

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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

To: Chief, Wireline Competition Bureau

COMMENTS OF COX COMMUNICATIONS, INC.

Cox Communications, Inc. (“Cox”) respectfully submits these comments in response to the *Public Notice* released March 6, 2014 in the above-captioned proceeding.¹ Cox agrees that more E-rate funding should be directed to providing for Wi-Fi and other services that enable bandwidth to be used effectively within school and library buildings. In addition, the Commission should focus on finding the most cost-efficient approach to addressing those exceptional circumstances in which schools and libraries cannot afford high-speed connectivity to the building even with current E-rate funding. Finally, the Commission should develop a rational policy to phase-down E-rate funding for voice services over time.

I. MORE AND BROADER SUPPORT SHOULD BE DIRECTED TO WI-FI FOR INTERNAL CONNECTIONS.

As the *Public Notice* observes correctly, the current lower priority for internal connections “does not appear to have achieved [the] intended goal of substantially spreading the available funds.”² Cox supports changes to the program rules that would equally support Internet connectivity to a school or library and Wi-Fi connectivity to deliver high-bandwidth

¹ *Wireline Competition Bureau Seeks Focused Comment on E-rate Modernization*, WC Docket No. 13-184, Public Notice, DA 14-308 (rel. Mar. 6, 2014) (“*Public Notice*”).

² *Id.* ¶ 9.

services within school and library buildings. The record in this proceeding demonstrates broad support for ensuring that additional funding is made available for internal connections and Wi-Fi that enable high-speed connections to be delivered all the way to the classroom. As Cox previously has noted, Wi-Fi is a highly cost effective means of providing broadband capacity to classrooms; thus, focusing internal connections funding on Wi-Fi is the most cost-effective way to achieve this goal.³

To improve the allocation of E-rate funds to cover Wi-Fi expenses, Cox supports the use of some of the additional \$2 billion that the Commission believes it can free up over the next two years for Wi-Fi.⁴ Cox also has advocated elevating internal connections support to Priority One so that broadband connections *within* schools and libraries would be prioritized equally with broadband connections *to* schools and libraries, followed by determining whether additional steps are necessary to ensure that such funding is allocated fairly among all schools and libraries.⁵ In response to the proposals in the *Public Notice* to address these issues, Cox recommends that the Commission carefully tailor the equipment and services that are eligible for internal connections support and adopt a “rotating eligibility” approach to ensure the equitable distribution of funding.

First, with regard to the equipment and software that should be eligible for internal connection support, Cox concurs that “internal wiring, switches and routers, wireless access points, and the software supporting these components” should be eligible for Priority 1 support.⁶

³ Cox Reply Comments, WC Docket No. 13-184 (filed Nov. 8, 2013) at 2-3 (“Cox E-rate Reply”).

⁴ *Public Notice* at ¶ 7.

⁵ *See, e.g.*, Cox E-rate Reply at 3.

⁶ *Public Notice* at ¶ 11.

This equipment and software is essential to deliver broadband services within the building. Firewall equipment is likewise essential for schools and libraries to use their broadband connections effectively.⁷ Well maintained firewall equipment can help prevent slowed connection speeds and many schools require firewall functionality as an integral part of their broadband service. Therefore, firewalls, whether on premises or in the cloud, should also be eligible for Priority 1 funding.

Second, with regard to access of funding, the Commission should adopt “rotating eligibility” to ensure that no school receives a second round of internal connection funding until all schools have been given the opportunity to receive funding.⁸ The Commission should use the demand demonstrated in the first funding year under the new rules (i.e., 2015) to evaluate how long the “rotating eligibility” cycle is likely to be and use that information to make any necessary adjustments in how internal connection support should be distributed. Further, if demand outstrips the available funds in the first year, the Commission should restrict funding to schools that have not received any internal connection support in the last five years.⁹ Among these schools, those qualifying for the highest level of support should be funded first with remaining funds going to schools with lower support levels. To ensure that funding is deployed effectively, the Commission could also condition eligibility by requiring applicants to certify that their existing internal connections are not adequate to deliver service up to a prescribed level of bandwidth per 1,000 students.

⁷ *Id.* at ¶ 12.

⁸ *Id.* at ¶ 17.

⁹ *Id.* at ¶¶ 14-15.

On balance, Cox believes this approach is superior to an arbitrary limit on requests for internal connection support such as a per-applicant or per-building limitations suggested in the *Public Notice*.¹⁰ Given limits on available funding, it is unclear whether dividing up each year's budget among all eligible entities would provide sufficient support for *any* schools to achieve their goals. Further, it would be difficult to calibrate a specific capped support amount accurately. The Commission's assumption that "the prices of many parts of LAN and Wi-Fi deployments (*e.g.*, switches, routers, and wireless access points) should vary little based on the geographic location of schools and should generally scale proportionally with the size of the student body" is not necessarily correct.¹¹ Each school and library building is laid out differently and may require a unique configuration of equipment to ensure adequate Wi-Fi coverage throughout the building.

That said, as an alternative to a specific capped amount, Cox would support a rule establishing benchmarks against which schools' requests could be measured for reasonableness. These could include, for example, providing rebuttable presumptions about the appropriate levels of equipment for given scenarios. For example, Cox has supported limiting funding to only one access point per classroom, one router per building, and cabling of up to three drops per classroom, unless special circumstances such as existing computer labs, testing centers, and/or anomalies in building and/or campus design affect network configuration and necessitate additional funding.¹²

¹⁰ *Id.* ¶ 21.

¹¹ *Id.* ¶ 20.

¹² Cox comments, WC Docket No. 13-184 (filed Sept. 16, 2013) at 9 ("Cox E-rate Initial Comments").

In sum, the Commission should make more E-rate support available for internal Wi-Fi networks while not reducing funding for broadband connectivity to schools and libraries by allocating some of the additional funding to Wi-Fi, defining the scope of eligible equipment and services, and providing rotating eligibility to ensure that all schools and libraries have access to adequate funding.

II. ADDITIONAL MEASURES MAY BE NECESSARY TO ASSIST SCHOOLS THAT CANNOT AFFORD BROADBAND DEPLOYMENT.

As the *Public Notice* acknowledges, in most cases schools and libraries have access to broadband service.¹³ In the rare instances where they demonstrably do not, however, Cox supports targeted efforts “to help support deployment of high-capacity, scalable last-mile connections to eligible schools and libraries.”¹⁴ Given strong competing demands for available E-rate funds, these efforts should focus on the most cost-efficient measures to bring broadband to these schools and libraries. As Cox previously has argued, the E-rate rules should not create artificial incentives for schools to build new broadband connectivity where such service already is available.¹⁵

Cox continues to believe that E-rate funding should not be available to construct new broadband facilities or light dark fiber absent an all-inclusive showing that these measures would be more cost-effective than purchasing a finished service.¹⁶ Even after initial deployment, operating a broadband facility on an ongoing basis is costly and beyond the technical capability of most E-rate applicants. Schools and libraries simply do not have the equipment, personnel,

¹³ *Id.* ¶ 24.

¹⁴ *Id.*

¹⁵ Cox E-rate Reply at 4-5.

¹⁶ Cox E-rate Initial Comments at 8. This is consistent with the Commission’s approach in the Health Care Connect program. *Id.* at 8 n.10.

and expertise to do their own maintenance and the planned annual costs of maintaining fiber could easily be exceeded if significant events like fiber relocations or breaks occur. Likewise, in the event of a disaster, restoration of the fiber network could be severely delayed due to the wide-spread demand on contractors who may not have the equipment or personnel to address a spike in demand. All of these factors and the associated costs could easily drive schools and libraries to abandon their new fiber networks in favor of finished services, resulting in abandoned investment and upending the overall economics of building new fiber networks.

As a result, the Commission also should consider (and require E-rate applicants to consider) other ways of obtaining affordable broadband services that meet their needs. For example, if schools episodically need very high bandwidth (e.g., for standardized testing) but cannot afford the recurring cost of that bandwidth even with E-rate support, an effective option could be “burstable” service options. Burstable services deliver the same reliability, yet a relatively lower (and more affordable) amount of bandwidth that serves the school’s or library’s needs most of the time, but are scalable and can deliver additional capacity on a temporary basis, such as during testing season or for special distance learning events. As Cox described in its comments, Cox has provided burstable services to schools in Kansas, enabling the schools to have sufficient broadband capacity during the state assessment testing period by cost-effectively purchasing additional capacity only when they needed it and without paying for it year-round.¹⁷

For the rare cases where E-rate funding of new broadband construction is the most cost-effective option, the Commission should establish a separate process by which the schools or libraries can apply for full funding, but only upon a showing that they have sought and failed to receive affordable bids for finished broadband service.

¹⁷ Cox E-rate Initial Comments at 3-4.

III. THE COMMISSION SHOULD PHASE-DOWN FUNDING FOR VOICE SERVICES ON A RATIONAL BASIS.

There is widespread recognition that support for voice services, which currently receive a substantial portion of the funds distributed through the E-rate program, should be phased-down.¹⁸ However, the record strongly demonstrates that schools and libraries still view voice services as crucial to their missions and are dependent on E-rate funding for them.

As a result, the Commission will need to develop a transition process so that schools and libraries can plan appropriately.¹⁹ Elimination or sharp reduction of support for all voice services, particularly the school landline telephone services used to connect offices and classrooms to the outside world and in some cases to operate security and alarm systems, would create hardship in paying for such critical services.²⁰

Support for voice services therefore should be phased-out in a reasonable and predictable way, along the lines identified in the *Public Notice*.²¹ Specifically, the cost of reliable managed voice products delivered over broadband networks should be the target funding level. To reach these reduced support levels, the Commission could phase-down support for voice services to 50 percent of current levels over the next five years at 10 percent per year. At the end of five years, the Commission should then re-evaluate the state of voice products as well as the needs of schools and libraries. Market trends clearly suggest that VoIP products will become more cost efficient over time and carriers will have strong incentives to continue adopting platforms such as IP Centrex and managed VoIP services. Thus, the potential for adverse consequences

¹⁸ *Public Notice* at ¶ 40.

¹⁹ *Public Notice* at ¶¶ 41-49.

²⁰ Cox E-rate Initial Comments at 10.

²¹ *Id.* at ¶ 41.

