.org/sl/tools/news-briefs/preview.aspx?id=687> (visited January 4, 2019).

81 CENIC Appeal at 4.

82 *Id.* at n.9.

83 *Id.* at 5.

84 *Id.* at 7.

85 SHLB Letter at 2.

86 See “USAC 2015 Training Slides” at 22 (recognizing that special construction costs are “fully eligible” once the cost of unused strands are removed).

87 CenturyLink sent a letter to its customers regarding the USAC PIA questionnaire saying, “The questions you received, however, are inapplicable to the services you procure from CenturyLink. . . . Questions premised on dedicated facilities are effectively unanswerable and not properly directed to an applicant procuring finished services.” Letter of CenturyLink to Customers. In its appeal, CENIC has similarly objected to USAC’s requirement of proprietary information that is not needed for review. CENIC Appeal at 5-6.

88 USAC defended its treatment of this application by saying, in part, that an analysis of the “expected useful life of the facilities indicates that the most cost-effective option was not used.” Letter from Radha Sekar, CEO, USAC to Evan Marwell, EducationSuperHighway (April 4, 2018). But, again, there is no way to challenge the Delphic assertion that “the most cost-effective option was not used” without knowing how USAC purported to come to that conclusion.

89 See Delays and Denials, generally.

90 44 USC § 3501(c)(2)(“collection of information”). This white paper uses the term “questionnaire” to describe the set of questions that USAC regularly propounds to applicants but, of course, the term “collection of information” applies to identical questions that ten or more persons are required to answer whether or not formally included in a “questionnaire,” or any other of the list of “instruments” used for the collection of information, including “Application forms . . . Questionnaires . . . Planning

requirements . . . Requests for proposal or other procurement requirements . . . [and] Any other techniques or technological methods used to monitor compliance with agency requirements.” 5 CFR 1320.3(c). ESH’s analysis has concluded that the questions presented in Appendix A have been propounded to more than ten applicants.

91 44 U.S.C. § 3507.

92 U.S. Office of Personnel Management, *Paperwork Reduction Act (PRA) Guide*, Ver. 2.0, available at <https://www.opm.gov/about-us/open-government/digital-government-strategy/fitara/paperwork-reduction-act-guide.pdf> (“PRA Guide”).

93 44 U.S.C. § 3507.

94 44 U.S.C. § 2506(a).

95 44 U.S.C. § 3507.

96 47 C.F.R. § 54.702(c) (“The Administrator [of USAC] may not make policy, interpret unclear provisions of the statute or rules, or interpret the intent of Congress”); see *United States ex rel. Heath v. Wisconsin Bell, Inc.*, 111 F. Supp.3d 923, 928 (E.D. Wis. 2015) (For purposes of denying a motion to dismiss, court recognizes that “the FCC authorizes the USAC to administer the E-rate program, making it responsible for billing contributors, collecting contributions, and disbursing subsidies, 47 C.F.R. § 54.702(a)-(b), but it maintains control of it by requiring it to seek guidance on policy and interpretation questions, § 54.702(c)”).

97 See *infra* pp. 18 and accompanying footnotes.

98 CENIC Appeal at 15.

99 44 U.S.C. § 3501 et seq. To the extent that USAC believes that the PRA does not apply, it should make those views known on the public record, while also explaining what cost methodology it is using and the process by which that methodology was adopted. Even without the PRA, USAC’s actions must accord with fair process.

100 *PRA Guide* at Executive Summary (not numbered) & 20.

101 <https://www.reginfo.gov/public/do/PRAMain> (visited 10/23/18).

102 Federal Communications Commission, Paperwork Reduction Act (PRA) and FCC Information Collections, <https://www.fcc.gov/general/paperwork-reduction-act-pra-and-fcc-information-collections>.

103 Federal Communications Commission, FCC Information Collections (June 8, 2018), <https://www.fcc.gov/reports-research/data/fcc-information-collections>.

104 FCC, “Schools and Libraries Universal Service Description of Services Requested and Certification Form – Instructions for Completing the Schools and Libraries Universal Service Description of Services Requested and Certification Form (FCC Form 470),” Dec. 2013, available at <https://docs.fcc.gov/public/attachments/DOC-326788A1.pdf>.

105 Information Collection Being Reviewed by the Federal Communications Commission, 83 Fed. Reg. 23677, 23678 (proposed March 22, 2018).

106 USAC, “USAC Solicitation for Schools and Libraries Program Business Process Outsourcing (BPO) Services,” March 13, 2018, available at https://www.usac.org/_res/documents/about/pdf/rfp/rfp-sl-business-process-outsourcing-service.pdf Other USAC-related information collections that have been approved by OMB include “Schools and Libraries Universal Service Program Reimbursement Forms,” available at https://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201606-3060-022; “Connect America Fund - High Cost Portal Filing,” available at https://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201711-3060-008; “Application for Connect America Fund Phase II Auction Support - FCC Form 683,” available at https://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201808-3060-005; “High-Cost Universal Service Support,” available at https://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201804-3060-012; and “Lifeline and Link Up Reform and Modernization, Telecommunications Carriers Eligible for Universal Service Support, Connect America Fund,” available at https://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201804-3060-015.

107 USAC, “Lifeline Program – Annual Recertification Form,” available at https://www.usac.org/_res/documents/li/pdf/nv/li_recertification_nvstates.pdf.

108 Section 3518(c)(1)(B) exempts information collected “during the conduct of . . . an administrative action or investigation involving an agency against specific individuals or entities” but that exemption is, by its own terms, inapplicable. Form 471 is an application for funding and review of its contents cannot reasonably be described as an administrative action “against” specific entities because the question of eligibility is not a question of wrong-doing just as the annual Lifeline certification is not an “administrative action or investigation” within the meaning of Section 3518(c)(1)(B).

109 FCC, “Information Collection Being Reviewed by the Federal Communications Commission,” 83 Fed. Reg. 23677, 23678 (proposed March 22, 2018). See 44 U.S.C. § 3512(a)(1) (“Notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information that is subject to this subchapter [44 USCS §§ 3501 et seq.] if...the collection of information does not display a valid control number assigned by the Director in accordance with this subchapter.”). Similarly, it is improper to subject a person to adverse action if the agency “fails to inform the person who is to respond to the collection of information that such person is not required to respond to the collection of information unless it displays a valid control number.” 44 U.S.C. § 3512(a)(2).

110 See *Saco River Cellular v. FCC*, 133 F.3d 25, 32 (D.C. Cir.1998) (“the PRA must protect a member of the public when the agency imposes the paperwork burden upon it”); 44 U.S.C. § 3512(b) (“[t]he protection provided by this section may be raised in the form of a complete defense, bar, or otherwise at any time during the agency administrative process or judicial action applicable thereto.”) (emphasis added).

111 USAC, “Reminders on the Competitive Bidding Process and the FCC Form 470,” *Schools and Libraries Program News Brief*, Jan. 26, 2018, available at <https://www.usac.org/sl/tools/news-briefs/preview.aspx?id=813> (visited Jan. 4, 2019).

112 USAC, “Reminders for Last-minute FCC Form 470 Filers,” *Schools and Libraries Program News Brief*, Feb. 16, 2018, available at <https://www.usac.org/sl/tools/news-briefs/preview.aspx?id=817> (visited Jan. 4, 2019).

113 USAC, “Contract Modifiers,” available at <https://www.usac.org/rhc/healthcare-connect/individual/step03/contract-mods.aspx> (“Cardinal changes are new requirements that are materially different from those originally contracted for, and are not discussed in a changes clause in the original contract.”)

114 USAC Procedures at 32-33.

115 School District of DeSoto County, “Self-provisioned / built fiber wan links – with special construction cost from District office to Early Childhood Center,” Special Construction Application, FRN 1699020839 (2016); School District of DeSoto County, “Self-provisioned / built fiber wan links – with special construction cost from District office to West Elementary School,” Special Construction Application, FRN 1699020878 (2016).

116 Fearful that the payment of large, upfront costs might strain the resources of the Schools and Libraries Fund, the Commission had earlier ordered amortization of large, one-time costs. Request for Review by Brooklyn Public Library, Federal-State Joint Board on Universal Service, CC Docket Nos. 96-45 and 97-21 (2000), Subsequently, USAC required amortization over at least three years of upfront or non-recurring charges of \$500,000 or more. *Second Modernization Order*, 29 FCC Rcd at 15555-56, ¶ 18.

117 *Id.* at 15555-56, ¶¶ 17 & n.27, 19. This change in policy was supported by schools, libraries and broadband providers. *Id.* at 15555, ¶ 17 & n.27.

118 *Id.* at 15547, ¶ 21.

119 *Amortization Temporary Waiver Order and NPRN*, WC Docket Nos. 19-2, 13-184, ¶ 13.

120 Letter from Evan Marwell, EducationSuperHighway to Marlene Dortch, Secretary, Federal Communications Commission, November 12, 2018 (“ESH Amortization Letter”).

121 *Second Modernization Order*, 29 FCC Rcd at 15555-56, ¶ 18 (“the concerns described by the Commission in 2000 that caused USAC to institute this restriction have proven to be not well-founded.”).

122 *Amortization Temporary Waiver Order and NPRN*, WC Docket Nos. 19-2, 13-184, ¶ 9.

123 Letter from John Windhausen to Marlene Dortch, Secretary, FCC, at 1 (Oct. 30, 2018) (“SHLB Amortization Letter”).

124 ESH Amortization Letter at 1.

125 SHLB Amortization Letter at 2.

126 Including equalizing treatment of dark and lit fiber and allowing self-construction of networks.