

E-Rate Funding Requests History Report

A- History Page

Funding Year	Req. FRNs	Funded FRNs	486 on File	Requested Amount	Committed Priority 1	Committed Priority 2	Total Committed	Total Disbursed	Discount Category 1	Discount Category 2
2015	58	29	29	\$2,136,166.43	\$45,862.56	\$0.00	\$167,834.94	\$0.00	40%	
2014	27	27	27	\$232,996.39	\$232,996.39	\$0.00	\$232,996.39	\$143,426.15	62%	
2013	82	67	67	\$8,367,320.11	\$286,581.24	\$0.00	\$286,581.24	\$271,428.84	61%	
2012	81	70	70	\$5,911,348.71	\$257,638.05	\$1,708,422.94	\$1,966,060.99	\$1,835,194.94	61%	90%
2011	19	18	18	\$257,892.85	\$237,201.85	\$0.00	\$237,201.85	\$228,180.25	60%	
2010	60	59	60	\$292,845.03	\$267,546.03	\$0.00	\$267,546.03	\$267,546.03	60%	
2009	60	58	58	\$425,049.23	\$341,029.36	\$0.00	\$341,029.36	\$341,029.35	59%	
2008	41	41	41	\$232,065.11	\$234,692.79	\$0.00	\$234,692.79	\$234,525.39	60%	
2007	65	37	37	\$2,949,194.76	\$205,136.30	\$117,221.18	\$322,357.48	\$247,270.04	59%	90%
2006	40	31	31	\$1,600,865.62	\$169,211.53	\$542,974.00	\$712,185.53	\$658,621.93	59%	90%
2005	25	24	24	\$153,505.01	\$124,361.48	\$0.00	\$124,361.48	\$123,877.74	57%	
2004	21	19	19	\$507,929.52	\$141,721.88	\$0.00	\$141,721.88	\$137,376.23	58%	
2003	16	15	15	\$346,968.68	\$335,495.15	\$0.00	\$335,495.15	\$319,502.06	56%	
2002	21	15	15	\$1,620,764.77	\$68,071.01	\$0.00	\$68,071.01	\$66,337.61	54%	
2001	19	7	7	\$1,427,578.60	\$253,226.48	\$122,563.79	\$375,790.27	\$375,790.27	55%	90%
2000	12	2	2	\$614,240.94	\$142,041.60	\$54,048.60	\$196,090.20	\$196,090.20	54%	90%
1999	1	1	1	\$150,678.00	\$150,678.00	\$0.00	\$150,678.00	\$150,678.00	55%	
1998	20	5	5	\$525,361.87	\$138,070.87	\$92,949.60	\$231,020.47	\$223,893.82	54%	80%

E-Rate Funding Requests 2014

B - FYR 2014

(Currently waiting on refund checks)

486 Filed	471	FRN	SPIN	Service Provider	Original Req. Amt	Funded	Discount
Y	971365	2670410	143001197	Verizon Business Global LLC	\$62,224.07	\$62,224.07	62%
Y	971365	2670435	143004789	Verizon Southwest Inc.	\$1,215.62	\$1,215.62	62%
Y	971365	2670439	143004789	Verizon Southwest Inc.	\$2,294.87	\$2,294.87	62%
Y	971365	2670461	143004789	Verizon Southwest Inc.	\$5,557.68	\$5,557.68	62%
Y	971365	2670472	143001197	Verizon Business Global LLC	\$5,247.06	\$5,247.06	62%
Y	971365	2670483	143004789	Verizon Southwest Inc.	\$43,332.72	\$43,332.72	62%
Y	971365	2670488	143001197	Verizon Business Global LLC	\$20,053.11	\$20,053.11	62%
Y	971365	2670492	143004662	Southwestern Bell Telephone Company	\$1,413.60	\$1,413.60	62%
Y	971365	2670493	143004662	Southwestern Bell Telephone Company	\$1,630.25	\$1,630.25	62%
Y	971365	2670506	143004662	Southwestern Bell Telephone Company	\$3,432.07	\$3,432.07	62%
Y	971365	2670509	143004662	Southwestern Bell Telephone Company	\$8,184.00	\$8,184.00	62%
Y	971365	2670516	143004662	Southwestern Bell Telephone Company	\$2,518.96	\$2,518.96	62%
Y	971365	2670518	143004662	Southwestern Bell Telephone Company	\$2,115.42	\$2,115.42	62%
Y	971365	2670522	143004662	Southwestern Bell Telephone Company	\$4,132.32	\$4,132.32	62%
Y	971365	2670535	143004662	Southwestern Bell Telephone Company	\$4,611.46	\$4,611.46	62%
Y	971365	2670550	143002438	Century Link CenturyTel of Lake Dallas, Inc.	\$5,788.32	\$5,788.32	62%
Y	971365	2670553	143002438	Century Link CenturyTel of Lake Dallas, Inc.	\$3,883.23	\$3,883.23	62%
Y	971365	2670560	143002438	Century Link CenturyTel of Lake Dallas, Inc.	\$5,525.39	\$5,525.39	62%
Y	971365	2670566	143033768	LEARN Lonestar Education and Research Network	\$23,064.00	\$23,064.00	62%
Y	971365	2670570	143011242	The University of Texas at Austin	\$2,046.00	\$2,046.00	62%
Y	971365	2670577	143031300	Cequel III Communications II, LLC	\$3,099.95	\$3,099.95	62%
Y	971365	2670582	143000677	Verizon Wireless (Cellco Partnership)	\$7,644.60	\$7,644.60	62%
Y	971365	2670587	143004789	Verizon Southwest Inc.	\$3,918.28	\$3,918.28	62%
Y	971365	2670589	143030795	Verizon Long Distance LLC	\$583.89	\$583.89	62%
Y	971365	2670592	143004789	Verizon Southwest Inc.	\$6,273.11	\$6,273.11	62%
Y	971365	2670595	143030795	Verizon Long Distance LLC	\$708.21	\$708.21	62%
Y	971365	2670655	143030795	Verizon Long Distance LLC	\$2,498.20	\$2,498.20	62%
						\$232,996.39	

E-Rate Funding Requests 2015

C - FYR 2015

486 Filed	FRN	SPIN	Service Provider		Original Req. Amt	Funded	Disbursed	Discount
Y	2833047	143001197	Verizon Business Global LLC		\$35,540.88	\$32,130.05	\$0.00	40%
Y	2833149	143004789	Verizon Southwest Inc.		\$784.27	\$784.27	\$0.00	40%
Y	2833165	143004789	Verizon Southwest Inc.		\$2,221.20	\$2,221.20	\$0.00	60%
Y	2833180	143004662	Southwestern Bell Telephone Company		\$1,063.01	\$1,063.01	\$0.00	40%
Y	2833189	143004662	Southwestern Bell Telephone Company		\$1,632.58	\$1,632.58	\$0.00	40%
Y	2833198	143004662	Southwestern Bell Telephone Company		\$1,364.98	\$1,364.98	\$0.00	40%
Y	2833208	143004662	Southwestern Bell Telephone Company		\$2,224.66	\$2,224.66	\$0.00	40%
Y	2833222	143004662	Southwestern Bell Telephone Company		\$2,674.94	\$2,674.94	\$0.00	40%
Y	2833228	143004662	Southwestern Bell Telephone Company		\$3,005.18	\$3,005.18	\$0.00	40%
Y	2833271	143002438	Century Link CenturyTel of Lake Dallas, Inc.		\$3,792.19	\$3,792.19	\$0.00	40%
Y	2833282	143002438	Century Link CenturyTel of Lake Dallas, Inc.		\$2,521.73	\$2,521.73	\$0.00	40%
Y	2833292	143002438	Century Link CenturyTel of Lake Dallas, Inc.		\$3,575.33	\$3,575.33	\$0.00	40%
Y	2834822	143011242	The University of Texas at Austin		\$1,980.00	\$1,980.00	\$0.00	60%
Y	2834838	143000677	Verizon Wireless (Cellco Partnership)		\$4,318.56	\$4,318.56	\$0.00	40%
Y	2834860	143004789	Verizon Southwest Inc.		\$2,536.85	\$2,536.85	\$0.00	40%
Y	2834890	143030795	Verizon Long Distance LLC		\$379.25	\$379.25	\$0.00	40%
Y	2834917	143004789	Verizon Southwest Inc.		\$4,058.54	\$4,058.54	\$0.00	40%
Y	2834943	143030795	Verizon Long Distance LLC		\$489.94	\$489.94	\$0.00	40%
Y	2834953	143004789	Verizon Southwest Inc.		\$1,147.97	\$1,147.97	\$0.00	40%
Y	2834972	143030795	Verizon Long Distance LLC		\$16.61	\$16.61	\$0.00	40%
Y	2835778	143004789	Verizon Southwest Inc.		\$3,585.60	\$3,585.60	\$0.00	40%
Y	2835791	143001197	Verizon Business Global LLC		\$3,385.20	\$3,385.20	\$0.00	40%
Y	2835818	143004789	Verizon Southwest Inc.		\$27,956.59	\$27,956.59	\$0.00	40%
Y	2835833	143001197	Verizon Business Global LLC		\$12,937.49	\$12,937.49	\$0.00	40%
Y	2835846	143004662	Southwestern Bell Telephone Company		\$5,280.00	\$5,280.00	\$0.00	40%
Y	2835871	143031300	Cequel III Communications II, LLC		\$2,999.95	\$2,999.95	\$0.00	60%
Y	2835923	143033768	LEARN		\$36,720.00	\$36,720.00	\$0.00	60%
Y	2835959	143030795	Verizon Long Distance LLC		\$1,110.86	\$1,110.86	\$0.00	40%
Y	2836019	143004662	Southwestern Bell Telephone Company		\$1,941.41	\$1,941.41	\$0.00	60%
						\$167,834.94		
			Internal Connections	Cost	Funding Request			Not yet determined
N	2839930	143028685	Netsync Network Solutions	\$49,685.71	\$29,811.43	\$0.00	\$0.00	0%
N	2842360	143028685	Netsync Network Solutions	\$100,777.90	\$60,466.74	\$0.00	\$0.00	0%
N	2842469	143028685	Netsync Network Solutions	\$74,996.45	\$44,997.87	\$0.00	\$0.00	0%
N	2842543	143028685	Netsync Network Solutions	\$56,833.26	\$34,099.96	\$0.00	\$0.00	0%
N	2842614	143028685	Netsync Network Solutions	\$89,906.19	\$53,943.71	\$0.00	\$0.00	0%
N	2842742	143028685	Netsync Network Solutions	\$112,113.37	\$67,268.02	\$0.00	\$0.00	0%
N	2842787	143028685	Netsync Network Solutions	\$115,625.51	\$69,375.31	\$0.00	\$0.00	0%
N	2842874	143028685	Netsync Network Solutions	\$53,825.51	\$32,295.31	\$0.00	\$0.00	0%
N	2842940	143028685	Netsync Network Solutions	\$52,321.63	\$31,392.98	\$0.00	\$0.00	0%
N	2843018	143029770	Netsync Network Solutions	\$42,965.15	\$25,779.09	\$0.00	\$0.00	0%
N	2843070	143028685	Netsync Network Solutions	\$87,872.87	\$52,723.72	\$0.00	\$0.00	0%
N	2843173	143028685	Netsync Network Solutions	\$49,740.85	\$29,844.51	\$0.00	\$0.00	0%
N	2843876	143028685	Netsync Network Solutions	\$84,608.98	\$50,765.39	\$0.00	\$0.00	0%
N	2843952	143028685	Netsync Network Solutions	\$4,114.18	\$2,468.51	\$0.00	\$0.00	0%
N	2844014	143028685	Netsync Network Solutions	\$67,206.00	\$40,323.60	\$0.00	\$0.00	0%
N	2844077	143028685	Netsync Network Solutions	\$194,008.39	\$116,405.03	\$0.00	\$0.00	0%
N	2844201	143028685	Netsync Network Solutions	\$52,358.39	\$31,415.03	\$0.00	\$0.00	0%
N	2844253	143028685	Netsync Network Solutions	\$108,015.98	\$64,809.59	\$0.00	\$0.00	0%
N	2844349	143028685	Netsync Network Solutions	\$206,881.79	\$124,129.07	\$0.00	\$0.00	0%
N	2845509	143028685	Netsync Network Solutions	\$72,648.73	\$43,589.24	\$0.00	\$0.00	0%
N	2845539	143028685	Netsync Network Solutions	\$249,439.92	\$149,663.95	\$0.00	\$0.00	0%
N	2845587	143028685	Netsync Network Solutions	\$423,042.11	\$253,825.27	\$0.00	\$0.00	0%
N	2845769	143028685	Netsync Network Solutions	\$41,026.56	\$24,615.94	\$0.00	\$0.00	0%
N	2845891	143028685	Netsync Network Solutions	\$435,675.42	\$261,405.25	\$0.00	\$0.00	0%
N	2846878	143028685	Netsync Network Solutions	\$267,099.26	\$160,259.56	\$0.00	\$0.00	0%
N	2846888	143028685	Netsync Network Solutions	\$102,617.26	\$61,570.36	\$0.00	\$0.00	0%
N	2846897	143028685	Netsync Network Solutions	\$14,303.34	\$8,582.00	\$0.00	\$0.00	0%
N	2846916	143028685	Netsync Network Solutions	\$18,448.47	\$11,069.08	\$0.00	\$0.00	0%
N	2846943	143028685	Netsync Network Solutions	\$46,708.56	\$28,025.14	\$0.00	\$0.00	0%
				\$3,274,867.74	\$1,964,920.66			
			DISD Cost		\$1,309,947.08			

E-Rate Overview

Denton ISD

1/20/2015



E-Rate Overview

- ▶ What Is E-Rate?
- ▶ Where Did E-Rate Come From?
- ▶ How Do Schools Benefit From E-Rate?
- ▶ Denton ISD & E-Rate Over The Years
- ▶ Moving Forward (2015 and beyond)
- ▶ Questions



What Is E-Rate?

- ▶ E-Rate is a program administered by the FCC which helps schools afford their telecommunications connectivity, including internet
- ▶ E-Rate funds are generally used for four purposes:
 - ▶ telecommunications/phone service
 - ▶ internet connections
 - ▶ internal connections and
 - ▶ internal connection maintenance



Where Did E-Rate Come From?

- ▶ Created as part of the 1996 reauthorization of the Telecommunications Act
- ▶ An already existing program was expanded to include funding to support connectivity in schools and libraries
- ▶ The funds come from telecommunications companies, who usually pass the fee along to consumers
 - ▶ You can see the fee (Universal Services Fund) on your monthly phone bill



How Do Schools Benefit from E-Rate?

- ▶ The E-Rate program provides funding, in the form of a discount, that helps schools afford their telecommunications connectivity.
- ▶ E-Rate was critical in the massive expansion of Internet access to schools over the last decade.
- ▶ As digital learning becomes the 'norm' in education, internet access and adequate bandwidth are a 'must-have', something E-Rate supports.
- ▶ Discounts are based on Free and Reduced Lunch counts.



Denton ISD (prior 10 years)

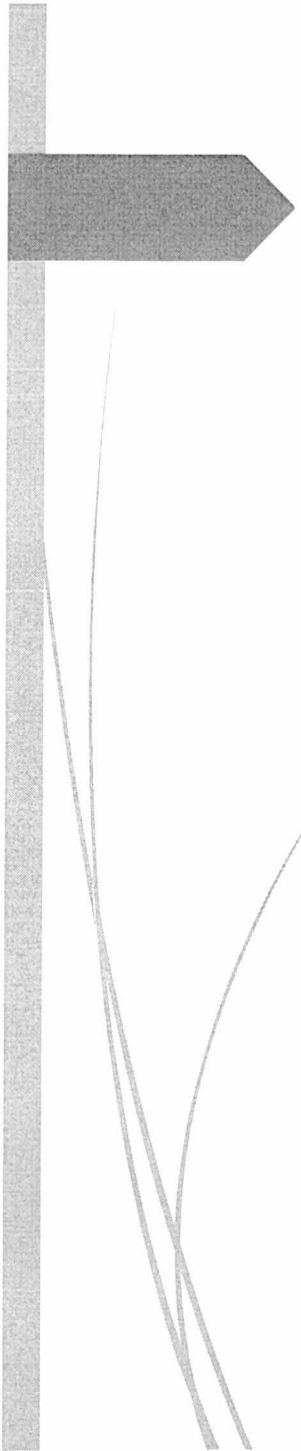
Year	Category 1	Category 2
2014	\$ 227,438.71	\$ -
2013	\$ 271,428.84	\$ -
2012	\$ 245,910.80	\$ 1,446,496.44
2011	\$ 228,180.25	\$ -
2010	\$ 267,546.03	\$ -
2009	\$ 341,029.35	\$ -
2008	\$ 234,525.39	\$ -
2007	\$ 130,048.86	\$ 117,221.18
2006	\$ 166,463.30	\$ 74,359.08
2005	\$ 123,877.74	\$ -
Total	\$ 2,236,449.27	\$ 1,638,076.70

Note: Denton ISD traditionally receives an average of a 60% discount in Category 1 funding per year. For 2014, the discount is 62% for eligible services.



Moving Forward (2015 & Beyond)

- Starting with Year 2015 (Fiscal 2015-16), the e-rate program is undergoing significant changes.
- E-Rate is phasing out discounts for voice services. Phase out is 20% per year. So, DISD's discount in 2015 will be approximately 40%, 20% in 2016, and near zero in 2017. For 2014, voice services totaled \$ 330,300.72 with an erate discount of \$ 204,786.45.
- Discounts for Broadband Services (Internet Circuits, etc) will continue to be fully supported. For 2014, broadband services totaled \$ 45,499.92 with an e-rate discount of \$28,209.95.
- Category 2 services (network & wireless equipment) will be subject to a five year pre-discount budget of \$150 per student / campus. With an expected discount of 60%, this translates to about \$ 90 per student / campus.



Questions?

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

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

ORDER

Adopted: September 11, 2015

Released: September 11, 2015

By the Chief, Wireline Competition Bureau:

I. INTRODUCTION

1. In this Order, the Wireline Competition Bureau (Bureau) releases the eligible services list (ESL) for funding year 2016 for the schools and libraries universal service support program (more commonly referred to as the E-rate program)¹ and authorizes the Universal Service Administrative Company (USAC) to open the annual application filing window no earlier than 60 days after release.²

2. Last year, the Commission adopted two orders modernizing the E-rate program.³ In response to the first of the *E-rate Modernization Orders*, we shortened and simplified last year's ESL, while including in that ESL the changes the Commission made to the program for funding year 2015.⁴ In the *ESL Public Notice* for this coming funding year, we proposed keeping the basic structure of the ESL while modifying the ESL to reflect the changes the Commission made to the E-rate program for funding year 2016 in the *Second E-rate Modernization Order*, and to provide some minor clarifications.⁵ Based on our review of the record, we now adopt those proposed changes to the ESL, with modifications as described herein.

II. BACKGROUND

3. Sections 254(c)(1), (c)(3), (h)(1)(B), and (h)(2) of the Communications Act collectively grant the Commission authority to specify the services that will be supported for eligible schools and libraries

¹ See *Schools and Libraries Universal Service Support Mechanism, Eligible Services List for Funding Year 2016* (rel. September x, 2015) (Appendix B) (FY2016 ESL). The ESL specifies the services and products that are eligible for E-rate discounts.

² 47 C.F.R. § 54.502(d) (requiring the final ESL to be released at least 60 days prior to the opening of the application filing window).

³ *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Order, 29 FCC Rcd 8870 (2014) (*E-rate Modernization Order*); *Modernizing the E-rate Program for Schools and Libraries, Connect America Fund*, WC Docket Nos. 13-184 and 10-90, Second Report and Order and Order on Reconsideration, 29 FCC Rcd 15538 (2014) (*Second E-rate Modernization Order*) (together, *E-rate Modernization Orders*).

⁴ See *Schools and Libraries Universal Service Support Mechanism et al.*, CC Docket No. 02-6 et al., Order, 29 FCC Rcd 13404 (2014) (*2015 ESL and Order*).

⁵ *Wireline Competition Bureau Seeks Comment on Proposed Eligible Services List for the E-rate Program*, WC Docket No. 13-184, Public Notice, 30 FCC Rcd 4905 (2015) (*ESL Public Notice*).

and to design the specific mechanisms of support.⁶ Pursuant to this authority, in the *Second E-rate Modernization Order*, the Commission, among other things, made the following changes and clarifications to the eligible services framework of the E-rate program: (1) equalized the E-rate program's treatment of lit and dark fiber; (2) allowed applicants to self-provision high-speed broadband networks if the applicant is able to demonstrate that self-provisioning is the most cost-effective option and is able to satisfy certain other conditions; and (3) clarified the cost allocation requirements for circuits carrying both voice and data services.⁷

4. In the *ESL Public Notice*, we sought comment on proposed revisions to the ESL for funding year 2016 reflecting the expanded options for purchasing affordable high-speed connectivity adopted by the Commission in the *Second E-rate Modernization Order*.⁸ The proposed revisions included equalizing the treatment of leased lit and dark fiber; allowing support for self-provisioned networks under certain circumstances, clarifying that all equipment and services necessary to operate and maintain fiber networks must be competitively bid, and adding descriptions of eligible special construction charges.⁹ We also sought comment on the addition of Integrated Services Digital Network (ISDN) circuits to the list of eligible voice services and clarifications regarding the eligibility of firewall services and components.¹⁰ The comment cycle closed on July 6, 2015.¹¹

III. DISCUSSION

5. Having considered the record, we update the ESL for funding year 2016 as described herein. We adopt several of the changes proposed in the *ESL Public Notice* and provide additional clarifications to address comments and reply comments received in response to the *ESL Public Notice*. The changes that we make to the section of the ESL dealing with Category One services reflect the additional options the Commission provided applicants for purchasing high-speed connectivity to eligible schools and libraries in the *Second E-rate Modernization Order*.¹² With regard to Category Two of the ESL, we adopt changes to the description of eligible firewall services, provide clarifications in response to comments and reply comments, and decline commenters' requests that we add certain services and equipment to the ESL and revise certain descriptions of eligible Category Two services. We make these changes to the ESL to clarify for all stakeholders what services are eligible for E-rate support and certain conditions for eligibility, and to guide USAC in implementing the *E-rate Modernization Orders*.

A. Modifications to the ESL Description of Eligible Category One Services

6. Consistent with the Commission's decision in the *Second E-rate Modernization Order* to expand applicants' options for purchasing affordable high-speed connectivity, we adopt several revisions and clarifications to the list of eligible Category One Data Transmission Services and Internet Access,¹³

⁶ 47 U.S.C. §§ 254(c)(1), 254(c)(3), 254(h)(1)(B), 254(h)(2).

⁷ *Second E-rate Modernization Order*, 29 FCC Rcd at 15549, 15555, 15602, paras. 30, 43, 162.

⁸ *ESL Public Notice*, 30 FCC Rcd at 4905-06.

⁹ *Id.*

¹⁰ *Id.* at 4906.

¹¹ *Id.* at 4905.

¹² *See Second E-rate Modernization Order*, 29 FCC Rcd at 15549, 15555, 15602, paras 30, 43, 162.

¹³ To provide clarity for applicants, we change the title of the list of eligible Category One broadband services to "Data Transmission Services and Internet Access" to more accurately reflect how these services are described by applicants and service providers. *See ESH Reply Comments* at 1.

Voice Services, and to the accompanying explanations. We also adopt the proposed addition of ISDN to the list of eligible voice services.

1. Eligible Data Transmission Service and Internet Access

7. We adopt the proposal in the *ESL Public Notice* to separately list Leased Lit Fiber, Dark Fiber, and Self-Provisioned Broadband Networks as eligible services under the list of eligible Data Transmission Services and Internet Access and delete the explanation of differing eligible costs for leased lit and dark fiber. In the *Second E-rate Modernization Order*, the Commission decided to equalize the treatment of lit and dark fiber by providing Category One support for the modulating electronics necessary to light dark fiber and for special construction charges for dark fiber beyond the school or library's property line.¹⁴ The Commission also determined that schools and libraries can self-provision networks under certain circumstances and adopted several safeguards to ensure cost-effective purchasing for self-provisioned networks.¹⁵ Therefore, we adopt these substantive ESL changes to implement the *Second E-rate Modernization Order*.

8. In response to comments, and consistent with the *Second E-rate Modernization Order*, we also add a new Note (2) under the list of eligible Data Transmission Services and Internet Access to remind applicants that they must seek bids for lit fiber service and fully consider all responsive bids before selecting and requesting support for a dark fiber or a self-provisioned broadband network.¹⁶ We decline to adopt the recommendation by Unite Private Networks and USTelecom that the ESL characterize a self-provisioned network as an option of last resort.¹⁷ As currently drafted, the ESL accurately reflects the Commission's determination that beginning in funding year 2016, subject to certain additional safeguards, self-provisioning will be eligible for E-rate support when it is the most cost-effective option.¹⁸

2. Special Construction

9. We adopt, as proposed Note (3) and with slight modifications, what we had proposed as Note (2) in the *ESL Public Notice* under the list of eligible Data Transmission Services and Internet Access. Note (3) explains that there are three components of special construction: construction of network facilities, design and engineering, and project management. The *Second E-rate Modernization Order* made several changes regarding the eligibility of special construction charges and this note is necessary to provide guidance to applicants on the eligible components of special construction.¹⁹

¹⁴ See *Second E-rate Modernization Order*, 29 FCC Rcd at 15550, para. 31.

¹⁵ See *Id.* at 15557-58, paras. 48-50.

¹⁶ See Unite Private Network Comments at 2; USTelecom Reply Comments at 2. See also *Second E-rate Modernization Order*, 29 FCC Rcd at 15553, 15557, paras. 39, 48.

¹⁷ See Unite Private Networks Comments at 2; USTelecom Reply Comments at 2.

¹⁸ See *Second E-rate Modernization Order*, 29 FCC Rcd at 15557-58, paras. 47-50 (requiring that the applicant demonstrate that a self-provisioned network is the most cost effective option, limiting funding of self-construction to networks built and used within the same funding year, and requiring applicants to secure all resources necessary to make effective use of the services they purchase); see also 47 C.F.R. §54.511.

¹⁹ In order to alleviate the upfront cost barrier to high-speed broadband deployment, the Commission directed USAC to suspend its amortization requirement for large Category One non-recurring charges, permitted applicants to pay the non-discounted portion of special construction costs in installments up to four years, and made special construction costs for dark fiber and self-provisioned broadband networks eligible. See generally *Second E-rate Modernization Order*, 29 FCC Rcd at 15545-62, paras. 16-59.

10. The Commission previously identified special construction charges in the *Sixth Report and Order* as “includ[ing] design and engineering, project management, digging trenches, and laying fiber.”²⁰ The *ESL Public Notice* proposed a description of eligible special construction costs as “upfront, non-recurring costs of deployment or new or upgraded facilities, including design and engineering, project management, and construction of network facilities.”²¹ In response to commenters, we further clarify that eligible special construction costs are limited to these three components by deleting the word “including” in that note.²² We decline to adopt the request made by some commenters that we classify all eligible upfront non-recurring costs, such as modulating electronics and other equipment necessary to make a Category One broadband service functional (collectively, “Network Equipment”)²³ and upfront payments for dark fiber indefeasible rights of use (IRUs),²⁴ as special construction.²⁵ We find that classifying all eligible upfront costs as special construction would be unduly broad and inconsistent with Commission precedent.²⁶ We instead limit special construction support to the one-time costs of physically deploying new or upgraded network facilities and the services required to complete that deployment, i.e., construction of network facilities, design and engineering, and project management. Other eligible large upfront or non-recurring costs will be considered as separate Category One costs. Limiting special construction costs to the three components identified in Note (3) will ensure that applicants will receive support for the costs necessary to construct the network facilities required to meet the Commission’s connectivity targets adopted in the *E-rate Modernization Order*²⁷ and will further the Commission’s goal of closing the rural connectivity gap as described in the *Second E-rate Modernization Order*.²⁸

3. Category One Equipment and Maintenance and Operation Services

11. We adopt, with minor revisions, the proposed explanation at Note (1) in the *ESL Public Notice* that the eligible costs for lit fiber, dark fiber, and self-provisioned broadband networks include the

²⁰ *Schools and Libraries Universal Service Support Mechanism, A National Broadband Plan for our Future*, CC Docket No. 02-6, GN Docket Not. 09-51, Order, 25 FCC Rcd 18762, 18773, para. 19, n.54 (*Sixth Report and Order*).

²¹ *ESL Public Notice*, 30 FCC Rcd at 4910.

²² See Illinois Comments at 4 (requesting clarification of the costs included in special construction); SECA Reply Comments at 7-9 (citing the questions raised by Illinois and requesting additional clarifications).

²³ See FY2016 ESL at 2.

²⁴ The suspension of the amortization requirement in the *Second E-rate Modernization Order* is for all large Category One non-recurring costs, including dark fiber IRU contracts that include upfront payments in excess of \$500,000 and purchases of eligible Network Equipment in excess of \$500,000. See *Second E-rate Modernization Order*, 29 FCC Rcd at 15546, para. 17. See Illinois Comments at 6 (requesting clarification that one-time dark fiber IRU payments are eligible); SECA Reply Comments at 8 (requesting that the relief from the amortization requirement should apply to dark fiber IRUs).

²⁵ Illinois Comments at 4, SECA Reply Comments at 8.

²⁶ See *Sixth Report and Order*, 25 FCC Rcd at 18773, n.54; see also *Schools and Libraries Universal Service Support Mechanism, A National Broadband Plan for Our Future*, CC Docket No. 02-6, GN Docket No. 09-51, Order, 28 FCC Rcd 14534, 14540 (Wireline Comp. Bur. 2013) (*2014 ESL and Order*) (stating that “special construction charges include design and engineering costs, project management costs, and digging trenches and laying fiber.”).

²⁷ See *E-rate Modernization Order*, 29 FCC Rcd at 8885-88, paras. 34-43 (establishing Internet access targets of at least 100 Mbps per 1,000 users short term and 1 Gbps per 1,000 users long term for schools and at least 100 Mbps for libraries that service fewer than 50,000 people and 1 Gbps for libraries that serve 50,000 people or more; establishing wide area network targets of 10 Gbps-capable connections for schools).

²⁸ See *Second E-rate Modernization Order*, 29 FCC Rcd at 15543, para. 12.

monthly charges, special construction, installation and activation, Network Equipment,²⁹ and maintenance and operation charges.³⁰ This description of eligible costs recognizes that self-provisioned broadband networks and dark fiber services require certain equipment and services that are typically included as part of the cost of a leased lit fiber service.³¹ Therefore, beginning in funding year 2016 such services and equipment will be eligible for Category One support when purchased by an E-rate applicant that owns a network or lights dark fiber.³²

12. In response to requests from commenters, we add a sentence to Note (1) to clarify that Network Equipment and maintenance and operation are eligible under Category One when purchased for existing self-provisioned networks and existing leased dark fiber that is lit by an E-rate applicant.³³ This clarification reflects the intent of the Commission to expand the fiber options available to applicants and encourage increased competition by fully equalizing the E-rate program's treatment of lit and dark fiber and by supporting self-provisioned broadband networks.³⁴ Applicants that currently own a self-provisioned broadband network or lease dark fiber may apply for Category One support for new modulating electronics and other equipment necessary to make the broadband service functional as well as for maintenance and operating costs of those existing networks. For existing dark fiber or self-provisioned networks, applicants will not be required to seek new bids for a lit fiber service in order to receive funding to upgrade or refresh their Network Equipment or to re-contract for maintenance and operation contracts. In addition, we clarify that one-time costs that are part of special construction, specifically design and engineering and project management, are only E-rate eligible as part of a special construction funding request that includes the costs of constructing network facilities.³⁵

13. We decline the request made by some commenters that the ESL identify specific Network Equipment and Category One maintenance and operation services eligible for E-rate support.³⁶

²⁹ The final FY2016 ESL clarifies that Network Equipment eligible under Category One is limited to "modulating electronics and other equipment necessary to make a Category One broadband service functional." See FY2016 ESL at 2.

³⁰ *ESL Public Notice*, 30 FCC Rcd at 4910.

³¹ See *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Report and Order, 27 FCC Rcd 16678, 16736, para. 125 (2012) (identifying maintenance and equipment costs as elements of dark fiber service); *Second E-rate Modernization Order*, 29 FCC Rcd at 15550, para. 31 (modulating electronics are necessary to light fiber).

³² See *Second E-rate Modernization Order*, 29 FCC Rcd at 15552, para. 36 (concluding that modulating electronics necessary to light leased dark fiber are E-rate eligible). Maintenance costs for dark fiber were previously eligible. See *Sixth Report and Order*, 25 FCC Rcd at 18773, para. 19. Modulating electronics and maintenance and operation costs were previously eligible as part of an eligible lit fiber service. See *2015 ESL and Order*, 29 FCC Rcd at 13420 (clarifying that maintenance charges and modulating electronics can be part of an eligible lit fiber service).

³³ See, e.g., ESH Comments at 1 (explaining that additional guidance is needed on the eligibility of design, maintenance, and operation costs through the whole life cycle of a self-provisioned network); Illinois Comments at 2-4 (seeking clarification that eligible costs are available for dark fiber and self-provisioned networks purchased or constructed before FY2016).

³⁴ See *Second E-rate Modernization Order*, 29 FCC Rcd at 15549, para. 29.

³⁵ ESH includes design with maintenance and operation costs. See ESH Comments at 1. Design and engineering costs are limited to special construction and are not available for the whole life cycle of the network.

³⁶ See e.g. NYC DOE Comments at 3-4 (requesting clarification of the eligibility of network switches at the access, distribution, and core layers, device management servers, network performance reporting servers, firewalls, and application delivery servers); Unite Private Networks Comments at 2-3 (requesting an FAQ or fact sheet identifying specific categories of maintenance and operation to be included in an applicant's total cost of ownership evaluation); US Telecom Reply Comments at 2 (requesting that specific categories of maintenance and operation should be identified in a FAQ or Fact Sheet and posted on USAC's website, with a link provided in the ESL).

Commenters provide several examples of Network Equipment including fiber optic transceivers, network switches, network routers, and other modulating and routing electronics that are all examples of “equipment necessary to make a Category One broadband service functional.”³⁷ Likewise, we agree that maintenance and operations services identified by commenters, including scheduled and routine maintenance, emergency repairs, relocates, and operation of network services, are also examples of eligible costs.³⁸ However, these lists are not exhaustive, and we decline at this time to offer a list that could be unnecessarily limiting. Applicants that self-provision broadband networks or lease dark fiber should apply for E-rate funding for the Network Equipment and maintenance and operation services necessary to provide high-speed broadband capabilities.

14. We remind all applicants that all E-rate eligible services and equipment must be competitively bid and applicants are required to choose the most cost-effective option, using price as the primary factor.³⁹ Though we do not include a comprehensive list of specific eligible services and equipment to the ESL for FY2016, we will continue to assess the services and equipment sought by applicants and may revisit this issue for future funding years.

4. Other Category One Modifications

15. We adopt the proposed addition of ISDN to the list of eligible voice services. No commenters opposed this addition.⁴⁰ As explained in the *ESL Public Notice*, ISDN is typically a voice-only service that has been treated as synonymous with primary rate interface (PRI) voice service in previous ESLs.⁴¹ We add ISDN to the list of eligible voice services because we expect that applicants will continue to utilize ISDN as a voice-only service. However, as explained in the *ESL Public Notice*, ISDN may be purchased as a bundled voice and data service.⁴² ISDN will therefore remain on the list of eligible Data Transmission Services and Internet Access so that an applicant that purchases bundled ISDN can cost allocate the voice and data portions of the service as described in the *Second E-rate Modernization Order*.⁴³

16. To implement the clarification of the required cost effectiveness analysis for data plans and air cards for mobile devices in the *Second E-rate Modernization Order*,⁴⁴ we adopt the proposal in the *ESL*

³⁷ See E-rate Provider Services Comments at 4 (proposing that fiber optic and other mixed media transceivers, appliance-based form-factor CPE routers, and chassis-based form-factor CPE routers be included in the ESL); SECA Reply Comments at 6 (agreeing with the list of eligible Category One equipment proposed in the E-rate Provider Services Comments).

³⁸ See Illinois Comments at 7 (seeking clarification that maintenance includes patrol of fiber network, correcting potential hazards or deficiencies, emergency repair and restoration, “call before you dig,” and relocates); SECA Reply Comments at 10 (requesting that eligible maintenance cover scheduled and routine maintenance including network monitoring, ongoing operation, emergency repairs, “call before you dig,” and relocates).

³⁹ See 47 C.F.R. §§ 54.503, 54.511.

⁴⁰ USTelecom requested that we require the applicant, as opposed to the service provider, to determine the appropriate cost allocation for ISDN. We note that E-rate program rules already require the applicant to determine the cost allocation for mixed eligibility services. See 47 C.F.R. 54.504(e).

⁴¹ *ESL Public Notice*, 30 FCC Rcd at 4906.

⁴² *Id.*

⁴³ See *Second E-rate Modernization Order*, 29 FCC Rcd at 15602, para. 162.

⁴⁴ *Id.* at 15600, para. 156.

Public Notice to expand the eligibility explanation for data plans and air cards and move it to the Eligibility Explanations for Certain Category One Services.⁴⁵

B. Modifications to Eligible Category Two Services

17. We adopt the proposed clarification of the description of firewall services eligible under Category Two of the ESL and provide other clarifications in response to questions about Category Two equipment and services in the existing ESL. We also decline requests from some commenters that we expand the list of eligible Category Two equipment and services or revise other descriptions in Category Two.

1. Firewall

18. Consistent with the Commission's direction in the *Sixth Report and Order* and the *E-rate Modernization Order* that only basic firewall protection provided as part of Internet access is eligible as a Category One service and that other firewall services are eligible as Category Two services, we adopt the clarification proposed in the *ESL Public Notice* that firewall protection that is provided by a vendor other than the Internet access provider or priced out separately will be considered a Category Two internal connections component.⁴⁶ Notwithstanding the Commission's direction, commenters request that we clarify the eligibility of firewall services⁴⁷ and designate all firewall services as part of Category One Internet access.⁴⁸ Commenters also request that we expand eligibility to include other network security services.⁴⁹ However, in the *E-rate Modernization Order*, the Commission expressly declined to further expand eligibility to additional network security services in order to focus Category Two funding on other necessary wireless local area network (WLAN) equipment and services.⁵⁰ In light of previous Commission direction, we remind commenters that firewall services other than those offered as a standard part of eligible Internet access are eligible under Category Two, and we deny the requests to designate all firewall services as Category One and to add additional network security services to the ESL.

⁴⁵ We decline T-Mobile's request that we add a sentence to the ESL stating that an applicant that does not receive any bids for a fixed broadband connections and Wi-Fi network has satisfied the cost effectiveness test for the purchase of data plans and air cards. T-Mobile Comments at 4. We agree with ESH that, in this unlikely circumstance, the lack of bids does not necessarily establish cost effectiveness. See ESH Reply Comments at 2.

⁴⁶ See *Sixth Report and Order*, 25 FCC Rcd at 19808, para. 105; *E-rate Modernization Order*, 29 FCC Rcd at 8917, para. 119 ("limit[ing] internal connections support to those broadband distribution services and equipment needed to deliver broadband to students and library patrons: routers, switches, wireless access points, internal cabling, racks, wireless controller systems, firewall services, uninterruptable power supply, and the software supporting each of these components used to distribute high-speed broadband throughout school buildings and libraries"); see also *2015 ESL and Order*, 29 FCC Rcd at 13409, para. 14.

⁴⁷ ESH Comments at 2 (requesting clarification that firewall services hosted by the service provider are eligible), FFL Comments at 3 (requesting clarification of eligible firewall functionalities), SECA Reply Comments at 14 (asserting that next generation firewall should be eligible), USTelecom Reply Comments at 9-10 (requesting clarification of the treatment of firewall services).

⁴⁸ Friday Institute Reply Comments at 3 (urging that content filtering and firewall services be made eligible as Category One).

⁴⁹ *Id.* at 2 (seeking clarification that content filtering is a form of firewall service); HP Comments at 3 (requesting the addition of enhanced network security features such as Policy Management Systems and Intrusion Prevention Systems to the ESL).

⁵⁰ See *E-rate Modernization Order*, 29 FCC Rcd at 8918, para. 121 & n.275 (declining to designate services suggested by commenters, including intrusion protection and detection, malware protection, application control, content filters, DDoS mitigation, and cybersecurity services, as eligible).

2. Virtualized and Cloud-Based Functionalities

19. We decline requests by commenters for additions to Note (1) under Eligible Broadband Internal Connections.⁵¹ Note (1) explains that hardware and software solutions that virtualize the functionalities of the eligible internal connections equipment listed in that section are eligible for E-rate support. The Commission made broadband distribution services and equipment that can be virtualized into the cloud, such as wireless controllers, eligible for Category Two internal connections support in the *E-rate Modernization Order*.⁵² We added Note (1) under Eligible Broadband Internal Connections in the ESL for funding year 2015 to implement that Commission decision.⁵³ We agree with commenters that virtualized products, including hardware and software, that perform the same functions as eligible internal connections equipment are eligible.⁵⁴ We also agree that virtualized functionalities such as Software Defined Networking (SDN) and Network Function Virtualization (NFV) – solution that virtualize eligible routing, switching, controller, and firewall functionalities – are eligible and may be a more cost effective solution than traditional wireless local area network components.⁵⁵ We emphasize, however, that only virtualized solutions that perform the functions of eligible broadband internal connections are eligible. We therefore decline requests from commenters that we make eligible cloud-based applications that replace equipment that is not E-rate eligible, such as servers.⁵⁶ Applicants must continue to competitively bid the broadband internal connections equipment and functionalities that meet their needs and select the most cost effective solution.

3. Other Category Two Modifications

20. At the request of the New York City Department of Education (NYC DOE), we also clarify that applicants need not demonstrate that actual work was performed in order to receive E-rate support for bug fixes, security patches, and online and telephone-based technical assistance as part of Basic Maintenance of Internal Connections (BMIC).⁵⁷ As NYC DOE points out, the *2010 Clarification Order* explained that although fixed price BMIC contracts are eligible for funding only for work that is actually performed, there is a limited exception for bug fixes, security patches, and online and telephone-based

⁵¹ See e.g. Education Partners Solutions Comments at 2-3 (requesting clarification that equipment and software that provides virtualized network functions is eligible); FFL Comments at 5 (urging the Commission to clarify that operating system software and virtual networking software that provide functionality equivalent to eligible components are eligible); VMWare Reply Comments at 1 (software and hardware that support SDN or NFV should be eligible).

⁵² *E-rate Modernization Order*, 29 FCC Rcd at 8917, para. 119.

⁵³ See *2015 ESL and Order*, 29 FCC Rcd at 13418.

⁵⁴ See HP Comments at 2-3 (requesting clarification that SDN applications that replace network hardware are eligible); SECA Reply Comments at 14 (requesting eligibility of SDN and other virtualized options). See *E-rate Modernization Order*, 29 FCC Rcd at 8971, para. 119. Eligibility is limited to the virtualized functionalities of eligible broadband internal connection services and equipment. *Id.* (“limit[ing] internal connections support to those broadband distribution services and equipment needed to deliver broadband to students and library patrons: routers, switches, wireless access points, internal cabling, racks, wireless controller systems, firewall services, uninterruptable power supply, and the software supporting each of these components used to distribute high-speed broadband throughout school buildings and libraries.”).

⁵⁵ See HP Comments at 2-3 (explaining that SDN will allow E-rate to fund more applicants at a lower cost); Education Partners Comments at 2 (explaining that SDN and NFV may be the most cost effective, scalable solution for applicants); VMWare Comments at 1 (requesting eligibility for SDN and NFV to allow the most appropriate, scalable, cost effective solutions).

⁵⁶ See Education Partners Solutions Comments at 2 (requesting that cloud-based servers be made eligible).

⁵⁷ See NYC DOE Comments at 3.

technical assistance.⁵⁸ Although the ESL already indicates that bug fixes, security patches, and online and telephone-based technical assistance are eligible BMIC, we add a sentence to the Eligibility Limitations for Basic Maintenance on page 7 of the FY2016 ESL to more closely match the *2010 Clarification Order*.

21. Funds for Learning and SECA request that self-provisioned network monitoring and management functionality for internal connections be identified on the ESL as eligible services.⁵⁹ In the *E-rate Modernization Order*, the Commission made managed internal broadband services (MIBS) eligible for internal connections support.⁶⁰ The Commission determined that network management and operation services are only E-rate eligible when provided by a third party as part of eligible MIBS.⁶¹ The Commission did not otherwise change the ineligible status of network monitoring and management equipment and software.⁶² Applicants seeking support for such services can therefore seek support for such services as MIBS, but cannot seek otherwise seek support for such functionality.

22. We also adopt other minor clarifications and edits proposed in the *ESL Public Notice*. For example, we change references to “Internet access services” to “Internet access” throughout the ESL and we delete the explanation of 800 service.⁶³

23. We make no other changes to the ESL for funding year 2016, and we specifically decline to address or consider certain comments requesting that we add services to the list or provide additional clarifications.⁶⁴ Several commenters raise E-rate eligibility issues that are beyond the scope of the *ESL Public Notice*, were resolved by the Commission in the *E-rate Modernization Order* and *Second E-rate Modernization Order* and are therefore outside the scope of this proceeding,⁶⁵ or are beyond the scope of

⁵⁸ *Id.*; *Schools and Libraries Universal Service Support Mechanism, A National Broadband Plan for Our Future*, CC Docket No. 02-6, GN Docket No. 09-51, Order, 25 FCC Rcd 17324, 17235-17326, paras. 5-6 (2010) (*2010 Clarification Order*).

⁵⁹ See FFL Comments at 3-4; SECA Reply Comments at 13.

⁶⁰ *E-rate Modernization Order*, 29 FCC Rcd at 8918-19, para. 123.

⁶¹ *Id.* at 8920, para. 128.

⁶² See *2014 ESL and Order*, 28 FCC Rcd at 14550, 14555 (network management software, service and equipment are ineligible); *2015 ESL and Order*, 29 FCC Rcd at 13432 (basic maintenance of internal connections does not include network management services, including 24 hour network monitoring).

⁶³ See, e.g. *ESL Public Notice*, 30 FCC Rcd at 4910. No comments were filed on these proposed edits.

⁶⁴ See, e.g., Education Partners Solutions Comments at 3 (requesting that support for DNS and DHCP services be reinstated); ESH Comments at 1 (recommending removal of certain services and additional clarifications to the list of eligible digital transmission services); SHLB Reply Comments at 2 (urging the Commission to not rule out previously eligible services at this time); ESH Comments at 2 (asking the Commission to require applicants that request support for Internet access service of less than 25 Mbps to establish that no faster service is available).

⁶⁵ Some commenters sought to revisit the Commission’s determinations regarding data plans and air cards. See AdTec Comments at 1 (reiterating opposition to any limitations on purchases of data plans and air cards for mobile devices); T-Mobile Comments at 3 (seeking to require applicants to include maintenance and security costs when comparing fixed WLAN solutions to data plans and air cards for mobile devices). The Commission has previously stated that applicants must consider the total cost of all components of delivering service. See *Second E-rate Modernization Order*, 29 FCC Rcd at 15601, para. 158. One commenter requested that applicants should be able to consider the likelihood of receiving Category Two support when determining if mobile broadband services are cost effective. T-Mobile Comments at 6. The Commission previously rejected this argument. *Second E-rate Modernization Order*, 29 FCC Rcd at 15601, para. 159.

the Bureau's authority to annually revise the ESL.⁶⁶ Due to the complexity of these issues and the limited scope of the ESL proceeding, we do not address these requests at this time.

IV. ORDERING CLAUSE

24. ACCORDINGLY, IT IS ORDERED, that pursuant to the authority contained in sections 1 through 4, 254, 303(r), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-154, 254, 303(r), and 403, and sections 0.91 and 54.502 of the Commission's rules, 47 C.F.R. §§ 0.91 and 54.502, this Order IS ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION

Matthew S. DelNero
Chief
Wireline Competition Bureau

⁶⁶ See ESH Comments at 2 (requesting that funding of Internet access of less than 25 Mbps should require the applicant to establish that no faster service is available); CRW Consulting Comments at 3, E-rate Central Reply Comments at 1-3, SECA Reply Comments at 2-4 (all requesting that the Commission revisit its prohibition on duplicative services); Education Partner Solutions Comments at 3-4 (requesting that self-provisioned networks should be required to charge a Universal Service Fund (USF) contributions fee, or USF contributions should be waived for Category One services from telecommunications providers).

APPENDIX A**List of Commenters****Comments and Reply Comments in Response to the
*ESL Public Notice*****WC Docket No. 13-184****Commenters**

1. ADS Advanced Data Services, Inc.
2. AdTec
3. CRW Consulting
4. EducationSuperHighway (ESH)
5. Education Partner Solutions, Inc.
6. E-Rate Provider Services, LLC.
7. Funds for Learning, LLC (FFL)
8. Hewlett-Packard Company (HP)
9. Illinois Department of Central Management Services (Illinois)
10. New York City Department of Education (NYC DOE)
11. T-Mobile USA, Inc. (T-Mobile)
12. Unite Private Networks

Reply Commenters

1. ADS Advanced Data Services, Inc.
2. ESH
3. E-Rate Central
4. Exebridge, Inc.
5. Friday Institute for Educational Innovation, North Carolina State University (Friday Institute)
6. Hazel Reyes
7. North Carolina Department of Public Instruction (NC DPI)
8. Schools, Health & Libraries Broadband Coalition (SHLB)
9. State E-rate Coordinators' Alliance (SECA)
10. United States Telecom Association (USTelecom)
11. VMWare, Inc.

APPENDIX B

Eligible Services List for Funding Year 2016

Schools and Libraries Universal Service Support Mechanism – Eligible Services List

(WC Docket No. 13-184)

The Federal Communications Commission's (FCC's) rules provide that all services that are eligible to receive discounts under the Schools and Libraries Universal Service Support Mechanism (otherwise known as the E-rate program or "E-rate") are listed in this Eligible Services List (ESL). The E-rate program is administered by the Universal Service Administrative Company (USAC). Eligible schools and libraries may seek E-rate support for eligible Category One telecommunications services, telecommunications, and Internet access and Category Two internal connections, basic maintenance, and managed internal broadband services as identified herein. 47 C.F.R. §§ 54.5, 54.500, and 54.502(a).

Additional guidance from USAC about the E-rate application process and about eligible services, including a glossary of terms, is available at USAC's website at <http://www.usac.org/sl/>. The documents on USAC's website are not incorporated by reference into the ESL and do not bind the Commission. Thus, they will not be used to determine whether a service or product is eligible. Applicants and service providers are free to refer to those documents, but just for informal guidance. This ESL, dated [[Month XX, 2015]], implements changes adopted in the *E-rate Modernization Order* (FCC 14-99) and in the *Second E-rate Modernization Order* (FCC 14-189), and therefore represents a change from prior funding years. This ESL applies to funding requests for Funding Year 2016.

Category One

The first category of supported services, Category One, includes the services needed to support broadband connectivity to schools and libraries. Eligible Category One services are listed in the entries for data transmission services and Internet access and voice services. This category consists of the services that provide broadband to eligible locations including data links that connect multiple points, services used to connect eligible locations to the Internet, and services that provide basic conduit access to the Internet. With the exception of dark fiber and self-provisioned broadband networks, maintenance and technical support appropriate to maintain reliable operation are only eligible for support when provided as a component of these services. Voice services, as described below, are subject to a phase down of support beginning in Funding Year (FY) 2015.

Data transmission services and Internet access

Digital transmission services and Internet access are eligible in Category One. These services include:

- Asynchronous Transfer Mode (ATM)
- Broadband over Power Lines
- Cable Modem
- Digital Subscriber Line (DSL)
- DS-1 (T-1), DS-3 (T-3), and Fractional T-1 or T-3
- Ethernet
- Integrated Services Digital Network (ISDN)
- Leased Lit Fiber
- Dark Fiber
- Self-Provisioned Broadband Networks
- Frame Relay
- Multi-Protocol Label Switching (MPLS)
- OC-1, OC-3, OC-12, OC-n
- Satellite Service
- Switched Multimegabit Data Service
- Telephone dial-up
- Wireless services (e.g., microwave)

Notes: (1) E-rate support is available for leased lit fiber, dark fiber, and self-provisioned broadband networks as described in the *Second E-rate Modernization Order* (FCC 14-189). Eligible costs include monthly charges, special construction, installation and activation charges, modulating electronics and other equipment necessary to make a Category One broadband service functional (“Network Equipment”), and maintenance and operation charges. Network Equipment and maintenance and operation costs for existing networks are eligible. All equipment and services, including maintenance and operation, must be competitively bid.

(2) Applicants that seek bids for special construction of dark fiber or self-provisioned broadband networks must also seek bids for lit fiber service and fully consider all responsive bids.

(3) Applicants may seek special construction funding for the upfront, non-recurring costs for the deployment of new or upgraded facilities. The eligible components of special construction are construction of network facilities, design and engineering, and project management.

(4) Staff salaries and labor costs for personnel of the applicant or underlying beneficiary are not E-rate eligible.

Eligible voice services.

Eligible voice services are subject to an annual 20 percentage point phase down of E-rate support beginning in FY 2015, as described in the *E-rate Modernization Order*. For FY 2016, the effective reduced discount rate will be 40 percentage points. The reduced discount rate for voice services will apply to all applicants and all costs for the provision of telephone services and circuit capacity dedicated to providing voice services including:

- Centrex
- Integrated Services Digital Network (ISDN)
- Interconnected voice over Internet protocol (VoIP)
- Local, long distance, and 800 (toll-free) service
- Plain old telephone service (POTS)
- Radio loop
- Satellite telephone service
- Shared telephone service (only the portion of the shared services relating to the eligible use and location may receive discounts)
- Wireless telephone service including cellular voice and excluding data and text messaging

Eligibility explanations for certain Category One services:

Internet access – Eligible Internet access may include features such as basic firewall protection, domain name service, and dynamic host configuration when these features are provided as a standard component of a vendor’s Internet access service. Firewall protection that is provided by a vendor other than the Internet access provider or priced out separately will be considered a Category Two internal connections component. Examples of items that are ineligible components of Internet access include applications, content, e-mail, and end-user devices and equipment such as computers, laptops, and tablets.

Wireless services and wireless Internet access – As clarified in the *Second E-rate Modernization Order*, data plans and air cards for mobile devices are eligible only in instances when the school or library seeking support demonstrates that the individual data plans are the most cost-effective option for providing internal broadband access for mobile devices at schools and libraries. Applicants should compare the cost of data plans or air cards for mobile devices to the total cost of all components necessary to deliver connectivity to the end user device, including the cost of Internet access and data transmission service to the school or library. Seeking support for data plans or air cards for mobile devices for use in a school or library with an existing broadband connection and wireless local area network implicates the E-rate program’s prohibition on requests for duplicative services.

Off-campus use, even if used for an educational purpose, is ineligible for support and must be cost allocated out of any funding request.

Managed internal broadband services, such as managed Wi-Fi, are eligible only for Category Two support.

Category Two

The second category of equipment and services eligible for E-rate support, Category Two, includes the internal connections needed for broadband connectivity within schools and libraries. Support is limited to the internal connections necessary to bring broadband into, and provide it throughout, schools and libraries. These are broadband connections used for educational purposes within, between, or among instructional buildings that comprise a school campus or library branch, and basic maintenance of these connections, as well as services that manage and operate owned or leased broadband internal connections (e.g., managed internal broadband services or managed Wi-Fi). Category Two support is subject to per-school or per-library budgets as set forth in the *E-rate Modernization Order* and *Second E-rate Modernization Order*. The eligible components and services in Category Two are:

Eligible Broadband Internal Connections

- Access points used in a local area network (LAN) or wireless local area network (WLAN) environment (such as wireless access points)
- Antennas, cabling, connectors, and related components used for internal broadband connections
- Caching
- Firewall services and components separate from basic firewall protection provided as a standard component of a vendor's Internet access service.
- Switches
- Routers
- Racks
- Uninterruptible Power Supply (UPS)/Battery Backup
- Wireless controller systems
- Software supporting the components on this list used to distribute high-speed broadband throughout school buildings and libraries

Notes: (1) Functionalities listed above that can be virtualized in the cloud, and equipment that combines eligible functionalities, like routing and switching, are also eligible.

(2) A manufacturer's multi-year warranty for a period up to three years that is provided as an integral part of an eligible component, without a separately identifiable cost, may be included in the cost of the component.

(3) Caching is defined as a method that stores recently accessed information. Caching stores information locally so that the information is accessible more quickly than if transmitted across a network from a distance. A caching service or equipment that provides caching, including servers necessary for the provision of caching, is eligible for funding.

Eligible Managed Internal Broadband Services

- Services provided by a third party for the operation, management, and monitoring of eligible broadband internal connections are eligible managed internal broadband services (e.g., managed Wi-Fi).
- E-rate support is limited to eligible expenses or portions of expenses that directly support and are necessary for the broadband connectivity within schools and libraries. Eligible expenses include the management and operation of the LAN/WLAN, including installation, activation and initial configuration of eligible components, and on-site training on the use of eligible equipment.
- In some eligible managed services models, the third party manager owns and installs the equipment and school and library applicants lease the equipment as part of the managed services contract. In other cases, the school or library may own the equipment, but have a third party manage it for them.

Basic Maintenance of Eligible Broadband Internal Connections

E-rate support is available for basic maintenance and technical support appropriate to maintain reliable operation when provided for eligible broadband internal connections.

The following basic maintenance services are eligible:

- Repair and upkeep of eligible hardware
- Wire and cable maintenance
- Configuration changes
- Basic technical support including online and telephone based technical support
- Software upgrades and patches including bug fixes and security patches

Eligibility limitations for Category Two:

Eligibility limitations for managed internal broadband services - The equipment eligible for support as part of a managed internal broadband service may include only equipment listed as a broadband internal connections component above. Upfront charges that are part of a managed service contract are eligible for E-rate support except to the extent that the upfront charges are for any ineligible internal connections (e.g., servers other than those that are necessary to provide caching) which, if included in the contract, must be cost allocated out of any funding request.

Eligibility limitations for basic maintenance – Basic maintenance is eligible for support only if it is a component of a maintenance agreement or contract for eligible broadband internal connections. The agreement or contract must specifically identify the eligible internal connections covered, including product name, model number, and location. Support for basic maintenance will be paid for the actual work performed under the agreement or contract. Support for bug fixes, security patches, and technical support is not subject to this limitation. Basic maintenance does not include:

- Services that maintain ineligible equipment
- Upfront estimates that cover the full cost of every piece of eligible equipment
- Services that enhance the utility of equipment beyond the transport of information, or diagnostic services in excess of those necessary to maintain the equipment's ability to transport information
- Network management services, including 24-hour network monitoring
- On-site technical support (i.e., contractor duty station at the applicant site) unless applicants present sufficient evidence of cost-effectiveness
- Unbundled warranties

Miscellaneous

As described below, various miscellaneous services associated with Category One or Category Two are eligible for support. Applicants should request eligible miscellaneous services in the same category as the associated service being obtained or installed.

Fees

Fees and charges that are a necessary component of an eligible product or service are eligible including:

- Change fees
- Contingency fees are eligible if they are reasonable and a regular business practice of the service provider. Contingency fees will be reimbursed only if the work is performed.
- Freight assurance fees
- Lease or rental fees on eligible equipment
- Per diem and/or travel time costs are eligible only if a contract with a vendor for the eligible product or services specifically provides for these costs
- Shipping charges
- Taxes, surcharges, and other similar, reasonable charges incurred in obtaining an eligible product or service are eligible. This includes customer charges for universal service fees, but does not include additional charges for universal service administration.

Installation, activation, and initial configuration

Installation, activation, and initial configuration of eligible components are eligible. These services may include:

- Design and engineering costs if these services are provided as an integral component of the installation of the relevant services
- Project management costs if these services are provided as an integral component of the installation of the relevant services
- On-site training is eligible as a part of installation services but only if it is basic instruction on the use of eligible equipment, directly associated with equipment installation, and is part of the contract or agreement for the equipment. Training must occur coincidentally or within a reasonable time after installation.

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

In the Matter of)	
)	
Modernizing the E-rate)	WC Docket No. 13-184
Program for Schools and Libraries)	
)	
Connect America Fund)	WC Docket No. 10-90

SECOND REPORT AND ORDER AND ORDER ON RECONSIDERATION

Adopted: December 11, 2014

Released: December 19, 2014

By the Commission: Chairman Wheeler and Commissioners Clyburn and Rosenworcel issuing separate statements; Commissioners Pai and O’Rielly dissenting and issuing separate statements.

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I. INTRODUCTION

1. In this Second E-rate Modernization Report and Order (Order) and Order on Reconsideration, we take the next critical steps to modernize the Universal Service Fund’s Schools and Libraries program, known as E-rate. Building on the *E-rate Modernization Order* we adopted in July,¹ the improvements to the program that we adopt in this Order seek to close the high-speed connectivity gap between rural schools and libraries and their urban and suburban counterparts, and provide sufficient and certain funding for high-speed connectivity to and within all eligible schools and libraries. We take these actions to ensure the continued success of the E-rate program as it transitions from supporting legacy services to focusing on meeting the high-speed broadband connectivity needs of schools and libraries consistent with the recently adopted program goals and long-term connectivity targets.²

2. Since its inception 18 years ago, the E-rate program has helped connect almost every school and library in the country to the Internet, bringing tremendous benefits to teachers, students, and library patrons. In the *E-rate Modernization Order*, we recognized the growing need for high-speed connectivity to and within schools and libraries. Today, high-speed broadband is transforming learning by providing teachers and students with a vast array of tools to improve educational outcomes, collaboration, and access to information. Investments from the E-rate program help schools take full advantage of feature-rich educational technologies that allow for individualized digital learning, access to interactive content, and online assessments. The same investments allow libraries to offer a free and safe place to search for information on job opportunities, find public services, access online education, and connect with friends and family. And by helping to connect every student and every library patron to high-speed broadband, no matter where they live or their income level, E-rate provides a vital link to the digital world and new opportunities.

3. Because of the importance of these connections to all students and all library patrons, we set a goal of ensuring affordable access to high-speed broadband sufficient to support digital learning in schools and robust connectivity for all libraries and, to meet that goal, adopted connectivity targets.³ For schools, we set a high-speed broadband Internet access target of at least 100 Mbps per 1,000 students and

¹ See *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 8870 (2014) (*E-rate Modernization Order* or *E-rate Modernization FNPRM*).

² See *id.* at 8894-8934, Section IV.

³ See *id.* at 8880-94, Section III.

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.⁴ We adopted 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.⁵ We also took steps in that Order to help ensure schools and libraries can purchase broadband services that meet those targets. Among other things, we refocused E-rate funding on providing support for broadband services; ensured that funding will be available for the internal connections necessary to distribute broadband services; made it easier for schools and libraries to purchase affordable commercially available Internet access services that meet our initial speed targets; adopted transparency requirements to ensure that schools and libraries can compare the prices they are paying for broadband services; and clarified our consortium rules to encourage cost-effective consortia-based purchasing. On their own, the reforms we adopted in the *E-rate Modernization Order* are important, but insufficient to ensure that schools and libraries can purchase affordable high-speed broadband services.

4. In this Order, we take further steps to help both rural and urban schools and libraries achieve the connectivity targets set in the *E-rate Modernization Order*. Commission staff has estimated that only 65 percent of schools have access to high-speed broadband that can be scaled up to meet our connectivity targets, and that rural schools have even less access than urban schools.⁶ Only a fraction of rural schools with access to high-speed connectivity are connecting at speeds that meet our targets because of the high cost of connectivity, while other schools are unable to find a provider willing to provide high-speed broadband services.⁷ The connectivity gap that libraries face is even wider, with half of all public libraries reporting connections of less than 10 Mbps.⁸ Connections within the building are also a concern, as demonstrated by the recent Consortium for School Networking survey of school district leaders showing that 45 percent do not believe their Wi-Fi networks have the capacity to move to one-to-one student-to-device deployment.⁹

⁴ *Id.* at 8885, para. 34, 8886, para. 39.

⁵ *See id.* at 8886, para. 37.

⁶ *Wireline Competition Bureau Releases E-rate Modernization Staff Report and Online Maps of School and Library Fiber Connectivity Data*, WC Docket No. 13-184, Public Notice, 29 FCC Rcd 9644, Attach. at 9656-57 (Wireline Comp. Bur. 2014) (*Staff Report*) (aggregating data from the E-rate docket (WC Docket No. 13-184) with the National Broadband Map community anchor institution connectivity data, using school and library codes from the National Center for Education Statistics (NCES) and the Institute for Museum and Library Services (IMLS) as the unique identifier for each school and library to develop a data set of known high-speed connectivity for about half of all public schools and two thirds of library locations. That data indicates that roughly 65 percent of public schools and approximately 15 percent of libraries have access to fiber connectivity to the building). *See also id.* (41 percent of rural schools and 31 percent of urban schools do not have access to fiber connectivity).

⁷ *See, e.g.*, Letter from Reginal Leichty, Partner, Education Counsel, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, Attach. at 15 (filed Oct. 15, 2014) (attaching CoSN's 2nd Annual E-rate and Infrastructure Survey) ("CoSN Survey") (65 percent of rural districts report having one qualified bidder for Internet services); Imperial County NPRM Comments at 9 (fiber connectivity is not available for many smaller or rural schools in California); KDLA NPRM Comments at 6 (Internet access is unreliable in Southeastern Kentucky due to mountainous terrain and lack of infrastructure); Letter from Charles Eberle, Attorney Advisor, Telecommunications Access Policy Division, Wireline Competition Bureau, FCC, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, Attach. 1 (filed Spt. 27, 2013) (many rural Oregon school districts do not have access to fiber facilities); Letter from Jeffrey A. Mitchell, Counsel for the Panhandle Area Education Consortium, North East Florida Educational Consortium, and Heartland Educational Consortium, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 2 (filed Feb. 21, 2014) (many rural Florida schools are served by a single provider that does not have fiber facilities).

⁸ *See* ALA FNPRM Comments at 7.

⁹ *See* CoSN Survey at 5.

5. Even those schools and libraries that have adequate connectivity today will likely require significant upgrades to meet their future connectivity needs. The CoSN Survey shows that 91 percent of respondents identified at least one infrastructure upgrade that is essential for them to implement in order to meet our connectivity targets.¹⁰ Further modernization of the program will help us close these connectivity gaps, particularly the wider gap in rural areas of the country, and ensure the program provides support for the connectivity necessary for schools and libraries to take advantage of all of the digital learning and educational content available today and in the future. Ensuring schools and libraries have affordable access to high-speed, scalable connections is a critical step in accomplishing our goals.¹¹

6. In light of the overwhelming need for more and greater high-speed connections to schools and libraries, in this Order we continue on the path towards meeting our connectivity targets for all eligible schools and libraries as set out in the *E-rate Modernization Order*. In particular, we:

- Maximize schools' and libraries' options for purchasing affordable high-speed broadband connectivity by:
 - Providing greater flexibility for applicants with respect to payment options for large non-recurring capital costs for high-speed broadband;
 - Equalizing the treatment of lit and dark fiber, with appropriate safeguards, to offer applicants an additional cost-effective option for deploying high-speed broadband;
 - Allowing self-construction of high-speed broadband facilities by schools and libraries in the limited circumstances in which self-construction is the most cost-effective option;
 - Providing up to an additional 10 percent in category one funding to match state funding for special construction charges for last-mile facilities to support high-speed broadband, with special consideration for Tribal schools; and
 - Obligating certain recipients of funding from another Universal Service Fund (USF or Fund) program, the high-cost program, to offer high-speed broadband to schools and libraries located in the geographic area where the carrier receives high-cost support at rates reasonably comparable to similar services in urban areas;
- Increase certainty and predictability of funding for Wi-Fi by expanding the five-year budget approach to providing support for category two internal connections through funding year 2019;
- Adjust the E-rate funding cap to \$3.9 billion to meet the long-term needs of the program;
- Direct the Universal Service Administrative Company (USAC) to track and provide program performance information on the specific policy changes made in this Order and the *E-rate Modernization Order* to enable the Commission to assess the effectiveness of the policy changes in meeting E-rate program goals; and
- Clarify the rules regarding appeals of USAC decisions.

¹⁰ See *id.* at 18.

¹¹ See, e.g., ESH FNPRM Comments at 6 (98 percent of public schools will require a fiber connection to meet the Commission's connectivity targets); New America FNPRM Reply Comments at 3 (reforms in the *E-rate Modernization Order* will almost certainly fall short of helping schools and libraries obtain the capacity that they need if underlying infrastructure and connectivity challenges are not addressed in the second phase of E-rate reform).

7. In our Order on Reconsideration, we grant in part the petitions for reconsideration of the areas designated as urban for purposes of the E-rate program. We also deny petitions for reconsideration of the document retention period, the phase out of support for telephone components and other services, and funding commitments that cover multiple years. At the same time, we clarify our cost effectiveness test for individual data plans and the cost allocation rules for circuits carrying voice services.

8. Through the changes we make to the E-rate program, we take further steps forward in our effort to modernize the program and place it on firm footing to meet the program goals. As the changes made in this Order and the *E-rate Modernization Order* are implemented, we will continue to identify additional steps that can be taken to further modernize the E-rate program and achieve our goals of: (1) ensuring affordable access to high-speed broadband; (2) maximizing the cost-effectiveness of spending for E-rate supported purchases; and (3) making the E-rate application process and other E-rate processes fast, simple, and efficient. We recognize that these changes will require adjustments by applicants, service providers, and other stakeholders, and in conjunction with USAC we commit to ensure that sufficient training and educational resources are provided to assist these groups during this transition. Finally, as always, we welcome feedback from applicants, service providers, teachers, librarians, state and local governments, and all other stakeholders on additional measures to reach our goals faster and improve the E-rate program.

II. MAXIMIZING SCHOOLS' AND LIBRARIES' OPTIONS FOR PURCHASING AFFORDABLE HIGH-SPEED BROADBAND CONNECTIVITY

9. We focus in this section on providing schools and libraries, particularly those in rural areas, more options for purchasing affordable high-speed broadband connections. We agree with the many commenters who make clear that in order to meet the Commission's connectivity targets, in addition to increased funding, we must make changes to the program to meet the need for affordable high-speed connectivity to schools and libraries.¹² The CoSN Survey identifies the monthly cost of recurring Internet access services and an inability to pay for the capital or non-recurring costs to get high-speed connections as the two biggest barriers to increasing connectivity to schools.¹³ Likewise, the American Library Association (ALA), the Public Library Association, and others indicate that lack of access to broadband infrastructure and the high costs of recurring services hamper libraries' ability to meet our E-rate goals.¹⁴ As ALA has explained, our nation's libraries depend on affordable, scalable, high-capacity broadband in order to complete education, jumpstart employment and entrepreneurship, and foster individual empowerment and engagement.¹⁵ To meet the connectivity targets we adopted in the *E-rate Modernization Order*, substantial numbers of schools and libraries will need to find vendors willing and able to provide affordable high-speed connections to their buildings and be able to afford the recurring costs of those high-speed connections.

¹² See, e.g., Letter from the American Library Association et al. to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 1 (filed Oct. 14, 2014) (ALA et al. Oct. 14 Ex Parte) (take steps to address the broadband capacity gap to libraries and schools); New America FNPRM Reply Comments at 3; see also ALA FNPRM Comments at 4 (identifying actions the Commission can take to close the broadband gap for libraries); MOREnet FNPRM Comments at 3 (recommending that the FCC remove barriers, increase flexibility, and encourage infrastructure investment in high-cost areas); ESH FNPRM Comments at 3-4 (the FCC should ensure that every school and library has access to the physical infrastructure they need to meet the FCC's connectivity goals); SHLB FNPRM Comments at 2 ("More work is needed . . . to ensure schools and libraries have the affordable, high-capacity broadband capabilities outside the building that they need for the 21st Century.").

¹³ See CoSN Survey at 4.

¹⁴ See ALA et al. Oct. 14 Ex Parte at 1-2.

¹⁵ See Letter from the Association for Rural & Small Libraries, American Library Association, Chief Officers of States Library Agencies, Public Library Association, and Urban Libraries Council, to Chairman Wheeler and Commissioners Clyburn, O'Rielly, Pai, and Rosenworcel, FCC, WC Docket No. 13-184, at 1 (filed July 7, 2014).

10. Over the course of the last 18 years, the Commission has recognized the importance of giving local school districts and libraries the flexibility to purchase E-rate supported services that meet their needs.¹⁶ With rare exceptions, however, the program has not adopted new tools for applicants to use in purchasing connectivity.¹⁷ The actions we take today give applicants more options for purchasing connectivity and represent a crucial step in meeting our first goal for the E-rate program: ensuring affordable access to high-speed broadband sufficient to support digital learning in schools and robust connectivity for all libraries.

11. The E-rate program historically has fully funded all priority one (now category one) funding requests, which include funding requests for high-speed broadband connections to schools and libraries. Despite the program's history of funding all priority one requests, the record demonstrates that a substantial percentage of U.S. schools do not meet the short term Internet Access connectivity target of 100 Mbps per 1,000 users that we adopted in the *E-rate Modernization Order*.¹⁸ Similarly, the record demonstrates that most libraries do not meet our short-term connectivity targets.¹⁹ In addition, by not effectively enabling E-rate applicants to undertake large construction projects, purchase dark fiber and consider self-construction of high-speed networks, our current rules and procedures prevent some applicants from choosing the most cost-effective options for increasing the high-speed broadband connections to their school and library buildings.²⁰

12. We therefore take actions targeted at closing the rural connectivity gap and increasing affordable high-speed broadband connections to schools and libraries. First, we direct USAC to suspend its policy requiring applicants to amortize over multiple years upfront charges for category one special construction exceeding \$500,000 while allowing applicants to pay the non-discounted portion of category one special construction charges over four years.²¹ Next, in limited circumstances and with appropriate

¹⁶ See generally 47 C.F.R. §§ 54.503-54.504 (schools and libraries may decide which services best meet their needs within the parameters of the E-rate competitive bidding rules).

¹⁷ In 2010, the Commission permitted support for the lease of dark fiber but declined to support for special construction charges for dark fiber. See *Schools and Libraries Universal Service Support Mechanism, A National Broadband Plan for our Future*, CC Docket No. 02-6, GN Docket No. 09-51, Order, 25 FCC Rcd 18762,18766, para. 9, 18773, para. 19 (2010) (*Schools and Libraries Sixth Report and Order*).

¹⁸ See CoSN Survey at 10-11 (59 percent of responding school districts report that not all schools can meet the 100 Mbps bandwidth goal and 27 percent of districts report that not a single school meets the goal).

¹⁹ See ALA FNPRM Comments at 8 (fewer than 4 percent of libraries report speeds of 100 Mbps or higher in 2011); Illinois Library NPRM Reply Comments at 1 (half of American libraries have speeds that exceed 4 Mbps).

²⁰ See, e.g., Letter from Evan Marwell, CEO, EducationSuperHighway (ESH), to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 5 (filed Oct. 17, 2014) (ESH/CoSN Connectivity Ex Parte Letter) (attaching "Bringing Everyone Up to Speed: Analysis of Costs to Upgrade and Maintain WAN and Internet Access Connections for all K-12 Public Schools,") ("ESH/CoSN Connectivity Model") (increasing the resources available in the E-rate program without also modifying rules that dramatically reduce the need for districts to fund upfront, non-recurring costs and make dark fiber and self-provisioning options available to schools, will limit the impact of the Commission's efforts to close the fiber access gap); SHLB FNPRM Comments at 2 (urging the FCC to amend its rules to encourage applicants to undertake large construction projects, equalize the treatment of lit and dark fiber, and permit applicants to self-construct their own networks); Federal Communications Commission, *Connecting America: The National Broadband Plan*, at 237 (2010), <http://www.broadband.gov/download-plan/> (National Broadband Plan) (reexamine specific E-rate rules that appear to limit the flexibility of applicants to craft the most cost-effective broadband solutions based on the types of broadband infrastructure, services and providers available in their geographic areas).

²¹ In the E-rate program, special construction (or installation) charges for category one broadband services include costs for design and engineering, project management, digging trenches, and laying fiber. See *Schools and Libraries Sixth Report and Order*, 25 FCC Rcd at 18773, n.54. As explained below, "special construction" for purposes of the E-rate program does not have the same meaning as it does in the tariffing context and should not be read to expand the term as used in other tariff situations. See *infra* at n.164.

safeguards, we adopt changes to the E-rate program's rules to equalize the treatment of lit and dark fiber, to allow applicants to self-construct and operate connections to their school and library buildings, and to incentivize federal-state cooperation in deploying broadband infrastructure to schools and libraries in hard to connect areas. Finally, we establish an obligation for recipients of high-cost support to offer broadband service to requesting eligible schools and libraries at rates reasonably comparable to rates charged in urban areas.

13. We direct USAC, working with the Wireline Competition Bureau (Bureau) and the Office of the Managing Director (OMD), to implement the changes we make to the program in this Order. In so doing, we reaffirm our delegation of authority to the Bureau to issue orders interpreting our E-rate rules and otherwise provide clarification and guidance in the case of any ambiguity that may arise as necessary to ensure that support for services provided to schools and libraries operate to further the goals we have adopted for the E-rate program.²² We also direct the Bureau, working with OMD and other Commission staff, to make changes to the E-rate information collections, as needed, and to provide direction to USAC to implement the changes.

14. These actions will result in increased high-speed broadband connections to schools and libraries in all areas in furtherance of the E-rate program's Internet access and WAN/last-mile goals and are consistent with section 254 of the Act, which, *inter alia*, directs the Commission to "enhance, to the extent technically feasible and economically reasonable, access to advanced telecommunications and information services" for schools and libraries.²³ Moreover, these changes will allow applicants more flexibility to pursue the most cost-effective option for connecting schools and library buildings. Although these incentives will likely have the greatest effect on broadband availability and affordability in rural and high-cost areas, they will also give E-rate applicants in urban areas more purchasing options.

15. We are cognizant of the fact that some commenters have expressed concerns that the cumulative effect of the actions we take in this order to facilitate greater use of E-rate dollars for special construction charges could result in insufficient funds being available for other category one expenses and category two costs.²⁴ In order to address these concerns, we require USAC to report to the Bureau if E-rate commitments for special construction charges resulting from the rules we adopt today exceed ten percent of the total E-rate cap for any given funding year. In determining whether a report is required, USAC shall consider the commitments for special construction charges for dark fiber, self-construction, and for special construction that takes advantage of state matching funds for a given funding year. Any such report shall also provide information to the Bureau concerning the cost-effectiveness of the special construction projects to which USAC has committed funding. That report shall be informed by the work done on cost-effective analysis as provided for in this Order.²⁵ The Bureau shall present the findings to the full Commission for its consideration of the impact of special construction charges on the long-term financial viability of the program and the ability of the Commission to meet the E-rate program goals adopted in the July *E-rate Modernization Order*.²⁶

²² *Federal-State Joint Board on Universal Service*, Third Report and Order, CC Docket No. 96-45, 12 FCC Rcd 22485, 22488-89, para. 6 (1997) (*Universal Service Third Report and Order*); *E-rate Modernization Order*, 29 FCC Rcd at 8645, para 189.

²³ 47 U.S.C. § 254(h)(2)(A). See also 47 U.S.C. § 254(b), (c), and (h). Our exercise of authority under section 254 is informed by, and advances the objectives of, section 706 of the 1996 Act, particularly with respect to encouraging deployment of broadband to elementary and secondary schools and classrooms. 47 U.S.C. § 1302.

²⁴ See *infra* note 98. See also Letter from Jeffrey A. Campbell, Vice President, Government Affairs, Cisco, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184 (filed Nov. 25, 2014) (discussing capping funds for special construction so there will always be funding for internal connections).

²⁵ See *infra* para. 126.

²⁶ See *E-rate Modernization Order*, 29 FCC Rcd at 8880-94, paras. 22-62.

A. Making the Payment Options for Special Construction Charges More Flexible (WC Docket 13-184)

16. To help applicants overcome the cost barrier to high-speed broadband deployment projects, we make a set of administrative and rule changes that will help schools and libraries more easily undertake projects requiring special construction charges. First, we direct USAC to temporarily suspend its policy of requiring applicants to amortize large non-recurring category one charges to encourage vendors to bid on E-rate projects requiring special construction. Second, we allow applicants to pay the non-discounted share of category one special construction charges over four years rather than requiring schools or libraries working with limited budgets to pay the entirety of their share in a single year. We anticipate these changes will provide the right incentives to schools and libraries to consider necessary broadband infrastructure deployments and will attract a diverse slate of vendors to such projects from which the applicants can choose.

1. Suspending USAC's Multi-Year Amortization Policy for Non-Recurring Construction Costs

17. To encourage efficient investment in high-speed broadband infrastructure, including the deployment of fiber, we direct USAC to suspend for four years its policy of requiring applicants to amortize large category one non-recurring charges. Encouraging construction of high-speed connections to schools and libraries is a crucial part of our effort to ensure that all schools and libraries achieve our connectivity targets. Suspending the amortization requirement will give applicants the flexibility to plan large construction projects knowing they can recover the E-rate supported portion of any non-recurring costs upfront, thus providing greater certainty regarding funding and removing this potential barrier to infrastructure investment.²⁷

18. We are comfortable taking this step not only because it will encourage deployment but also because the concerns described by the Commission in 2000 that caused USAC to institute this restriction have proven to be not well-founded. In the *Brooklyn Order*, the Commission expressed concern that large upfront payments for non-recurring services could create a critical drain on the Fund, thereby limiting the number of schools and libraries that would receive funding.²⁸ To prevent such an occurrence, the Commission held that applicants must amortize upfront non-recurring charges when such charges vastly exceed the monthly recurring charges of the relevant service.²⁹ In response to this general

²⁷ See, e.g., SHLB FNPRM Comments at 4 (advocating against the amortization policy); NCTA NPRM Comments at 13 (“Allowing the recovery of non-recurring costs all at once is one way to provide greater certainty”); see also Arkansas NPRM Comments at 13 (“The applicant should be allowed to request the full cost of installation within the funding year the services will be installed if the applicant can pay the non-discounted share.”); CMS NPRM Comments at 10 (“If funding allows, having costs allocated in one up front charge would be beneficial.”); CRW NPRM Comments at 1 (stating support for the phasing out of the amortization requirement); iFiber NPRM Comments at 6 (“It would likely help more schools to pursue long-term cost-effective broadband if payment could be made upfront.”); Merit NPRM Comments at 7 (explaining that the amortization policy is a large burden on research and education networks); TIA NPRM Comments at 7 (“TIA believes that [the amortization policy] may have the unintended consequence of deterring efficient investments, including the deployment of fiber and related equipment.”); CenturyLink PN Comments at 10 (“The program should allow front-loading of non-recurring charges if an applicant chooses that option to secure a lower monthly recurring charge for service.”); Sunesys FNPRM Comments at 6 (explaining that USAC’s amortization policy harms rural and other applicants that face large deployment costs).

²⁸ *Request for Review by Brooklyn Public Library, Federal-State Joint Board on Universal Service, Changes to the Board of Directors of the National Exchange Carrier Association, Inc.*, CC Docket Nos. 96-45 and 97-21, Order, 15 FCC Rcd 18598, 18606, para. 19 (*Brooklyn Order*) (“Specifically, we are concerned that, by authorizing unrestricted up-front payments for multiple years of telecommunications service when there is significant infrastructure build-out, we could create a critical drain upon the universal service fund, and reach the annual spending caps relatively quickly.”).

²⁹ *Id.* at 18606-07, para. 20.

direction, USAC implemented a policy requiring applicants to amortize upfront or non-recurring charges of \$500,000 or more over a period of at least three years.³⁰

19. Large upfront payments have not proven to be a drain on the Fund, and would not have been even if they had not been amortized. Moreover, we agree with commenters that argue that suspension of this amortization policy is likely to incentivize efficient investments in infrastructure, including the deployment of fiber.³¹ As commenters point out, USAC's current amortization policy requires many service providers to obtain financing for special construction projects, who then pass along the costs of this financing to applicants in the form of larger monthly recurring costs.³² Consequently, USAC's current amortization policy may actually increase the total costs borne both by applicants and the program.³³ In addition, ALA and other commenters indicate that lack of certainty about the ability to recover costs in future funding years may deter some applicants from investing in large infrastructure projects that will be amortized over future funding years.³⁴

20. Some commenters express the same concern articulated by the Commission in the *Brooklyn Order*, that if large numbers of applicants seek support for substantial upfront construction charges, the Commission could receive a drastic increase in category one requests.³⁵ For that reason, we choose to test the impact of abolishing the amortization requirement by temporarily suspending the requirement for the next four funding years. We are confident that temporarily suspending the amortization requirement will not create risk of insufficient category one support available for other schools and libraries, particularly in light of the increase in the E-rate funding cap that we adopt today. In the *E-rate Modernization Order*, we began the process of focusing E-rate support on high-speed broadband for our nation's schools and libraries. In this Order, as discussed in more detail below, we are

³⁰ USAC, Schools and Libraries, Wide Area Networks, Capital Investment Costs, <http://www.usac.org/sl/applicants/beforeyoubegin/eligible-services/wan.aspx> (last visited Oct. 30, 2014).

³¹ See, e.g., Arkansas NPRM Comments at 13; CMS NPRM Comments at 10; iFiber NPRM Comments at 6; NCTA NPRM Comments at 13; TIA NPRM Comments at 6-7; Letter from Mary L. Henze, Assistant Vice President, AT&T Services, Inc., to Marlene Dortch, Secretary, FCC, WC Docket Nos. 13-184, 10-90, at 1 (filed Dec. 4, 2014) (AT&T Dec. 4th Ex Parte).

³² See, e.g., ESH/CoSN Connectivity Model at 4-5 ("Subsidizing up-front non-recurring construction charges is significantly more cost effective for the E-rate program than paying for fiber construction charges through monthly operating costs."); Arkansas NPRM Comments at 13 ("if the service provider includes its financing costs in the total charges to the applicant, then the cost to the program may increase significantly when spread over years.").

³³ See, e.g., Arkansas NPRM Comments at 13.

³⁴ See, e.g., ALA FNPRM Comments at 3 (the current amortization rule has prevented applicants and service providers from entering into projects that require last mile construction—which is already eligible); NCTA NPRM Comments at 13 ("a lack of certainty about the ability to recover costs may deter investments.").

³⁵ See, e.g., Clark County NPRM Comments at 7 ("We are concerned that build-out costs may take funds away from other schools/district or supported services."); ALA NPRM Comments at 13 ("We are aware that fiber construction costs can be substantial and have no desire to cause an undue or substantial drain on limited funds."); E-rate Central NPRM Comments at 10 ("Amortization of high installation costs should still be required for the funding of large broadband deployment projects."); WDPI NPRM Comments at 5 (recommending that capital costs to install fiber that are greater than \$100,000 on a per site basis be amortized over a 4-5 year period); Letter from Steven F. Morris, Vice President and Associate General Counsel, National Cable & Telecommunications Association, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 13-184, 10-90, at 1 (filed Dec. 4, 2014) (urging the Commission to limit the amount of support that is available for construction of new infrastructure by schools and libraries in order to avoid placing undue pressure on the Fund); Letter from L. Charles Keller, Counsel to Cox Communications, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 2 (filed Dec. 4, 2014) (Cox Dec. 4th Ex Parte) (advocating for a \$200 million limit to funding for new infrastructure, special and self-construction to schools and libraries in order to avoid impinging on the E-rate funding schools and libraries already receive from recurring costs).

raising the annual E-rate cap, in part to ensure there are sufficient category one funds available to meet the build-out costs of connecting currently underserved schools and libraries.³⁶ Moreover, while some providers will offer an upfront payment option, we recognize that in other instances providers will continue to incorporate the cost of building out to schools and libraries into their recurring charges.³⁷ In addition, 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.³⁸ Applicants also remain subject to the requirement to select the most cost-effective service offering, which will further dampen the likelihood of a drastic increase in category one requests.³⁹

21. We therefore direct USAC to suspend application of its multi-year amortization policy for funding years 2015 through 2018 and to allow applicants to seek support for upfront or non-recurring charges without imposing any amortization requirements. In evaluating this USAC requirement, we considered a permanent end to the requirement instead of merely suspending its application. However, we are cognizant of the interest reflected in the *Brooklyn Order* of balancing the immediate needs of some E-rate applicants against the needs of all of the applicants.⁴⁰ We therefore adopt the additional safeguard of suspending rather than eliminating USAC's amortization policy for the limited duration of the next four funding years. We expect that USAC will keep the Bureau apprised of how many and to what extent applicants utilize this suspension for the deployment of infrastructure. We also direct the Bureau to revise our data collection to collect such information beginning in funding year 2016. We believe this balanced approach will provide us with sufficient data to determine the best course forward for subsequent funding years.

2. Allowing Applicants to Pay the Non-Discounted Portion of Non-Recurring Construction Costs over Multiple Years

22. To address the challenge some applicants face in having sufficient funds to pay the non-discounted portion of special construction charges, we allow applicants to enter into an installment payment plan with their service providers for the non-discounted portion of category one special construction charges beginning in funding year 2016. Currently, applicants must pay the entire non-discounted portion of a special construction project to the service provider within 90 days of delivery of service.⁴¹ However, the record demonstrates that obtaining funding to pay the entire non-discounted share of special construction charges is a major barrier to high speed connectivity for some schools and libraries.⁴² To help schools and libraries overcome this barrier, we will allow them to pay the non-

³⁶ See *infra* Section III.

³⁷ See, e.g., UPN & SLF FNPRM Comments at 8 (many providers make large upfront investments in fiber infrastructure to schools and libraries and recoup that investment over the life of the service contract).

³⁸ But see *infra* Section II.B.3 (providing additional E-rate discounts to match state funding for special construction charges for last-mile facilities to support high-speed broadband). To the extent the state matching program we adopt today reduces or eliminates an applicant's burden for paying for E-rate supported services, the state itself will have an incentive to spend its funds wisely.

³⁹ See Appendix A, 47 C.F.R. § 54.503(c)(2)(ii)(B); see also *Request for Review by Macomb Intermediate School District Technology Consortium of the Decision of the Universal Service Administrator*, CC Docket No. 02-6, Order, 22 FCC Rcd 8771, 8772, para. 4 (2007) (applicants must select the most cost effective service offering).

⁴⁰ *Brooklyn Order*, 15 FCC Rcd at 18606-07, para. 19.

⁴¹ See *Schools and Libraries Universal Service Support Mechanism*, 19 FCC Rcd 15808, 15816, para. 24 (2004) (*Schools and Libraries Fifth Report and Order*) (a failure to pay more than 90 days after completion of service presumptively violates the rule that the beneficiary must pay its non-discount share).

⁴² See, e.g., CoSN Survey at 4 (38 percent of CoSN survey respondents identify the inability to pay for capital or upfront, non-recurring costs as a significant barrier to increasing connectivity in school districts); Letter from Evan Marwell, CEO, ESH, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 5 (filed Oct. 31, 2014)

(continued....)

discounted portion of special construction charges in installment payments of up to four years from the first day of the relevant funding year. Pursuant to our direction above to USAC to suspend its amortization policy, applicants will be able to seek the discounted portion of those same category one special construction charges during a single funding year.

23. Applicants who are interested in this flexible payment arrangement must specifically include this request in their bids on their FCC Forms 470. By notifying all potential bidders of their interest, applicants will ensure that vendors know and understand all expected terms and conditions of the school or library's bid and that all potential service providers who are willing to offer an installment payment option will be on notice of the applicant's interest and will bid accordingly.

24. Service providers are under no obligation to allow this payment arrangement and should not do so in the absence of such a request on an applicant's FCC Form 470. However, those that do offer installment payments in response to an FCC Form 470 seeking bids that include this option must specify in their bid submission whether they are willing to allow this payment arrangement and must also disclose all material terms of that arrangement, including any interest rate they would charge the applicant and the term of the installment payment plan they are offering.

25. We recognize that allowing applicants greater flexibility to pay the non-discounted cost of special construction charges combined with the other changes we make in this Order could increase demand for category one support. However, a temporary increase in the demand to the Fund for special construction charges will ultimately be beneficial to E-rate applicants and the stability of the Fund. It will result in more students and library patrons enjoying access to scalable, high-speed broadband connections and we expect increasing flexibility for applicant's non-recurring payments for special construction will allow applicants to structure the agreements with service providers so as to lower future costs for recurring services.⁴³ Moreover, the increase in the E-rate funding cap we adopt today should alleviate concerns resulting from any temporary increase in demand for special construction charges.

26. As with our suspension of the amortization requirement, we expect that USAC will keep the Bureau apprised of how many and to what extent applicants utilize this installment payment option for the deployment of infrastructure. We also direct the Bureau to consider how best to modify our data collections to capture information about the extent to which applicants take advantage of this option and to require reporting and certifications by applicants and service providers regarding the payment of the applicant's non-discounted share of special construction charges.

27. We also amend section 54.504(a)(1)(iii) to require applicants that take advantage of this flexible payment option to certify on their FCC Forms 471 that they are able to pay all required installment payments. Our rule currently requires applicants to certify that they are able to pay the discounted charges for eligible services from funds to which access has been secured in the current funding year. This change is necessary because applicants on an installment plan may not have secured all of their non-discounted payments in the applicable funding year.

28. We also take this opportunity to remind applicants and vendors that it is a violation of our competitive bidding rules for service providers to offer to pay the non-discounted portion of E-rate supported services, and a violation of our gift rules and the prohibition on the receipt of rebates for services or products purchased with E-rate discounts to forgive payment of such charges or to accept such

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(ESH Oct. 31 Ex Parte) (schools and libraries do not have capital for large up-front payments); SHLB FNPRM Comments at 2 (upfront capital costs are an important hurdle that often prevent schools and libraries from obtaining the broadband connections that they need); New America FNPRM Reply Comments at 6 (upfront capital costs are one of the key hurdles that prevent schools and libraries from getting the capacity they need).

⁴³ See ESH FNPRM Comments at 15 (the average monthly cost of a connection is \$114 per Mbps for a 10 Mbps connection but only \$7 per Mbps for a 1 Gbps connection).

payment forgiveness.⁴⁴ By extension, service providers that accept installment payments of the non-discounted share of E-rate supported services cannot forgive any or all such payments. Because interest and finance charges are not eligible for E-rate support, applicants may not seek support for these charges.⁴⁵ Additionally, we remind applicants and service providers that our document retention rules require them to maintain records of payments made so that USAC can verify that an applicant has paid its full non-discounted share.⁴⁶ Applicants should also be prepared to provide documentation verifying their agreements with service providers for an installment payment plan.

B. Modifying the Commission’s Eligible Services List and Rules to Expand Access to Low Cost Fiber (WC Docket 13-184)

29. To further expand the competitive options for schools and libraries seeking high-speed broadband connectivity and to drive down broadband costs for applicants and the Fund, we amend our eligible services list, effective in funding year 2016, to equalize the E-rate program’s treatment of lit and dark fiber; amend our rules to allow applicants to construct their own fiber networks under limited circumstances; and incent states to identify and provide financial assistance for last-mile connections to underserved schools and libraries.

1. Equalizing the Treatment of Lit and Dark Fiber

30. First, we adopt the Commission’s proposal in the *E-rate Modernization NPRM* to equalize the E-rate program’s treatment of lit and dark fiber.⁴⁷ Citing the cost savings and bandwidth upgrades that dark fiber can provide, school, library, and local government commenters from urban and rural areas across the country overwhelmingly support equalizing the treatment of lit and dark fiber.⁴⁸ The availability of a full dark fiber option will help some E-rate applicants attract multiple competitive bids for construction and deployment and will drive down broadband costs for schools and libraries, as

⁴⁴ See 47 C.F.R. §§ 54.503(d) and 54.523.

⁴⁵ See 47 C.F.R. § 54.502(a).

⁴⁶ See 47 C.F.R. § 54.516(a) and (b). See also *Schools and Libraries Fifth Report and Order*, 19 FCC Rcd at 15825, para. 48 (records proving payments of invoices are an example of documents that E-rate applicants are required to maintain).

⁴⁷ *Modernizing the E-rate Program for Schools and Libraries*, WC Docket 13-184, Notice of Proposed Rulemaking, 28 FCC Rcd 11304, 11325-26, paras. 71-72 (2013) (*E-rate Modernization NPRM*).

⁴⁸ See, e.g., ESH FNPRM Comments at 15 (“when schools have the financial resources to leverage dark fiber and self-provisioning, they can save as much as 90 percent on the cost of high speed WAN connections”); New America FNPRM Reply Comments at 8 (“By providing support for modulating electronics for dark fiber as well as special construction costs, the Commission can give schools and libraries greater options in how infrastructure will be deployed and, in many cases, save money in the long term.”); SHLB FNPRM Comments at 7 (“The rules discourage schools and libraries from using dark fiber, even when it may be the most cost-effective alternative.”); ALA NPRM Comments at 13 (“The current rule skews the decision of libraries and schools to move to lit fiber even in cases when dark fiber may be a less expensive alternative. Placing both lit and dark fiber on a ‘level playing field’ makes sense and gives libraries more options.”); Chicago NPRM Reply Comments at 3-4 (“Dark fiber is being considered as a future option for the CPS and could reduce costs in the long run. . . . To meet connectivity goals within a certain timeframe, we should be technology neutral.”); Iowa NPRM Comments at 6; MOREnet NPRM Comments at 7; NATOA NPRM Comments at 4-5 (“[D]ark fiber may be a cost-effective means by which schools and libraries can address their advanced communications needs [T]his determination can most accurately be made by the school or library that seeks to use E-rate funding.”) (internal quotation marks omitted); Clemens NPRM Comments at 2-3 (describing benefits of dark fiber to both larger urban districts and remote rural districts in Vermont); San Diego County NPRM Comments at 5; San Antonio NPRM Reply Comments at 3-4; SC K-12 Initiative NPRM Comments at 6; SCG NPRM Reply Comments at 16; TETA NPRM Reply Comments at 2; Quilt NPRM Comments at 7-8; UEN NPRM Comments at 3; WDPI NPRM Comments at 5; Weslaco ISD NPRM Comments at 4; Letter from Gary Resnick Chair, Intergovernmental Advisory Committee, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 2 (filed Dec. 4, 2014) (IAC Ex Parte Letter).

well as the E-rate program. We will equalize the treatment of dark and lit fiber beginning in funding year 2016.

31. Dark-fiber leases and other dark-fiber service agreements are commercial arrangements in which a broadband customer purchases use of a portion of a provider-owned and maintained fiber network separately from the service of lighting (*i.e.* transmitting information over) that fiber.⁴⁹ Many competitive providers now offer such arrangements. In the *Schools and Libraries Sixth Report and Order*, the Commission concluded that expanding access to such arrangements would “increase competition among providers of fiber and ensure[] that schools and libraries . . . pay less for the same or greater bandwidth,” and therefore added dark fiber to the E-rate eligible services list.⁵⁰ The Commission limited dark-fiber support in several ways, however, “pending further inquiry into the potential impact on the E-rate fund” of fully equalizing the treatment of lit and dark fiber services.⁵¹ The E-rate program currently supports the recurring costs of leasing lit and dark fiber as category one services. When a school or library leases lit fiber, the modulating electronics necessary to light that fiber are funded as a category one service. By contrast, a school or library that leases dark fiber currently cannot receive category one support for the modulating electronics necessary to light the fiber.⁵² In addition, the E-rate program currently provides category one support for all “special construction charges” for leased lit fiber, but does not support special construction charges for leased dark fiber beyond a school or library’s property line.⁵³ Having now developed a further record on this issue, we conclude that leveling the playing field between lit and dark fiber will expand options for applicants and will likely reduce costs for the Fund.

32. We received widespread support from a broad cross-section of E-rate stakeholders—from schools and state E-rate experts to municipalities and carriers—who believe the equalization of the treatment of lit and dark fiber in the E-rate program carries substantial benefits. Commenters contend, for example, that funding dark fiber on an equal footing with lit fiber will provide more choices and lower costs to schools and libraries seeking enhanced connections.⁵⁴ The city of Boston points out that “distinguishing between lit and dark fiber serves no useful purpose” in the E-rate program and that dark fiber should be placed on an equal footing with lit fiber if it is the proper solution to the needs of the school or library.⁵⁵ State-level E-rate coordinators take a similar view, as do competitive providers.⁵⁶

⁴⁹ In this regard, we distinguish dark-fiber leases and other arrangements from self-construction of networks, in which a school or library owns a full network or fiber run, including all the fiber strands and conduit. See *infra* Section II.B.2. Dark-fiber leases more closely resemble lit-fiber contracts than self-provisioning in this regard, in that schools and libraries only lease the fiber strands that they actually put to use. Consistent with prior Commission orders, the term leases includes indefeasible rights of use (IRUs). See *Schools and Libraries Sixth Report and Order*, 25 FCC Rcd at 18772, para. 19 n.51; *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Report and Order, 27 FCC Rcd 16678, 16737, para. 127 n.342 (2012) (*Healthcare Connect Order*).

⁵⁰ *Schools and Libraries Sixth Report and Order*, 25 FCC Rcd at 18769, para. 12.

⁵¹ *Id.* at 18772-73, para. 19.

⁵² Currently, modulating electronics necessary to light dark fiber that is leaving the school or library premises are unsupported by the E-rate program while the electronics needed to light dark fiber can be eligible if the equipment meets the definition of priority (category) two internal connections. See *Wireline Competition Bureau Provides Guidance Following Schools and Libraries Universal Service Support Program Sixth Report and Order*, CC Docket No. 02-6, GN Docket No. 09-51, Public Notice, 25 FCC Rcd 17332, 17337 (Wireline Comp. Bur. 2010).

⁵³ *Schools and Libraries Sixth Report and Order*, 25 FCC Rcd at 18772-73, para. 19.

⁵⁴ Lancaster Lebanon NPRM Comments at 4.

⁵⁵ Boston NPRM Comments at 4.

⁵⁶ See SECA NPRM Comments at 17-18; LTS Buyer, UPN, & FN NPRM Comments at 6. E-rate consultants echo many of the same points. See E-mpa NPRM Comments at 2 (Dark fiber “help[s] increase competition in rural and/or

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33. While most schools and libraries seeking high-speed broadband purchase lit fiber services, the record makes clear that dark fiber can be a powerful option for a significant minority to drive down broadband costs while increasing capacity. For example, Maine, which purchases school and library connectivity through a statewide consortium, has leased 1 Gbps dark fiber circuits to 75 schools across the state.⁵⁷ Maine reports that because its dark-fiber service provider charges on a per-mile basis rather than based on bandwidth used, the state consortium's all-inclusive cost for 1 Gbps connectivity to these 75 schools is approximately \$500 to \$750 per-school per-month – roughly the same per-circuit price the state consortium pays for one percent of that bandwidth (10 Mbps) for lit circuits from other providers.⁵⁸ Similarly, the University System of Georgia's statewide research and education network, PeachNet, is employing a dark fiber solution to significantly increase the high-speed broadband connectivity to local school districts.⁵⁹ Beginning July 2015, PeachNet will increase the broadband connectivity to each local school district from 3 Mbps per school to 100 Mbps per schools while reducing the Georgia Department of Education's per Mbps costs by 96 percent.⁶⁰

34. Dark-fiber services can also be a cost-effective option for smaller, rural districts that otherwise face challenges affording high-speed circuits. For example, the Newton Public School District, an 11-school district centered in Newton, Kansas, recently upgraded to a district-wide 1 Gbps WAN while decreasing costs by moving to a dark-fiber solution.⁶¹ Likewise, the Morgan County and Bleckley County school systems in Georgia, which each serve rural populations, connect their schools through cable-provided dark fiber at speeds of 1 to 10 Gbps.⁶² Weslaco ISD, located in the south Texas Rio Grande Valley, serves a largely poor and minority population, including many migrant families and relies on dark-fiber leases to connect several of its 17 school sites to its central network operations center.⁶³

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rural remote areas.”); EPS NPRM Comments at 7 (“For an applicant to have a true choice between different technologies, the eligibility rules must treat them equally.”).

⁵⁷ See State School Connectivity Profiles, WC Docket No. 13-184, at 19-22 (Wireline Comp. Bur. rel. Sept. 19, 2014) (*State School Connectivity Profiles*).

⁵⁸ See *id.* The estimated dark-fiber cost includes monthly maintenance charges for the fiber itself and the cost of lighting the circuits.

⁵⁹ Letter from Charles Eberle, Attorney-Advisor, Telecommunications Access Policy Division, Wireline Competition Bureau, FCC, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 1 (filed Nov. 11, 2014).

⁶⁰ *Id.* (explaining that the total previous annual cost to provide 3 Mbps to each of Georgia's 2,300 schools was approximately \$14.3 million for 6.9 Gbps (\$2,072/Mbps/year) and that the total annual cost to upgrade to 100 Mbps per school via PeachNet will be \$19.2 million annually for 230 Gbps (\$83.48/Mbps/year)).

⁶¹ Letter from James Bachtell, Attorney-Advisor, Telecommunications Access Policy Division, Wireline Competition Bureau, FCC, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 1 (filed Sept. 30, 2013).

⁶² Letter from Charles Eberle, Attorney-Advisor, Telecommunications Access Policy Division, Wireline Competition Bureau, FCC, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 1 (filed Aug. 16, 2013).

⁶³ Weslaco ISD NPRM Comments at 1-3. Supporting these individual examples, ESH's study of nearly \$300 million in funding year 2013 E-rate spending across districts found that “the average monthly cost of a leased dark fiber circuit, which can be configured for either 1 Gbps or 10 Gbps, is \$522 per circuit, 58 percent lower than lit fiber at 1 Gbps and 76 percent lower than lit fiber at 10 Gbps.” See Letter from Evan Marwell, CEO, ESH, to Marlene H. Dortch, Secretary, FCC, at White Paper Attachment at 30 (filed Apr. 10, 2014). Although Verizon correctly observes that a true apples-to-apples comparison would require including the costs of lighting the fiber in each of these contracts, we believe the ESH analysis nevertheless suggests that dark fiber may be a cost-effective choice for many schools. See Letter from Alan Buzacott, Executive Director, Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 7 (filed Apr. 30, 2014).

35. Equalizing the treatment of lit and dark fiber is also consistent with the Commission's approach in the *Healthcare Connect Order*. There, guided by the principle that "providing flexibility for HCPs [health care providers] to select a range of services . . . will maximize the impact of Fund dollars (and scarce HCP resources)," the Commission concluded that "supporting dark fiber provides an additional competitive option to help HCPs obtain broadband in the most cost-effective manner available in the marketplace."⁶⁴ In particular, and in contrast to the current E-rate rules, the *Healthcare Connect Order* authorized support for special construction charges for both lit and dark fiber, as well as for the installation of equipment and services "necessary to make [dark fiber] service functional," including modulating electronics.⁶⁵

36. Following this recent precedent and given the broad support in the record, we will equalize the treatment of dark- and lit-fiber services within E-rate, beginning in funding year 2016. Specifically, adopting the Commission's proposal in the *E-rate Modernization NPRM*, we will provide category one support for special construction charges for leased dark fiber, as we do for leased lit fiber, and we will provide category one support for the modulating electronics necessary to light leased dark fiber.⁶⁶

37. To prevent applicants from using E-rate discounts to acquire unneeded capacity or warehouse dark fiber for future use, we maintain the safeguards that the Commission adopted in the *Schools and Libraries Sixth Report and Order*, and extend those it adopted in the *Healthcare Connect Order* to E-rate. First, to prevent warehousing of excess fiber capacity, applicants cannot receive E-rate funding for recurring costs associated with dark fiber until it is lit, and applicants may only receive funding for special construction charges for dark fiber if it is lit within the same funding year.⁶⁷

38. To provide applicants sufficient time to complete special construction projects before a funding year begins, we codify the bulk of USAC's current policy regarding special construction charges. Specifically, we allow category one infrastructure costs incurred six months prior to that funding year, provided the following conditions are met: (1) the construction takes place only after selection of the service provider pursuant to a posted FCC Form 470 (or any successor form); (2) a category one recurring service must depend on the installation of the infrastructure; and (3) the actual service start date of that recurring service is on or after the start of the funding year (July 1).⁶⁸ We also direct USAC to accept invoices for special construction charges meeting these conditions dated during this period of time before

⁶⁴ *Healthcare Connect Order*, 27 FCC Rcd at 16728-29, para. 107, 16735-36, para. 123.

⁶⁵ *Id.* at 16737, para. 128, 16738, para. 131.

⁶⁶ For the avoidance of doubt, we clarify that the actions we take in this Order to suspend USAC's amortization policy and to allow applicants to enter into an installment payment plan with their service providers for the non-discounted portion of their special construction charges apply equally to lit and dark fiber services. *See supra* Section II.A.

⁶⁷ *Healthcare Connect Order*, 27 FCC Rcd at 16738, para. 129 ("Furthermore, in some rural areas, weather conditions can cause unavoidable delays in construction. Therefore, we will allow applicants to receive up to a one-year extension to light fiber if they provide documentation to USAC that construction was unavoidably delayed due to weather or other reasons.").

⁶⁸ *See* Appendix A, 47 C.F.R. § 54.507(d)(2). Effectively, we are codifying the *Nassau County Order* which permitted installation of special construction projects up to six months before the beginning of the funding year under similar conditions. *See Request for Review of the Decision of the Universal Service Administrative Company by Nassau County Board of Cooperative Educational Services, Westbury, NY*, CC Docket No. 97-21, Order, 17 FCC Rcd 24584, 24586-89, paras. 7-11 (Wireline Comp. Bur. 2002) (*Nassau County Order*) (allowing special construction six months in advance of the funding year when the construction takes place only after selection of the service provider pursuant to a posted FCC Form 470 (or any successor form); the priority one service must depend on the installation of the infrastructure; the actual service start date is after the start of the funding year (July 1); and invoices are dated after the start of the funding year). *See also* USAC, Schools and Libraries, Advance Installation, <http://www.usac.org/sl/applicants/step06/installation.aspx> (last visited Nov. 19, 2014).

the start of the funding year. However, applicants that choose to start construction before they receive a funding commitment bear the risk that their funding request will not be granted. Because special construction charges for leased dark fiber are now eligible for category one support, applicants seeking support for special construction for dark fiber may avail themselves of this limited exception for early construction. In addition, as in the *Healthcare Connect Order*, we will also allow applicants to receive up to a one-year extension to light fiber if they demonstrate that construction was unavoidably delayed due to weather or other reasons.⁶⁹

39. Second, to ensure that applicants treat the price of eligible products and services as the primary factor in selecting winning bids, we adopt measures to ensure that applicants fairly compare dark fiber with other options. If a school or library intends to seek support for special construction charges associated with dark fiber, it must also solicit proposals to provide the needed services over lit fiber.⁷⁰ Similarly, if a school or library intends to seek support to lease and light dark fiber, the schools or library must also solicit proposals to provide the needed services over lit fiber over a time period comparable to the duration of the dark-fiber lease or IRU.⁷¹ In addition, if an applicant intends to request support for equipment and maintenance costs associated with lighting dark fiber, it must include these elements in the same application as the dark fiber so that USAC can easily review all costs together.⁷² These safeguards amply address concerns that schools and libraries could choose dark-fiber solutions when not the most cost-effective solution, that they will exclude certain costs when comparing dark- and lit-fiber solutions, or that they will warehouse spare capacity. Indeed, the safeguards reflect the suggestions of many of the commenters who raised these concerns in the record.⁷³

40. USTelecom argues that the protections adopted in the *Healthcare Connect Order* will prove insufficient in the E-rate context because “USAC-conducted cost-effectiveness reviews [are] not viable for the E-rate program” and “the E-rate program – at least as it is currently structured – provides fewer incentives for applicants to make cost-effective choices than the Healthcare Connect Fund” because the top discount rate is higher.⁷⁴ We find both arguments unpersuasive. While it is true that the top discount rate in the E-rate program is higher than the discount rate for recipients of Healthcare Connect funds, E-rate discounts vary, resulting in a substantial number of E-rate applicants receiving discount rates below those discount rates received by rural health care providers. In addition, all E-rate applicants are required to engage in cost-effective purchasing.⁷⁵ Further, USAC routinely conducts cost-

⁶⁹ *Healthcare Connect Order*, 27 FCC Rcd at 16738, para. 129.

⁷⁰ *Id.* at 16736, para. 125.

⁷¹ *Id.*

⁷² *Id.*

⁷³ See AT&T NPRM Comments at 5-6 (“[I]f the Commission decides to provide E-rate funding for dark fiber architectures by funding electronics and special construction charges, it must do so in a technology neutral way and adopt safeguards to ensure that private fiber networks are funded only where proven necessary, efficient and cost-effective, as the Commission requires in the Rural Healthcare program.”); Cox NPRM Comments at 6-8 (urging the Commission “to not provide E-rate support for ‘special construction charges’ . . . without adequate safeguards to prevent abuse and waste” such as “requir[ing] applicants considering dark fiber . . . to obtain bids for finished services”); NCTA NPRM Comments at 12-13 (citing Commission statements in the *Schools and Libraries Sixth Report and Order* emphasizing the need to ensure that applicants who “choose to use a leased fiber solution are considering the full range of costs associated with implementing leased fiber”, “are not requesting funding for more capacity than necessary for their educational needs,” and are making “apples-to-apples comparisons when evaluating competing bids”).

⁷⁴ USTelecom NPRM Reply Comments at 4-6.

⁷⁵ See 47 C.F.R. § 54.504(a)(ix).

effectiveness reviews of E-rate applications every year and we are confident it can do so for applicants choice of dark-fiber solutions, just as it does for all the other purchasing decisions applicants make.⁷⁶

41. Incumbent providers also assert that equalizing the treatment of lit and dark fiber “undermines national broadband policy” because it “takes traffic away from actual or potential last mile facilities of broadband service providers, which frustrates their ability to utilize schools as anchor tenants for broadband investment in surrounding communities, especially in low density areas.”⁷⁷ It is our view that vibrant competition on an even playing field generally brings the lowest prices and best promotes “national broadband policy.”⁷⁸ Accordingly, within a framework that treats lit- and dark-services equally, incumbents are free to offer dark-fiber service themselves, or to price their lit-fiber service at competitive rates to keep or win business – but if they choose not to do so, it is market forces and their own decisions, not the E-rate rules, that “frustrate[] their ability to utilize schools as anchor tenants.”⁷⁹ Nor does it “take[] traffic away from actual or potential last mile facilities of broadband service providers,” if a competitor wins school and library business, for competitive providers of dark-fiber service are also “broadband service providers,” and our role in the E-rate context is to encourage participation in the E-rate program and foster access to broadband by schools and libraries, and not favor one provider over another.⁸⁰

42. Finally, USTelecom reiterates its statutory argument from past proceedings that the Act prohibits support for dark fiber because it is not a “service” under section 254.⁸¹ The Commission has rejected this interpretation on multiple prior occasions, and commenters neither offer new arguments nor identify new facts that would warrant revisiting this conclusion.⁸² USTelecom contends that even if dark fiber itself qualifies for support, modulating electronics necessary to light dark fiber and special construction charges for leased dark fiber do not, because whereas “dark fiber is part of the transmission path that enables the requisite functionality (delivery of voice, video and/or data) to be delivered to the classroom,” modulating electronics and special construction charges are “unrelated to the transmission of information to individual classrooms.”⁸³ USTelecom provides no explanation for this assertion, however, nor can we imagine any. Lighting dark fiber “enables the requisite functionality (delivery of voice, video and/or data)” to just the same extent as the dark fiber itself.⁸⁴ Indeed, modulating electronics are a critical component of the E-rate supported bundle when broadband is sold as a lit-fiber service. Likewise, just as special construction charges for lit fiber are eligible because they are part of the cost of bringing broadband connections to school and library buildings, so too are special construction charges for dark fiber. Further, we continue to believe that dark fiber does enhance access to advanced telecommunications and information services consistent with section 254(h)(2)(A).⁸⁵ Therefore,

⁷⁶ See *infra* para. 126.

⁷⁷ CenturyLink NPRM Comments at 5-6; ITTA NPRM Comments at 15-16 (identical language).

⁷⁸ See National Broadband Plan at 25 (recommending policies to ensure robust competition to maximize consumer welfare, innovation and investment).

⁷⁹ See CenturyLink NPRM Comments at 6.

⁸⁰ *Id.*

⁸¹ USTelecom NPRM Comments at 15.

⁸² See *Schools and Libraries Sixth Report and Order*, 25 FCC Rcd at 18769, para. 12 (citing *Applications for Authority Pursuant to Section 214 of the Communications Act of 1934 to Cease Providing Dark Fiber Service*, Memorandum Opinion and Order, 8 FCC Rcd 2589, 2593, paras. 17-18 (1993) (subsequent history omitted).

⁸³ USTelecom NPRM Reply Comments at 3-4.

⁸⁴ *Schools and Libraries Sixth Report and Order*, 25 FCC Rcd at 18769, para. 12.

⁸⁵ *Id.*

consistent with our policy conclusion that lit- and dark-fiber services should be treated equally, we see nothing in the statute that would require us to draw a distinction.

2. Permitting Self-Construction of High-Speed Broadband Networks

43. We also promote high-speed broadband connectivity by permitting applicants to construct their own or portions of their own networks when self-construction is the most cost-effective solution. We agree with commenters that argue that 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.⁸⁶ We also agree with commenters that argue for safeguards to make sure that self-construction is only available in limited circumstances when it is demonstrated to be the most cost-effective solution.⁸⁷ As with our equalization of lit and dark fiber, we allow the self-construction option beginning in funding year 2016.⁸⁸

44. Providing support for the self-construction of high-speed broadband networks is also consistent with the Communications Act, as the Commission recently found in the *Healthcare Connect Order*:

[S]ection 254(h)(2) provides ample authority for the Commission to provide universal service support for HCP access to advanced telecommunications and information services, including by providing support to HCP-owned network facilities. Nothing in the statute requires that such support be provided only for carrier-provided services. Indeed, prohibiting support for HCP-owned infrastructure when self-construction is the most cost-effective option, would be contrary to the command in section 254(h)(2)(A) that support be “economically reasonable.”⁸⁹

We find this reasoning equally applicable to self-construction undertaken by schools and libraries that participate in the E-rate program, and we further find that the record now before us demonstrates that support for the self-construction of high-speed broadband networks will fulfill the mandate of section 254(h)(2)(A).⁹⁰ As explained above, for example, we are adopting safeguards to ensure that self-

⁸⁶ See, e.g., New America FNPRM Reply Comments at 9 (remove the restrictions that prevent schools and libraries from using E-rate support toward building their own networks, which in some instances will be the most cost-effective way to meet these institutions’ needs); SHLB FNPRM Comments at 7, 9 (allowing schools and libraries to deploy and own their own networks could provide the most cost-effective means of service their needs and will increase price competition with existing broadband providers); Merit NPRM Comments at 6-7 (where owned infrastructure is financially feasible, it give applicants control over future upgrades and costs); Letter from Martin J. Walsh, Mayor, City of Boston, Edwin Lee, Mayor, City of San Francisco, and Charlie Hales, Mayor, City of Portland, to Chairman Wheeler and Commissioners Clyburn, Rosenworcel, Pai, and O’Rielly, FCC, WC Docket No. 13-184, at 1-2 (speeds will go up and costs will go down if applicants can provision their own networks); Quilt PN Comments at 7 (fiber ownership in schools and libraries will help to ensure that there is no financial gain to other providers in building duplicative fiber to the same location to connect the same set of institutions); Quilt PN Comments at 8 (owning fiber insulates against future budgetary constraints for program funding marketplace fluctuations in pricing). See also ESH FNPRM Comments at 15 (after accounting for up-front investments, a lit fiber 1 Gbps connection costs \$1,242 per month while a 1 Gbps connection over self-constructed fiber costs \$522 per month).

⁸⁷ See *infra* paras. 46-47.

⁸⁸ Because we now allow applicants to own networks in these limited circumstances, we eliminate the rule prohibiting the Fund from supporting the purchase of WANs that was previously codified in 47 C.F.R. § 54.518.

⁸⁹ *Healthcare Connect Order*, 27 FCC Rcd at 16715, para. 79 (citations and internal quotation marks omitted). See also *Rural Healthcare Support Mechanism*, WC Docket No. 02-60, Order, 21 FCC Rcd 11111, 11114, paras. 11, 14 (2006) (finding RHC Pilot Program, including its self-construction provisions, to satisfy the requirements of section 254(h)(2)(A)) (cited in *Healthcare Connect Order*, 27 FCC Rcd at 16715, para. 79, n.221).

⁹⁰ We depart from any prior decision to the extent it might be read as suggesting that we lack authority under section 254(h)(2)(A). In considering the eligibility of WANs built or purchased by schools and libraries, the *Fourth Reconsideration Order* did not make a definitive finding with respect to section 254(h)(2)(A). Rather, it simply

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construction is available only in limited circumstances when it is demonstrated to be the most cost-effective solution to obtain high-speed broadband. The record shows that under these circumstances, support for self-construction will be “economically reasonable,” while also fulfilling the statutory mandate that we enhance, “to the extent technically feasible . . . , access to advanced telecommunications and information services for all public and nonprofit elementary and secondary classrooms . . . and libraries.”⁹¹

45. Self-construction can be a useful tool for some schools and libraries when they receive insufficient responses to their FCC Form 470 and associated requests for proposals (RFPs).⁹² Testing the benefits of allowing self-construction, the Commission permitted applicants to construct their own networks in the Rural Health Care Pilot Program that preceded the *Healthcare Connect Order*.⁹³ Eight of the 50 pilot program participants elected to use support for self-construction for parts of their networks, with two of those participants opting to construct their whole networks. The participants found self-construction to be a useful tool for cost-effective network deployment.⁹⁴ Because of the success of the Rural Health Care Pilot Program, the Commission adopted rules permitting self-construction, subject to certain safeguards, for the Rural Health Care Program participants in the *Healthcare Connect Order*.⁹⁵ We follow the model the Commission adopted in the *Healthcare Connect Order* here, to ensure that the Fund supports self-construction only when it is the most cost-effective option.⁹⁶

46. Some commenters express concern about the cost-effectiveness of self-construction and the quality of service it would provide and either oppose a self-construction option or request safeguards to ensure that schools and libraries only have the option of self-construction when it is the most cost-effective approach.⁹⁷ Other commenters argue that we should impose a cap on self-construction, as the

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observed in passing that self-construction “do[es] not appear to fall within” that statutory provision “because wide area networks provide broad-based telecommunications.” *Federal-State Joint Board on Universal Service et al.*, CC Docket Nos. 96-45, 96-262, 94-1, 91-213, 95-72, Fourth Order on Reconsideration and Report and Order, 13 FCC Rcd 5318 at 5430-31, para. 193 (1997) (*Fourth Recon. Order*) (emphasis added). Broadband networks and services have evolved greatly over time, however, and as the record now demonstrates, what appeared to be true some 18 years ago is now longer the case. Today, wide area networks are routinely used by schools and libraries to provide “advanced telecommunications and information services,” see CETF PN Comments at 11 (WAN, LAN, and Wi-Fi networks are essential to bringing high capacity broadband to each student and library patron); ADTRAN NPRM Comments at 13 (WANs are key for a school to effectively share networking resources and maximize efficiency within school systems), and hence self-construction of those networks falls squarely within the mandate of section 254(h)(2)(A). Recognizing the importance of WANs to schools, in the *E-rate Modernization Order*, we adopted connectivity targets for WANs. See *E-rate Modernization Order*, 29 FCC Rcd at 8882, para. 29, 8884, para. 32, 8886-88, paras. 39-44.

⁹¹ See *supra* notes 86-87 and accompanying text. See also 47 U.S.C. § 254(h)(2)(A).

⁹² See CoSN Survey at 15 (six percent of schools districts received no responses to their request for bids for E-rate supported services and 26 percent received only one bid).

⁹³ See *Wireline Competition Bureau Evaluation of Rural Health Care Pilot Program Staff Report*, WC Docket No. 02-60, 27 FCC Rcd 9387, 9466-17, para. 48 (Wireline Comp. Bur. 2012).

⁹⁴ See *id.*

⁹⁵ See generally *Healthcare Connect Order*, 27 FCC Rcd at 16711-16, paras. 69-80.

⁹⁶ See *id.* at 16712-14 paras. 73-75.

⁹⁷ See, e.g., USTelecom FNPRM Reply Comments at 5-6 (the Commission should not support owned fiber because schools and libraries constructing their own networks are unlikely to be cost-effective and it would be difficult for USAC to conduct a cost-effectiveness review, but if the Commission allows self-construction, it should impose safeguards); Cbeyond NPRM Reply Comments at 8-9 (do not allow self-constructed fiber networks because they are unlikely to deliver the same service quality as efficiently and cost-effectively as finished services delivered over existing networks).

Commission did in the Rural Health Care Program.⁹⁸ Additionally, NCTA recommends that we only authorize funding for self-construction by schools and libraries where they can demonstrate that (1) there are no commercial alternatives; (2) there are no more cost-effective methods to receive high-speed broadband; and (3) they have the expertise to handle the burden of operating and maintaining a fiber network.⁹⁹ For its part, expressing concern about overbuilding, NTCA has argued that self-construction should only be allowed where an applicant has sought broadband services from existing providers and networks, and connectivity is not available from those providers and their networks; the existing provider is given the opportunity to demonstrate that it can provide the broadband service at target speeds within 180 days; there is a meaningful matching funds requirement; applicants are prohibited from using revenue from excess capacity as a source of matching funds; and applicants demonstrate that they have selected the option that will be most cost-effective over the life of the asset.¹⁰⁰

47. We agree with many of the concerns expressed by commenters, particularly those aimed at ensuring that self-construction is only undertaken when it is the most cost-effective option, but we do not agree with all of the limitations on self-construction suggested by commenters. Therefore, we adopt safeguards ensuring that applicants seek E-rate support for self-construction only when it is the most cost-effective option, and requiring that they actually use the self-constructed facilities, but do not adopt many of the other limitations on self-construction suggested by commenters.

48. In allowing self-construction under certain circumstances, we adopt several safeguards to ensure that the self-construction option will be available only when it is necessary to enable applicants to access fiber at cost-effective rates.¹⁰¹ First, as the Commission did for the Rural Health Care Program, we allow self-construction only where self-construction is demonstrated to be the most cost-effective option after competitive bidding.¹⁰² USAC already has experience in evaluating cost-effectiveness for large-scale projects from the Rural Health Care Program.¹⁰³ Applicants interested in pursuing self-construction must solicit bids for both service and construction in the same FCC Form 470 and must provide sufficient detail so that cost-effectiveness can be evaluated based on the total cost of ownership over the useful life of the facility for applicants who pursue the self-construction option. As the Commission did in the

⁹⁸ See Letter from Alan Buzacott, Executive Director, Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 2 (filed Nov. 20, 2014) (to deter waste, fraud, and abuse, adopt funding limitations on self-construction); Letter from Jennifer K. McKee, Counsel for NCTA, to Marlene H. Dortch, WC Docket No. 13-184, at 1 (filed Nov. 19, 2014) (to ensure that the Fund does not devote an excessive amount of support to large up-front payments for self-construction, place an annual cap on support for self-construction). See also (Cox Dec. 4th Ex Parte Letter at 2 (if the Commission does not target funding to schools and libraries without high-speed broadband, it should commit no more than \$200 million to new infrastructure, special, and self-construction projects).

⁹⁹ See NCTA NPRM Comments at 12 and NCTA FNPRM Reply Comments at 2. In another letter, NCTA provided slightly different conditions when it stated that the Commission should authorize E-rate support for self-provisioned facilities only: (1) in areas where broadband is currently unavailable and service providers lack sufficient incentives to construct it; (2) after schools and libraries have solicited bids for both purchasing services and self-construction and have demonstrated that self-construction is the more cost effective option; and (3) within a limited, predetermined amount of E-rate funding that will be devoted to self-construction projects. See Letter from Jennifer K. McKee, Counsel for NCTA, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 2 (filed June 13, 2014).

¹⁰⁰ See Letter from Michael R. Romano, Counsel for NTCA, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 2-3 (filed Nov. 21, 2014).

¹⁰¹ In addition to the safeguards we adopt in this section, we expect that the Bureau and USAC will monitor instances of waste, fraud, and abuse, and we delegate authority to the Bureau and OMD to adopt any additional administrative requirements that may be warranted. See *infra* para. 164.

¹⁰² See *Healthcare Connect Order*, 27 FCC Rcd at 16712-13, para. 73.

¹⁰³ See *id.* at 16711-17, paras. 69-80.

Healthcare Connect Order, we permit applicants who have received no bids on a services-only posting to pursue a self-construction option through a second posting for the same funding year.¹⁰⁴

49. Second, as with applicants that seek E-rate support for dark fiber, to ensure that we are paying for necessary services, applicants may only receive funding for self-construction if the facilities are built and used within the same funding year. Pursuant to the prohibition against reselling service purchased with E-rate discounts,¹⁰⁵ applicants may only receive E-rate support for services that they use. In Section II.B.1, we codified a limited exception to allow funding for special construction charges for projects started up to six months in advance of the funding year, provided the following conditions are met: (1) the construction begins only after selection of the service provider pursuant to a posted FCC Form 470 (or any successor form); (2) a category one recurring service must depend on the installation of the infrastructure; and (3) the actual service start date is after the start of the funding year (July 1).¹⁰⁶ This exception applies to self-construction. As we do with dark fiber, we will also allow applicants to receive up to a one-year extension of the service start date if they demonstrate that construction was unavoidably delayed due to weather or other reasons.¹⁰⁷

50. Third, the E-rate program rules require applicants to secure all of the resources necessary to make effective use of the services they purchase.¹⁰⁸ We are confident that allowing schools and libraries to select a self-construction option with these meaningful safeguards will give applicants that have been unable to find providers willing to build affordable high-speed connections another option for purchasing such connections.

51. We do not adopt NTCA's proposals that we give existing providers a separate opportunity to demonstrate that they are able to provide service at the targeted speeds,¹⁰⁹ because to do so would interfere with the competitive bidding process, which is the E-rate program's primary tool for ensuring schools and libraries select the most cost-effective option. Moreover, because E-rate applicants' requests for bids are publicly available, providers all have an equal opportunity to bid to provide E-rate services, and we expect that where there are existing providers and networks capable of providing service at the targeted speeds, they will be well situated to offer very competitive pricing through the competitive bidding process.

52. At this time, we also decline the suggestion that we set a cap on the amount of funding available for self-construction projects.¹¹⁰ The first goal we adopted for the E-rate program in the *E-rate Modernization Order* is ensuring that schools and libraries have affordable access to high-speed broadband.¹¹¹ The record is clear that self-construction can provide one method for some schools and libraries to achieve that goal.¹¹² Setting a cap on self-construction would create funding uncertainty for those schools and libraries that want to explore whether self-construction would be the most cost-effective

¹⁰⁴ See *id.* at 16713, para. 73.

¹⁰⁵ See 47 C.F.R. § 54.513(a).

¹⁰⁶ See *supra* para. 38.

¹⁰⁷ The actions we take in this Order to suspend USAC's amortization policy, to allow applicants to enter into an installment payment plan with their service providers for the non-discounted portion of their special construction charges, and to provide for a state matching option for non-recurring charges for high-speed broadband services apply to self-constructed high-speed broadband networks. See *supra* Sections II.A and B.

¹⁰⁸ See 47 C.F.R. § 54.504(a)(1)(iii).

¹⁰⁹ See *supra* note 100.

¹¹⁰ See *supra* note 98.

¹¹¹ *E-rate Modernization Order*, 29 FCC Rcd at 8881, para. 26.

¹¹² See *supra* note 86.

option for them. In recognition of commenters' concerns about the amount of funding spent on self-construction above, we have directed USAC and the Bureau to report on the impact on the Fund of special construction charges, including those for self-construction.¹¹³

53. We also decline to adopt USTelecom's suggestion that, if we make a self-construction option available, we target it to schools and libraries that do not have broadband and are located in rural areas.¹¹⁴ We do expect that the self-construction option will be most appealing to schools and libraries in rural areas that have not been able to purchase affordable high-speed broadband. We also expect that providers that already provide fiber-based services to a school or library should almost always be able to offer the most competitive pricing to that school or library. However, we decline to limit the self-construction option to applicants without broadband and in rural areas because there are schools and libraries that currently have broadband access, including in non-rural areas, that may be able to purchase more affordable broadband services if they take advantage of the self-construction option. Moreover, having self-construction as an option for all schools and libraries will help drive competition, thereby maximizing the cost-effective use of E-rate funding, which is one of the goals that we have adopted for the program.

54. A commenter raised concerns that permitting self-construction of networks could violate the Antideficiency Act because it would require long-term commitments.¹¹⁵ Consistent with the rules of the E-rate program,¹¹⁶ applicants will receive funding for self-construction for one funding year at a time only, so there is no danger of long-term, unfunded commitments that could violate the Antideficiency Act.¹¹⁷

3. Additional Discounts When States Match Funds for High-Speed Broadband Construction

55. To break down barriers to high-speed broadband access in rural, Tribal, and other unserved areas,¹¹⁸ we will provide additional category one funding to match state funding for special construction charges to connect schools and libraries to high-speed broadband services that meet the long term capacity targets we adopted in the *E-rate Modernization Order*.¹¹⁹ The record demonstrates that

¹¹³ See *supra* para. 15.

¹¹⁴ See Letter from Kevin Rupy, Vice President, Law and Policy, USTelecom, to Marlene Dortch, Secretary, FCC, WC Docket No. 13-184, at 1 (filed Nov. 17, 2014). See also Cox Dec. 4th Ex Parte Letter at 1 (limit new infrastructure, special, and self-construction to schools and libraries that lack access to high-speed broadband today); AT&T Dec. 4th Ex Parte at 1 (target support to the schools and libraries that do not have fiber-based broadband today).

¹¹⁵ See ADTRAN NPRM Reply Comments at 12 (stating that self-construction would require long-term commitments and that those long-term commitments could violate the Antideficiency Act). See also 31 U.S.C. § 1341 *et seq.*

¹¹⁶ See generally 47 C.F.R. § 54.507(c).

¹¹⁷ We also note that the E-rate program is currently exempt from application of the Antideficiency Act. See Universal Service Antideficiency Temporary Suspension Act, Pub. L. No. 108-494, § 302, 118 Stat. 3997-98 (2004); Consolidated Appropriations Act, 2014, Pub. L. No. 113-76, Division E, Title V, § 510 (2014).

¹¹⁸ See, e.g., CoSN NPRM Reply Comments at 9 (noting that 59 percent of respondents agreed that capital or one-time costs were a major barrier in increasing bandwidth).

¹¹⁹ See, e.g., CoSN Survey at 5 (38 percent of respondents identify the inability to pay for capital costs as a significant barrier to increasing connectivity); CMS PN Comments at 9 (make funds available upfront for fiber construction); ESH PN Reply Comments at 9-10 (it is often uneconomical for service providers to build last mile connections); EDNETICS PN Comments at 3 (encourage competition by eliminating barriers for new service providers to enter a market, especially rural markets with little or no competition); Affiniti PN Reply Comments at 5 (dramatically lower recurring costs over time accompany broadband deployment); New America NPRM Reply Comments at 5 (failure to adopt policies to promote robust, ubiquitous fiber infrastructure will ultimately further

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additional funds are needed for fiber builds¹²⁰ and that states can play a powerful role catalyzing construction of high-speed broadband connections to schools and libraries. For example, the state of North Carolina has invested approximately \$150 million in broadband deployment and, as a result of this investment, 98 percent of North Carolina schools have a fiber connection.¹²¹ Maine has been able to connect a significant portion of its schools by constructing its own fiber loop.¹²² Additionally, California recently budgeted \$26.7 million for grants for last-mile build-out projects for public school districts, county offices of education, and direct-funded charter schools.¹²³

56. In light of the role states can and do play in spurring broadband connectivity, some commenters suggested that we increase the discount rate for one-time capital investments to build out statewide fiber networks,¹²⁴ while others suggested a separate fund or priority for capital investments.¹²⁵ We agree that states are well-situated to bolster high-speed broadband construction to schools and libraries. To encourage state participation, beginning in funding year 2016, we will increase an applicant's discount rate for special construction charges up to an additional 10 percent in order to match

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economic and geographic divides); Scranton Public Library NPRM Comments at 2 (fiber deployment to schools and libraries is being slowed because applicants cannot afford to pay the non-discounted portion of deployment costs). *But see* NEA PN Comments at 8 (the E-rate program would be further strained if schools and libraries sought support for costly last-mile broadband deployment projects); Verizon PN Comments at 5-6 (the existing system is working well and high-capacity services are already affordable for most schools, even the small number of schools that do not have fiber connections). In the *E-rate Modernization NPRM*, the Commission sought comment "on other potential public or private sources of funding and how the Commission could help encourage the deployment of such funding to meet school and library needs." *E-rate Modernization NPRM*, 28 FCC Rcd at 11349, para. 165. As one possible example of an additional public source of funding, the Commission asked if it could make federal E-rate support "conditional on state, local, Tribal, or private funds above the otherwise-required school or library 10-80 percent contribution." *Id.* The Commission did not preclude different matching reforms (such as those adopted here) that more broadly encourage states to contribute funds. *See also E-Rate Modernization Order*, 29 FCC Rcd at 8875, para. 9 ("In order to ensure the E-rate program evolves to meet the connectivity needs of our nation's schools and libraries, we leave the record open in this proceeding to allow us to address in the future those issues raised in the *E-rate Modernization NPRM* that we do not address today.").

¹²⁰ *See, e.g.*, ESH FNPRM Comments at 16 (provide subsidies for fiber builds in areas where incumbent providers are unwilling to meet national pricing benchmarks); New America Comments at 7 (provide incentives for forward-thinking investment in scalable infrastructure and make it easier for schools to finance their networks up-front so that they can begin realizing savings more quickly).

¹²¹ *See* North Carolina PN Comments at 7.

¹²² *See State School Connectivity Profiles* at 19 (describing the Maine School and Library Network and stating that 56 percent of Maine schools fiber connections to its network).

¹²³ *See id.* at 10.

¹²⁴ *See, e.g.*, CMS PN Comments at 9 (undertake a one-time infusion of capital funds to construct broadband infrastructure and allow states to prioritize and select schools eligible for funds); Matteson NPRM Comments at 3-4 (with matching federal support, many states may develop programs to develop high-capacity broadband); IL CMS NPRM Reply Comments at 1 (release one-time capital funds to build out statewide broadband networks). *But see* SECA NPRM Comments at 9 (a one-time infusion of cash over a defined period of years may help support the build-out of fiber connectivity, but will be unsuccessful in allowing the nation's schools and libraries to implement and support a sustainable high speed broadband communications network).

¹²⁵ *See, e.g.*, One Community NPRM Comments at 3-4 (prioritize funding to communities that form coalitions to build out school networks); Santa Fe NPRM Reply Comments at 2 (establish an E-rate Tribal priority for construction costs to build out networks to Tribal schools); SLK NPRM Reply Comments at 3 (provide new funding separate from the existing E-rate program to support build-out of high-capacity broadband networks); ENA NPRM Comments at 39 (suggesting that broadband build-out be prioritized after what were then known as priority one services but before priority two services); Mass. Institute NPRM Reply Comments at 7-8 (each year, a percentage of E-rate funding should be reserved for infrastructure build-out and special construction).

state funding the applicant receives on a one-dollar-to-one-dollar basis. Working in tandem, this additional state and E-rate program funding will reduce the money owed by applicants for what would otherwise be the applicant's non-discount share to connect schools and libraries to high-speed broadband services. By way of example, an applicant with a 90 percent discount rate would receive its 90 percent discount on the E-rate eligible construction and, if the state provided an additional contribution to the project (such as 5 percent of the total project cost), the Fund will match the state's contribution (here, an additional 5 percent of the total project cost). A network with a 60 percent discount rate, would receive its 60 percent discount plus an additional 10 percent if the state were to contribute 10 percent of the cost of the build-out.¹²⁶ States may contribute more than 10 percent funding to the project but the E-rate program will limit its match to 10 percent of the project cost (in addition to the existing program discount rate).¹²⁷ Because this match will only be available for special construction charges, applicants should create separate funding requests on their FCC Forms 471 for special construction and for recurring charges. As we monitor the impact of this category one match on the E-rate program, we may consider increasing the maximum match.

57. We expect this additional funding will encourage states to identify high-speed connectivity gaps—those schools and libraries that do not have access to affordable high-speed connectivity—and address them. We recently aggregated the data submitted in the E-rate modernization proceeding into two maps that allow users to view the percentage of public schools with fiber connectivity at the district-wide level and the number of annual visits to the library system.¹²⁸ In order to assist states in identifying the gaps in their high-speed connectivity and compare their success at closing those gaps with other states, we will maintain and continue to update those maps through at least the next three funding years. Furthermore, consistent with the reporting and transparency provisions we adopted in the *E-rate Modernization Order*, we will work to populate the maps with more detailed information based on the E-rate applications received beginning in funding year 2015.

58. In recognition of the unique government-to-government relationship of Tribal nations to our federal government,¹²⁹ and the challenges that Tribal nations face in obtaining broadband for their schools and libraries,¹³⁰ we will match funding for construction of high-speed connections for Tribal schools and libraries from states, Tribal governments, or other federal agencies. Schools operated by or receiving funding from the Bureau of Indian Education and schools operated by Tribal Nations will also be eligible to receive matched funds from these additional sources. Eligible libraries that are funded by or operated by Tribal governments will also be eligible for these additional sources of matched funds.¹³¹ As

¹²⁶ We take this opportunity to remind applicants that they can seek support from their state, county, local or other governmental entities to pay for the non-discounted share of E-rate supported services. They can also seek support from non-profit associations. They cannot however directly or indirectly receive funding to pay their non-discounted shares from E-rate vendors or potential vendors. See 47 C.F.R. § 54.503(d)(4).

¹²⁷ State matching funds can be authorized directly by a state legislature or can come from one or more state agencies. Similarly the Tribal and federal government matching opportunities described below from Tribal schools and libraries can come from any combination of eligible entities, provided, however, an applicant cannot be the source of its own matching funds.

¹²⁸ See Federal Communications Commission, FCC E-rate Maps of Fiber Connectivity to Schools and Libraries, <http://www.fcc.gov/maps/E-rate-fiber-map> (last visited Dec. 11, 2014) (E-rate Maps of Fiber Connectivity to Schools and Libraries). See also *Staff Report*, 29 FCC Rcd 9644.

¹²⁹ See *Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes*, Policy Statement, 16 FCC Rcd 4078, 4080-81 (2000).

¹³⁰ See NCAI NPRM Reply Comments at 3 (noting a general lack of telecommunications infrastructure on Tribal lands).

¹³¹ See ATALM PN Comments at 3 (Tribal libraries are funded primarily through the Institute of Museum and Library Services and Tribal governments, not states).

with non-Tribal schools and libraries, we will provide an additional match of up to 10 percent for high-speed connection construction that meets our E-rate connectivity targets.

59. A few commenters have expressed concern that by allowing this limited matching program, some applicants will not be required to pay for any portion of the special construction charges eligible for such a match, and that requiring applicants to pay their non-discounted share is an important safeguard in the E-rate program.¹³² We decline to require that some portion of the non-discount share be paid by the E-rate applicant when the state government, or where applicable another federal agency or tribal government is willing to pay some or all of the applicant's non-discount share of special construction charges. Our current rules already allow for state agencies to pay the full amount of an applicant's non-discounted share of E-rate supported services, and therefore the matching program does not create additional concerns in this regard.¹³³ To the extent that another governmental entity pays a portion of the cost of the E-rate supported service, that entity will have an incentive to ensure that the applicant engages in cost effective purchasing. However, as with the other options we adopt to increase broadband connectivity to schools and libraries, we also establish some limitations to safeguard the E-rate program. First, to ensure that this funding promotes adequate connectivity, only projects that provide broadband that meets the capacity goals and measures that we adopted in the *E-rate Modernization Order*¹³⁴ will be eligible for the matching funding.¹³⁵ In addition, to prevent excessive or duplicative funding during a high-speed broadband connection's useful life, any school or library connection that is built with matching funds will be ineligible to receive additional matching funds for special construction to the same buildings from the E-rate program for 15 years.

C. Ensuring Affordable Broadband Service to Schools and Libraries in High-Cost Areas (WC Docket No. 10-90)

60. To ensure that schools and libraries have access to affordable broadband service in high-cost areas, we establish an obligation for recipients of high-cost support to offer broadband service in response to a posted FCC Form 470 to eligible schools and libraries at rates reasonably comparable to rates charged to schools and libraries in urban areas for similar services.¹³⁶ We agree with commenters that such an obligation will assist us in narrowing the connectivity gap between rural and urban schools and libraries and help rural schools and libraries achieve the connectivity targets we adopted in the *E-rate Modernization Order*.¹³⁷

61. In the *USF/ICC Transformation Order*, the Commission unanimously stated its expectation that eligible telecommunications carriers would offer broadband to community anchor

¹³² See, e.g., Cox Dec. 4th Ex Parte Letter at 2 (require E-rate participants to pay some portion of the cost because if only state funds and E-rate funds are used to pay the entire service costs, the Commission will eliminate an important safeguard that helps ensure schools and libraries make cost-effective choices).

¹³³ See 47 C.F.R. § 54.505(f).

¹³⁴ See *E-rate Modernization Order*, 29 FCC Rcd at 8880-94, paras. 22-62.

¹³⁵ See, e.g., West Virginia Library NPRM Reply Comments at 3 (provide new temporary funding to support the build-out of high-capacity broadband networks); ALA FNPRM Reply Comments at 10 (provide a new limited-term investment to bring many more libraries and schools into the high-capacity broadband world).

¹³⁶ See *Connect America Fund et al.*, WC Docket Nos. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17700-01, para. 102 (2011) (*USF/ICC Transformation Order*), *pets. for review denied sub nom. In re FCC 11-161*, 753 F.3d 1015 (10th Cir. 2014) (outlining the broadband obligations that are conditions of receiving high-cost support for eligible telecommunications carriers). For purposes of this discussion, we note that the term "high-cost support" includes the Connect America Fund as well as the legacy high-cost support mechanisms.

¹³⁷ See, e.g., Joint Reply Comments of SHLB & SECA, WC Docket No. 10-90, at 2 (filed Sept. 8, 2014) (SHLB & SECA Joint CAF Reply Comments).

institutions in rural and high-cost areas at speeds greater than the minimum broadband performance standards.¹³⁸ The Commission further stated its expectation that eligible telecommunications carriers would provide such offerings “at rates that are reasonably comparable to comparable offerings to community anchor institutions in urban areas.”¹³⁹ In the *April 2014 Connect America Order and FNPRM*, we sought comment on how best to ensure that this expectation is fulfilled.¹⁴⁰ Having developed a more fulsome record on this issue, we conclude that establishing a defined obligation for recipients of high-cost support to offer broadband service at affordable rates to requesting schools and libraries is the most effective way to ensure that this expectation is fulfilled for schools and libraries, and thereby ensure that the high-cost program is working in harmony with the E-rate program.¹⁴¹

62. There is record support from stakeholders representing schools and carriers for obligating high-cost recipients to offer broadband services to schools and libraries. For example, the Schools, Health & Libraries Broadband (SHLB) Coalition and the State E-rate Coordinators Alliance (SECA) recommend “that recipients of Connect America Fund funding should be required to serve anchor institutions with high-speed bandwidth as a condition of receiving funding.”¹⁴² Similarly, a group comprised of rural carrier associations, including NTCA – The Rural Broadband Association and WTA – Advocates for Rural Broadband, supports a “requirement that any USF/CAF recipient offer [broadband] services . . . to most, if not all, anchor institutions in the supported areas.”¹⁴³ Other commenters urge the Commission to ensure that the high-cost program brings affordable broadband services to schools and libraries in rural areas.¹⁴⁴

63. Imposing an obligation on recipients of high-cost support to offer affordable high-speed services in response to a posted FCC Form 470 to schools and libraries also makes the most efficient use of limited universal service support while ensuring affordable access to broadband service to eligible schools and libraries. In high-cost, hard to serve areas, we expect that recipients of high-cost support will be best situated to offer affordable broadband service to eligible school and libraries.¹⁴⁵ Obligating these recipients to offer affordable services to schools and libraries in high-cost areas increases the likelihood that schools and libraries will receive affordable broadband service at the lowest cost to the E-rate program. At the same time, this obligation decreases the likelihood that limited E-rate support will be

¹³⁸ *USF/ICC Transformation Order*, 26 FCC Rcd at 17700, para. 102.

¹³⁹ *Id.* at 17700, para. 102 n.164.

¹⁴⁰ *Connect America Fund et al.*, WC Docket No. 10-90 et al., Report and Order, Declaratory Ruling, Order, Memorandum Opinion and Order, Seventh Order on Reconsideration, and Further Notice of Proposed Rulemaking, 29 FCC Rcd 7051,7107, para. 159 (2014) (*April 2014 Connect America Order and FNPRM*).

¹⁴¹ We will consider at a future date how to implement the expectation in the *USF/ICC Transformation Order* that eligible telecommunications carriers (ETCs) serve other anchor institutions.

¹⁴² SHLB & SECA Joint CAF Reply Comments at 2. *See also* Letter from Daniel Domenech, Executive Director, AASA, the School Superintendents Associations et al., to Tom Wheeler, Chairman, FCC, et al. WC Docket No. 13-184 (filed Sept. 10, 2014) (“[W]e urge the FCC to require CAF fund recipients to serve anchor institutions.”); Reply Comments of NCAI and NIEA, WC Docket No. 13-184, at 2-3 (filed Sept. 8, 2014).

¹⁴³ Comments of NTCA, WC Docket No. 10-90, at 40-41 (filed Aug. 8, 2014).

¹⁴⁴ *See, e.g.*, NEA PN Comments at 8 (the FCC should consider how it could coordinate across federal programs to ensure affordable access to broadband service to rural schools and libraries); FFL PN Reply Comments at 4 (encouraging the FCC to utilize high-cost support to ensure that schools and libraries in high cost areas receive access to affordable broadband service).

¹⁴⁵ *See, e.g.*, NTCA/WTA NPRM Reply Comments at 13-14 (“[W]here facilities may be lacking, in many cases the cost-effective solution is not to deploy entirely new networks over great distances but instead to ‘finish off’ fiber loops from nearby existing fiber facilities.”); NEA PN Comments at 8 (“[A] more holistic approach to utilizing resources to help schools and libraries with last-mile build-out would likely result in a more efficient use of limited resources.”).

spent to overbuild the networks of high-cost recipients in some rural and high-cost areas while schools and libraries in other high-cost areas remain unconnected.

64. We are not persuaded by those commenters that argue against any obligation to offer broadband services to anchor institutions.¹⁴⁶ For example, USTelecom argues that the obligation to provide service should not apply when additional construction is required to connect an anchor institution.¹⁴⁷ We conclude, however, that eligible telecommunications carriers (ETCs) subject to this obligation remain free to charge reasonable special construction charges to schools and libraries, and those schools and libraries, in turn, will be able to receive support for those charges through the E-rate program. Consequently, there is no reason that this obligation should not apply in those instances when additional construction is required to connect a school or library.¹⁴⁸ While we allow special construction charges to be funded by the E-rate program, those charges would be limited to what is necessary to provide the additional capacity to the requesting school and library from existing fiber backhaul in the vicinity of the school or library: essentially, the incremental cost of a spur to serve the school or library. Price cap carriers that elect to make a state-level commitment for Connect America Phase II model-based support will be required to report annually the geocoded locations where service is newly available, so we will be able to identify where service meeting our targets should be available for schools and libraries.

65. We also are not persuaded by the Utilities Telecom Council argument that the Commission should refrain from adopting set standards for anchor institutions until more data is available and the need for support for anchor institutions is better understood.¹⁴⁹ The Commission expressly established a performance goal of ensuring universal availability of broadband for anchor institutions in the *USF/ICC Transformation Order*.¹⁵⁰ With respect to schools and libraries, the Commission already has adopted defined connectivity targets for schools and libraries based on comments in the record.¹⁵¹ Our action to impose this obligation on high-cost recipients is designed to ensure that the high-cost and E-rate programs work effectively together. We therefore are not persuaded by ADTRAN's argument that we should rely only on the E-rate program to ensure increased bandwidth and relative affordability for anchor institutions.¹⁵² Our record indicates that more needs to be done to close the connectivity gap so that schools and libraries in rural, high-cost areas can meet our connectivity goals.¹⁵³ We conclude that obligating recipients of high-cost support to offer broadband services in response to a posted FCC Form 470 to eligible schools and libraries at affordable rates is an economically efficient method for us to fulfill the universal service mandate and meet our connectivity goals.¹⁵⁴

66. Under the obligation we establish here, high-cost recipients will be obligated to bid on category one telecommunications and Internet access services in response to the posting of an FCC Form 470 requesting such services for eligible schools and libraries located in the areas where the carrier is receiving high-cost support. Further, to ensure that schools and libraries in rural and high-cost areas receive reasonably comparable services at rates reasonably comparable to those services paid by libraries

¹⁴⁶ See, e.g., AT&T Dec. 4th Ex Parte at 2 (“AT&T is potentially concerned by the proposal to require CAF II recipients to bid ‘comparable rates’ when responding to requests for proposals by schools and libraries located in CAF II areas.”).

¹⁴⁷ Comments of USTelecom, WC Docket No. 10-90, at 9 (filed Aug. 8, 2014).

¹⁴⁸ See *infra* para. 73.

¹⁴⁹ See Comments of Utilities Telecom Council, WC Docket No. 10-90, at 17 (filed Aug. 8, 2014).

¹⁵⁰ *USF/ICC Transformation Order*, 26 FCC Rcd at 17680, para. 48.

¹⁵¹ *E-rate Modernization Order*, 29 FCC Rcd at 9026, paras. 26-31.

¹⁵² Comments of ADTRAN, WC Docket No. 10-90, at 16 (filed Aug. 8, 2014).

¹⁵³ See generally *Staff Report*, 29 FCC Rcd 9644.

¹⁵⁴ See generally 47 U.S.C. § 254.

and schools in urban areas, we also take steps to establish reasonably comparable benchmarks for broadband services offered to schools and libraries by high-cost recipients.¹⁵⁵

67. *Applicability.* This obligation to offer broadband service in response to a posted FCC Form 470 to schools and libraries will apply to all recipients of high-cost support that are subject to broadband performance obligations to serve fixed locations – specifically, rate-of-return carriers that receive support from the high-cost program, price cap carriers that elect to make a state-level commitment for Connect America Phase II model-based support, price cap carriers serving the non-contiguous United States that elect to receive frozen support in lieu of model-based support for Phase II, and competitive bidders that are awarded support in the Connect America Fund Phase II competitive bidding process.¹⁵⁶ As a condition of receiving high-cost support, carriers receiving high-cost support must submit bids in response to the posting of an FCC Form 470 requesting broadband service to an eligible school, library or consortia located in the geographic area where the carrier receives high-cost support. The obligation to bid on broadband service in response to a posted FCC Form 470 extends only to those schools, libraries and consortia that are eligible for participation in the E-rate program and that seek bids on category one broadband services in a given funding year by posting an FCC Form 470.¹⁵⁷ The Bureau may refer any carrier that refuses to bid in response to a request from an eligible school or library to provide category one services at rates reasonably comparable to those paid by libraries and schools in urban areas to the Enforcement Bureau for further action as appropriate.

68. *Minimum Levels of Service.* We require high-cost support recipients to offer high-speed broadband connections sufficient to meet the targets set forth in the *E-rate Modernization Order*, when requested by schools and libraries in a posted FCC Form 470.¹⁵⁸ Consistent with the approach established for the Connect America Fund, we emphasize that providers remain free to offer a range of service offerings to meet the needs of their customer base, in addition to the service offering meeting the minimums we established in the *E-rate Modernization Order*. Eligible schools and libraries remain free to request and purchase the services that meet their specific needs. Our intention here is to create a

¹⁵⁵ See 47 U.S.C. § 254(b)(1), (3).

¹⁵⁶ We also amend our rules to require rate-of-return carriers that receive support from the high-cost program and price cap carriers that elect to make a state-level commitment for Connect America Phase II model-based support to certify that they have complied with this obligation. We will codify the certification requirement in the Code of Federal Regulations for the non-contiguous carriers and the entities awarded support through the Phase II competitive bidding process when we adopt other reporting requirements for those two groups in the months ahead. Competitive ETCs currently receiving frozen support are not subject to broadband public interest obligations. This obligation to offer broadband service meeting our E-rate modernization goals also does not apply to recipients of Mobility Fund or Tribal Mobility Fund support. We expect that winning bidders authorized to receive support in the rural broadband experiments will also offer broadband service that meet these targets when requested by schools and libraries located in their funded area.

¹⁵⁷ See 47 C.F.R. § 54.500(b), (c), (g), (o).

¹⁵⁸ See *USF/ICC Transformation Order*, 26 FCC Rcd at 17700, para. 102 (“We expect that ETCs will likely offer broadband at greater speeds to community anchor institutions in rural and high-cost areas, although we do not set requirements at this time, as the 4 Mbps/1 Mbps standard will be met in the more rural areas of an ETC’s service territory, and community anchor institutions are typically located in or near small towns and more inhabited areas of rural America.”). Commenters generally agree that recipients of high-cost support should provide schools and libraries with high-speed connections, but they are not in agreement about how fast those speeds should be. For example, SHLB and SECA recommend minimum broadband speeds in excess of 4 Mbps/1 Mbps, but do not offer a specific minimum speed. See SHLB & SECA Joint CAF Reply Comments at 1-2. ALA argues that recipients of high-cost support should be obligated to offer connection speeds of at least 50 Mbps download and 25 Mbps upload to each public library in its service territory, but libraries should be given the flexibility to purchase the broadband services that meet their particular needs. See Comments of ALA, WC Docket No. 10-90, at 3 (filed Aug. 8, 2014). We conclude that the connectivity targets already adopted in the *E-rate Modernization Order* are appropriate to apply in this context.

framework that will enable schools and libraries to have access to services meeting the E-rate program's connectivity targets at affordable rates.

69. *Timing.* This obligation to offer broadband services in response to a posted FCC Form 470 to eligible schools and libraries for price cap carriers that elect to make a state-level commitment for Connect America Phase II model support, price cap carriers serving the non-contiguous United States that elect to receive frozen support in lieu of model-based support for Phase II, and existing rate-of-return carrier ETCs will become effective no sooner than E-rate funding year 2016, which commences July 1, 2016. For ETCs that are awarded Phase II support through a competitive bidding process, this obligation will become effective in the first E-rate funding year after their support is authorized. We recognize, however, that it may not be possible to offer service meeting the E-rate modernization connectivity targets as soon as this obligation becomes effective in geographic areas that do not yet have the necessary fiber backhaul facilities. In the *Connect America Order* we adopt today,¹⁵⁹ we establish graduated interim milestones for price cap carriers accepting the offer of Phase II model-based support, with the first enforceable interim deadline at the end of calendar year 2017 and completion of deployment not required until December 31, 2020.¹⁶⁰ We recognize that construction to extend fiber deeper into networks to meet Phase II obligations will be an ongoing project over the course of the Phase II term for price cap carriers accepting the state-level commitment. It is likely, therefore, that Phase II construction to extend fiber facilities to the general vicinity of a particular school or library seeking more robust capacity through the E-rate program will not occur until 2017 or later. We do not intend to disrupt the orderly implementation of the construction cycle for Connect America Phase II. To the extent additional network construction is necessary to reach a requesting school or library, we encourage high-cost recipients expeditiously to complete deployment of facilities and ensure the necessary fiber backhaul is installed where needed.

70. We will continue to provide a more flexible approach to rate-of-return carriers, which are obligated to extend broadband service upon reasonable request for service and within a reasonable amount of time.¹⁶¹ Consistent with the framework established in the *April 2014 Connect America Fund Order*, a request to serve would be deemed reasonable to the extent anticipated revenues (both end user revenues and other federal and state universal service support under existing rules) are sufficient to cover the incremental cost of extending service to the requesting school or library. If the available revenues are insufficient, then a request would not be deemed reasonable. To the extent any high-cost recipient has the facilities in place to provide service at the requisite speeds to an eligible school or library in geographic areas where it receives funding, we expect such carrier to offer such service in response to a request from such school or library in the funding year that the request is made.

71. *Reasonable Comparability Benchmarks.* To ensure that schools and libraries are able to purchase broadband offerings at rates that are reasonably comparable to similar offerings to schools and libraries in urban areas, we direct the Bureau to develop national benchmarks for broadband services offered to schools and libraries. Offering services in response to a posted FCC Form 470 at the reasonable comparability benchmarks will be a condition of receiving high-cost support for those ETCs subject to this obligation, and will not constitute a rebate to the price of service. The benchmark price offered will constitute the full retail price before taking into account any universal service support.

72. The *April 2014 Connect America Order and FNPRM* sought comment on how best to ensure that we fulfill the expectation that schools and libraries are able to purchase broadband offerings at

¹⁵⁹ Press Release, FCC, FCC Increases Rural Broadband Speeds Under Connect America Fund (Dec. 11, 2014), <http://www.fcc.gov/document/fcc-increases-rural-broadband-speeds-under-connect-america-fund>.

¹⁶⁰ We similarly expect that recipients of support through the Phase II competitive bidding process would not be subject to enforceable deployment obligations in the first two years after they are authorized to receive support.

¹⁶¹ See *USF/ICC Transformation Order*, 26 FCC Rcd at 17740-41, para. 206-08; *April 2014 Connect America Order and FNPRM*, 29 FCC Rcd at 7072, para. 66.

rates that are reasonably comparable to similar offerings to schools and libraries in urban areas.¹⁶² The Bureau should build upon this record by seeking more focused comment on proposed benchmarks. Specifically, the Bureau should rely upon data obtained from FCC Forms 471 submitted by urban schools, libraries, and consortia to develop these reasonable comparability benchmarks, as well as any other publicly available data sources, and should provide an opportunity for public comment on its proposed methodology and benchmarks before adopting the benchmarks. Upon adoption of such benchmarks, recipients of high-cost support subject to an obligation to provide fixed broadband will be obligated to offer services at or below these benchmarks in response to the posting of an FCC Form 470 requesting broadband service to an eligible school or library in the geographic areas where the carrier receives high-cost support for the next funding year. The Bureau should use a similar methodology to prepare benchmarks in subsequent funding years.

73. We also believe that this approach will ensure that support to those ETCs required to offer the benchmarked rates will continue to be sufficient for purposes of section 254.¹⁶³ While we recognize that capital costs are higher in high-cost areas, no commenters suggest that recurring operating costs are significantly higher in high-cost areas than compared to urban areas. Because E-rate applicants can seek support for special construction charges, as that term is used in the E-rate context,¹⁶⁴ ETCs subject to the benchmark requirements will be able to assess reasonable special construction charges to schools and libraries that solicit bids for broadband services. Moreover, the national benchmarks developed by the Bureau will be reasonably comparable, but not identical, to rates charged for similar offerings to schools and libraries in urban areas.¹⁶⁵ The combination of the availability of special construction charges and reasonable comparability benchmarks will ensure that universal service support received by ETCs remains sufficient for purposes of section 254.

74. *Tariffed Services.* Those carriers that offer broadband services pursuant to tariffs must comply with our tariffing rules implemented pursuant to sections 201 through 203 of the Act.¹⁶⁶ The

¹⁶² *April 2014 Connect America Order and FNPRM*, 29 FCC Rcd at 7107, para. 159.

¹⁶³ See 47 C.F.R. § 254(b)(5), (e).

¹⁶⁴ In the E-rate program, eligible special construction (or installation) charges for category one broadband services include costs for design and engineering, project management, digging trenches, and laying fiber. See *Schools and Libraries Sixth Report and Order*, 25 FCC Rcd at 18773, n.54. See also *supra* note 21. In a tariff situation, special construction charges are applicable in instances in which construction is required beyond what would be considered ordinary construction under the tariff and are subject to the terms of the carrier's filed tariffs and section 61.38 of the Commission's rules. See 47 C.F.R. § 61.38.

¹⁶⁵ See *supra* para. 71.

¹⁶⁶ 47 U.S.C. §§ 201-203. Section 203 of the Act requires all common carriers to file tariffs containing their rates for interstate and foreign wire or radio communication. 47 U.S.C. § 203(a). Certain price cap carriers, however, have received forbearance from, among other things, the section 203 tariffing requirement, as applied to certain broadband special access service offerings. See, e.g., *Qwest Petition for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Broadband Services*, WC Docket No. 06-125, Memorandum Opinion and Order, 23 FCC Rcd 12260 (2008); *Petition of the Embarq Local Operating Companies for Forbearance under 47 U.S.C. § 160(c) from Application of Computer Inquiry and Certain Title II Common Carriage Requirements, Petition of the Frontier and Citizens ILECs for Forbearance under Section 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Their Broadband Services*, WC Docket No. 06-147, Memorandum Opinion and Order, 22 FCC Rcd 19478 (2007); *Petition of AT&T Inc. for Forbearance under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to its Broadband Services, Petition of BellSouth Corporation for Forbearance Under Section 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to its Broadband Services*, WC Docket No. 06-125, Memorandum Opinion and Order, 22 FCC Rcd 18705 (2007); Verizon Telephone Companies' Petition for Forbearance from Title II and Computer Inquiry Rules with Respect to their Broadband Services Is Granted by Operation of Law, WC Docket No. 04-440, News Release (rel. Mar. 20, 2006); see also Letter from Rusty Dorman, General Manager, Eastex Telephone Cooperative, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 3 (filed Jan. 28, 2014) (stating that the current rules

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benchmark rates established pursuant to this Order for broadband services provided to schools and libraries will likely vary from rates charged for similar services to other customers. To the extent this is the case, we evaluate whether it potentially raises concerns under section 202(a), which forbids “unreasonable discrimination” in rates charged to customers, and section 201(b), which requires rates to be “just and reasonable,”¹⁶⁷ as well as our tariffing rules.¹⁶⁸ For the reasons described below, we conclude that the action we take today does not raise such concerns.

75. To ensure that incumbent local exchange carriers can offer services to schools and libraries consistent with the requirements of this Order and the Act, we rely on the flexibility provided under section 201(b) to decide that it is just and reasonable for carriers to provide broadband services at rates specific to the class of educational customers to which carriers must offer benchmarked rates. Section 201(b) provides that “communications by wire or radio subject to this chapter may be classified into day, night, repeated, unrepeated, letter, commercial, press, Government, and such other classes as the Commission may decide to be just and reasonable, and different charges may be made for the different classes of communications.”¹⁶⁹ Accordingly, in conjunction with the process for establishing the benchmark rates, we delineate here, pursuant to section 201(b) of the Act, a class of educational customers to whom the benchmarked rates may be offered. We delegate authority to the Bureau to provide other guidelines as necessary to implement the objectives described above as part of the process of seeking public comment on the analysis underlying the rate benchmarks. For example, the Bureau may consider establishing streamlined procedures to enable those carriers that offer broadband services pursuant to tariffs to easily revise or re-file new interstate tariffs. Additionally, the Bureau should determine whether there may be certain carriers for whom application of the rate benchmarks would be impracticable or unduly burdensome and, if so, if there are alternate methods to ensure that such carriers are providing eligible E-rate applicants with rates that are reasonably comparable to similar offerings to schools and libraries in urban areas.

76. We find that it is just and reasonable under section 201(b) for carriers to provide service at rates specific to the class of educational customers to which carriers must offer benchmarked rates. This action furthers significant universal service principles that schools and libraries obtain access to advanced telecommunications services¹⁷⁰ and access to telecommunications services and information services at rates that are reasonably comparable to those charged for similar services in urban areas.¹⁷¹ By making a benchmarked rate available to eligible schools and libraries, in high-cost areas we will ensure that the universal service program complies with these statutory goals, as well as the Commission’s stated expectation that eligible telecommunications carriers provide broadband to community anchor institutions at reasonably comparable rates.¹⁷² Based on the record, we proceed incrementally, focusing for now specifically on schools and libraries rather than on broader categories of entities within the scope of section 254’s objectives. By requiring carriers to offer services at rates specific to schools and libraries, we will advance the objectives of section 254; that fact, coupled with the flexibility afforded the Commission under the “just and reasonable” standard of section 201(b), persuades us that carriers’ provision of service at rates specific to schools and libraries is not at odds with section 201(b). We

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require those carriers bound by tariffs to charge the tariffed rates to schools and libraries regardless of bid pricing and term commitments).

¹⁶⁷ 47 U.S.C. §§ 201(b), 202(a).

¹⁶⁸ 47 C.F.R. § 61.1 et seq.

¹⁶⁹ *Id.*

¹⁷⁰ 47 U.S.C. § 254(b)(6).

¹⁷¹ 47 U.S.C. § 254(b)(3).

¹⁷² See *USF/ICC Transformation Order*, 26 FCC Rcd at 17700, para. 102 & n.164.

conclude for the same reasons that carriers' compliance with the requirements adopted here do not violate section 202(a).¹⁷³

III. ADJUSTING THE E-RATE CAP TO MEET THE PROGRAM'S CONNECTIVITY GOALS (WC DOCKET 13-184)

77. Ensuring that schools and libraries will be able to meet the high-speed connectivity targets we have set for the E-rate program will require a combination of continued efforts to lower the prices paid for school and library broadband connectivity and an increase in E-rate support necessary to meet growing bandwidth demands of schools and libraries. In this Order and in the *E-rate Modernization Order*, we have taken several steps to maximize the cost-effectiveness of E-rate supported purchases, including a pricing transparency requirement and several program changes in this Order that will have the effect of increasing competitive options, and thus lowering prices, for schools and libraries to meet their connectivity needs.¹⁷⁴ However, the record demonstrates that as more schools and libraries upgrade their broadband infrastructure and expand robust Wi-Fi access into every classroom and library space, bandwidth demands of schools and libraries will outpace any expected savings that can be accomplished through program efficiencies and declining per megabit pricing.¹⁷⁵ Even with a more efficient E-rate program that achieves substantial cost-savings, funding above the current E-rate cap will be necessary if we seek to connect more schools and libraries at the targeted bandwidth levels. Based on an extensive record that includes more than 2,800 comments, 600 ex parte presentations, and two cost estimates, we raise the annual E-rate program cap to \$3.9 billion in funding year 2015. Commenters stress the importance of providing certainty to schools and libraries that sufficient funding will be available for both connectivity to and within schools and libraries.¹⁷⁶ For the reasons explained below, we agree that raising the cap, in conjunction with the other work we have done to improve E-rate purchasing, is the best way to provide such certainty as well as to meet the goals we have set for the program.¹⁷⁷

78. The E-rate funding cap has gone virtually unchanged for 17 years. In 1997, the Commission adopted a \$2.25 billion annual funding cap for the E-rate program, based on demand estimates provided by McKinsey, Rothstein Thesis, and the National Commission on Library and Information Science (NCLIS) Report.¹⁷⁸ Since then, however, actual demand for E-rate support has

¹⁷³ See, e.g., *AT&T Communications Inc., Revisions to Tariff F.C.C. No. 16*, Transmittal No. 1876, Memorandum Opinion and Order, 5 FCC Rcd 700, 701, para. 13 (Com. Car. Bur. 1990) (discussing section 201(b)'s allowance for classes of service—and, as specifically relevant there, the “Government” class of service—and explaining that “[s]ection 201(b) is best understood as creating an exception to Section 202(a) by permitting the establishment of government service regardless of whether such service is ‘like’ other services”).

¹⁷⁴ See *E-rate Modernization Order*, 29 FCC Rcd at 8934, Section V.

¹⁷⁵ See *infra* paras. 95-107.

¹⁷⁶ See, e.g., CDE FNPRM Comments at 2-3; ISTE FNPRM Reply Comments at 6 (noting that schools and districts are worried about sufficient funding); New America FNPRM Reply Comments at 10-11 (ensuring long-term sustainability and predictability of the program will require an adjustment to the E-rate cap); NYSED FNPRM Comments at 3-4; San Francisco FNPRM Reply Comments at 2 (expressing concern about the ability to fund both category one and two services without a cap increase); WDPI FNPRM Reply Comments at 6 (questioning the predictability without certain funding for category two services); KDLA FNPRM Reply Comments at 3 (a lack of predictability about funding will lead to more caution from applicants).

¹⁷⁷ See, e.g., ALA et al. Oct. 14 Ex Parte at 1; ESH/CoSN Connectivity Model at 2 (closing the high speed connectivity gap “will require the Commission to take aggressive action to both increase funding and modify rules which limit the flexibility and options schools have to leveraging E-rate”); ISTE FNPRM Reply Comments at 6; New America FNPRM Reply Comments at 10-11; Letter from John Windhausen, Jr., Executive Director, SHLB Coalition, to Chairman Wheeler and Commissioners, FCC, WC Docket No. 13-184, at 2-3 (filed Oct. 17, 2014) (SHLB Coalition Ex Parte Letter).

¹⁷⁸ See *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order, 12 FCC Rcd 8776, 9054-55, para. 529-31(1997) (*Universal Service First Report and Order*).

exceeded that cap in all but one funding year.¹⁷⁹ In recent funding years, there has been little or no funding available for the internal connections necessary to deliver broadband into classrooms and libraries.¹⁸⁰

79. Throughout the program's history, the Commission has made various efforts to spread E-rate dollars to more applicants, such as, for example, by limiting applicants to applying for discounts on internal connections to twice every five years.¹⁸¹ In 2010, it also began adjusting the E-rate cap to account for annual inflation to try to gradually align the program's needs with available funding.¹⁸² Even with these changes, the program, while successful, was falling short of its potential. Based on the record created in response to the *E-rate Modernization NPRM*,¹⁸³ earlier this year we took steps to restructure the E-rate program. In the *E-rate Modernization Order*, we phased out support for outdated, non-broadband services, shifting the focus to high-speed broadband, with a particular focus on how the E-rate program distributes funding for internal connections. We also made needed reforms to encourage cost-effective purchasing, including setting sufficient budgets for internal connections, known as category two services, and establishing pricing transparency. These major policy changes were a necessary first step on the path to ensuring that the program has the necessary resources to meet the goals we have adopted for the E-rate program.

80. At the same time, we sought comment on the future funding levels needed for the E-rate program in order to meet the established goals.¹⁸⁴ We invited stakeholders to submit data on the gap between schools' and libraries' current connectivity and the specific targets set out in the Order, as well as information on how much funding would be needed to bridge that gap within the E-rate program.¹⁸⁵ In August, the Bureau released a Staff Report summarizing a portion of the large amount of data gathered in the record in order to assist parties considering responses to the *E-rate Modernization FNPRM*.¹⁸⁶ In conjunction with the Staff Report, Commission staff released two maps providing a visualization of the fiber connectivity to schools and libraries based on data in the record, and have continued to update those maps to reflect additional data stakeholders have submitted.¹⁸⁷

81. Based on the substantial record developed in this proceeding, in this section we set out the anticipated costs to meet the goal of ensuring affordable access to high-speed broadband sufficient to support digital learning in schools and robust connectivity for all libraries.¹⁸⁸ First, in order to provide

¹⁷⁹ See USAC, Schools and Libraries Program, Automated Search of Commitments, <http://www.usac.org/sl/tools/commitments-search/Default.aspx> (last visited Nov. 16, 2014).

¹⁸⁰ See USAC, Schools and Libraries, Latest News, 2/27/2014 - Update on Priority 2 Commitments for FY2013, <http://usac.org/sl/tools/news/default.aspx> (last visited Nov. 16, 2014).

¹⁸¹ See *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, Third Report and Order and Second Further Notice of Proposed Rulemaking, 18 FCC Rcd 26912, 26916, para. 12 (2003) (*Schools and Libraries Third Report and Order*).

¹⁸² See *Schools and Libraries Sixth Report and Order*, 25 FCC Rcd at 18780-83, paras. 35-40.

¹⁸³ *E-rate Modernization NPRM*, 28 FCC Rcd 11304.

¹⁸⁴ See *E-rate Modernization FNPRM*, 29 FCC Rcd at 8976-77, paras. 268-69.

¹⁸⁵ See *id.*

¹⁸⁶ See *Staff Report*, 29 FCC Rcd 9644.

¹⁸⁷ See E-Rate Maps of Fiber Connectivity to Schools and Libraries, www.fcc.gov/maps/E-rate-fiber-map (last visited Nov. 5, 2014); see also Federal Communications Commission, E-rate Modernization Data webpage, <http://www.fcc.gov/encyclopedia/e-rate-modernization-data> (last visited Nov. 5, 2014) (E-rate Modernization Data webpage) (including a series of updates of the direct access to broadband connectivity datasets based on new data on the record).

¹⁸⁸ See *E-rate Modernization Order*, 29 FCC Rcd at 8881, para. 26.

certainty and administrative simplicity to applicants and to the Fund, we extend for three additional years, with a small modification, the category two budget approach we adopted in the *E-rate Modernization Order* for funding costs for internal connections for schools and libraries. Taking this change into account, we set out the projected costs of category two services to the E-rate program over the next five funding years. Next, we discuss the factors that will impact the cost of category one services in order to ensure schools and libraries can meet the connectivity targets we adopted in the *E-rate Modernization Order*. Based on these projections, and to help provide more certainty regarding the availability of E-rate support, we raise the annual E-rate cap to \$3.9 billion beginning in funding year 2015. Setting the cap at this level is based on a substantial amount of data and analysis and reflects our judgment of the amount of funding that will be necessary to meet the long-term broadband connectivity targets for all schools and libraries, including internal connections, non-recurring infrastructure upgrades, and significant increases in monthly recurring Internet access charges.

A. Ensuring Certainty for Applicants Seeking Support for Category Two Services

82. *Schools.* First, we agree with those commenters that stress the importance of predictability and certainty by extending the applicant budgets for schools established in the *E-rate Modernization Order* for category two services.¹⁸⁹ In July, we adopted a two-year test period for the pre-discount applicant budgets for category two services for funding years 2015 and 2016.¹⁹⁰ Applicants that receive commitments for category two support in either of those funding years will be subject to the five-year budget.¹⁹¹ To make the test period for the budget-based approach to awarding category two support consistent with the full five-year cycle that such budgets are based on, we expand the test-period for three additional years through funding year 2019.¹⁹²

83. In the *E-rate Modernization Order*, we explained that we were confident that we could meet the \$1 billion target for two years. However, we noted that the longer-term funding available for category two budgets is linked to the broader question of the long-term funding needs of the E-rate program, and we sought comment on these funding needs of the program.¹⁹³ As the record demonstrates, without the changes that we make today, applicants who do not seek or receive category two support in funding years 2015 or 2016 would face uncertainty about whether they will be able to receive E-rate support to meet the Wi-Fi needs of their students and patrons in later years.¹⁹⁴ By addressing the longer-term funding needs of the program and extending these category two budgets for three additional funding years in this Order, we help ensure sufficient funding for category two services, increase certainty for applicants about the availability of funding beyond funding years 2015 and 2016, and simplify the administration for USAC.

¹⁸⁹ See, e.g., Letter from John D. Harrington, Chief Executive Officer, Funds For Learning, LLC, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 1-2 (filed Oct. 11, 2014) (FFL Oct. 11th Ex Parte Letter) (stating that the Commission should remove uncertainty by removing the “pilot” for category two budgets); C Spire FNPRM Reply Comments at 4-5; ESH FNPRM Comments at 19; Verizon FNPRM Comments at 6-7.

¹⁹⁰ See *E-rate Modernization Order*, 29 FCC Rcd at 8911, para. 106.

¹⁹¹ See *id.*

¹⁹² We acknowledge that some parties recommend making permanent the budget-based approach to category two support or avoiding reversion to the prior system. See ESH FNPRM Comments at 19; see also ALA FNPRM Comments at 27 (seeing no reason to revert back to the old system). At this time, we prefer to test the approach before making it permanent and believe one five-year cycle is an appropriate test period. To the extent that this approach results in a cost-effective way to connect more schools to robust Wi-Fi, the Commission will have a sufficient record to aid in such a decision.

¹⁹³ See *E-rate Modernization Order*, 29 FCC Rcd at 8911, para. 106, 8976-77, para. 269.

¹⁹⁴ See, e.g., FFL Oct. 11th Ex Parte Letter at 1.

84. A sufficiently funded, multi-year budgeted approach for category two funding provides both certainty and flexibility for applicants.¹⁹⁵ This combination allows applicants to request support only for what they need when they need it, rather than seek funding for unnecessary components out of fear that there will not be support in the next funding year.¹⁹⁶ It also helps us achieve our goal of ensuring affordable access to high-speed connectivity within schools and libraries, by providing broader and more equitable support for the internal connections necessary to support digital learning.

85. Some commenters argue the per-student budgets should be discontinued and replaced with a funding cap increase alone.¹⁹⁷ We disagree and restate our firm belief that raising the funding cap alone will not ensure that schools and libraries can purchase affordable internal connections. Raising the cap without any additional policies or limits on how the program funds internal connections does not address the challenges faced by applicants created by widely variable costs for similar services, inefficient network planning, or incentives at the top discount levels of the E-rate program to engage in wasteful purchasing.¹⁹⁸ We also firmly disagree with the assertion that per-student budgets provide “[t]oo little discount funding” to all applicants and are inequitable.¹⁹⁹ These budgets maintain the program’s historic focus on the highest poverty schools and libraries by continuing to use concentrations of poverty to determine the discount level available and the priority of applicants.²⁰⁰ At the same time, the five-year budgets promote cost-effective spending by focusing E-rate dollars on the internal connections that are essential for wireless networks, and therefore, allow us to provide a sufficient and predictable amount to deploy Wi-Fi to students and library patrons throughout the nation, and not just to the applicants at the highest discount levels.²⁰¹

86. We reaffirm the \$150 per student pre-discount budget, with a \$9,200 pre-discount funding floor, as a reasonable limit on the amount of E-rate discounts available to schools, consistent with data in the record showing local area networks (LAN) and wireless LAN (WLAN) deployments in classrooms across a number of school districts across varied geographies.²⁰² In conjunction with other measures taken in the *E-rate Modernization Order*, such as pricing transparency to help arm applicants with information to make smart purchasing decisions and lowering the maximum discount rate from 90 to 85 percent to encourage applicants to pursue the most cost-effective options, this \$150 per student budget provides a sufficient amount of support for the necessary internal connections.²⁰³ Some applicants urge us to recognize that the internal connections needs of schools are not uniform.²⁰⁴ While the *E-rate*

¹⁹⁵ See FFL Oct. 11th Ex Parte Letter at 1; see also *E-rate Modernization Order*, 29 FCC Rcd at 8912-15, paras. 108-14.

¹⁹⁶ See, e.g., FFL Oct. 11th Ex Parte Letter at 1 (describing how applicants are considering acceleration of deployment plans in order to ensure they applied in years when funding would be available).

¹⁹⁷ See, e.g., NEA FNPRM Comments at 7-8; Chicago FNPRM Comments at 2.

¹⁹⁸ See, e.g., *E-rate Modernization Order*, 29 FCC Rcd at 8914, para. 113 n.250.

¹⁹⁹ See NEA FNPRM Comments at 6-7.

²⁰⁰ See *E-rate Modernization Order*, 29 FCC Rcd at 8913, para. 110.

²⁰¹ See *id.* at 8907, para. 96, 8913, para. 111.

²⁰² See *id.* at 8904-07, paras. 91-96; see also Verizon FNPRM Comments at 6-7 (noting that the budgets may be too generous, as they assume a greenfield build across the nation).

²⁰³ See, e.g., ESH FNPRM Comments at 19-20 (stating that \$150 should be sufficient if schools buy what they need).

²⁰⁴ See, e.g., CGCS FNPRM Comments at 5-6 (setting out reasons that urban districts might see higher costs per student); Chicago FNPRM Comments at 2 (stating new budgets limit the City’s ability to meet ambitious technology access goals); New Hope FNPRM Comments at 2 (stating rural applicants need a multiplier for category two budgets); NEA FNPRM Comments at 6 (stating that per student budgets cannot be adequate to cover costs in rural or geographically isolated areas); Letter from Neil J. Pollack, CEO/Executive Director, Anderson Center for Autism,

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Modernization Order recognized that there are different construction materials or variations in labor costs, the majority of costs for LANs are for commodity equipment, which sees nationwide pricing and competitive markets.²⁰⁵ We again decline to set out separate budgets for schools in different situations, apart from the adjustments for poverty and rurality that our system of discounts already provides. We expect the Bureau to closely monitor these budget levels as described below.²⁰⁶

87. We take this opportunity to revisit the issue of how schools should count students that attend multiple schools. Consistent with our desire to ensure sufficient funding for the number of students using the internal connections at a school, in the *E-rate Modernization Order* we explained that “[s]tudents who attend multiple schools... may be counted by both schools in order to ensure appropriate LAN/WLAN deployment for both schools.”²⁰⁷ We now clarify that schools should include in their student count, for purposes of calculating category two budgets, students that attend part-time only when doing so regularly increases the maximum number of students on the school premises at the same time, during the school day.²⁰⁸ This means that students who attend a virtual class that originates at a school, but who are not on the school premises cannot be counted in that school’s student count. We also note that students attending after-school activities or after-school events cannot be included in the student counts. Schools should also be prepared to demonstrate their student count calculations during PIA review and if they count part-time students to demonstrate how those students regularly increase the maximum number of students on the school premises at the same time during the school day.

88. *Libraries.* We also extend for three additional funding years, with a small upwards adjustment for libraries in more urbanized areas, the pre-discount budget for libraries that we adopted for funding years 2015 and 2016 in the *E-rate Modernization Order*.²⁰⁹ We adopted a \$2.30 per square foot pre-discount budget for libraries in that Order, with a funding floor of \$9,200, representing a reasonable pre-discount budget level, consistent with data submitted into the record prior to its adoption.²¹⁰ Having sought further comment specifically on the issue of user density in urban libraries because “the record of library funding needs for internal connections [was] not as robust as we would like,”²¹¹ we now adopt a separate budget of \$5.00 per square foot for libraries located in cities and urbanized areas with a population of 250,000 or more, as identified by the Institute of Museum and Library Services (IMLS) locale codes of 11, 12, and 21.²¹²

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to Tom Wheeler, Chairman, FCC, WC Docket No. 13-184, at 1-2 (filed Oct. 14, 2014) (Pollack Ex Parte Letter) (stating that per classroom budgets would more accurately reflect costs of schools with special education services, where the student to teacher ratio is small).

²⁰⁵ See *E-rate Modernization Order*, 29 FCC Rcd at 8907, para. 97.

²⁰⁶ See *infra* para. 93.

²⁰⁷ *E-rate Modernization Order*, 29 FCC Rcd at 8915, para. 115.

²⁰⁸ For example, a high school with 500 students that has an average of 10 middle students taking math classes at the high school every day could reasonably claim 510 students for the purpose of its category two budget. But, an elementary school that has 200 students attending in the morning and another 200 students attending in the afternoon should only claim 200 students for purposes of its category two budget, because the maximum number of students regularly at the school is 200.

²⁰⁹ See *E-rate Modernization Order*, 29 FCC Rcd at 8907, para. 98.

²¹⁰ See *id.* at 8908-09, paras. 99-101; see also ALA FNPRM Comments at 26-27.

²¹¹ See *E-rate Modernization FNPRM*, 29 FCC Rcd at 8986, para. 298. This is different than the data in the record on schools, which provided a grounded basis on which to produce a school budget.

²¹² The definitions of these locale codes are as follows. Locale code 11 - City, Large: Territory inside an urbanized area and inside a principal city with population of 250,000 or more. Locale code 12 – City, Midsize: Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000. Locale code 21 – Suburb, Large: Territory outside a principal city and inside an urbanized area with

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89. Calculating the library budget based on square footage continues to provide the E-rate program a simple, fast, and efficient mechanism for libraries and USAC, consistent with the Commission's third goal for the program.²¹³ There is broad support in the record for the position that the library budget should be greater for urban libraries, because these libraries serve more people per square foot than other communities and Wi-Fi performance may be impacted by a high density of users at one time.²¹⁴ There is also support in the record for considering the number of users or connected devices when setting the category two library budget, particularly for large urban libraries.²¹⁵ We agree that usage density may increase the cost of internal connections. However, as the record indicates, there is not a standardly reported metric on the number of Wi-Fi users in libraries that would provide a simple and predictable formula for all libraries.²¹⁶ We therefore decline to adopt the proposals that seek a different budget calculation based on daily visitors or public computer users, because using those metrics would impose new administrative burdens on libraries, would be difficult to administer, could improperly incentivize purchasing unnecessary public computers, and would delay application review by being difficult to verify. Square footage continues to present the best option for providing a sufficient budget for libraries that is simple for applicants to calculate and simple for USAC to administer.²¹⁷

90. Because we agree that usage density increases the cost of internal connections and the record supports a decision that usage density is greater in large urban libraries, we elect to increase the pre-discount per-square foot library budget for libraries in the most densely populated areas to \$5.00 per square foot over five years. The Urban Libraries Council (ULC) suggests a category two pre-discount budget of between \$5.00 and \$7.00 per square foot for urban libraries,²¹⁸ a number of other commenters support an increase to at least \$4.00 per square foot.²¹⁹ We take into account this range of estimates that have been submitted into the record, along with the lack of precise evidence that would militate in favor

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population of 250,000 or more. See Institute of Museum and Library Services, Public Libraries Survey: Fiscal Year 2012: Public Library Outlet Data File (2014), http://www.ims.gov/research/pls_data_files.aspx (last visited Dec. 9, 2014).

²¹³ See *E-rate Modernization Order*, 29 FCC Rcd at 8891-92, paras. 55-56; see also The Alliance FNPRM Comments at 10 (square footage metrics are an effective means to decrease application burden, aligning with goal to make the process fast, simple, and efficient).

²¹⁴ See, e.g., ULC FNPRM Comments at 6-7; San Francisco FNPRM Reply Comments at 2; MMTTC et al. FNPRM Reply Comments at 13 (stating that the cost of internal connections is a function of both building size and the number of users).

²¹⁵ See, e.g., ULC FNPRM Comments at 6-7; WDPI FNPRM Reply Comments at 5; MMTTC et al. FNPRM Reply Comments at 12; Hans Riemer FNPRM Reply Comments at 2; see also Letter from Susan Benton, CEO – The Urban Libraries Council, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, Attach. (filed Sept. 12, 2014) (examining the differences in operating expenses between city, rural, suburban, and town libraries based on the number of public computers).

²¹⁶ See ULC FNPRM Reply Comments at 5 (noting that some of its member libraries have begun to collect the data necessary for a per capita approach).

²¹⁷ See *E-rate Modernization Order*, 29 FCC Rcd at 8907-08, para. 98; see also Alliance FNPRM Comments at 10 (the square foot metric aligns with the goal to make the E-rate application process fast, simple, and efficient); NYSED FNPRM Comments at 8.

²¹⁸ See Letter from Susan Benton, CEO – The Urban Libraries Council, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 1, Attach. (filed Oct. 20, 2014) (stating that 25 to 50 percent of all operating costs in a library seems reasonable or appropriate); see also, e.g., Letter from Melinda S. Cervantes, Executive Director, Pima County Public Library, to Tom Wheeler, Chairman, Federal Communications Commission, WC Docket No. 13-184, at 1 (filed July 3, 2014); Letter from Anthony W. Marx, The New York Public Library, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 2 (filed July 3, 2014).

²¹⁹ See, e.g., San Francisco FNPRM Reply Comments at 2; MMTTC et al. FNPRM Reply Comments at 14; Hans Riemer FNPRM Reply Comments at 2.

of picking a specific estimate. As such, in order to be fiscally cautious, we adopt a value toward the bottom end of the range of \$5.00 per square foot as the pre-discount budget for the most urban libraries.

91. To determine which libraries get the benefit of the increased per-square-foot budget, we look to the IMLS classification of libraries. IMLS assigns locale codes in order to identify the type of geographic areas in which a library outlet is located, using the same methodology as the National Center for Education Statistics' Common Core of Data datasets.²²⁰ It divides geographic areas into four categories – city, suburban, town, and rural, each with three subcategories.²²¹ We agree with ULC's recommendation that we provide higher funding per square foot for those libraries located in the most densely populated areas using the IMLS locale codes of "11 – City, Large," "12 – City, Midsize," and "21 – Suburb, Large."²²² These three locale codes capture urbanized areas within principal cities with a population over 100,000 and those areas outside of a principal city, but within an urbanized area with a population of over 250,000, which are the most densely populated areas.²²³ These locale codes therefore provide a reasonable proxy for identifying libraries that may see a higher density of users per square foot. As described below, the Bureau will continue to evaluate these library budgets for category two services. We also take this opportunity to remind library applicants, regardless of their category two budget levels or square footage, of the obligation to select the most cost-effective service offered and to consider price as the primary factor.²²⁴

92. Our decision to extend both of these five-year pre-discount budgets for schools and libraries by three additional funding years reflects our concern that using applicant budgets for only two funding years will be inadequate to provide certainty for applicants making purchasing decisions. Additionally, it reflects our finding that these budgets are sufficient and that extending them will simplify the administration of the program and provide clarity and certainty to schools and libraries. We agree with commenters that extending the applicant five-year budgets will increase certainty about how applicants and certain services will be treated beyond funding year 2016 and whether funding will be available.²²⁵ We are particularly concerned that applicants could decide to delay seeking funding for needed internal connections in funding years 2015 or 2016 because they would like to see if there is additional funding in funding year 2017. Further, this extension simplifies administration of the program for both applicants and USAC by treating all applicants the same, regardless of when they receive E-rate support for category two services.

93. To ensure that the applicant budget remains effective at accomplishing our goal of ensuring affordable access to high-speed broadband sufficient to support digital learning, we expect the Bureau to monitor these applicant budgets and provide a report on their sufficiency to the Commission

²²⁰ See Institute of Museum and Library Services, Data File Documentation – Public Libraries Survey Fiscal Year 2012, at 12-13 (rel. July 2014), http://www.imls.gov/assets/1/AssetManager/fy2012_pls_data_file_documentation.pdf.

²²¹ See *id.*

²²² Letter from Susan Benton, CEO and President, Urban Libraries Council, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 2-3 (filed Nov. 28, 2014) (recommending that the highest budgetary allocation should include locale codes 11, 12, and 21 in order to target funding at those libraries and library systems that provide the highest levels of Wi-Fi service).

²²³ A new library within an urbanized area with a population of over 250,000 or located inside an urbanized area and within a city of over 100,000 people is also eligible for \$5.00 per square foot even if it has not yet been assigned a locale code from IMLS.

²²⁴ See 47 C.F.R. §§ 54.503(c)(2)(ii)(B), 54.511(a).

²²⁵ See, e.g., FFL Oct. 11th Ex Parte Letter at 1-2; CDE FNPRM Comments at 3; C-Spire FNPRM Reply Comments at 4-5; Verizon FNPRM Comments at 6-7.

before the opening of the filing window for funding year 2019.²²⁶ This analysis is important for two reasons. First, information demonstrating the success, or lack thereof, of this approach to providing support for internal connections will provide the Commission with data to determine if the category two budget approach should be made permanent. Second, if the Commission does not extend the budget approach beyond funding year 2019, the information learned during the test-period will provide significant information to assist USAC in making sure that category two requests continue to be cost-effective.²²⁷

94. Therefore, working with OMD and USAC, the Bureau shall analyze the data from applicants for trends across different types of applicants or regions of the nation, particularly those schools that serve students with special education services.²²⁸ This may include evaluation of FCC Form 471 pricing data received from applicants to ensure that cost-effective offers are reaching applicants in all parts of the country. In particular, our record on the costs for urban libraries that see higher density bandwidth demands is not as robust as our other data. Therefore, as part of our existing direction to seek feedback on sufficiency of LAN/WLAN capacity,²²⁹ we also direct the Bureau to analyze the applicant requests from funding years 2015 through 2018 for libraries serving different population sizes, so that we have information needed to assess whether the category two library budget is reasonable.²³⁰ The Bureau may consider including in its analysis passive data measurements in order to measure the impact of the number of users on the Wi-Fi deployments.²³¹

95. *Basic Maintenance, Managed Wi-Fi, and Caching.* Because we extend these category two applicant budgets, we also extend the eligibility for basic maintenance, managed internal broadband services, and caching through funding year 2019.²³² These services provide benefits to applicants seeking flexibility in how to set up their networks, but we had concerns about how to prevent unnecessary or wasteful spending especially given that many managed Wi-Fi agreements run over multiple years.²³³ The applicant budgets continue to “mitigate some of our concerns about waste or abuse” as long as they are in effect.²³⁴ We direct the Bureau to include these eligible services on the Eligible Services List accordingly in funding years 2016 through 2019.

96. We also note commenters’ concern that caching services and managed Wi-Fi are additional costs for category two services not accounted for in the budgets.²³⁵ We extend the eligibility of these services in order to provide additional choices for applicants seeking the most cost-effective technology options for their unique situations.²³⁶ For instance, a small school district or library system without a technology director may find managed Wi-Fi allows it to more quickly deploy advanced LANs by spreading its costs over a multi-year contract and relying on the technical expertise of the managed

²²⁶ See, e.g., ESH FNPRM Comments at 19 (supporting the category two budgets, but seeking continued evaluation of its effectiveness).

²²⁷ See *infra* para. 126.

²²⁸ See Pollack Ex Parte Letter at 1-2.

²²⁹ See *E-rate Modernization Order*, 29 FCC Rcd at 8889-90, paras. 46-49.

²³⁰ See, e.g., ALA FNPRM Comments at 26 (stating that they support a two-year test).

²³¹ See *E-rate Modernization Order*, 29 FCC Rcd at 8891, para. 54.

²³² *Id.* at 8921, para. 131.

²³³ *Id.*

²³⁴ *Id.*

²³⁵ See, e.g., EdLiNC FNPRM Comments at 4; NASSP FNPRM Reply Comments at 8.

²³⁶ See, e.g., ULC FNPRM Reply Comments at 9-10 (arguing that the ESL should provide greater flexibility for category two services).

Wi-Fi provider.²³⁷ Similarly, a school may decide that it makes sense to incorporate caching into its connectivity plans and wants to seek E-rate support for those services. These services, however, are not essential components for all applicants seeking to deploy Wi-Fi, and we therefore do not further increase the applicant budgets to account for them.

97. *Category Two Costs.* We find that the \$1 billion annual target budget set for category two services in the *E-rate Modernization Order* is sufficient to provide the E-rate support needed for a five-year deployment of LANs and WLANs. In July, we stated that the question of available funds for these five-year budgets was closely linked with the long-term funding for the E-rate program.²³⁸ We therefore applied the five-year budgets to applicants that received E-rate support for category two services in funding years 2015 and/or 2016, pending resolution of the program's overall funding needs. Having now extended these category two applicant budgets for all applicants for three additional funding years, we reaffirm the funding level for the E-rate support for category two budgets, based on the analysis set out in the *E-rate Modernization Order*.²³⁹ We also index the category two budget target and the applicant budgets to inflation.

98. This \$1 billion annual target for category two services provides greater access to E-rate support for both schools and libraries. From funding years 2008 through 2012, the program provided E-rate discounts for internal connections of between \$700 million and \$1.2 billion.²⁴⁰ However, this funding provided support for less than 11 percent of the more than 100,000 schools participating in the program each year and less than four percent of public libraries.²⁴¹ With the adoption of pre-discount budgets sufficient to deploy LANs and WLANs and a \$1 billion target, the program will be able to support an average of 10 million students each funding year at different discount levels, providing broader and more equitable support across the nation.²⁴² Additionally, targeting a consistent amount of support each year allows us to reduce fluctuations in the contribution factor and uncertainty over availability of funding that had previously existed in the E-rate program.

99. Although some commenters express concern that \$5 billion in category two support over five years is insufficient to reach the schools and libraries at the lowest discount levels,²⁴³ we restate our finding that the funding target will provide sufficient funding to applicants seeking category two support.²⁴⁴ First, we disagree with assertions from commenters that the EducationSuperHighway/CoSN Ongoing Cost Model's \$1.6 billion in annual costs for category two services is the appropriate measure.²⁴⁵

²³⁷ See, e.g., C Spire FNPRM Reply Comments at 4.

²³⁸ *E-rate Modernization FNPRM*, 29 FCC Rcd at 8976, para. 269.

²³⁹ See *E-rate Modernization Order*, 29 FCC Rcd at 8916, para. 118 n.264.

²⁴⁰ See USAC, Schools and Libraries Program, Automated Search of Commitments, <http://www.usac.org/sl/tools/commitments-search/Default.aspx> (last visited Oct. 3, 2014).

²⁴¹ See *Staff Paper*, 29 FCC Rcd at 9647, para. 6 (calculating the percentage of schools that received commitments for "Internal Connections" compared with all of the public and private schools participating in the E-rate program and the percentage of libraries receiving commitments for "Internal Connections" as a fraction of the total number of libraries participating in the E-rate program in funding years 2008-12).

²⁴² Having determined that a \$1 billion target over five years is sufficient to deploy Wi-Fi throughout the nation, we average the impact on those 50 billion students over five years.

²⁴³ See, e.g., AASA FNPRM Comments at 2; EdLiNC FNPRM Comments at 5; FFL FNPRM Comments at 3; SECA FNPRM Comments at 4.

²⁴⁴ Below, we also explain that additional frontloading of category two requests may occur if there is sufficient overall funding in the program. See *infra* para. 115.

²⁴⁵ See, e.g., NASSP FNPRM Reply Comments at 8 (citing Letter from Evan Marwell, CEO, ESH, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 8 (filed May 28, 2014)).

That model was one of several data points used in determining the category two budgets for schools.²⁴⁶ In particular, commenters point to analysis done by Funds for Learning that assumes all applicants will apply and all applicants will request the entirety of their budgets each year.²⁴⁷ We disagree with these assumptions. In the *E-rate Modernization Order*, we noted that some schools and libraries will not seek funding and others will seek less than the full budgeted amount.²⁴⁸ Additionally, the average size of the requests per student in the lower discount levels is well below \$150 per student, and we do not expect a dramatic increase in the size of requests per student from such applicants.²⁴⁹ We note, as one example, that data in the record showed managed Wi-Fi contracts for as low as \$19 per student annually,²⁵⁰ which is less than 65 percent of the available budget over five years.

100. We recognize that there is pent up demand and that applicants may seek a larger portion of the budget early on in the five-year cycle, leaving applicants at the lower discount levels with some uncertainty about future funding.²⁵¹ However, by extending applicant budgets for three more funding years and increasing the size of the E-rate cap to help meet both category one and category two demand below, we provide much-needed certainty to applicants, allowing them to take advantage of the flexibility the five year budgets offer.²⁵² Indeed, providing needed flexibility is one of the benefits of these multi-year budgets.²⁵³ School districts with a large number of schools may simply be unable to deploy networks in every school for a number of reasons, including their own budget match and the ability of a vendor to install to every school. Similarly, applicants that request support for a managed Wi-Fi solution may end up requesting just a portion of their budget each of the five funding years, leaving additional funding for applicants at a lower discount level. For these reasons, we expect category two applicant requests to be reasonable and that the Bureau will monitor these budgets closely.

B. Meeting Applicants' Needs for Category One Support

101. Having set an annual category two budget target of \$1 billion, we now turn our focus to determining how meeting the long-term broadband connectivity targets that we set in the *E-rate Modernization Order* will drive future funding needs for category one services. The record demonstrates that growth in demand for category one funding will be driven by a combination of: (i) requests for support for non-recurring infrastructure upgrades; and (ii) the growing demand for high speed bandwidth connectivity to schools and libraries, both of which will lead to increasing monthly recurring charges for WAN and Internet connections. The increase in monthly recurring charges for WAN and Internet connectivity will come from schools and libraries that already have connections capable of meeting E-rate connectivity targets and from those that are newly able to purchase high-speed connections as a result of

²⁴⁶ See *E-rate Modernization Order*, 29 FCC Rcd at 8904-07, paras. 91-97.

²⁴⁷ See *id.*

²⁴⁸ See *E-rate Modernization Order*, 29 FCC Rcd at 8916, para. 118.

²⁴⁹ See *Staff Paper*, 29 FCC Rcd at 9652, Fig. 5.

²⁵⁰ See *E-rate Modernization Order*, 29 FCC Rcd at 8906, para. 93 (citing Letter from Jeffery A. Mitchell, Counsel for Telepak Networks, Inc. d/b/a C Spire Fiber, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 5 (filed June 12, 2014))

²⁵¹ See FFL FNPRM Comments at 2 (making the assumption that all applicants will seek all available funding); SECA FNPRM Comments at 4 (citing FFL for the proposition that applicants below the 80 percent discount level will not receive funding until at least funding year 2017); *but see* FFL Oct. 11th Ex Parte Letter (explaining that eliminating the two year test for category two budgets would provide certainty to applicants and reduce unnecessary acceleration of Wi-Fi deployment).

²⁵² See, e.g., FFL Oct. 11th Ex Parte Letter at 1; New America FNPRM Reply Comments at 11-13.

²⁵³ See *E-rate Modernization Order*, 29 FCC Rcd at 8913-14, para. 112; *see also, e.g.*, Chicago PN Comments at 2; WDPI PN Comments at 5.

the changes to the E-rate program that we adopt today.²⁵⁴ Moreover, by targeting funding to Wi-Fi in the *E-rate Modernization Order* and extending the budgets for internal broadband connections in this Order, we will ensure that more schools and libraries have robust internal connections, which will fuel their demand for high-speed WAN and Internet connectivity. Taking into account data in the record and the anticipated savings from steps we have taken to refocus E-rate funding on broadband and encourage program efficiencies, we discuss these increasing costs for category one services below.

1. Projecting Schools' and Libraries' Future Connectivity Demands

102. We first evaluate the future connectivity demands of schools and libraries, both in terms of their needs for new infrastructure and their needs for services provided over that infrastructure. On the one hand, stakeholders report that prices per megabit for high-speed broadband have consistently declined each year.²⁵⁵ At the same time, as demonstrated below, increases in bandwidth demand greatly offset this decline in per megabit pricing; thus, the total amounts paid by schools and libraries for their recurring monthly broadband services will continue to increase. Indeed, in a recent survey of school district administrators and school technology leaders conducted by CoSN, many schools signaled that they would need more bandwidth in the very near future. For example, 83 percent of respondents expect to need additional bandwidth over the next three years and almost two-thirds report that they do not have sufficient bandwidth for the next 18 months.²⁵⁶ Moreover, the schools' anticipated demand is for significantly greater bandwidth. Over the next 18 months, 25 percent of respondents expect 100 to 500 percent bandwidth growth and another 24 percent expect 20 to 100 percent bandwidth growth.²⁵⁷

103. By working to ensure that schools and libraries have access to affordable high-speed broadband connectivity, we also contribute to their increase in demand for those high-speed connections. For example, our commitment to consistently provide at least \$1 billion in funding for school and library Wi-Fi networks will fuel additional usage and demand. As schools and libraries deploy increasingly robust Wi-Fi networks, the ability of more students, teachers and library patrons to use their schools' and libraries' internal networks will require the delivery of greater bandwidth to those schools and libraries.²⁵⁸ For instance, data from North Carolina demonstrate that some school districts are seeing Internet bandwidth usage growth of nearly 50 percent on an annual basis, regardless of whether the school is implementing a one-to-one device deployment initiative, is several years into such a program, or lacks a specific program.²⁵⁹ Similar data from Washington indicate that average annual usage growth was over 40 percent from 2009 and 2014.²⁶⁰

104. In addition, earlier in this Order we adopt several policy and administrative changes that will provide a range of options to support more applicants' efforts to obtain sufficiently robust broadband connectivity to their buildings. Encouraging schools and libraries to undertake those types of projects and as a result closing the gap between those schools and libraries with high-speed connections and those

²⁵⁴ See *supra* Section II.

²⁵⁵ See, e.g., CenturyLink FNPRM Comments at 4; Verizon FNPRM Comments at 2-3. See also ESH/CoSN Connectivity Model at "Pricing" tab (accounting for an annual price decline between 5 and 15 percent).

²⁵⁶ See CoSN Survey at 12-14.

²⁵⁷ See *id.* at 12.

²⁵⁸ See, e.g., NASSP FNPRM Reply Comments at 7; Nebraska OCIO FNPRM Comments at 5-6 (arguing that increased funding for category two services will only exacerbate the overload DSL and cable modem infrastructure in Nebraska's rural libraries).

²⁵⁹ See Letter from Charles Eberle, Attorney-Advisor, Wireline Competition Bureau, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at Attach. 1-2 (filed Oct. 20, 2014).

²⁶⁰ See Letter from Charles Eberle, Attorney-Advisor, Wireline Competition Bureau, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184 (filed Oct. 17, 2014). Average usage growth was calculated by averaging each district's compounded average growth rate from the fourth quarter of 2009 to the fourth quarter of 2014.

without will further increase the demand for E-rate support. The extent to which we are able to achieve the first goal that we set out for the E-rate program – ensuring affordable access to high-speed broadband sufficient to support digital learning in schools and robust connectivity for all libraries – is highly dependent on how much category one funding is available for schools and libraries to pay for the upfront deployment costs of scalable connections to currently unserved and underserved schools and libraries. While we take steps above to encourage such deployment, the record clearly demonstrates that the amount of money needed for such deployment is closely linked to the number of additional schools and libraries that get connected to high-speed broadband.²⁶¹

105. Based on the data in the record, we find that over a third of schools do not have access to fiber to the building,²⁶² and an even greater percentage of libraries lack high-speed connectivity.²⁶³ While the dataset underlying our calculations on fiber access does not contain connectivity data from every school and every library across the nation, it is an unprecedented and rich source of information about school and library connectivity.²⁶⁴ Stakeholders have submitted data on existing connectivity since the beginning of this proceeding in the middle of 2013, and in August, Commission staff published the Fiber Connectivity Maps, which continue to be updated with new data.²⁶⁵ We therefore disagree with commenters that argue that we should wait for additional data on the fiber connectivity gap or that the gap is so small that it does not require additional funding to bridge it.²⁶⁶ Based on the many sources in the record agreeing that there is a significant connectivity gap to close,²⁶⁷ this dataset provides a reasonable baseline on which to rely in order to ensure the E-rate cap is set sufficiently high to provide certainty on future availability of funding necessary to achieve long-term connectivity targets.

106. Based on the findings set out above, the record shows the costs for category one services will increase over the next five years as more schools and libraries get access to high-speed connections and bandwidth demand continues to increase. We have an obligation to balance having a specific,

²⁶¹ See *infra* paras. 107, 111.

²⁶² See *Staff Report*, 29 FCC Rcd at 9656, para. 19; FCC E-rate Maps of Fiber Connectivity to Schools and Libraries, <http://www.fcc.gov/maps/E-rate-fiber-map>. The calculation of 65 percent is based on data in record representing about 50 percent of school districts. While we do not limit high-speed broadband connections to fiber, we use fiber in this analysis because it is often the type of connectivity that can be provided most cost-effectively up to at least 10 Gbps. Approximately five percent of the 35 percent of schools without fiber have fewer than 100 students. We assume that schools of this size are able to effectively achieve connectivity for their students without a fiber build. See *E-rate Modernization Order*, 29 FCC Rcd at 8886, para. 39. See NCTA FNPRM Reply Comments at 1-2 (asking for assurances that fiber is not singled out).

²⁶³ See *Staff Report*, 29 FCC Rcd at 9657, para. 21; FCC E-rate Maps of Fiber Connectivity to Schools and Libraries, <http://www.fcc.gov/maps/E-rate-fiber-map>; see also ALA FNPRM Comments at 7-8. As ALA points out, half of all public libraries report a connection of less than 10 Mbps while fewer than ten percent have speeds greater than 100 Mbps.

²⁶⁴ The dataset has information on approximately 59 percent of public schools and 69 percent of libraries. See E-rate Data Modernization webpage, <http://www.fcc.gov/encyclopedia/e-rate-modernization-data> (showing updates titled “White Paper Direct Access to Broadband Connectivity Datasets”).

²⁶⁵ See FCC E-rate Maps of Fiber Connectivity to Schools and Libraries, <http://www.fcc.gov/maps/E-rate-fiber-map> (last visited Nov. 5, 2014); see also E-rate Data Modernization webpage, <http://www.fcc.gov/encyclopedia/e-rate-modernization-data> (last visited Nov. 5, 2014).

²⁶⁶ See Letter from Alan Buzacott, Executive Director, Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 1-2 (filed Oct. 30, 2014); see also, e.g., ACA FNPRM Reply Comments at 2; NTCA FNPRM Comments at 3; USTelecom FNPRM Comments at 1-3; Verizon FNPRM Comments at 3-5.

²⁶⁷ See, e.g., Letter from Gary Rawson, Mississippi State E-rate and Federal Programs Coordinator, to Chairman Wheeler, FCC; ALA Oct. 14th Ex Parte Letter at 1; Letter from Alliance, CoSN, and ESH, to Chairman Wheeler, and Commissioners Clyburn, Rosenworcel, Pai, and O’Rielly, FCC, WC Docket No. 13-184, at 1-2 (filed Oct. 24, 2014).

predictable, and sufficient support mechanism²⁶⁸ with our “responsibility to be a prudent guardian of the public’s resources.”²⁶⁹ Using estimates in the record on the costs for category one recurring and non-recurring costs consistent with our findings above, we balance these two concerns by setting a cap on the E-rate program that provides sufficient certainty of availability of funds over the next five funding years, while limiting the impact on end users in the near-term.

107. Commenters submitted two cost estimates on connectivity to schools and libraries into the record: the ESH/CoSN Connectivity Model²⁷⁰ and the SHLB Coalition Model.²⁷¹ The ESH/CoSN Connectivity Model provides a projection of both recurring and non-recurring costs for public schools to meet the connectivity targets over five years.²⁷² The model takes into account data on current connectivity, predicted bandwidth demand growth, declining recurring prices per megabit, and estimated non-recurring prices to close the gap of schools without access to high-speed connectivity.²⁷³ It also accounts for variation in connectivity needs of differently-sized schools.²⁷⁴ Using these data, it estimates the cost for five different scenarios, projecting differing costs depending on the number of schools that become connected.²⁷⁵ ESH also filed a supplementary analysis of the recurring costs for private schools and libraries.²⁷⁶ The SHLB Coalition Model, prepared by CTC Technology & Energy, sets out an estimate of capital expenditures needed to connect fiber to unserved, eligible public schools, private schools, and libraries.²⁷⁷ Using an engineering-based approach, the model divides the nation into eight different standardized geographies, ranging from dense urban areas to isolated schools in desert areas.²⁷⁸ Their model then projects a low and a high estimate for non-recurring costs to connect public and private schools in each of these different geographies, and a separate estimate for the costs to connect libraries.²⁷⁹

a. Recurring Costs

108. We first consider the modeled recurring costs for high-speed connectivity. The ESH/CoSN Connectivity Model addresses recurring costs for public schools, and its analysis is consistent with other evidence in the record. For each of its five funding scenarios, the model accounts for differing bandwidth needs by school district size, service mixes, and pricing.²⁸⁰ Consistent with the data in the record,²⁸¹ it takes into account an annual decline in per megabit pricing of approximately 10 percent and

²⁶⁸ See 47 U.S.C. § 254(b)(5).

²⁶⁹ See *Vermont PSB v. FCC*, 661 F.3d 54, 65 (D.C. Cir. 2011).

²⁷⁰ See ESH/CoSN Connectivity Model.

²⁷¹ Letter from John Windhausen, Jr., Executive Director, SHLB Coalition, to Chairman Wheeler and Commissioners, WC Docket No. 13-184, at Attach. (filed Nov. 14, 2014) (attaching a study of estimated one-time costs for deploying fiber to schools and libraries without such infrastructure, entitled “A Model for Understanding the Cost to Connect Schools and Libraries with Fiber Optics”) (“SHLB Coalition Model”).

²⁷² See ESH/CoSN Connectivity Model at “Model Summary”.

²⁷³ See *id.* at “Model Summary” and “Service Pricing.”

²⁷⁴ See *id.* at “2018 Bandwidth Needs.”

²⁷⁵ See *id.* at “Model Summary.”

²⁷⁶ See Letter from Evan Marwell, CEO, ESH, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, Attach. (filed Nov. 5, 2014) (ESH Nov. 5th Ex Parte Letter).

²⁷⁷ See SHLB Coalition Model at 1.

²⁷⁸ See *id.*

²⁷⁹ See *id.* at 31-32, 34.

²⁸⁰ See ESH/CoSN Connectivity Model at “2018 Bandwidth Needs,” “2018 Service Mix,” and “Service Pricing.”

²⁸¹ See *supra* para. 103.

an annual increase in bandwidth demand of up to 50 percent.²⁸² As a result, it projects an increase in pre-discount recurring costs from approximately \$2.1 billion in funding year 2015 to \$2.8 billion in funding year 2018 for public schools.²⁸³

109. We next turn to the recurring costs for private schools and for libraries. In a supplemental analysis, ESH estimates that it will cost \$446 million annually in pre-discount recurring costs for private schools by funding year 2018.²⁸⁴ For libraries, ESH projects \$298 million annually in pre-discount recurring costs based on its pricing assumptions for public schools.²⁸⁵ Adding these estimates to the public school recurring projection, the sum of the projections for funding year 2018 of total recurring costs rises to \$3.60 billion. We increase this funding year 2018 estimate by nine percent in order to project costs over the five-year period for which we have set connectivity targets (funding years 2015 to 2019).²⁸⁶ The resulting projection for recurring pre-discount costs for public schools, private schools, and libraries in funding year 2019 is \$3.92 billion. However, as discussed below, ESH also assumes that policy decisions can drive cost-efficient purchasing which will reduce these pre-discount costs.

110. In addition to recurring costs for high-speed connectivity, there will also be savings of over \$3 billion in the next five years to the E-rate program due to the phase down of voice services.²⁸⁷

²⁸² See ESH/CoSN Connectivity Model at “2018 Bandwidth Needs.”

²⁸³ See ESH/CoSN Connectivity Model at “Model Summary.”

²⁸⁴ See ESH Nov. 5th Ex Parte Letter Attach. at 1. Although ESH assumes a 54 percent discount rate for private schools, we will use an average program discount rate for simplicity.

²⁸⁵ See ESH Nov. 5th Ex Parte Letter Attach. at 2. This analysis assumes that a portion of libraries will not apply for E-rate support. Even if this underestimates participation, we find the amount of funding reasonable as a basis for a future cost estimate.

²⁸⁶ We calculate this growth rate of nine percent using the increase in recurring public schools costs from funding year 2017 to funding year 2018 in Scenario 5. See ESH/CoSN Connectivity Model at “Model Summary.”

²⁸⁷ See *Staff Paper*, 29 FCC Rcd at 9663, Fig. 10; see also Letter from Melvin R. Blackwell, Vice President, Schools and Libraries Division, Universal Service Administrative Company, to Lisa Hone, Deputy Chief, Telecommunications Access Policy Division, Federal Communications Commission, WC Docket No. 13-184, Attach. (filed June 12, 2014) (USAC Broadband Connectivity Data Response 2012 and 2013) (showing PIA categorization of FRN predominant services as follows: “High Speed” Broadband” (50 percent) includes product types “Ethernet,” “Fiber Optics,” “Leased Dark Fiber,” “Leased Dark Fiber Service,” “Leased Lit Fiber,” “Leased Lit Fiber Service,” “OC-01,” “OC-03,” “OC-12,” and “OC-N.” “T1s and T3s” (12 percent) includes product types “ATM,” “Broadband Over Power Lines,” “Cable Modem,” “Dialup,” “DS-1,” “DS-3,” “DSL,” “Frame Relay,” “Satellite,” “Satellite Service,” “T-1,” “T-1 (Fractional),” and “T-3.” “Fixed Voice” (23 percent) includes product types “800 Service,” “Centrex,” “ISDN – BRI,” “ISDN – PRI,” “Local Phone Service Only,” “Local/Long Distance Phone Service,” “Other Telephone Services,” “POTS,” “Voice Mail,” “Voicemail,” and “VoIP.” “Mobile (Voice & Data)” (11 percent) includes product types “Cellular (including PCS),” “Mobile Hot Spot,” “Paging Service,” “Text Messaging,” “Wireless (for data),” and “Wireless Internet Access.” “Other” (4 percent) includes product types “Distance Learning/Video Conf,” “Domain Name Registration,” “E-mail Service,” “Web Hosting,” and any other product type not otherwise included. Demand for priority one services in funding year 2014 was \$2.63 billion. In order to estimate savings for “Voice (fixed+mobile),” we assumed that demand for voice services in Funding Years 2015-2019 would be equal to the demand for voice services in 2014, which was 33 percent of the total 2014 demand for priority one services, or \$867.9 million. See *E-rate Modernization Order*, 29 FCC Rcd at 8899, para. 78 n. 166. We then determined the amount of savings from the voice phase-out for each year by multiplying \$867.9 million by an estimated average voice discount. We derived the estimated average voice discount for each of Funding Year 2015-2019 by estimating the average voice discount for all discount bands for Funding Year 2013 and then reducing each discount band by 20 percentage points per year starting with Funding Year 2015. We calculated spending by multiplying the average voice discount rate for each funding year by the estimated demand. The FRN level dataset used to generate this analysis and our calculations are available the E-rate Modernization data site. See E-Rate Modernization Data webpage, <http://www.fcc.gov/encyclopedia/e-rate-modernization-data> (providing the FRN level

(continued...)

Commenters point out that additional savings are possible.²⁸⁸ The post-discount costs to the E-rate fund are estimated to decrease from approximately \$450 million in funding year 2015 to approximately \$25 million in funding year 2018.²⁸⁹ We acknowledge these costs to the program over the next four funding years.

b. Non-Recurring Costs

111. We next review the estimates in the record of the non-recurring costs, or capital expenditures, that are needed to connect schools and libraries to high-speed broadband meeting the program's connectivity targets over the next five years. The ESH/CoSN Connectivity Model includes an estimate for new builds that are paid for through recurring charges.²⁹⁰ By doing this, it recognizes that many schools and libraries pay a monthly price that includes both the capital deployment costs and the ongoing operational costs.²⁹¹ At the same time, the models provide projections of one-time costs that would be sufficient to close the gap. While there may be applicants or service providers that prefer to include the capital costs as a portion of the annual price for the life of the contract, the ESH/CoSN Connectivity Model provides a way to separate out these capital costs for the schools located in the most expensive areas, where the higher cost of buildout is more likely to require additional special construction charges. The changes we adopt in Section II will provide greater opportunities for applicants and service providers to take advantage of special construction. The ESH/CoSN Connectivity Model demonstrates that the cost to the program increases as a greater percentage of schools get high-speed connections.²⁹² To connect between 99.7 and 100 percent of public schools with more than 100 students,²⁹³ the ESH/CoSN Connectivity Model provides a range of non-recurring pre-discount costs of between \$600 and \$810 million annually if divided evenly over the next five funding years.²⁹⁴

112. These projections for public schools costs are generally consistent with the cost estimates provided by the SHLB Coalition for both public and private schools. The SHLB Coalition Model provides a low and a high estimate for non-recurring costs for fiber deployment to both public and private schools that would range from \$800 million to \$1.15 billion in pre-discount costs if divided evenly over the next five funding years.²⁹⁵ It also projects approximately \$135 million annually over five funding

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data and our calculations of the average voice discount rates are under the link labeled "USAC Broadband Connectivity Data Response 2013" at tabs labeled "Data" and "Calculations.").

²⁸⁸ See, e.g., Verizon FNPRM Comments at 8 (stating additional savings may come from T-1 demand that is often for voice and a general decline on demand for voice).

²⁸⁹ See *supra* note 287 (calculating estimated voice spending post-discount from funding years 2015 to 2018 of approximately \$450, \$277, \$130, and \$26 million).

²⁹⁰ See *id.* at "Model Summary" (stating an "Allowance for new builds paid through OpEx" for each of the five scenarios).

²⁹¹ See, e.g., CenturyLink PN Comments at 5 ("Carriers can provision the last mile and include that in the cost of service, either as a separate one-time charge or within the recurring charges over the life of the contract, whichever better suits the needs of the applicant.").

²⁹² See *id.* at 4, "Backup-Fiber Build Scenarios" (showing cumulative percentages of schools and students connected under each scenario).

²⁹³ The ESH/CoSN Connectivity Model limits its estimate of fiber build out to schools with more than 100 students. See *id.* at 3 n.5.

²⁹⁴ See ESH/CoSN Connectivity Model, at "Model Summary" tab. We calculate these figures by dividing the capital expenditures in Scenarios 4 and 5 over five years, rather than four years.

²⁹⁵ See SHLB Coalition Model at 31-32 (taking the total number of schools without high speed data and multiplying it by the total cost per school for each geography, in both the High Model and the Low Model).

years to connect unserved libraries across the country to fiber.²⁹⁶ The record indicates that a reasonable estimate of non-recurring pre-discount costs for both schools and libraries is between \$935 million and \$1.29 billion annually over five years.

2. Driving Down Category One Prices through Efficiencies

113. We also conclude that recent program changes will result in an additional reduction in the cost to the Fund as applicants have more opportunities to find cost-effective options.²⁹⁷ We strongly agree with commenters that argue that programmatic change, further streamlining, and continuing efforts to reduce waste, fraud, and abuse, such as greater enforcement of the lowest corresponding price, is needed to produce savings to the E-rate program.²⁹⁸ While the precise level of savings from cost efficiencies is difficult to predict, there is record support for a finding that they could achieve savings of as much as 10 to 25 percent on the cost of broadband.²⁹⁹ ESH provides an analysis of the potential impact of several different policy scenarios that each could result in significant pricing efficiencies, such as equalizing the treatment of lit and dark fiber and increasing pricing transparency.³⁰⁰ Similarly, increased planning and purchasing at the state level has also been shown to result in greater bandwidth at lower per-megabit prices, which is an added benefit of increasing state involvement in the E-rate program by providing a bump in support for infrastructure upgrades where states provide additional support.³⁰¹ Because the record demonstrates that our various changes will result in efficiencies lowering program costs, we find it reasonable to assume savings of up to 15 percent of projected demand for category one costs due to our reforms.³⁰²

C. Adjusting the E-rate Cap to Provide Certainty of Sufficient Available Funding to Achieve Program Goals

114. To ensure sufficient funding is available over the next five years to meet our program goals and connectivity targets, we adjust the E-rate cap to \$3.9 billion plus annual inflationary changes. Raising the annual E-rate funding cap to \$3.9 billion will allow us to meet our target of providing at least \$1 billion in category two support annually while fully funding category one demand, consistent with the cost estimates modeled by commenters and partially offset by potential efficiencies.³⁰³ There is wide

²⁹⁶ See SHLB Coalition Model at 33 (taking the total number of libraries without high speed data and multiplying it by the total cost per library for each of the eight geographies).

²⁹⁷ See, e.g., Comments of Gary Rawson, E-rate Modernization Workshop (May 6, 2014) (by knowing Nebraska's price per megabit of \$2.00, Mississippi was able to negotiate a better rate with their vendor); see also *supra* paras. 33-34 (discussing cost savings seen by commenters using a dark-fiber solution).

²⁹⁸ See, e.g., ESH/CoSN Ex Parte Letter at 3; Comcast FNPRM Comments at 4-6.

²⁹⁹ See ESH/CoSN Connectivity Model at 3; Letter from Evan Marwell, CEO, ESH, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 1 (filed Oct. 30, 2014) (ESH Policy Options Analysis) (stating that ESH believes that efficiencies can lower the annual cost of broadband by 10 to 25 percent).

³⁰⁰ See ESH Policy Options Analysis, Appx. A (modeling efficiencies of up to 59 percent with increased use of dark fiber, and between 15 and 33 percent for pricing transparency).

³⁰¹ See, e.g., Letter from Craig Orgeron, President, NASCIO, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 2 (filed April 1, 2014) (strong state leadership can result in reduced costs and greater efficiency).

³⁰² See *id.* at 5. We note that the ESH analysis separates out potential savings between dark fiber and transparency, so their projected savings are on top of each other, rather than duplicating the same efficiencies.

³⁰³ We estimate a sufficient cap level using the pre-discount costs in Section III.B projected to funding year 2019. First, there is a range of estimates between approximately \$935 million and \$1.29 billion annually in non-recurring costs over five years to reach schools and libraries requiring fiber. The analysis above also projects an additional \$3.92 billion in recurring costs by funding year 2019. Next, the phase down of voice services results in no cost to the Fund by funding year 2019 and we also project a 15 percent reduction as a result of efficiencies gained from both non-recurring and recurring costs. These projections result in a range of \$4.13 to \$4.43 billion, or an average

(continued....)

support in the record for an increase in E-rate funding to help schools and libraries meet the program's connectivity targets,³⁰⁴ and we find that raising the cap to \$3.9 billion will ensure a specific, sufficient, and predictable level of funding available as schools and libraries seek support for robust Wi-Fi networks within their buildings and seek high-speed connections to their buildings for years to come.³⁰⁵

115. In addition to making it possible to close the high-speed connectivity gap, raising the annual cap to \$3.9 billion will provide certainty about the availability of funding for those applicants planning now to purchase high-speed broadband connectivity to schools and libraries. It will also provide certainty about the availability of funds for applicants seeking to take advantage of the changes to category two funding by adjusting the cap in funding year 2015.³⁰⁶ Commenters are in agreement that there is pent up demand for category two services, and providing more than the \$1 billion target level in support for internal connections will allow more applicants to close their Wi-Fi gaps sooner and more efficiently.³⁰⁷ The availability of additional funds should allay concerns that applicants below the highest

(Continued from previous page)

of \$4.28 billion, in pre-discount costs for category one services at a 69 percent discount rate. *See* Submission for the Record from Funds For Learning, FY2014 E-rate Funding Requests: Telecommunications and Internet Access by Schools & School Districts, WC Docket No. 13-184, at 3 (filed May 14, 2014) (stating that there is a 69.0 percent average discount rate). We then add the anticipated pre-discount costs of \$1.45 billion for category two services at a 67 percent discount rate. *See E-rate Modernization Order*, 29 FCC Rcd at 8916, para.118 n.265. This results in a total funding level of approximately \$3.9 billion.

³⁰⁴ *See, e.g.*, AASA FNPRM Comments at 1; ALA FNPRM Reply Comments at 3-4; Alliance FNPRM Comments at 5, CDE FNPRM Comments at 2-3, CGCS FNPRM Comments at 2, Cisco FNPRM Comments at 1-3; EdLiNC FNPRM Comments at 1-2, ESH FNPRM Comments at 18-19; HP FNPRM Comments at 1; Los Angeles FNPRM Comments at 4; NASSP FNPRM Reply Comments at 5-6; NSBA FNPRM Reply Comments at 1; NLC FNPRM Comments at 1; NEA FNPRM Comments at 4; New Hope FNPRM Comments at 4; SCG FNPRM Comments at 2; SECA FNPRM Comments at 4-5; SHLB FNPRM Comments at 8; Letter from Corey Williams, on behalf of 70 national organizations, to Chairman Wheeler and Commissioners Clyburn, Rosenworcel, Pai and O'Rielly, FCC, WC Docket No. 13-184, at 1 (filed Sept. 30, 2014) (signed by 70 national groups or companies); Letter from State and Local Education Organizations, to Chairman Wheeler and Commissioners Clyburn, Rosenworcel, Pai, and O'Rielly, FCC, WC Docket No. 13-184, at 1-2 (filed Oct. 16, 2014) (signed by hundreds of local and state educational organizations); Submission for the Record from Noelle Ellerson, AASA, on behalf of AASA – the School Superintendents Association, Alliance, ALA, AESA, CoSN, CGCS, ISTE, National Association of State Boards of Education, National Association of State Directors of Special Education, NASSP, National Catholic Educational Association, NEA, National Rural Education Advocacy Coalition, National Rural Education Association, NSBA, SHLB, SETDA, WC Docket No. 13-184 (filed Nov. 20, 2014); IAC Ex Parte Letter at 1; *see also, e.g.*, Letter from S. Dallas Dance, Superintendent, Baltimore County Public Schools, to Federal Communications Commission, WC Docket No. 13-184, at 1 (filed Dec. 4, 2014); Letter from Micah Ali, President, Compton Unified School District Office of the Board of Trustees, to Chairman Wheeler, Federal Communications Commission, WC Docket No. 13-184, at 1-2 (filed Dec. 4, 2014); Letter from Kela Halfmann, E-rate Coordinator, SERRC- Alaska's Educational Resource Center, to Federal Communications Commission, WC Docket No. 13-184, at 1 (filed Dec. 3, 2014); Letter from Jennifer E. Gill, Superintendent of Schools, Springfield Public Schools, to Federal Communications Commission, WC Docket No. 13-184, at 1 (filed Dec. 3, 2014); Letter from Mata. J. Banks, Claiborne County School Director, to Federal Communications Commission, WC Docket No. 13-184, at 1 (filed Dec. 4, 2014); Letter from Robert J. Reidy, Jr. Executive Director, New York State Council of School Superintendents, to Federal Communications Commission, WC Docket No. 13-184, at 1 (filed Dec. 4, 2014); Letter from Peter Birdsall, California County Superintendents Educational Services Association, to Federal Communications Commission, WC Docket No. 13-184 (filed Dec. 1, 2014).

³⁰⁵ *See* 47 U.S.C. § 254(b)(5).

³⁰⁶ This is consistent with 47 C.F.R. § 54.507(a)(5) (allowing the Chief of the Wireline Competition Bureau to direct the Administrator to use any remaining funds to provide support for category two requests).

³⁰⁷ *See, e.g.*, SECA FNPRM Comments at 5 (stating funds should be front-loaded to the fullest extent possible); NYSED FNPRM Comments at 3-5 (arguing that funding should be accelerated in funding years 2015 and 2016).

discount bands will not have access to category two funds in the near future.³⁰⁸ For these two reasons, we also disagree with commenters that urge us to delay adjusting the cap until all program changes have been implemented or more data is available.³⁰⁹

116. Raising the annual E-rate cap to \$3.9 billion allows us to provide certainty to the applicant community, allowing local decision-makers to proceed at the pace that best serves their students and patrons.³¹⁰ In doing so, we do not expect that program demand will immediately reach that funding level. Indeed, there is no way to perfectly predict what precisely individual schools and libraries will seek support for or when unserved schools will gather the resources to pay the non-discounted portion of special construction charges. For instance, we have already identified sufficient unspent funds to be confident in funding for category two services in funding years 2015 and 2016,³¹¹ and it will take significant planning and time to take advantage of the measures set out in Section II.³¹² However, the record is clear that demand for and costs associated with high-speed broadband services will continue to grow, and we find that raising the cap now to \$3.9 billion will provide needed room for future E-rate funding needs. We balance this cap increase with our efforts to ensure fiscal prudence and we direct USAC to collect program funds based only on actual projected demand rather than collecting the full \$3.9 billion without regard to applicant needs. Providing USAC with this flexibility will allow the Fund to accommodate fluctuations or changes in actual demand in the coming years without over-collection of funds.³¹³ In order to facilitate this process and consistent with program practice, we amend the rules to only allow applications to be filed within the filing window.³¹⁴ We disagree with commenters that argue that we should wait to address long-term funding needs until the Federal State Joint Board makes recommendations on contributions reform.³¹⁵ Because demand for category one support will not increase dramatically in the short-term, we do not see a benefit in delaying this change when we have the ability to provide certainty about future availability of funding to schools and libraries making plans about connectivity for the next five years.

117. Additionally, we recognize that end users ultimately bear the cost of supporting universal service, through carrier charges.³¹⁶ However, we must balance our need for fiscal prudence with the demonstrated needs of the E-rate program, for which we have a statutory mandate to “establish rules... to enhance, to the extent technically feasible and economically reasonable, access to advanced telecommunications and information services.”³¹⁷ We adopted the program goal of ensuring affordable access to high-speed broadband sufficient to support digital learning in schools and robust connectivity to

³⁰⁸ See, e.g., SECA FNPRM Comments at 5; EdLiNC FNPRM Comments at 6.

³⁰⁹ See, e.g., ACA FNPRM Reply Comments at 4-7; CenturyLink FNPRM Comments at 3; ITTA FNPRM Comments at 3-5; NTCA FNPRM Comments at 5-7; USTelecom FNPRM Comments at 3.

³¹⁰ See, e.g., ISTE FNPRM Reply Comments at 6 (schools and districts see needs rising over the next five years, but are worried that the program lacks sufficient funding to cover the costs); New America FNPRM Reply Comments at 11 (the record demonstrates concern from E-rate stakeholders and that “uncertainty about future funding limits the program’s overall effectiveness”).

³¹¹ See *E-rate Modernization Order*, 29 FCC Rcd at 8899, para. 78.

³¹² See *infra* at Section II.

³¹³ See *Vermont Pub. Serv. Bd. v. Fed. Comm’n Comm’n*, 661 F.3d 54, 65 (D.C. Cir. 2011) (finding that, in the context of section 254, “as the Commission rightly observed, it has a responsibility to be a prudent guardian of the public’s resources.”).

³¹⁴ See Appendix A, 47 C.F.R. §§ 54.507(c) and 54.509.

³¹⁵ See, e.g., ITTA FNPRM Comments at 5.

³¹⁶ See, e.g., CenturyLink FNPRM Comments at 4-5.

³¹⁷ 47 U.S.C. § 254(h)(2)(A).

all libraries recognizing the critical role the E-rate program plays in the lives of students and communities. Having already taken steps to focus support on high-speed broadband and set out measures to increase cost efficiencies, this cap adjustment provides E-rate applicants with the certainty needed to plan how to increase connectivity to schools and libraries in the most cost-effective manner. Finally, setting a funding level that has sufficient flexibility for these plans should also drive long-term efficiencies in the program.³¹⁸

118. Finally, some commenters recommend that the Commission double the cap, which is currently \$2.4 billion,³¹⁹ to meet recent demand.³²⁰ We decline to raise the cap to \$4.8 billion based on recent demand. Since the funding year 2014 application window closed, we have modernized the program to focus support on high-capacity broadband services by eliminating support for legacy services, beginning with the phase out of support for voice services and imposing budget discipline on category two services. Raising the cap based on demand for a differently structured program would not make sense. We find instead that a program cap set using projected costs for the services the program now supports and taking into account efficiencies through recent policy changes is a more appropriate means to measure necessary program size and ensure we exercise fiscal prudence.³²¹

IV. ESTABLISHING A PERFORMANCE MANAGEMENT SYSTEM AT USAC TO ADVANCE THE GOALS OF THE E-RATE PROGRAM (WC DOCKET 13-184)

119. In this section, we direct USAC to develop a robust performance management system to advance the goals we adopted for the E-rate program in the *E-rate Modernization Order*³²² and to analyze, on an ongoing-basis, the effectiveness of USAC's administration of the E-rate program. Performance management is a process by which entities focus their resources on the achievement of strategic goals and objectives, including by the development of long-term strategic plans and by the rigorous tracking of performance data. As the administrator of the E-rate program, USAC's performance is integral to the success of the program. Moreover, as a result of the transparency requirements we adopted in the *E-rate Modernization Order*, the improved data collection that will result from that order, and our direction to USAC to modernize its information technology (IT) system, USAC will have access to information that will be crucial in measuring our success toward reaching the E-rate program goals and it is essential that they make information available to schools, libraries, the Commission, and all other stakeholders interested in updates about our progress towards meeting those goals. Therefore, in developing and implementing its performance management system, we direct USAC to work with staff from OMD and the Bureau to formulate a detailed plan that includes both immediate and long-term metrics directed at finding new ways to further the E-rate program goals.

³¹⁸ See ESH/CoSN Connectivity Model at 5 (noting that “the program should see long-term cost savings once the fiber access gap is closed”); SHLB Coalition Ex Parte at 1 (“Investing in long-lasting, “future-proof” facilities will yield significant cost savings in the future, because the recurring costs of operating state-of-the-art fiber networks are often less than the costs of maintaining outdated network technologies”).

³¹⁹ See also *Wireline Competition Bureau Announces E-rate Inflation-Based Cap for Funding Year 2014*, CC Docket No. 02-6, Public Notice, 29 FCC Rcd 3222 (Wireline Comp. Bur. 2014).

³²⁰ See, e.g., NEA FNPRM Comments at 3 (arguing that historical demand is a relevant factor in determining the new E-rate budget).

³²¹ Additionally, because an adjustment to the E-rate cap of this size is greater than an adjustment in amount of an increase by the cost of inflation from 1997, as some commenters have supported, we need not address arguments on the merits of that proposal. See, e.g., CDE FNPRM Comments at 2-3; Mayors FNPRM Comments at 2; Nebraska OCIO FNPRM Comments at 6; New Hope FNPRM Comments at 1; NYSED FNPRM Comments at 3; SCG FNPRM Comments at 2; SECA FNPRM Comments at 4-5.

³²² *E-rate Modernization Order*, 29 FCC Rcd at 8880-94, Section III.

A. Components of the Performance Management System

120. We delegate to the Bureau and OMD oversight of the development and implementation of USAC's performance management system. In addition to directing USAC to develop a performance management system for its administration of the E-rate program, we provide direction on a range of components that USAC must include in the system. At the same time we recognize that USAC's performance management system must be flexible and adaptive, and we expect USAC, in consultation with staff of the Bureau and of OMD, to continue to update its performance management system, as appropriate.

121. *Impact of E-rate modernization.* In this Order, as we did in the *E-rate Modernization Order*, we adopt a number of programmatic changes aimed at reaching the goals we adopted for the E-rate program. We have directed USAC, working with Commission staff, to implement those changes. Recognizing that some of those changes will be more successful than others, and that future Commissions will want to be able to evaluate the success of those initiatives, we direct USAC to incorporate in its performance management system an ongoing analysis of the impact of those changes on reaching the goals that we adopted for the E-rate program in the *E-rate Modernization Order*, as well as USAC's success at implementing those changes.

122. *Impact of and further improvements to USAC's updated IT system.* USAC's performance management system should also include ongoing evaluation of USAC's success in upgrading its IT system, and moving towards all-electronic filings by E-rate stakeholders and all-electronic notifications by USAC. As we directed in the July *E-rate Modernization Order*, all applicants must file electronically their applications for E-rate support for this coming funding year.³²³ As USAC considers what more it can do to ease the administrative burden on applicants through its upgraded IT system, it must develop a plan to migrate the filing of all E-rate appeals and invoices to electronic formats, and should make that possible by or before the start of funding year 2017.³²⁴

123. *Simplifying calculation of discount rates.* To further streamline the application process, particularly for school districts and library systems, we instruct USAC, as part of its performance management system, to enable applicants to more easily manage the discount calculation process in advance of the application filing window. USAC should establish the appropriate timeframe for billed entities to update their discount information in USAC's online system, as well as a process for billed entities to certify to the accuracy of such information prior to the opening of the application window. USAC's system should then be able to assist applicants in determining their discount rate based on such information, and pre-populate that information based on the information provided by the billed entities. At the same time, we remind applicants that they remain responsible for ensuring that they are seeking the appropriate discount rate and they are responsible for repayment in the event of any error in the calculation of the discount rate whether caused by the applicant or by USAC.

124. *Online competitive bidding.* In order to assist applicants in maximizing the cost-effectiveness of spending for E-rate supported services, as part of its performance management system, USAC should explore the possibility of providing online tools to improve the competitive bidding process. We agree with commenters who contend that the competitive bidding process should encourage and facilitate participation in the E-rate program by service providers.³²⁵ We therefore direct USAC to work with OMD and the Bureau to determine the feasibility and effectiveness of online tools to assist applicants with the competitive bidding process, including online bid and review tools to assist applicants in obtaining multiple bids and selecting the most cost-effective services, and to reduce administrative costs and burdens associated with competitive bidding. To expose applicants to more purchasing options,

³²³ *E-rate Modernization Order*, 29 FCC Rcd at 8951-52, paras. 205-06.

³²⁴ *Id.*

³²⁵ See COMPTEL PN Comments at 2.

USAC should also explore the provision of tools to promote and facilitate increased involvement by service providers, and to provide more visibility into options for purchasing the specific products and services for which applicants are requesting proposals in ways that are consistent with fair and open competitive bidding requirements that are fundamental to the E-rate program.

125. *Improving the administrative experience of program participants.* As part of its ongoing work to make the E-rate application process and other E-rate processes faster, simpler, and more efficient USAC should assess organizational options for placing greater emphasis on improving the end-to-end administrative experience of program participants, including applications, appeals, invoices, and audits. For example, USAC should assess the value of designating senior management directly responsible to the CEO to be responsible for championing outreach and simplification strategies to benefit program participants and to ensure that as much time, energy, and financial resources as possible go to achieving program goals rather than to cumbersome administrative processes. USAC should also solicit input from program beneficiaries and other stakeholders and use that input in evaluating, on an ongoing basis, its provision of customer support to E-rate applicants. USAC should incorporate performance metrics related to customer service into its overall performance management plan, and work with Commission staff to identify improvement recommendations. These recommendations should be considered at the highest levels of management and given the appropriate consideration for implementation, consistent with appropriate processes for coordination and approval by the Commission of review procedures, and the success of improving the customer service experience should be a key component of USAC's performance management system.

126. *Maximizing the cost-effectiveness of E-rate supported purchases.* As part of its performance management system, USAC should analyze how its administration of the program can further the goal of maximizing the cost-effectiveness of E-rate supported purchases. For example, USAC should analyze its approach to cost-effectiveness reviews, and find ways to share information with applicants and vendors about its approach to such reviews, in order to encourage cost-effective purchasing by applicants. We direct the Bureau and OMD to oversee USAC's interpretation and application of cost effectiveness to ensure alignment with the program goals we have set, with particular emphasis on ensuring the cost effectiveness of the new methods of supporting category one and category two services provided in the *E-rate Modernization Order* as well as this Order.

127. USAC should also explore ways to assist schools and libraries in receiving access to neutral, expert technical assistance. We agree with those commenters who argue that technical assistance is critical to building an efficient internal network.³²⁶ We have heard, however, from many parties that such technical experience is often not available within a school district or library system, especially those located in rural areas.³²⁷ In situations where affordable technical assistance is not available, USAC, as the expert administrator of the program, has an important role to play given its focus on efficiently serving applicants while verifying compliance with program rules.³²⁸ In keeping with the recommendations of many commenters, we encourage USAC to work with existing entities at the state and municipal level to develop best practices and supporting technical information, and to consider developing its own in-house advisors to provide this support.³²⁹ We direct USAC to work with OMD and the Bureau to set the financial and operational parameters for providing such assistance and to provide guidance to applicants on the role and responsibilities of USAC when offering such assistance. As part of that oversight, we also direct the Bureau, working with OMD and USAC, to develop reference prices or other guidelines for E-

³²⁶ See, e.g., Comcast NPRM Comments at 26-27; American e-Rate NPRM Comments at 4; SETDA NPRM Comments at 18.

³²⁷ See, e.g., CoSN PN Comments at 4-6; KDLA PN Comments at 4.

³²⁸ See NCTA NPRM Comments at 19; CoSN PN Comments at 4-6.

³²⁹ See, e.g., NCTA NPRM Comments at 17; Richmond County NPRM comments at 5; San Diego County NPRM comments at 5-6; NASCIO NPRM Comments at 3; NCDPI NPRM Reply Comments at 7.

rate supported purchases that could provide guidance both to applicants about prices that are likely to be considered cost-effective and to USAC in prioritizing applications for additional scrutiny for cost-effectiveness.

128. *Data tracking and analysis.* As part of its performance management system, USAC should review its data tracking and reporting capabilities to confirm that it tracks and reports the data necessary to measure progress toward E-rate program goals. We direct USAC, working with OMD and the Bureau, to create a comprehensive and efficient data reporting structure, to develop IT tools that facilitate analysis of all program data, and to increase public availability of such data to increase transparency and enable beneficiaries and other stakeholders both to assess progress by schools and libraries in obtaining access to high-speed broadband connectivity and to obtain detailed information from which to determine the cost effectiveness of spending for E-rate products and services by beneficiaries.

129. *Increased program efficiencies.* USAC also should review its pre- and post-commitment procedures and identify additional opportunities for data analysis, improved compliance oversight, and realization of increased efficiency and streamlining of processes for the review of applications and the commitment and disbursement of funds. This review should encompass both USAC's direct staff as well as contract services such as those used in application in-take and processing. We direct USAC to work with Commission staff to identify areas in which a more common-sense and flexible administrative approach would best advance program goals while still remaining consistent with program rules set by the Commission.

130. *Financial management.* Finally, it is crucial that USAC include financial management as a component of its performance management system. The Commission has directed USAC to prepare financial statements for the USF, including the E-rate program, consistent with generally accepted accounting principles for federal agencies (Federal GAAP) and to keep the USF in accordance with the United States Standard General Ledger (USSGL).³³⁰ Working with OMD and other Commission staff, USAC should review and update its processes for evaluating and recommending the amounts that should be reserved to fund pending appeals, pending applications, and undisbursed funding commitments. We note that, for those appeals that may require additional commitments and disbursements in the unlikely event that the amounts held in reserve are not sufficient, the Commission has authorized USAC to use funds budgeted for subsequent funding years to fund discounts for successful appeals from prior funding years.³³¹ For the pending applications and undisbursed funding commitments, we similarly authorize USAC to use funds budgeted for subsequent funding years to fund discounts for those applications and undisbursed funding commitments from prior funding years, in the unlikely event the amounts held in reserve are not sufficient.

B. Expanding Commission Oversight of USAC's Administrative Performance

131. We also delegate authority to the Bureau and OMD to ensure that beginning in funding year 2015 USAC conducts an annual performance review of progress against program goals and creates a forward-looking strategic plan for how USAC will expand and sustain performance improvements. The Bureau and OMD should work together to assist USAC in developing the measures that should be included in USAC's annual performance review.³³² USAC must report at a minimum on the following

³³⁰ *Application of Generally Accepted Accounting Principles for Federal Agencies and Generally Accepted Government Auditing Standards to the Universal Service Fund*, CC Docket No. 96-45, Order, 18 FCC Rcd 19911, 19913, para. 4 (2003).

³³¹ *See Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, Second Report and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 9202, 9223-24, paras. 62-63 (2003).

³³² The memorandum of understanding between the Commission and USAC details reporting requirements regarding various E-rate measures. As part of this review, OMD should determine whether and how those reporting requirements should be updated. *See Memorandum of Understanding between the Federal Communications*

(continued...)

components of the program's administration: pending applications; pending invoices, with specific information about those that were delayed or rejected; USAC's strategy to reduce any backlog of applications, invoices or other necessary USAC approvals for applicant and service provider changes to requested funding; and an annual analysis of the program integrity assurance (PIA) program and invoicing procedures to determine if they are properly designed and calibrated to efficiently process applications and invoices while protecting against waste, fraud and abuse in the program.

132. Additionally, in the *E-rate Modernization Order*, we directed USAC to collect additional connectivity data from applicants, noting that this collection will provide useful and useable information to USAC and to the Commission about what is working and what needs to be improved.³³³ USAC should work with Commission staff to analyze and report the results of this data collection in this performance analysis.

V. FILING DEADLINES FOR APPEALS

133. In the *E-rate Modernization Order*, we revised section 54.719 of our rules to require parties aggrieved by an action taken by a division of USAC, including the Schools and Libraries Division, to first seek review of that decision by USAC before filing an appeal with the Commission.³³⁴ We also explained that because USAC cannot waive our rules, parties seeking a waiver of our rules must seek relief directly from the Commission or the Bureau.³³⁵ We now clarify that affected parties have 60 days from the issuance of the decision to file an appeal, either with USAC in the case of requests for review, or the Commission or Bureau in the case of requests for waiver.³³⁶ Additionally, parties that file a request for review with USAC and receive an adverse outcome have 60 days from the issuance of that decision to file a request for review with the Commission.³³⁷

VI. ORDER ON RECONSIDERATION

A. Introduction

134. In this section, we address various petitions for reconsideration of the *E-rate Modernization Order* and provide clarification on several issues raised by the Verizon Petition.³³⁸ Our rules allow any interested party to file a petition for reconsideration, and provide that a petition for reconsideration which relies on facts or arguments not previously presented to the Commission shall be

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Commission and the Universal Service Administrative Company, as amended (2008)
<http://transition.fcc.gov/omd/usac-mou.pdf>.

³³³ See *E-rate Modernization Order*, 29 FCC Rcd at 8880-94, Section III.

³³⁴ See *id.* at 8970-71, para. 250-52 (altering 47 C.F.R. §§ 54.719 and 54.720 and applying it to all USF Divisions, not just the Schools and Libraries Division); see also Wireline Competition Bureau Reminds Parties of Requirements for Requests for Review of Decisions by the Universal Service Administrative Company, CC Docket No. 96-45 et al., Public Notice, DA 14-1657 (Wireline Comp. Bur. rel. Nov. 17, 2014).

³³⁵ *E-rate Modernization Order*, 29 FCC Rcd at 8970, para. 252.

³³⁶ See Appendix A, 47 C.F.R. § 54.720.

³³⁷ *Id.*

³³⁸ See Petition for Clarification and/or Reconsideration of NTCA-The Rural Broadband Association and the Utah Rural Telecom Association, WC Docket No. 13-184 (filed Sept. 18, 2014) (NTCA/URTA Petition); Petition for Reconsideration or Clarification of the State E-rate Coordinators' Alliance, WC Docket No. 13-184 (filed Sept. 18, 2014) (SECA Petition); Petition for Reconsideration of the United States Telecom Association, WC Docket No. 13-184 (filed Sept. 18, 2014) (USTelecom Petition); Petition for Reconsideration of the Utah Education Network, WC Docket No. 13-184 (filed Sept. 18, 2014) (UEN Petition); Petition for Reconsideration and/or Clarification of Verizon, WC Docket No. 13-184 (filed Sept. 18, 2014) (Verizon Petition); and Petition for Reconsideration or Clarification of the West Virginia Department of Education, WC Docket No. 13-184 (filed Sept. 18, 2014) (WVDE Petition) (collectively, petitions for reconsideration).

granted only where the facts or arguments relate to new events or changed circumstances, were unknown and not readily ascertainable by petitioners, or the Commission determines that the public interest requires them to be reconsidered.³³⁹

135. Having considered the petitions for reconsideration, and all oppositions and replies filed in response to those petitions, we:

- grant in part the petitions for reconsideration filed by SECA, the Utah Education Network, NTCA/Utah Rural Telecom Association, and the West Virginia Department of Education (WVDE) seeking reconsideration of the areas that we have designated as urban for purposes of the E-rate program;
- deny USTelecom's request that we reconsider our decision to change the E-rate program's document retention period from five years to 10 years;
- deny requests by SECA, Verizon, and WVDE that we phase out E-rate support for components of telephone service and voicemail on the same schedule as voice service, and Verizon's request that we reconsider our decision to eliminate funding for e-mail offered as part of an Internet access service;
- deny requests by Verizon, SECA, and WVDE that we direct USAC to make category two funding commitments that cover multiple-years;
- clarify our cost-effectiveness test for data plans and air cards for mobile devices and our cost allocation rules for circuits that carry both voice and data traffic as requested by Verizon; and
- clarify for Verizon the *E-rate Modernization Order's* category two funding availability and policy on applicant prioritization. We also clarify for Verizon that the \$150 budget over five years applies to both managed and non-managed Wi-Fi.

B. Urban and Rural Designations

136. On reconsideration, we modify section 54.505(b)(3) of our rules so that starting in funding year 2015 an individual school or library will be designated as "urban" if located in an "Urbanized Area" or an "Urban Cluster" with a population equal to or greater than 25,000, as determined by the most recent rural-urban classification by the U.S. Census Bureau (Census Bureau).³⁴⁰ Any individual school or library not designated as "urban" will be designated as "rural."³⁴¹ We make this change to our rules on reconsideration because petitioners have convincingly demonstrated that numerous schools and libraries located in small towns and remote areas where it is more expensive to receive E-rate funded services would be classified as urban and ineligible for additional E-rate support provided to rural applicants under the urban designation we adopted in the *E-rate Modernization Order*.³⁴² In making this

³³⁹ See 47 C.F.R. § 1.429(a)-(b).

³⁴⁰ See Dep't of Commerce, Bureau of the Census, Qualifying Urban Areas for the 2010 Census, 77 Fed. Reg. 18652 (Mar. 27, 2012); see also Bureau of the Census, 2010 Census Urban and Rural Classification and Urban Area Criteria, <http://www.census.gov/geo/reference/ua/urban-rural-2010.html> (last visited Dec. 2, 2014).

³⁴¹ See Reply to Petitions for Reconsideration of AASA, The School Superintendents Association et al., WC Docket No. 13-184, at 2-3 (filed Oct. 27, 2014) (AASA et al. Reply to Petitions).

³⁴² See, e.g., NTCA/URTA Petition at 6; SECA Petition at 2-5; UEN Petition at 3; WVDE Petition at 17-22, Appx. B; Reply to Petitions for Reconsideration of Iowa Department of Education, WC Docket No. 13-184, at 2-3 (filed Sept. 26, 2014) (Iowa DOE Reply to Petitions); Reply to Petitions for Reconsideration of WTA – Advocates for Rural Broadband, WC Docket No. 13-184, at 5-6 (filed Oct. 22, 2014) (WTA Reply to Petitions); Reply to Petitions for Reconsideration of Artic Slope Telephone Association Cooperative, Inc., WC Docket No. 13-184, at 3-4 (filed Oct. 16, 2014) (Artic Slope Reply to Petitions); Reply to Petitions for Reconsideration of Alaska Communications Systems, WC Docket No. 13-184, at 3-6 (filed Oct. 22, 2014) (Alaska Communications Reply to Petitions); Reply to Petitions for Reconsideration of State of Alaska, WC Docket No. 13-184, at 1-2 (filed Oct. 29, 2014) (State of Alaska Reply to Petitions); Reply to Petitions for Reconsideration of The Association for Rural & Small Libraries, WC Docket No. 13-184, at 1-2 (filed Nov. 3, 2014) (ARSL Reply to Petitions).

change on reconsideration, we grant in part the petitions for reconsideration filed by SECA, NTCA/Utah Rural Telecom Association, WVDE, and the Utah Education Network.³⁴³ While we change how individual sites are classified as urban or rural, we retain the current rule that any school district or library system must have a majority of schools or libraries in a rural area that meets our new urban/rural definition to qualify for the additional rural discount.³⁴⁴

137. In the *E-rate Modernization Order*, we made two changes to the way applicants determine whether they are eligible for the rural discount. We first adopted the Census Bureau definition of rural and urban which classifies only communities with fewer than 2,500 people as rural.³⁴⁵ Under the Census Bureau definition, the term “urban” includes “urbanized areas,” which are defined as the densely settled core of census tracts or blocks with at least 50,000 people, and “urban clusters,” with 2,500 to 50,000 people, along with adjacent territories containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core.³⁴⁶ “Rural” encompasses all population, housing, and territory not included within an urban area. We found that the adoption of the Census Bureau definitions of urban and rural was simpler for applicants than other alternatives and the data more current than the previous outdated definition.³⁴⁷ Also in the *E-rate Modernization Order*, we changed the criteria a school district or library system must use to determine whether it qualifies as rural for the E-rate program, concluding that school districts and library systems would only be eligible for the rural discount if more than 50 percent of individual schools or libraries within that district or system are classified as rural.³⁴⁸

138. As petitioners have explained, the population cutoff of 50,000 people combined with the requirement that a majority of all schools or libraries that are part of a school district or library system be classified as rural in order to qualify the school district or library system for the additional rural discount rate leaves a substantial number of school districts and library systems with schools or libraries in sparsely populated areas ineligible for the additional rural funding.³⁴⁹ For example, petitioners point out that as a result of the definition adopted in the *E-rate Modernization Order*:

³⁴³ We consider this to be a grant in part of the relevant petitions for reconsideration because SECA, NTCA/URTA and WVDE, originally requested that the definition of rural include all schools and libraries in “urban clusters,” defined as areas with populations up to 50,000 people; UEN originally requested that the previous pre-*E-rate Modernization Order* definition of rural be retained. Those petitioners have now modified their request and support the change we adopt today. See AASA et al. Reply to Petitions; Reply to Petitions for Reconsideration of NTCA/URTA, WC Docket No. 13-184, at 5-6 (filed Nov. 3, 2014) (NTCA/URTA Reply to Petitions); Reply to Petitions for Reconsideration of SECA, WC Docket No. 13-184, at 1 (filed Nov. 1, 2014) (SECA Reply to Petitions); Reply to Petitions for Reconsideration of WVDE, WC Docket No. 13-184, at 2 (filed Nov. 3, 2014) (WVDE Reply to Petitions); Reply to Petitions for Reconsideration of UEN, WC Docket No. 13-184, at 1-2 (filed Nov. 3, 2014) (UEN Reply to Petitions) (all noting the Commission should consider a definition of rural and urban which classifies only communities with fewer than 25,000 people as rural).

³⁴⁴ See 47 C.F.R. § 54.505(b)(3)(ii) (Any school district or library system that has a majority of schools or libraries in a rural area qualifies for the additional rural discount.).

³⁴⁵ *E-rate Modernization Order*, 29 FCC Rcd at 8957-58, paras. 222-23.

³⁴⁶ See Dep’t of Commerce, Bureau of the Census, Qualifying Urban Areas for the 2010 Census, 77 Fed. Reg. 18652 (Mar. 27, 2012); see also Bureau of the Census, 2010 Census Urban and Rural Classification and Urban Area Criteria, <http://www.census.gov/geo/reference/ua/urban-rural-2010.html> (last visited Nov. 4, 2014).

³⁴⁷ *E-rate Modernization Order*, 29 FCC Rcd at 8957-58, paras. 222-23.

³⁴⁸ *Id.*

³⁴⁹ See, e.g., NTCA/URTA Petition at 6 (noting that many rural libraries in Oklahoma could potentially lose the additional rural E-rate support); SECA Petition at 2-5 (demonstrating through maps of Pennsylvania the increase in area that would be rural under the E-rate program); UEN Petition at 3 (changes 25 counties previously eligible as rural under the E-rate program to five); WVDE Petition at 17-22, Appx. B (listing several examples of communities

(continued....)

- Schools in St. Mary's, West Virginia, a community with 1,860 people that is 20 miles from the nearest urbanized area, are part of the Pleasants County School District that, under the new rural definition, would be reclassified as urban.³⁵⁰
- School districts in Iowa would be newly designated as urban, including the Bellevue Community School District, with an enrollment of only 700 students and located in Bellevue, a town of 2,543 people.³⁵¹
- Some of the most remote areas of the country situated in Alaska, including the communities of Barrow, Bethel, Ketchikan, Kotzebue, Nome and Sitka, have school districts that would be reclassified as urban.³⁵²

139. Three of the four petitions for reconsideration on this issue initially requested that the definition of rural include all schools and libraries in “urban clusters.”³⁵³ However, those petitioners modified their requests and joined with the fourth petitioner, the Utah Education Network, and a constituency of organizations representing schools, libraries, E-rate coordinators, rural telecommunications carriers, and other E-rate stakeholders, to recommend that the Commission consider a population threshold of 25,000 or greater as urban, and all other areas as rural for purposes of the E-rate program.³⁵⁴ No parties in the record have opposed this recommendation.

140. We agree with petitioners and other stakeholders that this new definition of rural is appropriate for ensuring support is targeted to areas where E-rate supported services are more costly.³⁵⁵ Other federal programs have used a similar population cutoff to designate whether an area is rural or urban. For example, the Commission adopted 25,000 as the population threshold when it revised its rural area definition for the rural health care universal service support mechanism (Rural Health Care Program) in 2004, essentially including as rural all census tracts that do not contain any population concentrations

(Continued from previous page)

that would potentially be impacted by the new E-rate rural definition); State of Alaska Reply to Petitions at 1-2 (noting that areas designated as “urban clusters” largely represent locations in Alaska that are extremely remote and require a plane and/or boat travel to reach); WTA Reply to Petitions at 5-6 (noting that many rural customers served by a WTA member would no longer be in areas classified as rural, including 12 of 31 schools and libraries in Wyoming); Reply to Petitions for Reconsideration of Washington Community School District, WC Docket No. 13-184, at 1 (filed Sept. 24, 2014) (Washington CSD Reply to Petitions) (noting that the reclassification of its small school district to “urban” is unfair because of the higher cost it pays for circuits compared to larger neighboring school districts). Under the Commission’s rules, eligible schools and libraries may receive discounts ranging from 20 percent to 90 percent of the pre-discount price of eligible services, based on indicators of need. Schools and libraries located in rural areas also may receive an additional 5 to 10 percent in certain discount bands compared to applicants in urban areas.

³⁵⁰ WVDE Petition at 17, Appx. B.

³⁵¹ SECA Petition for Reconsideration at 3.

³⁵² WTA Reply to Petitions at 6.

³⁵³ See NTCA/URTA Petition at 6; SECA Petition at 2; WVDE Petition at 5.

³⁵⁴ See, e.g., AASA et al. Reply to Petitions at 2-3; NTCA/URTA Reply to Petitions at 5-6; SECA Reply to Petitions at 1; WVDE Reply to Petitions at 2; UEN Reply to Petitions at 1-2; ARSL Reply to Petitions at 2; Washington State Office of Superintendent of Public Instruction Reply to Petitions for Reconsideration, WC Docket No. 13-184, at 2-3; SHLB Coalition Reply to Petitions at 3; Letter from WTA to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 1 (filed Nov. 6, 2014) (WTA Nov. 6 Ex Parte); Letter from Jen Leasure, President and CEO, Quilt, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 13-184, at 3 (filed Nov. 6, 2014).

³⁵⁵ For instance, several schools in Iowa, reclassified as urban under the new definition, would pay substantially higher amounts than their urban counterparts for the same broadband circuits – in one case four times as much – demonstrating the need for a more inclusive rural definition. See Iowa DOE Reply to Petitions at 2.

greater than 25,000.³⁵⁶ In adopting the Rural Health Care Program’s rural definition, the Commission noted that “[w]hile choosing the threshold is not an exact science, we believe urban areas above this size possess a critical mass of population and facilities.”³⁵⁷ In looking to other agencies, the U.S. Department of Education’s National Center for Education Statistics (NCES) classifies “small towns” as any incorporated or Census-defined place with fewer than 25,000 people.³⁵⁸ Some other federal programs have established even broader definitions of rural than the one we adopt today. For example, the 2014 Farm Bill included a provision related to the U.S. Department of Agriculture Rural Housing Program that increased the minimum rural population threshold for that program from 25,000 to 35,000.³⁵⁹

141. Modifying our definition to treat areas with populations of less than 25,000 as rural achieves the policy objectives established in the *E-rate Modernization Order* by creating a rural definition based on regularly adjusted U.S. Census data while remaining simple and easy to administer. The Census Bureau already provides a spreadsheet of all urbanized areas and urban clusters with the populations of the towns and cities listed.³⁶⁰ To further eliminate any confusion regarding implementation of this new definition, the Commission will direct USAC to identify the areas that are rural for the purposes of the E-rate program and post a tool on its website as soon as it is practically possible. Going forward, we direct USAC to update the tool as necessary to reflect the most recent decennial census data and nationwide population estimates and update its system within 90 days of any change.³⁶¹ However, we once again remind applicants that they have an obligation to ensure that they are seeking the correct discount rate.

142. In taking this action, we find that any additional burden on the Fund is justified by the overwhelming evidence in the record demonstrating that the rural definition adopted in the *E-rate Modernization Order* excluded many applicants located in areas that are more expensive to serve because of their remote geography.³⁶² Further, we believe that this change, by ensuring that many more schools and libraries have the benefit of additional funding to compensate for their rural geography, fully satisfies

³⁵⁶ *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Second Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 19 FCC Rcd 24613, 24619-20, paras. 11-12 (2004). Under the definition the Rural Health Care program adopted in 2004, a “rural area” is an area that is (1) entirely outside of a Core Based Statistical Area (CBSA) which is a U.S. geographic area defined by the Office of Management and Budget (OMB) based around an urban center of at least 10,000 people and adjacent areas that are socioeconomically tied to the urban center by commuting; (2) is within a CBSA that does not have any Urban Area with a population of 25,000 or greater; or (3) is in a CBSA that contains an Urban Area with a population of 25,000 or greater, but is within a specific census tract that itself does not contain any part of a Place (which is a concentration of population, either incorporated or unincorporated) or Urban Area with a population of greater than 25,000. *Id.* at 24619-20, para. 12. We note that the while the Rural Health Care definition of rural is similar to one we adopt today, they are not identical and should not be used as a proxy for determining which areas would be eligible for additional rural E-rate support.

³⁵⁷ *Id.* at 24620, para. 15.

³⁵⁸ See U.S. Dept. of Education, National Center for Education Statistics, http://nces.ed.gov/ccd/rural_locales.asp (last visited Dec. 2, 2014) (Identification of Rural Locales).

³⁵⁹ Agricultural Act of 2014, Pub. L. No. 113-19 (2014) (2014 Farm Bill). The definition of “rural” for the purposes of the Rural Housing Program contained in Section 6208 is codified at 42 U.S.C. § 1490.

³⁶⁰ United States Census Bureau, Geography, List of Census 2010 Urban Areas, http://www2.census.gov/geo/ua/ua_list_all.xls (last visited Dec. 2, 2014).

³⁶¹ See, e.g., Bureau of the Census, Current Lists of Metropolitan and Micropolitan Statistical Areas and Delineations, <http://www.census.gov/population/metro/data/metrodef.html> (last visited Dec. 2, 2014) (noting that an area’s geographic composition is updated annually to reflect the most recent Bureau of the Census population estimates). Even if there is more than one update to the underlying data in a 12-month period, USAC will not update its tool more than once per year.

³⁶² See *supra* note 349.

section 254(h)(1)(B) of the Act, which requires that the E-rate discount must be an amount that is “appropriate and necessary to ensure affordable access to and use of such services.”³⁶³

143. Finally, we take this opportunity to eliminate an obsolete reference to the definition of what constitutes a rural area for the purposes of the E-rate program in section 54.5 of our rules.³⁶⁴ The E-rate definitions are properly found at 54.505(b) of our rules. However, the “Terms and definitions” section, found in Section 54.5 of our rules, also defines “rural area” for the E-rate program.³⁶⁵ While we could also amend the definition in 54.5 of our rules and make it parallel to the definition in section 54.505(b), we think that the better course is to have the definition only in that section of our rules that is E-rate specific. We therefore amend section 54.5 to eliminate the reference to the E-rate definition of rural.

C. Document Retention Period

144. We deny the USTelecom Petition seeking reconsideration of our extension of the E-rate document retention period from five to 10 years.³⁶⁶ The arguments offered by USTelecom were either sufficiently considered in this proceeding or do not raise new issues sufficient to warrant reconsideration. In the *E-rate Modernization Order* we concluded that the current five-year document retention requirement is not adequate for purposes of litigation under the False Claims Act (FCA).³⁶⁷ We also explained that a 10-year retention period will benefit program integrity and that electronic storage capabilities will minimize the administrative burden and cost for applicants and vendors.³⁶⁸ This decision is consistent with our adoption of 10-year document retention requirements for other universal service programs in the *USF/ICC Transformation Order* and the *Lifeline Reform Order*.³⁶⁹

145. In its petition, USTelecom argues that document retention requirements are not necessary for compliance with the FCA and that existing case law “provides no basis for the Commission to claim a need for extended document retention periods in order to comply with the FCA.”³⁷⁰ We find it unnecessary to reach these arguments because our decision to adopt a 10-year document retention period is justified on several other independent grounds unrelated to the FCA. These non-FCA grounds are sufficient in and of themselves to justify a 10-year document retention period. In particular, we continue to find that:

³⁶³ 47 U.S.C. § 254(h)(1)(B).

³⁶⁴ 47 C.F.R. § 54.5.

³⁶⁵ *See id.*

³⁶⁶ *See* USTelecom Petition at 2; *E-rate Modernization Order*, 29 FCC Rcd at 8974-75, para. 262.

³⁶⁷ *E-rate Modernization Order*, 29 FCC Rcd at 8974-75, para. 262. (*citing* 31 U.S.C. § 3729-33).

³⁶⁸ *Id.*

³⁶⁹ *See USF/ICC Transformation Order*, 26 FCC Rcd at 17864, paras. 619-621; *Lifeline and Link Up Reform and Modernization et al.*, WC Docket No. 11-42 et al., Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 6656, 6857, paras. 505-506 (2012). *See also Connect America Fund et al.*, WC Docket No. 10-90 et al., Third Order on Reconsideration, 27 FCC Rcd 5622, 5627-5628, para. 14 (2012) (denying petitions for reconsideration of the 10-year document retention requirement adopted in the *USF/ICC Transformation Order*). The Rural Health Care program has not considered the issue of extending its document retention period beyond five years.

³⁷⁰ USTelecom Petition at 2-5.

- Even outside the FCA context, a longer document retention period will help the Commission guard against waste, fraud, and abuse in the universal service program by ensuring that evidence will be preserved.³⁷¹
- Congress has imposed no statutory barrier to recovery beyond five years. Indeed, the Debt Collection Improvement Act (DCIA), 31 USC §3701 et seq., generally directs agencies to “try to collect a claim of the [U.S.] Government for money or property arising out of the activities of, or referred to, the agency.”³⁷²

146. Other rationales (also unrelated to the FCA) reinforce our belief that a 10-year document retention period will help ensure the integrity of the E-rate program and will assist Commission investigations into waste, fraud, and abuse, which may extend beyond a five-year period. For instance, Government-wide regulations known as the Federal Claims Collection Standards require agencies to “aggressively collect all debts.”³⁷³ Extending the retention period to ten years will assist the agency in carrying out this objective. Because the new document retention period is amply supported by these reasons, we need not reach USTelecom’s arguments regarding the FCA.

147. We also reject USTelecom’s remaining arguments regarding the new retention period. For instance, the fact that some other federal programs may have shorter retention periods does not require a contrary outcome,³⁷⁴ particularly since, as noted above, a 10-year document retention rule aligns the E-rate program with the document retention requirements of other universal service programs.³⁷⁵ Also unavailing is USTelecom’s argument that a 10-year document retention requirement is unnecessary, will impose significant costs on applicants and vendors, and is not supported by the record.³⁷⁶ We previously considered and rejected these arguments in this proceeding. US Telecom cites several commenters opposed to a longer document retention period.³⁷⁷ However, those commenters either failed to provide any substantive support for their opposition to a 10-year requirement or offered general arguments about school staff turnover or shorter state and federal retention requirements without providing persuasive support as to why a 10-year requirement for the E-rate program would be overly burdensome.³⁷⁸ In the *E-rate Modernization Order*, we acknowledged stakeholder concerns about the potential costs and administrative burden of a 10-year retention requirement, but concluded that those costs and burdens can be mitigated with electronic storage capabilities and concluded that any such costs would be outweighed by the benefits to the integrity of the program.³⁷⁹ We reaffirm that conclusion here.

³⁷¹ *E-rate Modernization Order*, 29 FCC Rcd 8974-75, para. 262 n.642 (citing *United States v. Wurts*, 303 U.S. 414, 416, 58 S. Ct. 637, 638 (1938) (“The Government’s right to recover funds, from a person who received them by mistake and without right, is not barred unless Congress has ‘clearly manifested its intention’ to raise a statutory barrier [to recovery].”) (citations omitted)).

³⁷² 31 U.S.C. §3711(a)(1); see *E-rate Modernization Order*, 29 FCC Rcd 8974-75, para. 262 n.642.

³⁷³ See 31 C.F.R. § 901.1(a).

³⁷⁴ See USTelecom Petition at 3-4.

³⁷⁵ See *supra* note 369.

³⁷⁶ USTelecom Petition at 6-10; see also NCTA Comments at 2-3; CenturyLink Comments at 2-5.

³⁷⁷ USTelecom Petition at 6-7.

³⁷⁸ See e.g., Comments of Blackboard Engage, WC Docket No. 13-184, at 31-32 (filed Sept. 16, 2013); Comments of E-rate Central, WC Docket No. 13-184, at 9 (filed Sept. 16, 2013); Comments of the Iowa Department of Education, WC Docket No. 13-184, at 17; Comments of Miami Dade County Public Schools, WC Docket No. 13-184, at 15 (filed Sept. 16, 2013); Comments of the West Virginia Department of Education, WC Docket No. 13-184, at 110 (filed Sept. 16, 2013).

³⁷⁹ See *E-rate Modernization Order*, 29 FCC Rcd at 8974-75, para. 262.

D. Telephone Service Components, Voicemail, and E-mail

148. We deny those portions of the Verizon and WVDE petitions requesting us to (i) reconsider our treatment of telephone service components, including directory assistance charges, text messaging, custom calling services, direct inward dialing (DID), 900/976 call blocking, and inside wire maintenance, as part of voice services; and (ii) phase out support for those services on the same five-year schedule as voice services rather than eliminating support beginning in funding year 2015.³⁸⁰ We therefore also deny SECA's request that we remove DID numbers from the list of eliminated telephone components and instead phase out support for DID numbers on the same schedule as voice services.³⁸¹ We also deny Verizon's requests that voicemail be phased out on the same schedule as voice service and that the E-rate program support e-mail offered as part of an Internet access service.³⁸²

149. In the *E-rate Modernization Order* we initiated a five-year phase down of E-rate support for voice services and eliminated support for other legacy and non-broadband services effective for funding year 2015.³⁸³ We explained that reductions in funding for voice services and eliminating funding for telephone components and non-broadband services was necessary in order to focus E-rate program spending on the high-speed broadband needed by schools to enable digital learning and by libraries to meet patrons' broadband needs.³⁸⁴

150. Verizon and WVDE argue that cost allocating telephone service components and voicemail from a typical applicant phone bill will place a substantial burden on applicants, service providers, and USAC reviewers that is not justified by the corresponding savings to the E-rate program.³⁸⁵ SECA argues that DID numbers, unlike the other telephone service components no longer eligible for E-rate support, are an essential feature of voice service and should therefore be placed on the same phase down schedule as voice services.³⁸⁶

151. The arguments and facts presented in the Verizon, WVDE, and SECA petitions were previously considered in this rulemaking and do not merit reconsideration of our conclusions. In the *E-rate Modernization NPRM*, we indicated our intention to refocus E-rate funding on high-speed broadband services and, as part of that effort, proposed to eliminate E-rate support for telephone service components, voicemail, and e-mail.³⁸⁷ With respect to the components of telephone service, in the *E-rate Modernization Order*, we acknowledged that eliminating support for these services would require cost allocation but concluded that it would not be overly burdensome for applicants to seek funding for only the voice service component of their telephone service.³⁸⁸ We concluded that the benefits of streamlining voice service support by removing these services outweighed the additional burden on applicants of cost allocation for the next few funding years.³⁸⁹ We also noted that commenters that recommended a longer

³⁸⁰ Verizon Petition at 5-6; WVDE Petition at 3-4.

³⁸¹ SECA Petition at 5-6.

³⁸² Verizon Petition at 5-6.

³⁸³ See *E-rate Modernization Order*, 29 FCC Rcd at 8922, para. 134.

³⁸⁴ *Id.*

³⁸⁵ Verizon Petition at 6; WVDE Petition at 4; see also Comments of the National Cable & Telecommunications Association, WC Docket No. 13-184, at 2 (filed Oct. 22, 2014).

³⁸⁶ SECA Petition at 6.

³⁸⁷ See *E-rate Modernization NPRM*, 28 FCC Rcd at 11331-32, para. 95.

³⁸⁸ *E-rate Modernization Order*, 29 FCC Rcd at 8930-31, para. 149. Under the Commission's rules, if a product or service contains ineligible components, costs should be allocated to the extent that a clear delineation can be made between the eligible and ineligible components. The clear delineation must have a tangible basis and the price for the eligible portion must be the most cost-effective means of receiving the eligible service. 47 C.F.R. § 54.504(e)(1).

³⁸⁹ *E-rate Modernization Order* at 8930-31, para. 149.

phase down period for voice services did not recommend a commensurate phase down for telephone service components or argue that those services required a phase down.³⁹⁰ Similarly, eliminating support for e-mail services will require cost allocation for e-mail offered as part of an Internet access service but we believe that the benefits of focusing funding on high-speed broadband justify the minimal cost allocation burden on applicants.³⁹¹ Consistent with the third goal that we adopted in the *E-rate Modernization Order*, making E-rate processes fast, simple, and efficient, and in order to reduce the administrative burden on applicants, we expect that USAC will, working with the Bureau, establish guidelines for how applicants can proportion the cost of services on telephone bills in order to cost-allocate ineligible telephone service components and voicemail.

E. Conditional or Multi-Year Commitments

152. We deny the petitions filed by SECA, Verizon, and WVDE to the extent they request that the Commission reconsider the approach to category two funding adopted in the *E-rate Modernization Order*.³⁹² SECA, Verizon, and WVDE do not raise new facts or arguments that warrant Commission review of the E-rate program's prohibition on multi-year funding commitments.

153. In the *E-rate Modernization Order*, we created a mechanism for focusing funding on internal connections, including Wi-Fi, to allow schools and libraries to have affordable access to high-speed broadband connections needed for digital learning.³⁹³ To provide broader and more equitable support for category two services, the *E-rate Modernization Order* created five-year budgets for applicants that seek and receive category two funding in funding years 2015 and 2016.³⁹⁴ In the *Second E-rate Modernization Order*, we extend the five-year applicant budgets for category two services for three additional years.³⁹⁵ While we allow category two applicants to enter into multi-year agreements, we declined to make multi-year commitments available.³⁹⁶

154. We deny the Verizon Petition with respect to its proposal to allow multi-year commitments for managed Wi-Fi services as a way to remove uncertainty about whether funding will be available in the later years of a five-year category two budget cycle.³⁹⁷ In the *E-rate Modernization Order* we considered and rejected arguments in favor of multi-year commitments in the E-rate program.³⁹⁸ As we explained in that order, obligating funds in advance of their availability would be detrimental to the administration of the program.³⁹⁹ We also explained that the multi-year application process we created in that order should allow applicants to achieve many of the efficiencies of a multi-year funding commitment.⁴⁰⁰ Furthermore, petitioners' concerns about the uncertainty of funding for category two services should be alleviated by the actions we have taken in the *Second E-rate Modernization Order* to

³⁹⁰ *Id.* at 8929-30, para. 148.

³⁹¹ *See id.* at 8931-32, para. 150.

³⁹² SECA Petition at 7-8; Verizon Petition at 1-3; WVDE Petition at 2-3. We note that in the *Second E-rate Modernization Order* we have made additional changes to category two funding, but we do not think those changes effect the petitioners requests with respect to multi-year funding.

³⁹³ *See E-rate Modernization Order*, 29 FCC Rcd at 8894, para.63.

³⁹⁴ *See id.* at 8902, para. 86.

³⁹⁵ *See supra* Section III.A.

³⁹⁶ *See E-rate Modernization Order*, 29 FCC Rcd at 8947, para. 196.

³⁹⁷ Verizon Petition at 2.

³⁹⁸ *E-rate Modernization Order*, 29 FCC Rcd at 8947, para. 196.

³⁹⁹ *Id.*

⁴⁰⁰ *Id.*

raise the cap, and to extend the category two budget approach to cover five funding years.⁴⁰¹ Therefore, we find it is in the best interest of the Fund to continue to have the Administrator obligate funds one funding year at a time.

155. We also deny SECA and WVDE's proposal that we provide conditional funding commitments to all valid applications for category two funding.⁴⁰² Under this proposal, if funding is unavailable in the year in which it is sought, rather than being denied support, an applicant would receive a commitment of future support for those services.⁴⁰³ We find that this approach is not necessary because uncertainty about funding for category two services should be alleviated by the actions we have taken to raise the annual E-rate cap and extend the category two budget framework for the next three years. Further, if there comes a time that we are unable to meet the demand for category two support, instead of providing predictability for applicants, SECA's and WVDE's proposals would lead to greater uncertainty, and administrative complexity because applicants would not know when they would receive reimbursement or how much reimbursement they would be entitled to receive. Under WVDE's proposal, applicants would use the discount rate in effect at the time the funds become available, meaning applicants would have to account for changes in student demographics and the urban/rural classification that affect the discount level.⁴⁰⁴ Thus, it would be very difficult for applicants to predict the level of expected reimbursement and could lead to budget shortfalls for applicants expecting a larger disbursement from the Fund.

F. Clarifications

156. *Cost-Effectiveness for Wireless Data Plans and Air Cards.* In response to Verizon's request for clarification, we offer additional guidance on the proper cost-effectiveness test for data plans and air cards for mobile devices.⁴⁰⁵ When purchasing any E-rate eligible service, applicants are required to carefully consider all bids and select the most cost-effective service offering, and must consider price to be the primary factor.⁴⁰⁶ In the *E-rate Modernization Order*, we took the opportunity to discuss the limited circumstances under which we would find data plans or air cards for mobile devices to be cost-effective.⁴⁰⁷ We explained that it is generally more cost-effective for schools and libraries to purchase a fixed broadband connection to the building and a WLAN capable of providing connectivity to multiple devices throughout the building.⁴⁰⁸ However, we recognized that there are circumstances, such as library bookmobiles or very small schools and libraries with high connectivity costs, where individual data plans or air cards for mobile devices may be the most cost-effective solution.⁴⁰⁹ We then provided an example of how applicants could demonstrate the cost-effectiveness of data plans or air cards for mobile devices through comparison of the costs for a WLAN deployment.⁴¹⁰

157. Verizon requests clarification that applicants should compare the cost of data plans or air cards for mobile devices to the cost of all components necessary to deliver connectivity to the end user

⁴⁰¹ See *supra* Section III.

⁴⁰² See SECA Petition at 7-8; WVDE Petition at 2-3.

⁴⁰³ *Id.*

⁴⁰⁴ See WVDE Petition at 3 (noting that USAC would consider the discount percentages at the time funding is available, not when requested).

⁴⁰⁵ Verizon Petition at 3-5.

⁴⁰⁶ See 47 C.F.R. §§ 54.503(c)(2)(ii)(B), 54.511(a).

⁴⁰⁷ *E-rate Modernization Order*, 29 FCC Rcd at 8932, para. 151.

⁴⁰⁸ *Id.*

⁴⁰⁹ See *id.* at 8933, para. 153.

⁴¹⁰ *Id.*

device.⁴¹¹ Verizon also requests clarification as to whether applicants may take into account the potential limited availability of category two funding when evaluating the cost effectiveness of individual data plans and air cards for mobile devices.⁴¹²

158. We agree with the points raised by Verizon's first request and clarify that applicants that seek funding for data plans or air cards for mobile devices should compare the cost of all components necessary to deliver connectivity to the end user device, including the costs of Internet access and connectivity to the school or library, to the total cost of data plans or air cards when selecting the most cost-effective service option.⁴¹³ Schools with existing fixed broadband connections should limit this comparison to the recurring cost of their current broadband connection plus the added cost of any upgrades to their broadband connections and any additional or updated internal connections needed to deploy a sufficiently robust WLAN with all capital investments amortized over their expected lifespan. We also caution applicants that seeking support for data plans or air cards for mobile devices for use in a school or library with an existing fixed broadband connection and WLAN implicates our prohibition on requests for duplicative services.⁴¹⁴ In circumstances where an applicant successfully demonstrates that mobile data plans or air cards are the most cost-effective offering, such as a bookmobile or very small school or library facility, the impracticality or unusually high cost of purchasing a fixed broadband connection to the location should be a factor in the applicant's cost-effectiveness analysis.

159. We also clarify that an applicant may not consider whether it is likely to receive category two E-rate support when analyzing the cost-effectiveness of data plans or air cards for mobile devices.⁴¹⁵ While our rules allow applicants to consider relevant factors other than cost as part of the cost-effectiveness determination, price must be the primary factor in an applicant's cost-effectiveness determination regardless of whether the applicant anticipates receiving category two E-rate support.⁴¹⁶ Indeed our rules require that entities use the actual, *i.e.* pre-discount, cost of the service offered as a baseline for comparison, not the cost after the E-rate discount is applied.⁴¹⁷

160. *Circuit Capacity Dedicated to Voice Services.* Verizon also requests that we clarify how the reduced discount rates for voice services apply to costs incurred for circuit capacity dedicated to providing voice services.⁴¹⁸ We clarify that applicants must cost allocate charges attributable to voice

⁴¹¹ Verizon Petition at 3-4; *see also* Comments of Sprint Corporation, WC Docket No. 13-184, at 2-3 (filed Oct. 22, 2014) (Sprint Comments).

⁴¹² Verizon Petition at 4-5; *see also* Sprint Comments at 3.

⁴¹³ Applicants that seek funding for data plans or air cards that are part of a bundled service offering must cost allocate non-ancillary components that are not eligible for E-rate support, including free or discounted cell phones. *See Schools and Libraries Universal Service Support Mechanism et al.*, CC Docket No. 02-6 et al., 29 FCC Rcd 5457 (Wireline Comp. Bur. 2014) (*Bundling Guidance Order*). We do not address Verizon's request that we grant CTIA's Application for Review of the *Bundling Guidance Order*, which is not under consideration in this rulemaking. *See* Verizon Petition at 7-8.

⁴¹⁴ *See Schools and Libraries Universal Service Support Mechanism*, Second Report and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 9202, 9209-10, paras. 22, 24 (2003). The duplicative services rule is violated by the delivery of services that provide the same functionality for the same population during the same period of time. *Id.* *See also Requests for Review of Macomb Intermediate School District Technology Consortium*, CC Docket No. 02-6, Order, 22 FCC Rcd 8771, 8774, para. 3 (2007).

⁴¹⁵ *See* Verizon Petition at 4-5.

⁴¹⁶ *See* 47 C.F.R. § 54.511(a).

⁴¹⁷ "In determining which service offering is the most cost-effective, entities may consider relevant factors *other than the pre-discount prices* submitted by the providers, but price should be the primary factor considered." 47 C.F.R. § 54.511(a) (emphasis added).

⁴¹⁸ Verizon Petition at 7-8.

services from the cost of all circuits used for dedicated voice and data services and that those voice service charges will be subject to the five-year voice service phase down. In the *E-rate Modernization Order*, we specified that the five-year phase down of support for voice services will apply to all applicants and all costs incurred for the provision of telephone services and circuit capacity dedicated to providing voice services.⁴¹⁹ Verizon seeks general clarification of the term “circuit capacity dedicated to providing voice services.”⁴²⁰ Verizon also requests specific clarification of the proper cost allocation method for voice services on three types of circuits: 1) a circuit leased for a district-operated private voice network, 2) a leased WAN circuit that carries both voice and broadband traffic, and 3) a circuit that carries both voice and broadband services.⁴²¹ As discussed below, Commission rules require applicants to cost allocate charges attributable to voice services from the circuit cost in all circumstances described by Verizon.

161. Under the Commission’s rules, if a product or service contains both eligible and ineligible components, costs should be allocated to the extent that a clear delineation can be made between the eligible and ineligible components. The clear delineation must have a tangible basis and the price for the eligible portion must be the most cost-effective means of receiving the eligible service.⁴²² We understand that application of our cost allocation rules to circuits used for both voice and data services may require some additional effort from applicants and service providers; however, the requirement does not impose a substantial burden and provides an important benefit to the program.⁴²³

162. We provide the following clarifications regarding application of our cost allocation rules to circuits carrying both voice and data services.

- For a bundled voice and data service provided over a single circuit, (e.g., a cable voice/data bundle) the voice service portion must be cost allocated and subject to the voice services phase down. As with telephone service components, one proper method for cost allocating the voice service portion of a bundled voice/data circuit may be for the applicant to seek an appropriate cost allocation from its service provider.⁴²⁴
- For circuits dedicated solely to voice service, including PRIs, SIP trunks, and VoIP provider circuits, the full cost of the dedicated circuit is subject to the voice services phase down. Verizon’s description of a circuit leased for a district-operated private voice network would be considered a circuit dedicated to voice service.⁴²⁵
- For services that dedicate a portion of a data circuit to voice service, (e.g., voice channels on a T-1 circuit or dedicated bandwidth for VoIP traffic using a virtual local area network) the cost of the dedicated portion of the circuit must be cost allocated and subject to the voice services phase down.

⁴¹⁹ *E-rate Modernization Order*, 29 FCC Rcd at 8926, para. 141.

⁴²⁰ Verizon Petition at 7.

⁴²¹ *Id.* at 8.

⁴²² See *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, Third Report and Order, 18 FCC Rcd 26912, 26927, para. 37 (2003); see also 47 C.F.R § 54.504(e).

⁴²³ The Bureau recently declined to provide additional guidance or procedures for application of our cost allocation rules, noting that although cost allocation requires some administrative effort, compliance with the requirement is relatively simple. See *Bundling Guidance Order*, 29 FCC Rcd at 5463, para. 12.

⁴²⁴ See *E-rate Modernization Order*, 29 FCC Rcd at 8930-31, para. 149.

⁴²⁵ Verizon Petition at 8.

- For voice applications that run over a data circuit but do not require any dedicated circuit capacity, the applicant is not required to cost allocate any portion of the data circuit cost for voice services.

163. *Funding for Budgets.* Verizon asks the Commission to clarify that it expects full funding to be available up to the budgeted amount in each of the five years of an applicant's category two budget and that priority be given in later years of a budget cycle to applicants that receive category two support in the first funding years 2015 and 2016.⁴²⁶ Based on historic demand and the changes we made to the E-rate program in both *E-rate Modernization Orders*, we expect funding will be sufficient to meet demand but we cannot guarantee that category two funding will be available to any particular applicant in any particular year.⁴²⁷

VII. DELEGATION TO REVISE RULES

164. Given the complexities associated with modernizing the E-rate program, modifying our rules, and the other programmatic changes we adopt in this Report and Order, we delegate authority to the Bureau to make any further rule revisions as necessary to ensure the changes to the program adopted in this Report and Order are reflected in our rules. This includes correcting any conflicts between new and/or revised rules and existing rules as well as addressing any omissions or oversights. If any such rule changes are warranted the Bureau shall be responsible for such change. We note that any entity that disagrees with a rule change made on delegated authority will have the opportunity to file an Application for Review by the full Commission.⁴²⁸ We expect the Bureau and USAC to monitor the program for waste, fraud and abuse and we delegate authority to the Bureau and OMD to specify additional administrative requirements in connection with the program changes we adopt today and authority to provide guidance to USAC in its implementation of these changes. The purpose of this delegation is to protect against potential waste, fraud, and abuse in the E-rate program.

VIII. PROCEDURAL MATTERS

A. Final Regulatory Flexibility Analysis

165. As required by the Regulatory Flexibility Act of 1980 (RFA),⁴²⁹ the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) relating to this Report and Order and Order on Reconsideration. The FRFA is set forth in Appendix E.

B. Paperwork Reduction Act Analysis

166. This Report and Order and Order on Reconsideration contains new information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the revised information collection requirements contained in this proceeding. In addition, we note that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198,⁴³⁰ the Commission previously sought specific comment on how it might further reduce the information collection burden on small business concerns with fewer than 25 employees.

⁴²⁶ *Id.*

⁴²⁷ *See supra* Section III.A.

⁴²⁸ *See* 47 U.S.C. § 155(c)(4).

⁴²⁹ *See* 5 U.S.C. § 604. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, Stat. 857 (1996). The SBREFA was enacted as Title II of the Contract with America Advancement Act of 1996.

⁴³⁰ *See* 44 U.S.C. § 3506(c)(4).

C. Congressional Review Act

167. The Commission will include a copy of this Report and Order and Order on Reconsideration in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act.⁴³¹

IX. ORDERING CLAUSES

168. ACCORDINGLY, IT IS ORDERED, that pursuant to the authority contained in sections 1 through 4, 201 through 205, 254, 303(r), 403, and 405 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-154, 201-205, 254, 303(r), 403, and 405, and section 706 of the Telecommunications Act of 1996, 47 U.S.C. § 1302, this Report and Order and Order on Reconsideration IS ADOPTED effective thirty (30) days after the publication of this Report and Order and Order on Reconsideration in the Federal Register, except to the extent expressly addressed below.

169. IT IS FURTHER ORDERED, that pursuant to the authority contained in sections 1 through 4, 201 through 205, 254, 303(r), 403, and 405 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-154, 201-205, 254, 303(r), 403, and 405 and section 706 of the Telecommunications Act of 1996, 47 U.S.C. § 1302, Part 54 of the Commission's rules, 47 C.F.R. Part 54, is AMENDED as set forth in Appendix A, and such rule amendments shall be effective (30) days after the publication of this Report and Order and Order on Reconsideration in the Federal Register, except for amendments in sections 54.313(e)(2) and (f)(1), 54.503(c)(1) and 54.504(a)(1)(iii), which are subject to the PRA and will become effective upon announcement in the Federal Register of OMB approval of the subject information collection requirements and of the effective date; and except for amendments in sections 54.308(b), 54.309(b), 54.505(b)(3) and (b)(3)(i), and 54.507(a) and (c), which shall become effective on July 1, 2015; and amendments in section 54.518 and paragraphs (b), (c) and (f) of section 54.505, which shall become effective on July 1, 2016.

170. IT IS FURTHER ORDERED that, pursuant to the authority contained in section 405 of the Communications Act of 1934, as amended, 47 U.S.C. § 405, and section 1.429 of the Commission's rules, 47 C.F.R. § 1.429, the Petition for Clarification and/or Reconsideration filed by NTCA-The Rural Broadband Association and the Utah Rural Telecom Association on September 18, 2014, IS GRANTED IN PART AND DENIED IN PART to the extent described herein.

171. IT IS FURTHER ORDERED that, pursuant to the authority contained in section 405 of the Communications Act of 1934, as amended, 47 U.S.C. § 405, and section 1.429 of the Commission's rules, 47 C.F.R. § 1.429, the Petition for Reconsideration or Clarification filed by the State E-rate Coordinators' Alliance on September 18, 2014, IS GRANTED IN PART AND DENIED IN PART to the extent described herein.

172. IT IS FURTHER ORDERED that, pursuant to the authority contained in section 405 of the Communications Act of 1934, as amended, 47 U.S.C. § 405, and section 1.429 of the Commission's rules, 47 C.F.R. § 1.429, the Petition for Reconsideration filed by the Utah Education Network on September 18, 2014, IS GRANTED IN PART AND DENIED IN PART to the extent described herein.

173. IT IS FURTHER ORDERED that, pursuant to the authority contained in section 405 of the Communications Act of 1934, as amended, 47 U.S.C. § 405, and section 1.429 of the Commission's rules, 47 C.F.R. § 1.429, the Petition for Reconsideration or Clarification filed by the West Virginia Department of Education on September 18, 2014, IS GRANTED IN PART AND DENIED IN PART to the extent described herein.

174. IT IS FURTHER ORDERED that, pursuant to the authority contained in section 405 of the Communications Act of 1934, as amended, 47 U.S.C. § 405, and section 1.429 of the Commission's

⁴³¹ See 5 U.S.C. § 801(a)(1)(A).

rules, 47 C.F.R. § 1.429, the Petition for Reconsideration filed by the United States Telecom Association on September 18, 2014, IS DENIED.

175. IT IS FURTHER ORDERED that, pursuant to the authority contained in section 405 of the Communications Act of 1934, as amended, 47 U.S.C. § 405, and section 1.429 of the Commission's rules, 47 C.F.R. § 1.429, the Petition for Reconsideration and/or Clarification filed by Verizon on September 18, 2014, IS GRANTED IN PART AND DENIED IN PART to the extent described herein.

176. IT IS FURTHER ORDERED that the Commission SHALL SEND a copy of this Report and Order and Order on Reconsideration to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. § 801(a)(1)(A).

177. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of the Report and Order, including the Final Regulatory Flexibility Analysis and Initial Regulatory Flexibility Act Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A**Final Rules**

For the reasons discussed above, the Federal Communications Commission amends 47 C.F.R. Part 54, Subparts A, D, F, and I as follows:

PART 54---UNIVERSAL SERVICE**Subpart A---General Information**

1. The authority citation for part 54 continues to read as follows:

Sections 1, 4(i), 5, 201, 205, 214, 219, 220, 254, 303(r), and 403 of the Communications Act of 1934, as amended, and section 706 of the Telecommunications Act of 1996, as amended; 47 U.S.C. 151, 154(i), 155, 201, 205, 214, 219, 220, 254, 303(r), 403, and 1302 unless otherwise noted.

2. Amend § 54.5 by removing the definition of “rural area.”

§ 54.5 Terms and definitions.**Subpart D---Universal Service Support for High Cost Areas**

3. Amend § 54.308 by adding new paragraph (b):

§ 54.308 Broadband Public Interest Obligations for Recipients of High-Cost Support.

(b) Rate-of-return carrier recipients of high-cost support are required upon reasonable request to bid on category one telecommunications and Internet access services in response to a posted FCC Form 470 seeking broadband service that meets the connectivity targets for the schools and libraries universal service support program for eligible schools and libraries (as described in § 54.501) within that carrier’s service area. Such bids must be at rates reasonably comparable to rates charged to eligible schools and libraries in urban areas for comparable offerings.

4. Amend § 54.309 by adding new paragraph (b):

§ 54.309 Connect America Fund Phase II Public Interest Obligations.

(b) Recipients of Connect America Phase II model-based support, recipients of Phase II Connect America support awarded through a competitive bidding process, and non-contiguous price cap carriers receiving Phase II frozen support in lieu of model-based support are required to bid on category one telecommunications and Internet access services in response to a posted FCC Form 470 seeking broadband service that meets the connectivity targets for the schools and libraries universal service support program for eligible schools and libraries (as described in § 54.501) located within any area in a census block where the carrier is receiving Phase II model-based support. Such bids must be at rates reasonably comparable to rates charged to eligible schools and libraries in urban areas for comparable offerings.

5. Amend § 54.313 by revising paragraphs (e)(2) and (f)(1) to read as follows:

§ 54.313 Annual reporting requirements for high-cost recipients.

(e) ***

(2) ***

(i) ***

(ii) ***

(iii) A list of the geocoded locations to which the eligible telecommunications carrier newly deployed facilities capable of delivering broadband meeting the § 54.309 public interest obligations with Connect America support in the prior year. The final progress report filed on July 1, 2021 must include the total number and geocodes of all the supported locations that a price cap carrier has built out to with service meeting the § 54.309 public interest obligations;

(iv) The total amount of Phase II support, if any, the price cap carrier used for capital expenditures in the previous calendar year; and

(v) A certification that it bid on category one telecommunications and Internet access services in response to all FCC Form 470 postings seeking broadband service that meets the connectivity targets for the schools and libraries universal service support program for eligible schools and libraries (as described in § 54.501) located within any area in a census block where the carrier is receiving Phase II model-based support, and that such bids were at rates reasonably comparable to rates charged to eligible schools and libraries in urban areas for comparable offerings.

(f) ***

(1) ***

(i) A letter certifying that it is taking reasonable steps to provide upon reasonable request broadband service at actual speeds of at least 4 Mbps downstream/1 Mbps upstream, with latency suitable for real-time applications, including Voice over Internet Protocol, and usage capacity that is reasonably comparable to comparable offerings in urban areas as determined in an annual survey, and that requests for such service are met within a reasonable amount of time;

(ii) The number, names, and addresses of community anchor institutions to which the ETC newly began providing access to broadband service in the preceding calendar year; and

(iii) For rate-of-return carrier recipients of high-cost support, a certification that it bid on category one telecommunications and Internet access services in response to all reasonable requests in posted FCC Form 470s seeking broadband service that meets the connectivity targets for the schools and libraries universal service support program for eligible schools and libraries (as described in § 54.501) within its service area, and that such bids were at rates reasonably comparable to rates charged to eligible schools and libraries in urban areas for comparable offerings.

Subpart F---Universal Service Support for Schools and Libraries

6. Amend § 54.502 by revising it to read as follows:

§ 54.502 Eligible Services.

(a) Supported services. All supported services are listed in the Eligible Services List as updated annually in accordance with paragraph (d) of this section. The services in this subpart will be supported in addition to all reasonable charges that are incurred by taking such services, such as state and federal taxes. Charges for termination liability, penalty surcharges, and other charges

not included in the cost of taking such service shall not be covered by the universal service support mechanisms. The supported services fall within the following general categories:

(1) ***

(2) ***

(b) Funding years 2015-2019. Libraries, schools, or school districts with schools that receive funding for category two services in any of the funding years between 2015 and 2019 shall be eligible for support for category two services pursuant to paragraphs (b)(1) through (6) of this section.

(1) Five-year budget. Each eligible school or library shall be eligible for a budgeted amount of support for category two services over a five-year funding cycle beginning the first funding year support is received. Excluding support for internal connections received prior to funding year 2015, each school or library shall be eligible for the total available budget less any support received for category two services in the prior funding years of that school's or library's five-year funding cycle. The budgeted amounts and the funding floor shall be adjusted for inflation annually in accordance with § 54.507(a)(2).

(2) School budget. Each eligible school shall be eligible for support for category two services up to a pre-discount price of \$150 per student over a five-year funding cycle. Applicants shall calculate the student count per school at the time the discount is calculated each funding year. New schools may estimate the number of students, but must repay any support provided in excess of the maximum budget based on student enrollment the following funding year.

(3) Library budget. Each eligible library located within the Institute of Museum and Library Services locale codes of "11 – City, Large," defined as a territory inside an urbanized area and inside a principal city with a population of 250,000 or more, "12 – City, Midsize," defined as a territory inside an urbanized area and inside a principal city with a population less than 250,000 and greater than or equal to 100,000, or "21 – Suburb, Large," defined as a territory outside a principal city and inside an urbanized area with population of 250,000 or more, shall be eligible for support for category two services, up to a pre-discount price of \$5.00 per square foot over a five-year funding cycle. All other eligible libraries shall be eligible for support for category two services, up to a pre-discount price of \$2.30 per square foot over a five-year funding cycle. Applicants shall provide the total area for all floors, in square feet, of each library outlet separately, including all areas enclosed by the outer walls of the library outlet and occupied by the library, including those areas off-limits to the public.

(4) ***

(5) Requests. Applicants shall request support for category two services for each school or library based on the number of students per school building or square footage per library building. Category two funding for a school or library may not be used for another school or library. If an applicant requests less than the maximum budgeted category two support available for a school or library, the applicant may request the remaining balance in a school's or library's category two budget in subsequent funding years of the five-year funding cycle. The costs for category two services shared by multiple eligible entities shall be divided reasonably between each of the entities for which support is sought in that funding year.

(6) ***

(c) Funding year 2020 and beyond. Absent further action from the Commission, each eligible library or school in a school district that either (1) did not receive funding for category two services in funding years 2015 through 2019 or (2) has completed its five-year funding cycle, shall be eligible for support for category two services, except basic maintenance services, no more than twice every five funding years. For the purpose of determining eligibility, the five-year period begins in any funding year in which the school or library receives discounted category two services other than basic maintenance services. If a school or library receives category two services other than basic maintenance services that are shared with other schools or libraries (for example, as part of a consortium), the shared services will be attributed to the school or library in determining whether it is eligible for support. Support is not available for category two services provided to or within non-instructional school buildings or separate library administrative buildings unless those category two services are essential for the effective transport of information to or within one or more instructional buildings of a school or non-administrative library buildings, or the Commission has found that the use of those services meets the definition of educational purpose, as defined in §54.500.

7. Amend § 54.503 by revising paragraph (c)(1) to read as follows:

§ 54.503 Competitive bidding requirements.

(c) Posting of FCC Form 470. (1) An eligible school, library, or consortium that includes an eligible school or library seeking bids for eligible services under this subpart shall submit a completed FCC Form 470 to the Administrator to initiate the competitive bidding process. The FCC Form 470 and any request for proposal cited in the FCC Form 470 shall include, at a minimum, the following information:

- (i) A list of specified services for which the school, library, or consortium requests bids;
- (ii) Sufficient information to enable bidders to reasonably determine the needs of the applicant;
- (iii) To the extent an applicant seeks the following services or arrangements, an indication of the applicant's intent to seek:
 - (A) Construction of network facilities that the applicant will own;
 - (B) A dark-fiber lease, indefeasible right of use, or other dark-fiber service agreement or the modulating electronics necessary to light dark fiber; or
 - (C) A multi-year installment payment agreement with the service provider for the non-discounted share of special construction costs;
- (iv) To the extent an applicant seeks construction of a network that the applicant will own, the applicant must also solicit bids for both the services provided over third-party networks and construction of applicant-owned network facilities, in the same request for proposals;
- (v) To the extent an applicant seeks bids for special construction associated with dark fiber or bids to lease and light dark fiber, the applicant must also solicit bids to provide the needed services over lit fiber; and
- (vi) To the extent an applicant seeks bids for equipment and maintenance costs associated with lighting dark fiber, the applicant must include these elements in the same FCC Form 470 as the dark fiber.

8. Amend § 54.504 by revising paragraph (a)(1)(iii) to read as follows:

§ 54.504 Requests for services.

(a) ***

(1) ***

(iii) The entities listed on the FCC Form 471 application have secured access to all of the resources, including computers, training, software, maintenance, internal connections, and electrical connections, necessary to make effective use of the services purchased. The entities listed on the FCC Form 471 will pay the discounted charges for eligible services from funds to which access has been secured in the current funding year or, for entities that will make installment payments, they will ensure that they are able to make all required installment payments. The billed entity will pay the non-discount portion of the cost of the goods and services to the service provider(s).

9. Amend § 54.505 by revising paragraphs (b), (b)(3), (b)(3)(i), (c), and (f) to read as follows:

§ 54.505 Discounts.

(b) Discount percentages. Except as provided in paragraph (f), the discounts available to eligible schools and libraries shall range from 20 percent to 90 percent of the pre-discount price for all eligible services provided by eligible providers, as defined in this subpart. The discounts available to a particular school, library, or consortium of only such entities shall be determined by indicators of poverty and high cost.

(3) The Administrator shall classify schools and libraries as “urban” or “rural” according to the following designations.

(i) The Administrator shall designate a school or library as “urban” if the school or library is located in an urbanized area or urban cluster area with a population equal to or greater than 25,000, as determined by the most recent rural-urban classification by the Bureau of the Census. The Administrator shall designate all other schools and libraries as “rural.”

(c) Matrices. Except as provided in paragraphs (d) and (f), the Administrator shall use the following matrices to set discount rates to be applied to eligible category one and category two services purchased by eligible schools, school districts, libraries, or consortia based on the institution’s level of poverty and location in an “urban” or “rural” area.

	Category one schools and libraries discount matrix		Category two schools and libraries discount matrix	
	Discount level		Discount level	
% of students eligible for National School Lunch Program	Urban discount	Rural discount	Urban discount	Rural discount

< 1.....	20	25	20	25
1-19.....	40	50	40	50
20-34.....	50	60	50	60
35-49.....	60	70	60	70
50-74.....	80	80	80	80
75-100.....	90	90	85	85

(d) ***

(e) ***

(f) Additional Discounts for State Matching Funds for Special Construction. Federal universal service discounts shall be based on the price of a service prior to the application of any state-provided support for schools or libraries. When a governmental entity described below provides funding for special construction charges for networks that meet the long-term connectivity targets for the schools and libraries universal service support program, the Administrator shall match the governmental entity’s contribution as provided for below:

(1) All E-rate applicants. When a State government provides funding for special construction charges for a broadband connection to a school or library the Administrator shall match the State’s contribution on a one-dollar-to-one-dollar basis up to an additional 10 percent discount, provided however that the total support from federal universal service and the State may not exceed 100 percent.

(2) Tribal schools. When a State government, Tribal government, or federal agency provides funding for special construction charges for a broadband connection to a school operated by the Bureau of Indian Education or by a Tribal government, the Administrator shall match the governmental entity’s contribution on a one-dollar-to-one-dollar basis up to an additional 10 percent discount, provided however that the total support from federal universal service and the governmental entity may not exceed 100 percent.

(3) Tribal libraries. When a State government, Tribal government, or federal agency provides funding for special construction charges for a broadband connection to a library operated by Tribal governments, the Administrator shall match the governmental entity’s contribution on a one-dollar-to-one-dollar basis up to an additional 10 percent discount, provided however that the total support from federal universal service and the governmental entity may not exceed 100 percent.

10. Amend § 54.507 by revising paragraphs (a), (c), and (d) to read as follows:

§ 54.507 Cap.

(a) Amount of the annual cap. The aggregate annual cap on federal universal service support for schools and libraries shall be \$3.9 billion per funding year, of which \$1 billion per funding year will be available for category two services, as described in § 54.502(a)(2), unless demand for category one services is higher than available funding.

(1) Inflation increase. In funding year 2016 and subsequent funding years, the \$3.9 billion funding cap on federal universal service support for schools and libraries shall be automatically increased annually to take into account increases in the rate of inflation as calculated in paragraph (a)(2) of this section.

(2) ***

(3) Public notice. When the calculation of the yearly average GDP-CPI is determined, the

Wireline Competition Bureau shall publish a public notice in the FEDERAL REGISTER within 60 days announcing any increase of the annual funding cap including any increase to the \$1 billion funding level available for category two services based on the rate of inflation.

(c) Requests. The Administrator shall implement an initial filing period that treats all schools and libraries filing an application within that period as if their applications were simultaneously received. The initial filing period shall begin and conclude on dates to be determined by the Administrator with the approval of the Chief of the Wireline Competition Bureau. The Administrator shall maintain on the Administrator's website a running tally of the funds already committed for the existing funding year. The Administrator may implement such additional filing periods as it deems necessary.

(d) Annual filing requirement. (1) Schools and libraries, and consortia of such eligible entities shall file new funding requests for each funding year no sooner than the July 1 prior to the start of that funding year. Schools, libraries, and eligible consortia must use recurring services for which discounts have been committed by the Administrator within the funding year for which the discounts were sought.

(2) Installation of category one non-recurring services may begin on January 1 prior to the July 1 start of the funding year, provided the following conditions are met:

(i) Construction begins after selection of the service provider pursuant to a posted FCC Form 470,

(ii) A category one recurring service must depend on the installation of the infrastructure, and

(iii) The actual service start date for that recurring service is on or after the start of the funding year (July 1).

(3) Installation of category two non-recurring services may begin on April 1 prior to the July 1 start of the funding year.

(4) The deadline for implementation of all non-recurring services will be September 30 following the close of the funding year. An applicant may request and receive from the Administrator an extension of the implementation deadline for non-recurring services if it satisfies one of the following criteria:

(i) The applicant's funding commitment decision letter is issued by the Administrator on or after March 1 of the funding year for which discounts are authorized;

(ii) The applicant receives a service provider change authorization or service substitution authorization from the Administrator on or after March 1 of the funding year for which discounts are authorized;

(iii) The applicant's service provider is unable to complete implementation for reasons beyond the service provider's control; or

(iv) The applicant's service provider is unwilling to complete installation because funding disbursements are delayed while the Administrator investigates the application for program compliance.

11. Remove and reserve § 54.509.

§ 54.509 [Remove and Reserve]

12. Remove and reserve § 54.518.

§ 54.518 [Remove and Reserve]

SUBPART I--Administration

13. Amend § 54.720 to read as follows:

§ 54.720 Filing deadlines.

- (a) An affected party requesting review or waiver of an Administrator decision by the Commission pursuant to § 54.719, shall file such a request within sixty (60) days from the date the Administrator issues a decision.
- (b) An affected party requesting review of an Administrator decision by the Administrator pursuant to § 54.719(a), shall file such a request within sixty (60) days from the date the Administrator issues a decision.
- (c) In all cases of requests for review filed under § 54.719(a) through (c), the request for review shall be deemed filed on the postmark date. If the postmark date cannot be determined, the applicant must file a sworn affidavit stating the date that the request for review was mailed.
- (d) Parties shall adhere to the time periods for filing oppositions and replies set forth in 47 CFR 1.45.

APPENDIX B

*E-Rate Modernization NPRM Commenters and Reply Commenters*Cited Comments

Name of Filer	Abbreviation	Filing Date
American e-Rate Solutions	American e-Rate	Sept. 16, 2013
American Library Association	ALA	Sept. 16, 2013
AT&T Corp	AT&T	Sept. 16, 2013
CenturyLink	CenturyLink	Sept. 16, 2013
City of Boston, Massachusetts	Boston	Sept. 16, 2013
Clark County School District	Clark County	Sept. 16, 2013
Comcast Corporation	Comcast	Sept. 16, 2013
Cox Communications, Inc.	Cox	Sept. 16, 2013
CRW Consulting	CRW	Sept. 16, 2013
Education Networks of America Inc.	ENA	Sept. 16, 2013
E-Rate Central	E-Rate Central	Sept. 16, 2013
E-Rate Management Professionals Association	E-mpa	Sept. 16, 2013
E-rate Provider Services, LLC	EPS	Sept. 16, 2013
IITA – The Independent Telephone and Telecommunications Alliance	ITTA	Sept. 16, 2013
Illinois Department of Central Management Services	CMS	Sept. 16, 2013
Illinois Fiber Resources Group	iFiber	Sept. 13, 2013
Imperial County Office of Education/California K12 High Speed Network	Imperial County	Sept. 16, 2013
Iowa Department of Education	Iowa	Sept. 16, 2013
Kentucky Department of Libraries Archives	KDLA	Sept. 16, 2013
Kevin Matteson, Former Network Services Manager Tulare County Office of Education	Matteson	Sept. 16, 2013
Lancaster Lebanon Intermediate Unit 13	Lancaster Lebanon	Sept. 16, 2013
LTS Buyer, Unite Private Networks, and Fibertech Networks LLC	LTS Buyer, UPN, & FN	Sept. 16, 2013
Merit Networks	Merit	Sept. 16, 2013
Missouri Research and Education Network	MOREnet	Sept. 16, 2013
National Association of Telecommunications Officers and Advisors	NATOA	Sept. 16, 2013
National Cable & Telecommunications Association	NCTA	Sept. 16, 2013
OneCommunity	One Community	Sept. 16, 2013
Patrick J. Clemins, Vermont Experimental Group to Stimulate Competitive Research	Clemins	Sept. 16, 2013
Richmond County Schools	Richmond County	Sept. 16, 2013
San Diego County Office of Education	San Diego County	Sept. 16, 2013
Scranton Public Library	Scranton Public Library	Sept. 9, 2013
South Carolina K-12 School Technology Initiative	SC K-12 Initiative	Sept. 16, 2013
State Educational Technology Directors Association	SETDA	Sept. 16, 2013
State E-rate Coordinators' Alliance	SECA	Sept. 16, 2013
State of Arkansas	Arkansas	Sept. 16, 2013
Telecommunications Industry Association	TIA	Sept. 16, 2013
The Quilt	Quilt	Sept. 16, 2013

United States Telecom Association	USTelecom	Sept. 16, 2013
Utah Education Network	UEN	Sept. 16, 2013
Weslaco Independent School District	Weslaco ISD	Sept. 16, 2013
Wisconsin Department of Public Instruction	WDPI	Sept. 16, 2013

Cited Reply Comments

Name of Filer	Abbreviation	Filing Date
ADTRAN Inc.	ADTRAN	Nov. 8, 2013
Cbeyond, EarthLink, Integra, Level 3 and tw telecom	Cbeyond	Nov. 8, 2013
Chicago Public Schools, Chicago Public Library and City of Chicago	Chicago	Nov. 8, 2013
City of San Antonio, Texas	San Antonio	Nov. 8, 2013
Consortium for School Networking	CoSN	Nov. 8, 2013
Illinois Department of Central Management Services	CMS	Nov. 8, 2013
Illinois State Library	Illinois Library	Nov. 7, 2013
Karen Goff , West Virginia Library Commission	West Virginia Library	Nov. 7, 2013
Massachusetts Broadband Institute	Mass. Institute	Oct. 17, 2013
National Congress of American Indians	NCAI	Nov. 8, 2013
National Telephone Cooperative Association and WTA-Rural Broadband Advocates	NTCA/WTA	Nov. 8, 2013
New America Foundation - Open Technology Institute and Education Policy Program	New America	Nov. 8, 2013
North Carolina Department of Public Instruction	NCDPI	Nov. 7, 2013
Santa Fe Indian School	Santa Fe	Nov. 8, 2013
State Consortia Group	SCG	Nov. 8, 2013
State Library of Kansas	SLK	Oct. 18, 2013
Tennessee Educational Technology Association	TETA	Nov. 8, 2013
United States Telecom Association	USTelecom	Nov. 19, 2013

APPENDIX C

*E-Rate Modernization PN Commenters and Reply Commenters***Cited Comments**

Name of Filer	Abbreviation	Filing Date
CenturyLink	CenturyLink	Apr. 7, 2014
Chicago Public Schools, the Chicago Public Library, and the City of Chicago	Chicago	Apr. 7, 2014
COMPTEL	COMPTEL	Apr. 7, 2014
Ednetics, Inc.	EDNETICS	Apr. 7, 2014
Illinois Department of Central Management Services	CMS	Apr. 7, 2014
Kentucky Department for Libraries and Archives	KDLA	Apr. 7, 2014
National Education Association	NEA	Apr. 7, 2014
State of North Carolina	North Carolina	Apr. 14, 2014
The Quilt	Quilt	Apr. 7, 2014
Tribal Commenters – Association of Tribal Archives, Libraries, and Museums	ATALM	Apr. 7, 2014
Verizon	Verizon	Apr. 7, 2014
Wisconsin Department of Public Instruction	WDPI	Apr. 7, 2014

Cited Reply Comments

Name of Filer	Abbreviation	Filing Date
EducationSuperHighway	ESH	Apr. 21, 2014
Funds for Learning	FFL	Apr. 21, 2014

APPENDIX D

*E-Rate Modernization FNPRM Commenters and Reply Commenters*Cited Comments

Name of Filer	Abbreviation	Filing Date
AASA: The School Superintendents Association	AASA	Sept. 15, 2014
Alliance for Excellent Education	Alliance	Sept. 15, 2014
American Library Association	ALA	Sept. 15, 2014
California Department of Education	CDE	Sept. 15, 2014
CenturyLink	CenturyLink	Sept. 15, 2014
Cisco Systems, Inc.	Cisco	Sept. 15, 2014
Chicago Public Schools, the Chicago Public Library, and the City of Chicago	Chicago	Sept. 15, 2014
Comcast Corporation	Comcast	Sept. 15, 2014
Council on Great City Schools	CGCS	Sept. 15, 2014
Education and Library Networks Coalition	EdLiNC	Sept. 15, 2014
EducationSuperHighway	ESH	Sept. 15, 2014
Funds for Learning, LLC	FFL	Sept. 15, 2014
Hewlett Packard	HP	Sept. 15, 2014
ITTA – The Voice of Mid-Size Communications Companies	ITTA	Sept. 15, 2014
Los Angeles, Office of the Mayor	Los Angeles	Sept. 15, 2014
Mayor Walsh, Boston; Mayor de Blasio, NYC; Mayor Hales, Portland	Mayors	Sept. 15, 2014
Missouri Research and Education Network	MOREnet	Sept. 15, 2014
National Education Association	NEA	Sept. 15, 2014
National League of Cities	NLC	Sept. 12, 2014
Nebraska Office of the Chief Information Officer	Nebraska OCIO	Sept. 15, 2014
New Hope Technology Foundation	New Hope	Sept. 15, 2014
New York State Education Department	NYSED	Sept. 15, 2014
NTCA—The Rural Broadband Association	NTCA	Sept. 15, 2014
Schools, Health & Libraries Broadband Coalition	SHLB	Sept. 15, 2014
State Consortium Group	SCG	Sept. 15, 2014
State E-rate Coordinators' Alliance	SECA	Sept. 15, 2014
Sunesys, LLC	Sunesys	Sept. 15, 2014
United States Telecom Association	USTelecom	Sept. 15, 2014
Unite Private Networks, LLC and Southern Light Fiber	UPN & SLF	Sept. 12, 2014
Urban Libraries Council	ULC	Sept. 15, 2014
Verizon	Verizon	Sept. 15, 2014

Cited Reply Comments

Name of Filer	Abbreviation	Filing Date
American Cable Association	ACA	Sept. 30, 2014
American Library Association	ALA	Sept. 30, 2014
Cellular South and Telepak Networks	C-Spire	Sept. 30, 2014
City and County of San Francisco, San Francisco Public Library, and the San Francisco Unified School District	San Francisco	Sept. 30, 2014
Hans Riemer, Councilmember at-Large, Montgomery County Council	Hans Riemer	Sept. 29, 2014
Hispanic Technology and Telecommunications Partnership, Latinos in Information Sciences and Technology Association (LISTA), Minority Media and Telecommunications Council, NAACP, National Black Caucus of State Legislators, National Coalition on Black Civic Participation, National Organization of Black County Officials, National Organization of Black Elected Legislative (NOBEL) Women and the Rainbow PUSH Coalition	MMTC et al.	Sept. 30, 2014
International Society for Technology in Education	ISTE	Sept. 30, 2014
Kentucky Department of Libraries & Archives	KDLA	Sept. 30, 2014
National Association of Secondary School Principals	NASSP	Sept. 29, 2014
National Cable & Telecommunications Association	NCTA	Sept. 30, 2014
National School Boards Association	NSBA	Sept. 30, 2014
New America Foundation's Open Technology Institute and Education Policy Program and Common Cause	New America	Sept. 30, 2014
Urban Libraries Council	ULC	Sept. 30, 2014
Wisconsin Department of Public Instruction	WDPI	Sept. 29, 2014

APPENDIX E

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ the Federal Communications Commission (Commission) included Initial Regulatory Flexibility Analyses (IRFAs) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in the *E-rate Modernization NPRM* and *E-rate Modernization FNPRM* in WC Docket No. 13-184.² The Commission sought written public comment on the proposals in the *E-rate Modernization NPRM* and *E-rate Modernization FNPRM*, including comment on the IRFAs. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.

A. Need for, and Objectives of, the Proposed Rule

2. The Commission is required by section 254 of the Communications Act of 1934, as amended, to promulgate rules to implement the universal service provisions of section 254.³ On May 8, 1997, the Commission adopted rules to reform its system of universal service support mechanisms so that universal service is preserved and advanced as markets move toward competition.⁴ Specifically, under the schools and libraries universal service support mechanism, also known as the E-rate program, eligible schools, libraries, and consortia that include eligible schools and libraries may receive discounts for eligible telecommunications services, Internet access, and internal connections.⁵

3. In July 2013, the Commission issued a Notice of Proposed Rulemaking seeking public comment on proposals to update the E-rate program to focus on 21st Century broadband needs of schools and libraries.⁶ Later, in February 2014, the Wireline Competition Bureau (Bureau) issued a Public Notice seeking focused comment on issues raised in the *E-rate Modernization NPRM*.⁷ Then, in July 2014, we adopted a number of proposals in the *E-rate Modernization NPRM* and issued a Further Notice of Proposed Rulemaking seeking public comment on additional proposals to update the E-rate program. In this Report and Order, we adopt a number of the proposals put forward in the *E-rate Modernization NPRM* and *E-rate Modernization FNPRM*.

4. This Report and Order continues the Commission's efforts to promote broadband access for schools and libraries and support the goals that we adopted in the *E-rate Modernization Order*. In it, we lower the barrier to obtaining high-speed connections and increase the E-rate funding cap to meet the needs of the program. To lower barriers to obtaining high-speed connections, we (1) provide greater flexibility for applicants with respect to payment options for large non-recurring capital costs for high-speed broadband; (2) equalize the treatment of lit and dark fiber to offer applicants an additional cost-effective option for deploying high-speed broadband; (3) allow self-construction of high-speed broadband

¹ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. §§ 601–612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 847 (1996).

² *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Notice of Proposed Rulemaking, 28 FCC Rcd 11304 (2013) (*E-rate Modernization NPRM*); *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 (July 23, 2014) (*E-rate Modernization Order or FNPRM*).

³ See 47 U.S.C. § 254 *passim*.

⁴ *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order, 12 FCC Rcd 8776, 9006-9008, paras. 431-434 (1997).

⁵ 47 C.F.R. §§ 54.502, 54.503.

⁶ *E-rate Modernization NPRM*, 28 FCC Rcd 11304.

⁷ *Wireline Competition Bureau Seeks Focused Comment on E-rate Modernization*, WC Docket No. 13-184, Public Notice, 29 FCC Rcd 2174 (Wireline Comp. Bur. Mar. 6, 2014) (*E-rate Modernization Public Notice*).

facilities by schools and libraries when self-construction is the most cost-effective option; (4) provide up to an additional 10 percent in category one funding to match state funding for special construction charges for last-mile facilities to support high-speed broadband; and (5) obligating recipients of high-cost Universal Service Fund support to offer high-speed broadband to schools and libraries located in the geographic area where the carrier receives high-cost support at rates reasonably comparable to similar services in urban areas. To meet the needs of the program, we raise the E-rate funding cap to \$3.9 billion.

B. Summary of Significant Issues Raised by Public Comments to the IRFA

5. No comments specifically addressed the IRFA.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules May Apply

6. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.⁸ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”⁹ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.¹⁰ A small business concern is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).¹¹ Nationwide, there are a total of approximately 28.2 million small businesses, according to the SBA.¹² A “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”¹³

7. Nationwide, as of 2002, there were approximately 1.6 million small organizations.¹⁴ The term “small governmental jurisdiction” is defined generally as “governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”¹⁵ Census Bureau data for 2002 indicate that there were 87,525 local governmental jurisdictions in the United States.¹⁶ We estimate that, of this total, 84,377 entities were “small governmental jurisdictions.”¹⁷ Thus, we estimate that most governmental jurisdictions are small.

⁸ 5 U.S.C. § 603(b)(3).

⁹ 5 U.S.C. § 601(6).

¹⁰ 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.” 5 U.S.C. § 601(3).

¹¹ See 15 U.S.C. § 632.

¹² See SBA, Office of Advocacy, Frequently Asked Questions, http://www.sba.gov/sites/default/files/FAQ_March_2014_0.pdf (last visited Oct. 17, 2014).

¹³ 5 U.S.C. § 601(4).

¹⁴ Independent Sector, *The New Nonprofit Almanac & Desk Reference* (2002).

¹⁵ 5 U.S.C. § 601(5).

¹⁶ U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, Section 8, page 272, Table 415.

¹⁷ We assume that the villages, school districts, and special districts are small, and total 48,558. See U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, section 8, page 273, Table 417. For 2002, Census Bureau data indicate that the total number of county, municipal, and township governments nationwide was 38,967, of which 35,819 were small. *Id.*

8. Small entities potentially affected by the proposals herein include eligible schools and libraries and the eligible service providers offering them discounted services.¹⁸

9. *Schools and Libraries.* As noted, “small entity” includes non-profit and small government entities. Under the schools and libraries universal service support mechanism, which provides support for elementary and secondary schools and libraries, an elementary school is generally “a non-profit institutional day or residential school that provides elementary education, as determined under state law.”¹⁹ A secondary school is generally defined as “a non-profit institutional day or residential school that provides secondary education, as determined under state law,” and not offering education beyond grade 12.²⁰ For-profit schools and libraries, and schools and libraries with endowments in excess of \$50,000,000, are not eligible to receive discounts under the program, nor are libraries whose budgets are not completely separate from any schools.²¹ Certain other statutory definitions apply as well.²² The SBA has defined elementary and secondary schools and libraries having \$6 million or less in annual receipts as small entities.²³ In funding year 2007, approximately 105,500 schools and 10,950 libraries received funding under the schools and libraries universal service mechanism. Although we are unable to estimate with precision the number of these entities that would qualify as small entities under SBA’s size standard, we estimate that fewer than 105,500 schools and 10,950 libraries might be affected annually by our action, under current operation of the program.

10. *Telecommunications Service Providers.* First, neither the Commission nor the SBA has developed a size standard for small incumbent local exchange services. The closest size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.²⁴ According to Commission data, 1,307 incumbent carriers reported that they were engaged in the provision of local exchange services.²⁵ Of these 1,307 carriers, an estimated 1,006 have 1,500 or fewer employees and 301 have more than 1,500 employees.²⁶ Thus, under this category and associated small business size standard, we estimate that the majority of entities are small. We have included small incumbent local exchange carriers in this RFA analysis. A “small business” under the RFA is one that, inter alia, meets the pertinent small business size standard (e.g., a telephone communications business having 1,500 or fewer employees), and “is not dominant in its field of operation.”²⁷ The SBA’s Office of Advocacy contends that, for RFA purposes, small incumbent local exchange carriers are not dominant in their field of operation because any such dominance is not “national” in scope.²⁸ We have therefore included small incumbent carriers in this RFA analysis,

¹⁸ 47 C.F.R. §§ 54.501-54.502, 54.504.

¹⁹ 47 C.F.R. § 54.500(c).

²⁰ 47 C.F.R. § 54.500(k).

²¹ 47 C.F.R. § 54.501.

²² *Id.*

²³ 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) codes 611110 and 519120 (NAICS code 519120 was previously 514120).

²⁴ 13 C.F.R. § 121.201, NAICS code 517110.

²⁵ FCC, Wireline Competition Bureau, Industry Analysis and Technology Division, “Trends in Telephone Service” at Table 5.3, Page 5-5 (September 2010) (*2010 Trends Report*) (using data that is current as of Oct. 13, 2008).

²⁶ *Id.*

²⁷ 5 U.S.C. § 601(3).

²⁸ See Letter from Jere W. Glover, Chief Counsel for Advocacy, SBA, to William E. Kennard, Chairman, FCC (dated May 27, 1999). The Small Business Act contains a definition of “small business concern,” which the RFA incorporates into its own definition of “small business.” See 15 U.S.C. § 632(a) (Small Business Act); 5 U.S.C. §

(continued...)

although we emphasize that this RFA action has no effect on the Commission's analyses and determinations in other, non-RFA contexts.

11. Second, neither the Commission nor the SBA has developed a definition of small entities specifically applicable to providers of interexchange services (IXCs). The closest applicable definition under the SBA rules is for wired telecommunications carriers.²⁹ This provides that a wired telecommunications carrier is a small entity if it employs no more than 1,500 employees.³⁰ According to the Commission's 2010 Trends Report, 359 companies reported that they were engaged in the provision of interexchange services.³¹ Of these 300 IXCs, an estimated 317 have 1,500 or few employees and 42 have more than 1,500 employees.³² Consequently, the Commission estimates that most providers of interexchange services are small businesses.

12. Third, neither the Commission nor the SBA has developed a definition of small entities specifically applicable to competitive access services providers (CAPs). The closest applicable definition under the SBA rules is for wired telecommunications carriers.³³ This provides that a wired telecommunications carrier is a small entity if it employs no more than 1,500 employees.³⁴ According to the 2010 Trends Report, 1,442 CAPs and competitive local exchange carriers (competitive LECs) reported that they were engaged in the provision of competitive local exchange services.³⁵ Of these 1,442 CAPs and competitive LECs, an estimated 1,256 have 1,500 or fewer employees and 186 have more than 1,500 employees.³⁶ Consequently, the Commission estimates that most providers of competitive exchange services are small businesses.

13. *Wireless Telecommunications Carriers (except Satellite)*. Since 2007, the Census Bureau has placed wireless firms within this new, broad, economic census category.³⁷ Prior to that time, such firms were within the now-superseded categories of "Paging" and "Cellular and Other Wireless Telecommunications."³⁸ Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.³⁹ Because Census Bureau data are not yet available for the new category, we will estimate small business prevalence using the prior categories and associated data. For the category of Paging, data for 2002 show that there were 807 firms that operated for the entire

(Continued from previous page) _____

601(3) (RFA). SBA regulations interpret "small business concern" to include the concept of dominance on a national basis. 13 C.F.R. § 121.102(b).

²⁹ 13 C.F.R. § 121.201, NAICS code 517110.

³⁰ *Id.*

³¹ *2010 Trends Report*, Table 5.3, page 5-5.

³² *Id.*

³³ 13 C.F.R. § 121.201, NAICS code 517110.

³⁴ *Id.*

³⁵ *2010 Trends Report*, Table 5.3, page 5-5.

³⁶ *Id.*

³⁷ U.S. Census Bureau, 2012 NAICS Definitions, "517210 Wireless Telecommunications Categories (Except Satellite)", <http://www.census.gov/naics/2007/def/ND517210.HTM#N517210>.

³⁸ U.S. Census Bureau, 2002 NAICS Definitions, "517211 Paging"; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>; U.S. Census Bureau, 2002 NAICS Definitions, "517212 Cellular and Other Wireless Telecommunications"; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>.

³⁹ 13 C.F.R. § 121.201, NAICS code 517210 (2007 NAICS). The now-superseded, pre-2007 C.F.R. citations were 13 C.F.R. § 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

year.⁴⁰ Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.⁴¹ For the category of Cellular and Other Wireless Telecommunications, data for 2002 show that there were 1,397 firms that operated for the entire year.⁴² Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.⁴³ Thus, we estimate that the majority of wireless firms are small.

14. Wireless telephony includes cellular, personal communications services, and specialized mobile radio telephony carriers. As noted, the SBA has developed a small business size standard for Wireless Telecommunications Carriers (except Satellite).⁴⁴ Under the SBA small business size standard, a business is small if it has 1,500 or fewer employees.⁴⁵ According to the 2010 Trends Report, 413 carriers reported that they were engaged in wireless telephony.⁴⁶ Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees.⁴⁷ We have estimated that 261 of these are small under the SBA small business size standard.

15. *Common Carrier Paging.* As noted, since 2007 the Census Bureau has placed paging providers within the broad economic census category of Wireless Telecommunications Carriers (except Satellite).⁴⁸ Prior to that time, such firms were within the now-superseded category of “Paging.”⁴⁹ Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.⁵⁰ Because Census Bureau data are not yet available for the new category, we will estimate small business prevalence using the prior category and associated data. The data for 2002 show that there were 807 firms that operated for the entire year.⁵¹ Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.⁵² Thus, we estimate that the majority of paging firms are small.

16. In addition, in the *Paging Second Report and Order*, the Commission adopted a size standard for “small businesses” for purposes of determining their eligibility for special provisions such as

⁴⁰ U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 5, NAICS code 517211 (issued Nov. 2005).

⁴¹ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with “1000 employees or more.”

⁴² U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 5, NAICS code 517212 (issued Nov. 2005).

⁴³ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with “1000 employees or more.”

⁴⁴ 13 C.F.R. § 121.201, NAICS code 517210.

⁴⁵ *Id.*

⁴⁶ 2010 Trends Report at Table 5.3, page 5-5.

⁴⁷ *Id.*

⁴⁸ U.S. Census Bureau, 2007 NAICS Definitions, “517210 Wireless Telecommunications Categories (Except Satellite),” <http://www.census.gov/naics/2007/def/ND517210.HTM#N517210>.

⁴⁹ U.S. Census Bureau, 2002 NAICS Definitions, “517211 Paging,” <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>.

⁵⁰ 13 C.F.R. § 121.201, NAICS code 517210 (2007 NAICS). The now-superseded, pre-2007 C.F.R. citations were 13 C.F.R. § 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

⁵¹ U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 5, NAICS code 517211 (issued Nov. 2005).

⁵² *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with “1000 employees or more.”

bidding credits and installment payments.⁵³ A small business is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$15 million for the preceding three years.⁵⁴ The SBA has approved this definition.⁵⁵ An initial auction of Metropolitan Economic Area (“MEA”) licenses was conducted in the year 2000. Of the 2,499 licenses auctioned, 985 were sold.⁵⁶ Fifty-seven companies claiming small business status won 440 licenses.⁵⁷ A subsequent auction of MEA and Economic Area (“EA”) licenses was held in the year 2001. Of the 15,514 licenses auctioned, 5,323 were sold.⁵⁸ One hundred thirty-two companies claiming small business status purchased 3,724 licenses. A third auction, consisting of 8,874 licenses in each of 175 EAs and 1,328 licenses in all but three of the 51 MEAs, was held in 2003. Seventy-seven bidders claiming small or very small business status won 2,093 licenses.⁵⁹

17. Currently, there are approximately 74,000 Common Carrier Paging licenses. According to the most recent Trends in Telephone Service, 291 carriers reported that they were engaged in the provision of “paging and messaging” services.⁶⁰ Of these, an estimated 289 have 1,500 or fewer employees and two have more than 1,500 employees.⁶¹ We estimate that the majority of common carrier paging providers would qualify as small entities under the SBA definition.

18. *Internet Service Providers.* The 2007 Economic Census places these firms, whose services might include voice over Internet protocol (VoIP), in either of two categories, depending on whether the service is provided over the provider’s own telecommunications facilities (e.g., cable and DSL ISPs), or over client-supplied telecommunications connections (e.g., dial-up ISPs). The former are within the category of Wired Telecommunications Carriers,⁶² which has an SBA small business size standard of 1,500 or fewer employees.⁶³ The latter are within the category of All Other Telecommunications,⁶⁴ which has a size standard of annual receipts of \$25 million or less.⁶⁵ The most current Census Bureau data for all such firms, however, are the 2002 data for the previous census

⁵³ *Revision of Part 22 and Part 90 of the Commission’s Rules to Facilitate Future Development of Paging Systems et al.*, WT Docket No. 96-18 et al., Second Report and Order and Further Notice of Proposed Rulemaking, 12 FCC Rcd 2732, 2811-12, paras. 178-81 (1997) (*Paging Second Report and Order*); *Revision of Part 22 and Part 90 of the Commission’s Rules to Facilitate Future Development of Paging Systems et al.*, Memorandum Opinion and Order on Reconsideration and Third Report and Order, 14 FCC Rcd 10030, 10085-88, paras. 98-107 (1999).

⁵⁴ *Paging Second Report and Order*, 12 FCC Rcd at 2811, para. 179.

⁵⁵ See Letter from Aida Alvarez, Administrator, SBA, to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC (dated Dec. 2, 1998).

⁵⁶ See *929 and 931 MHz Paging Auction Closes*, Public Notice, 15 FCC Rcd 4858 (WTB 2000).

⁵⁷ See *id.*

⁵⁸ See *Lower and Upper Paging Bands Auction Closes*, Public Notice, 16 FCC Rcd 21821 (WTB 2001).

⁵⁹ See *Lower and Upper Paging Bands Auction Closes*, Public Notice, 18 FCC Rcd 11154 (WTB 2003). The current number of small or very small business entities that hold wireless licenses may differ significantly from the number of such entities that won in spectrum auctions due to assignments and transfers of licenses in the secondary market over time. In addition, some of the same small business entities may have won licenses in more than one auction.

⁶⁰ *2010 Trends Report* at Table 5.3, page 5-5.

⁶¹ *Id.*

⁶² U.S. Census Bureau, 2007 NAICS Definitions, “517110 Wired Telecommunications Carriers”, <http://www.census.gov/naics/2007/def/ND517110.HTM#N517110>.

⁶³ 13 C.F.R. § 121.201, NAICS code 517110 (updated for inflation in 2008).

⁶⁴ U.S. Census Bureau, 2007 NAICS Definitions, “517919 All Other Telecommunications”, <http://www.census.gov/naics/2007/def/ND517919.HTM#N517919>.

⁶⁵ 13 C.F.R. § 121.201, NAICS code 517919 (updated for inflation in 2008).

category called Internet Service Providers.⁶⁶ That category had a small business size standard of \$21 million or less in annual receipts, which was revised in late 2005 to \$23 million. The 2002 data show that there were 2,529 such firms that operated for the entire year.⁶⁷ Of those, 2,437 firms had annual receipts of under \$10 million, and an additional 47 firms had receipts of between \$10 million and \$24,999,999.⁶⁸ Consequently, we estimate that the majority of ISP firms are small entities.

19. *Vendors of Internal Connections: Telephone Apparatus Manufacturing.* The Census Bureau defines this category as follows: “This industry comprises establishments primarily engaged in manufacturing wire telephone and data communications equipment. These products may be standalone or board-level components of a larger system. Examples of products made by these establishments are central office switching equipment, cordless telephones (except cellular), PBX equipment, telephones, telephone answering machines, LAN modems, multi-user modems, and other data communications equipment, such as bridges, routers, and gateways.”⁶⁹ The SBA has developed a small business size standard for Telephone Apparatus Manufacturing, which is: all such firms having 1,000 or fewer employees.⁷⁰ According to Census Bureau data for 2002, there were a total of 518 establishments in this category that operated for the entire year.⁷¹ Of this total, 511 had employment of under 1,000, and an additional seven had employment of 1,000 to 2,499.⁷² Thus, under this size standard, the majority of firms can be considered small.

20. *Vendors of Internal Connections: Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing.* The Census Bureau defines this category as follows: “This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.”⁷³ The SBA has developed a small business size standard for firms in this category, which is: all such firms having 750 or fewer employees.⁷⁴ According to Census Bureau data for 2002, there were a total of 1,041

⁶⁶ U.S. Census Bureau, “2002 NAICS Definitions: 518111 Internet Service Providers”, <http://www.census.gov/epcd/naics02/def/NDEF518.HTM>.

⁶⁷ U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 518111 (issued Nov. 2005).

⁶⁸ An additional 45 firms had receipts of \$25 million or more.

⁶⁹ U.S. Census Bureau, 2002 NAICS Definitions, “334210 Telephone Apparatus Manufacturing”, <http://www.census.gov/epcd/naics02/def/NDEF334.HTM#N3342>.

⁷⁰ 13 C.F.R. § 121.201, NAICS code 334210.

⁷¹ U.S. Census Bureau, American FactFinder, 2002 Economic Census, Industry Series, Industry Statistics by Employment Size, NAICS code 334210 (rel. May 26, 2005), <http://factfinder.census.gov>. The number of “establishments” is a less helpful indicator of small business prevalence in this context than would be the number of “firms” or “companies,” because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks out data for firms or companies only to give the total number of such entities for 2002, which were 450.

⁷² *Id.* An additional 4 establishments had employment of 2,500 or more.

⁷³ U.S. Census Bureau, 2007 NAICS Definitions, “334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing”, <http://www.census.gov/naics/2007/def/ND334220.HTM#N334220>.

⁷⁴ 13 C.F.R. § 121.201, NAICS code 334220.

establishments in this category that operated for the entire year.⁷⁵ Of this total, 1,010 had employment of under 500, and an additional 13 had employment of 500 to 999.⁷⁶ Thus, under this size standard, the majority of firms can be considered small.

21. *Vendors of Internal Connections: Other Communications Equipment Manufacturing.* The Census Bureau defines this category as follows: “This industry comprises establishments primarily engaged in manufacturing communications equipment (except telephone apparatus, and radio and television broadcast, and wireless communications equipment).”⁷⁷ The SBA has developed a small business size standard for Other Communications Equipment Manufacturing, which is having 750 or fewer employees.⁷⁸ According to Census Bureau data for 2002, there were a total of 503 establishments in this category that operated for the entire year.⁷⁹ Of this total, 493 had employment of under 500, and an additional 7 had employment of 500 to 999.⁸⁰ Thus, under this size standard, the majority of firms can be considered small.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

22. Some of our rule changes will result in additional recordkeeping requirements for small entities. For all of those rule changes, we have determined that the benefit the rule change will bring for the program outweighs the burden of the increased recordkeeping requirement.

1. Increase in Projected Reporting, Recordkeeping and Other Compliance Requirements

23. *Compliance burdens.* All of the rules we implement impose some burden on small entities by requiring them to become familiar with the new rule to comply with it. For many new rules, the burden of becoming familiar with the new rule in order to comply with it is the only burden the rule imposes.

24. *Extending pre-discount budgets for category two services for three additional years.* This rule change will increase recordkeeping burdens by requiring applicants to calculate their budgets

⁷⁵ U.S. Census Bureau, American FactFinder, 2002 Economic Census, Industry Series, Industry Statistics by Employment Size, NAICS code 334220 (rel. May 26, 2005); <http://factfinder.census.gov>. The number of “establishments” is a less helpful indicator of small business prevalence in this context than would be the number of “firms” or “companies,” because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks out data for firms or companies only to give the total number of such entities for 2002, which were 929.

⁷⁶ *Id.* An additional 18 establishments had employment of 1,000 or more.

⁷⁷ U.S. Census Bureau, 2002 NAICS Definitions, “334290 Other Communications Equipment Manufacturing”, <http://www.census.gov/epcd/naics02/def/NDEF334.HTM#N3342>.

⁷⁸ 13 C.F.R. § 121.201, NAICS code 334290.

⁷⁹ U.S. Census Bureau, American FactFinder, 2002 Economic Census, Industry Series, Industry Statistics by Employment Size, NAICS code 334290 (rel. May 26, 2005), <http://factfinder.census.gov>. The number of “establishments” is a less helpful indicator of small business prevalence in this context than would be the number of “firms” or “companies,” because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks out data for firms or companies only to give the total number of such entities for 2002, which were 471.

⁸⁰ *Id.* An additional 3 establishments had employment of 1,000 or more.

and keep track of the amount that they have spent in a five-year period. The benefit of making category two funding available to applicants outweighs this burden.

25. *Permitting self-construction option.* Our permitting applicants to receive E-rate funding for self-construction networks creates the minor additional burden of requiring applicants to seek bids for both self-construction and services-only. The cost savings applicants and the Fund will realize from this rule change justifies these burdens.

26. *Additional discounts when states match funds for fiber construction.* Providing additional discounts when states match funds for fiber construction will impose the additional minimal burden of requiring applicants to produce documentation verifying states' matched funds. The additional USF funding for fiber construction that this rule change makes available to applicants outweighs this burden.

27. *High-cost providers.* The requirement that recipients of high-cost support offer broadband service to eligible schools and libraries at rates reasonably comparable to rates charged in urban areas will increase recordkeeping burdens for some service providers and some E-rate applicants. Specifically, E-rate service providers who receive high-cost support will have the additional burden of bidding for, and possibly providing, services to schools and libraries in areas they receive high-cost support. Schools and libraries in those areas will have the additional burden of evaluating bids from these service providers.

2. Decrease in Projected Reporting, Recordkeeping and Other Compliance Requirements

28. *Suspending USAC's multi-year amortization policy for non-recurring construction costs.* Our suspension of USAC's multi-year amortization policy for non-recurring construction costs will decrease recordkeeping requirements by eliminating the burdens associated with amortization for the duration of the suspension.

E. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

29. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities."⁸¹

30. This rulemaking could impose minimal additional burdens on small entities. We considered alternatives to the rulemaking changes that increase projected reporting, recordkeeping and other compliance requirements for small entities.

F. Report to Congress

31. The Commission will send a copy of this Report and Order, including this FRFA, in a report to be sent to Congress pursuant to the SBREFA.⁸² In addition, the Commission will send a copy of the Report and Order, including the FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the Report and Order and the FRFA (or summaries thereof) will also be published in the Federal Register.⁸³

⁸¹ 5 U.S.C. § 603(c)(1)-(c)(4).

⁸² See 5 U.S.C. § 801(a)(1)(A).

⁸³ See 5 U.S.C. § 604(b).

**STATEMENT OF
CHAIRMAN TOM WHEELER**

Re: *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, *Connect America Fund*, WC Docket No. 10-90.

Today we take the final step in rebooting how we connect our schools, libraries – and most importantly, our students – to 21st century educational opportunity. The result of increased E-rate investment will be an America with students, teachers, and library patrons able to take advantage of the unlimited opportunities enabled by high-speed broadband. The increase in support is significant. It is justified. And it is smart – including not just more funding, but also important program changes that will ensure more competition for E-rate dollars and will ensure cost-effective spending.

In July, we adopted critically important goals for the E-rate program that are worth repeating here. In short, these goals were to ensure *affordable* access to high-speed broadband in all schools and libraries and to maximize the cost-effectiveness of E-rate supported purchases. At the same time, we launched a process to determine the future needs of the program. What level of long-term funding and what rule changes will be necessary to meet the goals of universal high-speed access for schools and libraries?

The same digital revolution that gave us Netflix and YouTube has also opened new worlds of educational opportunities for students, teachers, and librarians. Unfortunately, while the connected home is commonplace, the connected classroom and library is not. Today, 63% of American schools – that’s 40 million students – do not currently have an Internet connection capable of supporting modern digital learning.

E-rate – America’s largest education technology program – has helped to ensure that almost every school and library in America has the most basic level of Internet connectivity. Since becoming Chairman, I’ve seen first-hand the positive impact E-rate is having in communities all across the country – from Fairfax, Virginia in our backyard to the far reaches of Alaska; from the urban neighborhoods of Oakland to Tribal communities in rural New Mexico and South Dakota. While these visits highlighted some of E-rate’s many successes, they also revealed the program’s shortcomings.

I was recently provided a copy of a letter from a New Mexico high-school student who wrote to Sal Kahn, founder of the Khan Academy. In his letter, the student aptly describes our challenge when he states, “maybe you can help us with some of our problems that we have at our schools. For example the Internet is very suckey and I think it would help us do better in school if our Internet was better.” He’s right. For two-thirds of American schools, access to the internet is subpar. The difference between today’s slow speeds and fiber speeds is equivalent to the difference between trying to suck peanut butter through a straw, and drinking from a fire hose of information, opportunity, and knowledge.

In the 18 years since E-rate was established, technology has evolved, the needs of students and teachers have changed, and basic connectivity has become inadequate.

The digital age demands that we bring America’s libraries and schools into the 21st century, so all students have the tools they need to compete in a global economy. This week is Computer Science Education Week; more than 50 million students worldwide have signed up this week to participate in an Hour of Code – a brief tutorial to de-mystify computer science. It’s an important reminder that the connectivity we today enable is not just about education; it is also a matter of preparing learners of all ages for the modern economy. Whether learning in a classroom or receiving job training in a library, computer literacy is not a luxury, it is a requirement. But none of this can happen without high-speed connectivity.

- This past July, the Commission approved the first major modification of E-rate in the program’s 18-year history. Our overhaul accomplished three overarching objectives:

First, for the first time, the Commission set specific, ambitious speed targets for the broadband capacity delivered to schools and libraries: a minimum throughput of 100 Mbps per 1,000 students and a pathway to 1 Gbps per 1,000 students.

Second, we refocused the program away from funding 20th century technologies like pagers and dial-up phone service to supporting 21st century high-speed broadband connectivity. In the process, we moved to close the Wi-Fi gap by ensuring that over the next two years an additional 20 million students will have Internet access at their school or library desk.

Third, we took steps to improve the cost-effectiveness of E-rate spending through greater pricing transparency and through enabling bulk purchasing to drive down costs and give Americans who contribute to E-rate on their monthly bills the most bang for their buck.

When we adopted that Order, I made clear that our work was not over.

American schools and libraries still face a connectivity gap. Previously I indicated that two-thirds of schools and libraries do not subscribe to sufficient high-speed connectivity. In addition, nearly one-third of all schools and three-fourths of all libraries couldn't get a high-speed connection if they wanted because the infrastructure simply isn't there.

This gap is worst in rural America. Rural schools have even less access to high-speed connectivity than most urban and suburban schools. Forty-one percent of America's rural schools couldn't get a high-speed fiber connection if they tried. Where high-speed networks do exist, the owner of that connectivity often charges an unaffordable price. This is not unusual, considering high-speed telecommunications infrastructure is both more costly and more difficult to amortize in rural areas. It may not be unusual, but it is unacceptable that these realities are allowed to hurt students.

Our challenge in overcoming the rural connectivity gap is made all the more difficult by how we historically have run the E-rate program. Whereas the Commission's program to help defray the costs to rural health care facilities allows funds to be spent to build or lease high-speed capacity where it isn't commercially available or where there is no affordable option, the E-rate program to connect our schools and libraries has specifically prohibited this. Today's action will give rural schools and libraries an alternative beyond being held hostage by the actions or inactions of a local telecommunications provider. Importantly, the rules we adopt today also include multiple safeguards to ensure that E-rate spending utilizing new options adopted in this order will only be approved if such spending is demonstrated to be the most cost-effective option and only after also seeking service from a provider.

It's not just rural communities being disproportionately left behind. Low-income schools in both rural and urban communities significantly lag affluent schools when it comes to access to high-speed networks. Nearly 40 percent of affluent schools have high-speed access versus less than 15 percent of lower-income urban and rural schools.

The E-rate program was inaugurated 18 years ago so that all schools and libraries could participate in the Information Revolution. The fact that the preponderance of those without connectivity are low-income rural and urban schools is unacceptable. We must do better.

Closing this connectivity gap will require raising the E-rate spending cap. We have looked long-term to forecast the funding needs going forward and based the spending cap on those forecasts. What will actually be spent – and the rate Americans will be asked to contribute – will vary from year-to-year. Most certainly, the contributions from Americans won't immediately jump to the cap.

The increase in the cap on what Americans contribute to the E-rate fund means that over time, the support paid by consumers could grow by approximately 16 cents a month for a telephone line. Let's put that in perspective. Over the course of the year that represents one cup of coffee at Dunkin Donuts or one large soda at McDonald's – per year.

E-rate is funded by fees on consumers' phone bills. I take the fiduciary responsibility to invest those contributions wisely very seriously. That's why we have placed an emphasis on improving cost-

effectiveness of the program. And that is why we are making changes to the rules today to ensure more competition for E-rate dollars and to maximize the cost-effectiveness of E-rate supported purchases. But the fact is that the E-rate budget hadn't received an annual inflation adjustment for 13 years. The majority of the proposed new cap accounts for the lack of inflation adjustments, with the rest going to new growth if needed.

We have reached the reality that while many libraries and schools have benefitted from the E-rate program, rural and low-income libraries and schools have not shared proportionally in the opportunities. This is because there wasn't enough money in the program, and the program's design wasn't in synch with providing educational opportunity to all.

Investing in E-rate is about our education system; it's about our economy; it's about our global competitiveness. Digital learning is critical to preparing our children to succeed in the digital age.

That's why 50 of America's leading corporate chiefs – from Meg Whitman to Michael Dell to Mark Zuckerberg – wrote the Commission calling E-rate as an essential tool for our nation's competitiveness.

And that's why we need to raise the spending cap for E-rate.

Failure to do so would mean that children in some communities will continue to be bypassed by 21st Century educational opportunities – particularly in rural areas and low-income urban communities.

We can do better than that for our children. By moving forward with this next phase of E-rate modernization, we will.

Let me conclude by once again saying that while today's action is a major step forward, it is not the final step. Today is just the end of the beginning of our effort to get true high-speed broadband to all of the nation's schools and libraries. In the months ahead, there will be a lot of heavy lifting to implement these changes by Commission staff, by our friends at USAC, education and library organizations, and by schools and libraries across the country. I will be watching that progress closely, because ultimately we will be judged by the tangible results delivered to students, teachers, librarians, and library patrons. I want to thank all of the organizations and people and staff at the FCC and USAC that have worked so hard to make today's order possible. Now it's time to roll up our sleeves and complete the job.

**STATEMENT OF
COMMISSIONER MIGNON L. CLYBURN**

Re: Modernizing the E-rate Program for Schools and Libraries, WC Docket No. 13-184, Connect America Fund, WC Docket No. 10-90.

Superintendent Dance, Principal Dyer Duerr, Teachers Warlick Hawkins, Director Reyes-Gavilan, and students, welcome to the FCC, and thank you for this morning's presentations. You have reaffirmed how truly connected schools and libraries can enable customized teaching and planning, unprecedented academic gains, and 21st century relevance for the users of our centers of learning.

The reasons I have been an unwavering supporter of this item, which I proudly launched by circulating a Notice of Proposed Rulemaking for my colleagues' consideration in July of last year, can be summed up in two ways. I grew up in a household, where everyone except me, spent some or all of their careers as teachers, either in a classroom or in a library. My parents, both sisters, my Aunts and a host of relatives, viewed education as the best tool for upward mobility, so much so that they made commitments and, at times, economic sacrifices to help shape and mold young minds. I still get stopped by people who say that while they may have cut every other class, they never considered missing James Clyburn's class because he not only made history interesting, but that there would be price to pay, if they failed to show.

Many young adults sing praises about my middle school teacher Jennifer, and my Aunts, crediting them as playing roles in their current success. My passion for enhanced educational opportunities for all is not new or trivial for me. It is completely woven into my personal fabric.

They all would be moved like I was by the experiences of Joey Cabrera, a high school sophomore in the Bronx, New York. After school, Joey walks to Clason's Point Library to complete his homework, and do what other teenagers do: connect with friends on social media. When the library closes at either 6 or 7 pm during the school week, he sits on the steps near the doors and tries desperately to get a faint WiFi signal until sunset, when it is still safe to walk home.

Two things are immediately made clear by this New York Times story: (1) it was written before daylight savings time, because sunset is now before 5pm, and (2) like an estimated 2.9 million other New Yorkers, Joey is stuck in the digital dark, forced like too many others to sit outside, in parking lots, to get free access to the Internet for better educational, employment, healthcare, and e-commerce opportunities and engage through social media because of the absence of connectivity at home.

I honestly believe that broadband is the greatest equalizer of our time but this only holds true if everyone has access. High poverty schools and libraries will never have comparable resources to their more affluent counterparts. This is why visionaries in Congress, including Senators Rockefeller and Markey, and former Senator Snowe, can be proud of this item today. They recognized early on that access to world-class technology is needed to succeed.

As the lead agency, the FCC realizes that only through a modernized E-rate, will we enable schools, libraries and communities to have access to world-class broadband. This is potentially life changing for communities too often relegated to minimally adequate educational opportunities, old books and outdated technology.

As we prepare to vote on this item, it is equally important for us not to view this through a narrow lens, but as a three-legged stool where all pieces need to be present for success: broadband at school, broadband in the library and broadband at home. Absent one leg, the stool does not stand.

There are many positive aspects of this Order that help to achieve our goals, but I want to highlight two in particular. First, I am pleased that it increases the per square foot allocation for WiFi in urban libraries to \$5.00. In July, when the Commission voted to approve the reforms to the internal connections for WiFi funding, I raised concerns that the proposed \$1 per square foot for all libraries was too low. I appreciated the Chairman's willingness to address this by increasing the per square foot allocation for libraries to \$2.30. But, the record in response to the July Further Notice makes clear that

such allocation was not sufficient for urban libraries, which may account for only 5% of the nation's libraries but boast 65% of the total public WiFi use. So, I am delighted that we increased the allocation to ensure that the libraries have robust WiFi to satisfy demand.

Second, I am pleased that the item implements the expectation from the 2011 *USF/ICC Transformation Order*, that eligible telecommunications carriers offer broadband to community anchor institutions, including schools and libraries.¹ For too long, the FCC has viewed its universal service programs in silos, failing to leverage efficiencies that could be gained by coordinating across our universal service programs. For this reason, I advocated for the inclusion in the *Transformation Order* that those eligible telecommunications carriers serve community anchor institutions, something that the Commission unanimously supported but has largely sat idle on paper, until today. It is the right thing to do – we should leverage our universal service programs, to extend the reach of each universal service dollar.

The Order leaves open the question of how ETCs connect other community anchor institutions, which the Commission defined to also include “medical and healthcare providers, public safety entities, community colleges and other institutions of higher education,” as well as “organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by vulnerable populations, including low-income, the unemployed, and the aged.”² The FCC has universal service programs devoted to rural health care and low-income populations and it is good governance to extend the reach of each universal service dollar. To the extent entities in rural, high cost areas receive support to build and maintain broadband-enabled networks, I strongly encourage the Chairman to direct the staff to evaluate how to better leverage these programs.

In short, today's item makes major and long awaited strides but we will not completely fulfill our vision of ensuring world class educational opportunities for all unless everyone has access to all three legs of that stool. Reforming the FCC's Lifeline Program is key to this and should be a major priority for the Commission, schools, libraries and the education community. Absent the ability to close the affordability gap for broadband everywhere, the laudable reforms we are poised to launch today will not completely bring Joey and others like him out of the digital darkness.

I want to thank the dedicated team of the Wireline Competition Bureau, Office of Managing Director, and Office of Strategic Planning & Policy Analysis for their tireless work on this item.

¹ See *Connect America Fund et al.*, WC Docket Nos. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17700, para. 102 (2011) (USF/ICC Transformation Order), *pets. for review denied sub now*. In re FCC 11-161, 753 F.3d 1015 (10th Cir. 2014); see also *id.* at n. 164 (“acknowledge[ing] that community anchor institutions generally require more bandwidth than a residential customer, and expect that ETCs would provide higher bandwidth offerings to community anchor institutions in high-cost areas at rates that are reasonably comparable to comparable offerings to community anchor institutions in urban areas.”).

² See *id.* at n. 163.

**STATEMENT OF
COMMISSIONER JESSICA ROSENWORCEL**

Re: *Modernizing the E-Rate Program for Schools and Libraries*, WC Docket No. 13-184, *Connect America Fund*, WC Docket No. 10-90.

In schools across the country, December means more than the start of the holiday season. It's when first semester classes come to an end. That means students taking tests and teachers winding down instruction as the calendar year comes to a close.

It's also time to wind down analog-era education. The teaching tools so many of us knew in class years ago—from the blackboard to the bulky textbook—are no longer the only essential instruments of education.

We know this intuitively. That's because broadband and connected devices are changing every aspect of our lives. So many social spaces are now virtual. Plus, the combined power of mobility and cloud computing means we can take content with us wherever we go.

All of this change simply does not stop at the school doors. So if we are smart, we will let it in, wrestle with its potential, and do good things. Because doing anything else will not prepare our students for the world they live in and will deny them the digital skills they need to compete.

The good news is we have E-Rate. We can use this program to help put classrooms and libraries across the country on course for digital age learning in the new year. But to do this, we need a better and bolder E-Rate for the future—what I call E-Rate 2.0.

E-Rate is the nation's largest education technology program. It helps schools and libraries in every state, by supporting access to modern communications and the Internet.

E-Rate was launched nearly two decades ago, when the Internet was known as the Information Superhighway. The program was the bipartisan brainchild of Senator Jay Rockefeller, Senator Olympia Snowe, and then Congressman, now Senator Ed Markey.

Thanks to E-Rate, more than 95 percent of classrooms in this country are now connected to the Internet. While this sounds good, the challenge today is no longer connection—it's capacity. Too many of our schools and libraries that rely on E-Rate—often in low-income and rural communities—access the Internet at speeds as low as 3 Megabits. That means too many schools are unable to offer high-definition streaming video, take advantage of the most innovative digital teaching tools, or provide modern science, technology, engineering, and math—STEM—instruction.

We can fix this. Here at the FCC, we started the process of upgrading the E-Rate program last Summer. We refocused it on broadband capacity and streamlined the application process. This was a good start. But to take this program to the next level and truly make it modern, we have to take a fresh look at its funding for the digital age.

The E-Rate program was capped sixteen years ago at \$2.25 billion a year. That was a long time ago. It was when gas was a dollar a gallon. It was when the price of new home was 45 percent lower than it is today. That means E-Rate funding has not kept pace with inflation, cutting its purchasing power by billions. Think about that. *At a time when digital skills are an essential part of preparing students for the modern economy, one of our most effective programs is frozen in the age of dial-up.*

Today's Order rights this wrong. It raises the E-Rate cap by \$1.5 billion. That puts us on a course to have high-capacity broadband and Wi-Fi in all of our schools over the next five years.

We need to go for it—because the stakes are high. Other nations are now leading the way when it comes to bringing broadband to schools. South Korea has wired all of its schools with high-capacity broadband. So has Estonia, where there is a nationwide effort to teach students as young as seven years old how to write code. Uruguay has connected nearly all of its primary and secondary schools. China,

India, and Thailand are working on ways to bring one-to-one connected device learning to students through large scale purchasing at low cost. In so many ways, these countries are different than the United States. But they have students, like ours, who will be competing in a global economy—and *there is no reason to let other nations outspend us, outeducate us, and outachieve us.*

So before our students file out of their classrooms and head home for the holidays, today we make a choice. Today, we choose a future where all American kids have access to digital age learning, no matter who they are, where they live, or where they go to school. Today, we are bold. We put in place, at long last, E-Rate 2.0.

But that does not mean our job is done. Because going forward we need to recognize that expanding opportunity goes beyond the school doors. We can't forget that in a world where students rely on online resources and digital content in the classroom, they also need access to broadband when they go home.

Today, roughly seven in ten teachers assign homework that requires access to broadband. But the FCC's data suggest that almost one in three households do not subscribe to broadband services at any speed—for reasons such as the lack of affordability and lack of interest.

Think about these numbers. Where they overlap is what I call the Homework Gap. If you are a student in a household without broadband, just getting homework done is hard. Applying for a scholarship is challenging. While low-income families are adopting smartphones with Internet access at high rates, let me submit to you that a phone is just not how you want to research and type a paper, apply for jobs, or further your education.

A recent study by the Pew Research Center found that more than half of teachers in low-income communities said that their students' lack of access to online resources at home presented a major challenge to integrating technology into their teaching. So not only are students who lack access at home struggling to keep up, their lack of access is holding our education system back. It means too many young people will go through school without fully developing the skills that give them a fair shot in the digital age.

The good news is that we can do something about it. In 1985, when most communications involved a cord and President Ronald Regan was in the White House, the FCC set up a program called Lifeline. Today, it supports telephone access in 14 million low-income households across the country. But just like E-Rate, it needs an update for the broadband era. Instead of having the program support only voice service, we should allow consumers to choose between applying the same support to either voice service or broadband service.

Doing so would modernize the Lifeline program—and also help address the Homework Gap. The Homework Gap is the cruelest part of the digital divide. But it is within our power to bridge it, help kids get their schoolwork done, and expand Internet access. So going forward, I hope my colleagues will work with me to close the Homework Gap. Because if we combine this effort with our work here on E-Rate, we are going to be able to turn a generation of students from digital consumers to digital creators. And as the parent of two school-aged digital natives, I think there would be nothing sweeter.

So this week—Computer Science Education Week—it starts. We put in place a bold vision for E-Rate 2.0. We put ourselves on track to bring big broadband to our schools and modernize our libraries. We put our students on course to develop the skills essential for them to compete in a global, digital economy. Amen. It's time.

Finally, I want to acknowledge that tremendous work has gone into today's decision. Thanks to the Wireline Competition Bureau for its efforts and to the Chairman for making this reform a priority. But most of all I want to thank the countless teachers and librarians I was able to visit with over the course of this effort in Alaska, Arkansas, California, Colorado and many more places in between. Today's decision is for you, the students you work with, and the futures you help shape.

**DISSENTING STATEMENT OF
COMMISSIONER AJIT PAI**

Re: *Modernizing the E-Rate Program for Schools and Libraries*, WC Docket No. 13-184, *Connect America Fund*, WC Docket No. 10-90.

I don't normally claim to be clairvoyant. But last week, at the FCBA Chairman's Dinner, I was compared to Carnac the Magnificent, complete with a photo-shopped picture of me wearing a turban.

At the time, I assumed the Chairman's joke was going to be about the E-Rate order before us today and the intuition I had back in July. That is, I was expecting this clip:

I doubt the recent scramble to claim fiscal responsibility is anything more than a passing fad. . . . [S]everal outside parties have already told me they've been promised a post-election increase in the E-Rate budget. They even told me the specific month it was coming: December. The story was remarkably consistent. So mark my words: Any talk of fiscal responsibility will be short-lived. In five months, maybe six, we'll be back at this table discussing how much to increase Americans' phone bills.¹

What do you know? It's five months later to the day, and lo and behold, we're discussing whether to spend an additional \$1.5 billion each year to pay for the promises made last summer. That's a \$7.5 billion payoff over five years for the entrenched interests that thrive under the bureaucratic yoke of today's E-Rate program. That's a 17.2% telephone tax increase for American families that are still struggling to make ends meet in this lackluster economy. And while those who can afford to live in Georgetown, Manhattan's Upper East Side, or Malibu might scoff at the increased taxes, families in middle America are sick of being nicked and dimed by Washington politicians.

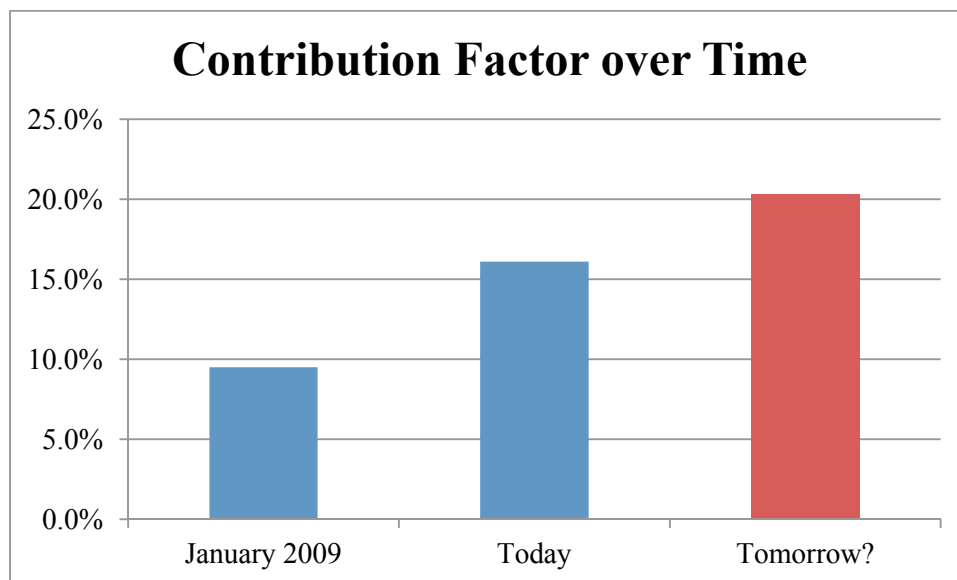
The Commission is well aware of this. It's no accident that a spending increase was promised *before* the election and the tax increase to pay for it is coming *after* the election, the unmistakable message of which was not exactly nationwide yearning for a Beltway bureaucracy's tax hike. As a candid consultant might put it: Back in July, the "lack of transparency [wa]s a huge political advantage. . . . [T]hat was really, really critical to get the thing to pass."²

This tax and spend scheme is nothing new. Universal service contribution rates have jumped 60% under this Administration, from 9.5% to 16.1%. With today's new spending, they'll go up again. The contribution factor could rise as high as 20.3% next year.³ That would be more than double the rate from January 2009, and it would be the first time in history that the factor has cracked the 20% mark.

¹ *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, 9042 (2014) (Dissenting Statement of Commissioner Ajit Pai); see also <http://youtu.be/6LDko49R9YM>.

² See Remarks of Jonathan Gruber (Oct. 17, 2013), <https://www.youtube.com/watch?v=G790p0LcgbI>.

³ Specifically, USAC has estimated 1Q 2015 demand to be \$2.18090 billion and the contribution base to be \$15.30530 billion. See USAC, First Quarter 2015 Appendices, <http://www.usac.org/about/tools/fcc/filings/2015/q1.aspx>. Once we hit the new E-Rate cap, the adjusted contribution base would be (\$15.30530 billion – \$2.55590 billion) * 0.99, or \$12.621906 billion; the unadjusted contribution factor would be \$2.55590 billion / \$12.621906 billion, or 0.202497; and the contribution factor would accordingly be 20.3%. See Office of the Managing Director, FCC, Contribution Factor & Quarterly Filings - Universal Service Fund (USF) Management Support, <http://www.fcc.gov/encyclopedia/contribution-factor-quarterly-filings-universal-service-fund-usf-management-support> (describing how the contribution factor is calculated).



A large chunk of the \$7.5 billion in additional spending will go to pay for the Wi-Fi pilot program created last summer. Now, we were told back in July that the math for that program added up, that we wouldn't need to increase taxes to pay for it. We were told that the two-year pilot would cost taxpayers \$2 billion.

Today's *Order* is, in effect, a report card on the Commission's math skills. And we are receiving an "F." How so? Because the costs will be much, much higher. First, the *Order* extends the program to five years, which adds more than \$3 billion to the expected price tag. Second, the *Order* now acknowledges that the "budget" of \$1 billion per year really doesn't exist since "there is pent up demand and . . . applicants may seek a larger portion of the budget early on in the five-year cycle."⁴ In other words, this Wi-Fi pilot might cost one, two, or even three billion dollars in its first year. Consumers' only protection? A baseless "expectation" that requests will be "reasonable."⁵

It's harder to pin down where exactly the other \$4.5 billion in new spending will go. The *Order* claims that this money is needed for "fully funding category one demand" (*i.e.*, broadband connections)⁶—but our staff's own estimates show that's not the case. Their data show that aggregate demand for broadband connections will remain \$35 million to \$326 million *below* the current E-Rate cap for the foreseeable future.⁷ That means we don't need an E-Rate tax increase to pay for the broadband connections that schools and libraries want now or in the next five years.

Others have claimed the money is needed to close the so-called Rural Fiber Gap. Yet the *Order* apparently abandons that concept. None of the new spending is earmarked for it. No money is set aside for rural schools and libraries. Not one safeguard ensures that money is spent where there's a fiber gap.⁸

⁴ *Order* at para. 100; *id.* at para. 115 ("[P]roviding more than the \$1 billion target level in support for internal connections will allow more applicants to close their Wi-Fi gaps sooner and more efficiently.").

⁵ *Order* at para. 100.

⁶ *Order* at para. 114.

⁷ Specifically, staff has estimated that the phase-down of legacy services should reduce category one demand by \$342 million, \$582 million, \$789 million, \$937 million, and \$968 million in fiscal years 2015–2019, so category one demand should be \$2.42 billion, \$2.32 billion, \$2.26 billion, \$2.26 billion, and \$2.39 billion for those same years. Wireline Competition Bureau & Office of Strategic Planning and Policy Staff Report, WC Docket No. 13-184, 29 FCC Rcd 9646, 9663, Fig. 10 (WCB & OSP 2014). During that same period, the cap is expected to adjust with inflation from \$2.46 billion to \$2.63 billion.

⁸ Indeed, the *Order* expressly rejects safeguards like these. *See Order* at para. 53.

The nation's largest urban school districts could easily soak up all the new funding to overbuild existing fiber networks. We've seen this movie before—Eagle-Net, anyone?⁹ The *Order's* philosophy brings to mind sage words from John Hurt's character in *Contact*: “First rule in government spending: Why build one when you can have two at twice the price?”¹⁰

To be fair, the *Order* does spend a few paragraphs trying to address the differing challenges of connecting rural and urban America. But the *Order* gets even that wrong. You see, rather than sensibly directing money to small schools in small towns or community libraries in the Alaska bush and other remote areas, the *Order* more than doubles the funding for libraries in the nation's largest cities and their suburbs.¹¹ This lopsided carve-out isn't fair to the poor schools and libraries that actually need the funding. And this special-interest giveaway to the nation's best-funded libraries shows just how little Washington, DC actually cares about rural America.

So why does the Commission now think that another \$4.5 billion is needed to meet demand for broadband connectivity? In large part, it is because we are succumbing to a disease that afflicts so many inside the Beltway. We don't *show* that we care about a problem by doing the hard work needed to solve it. No, instead, we *talk about* how much we care about a problem based on the amount of money we are willing to throw at it, a public demonstration of supposed “compassion,” “courage,” and “vision”—all of which, of course, is easy to do when you are spending other people's money. It has thus become clear that the FCC has given up any pretense of safeguarding the funds that taxpayers have entrusted to us in favor of what my colleague Commissioner O'Rielly rightly called an “E-Rate Spending Spree.”¹²

Want to know what *real* compassion, courage, and vision on this issue would look like? One example would be to end the incentives for wasteful spending so that E-Rate dollars are able to stretch farther for more schools and libraries. For more than a decade, the Commission has known that E-Rate's subsidy system—which gives some applicants discounts of up to 90% without limitation—encourages wasteful spending. A 2003 USAC task force found that the high discount rate gave applicants little incentive to spend wisely and recommended applicants receive no more than four E-Rate dollars for every one they spend.¹³ A 2013 independent study showed “that applicants with higher discount rates . . . planned to spend significantly more per-student in pre-discount dollars”—with the highest-discount applicants spending more than twice as much as their peers.¹⁴ It's just common sense. The less of your own money you have to put in, the more of others' money you're going to demand.

That's why our *2013 Notice* recognized that “Applicants receiving substantial (80–90 percent) discounts have greatly reduced incentives to ensure they are receiving the lowest priced services or that

⁹ Kristin Leigh Painter, “EAGLE-Net's partnership with Affiniti of Colorado raises questions,” *Denver Post* (Oct. 29, 2013), available at http://www.denverpost.com/breakingnews/ci_24413625/eagle-net-deal-affiniti-raises-questions.

¹⁰ S.R. Hadden, *Contact* (Warner Bros. et al. 1997).

¹¹ *Compare Order* at para. 88 (reporting a \$2.30 per square foot pre-discount budget for most libraries), *with id.* at para. 90 (adopting a \$5.00 per square foot pre-discount budget for “the most urban libraries”).

¹² Statement of FCC Commissioner O'Rielly: FCC's E-Rate Spending Spree is Flawed, <http://go.usa.gov/FgRx> (Nov. 17, 2014).

¹³ USAC, Recommendations of the Task Force on the Prevention of Waste, Fraud and Abuse, at 3–4 (Sept. 22, 2003) (submitted with letter from Cheryl Parrino, USAC, to Marlene Dortch, Secretary, FCC (filed Nov. 26, 2003)).

¹⁴ *Modernizing the E-Rate Program for Schools and Libraries*, WC Docket No. 13-184, Notice of Proposed Rulemaking, 28 FCC Rcd 11304, 11343, para. 136 (2013) (*2013 Notice*) (“Those seeking 20–59 percent discounts plan \$35.23 per-student in pre-discount purchases of priority one services, while those seeking 60–79 percent discounts plan \$43.02 per-student pre-discount purchases for such services, and those seeking 80–90 percent discounts, \$86.53 per-student pre-discount purchases for such services.”).

they are getting only services they need.”¹⁵ And that’s why just five months ago, the FCC increased the matching requirement for internal connections: We said then that “requiring higher matches will lead applicants . . . to pursue lower prices for eligible category two services more aggressively.”¹⁶

In the face of more than a decade of evidence and analysis, what does the Commission do today? Unbelievably, it actually *reduces* the matching requirement.¹⁷ Now, some applicants will have to pay *nothing* out of pocket for new construction—not even the cost of a cup of coffee.¹⁸ In other words, there will be literally no economic incentive for some schools or libraries to choose the most cost-effective option or to avoid gold-plating their networks. Enabling wasteful spending isn’t courageous or compassionate; it’s just crazy.

It gets worse. The *Order* overturns a 14-year-old bipartisan decision designed to limit the amount of funding a wealthy applicant could apply for in a given year.¹⁹ The *Order* next overturns the 9-year-old bipartisan prohibition on E-Rate paying vendors before applicants contribute their matching funds.²⁰ Good luck making sure matching funds are actually paid. The *Order* overturns the 4-year-old bipartisan decision to limit the funding available for dark fiber²¹ and the 17-year-old bipartisan decision that E-Rate would not support wide area networks constructed by applicants.²² So what that these safeguards kept spending in check and deterred overbuilding? In short, the *Order* endorses a free-for-all of vendor-financing and unbounded spending on terms that would make the subprime mortgage industry blush.

The *Order*’s only defense is that it “follow[s] the model the Commission adopted in the *Healthcare Connect [Fund] Order* . . . to ensure that the Fund supports self-construction only when it is the most cost-effective option.”²³ If only that were so. The FCC added six safeguards to the *Healthcare Connect Fund Order* “to ensure that consortia only exercised their option to self-construct when it was absolutely necessary”²⁴: (1) a requirement that USAC carefully evaluate whether “self-construction is demonstrated to be the most cost-effective option after competitive bidding,” (2) a requirement that all

¹⁵ *Id.* at 11338, para. 122.

¹⁶ *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, 8901, para. 84 (2014).

¹⁷ *Order* at para. 56.

¹⁸ The *Order* dismisses this concern by claiming that “[t]o the extent that another governmental entity pays a portion of the cost of the E-rate supported service, that entity will have an incentive to ensure that the applicant engages in cost effective purchasing.” *Order* at para. 59. Given that the FCC will now match every state dollar with up to 19 (!) E-Rate dollars, this is cold comfort for anyone familiar with the economic literature or even . . . the history of the E-Rate program. Just Google “E-Rate scandal.”

¹⁹ *Order* at para. 17 (overturning *Request for Review by Brooklyn Public Library, Federal-State Joint Board on Universal Service, Changes to the Board of Directors of the National Exchange Carrier Association, Inc.*, CC Docket Nos. 96-45, 97-21, Order, 15 FCC Rcd 18598 (2000)). The *Brooklyn Order* said applicants had to amortize large, nonrecurring costs over three or more years, in part because of a concern that wealthy applicants could afford large upfront payments whereas poorer applicants could not. Without much ado, the *Order* ends that policy.

²⁰ *Order* at para. 22 (overturning in part *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, Fifth Report and Order, 19 FCC Rcd 15808 (2004)).

²¹ *Order* at para. 30 (overturning in part *Schools and Libraries Universal Service Support Mechanism, A National Broadband Plan for our Future*, CC Docket No. 02-6, GN Docket No. 09-51, Sixth Report and Order, 25 FCC Rcd 18762 (2010)).

²² *Order* at para. 43 & note 88 (repealing 47 C.F.R. § 54.518 and overturning in part *Federal-State Joint Board on Universal Service et al.*, CC Docket Nos. 96-45 et al., Fourth Order on Reconsideration and Report and Order, 13 FCC Rcd 5318 (1997)).

²³ *Order* at para. 45.

²⁴ *2013 Notice*, 28 FCC Rcd at 11328, para. 81.

applicants “provide a 35 percent contribution to the cost of supported networks and services, which will help ensure prudent investment decisions,” (3) a requirement that the same discount apply regardless of whether applicants purchased service from a provider or constructed their own facilities, (4) an annual cap on the amount available for new construction spending, (5) a requirement that certain upfront costs be prorated over at least a three year period, and (6) a limitation on “consortia from using revenues from excess capacity as a source of participant contribution.”²⁵ Of these six critical and independent safeguards, only one will apply here.²⁶ To pretend that that *Healthcare Connect Fund Order* is any sort of precedent for today’s action is a bad joke, and the American taxpayer is the punchline.

Lack of fiscal responsibility isn’t the only flaw here; today’s *Order* is also legally deficient on several fronts. The FCC never proposed to remove some of the safeguards it eliminates today, such as reducing the applicant’s contribution to zero percent.²⁷ Nor does the *Order* explain how the public could have reasonably expected 17 paragraphs of new requirements for high-cost recipients, such as new requirements to deploy broadband without additional support, new price regulation of broadband Internet services, and new tariffing obligations. These detailed requirements all stem from a single vague question back in June about the Commission’s “expectation[s],” rather than any proposed rules.²⁸ But no matter. Legally sustainable decisions have not been much of a priority for the Commission of late.

* * *

Despite today’s *Order*, and despite July’s sad, partisan retreat, I still believe that “E-Rate is a program worth fighting for.”²⁹ When I spoke to villagers in America’s northernmost library, in Barrow, Alaska, I saw how broadband can connect a community that no road reaches. When I visited Los Angeles in the spring, and Chicago in the fall at Mayor Rahm Emanuel’s invitation, I saw the progress that poor children can make when technology is integrated in the classroom. In South Dakota and Kansas, I’ve seen the potential of next-generation technologies to empower small communities and give rural Americans the opportunities found in our nation’s largest cities.

²⁵ *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Report and Order, 27 FCC Rcd 16678, 16713, paras. 73–75 (2012) (*Healthcare Connect Fund Order*); *2013 Notice*, 28 FCC Rcd at 11328, n.122.

²⁶ To wit, the first requirement. See *Order* at para. 48. Of course, if this cost-effectiveness review is really just a reiteration of the price-is-the-primary factor rule then it ultimately means nothing but more paperwork for applicants. That rule is itself hopelessly flawed. See *Application for Review of a Decision of the Wireline Competition Bureau by Henrico School District, Richmond, Virginia, File No. SLD-607894, Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, Order, 29 FCC Rcd 10837, 10843 (2014) (Concurring Statement of Commissioner Ajit Pai).

²⁷ Although the Commission has previously sought comment on matching state funding, it did so in the context of making existing support “conditional on state . . . funds above the otherwise-required school or library 10–80 percent contribution.” See *2013 Notice*, 28 FCC Rcd at 11349, para. 165 (emphasis added). Notably, this proposal was “in addition to the possible changes to the discount matrix discussed” elsewhere in the *2013 Notice*, *id.*, and those changes were specifically about “increasing applicants’ matching requirement,” *id.* at 11337–39, paras. 117–125. The *Order*’s only retort? That the Commission did not affirmatively “preclude different matching reforms.” *Order* at note 119. But no such affirmative statement is necessary. A federal agency cannot “pull a surprise switcheroo on regulated entities,” *Environmental Integrity Project v. EPA*, 425 F.3d 992, 996 (D.C. Cir. 2005), which is precisely what the FCC has done by first proposing to increase matching requirements and instead eliminating them entirely. See also *Allina Health Services v. Sebelius*, 746 F.3d 1102, 1107–09 (D.C. Cir. 2014).

²⁸ *Compare Order* at paras. 60–76, with *Connect America Fund et al.*, WC Docket No. 10-90 et al., Report and Order, Declaratory Ruling, Order, Memorandum Opinion and Order, Seventh Order on Reconsideration, and Further Notice of Proposed Rulemaking, 29 FCC Rcd 7051, 7107, para. 159 (2014).

²⁹ Remarks of Commissioner Ajit Pai, “Connecting the American Classroom: A Student-Centered E-Rate Program,” American Enterprise Institute (July 16, 2013), available at <http://go.usa.gov/jbD3>.

But again, the FCC fails to deliver real reform. This *Order* isn't profound; it's prodigal. The Commission shies away from making any hard choices and instead just pours more money into a broken system.

That's not what the American people want, whatever glowing press releases and gleaming tweets follow this vote. Americans want a student-centered E-Rate program. That means a one-page application; a funding commitment process that would last no more than a week; additional funding targeted to rural and remote schools and libraries; an end to the outdated priority system so that local communities can make their own decisions; a dramatic reduction in the amount of money applicants would spend on consultants and the amount of time they'd have to spend on USAC appeals; and an increase in funding by up to \$1 billion each year for next-generation services, all without raising fees one penny. But not one of those things was offered last July to address bipartisan criticism of the first E-Rate proposal, even though each would have drawn broad public support. And not one of those things is contained in today's *Order*.

And so the students and teachers, parents and school boards, librarians and library patrons I've spoken with will have to wait for the bold solutions that could help them. For now, they'll just have to contribute more to the E-Rate program and get less out of it. They'll continue to be trapped in a bureaucracy that makes the IRS look user-friendly. They'll be denied 21st-century digital opportunities for years more. It just won't happen during this Administration.

But in time, I do believe we will achieve real E-Rate reform. And I hope I'm prescient about that, too, because every one of our communities, urban and rural, rich and poor, deserve it.

For all of these reasons, I dissent.

**DISSENTING STATEMENT OF
COMMISSIONER MICHAEL O'RIELLY**

Re: Modernizing the E-rate Program for Schools and Libraries, WC Docket No. 13-184, Connect America Fund, WC Docket No. 10-90.

For you educators out there, let me outline a basic premise: a person can support E-rate, E-rate modernization, and the good work of the panelists and yet not be in favor of this particular item. Sadly, this item makes the E-rate program more complex, less efficient, and potentially wasteful. Therefore, I cannot support it.

Chief among my many concerns is that the massive increase in the E-rate cap – an extra \$1.5 billion per year – is not offset by other reductions within the universal service fund. That means that the total fund will grow from over \$8 billion to nearly \$10 billion per year. On a single vote, we are subjecting consumers to higher phone bills. I have continued to advocate for an overall cap on the universal service fund as one means to keep spending in check. The fact that the Commission refuses to adopt one even now suggests that there are more spending sprees to come that will put us over the \$10 billion mark. This is completely unacceptable.

Having been in Washington D.C. for a considerable time, and having been part of a number of efforts that resulted in billions of expenditures, it still amazes me how some people find it so easy to give away others' hard earned income. It is usually couched with the notion that it's just a little bit more needed to produce some amazing outcome. But what if that little bit comes at the expense of a family cancelling phone service or being unable to buy the things they need?

I know we all come to the Commission with different backgrounds but what is getting lost with this item is a connection to economic circumstances faced by our poorer and middleclass Americans. If surveys are accurate, our fellow citizens are worried about their jobs and employment, mortgages and home prices, student loan debt, college costs for their kids, food prices, lack of retirement savings, and many other financial problems. In reality, these issues are not all solvable by the government, nor should they be, and most Americans don't expect the government to do so. But we shouldn't make their problems and concerns worse by adding new taxes and fees on their monthly expenses.

I am also very troubled by the continued lack of targeting within the program. In the summer, the Commission discovered a Wi-Fi gap and is committing billions of dollars to address it even though, as my travels around the country have confirmed, many schools and libraries do not actually need it.

Just a few months later, the Commission seemingly discovered a Rural Connectivity Gap and will be spending billions more. The fact that there's a gap should come as a shock to no one given that a key purpose of universal service for decades has been to extend connectivity to rural parts of the nation. It is even more embarrassing that the Commission still doesn't know where the gap is. As a result, funding will be provided to all comers and we'll cross our fingers that it finds its way to the right places. I hope that GAO will have the opportunity to review the impact of these new rules because I fear that these decisions will lead to untold waste of funding.

Even if the funding were better targeted to address these gaps, I would still be concerned with the smattering of reforms themselves. I am particularly concerned about the self-provisioning option, which could lead to overbuilding, and could ultimately jeopardize service to the community at large. I can think of several legitimate reasons why an applicant may not have received a bid. That doesn't mean that self-provisioning should be the next step. Parties put suggestions in the record about ways to identify these applicants and seek out nearby providers to see whether there truly is no interest in serving them. Those types of steps would at least help ensure that any self-provisioning funding is provided where it is truly needed. But those ideas were rejected.

Instead, as my colleague highlighted, the item places undue trust in certain "safeguards" to protect against waste. In particular, the item relies on a few procedures cherry-picked from the

Healthcare Connect Order, such as requiring that projects be bid more than one way and performing cost-effectiveness reviews. What it fails to mention is that we have very little experience to date with those safeguards. I was not here when they were established.

It also ignores the fact that the healthcare connect program is an order of magnitude smaller. I do not think that USAC will have the expertise or resources to perform these reviews for the E-rate program. And bulking up USAC will mean higher USF admin expenses, which means even higher USF fees for consumers. The E-rate program already has the highest admin expenses – three times as much as the next highest program.

Moreover, important safeguards from the *Healthcare Connect Order* were left out entirely, such as capping the funding available for construction. The reason seems to be that we don't know how much money will be needed. But that's all the more reason to put on a cap in the first place. Otherwise, we run the risk that there will not be sufficient funding for providing discounts on recurring charges – the statutory purpose of the E-rate program. The fact that USAC and the Bureau will have to report when certain spending levels are reached adds no value as the Commission is not bound to take any action in response. Or it could just raise the E-rate cap even more.

Another critical safeguard absent here is a sufficient matching requirement. In the *Healthcare Connect Order*, for example, the Commission set the match at 35 percent. But here, once again, the Commission refused to increase the matching requirements at all. Doing so would not only improve incentives for more efficient spending but also stretch dollars further within the program. In the summer, the Commission increased the matching requirement, but only for the poorest applicants. Rather than remedy this error by increasing the matching requirement for all applicants, this order would *reduce* it for applicants under questionable circumstances. That is, applicants would get a bonus if a state kicks in funding. That only serves to penalize applicants in fiscally responsible states. And the fact that states can already pay all of the non-discounted portion for applicants provides little comfort because that can create the wrong incentives in and of itself.

I am also disappointed that this order doubles down on another misguided decision from the prior order. I had warned that using a square foot calculation to set the Category 2 budgets for libraries was one of the silliest policies I had ever seen. Now the order seemingly discovers that urban libraries have a higher density of patrons needing Wi-Fi – the second most obvious “discovery” in this order. So the order resorts to increasing the urban library per foot budget, which further proves the foolishness of the new standard.

In addition, I want to highlight a new requirement that Connect America Fund recipients participate in the E-rate competitive bidding process and that the bid amounts meet national reasonable comparability benchmarks to be determined by the Bureau at a future date. In 2011, the Commission adopted an expectation – not a requirement – that CAF recipients provide higher bandwidth offerings at reasonably comparable rates. Earlier this year, the Commission sought comment on how to fulfill that expectation. But nowhere did it propose to convert the expectation to a requirement. Imposing a requirement now raises serious APA concerns and could have unintended negative consequences for the CAF program. At a minimum, the specific requirements being adopted today should have been put out for comment.

I will say that I am somewhat pleased that the Commission is acting on petitions for reconsideration to change the definition of rural to something more realistic. But I suggested that this be done months ago. And the reason we are in this situation at all is that the prior E-rate order was rushed and the Bureau, to whom we continue to delegate substantial authority, released an Erratum that locked in an unsound definition.

For those critics who argue it is the role of Republicans to find common ground, I would argue that I have gone out of my way to do so on this issue. It is hard to say with a straight face that I am the obstinate one after I outlined six very reasonable principles on E-Rate reform and this item violates all

six. Not one or two but all six. Compromise was thrown out long ago by the majority so particular groups critical of the last E-Rate item would no longer attack those flawed decisions.

To sum up my concerns: we will be spending a great deal of money without any meaningful safeguards to ensure that it is spent cost-effectively in places and on services that are truly needed. I dissent.