Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Schools and Libraries Universal	)	
Support Mechanism	)	CC Docket No. 02-6
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
Modernizing the E-rate Program for	)	WC Docket No. 13-184
Schools and Libraries	)	

COMMENTS OF THE DYNAMIC SPECTRUM ALLIANCE

The Dynamic Spectrum Alliance[1] urges the Federal Communications Commission ("Commission") to seize the opportunity presented by the petitions to reduce the homework gap and enhance educational opportunities for students while improving the efficiency of the E-rate program. The digital divide is perhaps most pernicious in the barriers it erects for students. Education is the foundation for young people to realize their full potential, to accomplish their goals, and to become self-sufficient contributors to society. Internet connectivity has become a critical tool for education, enhancing the opportunities for learning and advancement beyond the four walls of a physical

[1] The Dynamic Spectrum Alliance (DSA) is a global organization advocating for laws and regulations that will lead to more efficient and effective spectrum utilization. Our membership spans multinationals, small-and medium-sized enterprises, and academic, research, and other organizations from around the world, all working to create innovative solutions that will increase the amount of available spectrum to the benefit of consumers and businesses alike. Our primary goals are to close the digital divide by reducing the cost of deploying last-mile wireless networks, freeing up an ample supply of spectrum for innovative uses, enabling the Internet of Things ("IoT") and other forward-looking applications.

classroom.[2] Children whose households lack internet connectivity, however, are stifled in the ability to pursue their education in the manner that their connected counterparts do. This homework gap disadvantages children – often children who are most at risk – due to the simple absence of connectivity. The use of TV White Spaces technology, as outlined in the petitions, can help to bridge the homework gap.

The E-rate program has played an important role in promoting access to the internet for all students in their physical classrooms. Yet, innovative teachers have developed ways to use the online environment to improve the richness and efficacy of education beyond the physical classroom. Many students in the United States now continue their education at home by logging on to a virtual classroom, conducting online research, submitting their homework online, and collaborating with classmates on projects. The petitions provide a technology-forward opportunity to extend the educational benefits of the full virtual classroom to more students.

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[2] *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Report and Order and Further Notice of Proposed Rulemaking at ¶ 2 (2014) ("*E-rate Modernization Order*") ("The record clearly demonstrates the power of high-speed broadband connectivity to transform learning. High-speed broadband, to and within schools, connects students to cutting-edge learning tools in the areas of science, technology, engineering and math (STEM) education, necessary for preparing them to compete in the global economy. High-speed broadband also creates opportunities for customized learning, by giving our students and their teachers access to interactive content, and to assessments and analytics that provide students, their teachers, and their parents real-time information about student performance while allowing for seamless engagement between home and school. Finally, high-speed broadband expands the reach of our schools and creates opportunities for collaborative distance learning, providing all students access to expert instruction, no matter how small the school they attend or how far they live from experts in their field of study.").

Nothing in the statute prevents the Commission from granting these petitions. The E-rate program is statutorily designed to evolve with technological advancement,[3] which is why it facilitates access to technologies that were not commonplace in 1996. Moreover, the internet access services described in the petitions are extensions of wireline services delivered to the school premises themselves. The statute does not constrain the geographic reach of internet access services that are delivered to school buildings by wireline technology insofar as those services are used for educational purposes. Indeed, the Commission already permits schools to efficiently expand the reach of their wireline internet access services through the use of Wi-Fi technology. The use of TV White Spaces in these instances is the conceptual equivalent of expanded Wi-Fi coverage, extending the reach of the wireline internet connection that is delivered to the school through the E-rate program and made available only to students and only for educational purposes.

Other efforts are underway to explore ways to enhance Americans' connectivity through the use of TV White Spaces. A pilot run through the Gigabit Libraries Network offers an example. The pilot began in 2013 as an early stage national trial involving

[3] *See* 47 U.S.C. 254(c)(1) ("Universal service is an evolving level of telecommunications services that the Commission shall establish periodically under this section, taking into account advances in telecommunications and information technologies and services."); *see also E-rate Modernization Order* at ¶1 ("the E-rate program must evolve to focus on providing support for the high-speed broadband that schools need to take advantage of bandwidth-intensive digital learning technologies and that libraries need to provide their patrons with high-speed access to the Internet on mobile devices as well as desktops").

libraries in six states. The pilot was intended to demonstrate how integrating the near universal compatibility of Wi-Fi with the range and penetrating capabilities of TV White Space equipment can increase availability and convenience of library Wi-Fi access at new fixed and portable community hotspots.[4] As of 2015, the initiative has grown into an open global collaboration project.

The petitions describe a similar opportunity for students to remain connected through their schools. The law grants the Commission considerable latitude to deliver the tools of advanced communications to students in furtherance of their education, and the Commission has an admirable history of doing so.[5] The petitions offer an opportunity for the program to continue evolving. They contemplate schools using new technologies to extend the reach of internet access services already supported under the E-rate program to further an educational purpose. Leveraging the internet access already secured by the schools would enhance the efficiency of those connections.

According to a Pew Research analysis of Census data, 5 million households with school-age children do not have high-speed internet service at home and roughly one third of households with incomes below $50,000 and with school-age children lack a

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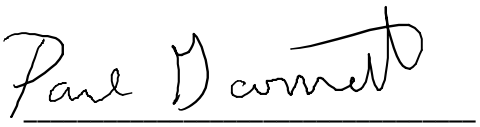
[4] More information about the Gigabit Libraries Network project can be found at http://giglibraries.net/page-1712342 and a short video describing its capabilities is available at http://giglibraries.net/page-1712342. *See also* Colin Wood, "Super Wi-Fi Pilot Hits Libraries Around the Country," Government Technology (Sep. 13, 2013) *available at* <http://www.govtech.com/network/Super-Wi-Fi-Pilot-Hits-Libraries-Around-the-Country.html>.

[5] *See Wireline Competition Bureau Seeks Comment on Petitions Regarding Off-Campus Use of Existing E-rate Supported Connectivity*, CC Docket 02-6, WC Docket Nos. 10-90 and 13-184, Public Notice, DA 16-1051 at 2-3 (rel. Sep. 19, 2016) ("Public Notice").

high-speed internet connection at home.[6] We wouldn't send students home without books and we shouldn't send them home without the internet either. The petitions offer a way forward to reduce the homework gap. Their innovative proposals combine new technology with a successful federal government program to amplify the educational benefits that the E-rate fund can deliver with a neutral fiscal impact. They would allow students to continue their studies in the safety and privacy of their homes and over their school's secure network. It remains within the Commission's discretion, in implementing the statute, to grant these petitions. The Commission should utilize every means available to explore new technological methods for advancing educational opportunities for children through greater connectivity. To do otherwise would constitute a shameful lack of will and vision to deliver tools to those students whose educational opportunities are, at this moment, only partially realized.

Respectfully submitted,



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[6] John B. Horrigan, "The numbers behind the broadband 'homework gap,'" Pew Research Center (Apr. 20, 2015), *available a*t <http://www.pewresearch.org/fact-tank/2015/04/20/the-numbers-behind-the-broadband-homeworkgap/>