

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

In the Matter of	)	
	)	
Amendment of Parts 1, 21, 73, 74 and 101 of	)	WT Docket No. 03-66
the Commission's Rules to Facilitate the	)	(Terminated)
Provision of Fixed and Mobile Broadband	)	
Access, Educational and Other Advanced	)	
Services in the 2150-2162 and 2500-2690	)	
MHz Bands	)	
	)	
Transforming the 2.5 GHz Band	)	WT Docket No. 18-120

**REPLY COMMENTS OF NORTH AMERICAN CATHOLIC  
EDUCATIONAL PROGRAMMING FOUNDATION AND MOBILE BEACON**

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## **I. INTRODUCTION AND SUMMARY**

NACEPF and Mobile Beacon applaud the Commission for initiating this proceeding to license new EBS spectrum in areas that have long gone unserved by the commercial sector, and modernize the EBS band to ensure educational benefits keep pace with advances in technology. It is critical, however, that the Commission act based on the record of evidence, not on unsubstantiated rhetoric, and with a full understanding of the history and accomplishments of the EBS band.

The record is clear. Today, EBS is connecting tens of thousands of schools, libraries, and other anchor institutions and, through them, millions of students, families, and lifelong learners that would not otherwise be reached by comparable commercial broadband offerings. The record is also clear that, if EBS remains educational, tremendous opportunities exist for EBS to serve students and communities that remain unconnected at a time when (a) internet access has never been more important as a platform for learning and opportunity, and (b) the educational sector has demonstrated the technological sophistication to fully utilize this spectrum, with or without a commercial partner.

Therefore, it is no surprise that the record reflects overwhelming support for preserving education in the EBS band for existing EBS licenses as well as new EBS licenses issued for the vast area of currently unassigned spectrum, called “white spaces.” The comments of EBS licensees, schools, colleges and universities, libraries, digital inclusion advocates, educational trade associations, state education departments, as well as other anchor institutions and public interest groups resoundingly urge the Commission to retain educational eligibility requirements that ensure educational needs are met without hindering commercial deployment in any way.

Nearly 200 commenters<sup>1</sup> explain that without the broadband service they currently rely on through an EBS licensee, they would have no connectivity or insufficient data to accomplish their educational missions because commercial service is either too cost-prohibitive or simply not available in their area. The persistent, pervasive digital divide in both urban and rural America is direct evidence that commercial providers, on their own, have not and will not solve this problem. Thus, there is much to lose by the proposal to eliminate educational eligibility. Having recognized that EBS licensees are “better positioned”<sup>2</sup> to decide whether to sell their spectrum, the Commission should listen to them now and reject that proposal.

Additionally, as the vast majority of comments suggest, the Commission should expedite deployment of EBS white spaces by aligning EBS license areas with county boundaries. As a condition to expanding existing licensees’ service areas through such a rationalization process, the Commission should apply the same build-out standard used for BRS, except in instances where such service area expansions are truly *de minimis*.<sup>3</sup>

As for how to assign new EBS licenses, the record reflects that the clear majority of commenters support assigning EBS white space through a series of priority windows for Tribal and educational entities. Auction alternatives would not only freeze out educational users—giving up on the band’s educational legacy and potential—but also introduce delays, complexities, and inequities that would undermine the objectives of any auction. Therefore, the

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<sup>1</sup> This includes comments filed as of September 7, 2018.

<sup>2</sup> *Transforming the 2.5 GHz Band*, Notice of Proposed Rulemaking, FCC 18-59, WT Docket No. 18-120, ¶ 24 (rel. May 10, 2018) (“*NPRM*”).

<sup>3</sup> As noted in our initial comments, NACEPF and Mobile Beacon plan to submit the results of a mapping analysis that will address the *NPRM*’s various proposals to rationalize existing EBS geographic service areas (“GSAs”). Comments of North American Catholic Educational Programming Foundation and Mobile Beacon at 5 n.7, WT Docket No. 18-120 (filed Aug. 8, 2018) (“*NACEPF and Mobile Beacon Comments*”). We hope to be able to provide a recommendation about setting a reasonable threshold for expansion as well as a benchmark for defining *de minimis* levels of expansion, which we do not think justify a build-out requirement as it would impose impractical burdens on network operators and provide little to no added benefit.

Commission should reject proposals to commercialize this band. Doing so would abandon the band’s long educational legacy, undermine the educational services being provided through EBS licensees today, and foreclose the opportunity this proceeding presents to modernize EBS to help solve some of our nation’s most pressing broadband challenges—the digital divide and the homework gap.

Finally, there is cross-industry consensus from both the education and commercial sectors that any rules the Commission adopts must not disrupt existing operations, interfere with existing contracts, or diminish the current educational benefits that students, low-income families, schools, and other anchor institutions have come to rely on from the EBS community.

## **II. COMMERCIALIZING EBS SPECTRUM THREATENS CURRENT EDUCATIONAL BENEFITS AND FORECLOSES FUTURE EDUCATIONAL OPPORTUNITIES.**

The record makes clear what is at stake in this proceeding. As Commissioner Rosenworcel has repeatedly said: “the future belongs to the connected.”<sup>4</sup> Keeping EBS educational is essential to connecting students, families, and communities that would otherwise lack internet access. This is true of EBS licensees that have chosen to deploy their own networks, and it is *also* true of EBS licensees that have entered excess capacity leases and provide low-cost, “over the top” broadband service to unserved and underserved students, families, and communities across the country. Commercializing the only spectrum designated for this important public interest purpose will undermine and eventually eliminate the significant

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<sup>4</sup> *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 2018 Broadband Deployment Report, 33 FCC Rcd. 1660, Dissenting Statement of Commissioner Jessica Rosenworcel at 1748 (2018); Commissioner Jessica Rosenworcel, *Bringing the Connected Future to All Americans*, May 11, 2012 – January 3, 2017, FCC Blog (Dec. 30, 2016, 5:30 PM), <https://www.fcc.gov/news-events/blog/2016/12/30/bringing-connected-future-all-americans-may-11-2012-%E2%80%93-january-3-2017>.

educational benefits being provided today and prevent EBS from being used to advance education or close the homework gap in the future.

**A. What’s at Stake: Current EBS Benefits and Future Educational Opportunities.**

The record reveals two risks to removing educational requirements from the EBS band. First, commercializing the band would put all of the educational benefits that have already been made possible by the band’s longstanding educational focus at risk. And while the Wireless Communications Association International (“WCA”) claims there “is limited educational use of the spectrum,” and dismisses Northern Michigan University’s broadband education network as a “one off,”<sup>5</sup> the record proves WCA wrong. It is filled with EBS success stories like these:

- Henderson School in Boca Raton, FL reports that it initially used Mobile Beacon’s devices to allow student athletes to do their homework on buses while they travel to and from games. Now, the program has “blossomed” into one that reduces costs for teacher conferences and connects hospitalized students.<sup>6</sup>
- Teachers report using Mobile Beacon’s service in various ways. For example, a computer science teacher in Honolulu reports using Mobile Beacon’s service to “teach an online course . . . designed to bring computer science to minorities and underserved communities.”<sup>7</sup> Another teacher at John Stark Regional High School in New Hampshire uses mobile service during the summer to develop her curriculum and pursue professional development, and relays that she and her students connect to Wi-Fi when conducting fieldwork activities in the community.<sup>8</sup>
- The Bad River Band of the Lake Superior Tribe of Chippewa Indians leases spectrum from Northern Michigan University (“NMU”) to “provide broadband service to educational institutions on and around the Bad River reservation.”<sup>9</sup>

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<sup>5</sup> Comments of the Wireless Communications Association International at 4, 9, WT Docket No. 18-120 (filed Aug. 8, 2018) (“WCA Comments”) (emphasis removed). Unless otherwise noted all comments cited herein were filed in WT Docket No. 18-120 on August 8, 2018.

<sup>6</sup> NACEPF and Mobile Beacon Comments at 16.

<sup>7</sup> Comments of Douglas Kiang at 1 (filed Aug. 30, 2018).

<sup>8</sup> Comments of Beth Franke at 1 (filed Aug. 31, 2018).

<sup>9</sup> Comments of the Bad River Band of the Lake Superior Tribe of Chippewa Indians at 3 (“Bad River Band Comments”).

- Within days of obtaining FCC approval, Mural Net utilized EBS spectrum to establish broadband service in Supai, an 800-member Tribal village at the bottom of the Grand Canyon, which can only be reached by helicopter or an 8-mile hike or horseback ride. Supai contains the lowest-ranked elementary school in the country, with zero students achieving proficiency in reading or math for the last several years.<sup>10</sup>
- In North Carolina, the Montgomery County School District equipped school buses with mobile hotspots, which “allowed those students with lengthy commutes, some up to 120 minutes, to complete homework assignments” and dramatically decreased behavior problems on buses.<sup>11</sup>
- Catawba County, NC implemented a similar program, furnishing buses with hotspots and staffing them with teachers to create a “mobile study hall.”<sup>12</sup>
- Lee County, NC is running a pilot program that uses cell phones to provide ESL students with home internet access and the ability to download assignments.<sup>13</sup>
- Albemarle County, VA built a broadband network that provides service to approximately 14,000 students in a largely rural area, using EBS spectrum to link schools to mountainside towers.<sup>14</sup>
- Kings County, CA uses towers built on school rooftops to provide home broadband connectivity to students, a project which has been credited with declining suspensions, fewer failed classes, better standardized test scores, and higher graduation rates.<sup>15</sup>
- The Eagle County School District used its EBS spectrum to partner with a local WISP to provide broadband service in Red Cliff, CO, which built towers in town and on a nearby ski lift. Residents of the area are no longer limited to the satellite service that was “severely impaired by weather-related outages,” and they now have access to broadband speeds at a far more affordable cost.<sup>16</sup>
- TechSoup Global partners with Mobile Beacon to distribute hotspot devices to eligible schools, libraries, and nonprofits. Each of these client categories use the

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<sup>10</sup> Comments of the Havasupai Tribal Council at 1 (filed July 19, 2018) (“Havasupai Comments”); Comments of Mural Net at 3 (“Mural Net Comments”).

<sup>11</sup> Comments of North Carolina Department of Information Technology, Broadband Infrastructure Office at 4 (“North Carolina Comments”).

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> Comments of the Consortium for School Networking at 8 (“CoSN Comments”).

<sup>15</sup> *Id.* at 8–9; *see also* Comments of the Kings County Superintendent of Schools at 3–5 (“Kings County Comments”); Comments of Voqal at 10–11 (“Voqal Comments”).

<sup>16</sup> Voqal Comments at 12–13.

hotspots to provide access to people in their communities that lack access to broadband in their homes. The most frequently reported uses of Mobile Beacon’s hotspots are for homework, research, email, and job-skills training.<sup>17</sup>

- Digital Wish also partners with Mobile Beacon by donating hotspot devices to schools, students, teachers, and staff across the country. Digital Wish’s donated devices enable teachers in portable classrooms at a school in South Miami to enter attendance and grades remotely rather than traveling to the main school; they provide faster and more reliable service such that Magnet students can download and upload the videos necessary for their competitions.<sup>18</sup>
- In Florida, a similar program provides mobile devices to home- and hospital-bound students connecting them to “virtual classes, counselors and online learning resources while coping with health and corrective issues.”<sup>19</sup>
- An app developed by Corcoran Unified School District and installed on the mobile devices it provides to students increases parent-school collaboration by granting parental access to individual student information, using a dynamic calendar to enable scheduling, and communicating items like lunch menus, school board agendas, and other important news.<sup>20</sup>
- St. Charles Borromeo Catholic School in Florida relied on Mobile Beacon’s hotspots to provide the connectivity necessary to keep schools open in the wake of Hurricane Irma. The service has proved to be an invaluable resource in emergency situations when the school’s wired internet is down.<sup>21</sup>
- Florida Atlantic University (“FAU”) supplies mobile devices for a wide range of educational purposes—not only to provide home internet access to students, but also to assist traveling recruiters, nursing faculty during their community service visits, and graduate students who live in environmental housing.<sup>22</sup>
- PCs for People partners with Mobile Beacon to provide refurbished computers and online access to over 11,500 households (36,000 individuals) in 45 states. In 54% of those households, parents report that their children spend more than four

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<sup>17</sup> Comments of TechSoup Global at 2 (“TechSoup Comments”).

<sup>18</sup> *Id.* at 2–3.

<sup>19</sup> Comments of National EBS Association and Catholic Technology Network at 4 (“NEBSA and CTN Comments”); *see also* Joint Comments of South Florida EBS Licensees at 3 n.3. (“South Florida Licensees Comments”).

<sup>20</sup> Kings County Comments at 5.

<sup>21</sup> Comments of St. Charles Borromeo Catholic School (filed Aug. 29, 2018).

<sup>22</sup> South Florida Licensees Comments at 2 n.3.



hours per week doing homework online, and 95% of parents report that the service has helped them support their children academically.<sup>23</sup>

- FAU and other schools in South Florida have used their lease revenue to construct an IP-based video streaming platform and to operationalize their programming and online production departments.<sup>24</sup>
- Northern Arizona University (“NAU”) developed a Personalized Learning program “designed to meet the needs of working professionals” through the use of “modules or lessons” that “enable[e] learners to put their real-world experience to work for them.”<sup>25</sup>
- NAU also uses its lease revenue to provide educational development for the Tribal Leadership Initiative, as well as the DINÉ Institute, a program that “strengthens culturally responsive teaching.”<sup>26</sup>
- And of course, Northern Michigan University (“NMU”) built a WiMAX network—which has since been converted into the largest, self-deployed educational LTE network in the nation—that covers much of Michigan’s rural Upper Peninsula, enabling thousands of students to remotely access course content, conduct online research, and otherwise develop their career and technical skills.<sup>27</sup>

These examples demonstrate that EBS spectrum has provided—and continues to provide—significant educational benefits today. As one commenter put it, “[e]ducational use of the licenses is significant and growing.”<sup>28</sup> Open eligibility, on the other hand, would trigger the rapid erosion of the educational EBS user base and isolate the committed educators and educational providers that remain.<sup>29</sup> Far from empowering licensees with greater flexibility over

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<sup>23</sup> Comments of PCs for People at 1–2 (“PCs for People Comments”).

<sup>24</sup> South Florida Licensees Comments at 3 n.4.

<sup>25</sup> Comments of Northern Arizona University Foundation, Inc. at 2–3 (“NAUF Comments”).

<sup>26</sup> *Id.* at 7.

<sup>27</sup> Comments of Northern Michigan University at 3, 5–6 (“NMU Comments”); *see also* Voqal Comments at 11–12.

<sup>28</sup> Comments of Educators and Broadband Providers for American Rural Communities at 9 (filed Aug. 7, 2018) (“EBPARC Comments”).

<sup>29</sup> NACEPF and Mobile Beacon Comments at 9. EBS licensees who wish to retain ownership and continue to lease their spectrum will face a hostile lease environment. Commercial entities will have the ability and incentive to offer favorable *transfer* terms—and highly unfavorable (or no) *lease* terms—in an attempt to drive EBS licensees to sell. Most EBS licensees lack sufficient leverage to fend off such tactics.

the long-term, eliminating educational eligibility will leave EBS licensees with fewer options to create public-private partnerships that have achieved the Commission’s dual goals of driving educational benefits and commercial deployment. According to the Northern Arizona University Foundation, “[a]llowing direct commercial entrance into the EBS system could not only foreclose future educational opportunities for licensees but also disrupt the existing and very successful EBS licensing and leasing model.”<sup>30</sup>

Second, commercializing EBS would jettison opportunities to utilize EBS spectrum to expand beyond these existing successes, threatening this band’s potential to further address hard-to-solve problems like the homework gap and the digital divide. WCA claims that “there is no longer a compelling need” to keep EBS educational,<sup>31</sup> but the record proves WCA wrong again. It reveals substantial demand for EBS spectrum to be used for education, with many commenters looking to use EBS to implement new projects that would widen the reach of modern educational resources and connect millions of students that currently lack home internet access. These include:

- The country’s 38 Tribal colleges and universities seek EBS spectrum to provide educational programming, ranging from basic remediation to adult education programs, “to improve the lives of students through higher education and to move American Indians towards self-sufficiency.”<sup>32</sup>
- The Havasupai Tribe wants to obtain a permanent license to continue offering broadband to Tribal residents and to augment its programming to provide, for the first time, online courses, training, and degree programs.<sup>33</sup>
- Counties and school districts across the country discuss constructing networks in areas that lack adequate commercial service.<sup>34</sup>

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<sup>30</sup> NAUF Comments at 8.

<sup>31</sup> WCA Comments at 15.

<sup>32</sup> Comments of the American Indian Higher Education Consortium at 1 (“AIHEC Comments”).

<sup>33</sup> Havasupai Comments at 2; Mural Net Comments at 3.

<sup>34</sup> Comments of Hackett School District at 1 (filed June 28, 2018) (“Hackett Comments”); Comments of Imperial County Office of Education and California K-12 High Speed Network at 10 (Colusa County), 11 (Golden Plains

- Kings County, CA would expand its existing EBS network to provide “virtually all of the 27,000 public school students and 5,500 faculty and staff in the county, and their families.”<sup>35</sup>
- Albemarle County, VA plans to give every student household outdoor routers designed to provide internet access from mountainside towers to “school-issued computers free of charge.”<sup>36</sup>
- Educators and Broadband Providers for American Rural Communities, a new group of 50 schools and colleges, describes the demand for rural educational institutions to use EBS white spaces licenses to partner with fixed wireless providers and bring mobile broadband services to currently unserved and underserved schools and communities.<sup>37</sup>
- The Schools, Health & Libraries Broadband Coalition advocates expanding eligibility to state and local government units and nonprofit research and education networks so that they can take advantage of existing infrastructure to implement statewide or regional educational broadband networks.<sup>38</sup>
- The State of Nebraska is performing a feasibility study regarding combining existing infrastructure with new EBS licenses to develop a statewide network to create equity, close the homework gap, and ensure access to digital learning resources. Among other things, it hopes to leverage 5G technology to enable service on school buses so that students can work while “on the road.”<sup>39</sup>
- Similarly, the California K-12 High Speed Network, a program funded by the California Department of Education, is considering building a statewide LTE network that will provide “last mile Internet service to unserved/underserved students at home.”<sup>40</sup>
- The North Carolina Department of Information Technology advocates consolidating all remaining EBS licenses in a state into one statewide educational

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Unified School District), 11–13 (Imperial County), 15–17 (San Bernardino County), 18–19 (Trinity County) (filed Aug. 7, 2018) (“K12HSN Comments”); Comments of King George County Schools at 1 (filed July 24, 2018) (“King George County Comments”); Comments of Lawrence County School System at 1 (filed June 21, 2018) (“Lawrence County Comments”).

<sup>35</sup> Kings County Comments at 4.

<sup>36</sup> CoSN Comments at 8.

<sup>37</sup> EBPARC Comments at 1–2.

<sup>38</sup> Comments of Schools, Health & Libraries Broadband Coalition at 7–8 (“SHLB Comments”); *see also* Comments of State Educational Technology Directors Association at 6–7 (“SETDA Comments”) (advocating a similar proposal).

<sup>39</sup> Comments of Nebraska Department of Education (NDE), Nebraska Educational Television (NET), and the State of Nebraska Office of the Chief Information Officer (OCIO) at 5–6, 7–8 (“Nebraska Comments”).

<sup>40</sup> K12HSN Comments at 4.

entity and mandating lease provisions that connect K-12 students who lack home access. The state would then help commercial providers locate infrastructure and facilitate discussions with middle-mile fiber providers, thereby “driv[ing] down the cost of deployment.”<sup>41</sup>

- NMU wants to explore the connection between EBS and broadcast television as a secondary media delivery platform that could widely broadcast bandwidth-intensive content rather than one-to-one streaming by multiple devices.<sup>42</sup> It also wants access to larger blocks of spectrum to “deliver a host of new educational services . . . [including] virtual reality, 4K streaming media, and other broadband content” yet to be developed.<sup>43</sup>
- Various educational entities in South Florida anticipate applying new technologies to implement interactive mobile learning environments. The School Board of Broward County, for example, is already testing ATSC 3.0 at EBS frequencies.<sup>44</sup>
- And dozens of additional commenters describe substantial interest in accessing EBS spectrum to provide the existing broadband benefits discussed above.<sup>45</sup>

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<sup>41</sup> North Carolina Comments at 4.

<sup>42</sup> NMU Comments at 9.

<sup>43</sup> *Id.*

<sup>44</sup> South Florida Licensees Comments at 5 n.9.

<sup>45</sup> *See, e.g.*, Comments of AASA, the School Superintendents Association and the Association of Educational Service Agencies at 15 (“AASA, SSA, and AESA Comments”) (noting that their member entities “want the chance to acquire [EBS] license[s] . . . to provide their communities with wireless broadband”); Comments of Amelia Education Foundation, Inc. at 1 (filed July 24, 2018) (“Amelia Education Comments”) (seeking direct access to EBS spectrum); Comments of Chickasaw Nation at 2 (“Chickasaw Nation Comments”) (same); Comments of the Confederated Tribes of the Colville Reservation at 1 (filed Aug. 6, 2018) (“Colville Tribes”); CoSN Comments at 8 (discussing a Mi-Fi device initiative by Desert Sands Unified School District that is scheduled to begin this school year); Digital Wish Comments at 3 (“We strongly encourage the FCC . . . to keep allowing non-profit organizations . . . to administer this crucial service[.]”); EBPARC Comments at 1–2 (reporting that over 70 educational entities have indicated an interest in EBS licenses and over 40 rural internet providers have indicated an interest in “partner[ing] with educators to deliver fixed wireless service to their communities”); NEBSA and CTN Comments at 8 (noting the need to license EBS white space so that public-private EBS partnerships can serve communities nationwide); Comments of the Nez Perce Tribe at 1–2 (filed Aug. 6, 2018) (“Nez Perce Comments”) (seeking direct access to EBS spectrum); Comments of Rural EBS Coalition at 8 (“Rural EBS Coalition Comments”) (supporting allowing eligible entities to “apply for new EBS licenses for the first time in over 20 years so that . . . rural areas [that lack assigned spectrum] may be served”); Comments of Select Spectrum at 6–7 (“Select Spectrum Comments”); SETDA Comments at 2–3 (discussing the need to “connect more students to high capacity broadband”); Comments of Torstrick Ministries, Inc. at 1 (filed June 28, 2018) (“Torstrick Comments”) (seeking direct access to EBS spectrum); UETN Comments at 1 (stating that the need for students to have access to online resources “will only continue to grow”); *see also infra* notes 63-65.

Together, these two lists demonstrate the substantial, widespread educational benefits EBS licensees are providing under the current rules—both through EBS self-deployments and EBS “over-the-top” broadband service provided through partnerships with commercial lessees—that would not be replaced by a purely commercial offer. These lists also paint a picture of what the future holds if the Commission were to retain educational eligibility, modernize its educational use rules for the broadband age, and make EBS white spaces available on a priority basis to Tribal and educational entities.<sup>46</sup> Moreover, 41 schools,<sup>47</sup> 27 libraries, 79 nonprofits and membership associations, and over 60 additional individuals<sup>48</sup> from across the country have written to the Commission to detail how they or their members rely on broadband service from an EBS licensee today or to otherwise urge the Commission to keep education in the band.<sup>49</sup>

Commenters who argue for commercialization ignore or dismiss all of this. For example, WCA incorrectly asserts that because the majority of EBS licensees have leased their spectrum to commercial providers (a practice encouraged by the FCC’s rules for decades) and their educational service is available “over the top” of a commercial operator’s network, the “reservation of spectrum for educators is no longer necessary.”<sup>50</sup> To the contrary, as our opening comments explained<sup>51</sup>—and the numerous additional examples from the record show—EBS is filling educational broadband needs that are not being met by the commercial marketplace to this day.

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<sup>46</sup> As discussed in our opening comments, the Commission should retain current educational eligibility requirements for current and newly licensed EBS spectrum. NACEPF and Mobile Beacon Comments at 6–9.

<sup>47</sup> We include school districts and educational departments in this count.

<sup>48</sup> Individuals writing on behalf of or at the request of an entity mentioned earlier in this sentence are included in those counts. The individuals referenced here wrote comments without identifying any affiliation.

<sup>49</sup> These totals include the comments filed as of September 7, 2018. For a list of filers, *see infra* notes 63-65.

<sup>50</sup> WCA Comments at 8.

<sup>51</sup> NACEPF and Mobile Beacon Comments at 15–28.

Simply put, if Sprint had directly purchased all of the EBS spectrum it has access to through public-private partnerships with EBS licensees, it would retain all of its touted competitive advantage, but would have no incentive to (a) provide the same level of broadband service that EBS licensees provide “over the top” of the same network today for the same price, or (b) build out rural areas that are considered unprofitable. Indeed, even now, some commenters report that Sprint and other commercial providers will not partner with them to deploy broadband to the hard-to-reach communities they seek to serve.<sup>52</sup> There is no reason to believe that a lack of commercial ownership of the EBS band is the reason commercial providers have not built in rural areas where they already hold significant spectrum or charge prices above what can be obtained through an existing EBS licensees’ program. History shows commercial operators will not shift gears once they are permitted to obtain this spectrum directly, particularly if licensees are not required to reserve capacity for educational purposes. As we noted in our initial comments, for example, Clearwire deployed an indoor macro cell for a rural school in Duncan, OK that was several miles out of range of the nearest cell site *because* it leased our EBS spectrum and was subject to education-based requirements.<sup>53</sup>

## **B. Educators’ Ongoing Need for EBS.**

The fact that EBS licensees are providing access to broadband service “over the top” of commercial networks does not undermine the spectrum’s utility to educators and those they serve, nor does it mean the underlying facilities-based provider’s retail service would adequately replace the “over the top” EBS offer.

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<sup>52</sup> *E.g.*, K12HSN Comments at 10 (“[A]ttempts to partner with Sprint for LTE access on the underutilized EBS spectrum in our area have proven to be unsuccessful.”); Bad River Band Comments at 3 (“[T]here are no commercial broadband providers that offer service or are economically motivated to serve the reservation and its residents at satisfactory levels.”).

<sup>53</sup> NACEPF and Mobile Beacon Comments at 21–22.

**Broadband Offers by EBS Licensees Will Not Be Adequately Replaced by the Commercial Sector.** As the Commission has acknowledged, resellers often “ha[ve] better access to some market segments than the host facilities-based service provider and can better target specific market segments, such as low-income consumers[.]”<sup>54</sup> The record clearly demonstrates this principle holds true for EBS licensees providing service “over the top” of their commercial lessee’s network.

For example, the fact that Mobile Beacon’s services are provided over Sprint’s commercial network does not mean they can simply be replaced by Sprint’s commercial service. As our initial comments explained in depth<sup>55</sup>—and 88 other commenters stated—Mobile Beacon’s \$10 per month, unlimited broadband service cannot be replaced by existing commercial offers. There is overwhelming evidence on the record demonstrating that Mobile Beacon’s service has connected students, low-income families, and other unserved populations that had never before been reached by retail offers, government support programs like Lifeline, or commercial-led digital inclusion offers like Comcast Internet Essentials.<sup>56</sup>

While WCA is correct that broadband provides a platform that “gives all educators, not just those lucky enough to be EBS licensees, the ability to access educational materials to whomever they choose,”<sup>57</sup> this ignores the persistent fact that educational entities and students

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<sup>54</sup> *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 and Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Services*, Twentieth Report, 32 FCC Rcd. 8968, ¶ 15 (2017) (“Twentieth Wireless Competition Report”); *see also* Comments of TracFone Wireless, Inc. at 8, WC Docket Nos. 17-287, 11-42, 09-197 (filed Feb. 21, 2018); Comments of Sprint Corporation at 15, WC Docket Nos. 17-287, 11-42, 09-197 (filed Feb. 21, 2018) (“Sprint Lifeline Comments”); Comments of Verizon at 8, WC Docket Nos. 17-287, 11-42, 09-197 (filed Feb. 21, 2018).

<sup>55</sup> NACEPF and Mobile Beacon Comments at 20–28.

<sup>56</sup> *See id.* at 25.

<sup>57</sup> WCA Comments at 8.

across the country are not all “lucky” enough to have access to affordable, high quality broadband service from the commercial sector. Today, EBS “over the top” service is connecting schools, students of all ages and abilities, and anchor institutions that were otherwise unserved or underserved. Indeed, the record is filled with examples from commenters throughout the United States who explain that, without the currently available EBS service they currently rely on, they would be able to provide *less* broadband access in their communities, be forced to *curtail* programs related to community outreach efforts, and leave students and families with *less* robust broadband service (or no broadband service) because commercial offers in their area are too cost-prohibitive.<sup>58</sup>

- “Attempting to replace this mobile data access [from an EBS licensee] with other solutions would not be possible within our budget, and such access would likely cease. We routinely exceed any typical market cap on data (usually around the 20 GB to 30 GB monthly usage range which we hit within the first 10 days of a month), and even if we could provide a service within that range, open market services would cost us 10X to 15X more. . . . Today, at least in our community, EBS is a critical tool that makes this part of the American dream come true for many of our residents. . . . I cannot imagine that there is another program within the Federal portfolio that delivers as much benefit, with as much leverage of low cost resources, as EBS. Please, do not endanger EBS, our communities, our kids, and our futures for the sake of commercial interests.”<sup>59</sup>
- “I am an educator I teach Middle School and High School in Brooklyn. . . . A data cap will be disastrous to my teaching and to any educator and students who use Mobile Beacon’s EBS service. LIMITED usage means LIMITED resources in every aspect of my teaching. If you are putting a cap on data you are limiting our education resources.”<sup>60</sup>

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<sup>58</sup> As we noted in our initial comments, Mobile Beacon’s service is provided on the Sprint network, so everywhere our users have service there is at least one commercial offer available in that area. *See* NACEPF and Mobile Beacon Comments at 1. Additionally, given that the FCC’s *Twentieth Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless Including Commercial Mobile Services* found that Sprint covers approximately 53% of the rural population with LTE, and the other main carriers cover a much greater percentage (Verizon at 92%, AT&T at 89%, and T-Mobile at 78%), it is reasonable to believe there are multiple cost-prohibitive commercial options available to many of these previously unserved people. *Twentieth Wireless Competition Report* ¶ 84.

<sup>59</sup> Comments of Creighton Community Foundation, Inc. (filed Aug. 29, 2018).

<sup>60</sup> Comments of Nayat M’hamed (filed Aug. 29, 2018).



- “Moreno Valley (CA) is a 50% blue collar, ethnically diverse community of over 210,000 residents. Many residents in our community cannot afford monthly internet service, thus our Library cannot provide enough computers, WiFi, or MiFi access to meet the demand. Before Mobile Beacon, we were limited to providing up to 60-minute sessions for our patrons to use our public computers and internet access between the hours of 9 a.m. to 8 p.m. But we knew the need for access was greater than what we could provide during library hours. Because we were able to start a hotspot lending program using that service, our patrons now have access to information and library resources even when the library is closed. . . . [T]he Mobile Beacon devices are constantly checked out. We even supplement Mobile Beacon’s devices with devices from T-Mobile, at three times the cost, to try to meet the demand for free internet service for our disadvantaged residents. Without access to Mobile Beacon’s EBS service we would be unable to provide this vital service to our community.”<sup>61</sup>
- “Elyssa’s Mission is a 501(c)(3) charitable organization that provides the resources to support at-risk teens and prevent suicide. We offer hands-on support to Illinois area schools, religious and community organizations to help educate students, staff and parents on how to recognize those teens most at risk. Digital connectivity has become an important tool for us to achieve our mission. Our social workers are in schools 4–5 days a week. It is often difficult or impossible to connect to the schools wi-fi. . . . [With Mobile Beacon’s unlimited plans] we no longer worry about incurring overage charges on a capped data plan, or not being able to use our mobile device for certain periods each month because we hit a data cap. With the money we save using Mobile Beacon we are able to fund 2–3 more schools each year possibly reaching an additional 1,500–2,000 students with vitally needed support for suicide prevention. It also helps our social workers be more efficient with their time, thereby also serving more students.”<sup>62</sup>
- Fifteen teachers and schools asked the FCC to continue to allow nonprofit organizations like Mobile Beacon to provide this important service to schools throughout the United States. Keeping EBS reserved for education is the highest and best use of this valuable public resource. It should not be sold or auctioned off to commercial entities. Instead, it should remain in the hands of educators and nonprofits that are best positioned to serve the needs of schools.<sup>63</sup>

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<sup>61</sup> Comments of Steve Hargis (filed Aug. 29, 2018).

<sup>62</sup> Comments of Lois Neustadt, Elyssa’s Mission (filed Aug. 29, 2018).

<sup>63</sup> *See, e.g.*, Comments of Miranda Lee, Word of Grace Chinese School (filed Aug. 29, 2018); Comments of Joon Kim, Brentwood School (filed Sept. 1, 2018); Comments of Aleph Bet Jewish Day School (filed Aug. 31, 2018); Comments of Beth Franke, John Stark Regional High School (filed Aug. 31, 2018); Comments of Marty Mosley, Legacy Christian Academy (filed Aug. 29, 2018); Comments of Rebecca Evans, Sanislo Elementary School (filed Aug. 1, 2018); Comments of Louise Lee, Butte College (filed July 31, 2018); Comments of Davida Elsbree, Pathways Charter School (filed July 31, 2018).

- Over 20 libraries emphasized that commercial offers provide far less data for much more money, which ultimately results in less access for their communities. If the commercial sector had been able to close the digital divide, there wouldn't have been a need for them to create hotspot lending programs with Mobile Beacon's service.<sup>64</sup>
- Over 40 nonprofits explained that Mobile Beacon's EBS service allows them to meet the digital communications needs of their operations and provide real benefits to their communities. Without Mobile Beacon's EBS service, they would lack access to the affordable, unlimited broadband that they need to do their work. The FCC should be encouraging such uses of EBS, not eliminating them. Auctioning this valuable resource off to commercial entities would only cause them to struggle to provide the level of service their local communities need and have come to expect. That would not support the public interest.<sup>65</sup>

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<sup>64</sup> *See, e.g.*, Comments of Mary Klimack, Sand Lake Town Library (filed Sept. 2, 2018); Comments of Jamie Brambley, Fulton County Library (filed Aug. 30, 2018); Comments of Peggy Ganong, New Milford Public Library (filed Aug. 30, 2018); Comments of Becky Rohr, Lucius Beebe Memorial Library (filed Aug. 30, 2018); Comments of Edward Garcia, Cranston Public Library (filed Aug. 30, 2018); Comments of Jill McConnell, Community Library Association (filed Aug. 29, 2018); Comments of Steve Hargis, City of Moreno Valley, California, Public Library (filed Aug. 29, 2018); Comments of Amy Sieving, Wilkinson Public Library (filed Aug. 29, 2018); Comments of Stefanie R. Sullivan, Reddick Public Library (filed Aug. 29, 2018); Comments of Ann Stovall, Indian Prairie Public Library (filed Aug. 14, 2018); Comments of Nicole Steeves, Fox River Grove Public Library (filed Aug. 9, 2018); Comments of Robin Adkins, Edward Chipman Public Library (filed Aug. 8, 2018); Comments of Chillicothe Public Library (filed Aug. 8, 2018); Comments of Karen Kini, Addison Public Library (filed Aug. 7, 2018); Comments of Lynn Dennis, Roselle Public Library District (filed Aug. 7, 2018); Comments of Pamela Leffler, Morton Grove Public Library (filed Aug. 7, 2018); Comments of Jolene Fanciskovich, Coal City Public Library District (filed July 25, 2018); Comments of Phillip Whitford, Braswell Memorial Library (filed July 17, 2018).

<sup>65</sup> *See, e.g.*, Comments of International Cancer Advocacy Network (filed Sept. 7, 2018); Comments of Josh Claseman, Pineveiw Park BMX (filed Sept. 6, 2018); Comments of Keely Gilliland, UnifEd (filed Sept. 6, 2018); Comments of Hope Distributed Community Development Corp. (filed Sept. 5, 2018); Comments of Aaron Read, Rhode Island Public Radio (filed Sept. 5, 2018); Comments of Family Bridges, Inc. (filed Sept. 4, 2018); Comments of Robbie Smith, Safe Harbor Haven Inc. (filed Sept. 4, 2018); Comments of Amy Baker et al., Clatsop Behavioral Healthcare (filed Sept. 4, 2018); Comments of Jazz@STJ (filed Aug. 31, 2018); Comments of the S.A.V.E. Program (filed Aug. 31, 2018); Comments of the Custom Collaborative (filed Aug. 31, 2018); Comments of Anthony Antonaccio and Jon E. Avery (filed Aug. 30, 2018); Comments of Karen Marchese, Be Proud Foundation (filed Aug. 30, 2018); Comments of Stan Schulman (filed Aug. 30, 2018); Comments of Nick Claypool (filed Aug. 30, 2018); Comments of Rodney Fielding, Virginia Search & Rescue (filed Aug. 30, 2018); Comments of Hearts for Hearing Foundation (filed Aug. 30, 2018); Comments of David Vincent, U.S. Crisis Care (filed Aug. 29, 2018); Comments of Courtney Hayden, Alliance for Innovation (filed Aug. 29, 2018); Comments of Matthew Tavianini, Boxtales Theatre Company (filed Aug. 29, 2018); Comments of Madeira Historical Society (filed Aug. 29, 2018); Comments of Pennye Nixon, Etta Projects (filed Aug. 29, 2018); Comments of Chris Kauffman, Wayfinders Churches (filed Aug. 29, 2018); Comments of Sarah Loudermilk, Houston Youth Symphony (filed Aug. 29, 2018); Comments of Bo Thomas (filed Aug. 29, 2018); Comments of Rodney Rowland, Dunn Police Athletic & Activities League, Inc. (filed Aug. 29, 2018); Comments of Jim Hoerricks, Towcester Abbey (filed Aug. 29, 2018); Comments of Closing the Digital Gap (filed Aug. 29, 2018); Comments of Debbie Werbrouck, Patchwork Dance Company (filed Aug. 29, 2018); Comments of Charles Meyers, Secret Expressions (filed Aug. 29, 2018); Comments of Denise Blok, Hays County Food Bank (filed Aug. 29, 2018); Comments of Kyle Gunning, Ce3nter for Head Injury Services (filed Aug. 29, 2018); Comments of Center for the Advancement for Healthcare Education and Delivery (filed Aug. 29, 2018).

Massachusetts Computer Using Educators (“MassCUE”), the state’s leading organization for educators with a passion for technology in education, explains that “Mobile Beacon’s EBS offer is the only affordable, unlimited mobile broadband option available in our region. The fact that there are no data caps means that we can use this service for all of the things we need it for—not just what can be done without exceeding 1GB/month. Mobile Beacon’s EBS service provides real educational benefits today.”<sup>66</sup> The record also shows similar feedback from subscribers to Voqal’s EBS-enabled broadband service through Mobile Citizen, and through the evidence of previously unserved students now enjoying the benefits of private, high-speed EBS networks built by educators.

In an attempt to support its claim that unserved and underserved populations could obtain comparable commercial service in lieu of EBS offerings, WCA incorrectly alleges that Sprint’s *IMillion Project* provides “the same if not better opportunities”<sup>67</sup> as those offered by EBS licensees. This is plainly wrong. Capped at 3 GB per month, Sprint’s offer does not allow students to take advantage of the more data-intensive applications used for education or use all of the same tools as their peers, who have enough data to watch videos, Skype, or use other rich multimedia tools. Nor does it provide enough data to encourage “whole family” broadband adoption, which research has proven is far more likely to break the cycle of poverty than focusing exclusively on broadband for school-age students.<sup>68</sup> Additionally, Sprint’s 3 GB plan for high school students without home internet access offers 70% less data than their *lowest level*

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29, 2018); Comments of Patricia Hall, North Carolina Music Educators Association (filed Aug. 29, 2018); Comments of Lois Neustadt, Elyssa’s Mission (filed Aug. 29, 2018); Comments of Emmanuel Zapata, Foundation Communities (filed July 17, 2018).

<sup>66</sup> Comments of Rayna Freedman, MassCUE (filed Aug. 29, 2018).

<sup>67</sup> See WCA Comments at 16 n.37.

<sup>68</sup> See The Annie E. Casey Foundation, *Creating Opportunities for Families: A Two Generation Approach* (2014), available at <http://www.aecf.org/m/resourcedoc/aecf-CreatingOpportunityforFamilies-2014.pdf>.

of retail service for mobile hotspots.<sup>69</sup> This only further proves that while commercial providers lack incentive to replace the existing level of educational benefits and service provided through EBS today, history has shown that the reverse works much better. Educational institutions will seek out commercial entities, but provide robust educational benefits above the level that could typically be acquired directly from commercial entities.

WCA is likewise incorrect that NMU's network is providing commercial broadband service "that is virtually indistinguishable from what WCA's commercial broadband service providers offer."<sup>70</sup> The record shows EBS licensees that build and operate their own networks do not impose data caps on the broadband services they provide to students and their families, teachers, or administrators. As Northern Michigan University's Director of Broadcast and AV Services, Eric Smith, stated when asked if NMU's Educational Access Network ("EAN") caps data, "That's just plain incompatible with education."<sup>71</sup> Yet, there is no evidence in the record indicating WCA's commercial broadband service providers offer an uncapped data service.

More generally, even accounting for Lifeline subsidies, commercial providers have not prioritized making high quality, low-cost broadband service available to significant numbers of low-income Americans that cannot afford connectivity.<sup>72</sup> In fact, the National Digital Inclusion Alliance ("NDIA") recently published a white paper raising awareness that the nation's two largest telecommunications providers are charging essentially identical rates (\$63–65/month) for high-speed fiber service and their slow internet service provided on old, copper-only

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<sup>69</sup> See NACEPF and Mobile Beacon Comments at 21 n.53.

<sup>70</sup> WCA Comments at 9.

<sup>71</sup> Jordan Beck, *Gladstone, NMU Reach Broadband Agreement*, Daily Press (Aug. 28, 2018), <http://www.dailypress.net/news/local-news/2018/08/gladstone-nmu-reach-broadband-agreement/>.

<sup>72</sup> See Comments of the National Lifeline Association at 7, WC Docket Nos. 17-287, 11-42, 09-197 (filed Feb. 21, 2018) (explaining that nearly 70% of Lifeline customers receive service through resellers, not facilities-based providers).

infrastructure. NDIA notes such commercial practices impose higher rates on millions of urban households in low-income neighborhoods and also victimize millions of households in the two companies' rural service areas.<sup>73</sup>

Put simply, the record in this proceeding clearly demonstrates an ongoing, compelling need for EBS to remain educational because the commercial marketplace has not adequately addressed educational broadband needs or the digital divide. These problems have not been—and will not be—solved by commercial providers.<sup>74</sup> The Commission should not put existing EBS programs at risk, nor should it give up on one of the most effective tools it has to address the homework gap.

**Licensing EBS to Educational Entities Will Drive Deployment in Currently Unserved Areas.** In many rural locations where EBS remains unassigned, the commercial sector already holds ample amounts of spectrum across multiple spectrum bands; yet, commercial build-outs and affordable prices are significantly lacking.<sup>75</sup> As depicted in the chart below, in areas that lack commercial service, over 600 MHz of non-EBS spectrum is already available for commercial use and demand for connectivity is strong, yet rural schools remain unconnected; students continue to fall behind because they lack home internet access; and individuals and families cannot afford mobile service.

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<sup>73</sup> Bill Callahan & Angela Siefer, NDIA, *Tier Flattening: AT&T and Verizon Home Customers Pay a High Price for Slow Internet* (July 31, 2018), available at <https://www.digitalinclusion.org/blog/2018/07/31/tier-flattening/>.

<sup>74</sup> See, e.g., K12HSN Comments at 15–17 (describing San Bernardino County, among other examples, which includes large areas unserved by any commercial wireless provider).

<sup>75</sup> WCA claims that the “best-positioned,” “proven” commercial operators have not had “the spectrum access they need to fully utilize the 2.5 GHz band because of the existing EBS rules.” WCA Comments at 14–15. Yet, the Commission has *already made* a significant amount of 2.5 GHz spectrum available in the BRS band. But there is no evidence that commercial operators are more “fully utilizing” BRS spectrum, where the EBS rules do not apply. These operators should not be rewarded with additional EBS spectrum in the very places where they are underutilizing, or worse, warehousing, BRS spectrum, while simultaneously urging the Commission to deny educators access to the remaining portion of the *only* spectrum band reserved for education.

**Spectrum Available for  
Commercial Mobile Wireless Service**

Spectrum Band	Total Amount (Megahertz)	Rural Deployment
600 MHz	70	X
700 MHz	70	X
Cellular	50	X
SMR	14	X
PCS + H Block	140	X
AWS-1	90	X
AWS-3	65	X
AWS-4	40	X
WCS	20	X
BRS	67.5	X
EBS	89	✓
<b>Total Spectrum</b>	<b>715.5</b>	

This indicates that it is not a spectrum deficit, but a lack of financial incentive that has created the pervasive digital divide that exists throughout the United States today. It cannot be denied that the commercial sector has had ample spectrum (and significantly more already on the way),<sup>76</sup> far greater financial resources than the educational sector, and government subsidies available to support high-cost deployment. Thus, the Commission should not believe that giving the *only spectrum* available to educational institutions to commercial entities will suddenly produce its desired results.

Indeed, the Commission is well aware that commercial entities do not invest in wide-scale network build-out “specifically or exclusively” to reach those who remain in the digital divide.<sup>77</sup> In stark contrast, the record in this proceeding shows that EBS licensees *will* invest and build out for these very purposes, or will form partnerships with rural operators to provide higher

<sup>76</sup> See *infra* note 148.

<sup>77</sup> See Sprint Lifeline Comments at 21.

quality wireless internet coverage than is otherwise available.<sup>78</sup> Under the FCC’s current rules—with only a portion of one spectrum band available to them and a 23-year freeze on acquiring additional spectrum—EBS licensees are:

- Providing free or reduced-cost broadband service “over the top” of a commercial network that specifically promotes lifelong learning, connects those who were otherwise in the digital divide, and requires no government subsidy.
- Driving innovation through pilots like the library hotspot lending model that are now replicated throughout the entire country and are helping to close the digital divide.<sup>79</sup>
- Demonstrating the desire, capability, and commitment to building their own private networks in areas the commercial sector has refused to invest in (despite already having ample spectrum to do so).

For these reasons, the Commission should end the decades-long freeze on unlicensed EBS spectrum and license it through priority windows, after rationalizing existing GSAs, to educational and Tribal entities that are sufficiently incentivized to achieve the Commission’s goals of bridging the homework gap, connecting unserved classrooms and communities, and promoting lifelong learning while closing the digital divide.<sup>80</sup> The record reflects EBS has tremendous potential to do even more for education going forward, while driving commercial deployment in the very areas that have otherwise long been neglected by the commercial sector.

### **III. THE COMMISSION SHOULD RETAIN EDUCATIONAL ELIGIBILITY REQUIREMENTS.**

As NACEPF and Mobile Beacon explained in our opening comments, the Commission should preserve the educational value of EBS by keeping EBS licenses in the hands of eligible

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<sup>78</sup> Select Spectrum Comments at 2–3.

<sup>79</sup> Larra Clark, *Libraries Advance Digital Inclusion Role with Hotspots*, Benton (Nov. 8, 2017), <https://www.benton.org/blog/libraries-advance-digital-inclusion-role-hotspots>; Mobile Beacon, *Free, At-Home Access and 24/7 Learning Opportunities for NYC Patrons*, <https://www.mobilebeacon.org/new-york-public-library/> (last visited Sept. 7, 2018).

<sup>80</sup> See NACEPF and Mobile Beacon Comments at 15–28.

educational entities.<sup>81</sup> Current EBS licensees and their partnering organizations express nearly unanimous agreement with this view. With only one exception,<sup>82</sup> all such commenters weighing in on the issue support retaining the educational eligibility requirements.<sup>83</sup>

In the NPRM, the Commission proposed to remove the limit on who could hold EBS licenses because it believed that the EBS licensees know best.<sup>84</sup> As it explained, “[t]here is little reason to think that, at this point in time, the Commission is better positioned than licensees themselves to determine how to maximize the use of 2.5 GHz spectrum for licensees and their communities.”<sup>85</sup> Therefore, the Commission should listen to EBS licensees now. They have resoundingly voiced their opposition to removing the eligibility requirements and allowing the transfer of licenses to commercial entities. The Commission should heed their collective call to retain educational eligibility requirements for EBS.

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<sup>81</sup> *Id.* at 6–9.

<sup>82</sup> The lone EBS licensee supporting commercial resale, which filed joint comments with its commercial partner, makes a claim that the eligibility restriction has “hindered the ability to attract capital.” Comments of Bridge the Divide Foundation, Inc. and Rocky Mountain Broadband, LLC at 5 (“BTD/RMB Joint Comments”). But the licensee and commercial partner go on to explain that their difficulties in attracting capital actually resulted from the Commission’s unwillingness to open additional EBS spectrum, not the eligibility requirement. *Id.* at 6.

<sup>83</sup> AASA, SSA, and AESA Comments at 5; CoSN Comments at 5–6; Digital Wish Comments at 1, 3; EBPARG Comments at 9; Comments of Happy House Daycare, Inc. at 2 (filed July 24, 2018) (supporting the 2014 Consensus Proposal, which retained existing eligibility requirements); Comments of Hispanic Information and Telecommunications Network, Inc. at 2, 5–7 (“HITN Comments”); Nebraska Comments at 10–11; NEBSA and CTN Comments at 16–18; North Carolina Comments at 5–6; NAUF Comments at 8–9; NMU Comments at 9–10; PCs for People Comments at 4; Rural EBS Coalition Comments at 7; SHLB Comments at 9; Select Spectrum Comments at 6; South Florida Licensees Comments at 5 & n.10; SETDA Comments at 7; TechSoup Comments at 3; Comments of Utah Education and Telehealth Network at 5–6 (“UETN Comments”); Voqal Comments at 8–15; *see also* Chickasaw Nation Comments at 8 (non-licensee seeking access to EBS spectrum); Amelia Education Comments at 2 (non-licensee supporting the 2014 Consensus Proposal, which retained existing eligibility requirements); Hackett Comments at 2 (same); King George County Comments at 1 (same); Lawrence County Comments at 2 (same); Torstrick Comments at 2 (same); *cf.* K12HSN Comments at 23 (recommending that “white spaces be made available to non-EBS eligible entities, *only* when all options have been afforded to EBS eligible entities”) (emphasis added); Comments of National Digital Inclusion Alliance at 3 (asking that existing EBS licensees have “unequivocal priority over for-profit entities in the allocation of underutilized spectrum”).

<sup>84</sup> *NPRM* ¶ 20.

<sup>85</sup> *Id.*



Unsurprisingly, those who support the Commission’s proposal to remove this requirement are—first and foremost—commercial entities that wish to own, rather than lease, EBS spectrum.<sup>86</sup> To begin with, many of these commenters simply echo the NPRM’s view that EBS licensees are “in the best position” to determine who should be able to own their spectrum licenses.<sup>87</sup> Since the record reveals that licensees emphatically agree educational eligibility must be *maintained*, not eliminated,<sup>88</sup> and the commercial sector has stated their willingness to accept the educational community’s preference on this matter, the Commission is in the fortunate position of having broad consensus on this key issue.<sup>89</sup>

A small minority of commenters allege that the educational eligibility requirements create “regulatory burdens” that have impaired commercial deployment.<sup>90</sup> In particular, WCA claims that “every day, commercial operators face unnecessary operational and financial burdens because critical 2.5 GHz spectrum is only available to them by leasing from a middleman . . . .”<sup>91</sup> Although WCA laments nine times in its comments about the supposed “burdens” experienced by commercial lessees that have been forced to work in partnership with educational

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<sup>86</sup> See, e.g., Comments of Sprint Corporation at 8–10 (“Sprint Comments”); WCA Comments at 15–17; Comments of Virgin Islands Telephone Corp. d/b/a Viya at 12–14.

<sup>87</sup> WCA Comments at 17; see also Sprint Comments at 8; WISPA Comments at 12–13.

<sup>88</sup> WCA makes the bald claim that there may be a “silent majority” of EBS licensees who would support eliminating the eligibility requirement. See WCA Comments at i. Like much of WCA’s rhetoric, there is no support or evidence to substantiate this claim and the Commission should give it no weight.

<sup>89</sup> While Sprint’s comments indicated support for eliminating eligibility requirements, Sprint has at the same time publicly recognized the value of its partnerships with EBS licensees and stated that the “public will greatly benefit from expanding spectrum opportunities for existing EBS licensees and potentially new EBS entrants.” Monica Allevan, *EBS Portions of 2.5 GHz Band Headed for Big Update at FCC*, FierceWireless (Apr. 19, 2018, 8:14 AM), <https://www.fiercewireless.com/wireless/ebs-portions-2-5-ghz-band-headed-for-big-update-at-fcc>. This confirms that much will be gained by maintaining educational eligibility and encouraging further public-private partnerships between commercial and educational entities. Indeed, as our opening comments pointed out, the NPRM itself appears to recognize the value of educational licensees in proposing priority educational windows for current and future EBS licensees. NACEPF and Mobile Beacon Comments at 8 n.18.

<sup>90</sup> See, e.g., WCA Comments at 15–17.

<sup>91</sup> *Id.* at i.

organizations by “the Commission’s outdated ‘command and control’ regulatory scheme,”<sup>92</sup> it fails to provide a single example or citation of any burden of any kind. The record—or lack thereof in this case—reflects that this strongly-worded and oft-repeated rhetoric is just that.<sup>93</sup> In fact, the record shows that rural operators want to partner with educational institutions.<sup>94</sup>

Moreover, WCA’s unsubstantiated claims seem to directly contradict Sprint’s characterizations of the same public-private partnerships. In particular, Sprint makes no claim that leasing EBS spectrum is burdensome or slowing commercial deployment. On the contrary, Sprint cites its 2.5 GHz spectrum as “the source of most of the 4G LTE capacity in Sprint’s existing commercial wireless network . . . [which provides] broadband wireless data services to millions of customers, including its educational partners from whom it leases 2.5 GHz spectrum.”<sup>95</sup> While Sprint refers to EBS lessors as its “educational partners,” WCA refers to the same entities as “Commission-mandated middlem[e]n,” or, for short, simply “burdens.”<sup>96</sup>

Indeed, WCA’s own comments are internally inconsistent, telling a Dickensian tale of two EBS bands: ‘It was the best of [FCC policies], it was the worst of [FCC Policies].’ On the one hand, when WCA wants the Commission to *allow commercial lessees to buy out leases and eliminate educational requirements*, WCA professes that each of the following has deterred investment by commercial providers and resulted in underutilization of the band: educational

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<sup>92</sup> *Id.* at 5.

<sup>93</sup> WCA claims that small operators are plagued by hardships resulting from existing FCC rules. *Id.* at 21 & n.52. The supporting evidence offered is that these operators cannot “utilize five percent of the capacity on the spectrum they lease.” *Id.* at 79. However, as WCA itself explains, “the vast majority of EBS licensees allow commercial operators to utilize all of their EBS spectrum in constructing broadband networks” in exchange for “service credits” that give the licensee the ability to “buy” over-the-top broadband service back from the lessee, which the licensee uses and distributes for a variety of educational uses. *Id.* at 8. Given that WCA’s own description belies the asserted hardship, its claims should be afforded no weight.

<sup>94</sup> EBPARC Comments at 2.

<sup>95</sup> Sprint Comments at 3.

<sup>96</sup> WCA Comments at i.

eligibility,<sup>97</sup> the 5% reservation,<sup>98</sup> the educational use rules,<sup>99</sup> and the requirement that EBS leases be reviewed at 15 years and every 5 years thereafter to accommodate the educational needs of EBS licensees.<sup>100</sup> On the other hand, when WCA wants the Commission *not to allow other commercial entities to gain access to 2.5 GHz spectrum* through an incentive auction, it says, “EBS licensees have been able to readily find commercial leasing partners under the existing system,” and “in the case of EBS spectrum, the market has worked efficiently since the Commission’s 1983 decision permitting leasing. . . . Simply put, licensees and commercial operators have had no trouble finding each other and negotiating beneficial arrangements.”<sup>101</sup>

In fact, there is no evidence in the record that educational eligibility requirements have held back commercial deployment. To the contrary, comments across the board, including by some of these same parties,<sup>102</sup> demonstrate that in urban and suburban areas—*where EBS has been licensed*—there has been extensive commercial deployment. Sprint explains, for example, that EBS spectrum “serves as the backbone of [its] 3G/4G LTE network”: it provides “most” of the network’s capacity and will function as Sprint’s “prime spectrum band” for 5G deployment.<sup>103</sup> Through leasing EBS spectrum, Sprint is able to serve over 54 million customers on its nationwide network.<sup>104</sup> This is clear proof that existing educational requirements are

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<sup>97</sup> *Id.* at 10 (“The better approach is to allow an unfettered marketplace to bridge the digital divide by eliminating rules that have proven to frustrate broadband deployment.”).

<sup>98</sup> *Id.* at 21 n.52.

<sup>99</sup> WCA claims that “[t]he educational use requirements of Section 27.1214 decrease the utility of the spectrum for any interested lessees or acquirers and deters investment in rural broadband.” *Id.* at 22.

<sup>100</sup> WCA claims “this requirement introduces an element of uncertainty that does nothing but deter investment.” *Id.*

<sup>101</sup> *Id.* at 26.

<sup>102</sup> Sprint Comments at 2–3; WCA Comments at 4 (“[I]n those areas of the country where EBS spectrum has been made available (which encompass far in excess of 50 percent of the US population), commercial lessees in the 2.5 GHz band have provided a full range of wireless services.”); NEBSA and CTN Comments at 3–8.

<sup>103</sup> Sprint Comments at 2–3.

<sup>104</sup> *Id.* at 2.

wholly compatible with intensive commercial use. As NEBSA and CTN explain, the “only significant limit” on such efforts “has been the delay—now over two decades—in licensing EBS white space.”<sup>105</sup>

Finally, eliminating eligibility requirements is unlikely to lead to a vibrant and efficient open secondary market when, as Sprint itself points out, a significant number of EBS licenses are already subject to long-term lease agreements.<sup>106</sup> The most likely result will be an increasingly hostile lease environment for educational licensees,<sup>107</sup> with the most readily available solution being to transfer their EBS licenses to their current commercial lessees. Once this occurs, the educational value and potential of this license will forever be lost to the educational community.<sup>108</sup> Indeed, as Sprint explains, “EBS leases typically include provisions such as rights of first refusal on the sale of the license.”<sup>109</sup> This clearly puts Sprint—not the open market or even EBS licensees—in control of who would obtain (or retain) access to licensed EBS spectrum if educational eligibility was eliminated. As “the largest EBS spectrum lessee in the United States,”<sup>110</sup> therefore, Sprint has a lot to gain.

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<sup>105</sup> NEBSA and CTN Comments at 8.

<sup>106</sup> Sprint Comments at 14.

<sup>107</sup> As we explained in our initial comments, allowing EBS licensees to transfer or sell their license to a commercial entity would trigger the rapid erosion of the educational EBS user base and isolate the committed educators and educational providers that remain. Moreover, those EBS licensees who wish to retain ownership and continue to lease their spectrum will face a hostile lease environment. Commercial entities will have the ability and incentive to offer favorable *transfer* terms—and highly unfavorable (or no) *lease* terms—in an attempt to drive EBS licensees to sell. Far from empowering licensees with greater flexibility offer the long-term, eliminating educational eligibility will leave EBS licensees with *fewer* options to partner with entities that would otherwise assist them in building, operating, and maintain a robust network that utilizes this spectrum. NACEPF and Mobile Beacon Comments at 9.

<sup>108</sup> SETDA Comments at 7.

<sup>109</sup> Sprint Comments at 14.

<sup>110</sup> *Id.* at 2.

Educational entities, including EBS licensees and the many community institutions and individuals relying on EBS service, clearly understand the slippery slope that would emerge from a flexible use standard. At its bottom is an EBS band stripped of its decades-old educational mission, with a bleak outlook that over 200 commenters warn the Commission about. As these commenters explain, without the broadband service they currently rely on from an EBS licensee, they would have no alternative means of connectivity, insufficient data to accomplish their educational missions, and have to either forgo broadband or cut existing programs and/or levels of service to pay for more expensive commercial service.

While educational benefits would be wiped out, there is *no evidence* that commercial deployment would be enhanced. As such, the Commission should prioritize protecting the public interest over commercial interests that are already being served.<sup>111</sup> Having recognized that EBS licensees are best positioned to determine how to use their licenses, the Commission should listen to them now and preserve education in this band by retaining the educational eligibility requirements.

#### **IV. THE COMMISSION SHOULD ALIGN EBS LICENSE AREAS WITH COUNTY BOUNDARIES, BUT TAKE CARE NOT TO DISRUPT EXISTING OPERATIONS.**

NACEPF and Mobile Beacon concur with the clear record consensus that EBS license areas should be rationalized along county boundaries. This will quickly put spectrum into the hands of operators that already have the wherewithal and infrastructure in place to deploy wireless service in the newly rationalized areas, and will help to eliminate very small slivers of unassigned spectrum, which may be technically and economically challenging to serve on their own.

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<sup>111</sup> See *supra* Section II.

However, few if any parties have advanced specific enough proposals for achieving this goal fairly and without disrupting existing operations. In addition to the selection of a coverage threshold to trigger expansion of an existing license area out to county boundaries, the Commission must also consider what happens to license areas that cover a portion of a county but do not meet the threshold, and how to handle situations where multiple licensees meet the Commission's chosen threshold.<sup>112</sup>

As it considers the best way to effectuate the county-based rationalization approaches described in the NPRM<sup>113</sup> that supported by the record, the Commission should bear in mind one paramount objective: No existing licensee should lose the ability to serve educators, students, or any other subscribers that they serve today. There are likely to be numerous situations where multiple licensees meet the identified coverage threshold. Conversely, there may also be situations involving large counties where an existing licensee cannot meet the identified threshold even if the large majority, or even all, of its existing coverage area falls within it, meaning that a licensee's coverage could be largely or *completely* eliminated unless the Commission's rules ensure the preservation of existing coverage areas.

NACEPF and Mobile Beacon support the Commission's goal of rapid deployment. Therefore, to ensure that any new geographic coverage areas made available through rationalization are quickly put to use, NACEPF and Mobile Beacon support application of new build-out requirements for these areas. Specifically, the Commission should apply its existing build-out requirements for BRS licensees which have already been found to be in the public

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<sup>112</sup> As mentioned above, NACEPF and Mobile Beacon are continuing to evaluate the rationalization proposals, with a focus on these issues. We intend to address them in a subsequent filing.

<sup>113</sup> NPRM ¶¶ 10–18.

interest, enjoy significant record support,<sup>114</sup> and will promote rural investment. The only exception should be for situations where the license area gained through rationalization is minimal, in which case build-out requirements would be impracticable and an inefficient use of licensee, commercial lessee, and Commission resources.

It is not only reasonable for the Commission to attach a build-out requirement to the expansion of existing GSAs to ensure the Commission's goal of rapid deployment is achieved, but it is sound public policy to prevent warehousing of this valuable spectrum. Notably, it is WCA and Sprint that oppose *any* build-out requirement resulting from existing GSA rationalization, claiming such a requirement would be too complex and administratively burdensome.<sup>115</sup> While that may be true where rationalization results in a *de minimis* increase in license area, the record reflects that some GSA expansions may be the size of the state of Indiana or Massachusetts.<sup>116</sup> The Commission should flatly reject any proposal that would allow this valuable spectrum to be warehoused. Because reasonable build-out conditions are essential to ensuring the Commission's goal of rapid deployment is met and the public interest is served, they should attach to both newly licensed EBS white space and rationalized licenses that result in significant expansion.

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<sup>114</sup> See, e.g., Sprint Comments at 12 (supporting application of existing BRS build-out rules to any EBS licenses assigned through an overlay auction); HITN Comments at 5–6 (supporting application of the BRS service rules to EBS spectrum assigned by auction to a commercial entity); WCA Comments at 6 (supporting application of build-out requirements based on existing BRS rules to newly licensed spectrum); South Florida EBS Licensees Comments at 6–7 (supporting application of the BRS build-out rules to EBS spectrum assigned by auction without eligibility restrictions).

<sup>115</sup> See WCA Comments at 31 (“However, no additional buildout requirements should be imposed with respect to the portion of an existing EBS licensee’s GSA gained through the rationalization process.”); Sprint Comments at 13 (“Finally, the Commission should not impose separate build-out requirements in the expanded areas of EBS licenses following completion of the EBS rationalization procedures.”).

<sup>116</sup> See AASA Comments at 2.

Consistent with other commercial wireless bands, the Commission should also affirm that EBS licensees (not just their commercial lessees) enjoy an expectancy of renewal.<sup>117</sup> Providing some assurance to licensees that their licenses are likely to be renewed—so long as they satisfy their build-out and educational use obligations—will promote investment by increasing certainty and allowing licensees to amortize their infrastructure costs over a substantially longer period of time. Licensees should, however, be required to submit accurate coverage maps upon renewal to ensure that the Commission and the public has accurate information about how EBS spectrum is being used.<sup>118</sup>

**V. THE COMMISSION SHOULD MAKE ADDITIONAL EBS SPECTRUM AVAILABLE IMMEDIATELY THROUGH A SERIES OF PRIORITY WINDOWS.**

The record also makes clear that the best way to put all other remaining EBS white space into use quickly is to open a series of priority windows for eligible Tribal and educational users to access the large swaths of spectrum that remain unassigned. This approach may well eliminate the need for auctions in most, if not all cases, meaning that spectrum can be placed in users' hands quickly, and it will ensure that EBS spectrum can continue to serve educational purposes even as commercial users deploy 5G services in 2.5 GHz spectrum.

**Local Presence Requirement.** As a preliminary matter, however, the Commission should refrain from adopting the restrictive definition of “local presence” proposed in the NPRM. The rationale in prioritizing local applicants is that they are best situated to understand the

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<sup>117</sup> Indeed, to avoid unnecessary disruption to existing leases and services, changes made to the Commission's rules, such as the definition of local presence discussed below, *see infra* pp. 32-33, should not apply to existing licenses or leases.

<sup>118</sup> *See* Comments of NACEPF and Mobile Beacon at 29.



educational needs of their communities and put EBS spectrum to its highest educational use.<sup>119</sup> But as noted in our opening comments, a physical presence in a given license area is not an adequate proxy for these goals.<sup>120</sup> Other commenters agree that such a definition could easily be gamed and would produce perverse outcomes.<sup>121</sup>

Instead, the Commission should define “local presence” functionally—and in a way that more closely tracks the stated rationale of a localism requirement—such that entities that already serve a given community are considered to have a local presence.<sup>122</sup> Such entities understand the educational needs of the communities they serve, and they have a proven track record of creatively and effectively meeting those needs, even where they lack a physical or mailing address in a given area.<sup>123</sup> As the Rural EBS Coalition notes, the goal is to ensure that the spectrum is held by entities that are most capable of providing needed service.<sup>124</sup> Yet in urging the Commission to adopt an even more restrictive definition of local presence that would exclude national licensees,<sup>125</sup> the Coalition overlooks that national licensees are fully capable of achieving that goal. For example, NMU reports learning that partnerships between small towns and larger nationwide entities “h[o]ld the key to sustaining a community wireless network over the long-term,” as this type of collaborative model allows local communities to identify their

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<sup>119</sup> *NPRM ¶¶* 26, 31.

<sup>120</sup> NACEPF and Mobile Beacon Comments at 41; TechSoup Comments at 2.

<sup>121</sup> *See, e.g.*, AASA, SSA, and AESA Comments at 14; SHLB Comments at 6; Voqal Comments at 22; *cf.* EBPARC Comments at 10 (noting that people can “fool the system” through the use of P.O. Box addresses).

<sup>122</sup> NACEPF and Mobile Beacon Comments at 41; *see also, e.g.*, SHLB Comments at 7; Voqal Comments at 22.

<sup>123</sup> *See, e.g.*, NACEPF and Mobile Beacon Comments at 41–44; SHLB Comments at 6, 8; Voqal Comments at 22 (encouraging a broader definition of “local presence” that “encompasses service to local communities and relationships with local institutions”).

<sup>124</sup> Rural EBS Comments at 5.

<sup>125</sup> *See id.*

needs but utilize the technical and financial resources of larger, national licensees.<sup>126</sup> Indeed, the focus on physical presence contradicts our modern technological reality—as well as the form of the educational benefits demanded and provided through EBS—wherein digital connectivity allows for communication, learning, and understanding from afar.

At a minimum, the Commission should not apply a physical presence rule to existing licensees. Licensees with “a history of serving low-income customers have . . . expertise and experience and are most . . . able to get service up and running quickly.”<sup>127</sup> Applying a physical presence rule to these licensees, either immediately or at renewal, would disrupt existing lease arrangements and business models, implicating the same contractual interference issues that Sprint points out would arise from incentive auctions.<sup>128</sup> Doing so would also undermine the economies of scale on which national licensees currently capitalize to meet the educational needs of unserved and underserved communities nationwide. If the Commission narrows the definition of local to require physical presence, that change should apply to new licensees only. As AASA, SSA, and AESA noted, in implementing policy changes, Commission precedent reflects a consistent policy of grandfathering incumbents, to minimize uncertainty and disruption, and to respect the settled expectations of licensees.<sup>129</sup>

**Priority Filing Windows.** As to the suggested process for licensing new EBS spectrum through local priority windows, the record reflects overwhelming support for such an approach

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<sup>126</sup> NMU Comments at 3–4, 7; *see also* SHLB Comments at 5 (acknowledging the success of Mobile Beacon and Mobile Citizen, which use precisely this type of partnership model); Voqal Comments at 22 (noting that such “partnership models also benefit local communities and should not be ignored by the Commission”).

<sup>127</sup> SHLB Comments at 8.

<sup>128</sup> Sprint Comments at 14; *see also id.* at 9 n.24 (arguing that the Commission’s proposed flexible use rules “should not abrogate existing leases”); *see infra* pp. 36-37.

<sup>129</sup> *See* AASA, SSA, and AESA Comments at 12. WCA argues that commercial operators should not “be penalized . . . for doing exactly what the Commission encouraged them to do.” WCA Comments at 29. The same is true for EBS licensees.

among dozens of educational and Tribal entities.<sup>130</sup> As the Rural EBS Coalition explained, “local priority windows . . . [would] provide[] the opportunity for eligible applicants to obtain spectrum in order to reach underserved rural areas.”<sup>131</sup> Moreover, local priority windows would provide a much needed bulwark against complete commercialization of the band, which would push out educational users and turn back the clock for users in rural areas who depend on EBS for connectivity today. As we have explained, many rural schools and other educational organizations, as well as individual consumers, would not be served today were 2.5 GHz spectrum licensed and deployed without regard to educational needs.<sup>132</sup> As Mural Net explained, “[i]f these priority windows are not implemented, tribes and schools will be hard-pressed to compete [in a spectrum auction] with the major telecoms who are unlikely to develop broadband on tribal lands due to predicted low return on investment.”<sup>133</sup>

WCA claims “the best holder of new licenses will be commercial broadband operators” if they are given direct access to the spectrum.<sup>134</sup> But as noted above, commercial entities already

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<sup>130</sup> See, e.g., Comments of National Digital Inclusion Alliance at 3 (asking that existing EBS licensees be given “unequivocal priority” over for-profit entities); CoSN Comments at 7 (“The Commission should . . . take steps to help new licensees follow in their path, including by swiftly opening new licensing windows for school districts and other eligible entities.”); AIHEC Comments at 2 (“We support the priority windows as defined.”); Chickasaw Nation Comments at 3–4 (“[T]he proposed three local priority windows will present the opportunity for local Tribal Nations and educational entities to acquire valuable spectrum rights for the first time since 1995.”); see also Nebraska Comments at 10–11; Digital Wish Comments at 1; NACEPF and Mobile Beacon Comments at 34–49; Voqal Comments at 21–25; Comments of Competitive Carriers Association at 5–6; SHLB Comments at 3; North Carolina Comments at 5; South Florida Licensees Comments at 10–12; Bad River Band Comments at 4–6; Comments of the National Congress of American Indians at 3; SETDA Comments at 10; NEBSA and CTN Comments at 9–15; BTD/RMB Joint Comments at 6–8; UETN Comments at 7–8 (filed Aug. 7, 2018); EBPARG Comments at 4; K12HSN Comments at 22–15; Comments of Love Covenant Christian School at 1 (filed July 24, 2018); Nez Perce Comments at 3–6; Comments of Native Public Media at 1 (filed July 18, 2018); Chemehuevi Indian Tribe Comments at 1; Amelia Education Comments at 2; Torstrick Comments at 2; Comments of Educational Broadband Corp. at 2–3 (filed July 2, 2018); Lawrence County Comments at 2; Hackett Comments at 1–2.

<sup>131</sup> Rural EBS Coalition Comments at 2–3.

<sup>132</sup> See *supra* Section II.

<sup>133</sup> Mural Net Comments at 2.

<sup>134</sup> WCA Comments at 24.

have the lion’s share of spectrum in their possession, and have chosen not to build robust networks in hard to serve areas—the very areas where the vast majority of EBS white space exists. Therefore, absent the very rules that have enabled educators to ensure their lessees build to their communities, and an opportunity for educators to access this spectrum, there is no reason to believe that commercial providers, on their own, will connect these unserved and underserved communities or provide the same level of service and affordability offered through EBS programs today. Moreover, while a small number of commercial providers indicated support for eliminating educational eligibility, the record shows over 40 rural commercial operators have a distinct preference to maintain educational eligibility and partner with educational institutions to achieve the Commission’s goals.<sup>135</sup>

**Auction Alternatives.** Educators, Tribal entities, and states also oppose, with nearly complete uniformity, any proposal that would lead directly to an auction of 2.5 GHz spectrum.<sup>136</sup>

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<sup>135</sup> See EBPARG Comments at 2.

<sup>136</sup> See, e.g., Comments of Ann Stovall, Indian Prairie Public Library (filed Aug. 14, 2018) (“We do not support this valuable public resource being auctioned off to commercial entities. Commercial offers provide far less data for much more money, which ultimately results in less access for our community.”); NAUF Comments at 8 (“Allowing direct commercial entrance into the EBS system could not only foreclose future educational opportunities for licensees but also disrupt the existing and very successful EBS licensing and leasing model.”); Voqal Comments at 24 (“[A] ‘transformation’ of the band through auction would not only undermine existing and planned operations in the band, but also would detract from the Commission’s overall goals in this rulemaking.”); Comments of James Traynor, Instructional Telecommunications Foundation, WT Docket No. 18-120 (“Rather than auction off our public heritage to for-profit entities, the FCC should preserve this valuable public trust and make an effort to understand the great educational benefits that are being delivered via our EBS license today.”); Comments of Maria Hadden, Chicago Instructional Technology Foundation, WT Docket No. 18-120 (“Auctions make little sense given the relatively simple task of expanding licenses to cover more territory and serve more people.”); SHLB Comments at 3 (“There is no statutory requirement, and no policy reason, for the FCC to auction the remaining EBS licenses.”); North Carolina Comments at 5 (“We do not support the idea of an auction.”); HITN Comments at 2 (“HITN does not see a need for opening up eligibility, changing rules to promote commercial ownership or conducting overlay or incentive auctions.”); Nebraska Comments at 11 (“Outright auctions or competitive bidding for commercial use is not conducive to the purpose of the EBS spectrum and should not be considered.”); CoSN Comments at 6 (“The Commission should not use auctions to distribute 2.5 GHz licenses or to resolve competing applications.”); NACEPF and Mobile Beacon Comments at 49–53 (“The Commission should not immediately auction EBS licenses, squeezing educational users out of the band.”); SETDA Comments at 9 (opposing the use of auctions); NEBSA and CTN Comments at 12 (“[M]ost parties do not believe that auctions are the best way to license EBS spectrum among competing educational entities.”); AASA, SSA, and AESA Comments at 15 (“Auctions are inconsistent with an educational purpose.”); Comments of Samuel Jordan, Alaska Department of Education and Early Development

Although commercial wireless providers and their trade associations may support immediate auctions, other filers point out that proceeding directly to auctions would fundamentally, and likely irrevocably, unravel a wireless ecosystem that is effectively bringing wireless broadband to millions of Americans today—*despite* the fact that it has been decades since the Commission last accepted applications for EBS licenses.

Spectrum made available in an open auction would likely never return to educational use because there is little chance that educational users will be able to compete at auction with commercial wireless providers, little chance that educators will be able to negotiate for paid use of this spectrum on the secondary market, and no chance that commercial licensees will put their spectrum to work for students and educators purely through market forces. AASA, SSA, and AESA put it simply: “Auctions are inconsistent with an educational purpose.”<sup>137</sup> Moreover, because non-commercial educational use is one of the driving forces behind rural EBS deployment, “using an auction to distribute licenses, including to resolve competing applications will hinder, not help, efforts to reach under-served and un-served students and families.”<sup>138</sup> Finally, as other commenters note, many educational entities may not be able to participate in auctions due to legal or financial restrictions.<sup>139</sup>

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(filed Aug. 7, 2018) (“Using auction[s] to distribute licenses, including to resolve competing applications will hinder, not help, efforts to reach under-served and un-served students and families.”); K12HSN Comments at 21 (“[U]sing auction to distribute licenses, including to resolve competing applications will hinder, not help, efforts to reach under-served and un-served students and families.”).

<sup>137</sup> AASA, SSA, and AESA Comments at 15.

<sup>138</sup> K12HSN Comments at 21.

<sup>139</sup> Comments of WCA, NIA and CTN at 105 n. 225, WT Docket No. 03-66 (filed Sept. 8, 2003) (“It is doubtful whether many public educational entities would be able to participate in an auction for frequencies, either because of legal or financial restrictions. Even if they can compete in an auction, the irony of the competitive bidding process in this context is that funds that otherwise could be put to use to provide education will be used to purchase frequencies.”).

Moreover, both of the options that the Commission has raised for auctioning EBS spectrum present serious challenges. Under either of these options, not only would educational users be frozen out of the band, but the auction process itself would introduce significant delays and inequities.

First, nearly all commenters that addressed the issue, including several commercial providers, have highlighted significant problems with an incentive auction in the 2.5 GHz band. Many explain that an incentive auction would significantly erode educational use in the 2.5 GHz band, potentially undermining the EBS ecosystem as a whole.<sup>140</sup> In addition, as Sprint pointed out, existing EBS licenses are commonly subject to long-term lease agreements, most of which may grant rights of first refusal to existing lessees. Therefore, many current licensees likely could not participate in an incentive auction without upending existing contracts.<sup>141</sup> Indeed, the most likely beneficiary of such an auction would be Sprint itself, who would be in a position to acquire spectrum that is highly complementary of its existing deployments. This makes Sprint's opposition to an incentive auction particularly telling. Moreover, the record reflects widespread agreement that an incentive auction would present undue complexity and would cause significant delay.<sup>142</sup> If history is any guide, it is likely to take several years to develop and finalize rules for a 2.5 GHz incentive auction, dramatically delaying deployments. Finally, an incentive auction would likely need to be followed by a repack process to improve the fungibility of licenses. But

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<sup>140</sup> See, e.g., WCA Comments at 32 (“An incentive auction would do more harm than good.”); HITN Comments at 2 (“HITN does not see a need for . . . incentive auctions.”); South Florida Licensees Comments at 12 (“[A]n incentive auction would actively promote the abandonment of educational services on this band as well as the bridging of the digital divide.”); NEBSA and CTN Comments at 15 (“There certainly is no reason for the Commission to conduct incentive auctions.”); see also NACEPF and Mobile Beacon Comments at 50–51 (explaining problems with an incentive auction); Voqal Comments at 25–26 (same); Select Spectrum Comments at 2–3 (same).

<sup>141</sup> Sprint Comments at 14–15; see also WCA Comments at 32.

<sup>142</sup> See, e.g., WCA Comments at 32–35; K12HSN Comments at 21; Voqal Comments at 25–26.

such a process would be highly disruptive for existing licensees that choose not to sell, placing significant new burdens on educators.

An overlay auction would present similar complexities, with still greater practical challenges. Although an overlay auction would not require the Commission to auction licenses that are already encumbered by lease agreements, the value of the overlay spectrum being sold would be strongly affected by these existing lease terms. These lease terms and other factors would affect the incumbent licensee's willingness to sell its authorization to the winning overlay bidder on the secondary market. This, in turn, will affect the value of the overlay license since the licenses will typically be complementary, making them worth more jointly than they would be worth individually. In fact, the existing license areas are more likely to cover urban cores, making the value of the more rural or suburban overlay licenses even more strongly affected by the incumbent licensee's ability and willingness to sell.

These factors will make auction participation very challenging for all bidders but one: Sprint, the current lessee in 1,600 EBS spectrum lease agreements nationwide.<sup>143</sup> Sprint is in a unique position to understand and take into account the terms of existing lease agreements and, on top of this, would likely value EBS overlay spectrum far more than most other bidders due to its ability to economize on existing infrastructure in adjacent areas. Such structural advantages in favor of a single bidder will reduce auction revenues and distort auction results, undermining the very purpose of using spectrum auctions to assign licenses.

Sprint's own examples highlight this risk. In 2009, the Commission conducted an auction for BRS overlay licenses. As Sprint urges the Commission to do here,<sup>144</sup> the Commission

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<sup>143</sup> Sprint Comments at 14.

<sup>144</sup> *See id.* at 10–12.

auctioned BRS spectrum on a Basic Trading Area basis, subject to protections for existing underlay licenses, many of which were leased to Clearwire (now Sprint), or one of its subsidiaries, at the time of the auction.<sup>145</sup> Given these initial conditions, the results of the auction are striking, but not surprising: Clearwire acquired the large majority of BRS licenses made available at auction.<sup>146</sup> Moreover, when it did, it typically did so after only *two rounds* of bidding (compared to a total of 24 rounds for the auction as a whole), due to lack of interest from any other bidder, suggesting that prices were significantly distorted and reduced.<sup>147</sup>

The same thing is likely to result in any potential EBS overlay auction. The existence of underlay licensees that are subject to lease agreements with a potential bidder increases the value of the overlay spectrum for that single bidder, but reduces it for everyone else. The result will be dramatically depressed bidding activity and a financial windfall for Sprint, which would be able to claim licenses at far below their theoretical value—i.e., the value Sprint would have been *willing* to pay for them were there other active bidders in the auction.

Thus, both incentive auctions and overlay auctions are plainly contrary to the public interest in the 2.5 GHz band. Without educational eligibility and use requirements—which we and most other commenters urge the Commission to retain—either approach would result in the rapid transfer of spectrum away from educators and students to commercial wireless carriers. As discussed above, on their own, such carriers do not provide comparable broadband offerings to

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<sup>145</sup> See *Auction of Broadband Radio Service (BRS) Licenses Scheduled for October 27, 2009*, Public Notice, 24 FCC Rcd. 4605, 4606 ¶ 3 (2009).

<sup>146</sup> FCC, *Auction 86: Broadband Radio Service* (2009), <https://www.fcc.gov/auction/86> (attaching the Excel file labelled “All Bidders” under “Reports,” which shows that Clearwire won 42 of the 61 total licenses at auction).

<sup>147</sup> *Auction of Broadband Radio Service Licenses Closes*, Public Notice, 24 FCC Rcd. 13,572, Attachment A at 13,582–13,585 (2009); FCC, *Bidder Summary: Clearwire Spectrum Holdings III, LLC*, available at <https://www.fcc.gov/auction/86/round-results> (last visited Aug. 27, 2018). To generate the summary report, open the “View Auctions Results” link and select “Clearwire Spectrum Holdings III, LLC” from the drop-down box under “Bidder Summaries” to generate a Round 24 summary report. Open the linked licenses to view the bidding history of each market. Out of Clearwire’s 42 winning bids, only 13 markets had competition.



those provided through EBS licensees and have failed to build areas where EBS licensees have created their own private networks, despite having greater financial resources and access to far more spectrum across multiple bands. Notably, commercial carriers are already poised to expand their existing spectrum reserves in numerous other upcoming spectrum auctions of mid-band and millimeter-wave spectrum.<sup>148</sup> Auctions are also inappropriate in this band from an economic perspective, since existing licenses and lease agreements will greatly reduce auction proceeds and funnel the auctioned licenses into the hands of a single bidder. Therefore, if the Commission desires to avoid a “windfall” to any particular entity, it should not adopt either of these auction proposals.

## VI. CONCLUSION

Since before 2009, the time that most EBS licensees entered into 30-year leases with Clearwire—as the Commission encouraged them to do—the world has changed dramatically. The way we learn, communicate, consume and create content, and share our ideas is done increasingly online and through mobile devices. All the while, the nonprofit and educational sectors have provided targeted services and innovative programs to address the specific needs of students and others in their communities. The technological expertise of many schools, libraries, and other educational entities has also grown exponentially over this time. EBS licensees are no

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<sup>148</sup> See, e.g., Middle Class Tax Relief and Job Creation Act of 2012 § 6103, 47 U.S.C. § 1413; *Auctions of Upper Microwave Flexible Use Licenses for Next-Generation Wireless Services et al.*, Public Notice, FCC 18-43, AU Docket No. 18-85 (rel. Apr. 17, 2018); *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550-2650 MHz Band*, Order on Reconsideration and Second Report and Order, 31 FCC Rcd. 5011 (2016); *Expanding Flexible Use of the 3.7 to 4.2 GHz Band et al.*, Order and Notice of Proposed Rulemaking, FCC 18-91, GN Docket Nos. 18-122, 17-183, RM-11791, RM-11778 (rel. July 13, 2018); *Expanding Flexible Use in Mid-band Spectrum Between 3.7 and 24 GHz*, Notice of Inquiry, 32 FCC Rcd. 6373, Statement of Chairman Ajit Pai at 6389 (2017); see also Monica Allevan, *Special Report—Everything We Know About 5G*, FierceWireless (Sept. 6, 2018, 11:00 AM) (listing all the bands currently under consideration in FCC proceedings: 2.5 GHz, 3.5 GHz, 3.7-4.2 GHz, 4.9 GHz, 5.9 GHz, 6 GHz, 12 GHz, 24 GHz, 26 GHz, 28 GHz, 32 GHz, 37 GHz, 39 GHz, 42 GHz, 47 GHz, 50 GHz and above 95 GHz), <https://www.fiercewireless.com/wireless/special-report-everything-we-know-about-5g>.

exception. In fact, they have been leaders in developing innovative models like library hotspot lending programs, building and operating their own private networks, developing mobile apps and training for teachers, and providing essential broadband service to support lifelong learning on a national level.

Commercial interests also have been met—and will continue to be met—by maintaining the educational eligibility requirements. It cannot be denied that the existing regulatory framework provided unprecedented levels of intensive commercial utilization of the 2.5 GHz band, particularly in urban and suburban EBS licensed areas, while simultaneously achieving the Commission’s long-standing goal of making broadband educational services a priority of this band. The first national broadband network utilizing 2.5 GHz spectrum was launched by Clearwire in 2009<sup>149</sup> and acquired by Sprint in 2013.<sup>150</sup> Today, the network serves 302 million POPs and over 54 million customers nationwide, and it is among the central building blocks for 5G deployment in America.<sup>151</sup>

The commercial sector—specifically Clearwire and now Sprint—deserve recognition for investing in the network build-out and widespread use of the band by millions. This has led to the development of the robust 2.5 GHz ecosystem that exists today, an essential building block in making it possible for EBS licensees with significantly fewer financial resources to even contemplate building their own networks. Yet, the Commission is also well aware that the commercial sector, on its own, will not solve some of the chief priorities identified by the Commission—closing the digital divide (including on Tribal lands), bridging the homework gap,

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<sup>149</sup> Paul Kapustka, *The Rise and Fall of Clearwire*, MuniWireless (Feb. 17, 2011), <http://muniwireless.com/2011/02/17/the-rise-and-fall-of-clearwire/>.

<sup>150</sup> Sprint Comments at 2.

<sup>151</sup> *Id.* at 2, 3.

and ensuring the rapid and robust delivery of 5G throughout the United States (not just in profitable areas of the country).

To answer the question posed by one commenter<sup>152</sup> about what makes educators “so uniquely suited” to being awarded this spectrum: it comes down to more than just the technological expertise to build and operate a robust network (which the record demonstrates is now a capability of many in the educational community, not just commercial operators), but a matter of passion, commitment, and incentive. On this point, the record is absolutely clear.

- While the commercial sector does not invest in wide-scale network build-out specifically or exclusively to reach those who remain in the digital divide, EBS licensees will. Several EBS licensees did not wait for the Commission to decide what to do with white space while thousands of their students lacked connectivity through the commercial sector. They went to the Commission, obtained waivers, and built where the commercial sector would not. There are many comments in the record demonstrating the interest and capability of many other educational institutions in doing the same.<sup>153</sup>
- Additionally, current EBS licensees that lease their spectrum and provide “over the top” broadband service are providing a robust level of service at an affordable price that could not simply be replaced by a commercial offer. Even when commercial entities have created low-cost offers for education, they typically do not provide the highest level of retail service available. Indeed, they sometimes provide far less data than their *lowest level* of retail service.
- Today, the largest, most profitable commercial entities are also exploiting the lack of competition resulting from other commercial operators failing to build out in rural areas (despite already having ample spectrum to do so) by charging the same prices for old, outdated technology in rural parts of the country as they charge for high-speed fiber service in urban areas. Currently eligible EBS licensees have shown no such inclination to prioritize profits over people.
- Educational entities that do not currently hold an EBS license have voiced their urgent broadband needs and provided the Commission with a detailed roadmap of how they will achieve them if the Commission licenses EBS white space through priority windows to Tribal and educational entities. Absent such priority windows, these plans cannot be accomplished.

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<sup>152</sup> See WCA Comments at 9.

<sup>153</sup> See *supra* Section II.

It is essential that the Commission relies on the record of evidence in this proceeding—not on views or opinions formed prior to the rulemaking—and recognizes the unique opportunity that exists today. To be clear, there has never been a point in history when the educational community has had everything needed to fully utilize this spectrum—with or without the help of a commercial carrier. For the Commission to choose this point in time to abandon its long-standing commitment to educational use would not just be a cruel irony, but would deprive generations to come of the unbounded opportunities EBS would have provided in the hands of educational entities, those who would put this spectrum to its highest and best use.

Respectfully submitted,

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