



November 3, 2023

**SUBMITTED ELECTRONICALLY VIA ECFS**

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
45 L Street NE  
Washington, DC 20554

**Re: Ex Parte Filing**

Hotspot Lending Program Proposal  
Modernizing the E-rate Program for Schools and Libraries, WC Docket No. 13-184  
In the Matter of Schools and Libraries Universal Service Support Mechanism, CC Docket No. 02-6

Dear Madam Secretary:

Pursuant to Federal Communications Commission's *ex parte* rules, I hereby submit the following summary of our November 1, 2023, meetings between Kristen Corra with the Schools, Health & Libraries Broadband Coalition (SHLB), Michael Calabrese with the Open Technology Institute at New America, and Philip Neufeld with the Fresno Unified School District (Fresno USD) and the following offices concerning considerations for the Chairwoman's hotspot lending program (within the Learn Without Limits proposal):<sup>1</sup>

- Allison Baker, Associate Bureau Chief; Jodie Griffin, Division Chief; Johnnay Schrieber, Deputy Division Chief; Kristin Berkland, Attorney Analyst; Molly O'Connor, Attorney Advisor, and Gabriella Gross, Special Counsel of the Wireline Competition Bureau;
- Elizabeth Cuttner, Legal Advisor, Wireline and Enforcement, Office of Chairwoman Jessica Rosenworcel;
- Justin Faulb, Chief of Staff and Legal Advisor for Wireline and National Security, Office of Commissioner Geoffrey Starks; and
- Deena Shetler, Acting Chief of Staff and Legal Advisor for Media and International; and Hayley Steffen, Acting Legal Advisor for Wireline and Space, Office of Commissioner Anna Gomez

We reiterated our support for the Chairwoman's hotspot lending program proposal to make hotspots eligible for funding under the E-rate program. We began by noting that there is a particularly important need to help low-income students access the internet across their daily

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<sup>1</sup> News Release, Paloma Perez, FCC, Chairwoman Rosenworcel Announces 'Learn Without Limits' Initiative (June 26, 2023), <https://docs.fcc.gov/public/attachments/DOC-394625A1.pdf>.

journey, and lacking access to digital learning affects life trajectories and opportunities, especially for students.<sup>2</sup>

While we believe that this proposal could assist with closing the Homework Gap after the Emergency Connectivity Fund (ECF) Program expires next year, we also reiterated our concerns about whether a future rulemaking and Commission order would too narrowly focus on funding existing commercial mobile hotspot services.<sup>3</sup> Whereas the ECF Program provided a strong preference to existing equipment and services because of the emergency nature of the pandemic, we urge the Commission now to offer a less-limited and technology-neutral approach under E-rate. Congruent with the Commission’s recent Declaratory Ruling regarding school bus Wi-Fi,<sup>4</sup> we believe that the Commission should consider a tech-neutral approach that supports hotspot devices and services as well as *functionally equivalent equipment or services*, such as customer premises equipment (CPE) that function as a hotspot.

Additionally, we cautioned that certain requirements of the ECF Program could present challenges and burdens on schools and libraries without adequately addressing a community’s needs. For example, under ECF, a school or library was required to prove that an area was unserved as a prerequisite for whether it could use funds to pay for new (not commercially available) equipment and services in that area. Whether an area is considered “unserved” however can be a different question from whether an existing mobile carrier provides the requisite *indoor signal strength* that a student or library patron requires for remote education. Demonstrating that a student’s home, or even a neighborhood, is “unserved” is not only unduly burdensome, it is not relevant to a program that is focused on supporting wireless CPE (“hotspots”) that are loaned to students or library patrons without adequate internet access at home.

We noted that the Fresno USD, for example, found in drive tests that mobile carriers “cover” virtually the entire district with a signal adequate to make phone calls outdoors – but the signal strength in many low-income neighborhoods isn’t adequate to support remote learning, especially not indoors (where there is often no coverage at all). In those areas with inadequate mobile network coverage or signal strength, a school district that sets up its own private LTE network to connect directly to a student-issued device at home (a “hotspot”) can address the

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<sup>2</sup> See generally D’Andre J. Weaver, Digital Promise, Delivering on the Promise of Digital Equity, December 2022, available at <https://digitalpromise.org/digital-equity/delivering-on-the-promise-of-digital-equity/>.

<sup>3</sup> See SHLB Ex Parte, *Clarifying that the Use of Wi-Fi on School Buses is Eligible for E-Rate Funding*, WC Docket No. 13-184; *In the Matter of Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6 (Oct. 9, 2023). We suggested additional questions that the Commission should ask in a future Notice of Proposed Rulemaking that take into account alternative technologies and services to connect students and library patrons off-campus, in addition to existing mobile carrier hotspot services.

<sup>4</sup> The Declaratory Ruling authorized the “use of Wi-Fi, or other similar technologies that act as an access point” on school buses. *Clarifying that the Use of Wi-Fi on School Buses is Eligible for E-Rate Funding*, Declaratory Ruling, WC Docket No. 13-184 (Rel. Oct. 25, 2023)

student’s educational needs by delivering a stronger, more reliable, and more economically viable alternative.<sup>5</sup>

Philip Neufeld provided additional detail about how Fresno USD (approximately 70,000 students with 89% on free and reduced lunch) uses free access to CBRS spectrum to connect low-income students directly to the school’s network for educational purposes. When the pandemic school shutdowns occurred, the district began noticing network problems with students connecting at home. The district first gathered data about network connectivity in the neighborhoods where students lived. Fresno USD developed a speed test application that has produced approximately 14 million measurements and tested factors like latitude, longitude, latency, and carrier. Those tests showed that 27% of the population was unserved, as compared to the National Broadband Map which only showed 4% unserved.

Regarding wireless connectivity in particular, the district discovered that fewer towers and older equipment were located in areas of poverty. Neufeld noted that AT&T self-reported that in 15 of 22 middle and high schools in Fresno they would need to install micro cells indoors because the signal strength indoors did not meet FirstNet standards for reliable connectivity.

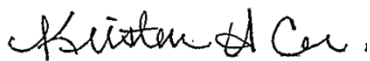
Fresno USD also tested carrier RF coverage through “drive tests” in student-populated neighborhoods to find out where mobile carrier signals were too weak to support indoor remote learning. After gathering this data, the district decided to build its own private LTE network using CBRS spectrum. Using “schools as towers,” the LTE signal is received by a CPE hotspot device issued to individual students lacking home internet access. The CPE receives the wireless signal and relays it as Wi-Fi to the student’s school-issued laptop. In its next phase, Fresno USD plans to build thirty-five more towers using 66 ft. poles and retrofit 8 of the elementary schools in phase I that sit below tree level with 66 ft. poles. This, combined with its existing fifteen sites will create overlapping coverage and stronger service. When finished with this second phase, the network will cover about 2/3 of the geography of the student population.

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<sup>5</sup> Dozens of school districts have already leveraged unlicensed or license-by-rule spectrum (like CBRS) to connect students at home or in other locations directly to school networks. See Matthew Marcus and Michael Calabrese, *The “To and Through” Opportunity: Case Studies of School and Community Networks Able to Close the Homework Gap for Good*, THE SCHOOLS, HEALTH & LIBRARIES BROADBAND COALITION & THE WIRELESS FUTURE PROJECT AT THE OPEN TECHNOLOGY INSTITUTE AT NEW AMERICA (Aug. 2022), <https://www.shlb.org/uploads/Policy/Policy%20Research/Anchor-Nets-Case-Studies-final.pdf>. As indicated in a companion economic study, the cost of self-deployed service can be substantially less expensive than purchasing a monthly commercial service over a period that corresponds to the useful life of the equipment (e.g., five years). See Dr. Raul Katz, *The “To and Through” Opportunity: An Economic Analysis of Options to Extend Affordable Broadband to Students and Households via Anchor Institutions*, THE SCHOOLS, HEALTH & LIBRARIES BROADBAND COALITION & THE WIRELESS FUTURE PROJECT AT THE OPEN TECHNOLOGY INSTITUTE AT NEW AMERICA (Aug. 2022), <https://www.shlb.org/uploads/Policy/Policy%20Research/Off-Campus-Deployment-Economic-Assessment-final.pdf>.

We also briefly discussed other school and library projects, including the New York Public Library system, which has completed a pilot whereby they mounted antennas on five local branch libraries in low-income areas and lent CPEs to low-income patrons. NYPL officials reported that they would expand this program if the CPE hotspot devices were lower cost or subsidized. We mentioned the school district in rural Pullman County, Washington, which recently described (at SHLB Coalition's annual conference) how the district similarly used CBRS spectrum mounted on 60-foot poles at school buildings to extend access to its school network to the homes of low-income students on nearby farms and other areas that were either unserved or where no mobile carrier service provided a strong enough signal to support remote learning indoors. And we described how, in Council Bluffs, Iowa, the school district uses Chromebooks as CPEs, without requiring an intermediary device to connect back to the network. The district's BLink Bluffs network now covers the entire school district and has virtually closed the homework gap in that city.

Sincerely,



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