**IN THE UNITED STATES COURT OF APPEALS**
**FOR THE DISTRICT OF COLUMBIA CIRCUIT**

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| COMPETITIVE CARRIERS ASSOCIATION<br><br>*Petitioner*,<br><br>v.<br><br>FEDERAL COMMUNICATIONS COMMISSION and UNITED STATES OF AMERICA,<br><br>*Respondents*. | Case No. 25-1051 |

**PETITION FOR REVIEW**

Pursuant to 28 U.S.C. §§ 2342(1) and 2344, 47 U.S.C. § 402(a), 5 U.S.C. § 706, and Rule 15(a) of the Federal Rules of Appellate Procedure, Competitive Carriers Association ("CCA") hereby petitions this Court for review of the decision of the Federal Communications Commission (the "FCC" or the "Commission") adopted as FCC 24-89 on August 14, 2024 and released on August 29, 2024 titled *Establishing a 5G Fund for Rural America*, Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking, FCC 24-89, GN Docket No 20-32, (rel. Aug. 29, 2024) (the "*Order*").

On December 13, 2024, the *Order* was published in the Federal Register at 89 Fed. Reg. 101358. A copy of the *Order* is attached as Exhibit A to this Petition,

and a copy of the Federal Register publication is attached as Exhibit B. Venue in this Court is proper under 28 U.S.C. § 2343.

CCA was a participant in the proceeding below, and both it and its members are aggrieved by the challenged *Order*. CCA seeks review on the grounds that the *Order* exceeds the FCC's jurisdiction and its statutory authority; violates the Communications Act and the Administrative Procedure Act; and is arbitrary and capricious, an abuse of discretion, not supported by substantial evidence, and otherwise contrary to law.

Among other deficiencies, the *Order*:

- is arbitrary and unsupported by substantial evidence because the FCC based the speed threshold for defining eligible areas on its assumption of the "the minimum desired . . . mobile user experience,"[1] while failing to explain or provide support for that assumption;
- is unsupported by substantial evidence because the Commission established a speed threshold for defining eligible areas based on an unsupported assumption that providers will upgrade to higher speeds in those areas absent financial support;

[1] Establishing a 5G Fund for Rural America, 89 Fed. Reg. 101358, 101363 (Dec. 12, 2024) ("*Order*").

- is contrary to law because the FCC established the speed threshold for defining eligible areas based on "the minimum desired . . . mobile user experience,"[2] which fails to meet the Commission's statutory duty to ensure that consumers in rural and high-cost areas receive services that are "reasonably comparable"[3] to those provided in urban areas.
- is arbitrary and capricious because the FCC decided to make eligibility determinations using mobile maps that overstate mobile broadband coverage despite significant evidence that the maps are inaccurate and unreliable and do not include any build-out that will arise from the Broadband Equity Access and Deployment ("BEAD") program awards; and
- is arbitrary and unsupported by substantial evidence because the Commission provided no reasoned explanation for its selection of a budget of "up to $9 billion"[4] for the 5G Fund Phase I auction.

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[2] *Id.*

[3] 47 U.S.C. § 254(b)(3).

[4] *Order*, 89 Fed. Reg. at 101371.

CCA respectfully requests that the Court hold unlawful, vacate, enjoin, and set aside the *Order* and grant such further relief as may be appropriate.

February 6, 2025

Respectfully submitted,

/s/ Sean A. Lev

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## CORPORATE DISCLOSURE STATEMENT

Pursuant to Fed. R. App. P. 26.1 and Circuit Rule 26.1, Petitioner Competitive Carriers Association ("CCA") states the following.

CCA is the nation's leading association for competitive wireless providers and stakeholders across the United States. Members range from small, rural carriers serving fewer than 5,000 customers to regional and nationwide providers serving millions of customers, as well as vendors and suppliers that provide products and services throughout the wireless communications ecosystem.

CCA has no parent corporation, and no publicly held corporation owns ten percent or more of its stock.

February 6, 2025

Respectfully submitted,

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## CERTIFICATE OF SERVICE

I hereby certify that, on February 6, 2025, the foregoing was served by U.S. mail upon the following parties:

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Respectfully submitted,

/s/ Sean A. Lev
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**EXHIBIT A**

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

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|---|---|---|
| In the Matter of | ) | |
| | ) | |
| Establishing a 5G Fund for Rural America | ) | GN Docket No. 20-32 |

# SECOND REPORT AND ORDER, ORDER ON RECONSIDERATION, AND SECOND FURTHER NOTICE OF PROPOSED RULEMAKING

**Adopted: August 14, 2024** **Released: August 29, 2024**

**Comment Date: 30 days after publication in the Federal Register**
**Reply Comment Date: 45 days after publication in the Federal Register**

By the Commission: Chairwoman Rosenworcel and Commissioners Starks and Gomez issuing separate statements; Commissioner Carr dissenting and issuing separate statement.

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## I. INTRODUCTION

1. Today, we take important and necessary steps to implement the framework for the 5G Fund for Rural America (5G Fund) to support the build out of advanced, 5G mobile wireless broadband networks for those who live, work, and travel in rural areas. After over a decade of hard work to reach this pivotal moment, the 5G Fund reflects the Commission's persistent efforts to reform and redirect universal service funds for mobile broadband to areas of the country that need them the most.[1] As we finalize the details for the 5G Fund, we are confident that our conclusions below are solidly grounded in the improved mobile coverage data obtained in the Broadband Data Collection (BDC), which is reflected on our new National Broadband Map and provides us with the most comprehensive picture to date about where mobile broadband service is and is not across the entire country.[2] Unquestionably, the Commission's decision to wait to proceed with a 5G Fund Phase I auction until we had these data to rely on has dramatically improved our understanding of where high-speed mobile broadband service is being provided and has significantly enhanced our ability to hold a successful 5G Fund auction. We are now far better informed regarding which communities lack mobile broadband service.

2. As the Commission noted when it adopted the *5G Fund Further Notice of Proposed Rulemaking* (*5G Fund FNPRM*), the National Broadband Map reflects the stark reality that over 14 million homes and businesses nationwide continue to lack access to 5G mobile wireless broadband service.[3] The Commission therefore undertook a tailored effort to refresh the record and reignite the 5G Fund's plan to expand the deployment of 5G service to those rural communities that remain trapped on the wrong side of the digital divide. After careful consideration of the record gathered in this proceeding, we conclude that the determinations we reach herein will best incentivize the deployment of networks providing advanced, 5G mobile wireless broadband in areas of the country where, absent subsidies, such service will continue to be lacking.[4]

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[1] *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Report and Order, 35 FCC Rcd 12174 (2020), modified by *Errata* released Nov. 10, 2020, Nov. 27, 2020, and Jan. 11, 2021 (*5G Fund Report and Order*).

[2] *See National Broadband Map,* https://broadbandmap.fcc.gov/home (last visited Mar. 15, 2024). At the time the *5G Fund Report and Order* was adopted, the BDC was known as the Digital Opportunity Data Collection.

[3] *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Further Notice of Proposed Rulemaking, FCC 23-74, 2023 FCC LEXIS 2941, at *31, para. 14 (2023) (*5G Fund FNPRM*). This figure reflected data as of December 2022 where broadband serviceable locations lacked mobile 5G coverage at speed thresholds of at least 7/1 Mbps in an in-vehicle environment. *Id.*

[4] *See generally Report on the Future of the Universal Service Fund*, WC Docket No. 21-476, Report, 37 FCC Rcd 10041 (2022), https://docs.fcc.gov/public/attachments/FCC-22-67A1.pdf (*Future of USF Report*). As the Commission explained, it is committed to interagency coordination of high-cost support and the Infrastructure Investment and Jobs Act (Infrastructure Act) support. *Id.* at 10066, para. 46. Funding for deployment under the Infrastructure Act, however, focuses on fixed services, not mobile services. *Id*. at 10069, para. 53 n.204 (citing NTIA, Notice of Funding Opportunity; Broadband Equity, Access, and Deployment (BEAD) Program at 15 n.10 (May 13, 2022) (*BEAD Program NOFO*), https://broadbandusa.ntia.doc.gov/sites/default/files/2022-

(continued….)

3. Specifically, in this *Second Report and Order and Order on Reconsideration*, we: (1) modify the definition of the areas that will be eligible for support in the 5G Fund Phase I auction and include areas in Puerto Rico and the U.S. Virgin Islands that meet this eligible area definition in the 5G Fund Phase I auction; (2) increase the budget for Phase I of the 5G Fund and the Tribal reserve budget; (3) modify the metric for accepting and identifying winning bids and adopt a service-based weighting factor for bidding in the 5G Fund Phase I auction; (4) explain how we will aggregate areas eligible for 5G Fund support to minimum geographic areas for bidding; (5) explain our approach to generally align the methodologies for demonstrating compliance with the 5G Fund public interest obligations and performance requirements with those used in the BDC; (6) modify the schedule for transitioning from mobile legacy high-cost support to 5G Fund support consistent with recent legislative amendments; (7) require each 5G Fund Phase I auction applicant to certify, under penalty of perjury, that it has read the public notice adopting procedures for the auction, and that it has familiarized itself with those procedures and any requirements related to the support made available for bidding in the auction; (8) require 5G Fund support recipients to implement cybersecurity and supply chain risk management plans as a condition of receiving support; and (9) encourage 5G Fund support recipients to incorporate Open Radio Access Network (Open RAN) technologies in networks funded through the 5G Fund through the use of incentive funding and an opportunity to seek additional time to meet their 5G Fund public interest obligations and performance requirements by the established service deployment milestones.

4. We also resolve the issues raised in the pending petitions for reconsideration of the Commission's *5G Fund Report and Order*.[5] With the decisions we reach today, we advance the Commission's extensive efforts to modernize high-cost support for mobile broadband services[6] and

05/BEAD%20NOFO.pdf (stating that the Assistant Secretary, pursuant to authority in Infrastructure Act, § 60102(a)(2)(L), adopts the criteria that Reliable Broadband Service must be, among other things, a fixed broadband service). Insofar as the BEAD Program will not fund mobile broadband deployment, the Commission has stated that pausing the process of preparing for a 5G Fund auction "would have detrimental impacts on consumers' access to advanced mobile wireless service." *Report on the Future of Universal Service Fund Support*, 37 FCC Rcd at 10069, para. 54.

[5] The Commission received five timely filed petitions for reconsideration of the *5G Fund Report and Order*. *See* The Rural Wireless Association, Inc. and NTCA – The Rural Broadband Association, Joint Petition for Reconsideration, GN Docket No. 20-32 (filed Dec. 28, 2020) (*RWA/NTCA Joint Petition for Reconsideration*); The Coalition of Rural Wireless Carriers, Petition for Reconsideration, GN Docket No. 20-32 (filed Dec. 28, 2020) (*CRWC Petition for Reconsideration*); CTIA, Petition for Partial Reconsideration, GN Docket No. 20-32 (filed Dec. 28, 2020); Smith Bagley, Inc, Petition for Reconsideration, GN Docket No. 20-32 (filed Dec. 28, 2020) (*SBI Petition for Reconsideration*); 5G Fund Supporters, Petition for Partial Reconsideration, GN Docket No. 20-32 (filed Nov. 30, 2020) (*5G Fund Supporters Petition for Reconsideration*); *see also Petitions for Reconsideration of Action in Proceeding*, Public Notice, Report No. 3165 (Jan. 6, 2021).

[6] Beginning in its 2011 *USF/ICC Transformation Order*, the Commission took numerous steps to comprehensively reform and modernize the universal service program to ensure that robust, affordable, fixed, and mobile broadband service are available to Americans living in rural, insular, and high cost areas of the country. *See Connect America Fund et al.*, WC Docket 10-90 et al., Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (*USF/ICC Transformation Order*), *aff'd sub nom. In re FCC 11-161*, 753 F.3d 1015 (10th Cir. 2014) (*In re FCC 11-161)*. Among other things, the Commission established a two-phased Mobility Fund dedicated to targeting universal service support for mobile services in a cost-effective manner to no more than one provider per area in areas where a private-sector business case was lacking. *See id.* at 17674-75, 17773, 17779, 17819, 17821, paras. 28, 299, 316, 481, 486. In Phase I of the Mobility Fund, which was composed of a general Mobility Fund and a Tribal Mobility Fund, the Commission awarded almost $350 million in one-time universal service support through two reverse auctions. *See 5G Fund Report and Order*, 35 FCC Rcd at 12176-77, para. 6. In 2017, the Commission adopted rules for Mobility Fund Phase II that provided $4.53 billion in ongoing support over a ten-year term, redirected universal service funds to areas of the country unlikely to receive 4G Long Term Evolution (LTE) service absent subsidies, and established the framework for a challenge process to resolve disputes about areas that were found to be presumptively ineligible for support. *See Connect America Fund; Universal Service Reform – Mobility Fund*, WC Docket No. 10-90; WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, 32 (continued….)

proceed with confidence that we are stretching our limited universal service fund dollars to support advanced, 5G mobile wireless broadband service to as many areas where Americans live, work and travel as possible.

5. In this *Second Further Notice of Proposed Rulemaking*, we seek comment on whether to require a winning bidder in the 5G Fund Phase I auction to demonstrate during the long-form application process, and prior to being authorized to receive support, that it has obtained the consent of the relevant Tribal government(s) for any necessary access to deploy network facilities using its 5G Fund support on Tribal lands within the area(s) of its winning bid(s). We seek comment on whether including a Tribal consent requirement would advance the goals of the 5G Fund and would be administratively efficient for all parties and the Commission. We tentatively conclude that adopting a Tribal consent requirement in our 5G Fund rules is consistent with our long-standing recognition that engagement between Tribal governments and communications providers, particularly early engagement, is an important element to promote the successful deployment and provision of service on Tribal lands. We also seek comment on how to structure any such Tribal consent requirement we may adopt for the 5G Fund.

## II. BACKGROUND

6. In October 2020, the Commission established the 5G Fund and determined that it would use multi-round reverse auctions to distribute up to $9 billion, in two phases, to retarget mobile universal service in the high-cost program to bring voice and 5G mobile broadband service to rural areas of the country unlikely to otherwise see unsubsidized deployment of 5G-capable networks.[7] The Commission decided that it would use new, more precise, verified mobile coverage data gathered through the BDC to determine the areas eligible for support in a 5G Fund auction.[8] The Commission defined the areas eligible for support in the 5G Fund Phase I auction as those that lack unsubsidized 4G LTE and 5G broadband service by at least one service provider based on BDC data.[9] The Commission also decided

FCC Rcd 2152, 2154, para. 2 (2017) (*Mobility Fund Phase II Report and Order*); *Connect America Fund; Universal Service Reform – Mobility Fund*, WC Docket No. 10-90, WT Docket No. 10-208, Order on Reconsideration and Second Report and Order, 32 FCC Rcd 6282 (2017) (requiring mobile wireless providers to submit 4G LTE coverage maps and adopting a process for challenging those coverage maps). After questions arose about the accuracy of the submitted coverage maps, the Commission launched an investigation into the 4G LTE coverage data submitted by some providers and suspended the challenge process pending the investigation. *See* News Release, FCC, FCC Launches Investigation into Potential Violations of Mobility Fund Phase II Mapping Rules (Dec. 7, 2018), https://docs.fcc.gov/public/attachments/DOC-355447A1.pdf. Commission staff ultimately determined that the coverage maps submitted by certain carriers overstated actual coverage and did not reflect on-the-ground performance in many instances, and recommended that the Commission terminate the challenge process because the coverage maps were not "a sufficiently reliable or accurate basis upon which to complete the challenge process as it was designed." Rural Broadband Auctions Task Force, Mobility Fund Phase II Coverage Maps Investigation Staff Report at 2, para. 6 (2019) (*Mobility Fund Phase II Coverage Maps Investigation Staff Report*), https://docs.fcc.gov/public/attachments/DOC-361165A1.pdf. The Commission proposed, and later established, the 5G Fund as a comprehensive replacement for Mobility Fund Phase II, and adopted the framework and rules for the 5G Fund. *See generally Establishing a 5G Fund for Rural America; Universal Service Reform – Mobility Fund*, GN Docket No. 20-32, WT Docket No. 10-208, Notice of Proposed Rulemaking and Order, 35 FCC Rcd 3994, 3996, para. 2 (2020) (*5G Fund NPRM*); *5G Fund Report and Order,* 35 FCC Rcd 12174.

[7] *5G Fund Report and Order*, 35 FCC Rcd at 12176, para. 4. In adopting a budget of up to $9 billion for the 5G Fund, the Commission explained that support would be awarded in two phases, with up to $8 billion for Phase I, of which it would reserve $680 million of support for service to Tribal lands, and at least $1 billion in Phase II, as well as any unawarded funds from Phase I. *Id.* at 12185, para. 28.

[8] *See id.* at 12179, para. 11; *see also 5G Fund NPRM*, 35 FCC Rcd at 4007-08, paras. 37-39.

[9] *5G Fund Report and Order*, 35 FCC Rcd at 12181, para. 17.

that it would accept bids and identify winning bids in a 5G Fund auction using a support price per adjusted square kilometer.[10]

7. The Commission also concluded in the *5G Fund Report and Order* that "[r]ural Americans deserve timely deployment of service by legacy recipients of high-cost support that is comparable to what is being offered in urban areas, and [that its] stewardship of the Universal Service Fund demands that [it] specify and clarify the obligations of legacy support recipients."[11] Consistent with this conclusion, the Commission adopted additional 5G public interest obligations and performance requirements, as well as associated reporting requirements, for competitive eligible telecommunications carriers (ETCs) to continue to receive mobile legacy high-cost support.[12] The Commission also adopted a requirement that competitive ETCs receiving mobile legacy high-cost support use an increasing percentage of their support toward the deployment, maintenance, and operation of voice and broadband networks that support 5G service in their subsidized areas.[13] Furthermore, the Commission noted that it would terminate support payments to competitive ETCs receiving mobile legacy high-cost support that fail to comply with their public interest obligations and performance requirements.[14] The Commission explained that such rules would help to ensure that the areas served by legacy support providers enjoyed the benefits that 5G promises.[15]

8. Pursuant to the rules adopted in the *5G Fund Report and Order*, both recipients of mobile legacy high-cost support and recipients of 5G Fund auction support are required to meet minimum baseline performance requirements for data speed, latency, and data allowance, including: (1) deploying 5G networks that meet at least the 5G-NR (New Radio) technology standards developed by the 3rd Generation Partnership Project with Release 15 (or any successor release that may be adopted by the

[10] *Id.* at 12194-95, para. 48; *see also 5G Fund NPRM*, 35 FCC Rcd at 4014, para. 57. Under this approach, each eligible area would have an associated number of square kilometers that would be subject to an adjustment factor that would assign a weight to each geographic area and apply that adjustment factor to bidding for support amounts, and support amounts for an area would be determined by multiplying an area's associated adjusted square kilometers by the relevant price per square kilometer. *See 5G Fund Report and Order*, 35 FCC Rcd at 12194-95, 12196-97, paras. 48, 54-55. For example, an area with 100 square kilometers and an adjustment factor of 1.2 would have 100×1.2 or 120 adjusted square kilometers. *Id*. at 12195, para. 48 n.124.

[11] *5G Fund Report and Order*, 35 FCC Rcd at 12199-200, para. 62.

[12] *See generally id*. at 12212-14, paras. 91-100. We use the term "mobile legacy high-cost support" and "mobile legacy support" herein to refer specifically to the high-cost support that was frozen in the *USF/ICC Transformation Order*, *see USF/ICC Transformation Order*, 26 FCC Rcd at 17832, para. 519, and is being disbursed to competitive ETCs to provide mobile wireless service. As part of its 2011 high-cost program reforms, the Commission eliminated a legacy support mechanism for providing universal service fund support to competitive ETCs, including mobile providers (subject to a freeze and a five-year transition period), and adopted a two-phased Mobility Fund. *USF/ICC Transformation Order*, 26 FCC Rcd at 17675, para. 28. Pursuant to the terms of the *USF/ICC Transformation Order,* because the Mobility Fund Phase II auction did not take place by July 1, 2014, the Commission paused the phase down of frozen mobile legacy high-cost support at the 60% frozen support level. *See id.* at 17832, para. 519. To ensure that its new rules were being followed, the Commission adopted reporting requirements for each competitive ETC receiving legacy high-cost support for mobile wireless service to file an initial report of the provider's service offerings in each of its subsidized service areas detailing how it was using such legacy support. *5G Fund Report and Order*, 35 FCC Rcd at 12212-13, paras. 91-94. Additionally, the Commission's rules require that carriers receiving mobile legacy support must file annual reports regarding their efforts to provide 5G services throughout their subsidized service areas, as well as certifications that the support recipient is in compliance with its public interest obligations and performance requirements. *Id*. at 12213-14, paras. 95-99. The Commission also adopted a high-level requirement that mobile legacy high-cost support recipients submit 5G service milestone reports. *Id.* at 12215, para. 100.

[13] *5G Fund Report and Order*, 35 FCC Rcd at 12200-01, para. 65.

[14] *Id.* at 12217, para. 107.

[15] *Id*. at 12178, para. 10.

Office of Economics and Analytics (OEA) and Wireline Competition Bureau (WCB) after appropriate notice and comment) with median download and upload speeds of at least 35 Mbps and 3 Mbps and with minimum cell edge download and upload speeds of 7 Mbps and 1 Mbps; (2) meeting end-to-end round trip data latency measurements of 100 milliseconds or below; and (3) offering at least one service plan that includes a minimum monthly data allowance that is equivalent to the average United States subscriber data usage.[16] The Commission explained that these performance requirements, along with public interest obligations for reasonably comparable rates, collocation, and voice and data roaming, will ensure that rural areas receive service reasonably comparable to high-speed mobile broadband service available in urban areas from both mobile legacy support recipients and 5G Fund support recipients.[17]

9. To ensure that 5G Fund support recipients meet their public interest obligations and performance requirements in areas where they receive support, the Commission adopted interim and final service deployment milestones along with reporting requirements to monitor their progress. Specifically, the Commission adopted milestones requiring a 5G Fund support recipient to offer 5G service meeting established performance requirements to at least 40% of the total square kilometers associated with the eligible areas for which it is authorized to receive 5G Fund support in a state by the end of the third full calendar year following authorization of support, to at least 60% of the total square kilometers by the end of the fourth full calendar year, and to at least 80% of the total square kilometers by the end of the fifth full calendar year.[18] Moreover, the Commission adopted a final service deployment milestone that would require a 5G Fund support recipient to offer 5G service that meets the established 5G Fund performance requirements to at least 85% of the total square kilometers associated with the eligible areas for which it is authorized to receive 5G Fund support in a state by the end of the sixth full calendar year following authorization of support.[19] Additionally, a 5G Fund support recipient is required to demonstrate by the end of the sixth full calendar year following authorization of support that it provides service that meets the established 5G performance requirements to at least 75% of the total square kilometers within each of its individual biddable areas.[20]

10. Figure 1 below depicts USAC's online map delineating the boundaries of the subsidized service areas of each competitive ETC receiving mobile legacy high-cost support used in determining which areas are subsidized for this purpose.[21] The charts in Figures 2 and 3 below provide more detail about the distribution of mobile legacy high-cost support by state.

[16] *Id*. at 12183-84, para. 20; *see also id*. at 12206, para. 78.

[17] *Id.* at 12184, para. 21.

[18] *Id.* at 12204, para. 73.

[19] *Id.* at 12204, para. 74; *see also 5G Fund NPRM*, 35 FCC Rcd at 4026, para. 95.

[20] *5G Fund Report and Order*, 35 FCC Rcd at 12204, para. 74; *see also 5G Fund NPRM*, 35 FCC Rcd at 4027, para. 96.

[21] The Commission stated in the *5G Fund Report and Order* that it will use Geographic Information Systems (GIS) data from the Universal Service Administrative Company (USAC) delineating the boundaries of the subsidized service areas of each competitive ETC receiving mobile legacy high-cost support in determining which areas are subsidized for this purpose. *5G Fund Report and Order*, 35 FCC Rcd at 12181, para. 17 n.43; *see 5G Fund NPRM*, 35 FCC Rcd at 4017-18, para. 71 & n.104.

**Figure 1: USAC Mobile CETC Service Area Boundaries Map**[22]

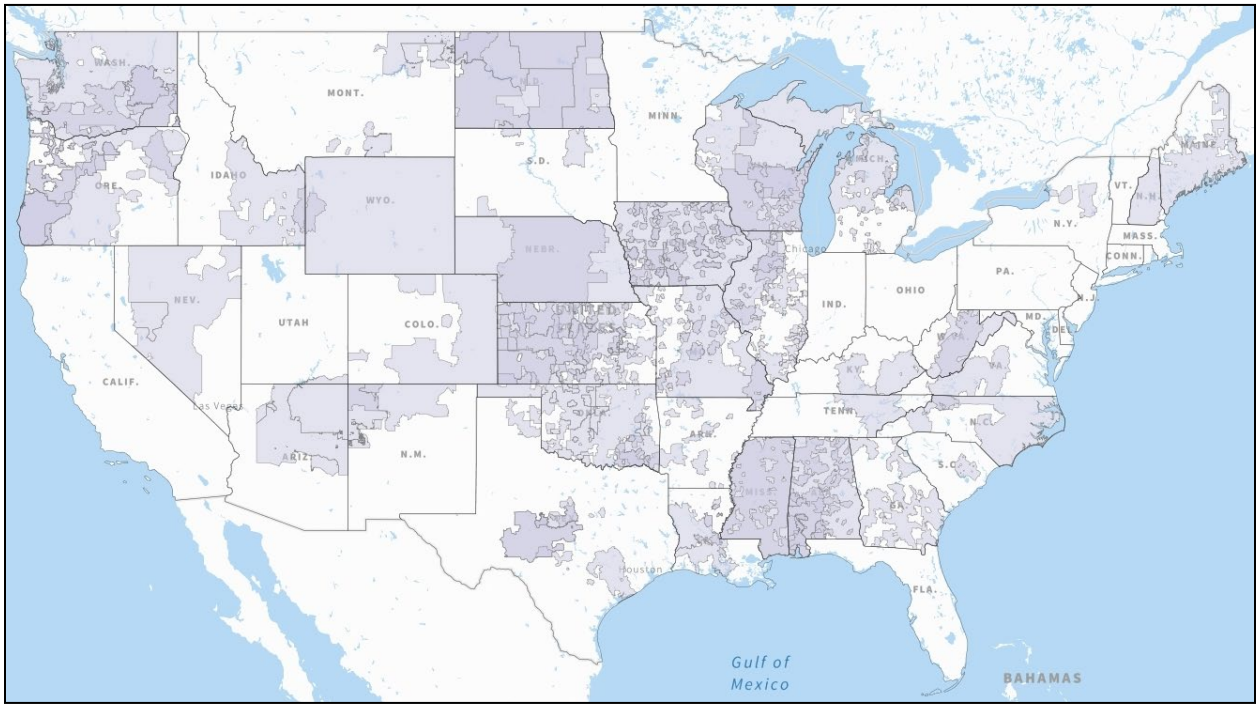
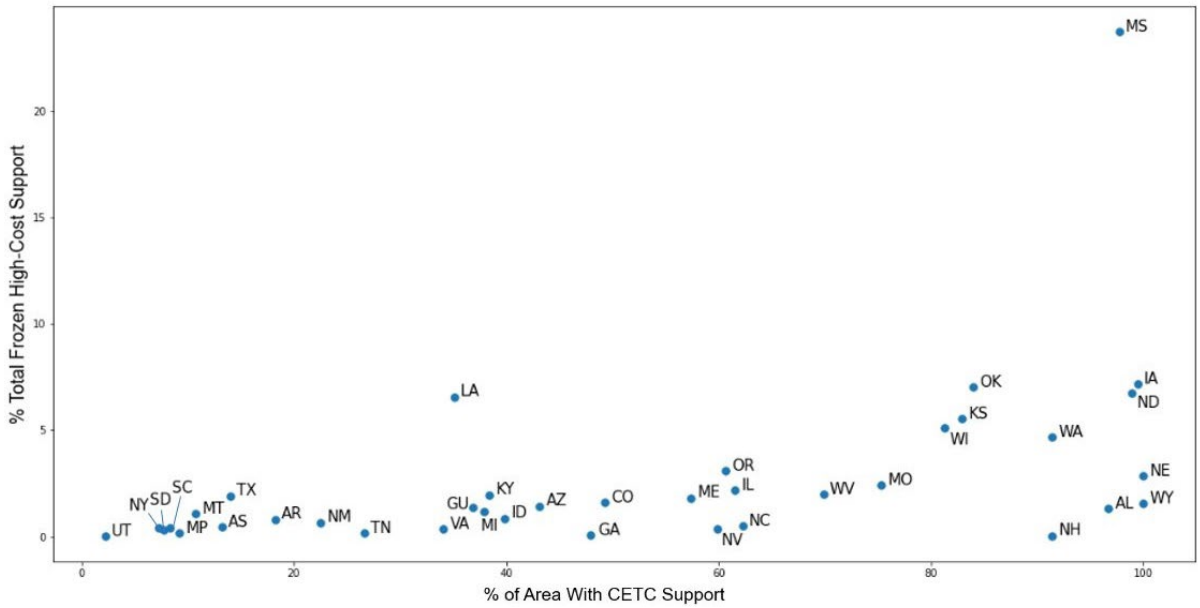
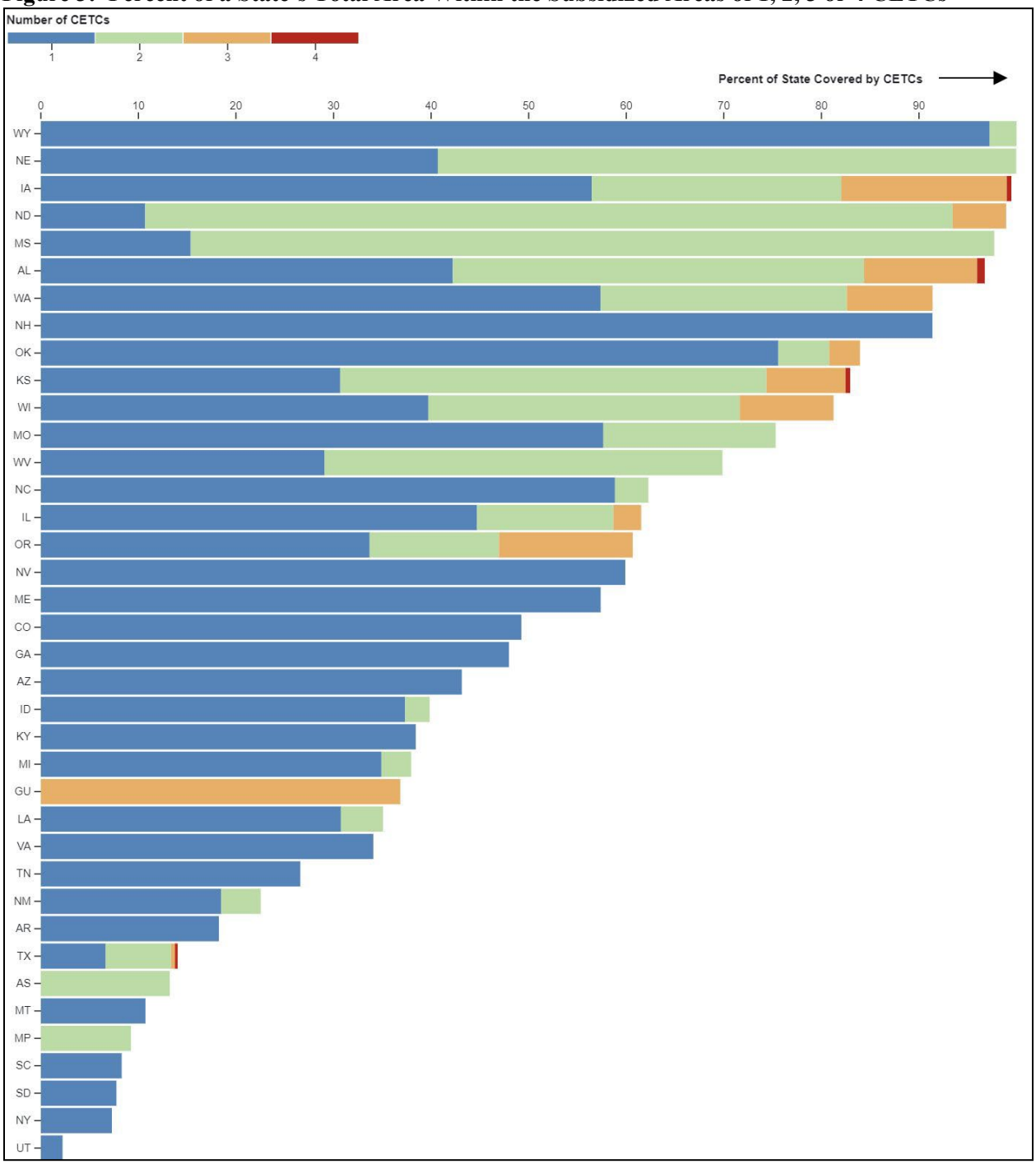



**Figure 2: Percent of a State's Total Area Within a Subsidized CETC Area and the Percent of Total High-Cost Subsidy Directed to That State**




[22] Mobile CETC Service Area Boundaries Map, https://data.usac.org/publicreports/cetc-map/ (data as of Feb. 16, 2023; image generated Aug. 28, 2023). The following states and Washington, D.C. do not have any mobile legacy high-cost support service areas: California, Connecticut, Delaware, Florida, Hawaii, Indiana, Maryland, Massachusetts, Minnesota, New Jersey, Ohio, Pennsylvania, Rhode Island, and Vermont.

**Figure 3: Percent of a State's Total Area Within the Subsidized Areas of 1, 2, 3 or 4 CETCs**




11. The Commission decided in the *5G Fund Report and Order* that it would wait to hold an auction to award 5G Fund support until it had new, more precise, verified mobile coverage data obtained through the BDC, and explained that waiting for the development of a National Broadband Map was critical to the 5G Fund's success.[23] Our National Broadband Map, which reflects the most recently available data submitted in the BDC concerning mobile broadband service availability, provides us with a

[23] *5G Fund Report and Order*, 35 FCC Rcd at 12179, para. 11.

substantially improved understanding about where such service is—and is not—available.[24] Moreover, in areas where mobile broadband service is available, this map provides an improved picture of the type(s) of service available, the speeds at which service is available, and the environment(s) in which service is available.[25]

12. Armed with this data, the Commission adopted the *5G Fund FNPRM* on September 21, 2023, to refresh the record and help inform the decisions we make below about how Phase I of the 5G Fund should operate.[26] The *5G Fund FNPRM* therefore sought comment on a limited set of issues that are critical to the 5G Fund's success, namely: (1) defining the areas that will be eligible for 5G Fund support; (2) reassessing the budget for the 5G Fund; (3) potentially reconsidering the use of adjusted square kilometers as the metric for accepting bids and identifying winning bids in a 5G Fund auction; (4) aggregating areas eligible for 5G Fund support to minimum geographic areas for bidding; (5) measuring a 5G Fund support recipient's compliance with its public interest obligations and performance requirements based on any modified metric for accepting bids and identifying winning bids; (6) modifying the schedule for transitioning from mobile legacy high-cost support to 5G Fund support, consistent with recent legislative amendments; (7) requiring each 5G Fund Phase I auction applicant to certify, under penalty of perjury, that it has read the public notice adopting procedures for the auction, and that it has familiarized itself with those procedures and any requirements, terms, and conditions related to the support made available for bidding in the auction; (8) requiring 5G Fund support recipients to implement cybersecurity and supply chain risk management plans; (9) determining whether and how this proceeding might create an opportunity to support further deployment of Open Radio Access Network (Open RAN) technologies; and (10) asking how its proposals may promote or inhibit advances in diversity, equity, inclusion, and accessibility, as well the scope of the Commission's relevant legal authority to address any such issues.[27]

## III. IDENTIFYING AREAS ELIGIBLE FOR 5G FUND SUPPORT

### A. Defining the Areas Eligible for 5G Fund Support

13. We modify the definition of areas eligible for support in the 5G Fund Phase I auction to be those areas that: (1) show a lack of unsubsidized[28] 5G mobile wireless broadband service at speeds of at least 7/1 Mbps in an outdoor stationary environment by at least one service provider based on mobile coverage data submitted in the BDC, (2) are not in urban areas, as defined by the U.S. Census Bureau, and (3) contain at least one location or at least some portion of a road.[29]

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[24] *5G Fund FNPRM* at *26-27, para. 11. *See* Updated National Broadband Map, released November 17, 2023, https://broadbandmap.fcc.gov/home (last visited Mar. 12, 2024). The Updated National Broadband Map released on November 17, 2023 shows the Fabric Version 3 location data and broadband availability data as of June 30, 2023.

[25] *5G Fund FNPRM* at *26-27, para. 11. *See BDC Mobile Technical Requirements Order*, 37 FCC Rcd 3007, 3008, para. 1 (WTB/OEA/OET 2022). In the BDC, the term "environment" in the context of mobile services refers to service provided in an outdoor stationary environment or an in-vehicle mobile environment. *Id.* at 3024, para. 29.

[26] *See generally 5G Fund FNPRM.*

[27] *Id.* at *20-90, paras. 9-54.

[28] Data submitted in the BDC does not include the subsidy status of a reported service or provider. As noted above, to determine whether an area lacks unsubsidized service, we evaluate the subsidy status of a service provider by using information provided from USAC regarding the distribution of mobile legacy high-cost support from the universal service fund and competitive eligible telecommunications carrier (CETC) study boundaries. *See supra* n.21.

[29] Consistent with the Commission's decision in the *5G Fund Report and Order* prohibiting any provider with enforceable 5G deployment obligations to use 5G Fund support to fund such deployments, we expect to give providers with enforceable 5G deployment obligations an opportunity to make pre-auction, binding commitments to deploy 5G in certain areas, thereby removing those areas from the inventory of areas eligible for the auction. *See 5G Fund Report and Order*, 35 FCC Rcd at 12247-49, paras. 180-83. The Commission previously concluded that (continued….)

14. As the Commission noted in the *5G Fund FNPRM*, throughout this proceeding, several parties have taken issue with the previously adopted eligible areas definition—i.e., areas where mobile coverage data submitted in the BDC show a lack of both unsubsidized 4G LTE and unsubsidized 5G broadband service by at least one service provider[30]—and have advocated that the Commission more broadly define as eligible for 5G Fund support any areas that lack unsubsidized 5G mobile broadband service.[31] The Commission also received two petitions seeking reconsideration of the eligible areas definition adopted in the *5G Fund Report and Order*, both of which ask us to define as eligible for 5G Fund support any area that lacks unsubsidized 5G broadband service.[32] We are persuaded by the comments filed in response to the *5G Fund FNPRM* that, for a variety of reasons, unsubsidized providers of 4G LTE service may lack motivation to upgrade their networks to 5G technology in rural areas and thus may be unlikely to do so without incentives.[33] To provide such incentives, we therefore modify the

T-Mobile would be able to make such commitments due to its commitments to the Commission resulting from its transaction with Sprint and directed OEA and WCB to consider, among other things, whether there are similarly situated entities that should be permitted to make pre-auction, binding commitments with respect to certain areas. *Id*. at 12248, para. 182. Given WTB's familiarity with enforceable commitments that have been made with the Commission, we direct WTB to work with OEA and WCB with respect to eligibility for this pre-selection process and on the procedure for making pre-auction binding commitments. In particular, we direct OEA, WTB, and WCB to determine whether T-Mobile is eligible to participate in the pre-auction binding commitment process in light of its assertion that it has satisfied its rural deployment obligations that formed the basis of the Commission's decision in 2020. *See* Letter and Fourth Annual Progress Report from Nancy J. Victory, Counsel for T-Mobile US, Inc., DLA Piper, to Joel Taubenblatt, Chief, FCC Wireless Telecommunications Bureau, WT Docket No. 22-211 at 5 (May 31, 2024).

[30] *5G Fund Report and Order*, 35 FCC Rcd at 12181, para. 17.

[31] *5G Fund FNPRM* at *23-26, para. 10 & nn.26, 27.

[32] *See CRWC Petition for Reconsideration* at 14 (asking the Commission to "reassess its determination of eligible areas after it has accurate 4G/5G maps through the [BDC] process," and then "define as eligible any area that lacks unsubsidized 5G service"); *RWA/NTCA Joint Petition for Reconsideration* at 6 (asking the Commission to "determine that all areas shown by the [BDC] to be lacking unsubsidized 5G deployments will be eligible for funding in the 5G [F]und auction or, in the alternative, define 4G LTE service for purposes of defining eligible areas as service meeting a speed threshold of 35/3 Mbps with a latency of 100 ms"). The Commission sought comment on these petitions. *See Petitions for Reconsideration of Action in Proceeding*, Public Notice, Report No. 3165 (Jan. 6, 2021). These petitioners filed comments in response to the *5G Fund FNPRM* in which they reiterate their earlier arguments concerning the definition of eligible areas and provide additional and updated support for their positions. *See* CRWC Comments at 6; RWA Comments at 2-3.

[33] *See* ARA PAWR Comments at 3 ("The availability of subsidized 4G is indeed not a guarantee of 5G upgrade in the future."); AST&Science Comments at 12 ("the Commission would be wrong to assume that all areas that receive unsubsidized 4G service will support unsubsidized 5G service [because] [i]n some areas, unsubsidized 4G service may have proven to be a financial drain on a carrier such that unsubsidized 5G service will not be established without assistance [and] [i]n other areas, the costs of upgrading to 5G service may necessitate service fee increases that the market will not support."); CCA Comments at 4, 6 ("The record in this proceeding demonstrates that . . . unsubsidized 4G areas do not tend to show a likelihood of unsubsidized 5G deployments such that these areas should be excluded from 5G Fund eligibility" because "[u]nsubsidized 4G providers have limited motivation to upgrade to 5G coverage in rural areas for a number of reasons, including the financial challenge of such rural upgrades."); NTCA Comments at 2 (asserting that there is little to justify or even absorb the cost of delivering 5G broadband service in sparse rural areas where the distance between buildings is significant, the population small, and often there is not a major highway passing through the area, and that "predicting that entities currently offering unsubsidized 4G LTE coverage in these areas might someday increase that coverage to 5G would miss the mark [and] . . . would instead result in the very areas the Commission intends to support through the 5G Fund remaining on the wrong side of the digital divide."); US Cellular Comments at 30-34 (noting that "it is apparent from the [map in Figure 1 in the *5G Fund FNPRM* depicting the areas without unsubsidized mobile broadband service] that unsubsidized carriers have not rushed in [the three years since the *5G Fund Report and Order* was adopted] to close the mobile service gap in rural America" and explaining that both high initial capital costs and ongoing operation (continued….)

definition of eligible areas adopted in the *5G Fund Report and Order*. However, we are also mindful that there are rural areas that lack unsubsidized 4G LTE service and thus lack access to any type of advanced high-speed mobile broadband service. Accordingly, as more fully explained below, we will apply a service-based weighting factor in 5G Fund Phase I auction bidding to incentivize the deployment of 5G mobile broadband service in areas that lack unsubsidized 4G LTE service.[34]

15. Consistent with our decision today to modify the definition of areas eligible for support in the 5G Fund Phase I auction to be those areas where mobile coverage data submitted in the BDC show a lack of unsubsidized 5G mobile broadband service at speeds of at least 7/1 Mbps in an outdoor stationary environment by at least one service provider, we also grant the Petitions for Reconsideration filed by CRWC, NTCA, and RWA to the extent they request that the Commission define the areas eligible for the 5G Fund Phase I auction as those where BDC data show a lack of unsubsidized 5G mobile broadband service.[35]

### 1. Technology for Determining Eligible Areas

16. The record overwhelmingly supports modifying the definition of areas eligible for support in the 5G Fund Phase I auction to be those areas where BDC mobile coverage data show a lack of unsubsidized 5G mobile broadband service by at least one service provider, even if those areas are served by 4G LTE service.[36] As the Competitive Carriers Association (CCA) emphasizes, "the 5G Fund should be truly focused on 5G,"[37] and "[t]he relevant question for 5G Fund eligibility is the presence or absence of currently-available 5G service in that area."[38] CCA maintains that defining eligibility for 5G Fund support based on this baseline question will extend 5G service to both areas currently receiving only 4G service and those that do not receive 4G service.[39] CCA notes that expanding eligibility to areas in which 4G LTE service is available but 5G service is not "appropriately focuses the 5G Fund on expanding

costs present barriers to unsubsidized 5G deployment and "[make] it difficult for any carrier to justify the disproportionate investment needed to build new cell sites and upgrade towers in sparsely populated areas."); Letter from Sean Lev, Christopher Wright, Jennifer Bagg, and Deepika Ravi, Counsel to CCA, and Angela Simpson, General Counsel/SVP Legal & Regulatory Affairs, and Alexandra Mays, Assistant General Counsel & Director, Regulatory Affairs, CCA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 20-32, at 25-26 (filed Nov. 16, 2023) (CCA Aug. 2 *Ex Parte* Letter).

[34] *See infra* Section V.A. We will use a speed threshold of 5/1 Mbps for purposes of determining the areas that lack unsubsidized 4G LTE in connection with this weighting approach. *See 5G Fund FNPRM* at *35-37, para. 17 (seeking comment on using a speed threshold of 5/1 Mbps with respect to 4G LTE service as the benchmark when determining areas eligible for support in the 5G Fund Phase I auction). For 4G LTE, the BDC requires mobile broadband service providers to submit propagation maps and propagation model details that demonstrate where mobile wireless users should expect to receive minimum user speeds of 5/1 Mbps at the cell edge, with a cell edge probability of not less than 90% and a cell loading of not less than 50%, in accordance with the Broadband DATA Act. *Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program*, WC Docket Nos. 19-195 and 11-10, Second Report and Order and Third Further Notice of Proposed Rulemaking, 35 FCC Rcd at 7460, 7479, para. 44 (2020) (*BDC Second Report and Order*); *accord* 47 CFR § 1.7004(c)(3)(i)-(ii); *see* 47 U.S.C. § 642(b)(2)(B)(ii) (establishing minimum speeds of 5/1 Mbps as a requirement of demonstrating 4G LTE coverage).

[35] *See CRWC Petition for Reconsideration* at 11-14; *RWA/NTCA Joint Petition for Reconsideration* at 2-6.

[36] AST&Science LLC (AST&Science) Comments at 12-13; Competitive Carriers Association (CCA) Comments at 4-8; The Coalition for Rural Wireless Carriers (CRWC) Comments at 6-9; Michael Ravnitzky (Ravnitzky) Comments at 3; NTCA – The Rural Broadband Association (NTCA) Comments at 2-3; The Rural Wireless Association, Inc. (RWA) Comments at 2-3; United States Cellular Corporation (US Cellular) Comments at 26-29; Verizon Comments at 7-8; RWA Reply at 2-3; CCA Aug. 2 *Ex Parte* Letter at 25.

[37] CCA Comments at 4

[38] *Id.* at 8.

[39] *Id.* at 8 n.25.

access to 5G service . . . [and] also avoids the potentially harmful consequences of stranding 4G-served areas without the potential for 5G service for an extended period of time."[40]

17. AT&T, Inc. (AT&T) and T-Mobile USA, Inc. (T-Mobile) are the only commenters that support continuing to define eligible areas as those that lack unsubsidized 4G LTE and 5G mobile broadband service. AT&T "supports prioritizing 5G Fund support for areas without 4G LTE or 5G service" and submits that "[t]his could be accomplished by conducting a more targeted 5G Fund Phase I auction based on areas without 4G LTE and 5G service . . . [and] then expand[ing] the eligible areas [for the 5G Fund Phase II auction] to also include those that have 4G LTE service if the BDC maps at the time support [such an expansion]."[41] AT&T argues that "[5G Fund support] should only be expended for areas that will not receive 5G service without private investment" and asserts that "the Commission . . . should first direct [its limited funds] to [areas] most in need—[those] that do not have 4G LTE or 5G service[,] . . . [which] will allow more time for private investment to upgrade 4G LTE coverage areas to 5G without [5G Fund] support but will also eventually allow support in the event it is not economical for a 4G LTE area[] to be [upgraded] without government support."[42] T-Mobile argues that "[t]argeting unserved areas is consistent with the framework of previous universal service auctions . . . [and] will avoid waste and inefficient use of resources due to overbuilding."[43] T-Mobile submits that retaining the existing eligible areas definition "will also help target funding to areas that lack mobile broadband service, as there are many places throughout the United States that lack even 4G LTE service," and maintains that "[p]rioritizing areas that lack 4G LTE or 5G will ensure that funding is targeted to areas that lack any service."[44]

18. Several commenters address the questions posed by the Commission about what motivations there are for unsubsidized providers of 4G LTE service to upgrade their networks to 5G technology in rural areas.[45] AST&Science, CCA, CRWC, RWA, and Smith Bagley, Inc. (SBI) each submit that there is no reasonable basis to conclude that the provision of unsubsidized 4G LTE service in rural areas serves as an indicator that 5G mobile broadband service will be deployed in those areas absent subsidies.[46] They argue that unsubsidized 4G LTE providers lack incentives and thus have limited motivation to upgrade their networks to support 5G service in rural areas,[47] with AST&Science and CCA specifically noting the financial challenges of such rural upgrades as one of the main reasons.[48] CCA contends that the record in this proceeding clearly demonstrates that the Commission's assumption in the *5G Fund Report and Order* that areas with unsubsidized 4G service tend to show a likelihood of unsubsidized 5G deployments such that they should be excluded from 5G Fund eligibility is incorrect and risks widening the digital divide

[40] *Id.* at 8; CCA Aug. 2 *Ex Parte* Letter at 5-6, 24.

[41] AT&T Reply at 5.

[42] *Id.* at 5.

[43] T-Mobile Comments at 9.

[44] *Id*. at 10. T-Mobile asserts that "[a]s T-Mobile and other providers are continuing to invest and expand 5G coverage, the Commission should be careful to avoid wasting universal service funding by committing billions of dollars to locations or roads that may receive 5G service in the near future." *Id*. at 6.

[45] *See 5G Fund FNPRM* at *34-35, para. 16.

[46] AST&Science Comments at 12-13; CCA Comments at 5; CRWC Comments at 9-14; CRWC Reply at 4; RWA Comments at 2-3; SBI Reply at 27-28.

[47] AST&Science Comments at 12-13 (stating it would be a mistake for the Commission to assume that any unmet needs for 5G service will be addressed without subsidies in all areas where unsubsidized 4G services exist); CCA Comments at 4-8; CRWC Comments at 9; RWA Comments at 2-3; SBI Reply at 26-28.

[48] AST&Science Comments at 12-13 (noting that in some areas, unsubsidized 4G service may have proven to be a financial drain on a carrier such that 5G service will not be deployed without assistance, while in others, the costs of upgrading to 5G service may necessitate service fee increases that the market will not support); CCA Comments at 6.

instead of closing it.[49] CRWC, US Cellular, and SBI each cite CRWC's claim in its Petition for Reconsideration of the *5G Fund Report and Order* that "it would be[] premature in the extreme for the Commission to assume [in 2020] that, within the next several years, all rural areas that currently have 4G service will see [deployment of] 5G service [at levels meeting Commission's adopted performance requirements]" and each notes "that the facts appear to bear out [CRWC's earlier assertion]" because "[t]he BDC map [in Figure 1 of the *5G Fund FNPRM* ] continues to show vast swaths of rural America lacking unsubsidized 4G LTE service at 5/1 Mbps as well as unsubsidized 5G service at 7/1 Mbps or better."[50] According to US Cellular, another disincentive for providers to upgrade from 4G to 5G is that while upgrades from 3G to 4G LTE service have in the past served to deliver access to new services, such as Internet access and streaming, that increased usage and in turn carrier revenues, "almost every American already has a mobile device of some sort, even if they live in an area without high-quality coverage and service [and] [a]s a result, investing to upgrade to 5G-level service does not deliver substantial new revenues to a carrier from non-business customers, at least not yet."[51]

19. Verizon notes that "[w]hile many areas that have unsubsidized 4G LTE coverage will soon obtain 5G coverage through the operation of the competitive market, some areas with 4G LTE coverage will require universal service support to upgrade to 5G."[52] Verizon submits that the risk of preempting near-term 5G deployments by subsidizing them in areas where unsubsidized 4G LTE networks have been deployed—which the Commission previously sought to avoid—has already been reduced by the extensive unsubsidized 5G deployment that has occurred during the three-year pause in implementation of the 5G Fund, and "will be further reduced by the time the Commission holds the [5G Fund] Phase I auction . . . as those unsubsidized deployments continue to expand.[53] Verizon contends that as a result, "[b]y the time [the Commission] holds the [5G Fund] Phase I auction, it will be more reasonable for the Commission to assume that any remaining 4G LTE-only areas shown on the BDC maps require universal service support to upgrade to 5G."[54] NTCA maintains that "in sparse rural areas where the distance between buildings is significant, the population small, and often there is not a major highway passing through the area, there is little to justify or even absorb the cost of delivering 5G [mobile] broadband service" and thus "predicting that entities currently offering unsubsidized 4G LTE coverage in these areas might someday increase that coverage to 5G would miss the mark."[55] NTCA further submits that "[s]uch

[49] CCA Comments at 5; CCA Reply at 4 (asserting that "[d]eployment of 5G service remains stagnant because there is little-to-no business case to support providers' 5G deployment in many rural or other high-cost areas").

[50] CRWC Comments at 9-10 (footnote omitted); US Cellular Comments at 30 (footnote omitted); *accord* SBI Reply at 26. CRWC, US Cellular, and SBI submit that notwithstanding record low interest rates in effect at the time of, and following, the adoption of the *5G Fund Report and Order* and recent Commission auctions of spectrum suitable for 5G deployments, "unsubsidized carriers have not rushed in over the past three years to close the mobile service gap in rural America . . . [and] it appears there is a great deal of work to do" to upgrade areas that lack 4G LTE service, let alone upgrading to 5G service. CRWC Comments at 10; US Cellular Comments at 30; *accord* SBI Reply at 26.

[51] US Cellular Comments at 33; CCA Reply at 4-5 (stating that "CCA agrees with [US Cellular's] observation that 'there is little or no motivation' 'for unsubsidized providers of 4G LTE service to upgrade their networks to 5G technology in rural areas'" and noting that, as other [c]ommenters correctly observe, . . . absent support, carriers are unlikely to expend the considerable resources required to build, upgrade, operate, and maintain new 5G cell sites in rural areas and such areas will continue to be left behind").

[52] Verizon Comments at 7-8.

[53] *Id*. at 8.

[54] *Id.* at 8.

[55] NTCA Comments at 2.

a baseless predictive judgment would instead result in the very areas the Commission intends to support through the 5G Fund remaining on the wrong side of the digital divide."[56]

20. Conversely, T-Mobile is the only commenter that argues that the Commission's earlier assumption was correct because, "[a]s in 2020, 5G deployments are likely in areas where unsubsidized 4G LTE networks have already been deployed . . . [and] [t]he market forces that brought unsubsidized 4G LTE to an area are likely to result in a provider's decision to upgrade their service to 5G."[57] T-Mobile submits that the Commission's approach in the *5G Fund Report and Order* for defining eligible areas "will help to mitigate overbuilding as providers continue to deploy 5G service to meet market demands."[58] However, RWA disagrees, arguing that "T-Mobile provide[s] no evidence to support the [Commission's] assumption [in the *5G Fund Report and Order*] that 5G deployments are likely in areas where unsubsidized 4G LTE networks have already been deployed . . . [and is] only able to point to 'market forces' that it argues will drive 5G deployment in areas where there is unsubsidized 4G LTE deployment and a general concern [regarding] overbuilding."[59] RWA notes that, to the contrary, BDC filing data show that "unsubsidized carriers have not [in fact] rushed to deploy 5G mobile service in rural America [during] the . . . three years since the *5G Fund [Report and] Order* was adopted."[60] RWA contends that "the record clearly shows that rural areas served only by 4G LTE should be funded by the 5G Fund due to the high risk of being left behind in 5G rural deployments."[61]

21. We agree with commenters that defining eligible areas based on a lack of unsubsidized 5G mobile service is more consistent with the 5G-centered approach envisioned for the 5G Fund. While we are mindful of the need to avoid overbuilding, we conclude that retaining the eligible areas definition adopted in the *5G Fund Report and Order* could exclude some areas where unsubsidized 4G LTE service is being provided that will not be upgraded to 5G service without 5G Fund support. Moreover, we find the risk of overbuilding such areas is outweighed by the benefit of ensuring that we do not inadvertently strand areas to lesser mobile broadband technology and speeds. As noted above, the Commission recognized in 2020 that at least two providers—T-Mobile and DISH—would be deploying 5G mobile broadband service in rural areas in the then-near term pursuant to their enforceable merger commitments.[62] For this reason, the Commission decided it would first afford T-Mobile, and potentially others, an opportunity to make pre-auction, binding commitments to deploy 5G service in certain areas to allow the Commission to remove such areas from the inventory of areas eligible for the auction, and thereby avoid overbuilding in rural areas where it is known that a provider plans to deploy unsubsidized 5G mobile broadband service.[63]

22. We decline to adopt the approach proposed by AT&T that would stagger the implementation of the 5G Fund by first awarding support to "areas that do not have 4G LTE or 5G service [in order to] allow more time for private investment to upgrade 4G LTE coverage areas to 5G service without support from the 5G Fund."[64] AT&T's proposal essentially asks us to retain the definition of eligible areas that the Commission adopted in 2020 for an indeterminate period of time while we continue to evaluate if the market will bring advanced, 5G mobile broadband service to those areas absent subsidies. T-Mobile similarly suggests in support of retaining that definition that the Commission wait to "hold[] the 5G Fund

[56] *Id.* at 2.

[57] T-Mobile Comments at 9 (footnote omitted).

[58] *Id.* at 10.

[59] RWA Reply at 2 (footnote omitted).

[60] *Id.* at 2-3 (citing CRWC Comments at 9-14).

[61] *Id.* at 3.

[62] *5G Fund Report and Order*, 35 FCC Rcd at 12246, 12247, paras. 178, 180.

[63] *Id.* at 12248, para. 182.

[64] AT&T Reply at 5.

Phase I Auction [until] pending wireless industry developments have been resolved" in order to "maximize the impact of the 5G Fund and minimize inefficient overbuilding."[65] In support of waiting to move forward toward the 5G Fund Phase I auction until unsubsidized 5G mobile broadband service deployments play out, T-Mobile notes the Commission's decision to wait to decide "'how and/or whether future planned processes, such as [Phase II of the Rural Digital Opportunity Fund], remain necessary after the Commission's creation of the Fabric and deployment commitments under BEAD and/or other Infrastructure Act programs are made.'"[66] However, unlike the timing for the creation of the BDC Fabric and the deployment commitments under BEAD and/or other Infrastructure Act programs, which have more structured parameters and are largely within the control of the government, decisions about where unsubsidized 5G mobile broadband service will be deployed and on what timeline rest solely with the carriers deploying such service. Moreover, one of the underlying policy principles of the 5G Fund is to direct high-cost universal service support to areas of the country where, absent subsidies, they are unlikely to experience advanced, 5G mobile broadband service. We therefore find both AT&T's and T-Mobile's approaches are wholly inconsistent with our decision herein to target 5G Fund support to the greatest number of rural areas as possible where people live, work, and travel within the available budget. Although we are not persuaded that we should delay the 5G Fund Phase I auction until after BEAD support has been awarded, as more fully explained below, we will nonetheless assess eligible area determinations to ensure that 5G Fund support does not duplicate BEAD funding efforts.[67]

### 2. Speed Thresholds for Determining Eligible Areas

23. Although virtually all commenters support basing the determination of eligible areas on where BDC mobile coverage data show a lack of unsubsidized 5G broadband service by at least one service provider, their positions about which speed thresholds to use in connection with applying this definition to determine eligible areas differ. Brian Dang (Dang), T-Mobile, and Verizon each express support for using 7/1 Mbps as the speed threshold for 5G service.[68] Dang asserts that "setting the benchmark for 5/1 Mbps for 4G and 7/1 Mbps for 5G seems to strike a reasonable balance for considering the mobile user experience."[69] T-Mobile notes that the Commission has expressed that "[a] speed threshold [of 7/1 Mbps] is likely to be attainable by mobile broadband service providers deploying 5G-NR service over smaller channel blocks of low-band spectrum."[70] T-Mobile submits that defining eligible areas as those that lack 35/3 Mbps 5G coverage "would certainly result in overbuilding areas that have 5G from unsubsidized providers and would divert resources away from the areas that need it most—namely, areas that still lack *any* 5G or 4G LTE coverage at all."[71] T-Mobile maintains "[t]he Commission can carry out its obligation to be 'a fiscally responsible steward of [the] limited universal service funds' and fulfill its 'commitment to preventing overbuilding' by reaffirming its decision to use speed thresholds that mirror the mapping parameters adopted for the BDC."[72] T-Mobile notes that "[t]he BDC uses 5/1 Mbps

[65] T-Mobile Comments at 7.

[66] *Id.* at 7 (quoting *Future of USF Report*, 37 FCC Rcd at 10068-69, para. 52).

[67] *See infra* paragraphs 76-82.

[68] Brian Dang (Dang) Comments at 1; T-Mobile Comments at 11; Verizon Comments at 9.

[69] Dang Comments at 1.

[70] T-Mobile Comments at 11 (citing *Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program*, WC Docket Nos. 19-195 and 11-10*,* Second Report and Order and Third Further Notice of Proposed Rulemaking, 35 FCC Rcd at 7460, 7480, para. 45 (2020) (*BDC Second Report and Order*).

[71] T-Mobile Comments at 11 (emphasis in original).

[72] *Id.* at 12 (footnote omitted).

as the speed threshold for 4G LTE coverage and 7/1 Mbps as the speed threshold for 5G coverage," and contends that "those same thresholds should be used for identifying eligible areas for the 5G Fund."[73]

24. Michael Ravnitzky recommends "us[ing] a minimum speed threshold of 25 Mbps/3 Mbps to define unsubsidized 5G service [for funding 5G service for Native American, Native Alaskan Native Hawaiian, Puerto Rican, and U.S. Virgin Island communities]" because it "is consistent with the Commission's current definition of fixed broadband service and reflects the minimum level of service quality that these communities deserve and need."[74]

25. AST&Science, CCA, CRWC, RWA, SBI, and US Cellular each express support for using 35/3 Mbps as the speed threshold for 5G service.[75] CRWC reiterates the request made in its pending Petition for Reconsideration that the Commission "'define as eligible any area that lacks unsubsidized 5G service meeting the performance requirements set forth for 5G Fund auction winners' . . . [i.e.,] [a]ny area lacking mobile broadband at a median speed of [35/3 Mbps], with 90% cell edge reliability, with no more than 100 milliseconds . . . of latency."[76] CCA, CRWC, and US Cellular acknowledge that making every area lacking 5G service at a speed threshold of 35/3 Mbps eligible for the 5G Fund Phase I auction could mean areas with median speeds that are close to 35/3 Mbps might receive support, but they each submit that this could be addressed by "giv[ing] a preference to areas that are unserved or underserved, weighting the 5G Fund auction so that these areas would be funded before any support is distributed in areas having median speeds close to 35/3 Mbps,"[77] or by "tak[ing] steps to coordinate or time [the] 5G Fund [Phase I] auction to more completely consider the impacts of a robust mobile BDC challenge process and/or the impacts of BEAD-funded projects on the mobility landscape."[78] CRWC and US Cellular contend that using a speed threshold of 7/1 Mbps for 5G service does not go far enough to fulfill the statutory goal of "provid[ing] consumers in rural areas with access to service quality that is reasonably comparable to that which is available in urban areas,"[79] but submit that if the Commission does not adopt the eligible areas definition CRWC advocates for in its Petition for Reconsideration, "making eligible for 5G Fund support

[73] *Id.* at 12.

[74] Ravnitzky Comments at 1, 3.

[75] AST&Science Comments at 13; CCA Comments at 8-11; CRWC Comments at 6-9; RWA Comments at 3; US Cellular Comments at 26-29; CCA Reply at 2, 8-11; CRWC Reply at 3-4; SBI Reply at 28-29; CCA Aug. 2 *Ex Parte* Letter at 6, 20, 24.

[76] CRWC Comments at 6 (footnote omitted) (quoting *CRWC Petition for Reconsideration* at 14).

[77] CRWC Comments at 7; *accord* US Cellular Comments at 27; CCA Reply at 11. CCA, CRWC, and US Cellular argue "the risk of funding an area that currently has higher speeds is far outweighed by the risk of not funding areas that have relatively low [5G] speeds (just above 7/1 Mbps)," because it "means that areas having [5G service at speeds of] 8/1 or 10/1 Mbps . . . would receive no USF investment for the foreseeable future." CRWC Comments at 7 (emphasis omitted); *accord* US Cellular Comments at 27; *see* CCA Reply at 11. CRWC further argues that a 7/1 Mbps speed is "unacceptable" and contends mobile broadband nationwide is "now over 83/8 Mbps, with latency at 32 [milliseconds], and urban Americans seeing upwards of 4 Gbps speeds." CRWC Comments at 7-8 (footnote omitted). SBI similarly asserts that using a speed threshold of 7/1 Mbps for 5G service to determine areas eligible for 5G Fund support means that "areas that are just a few Mbps above [this] threshold may not see additional investment for up to a decade." SBI Reply at 28.

[78] CCA Reply at 11; *see also* CRWC Comments at 18, 22; US Cellular Comments at 14, 22. As more fully explained below, while we are not persuaded that we should delay the 5G Fund Phase I auction until after BEAD support has been awarded, we will take steps to ensure that 5G Fund support does not duplicate BEAD funding efforts. *See infra* paragraphs 76-82.

[79] CRWC Comments at 8; *accord* US Cellular at 28. *See also* CCA Aug. 2 *Ex Parte* at 20-21. CCA, CRWC, and US Cellular contend that a "minimum desired experience" test is insufficient with respect to meeting the "reasonably comparable" standard for broadband in rural areas in section 254 of the Communications Act, as amended (Act), 47 U.S.C. § 254(b)(3). CRWC Comments at 8; *accord* CCA Reply at 9; US Cellular Comments at 28.

any area lacking 5G technology at a speed of 7/1 Mbps or better" represents "a significant and commendable improvement over the eligibility provisions [adopted] in the *5G Fund [Report and] Order*."[80] SBI likewise believes a speed threshold of 7/1 Mbps for 5G service does not go far enough, and supports adopting the eligible areas definition CRWC advocates in it Petition, but submits that if the Commission does not use a speed threshold of 35/3 Mbps for purposes of determining eligible areas, it should alternatively provide for a middle ground data collection by replacing the 7/1 Mbps collection in the BDC with 20/2 Mbps, so that all rural Americans receiving service at less than 20/2 Mbps can access 5G Fund support investments.[81]

26. CCA compares the mobile speeds to fixed service speeds and argues that "[defining the speed threshold for] 5G connectivity as merely 7/1 Mbps is inconsistent with the Commission's role as a global leader in technological innovation and connectivity . . . [and] also falls short of the speed threshold expectations the Administration and the Commission have expressed in other programs—for example, [Broadband Equity Access and Deployment (BEAD)] Program connectivity requires a speed threshold of 100/20 Mbps, and Alternative-Connect America[] Cost Model II ('A-CAM II') connectivity requires 25/3 Mbps."[82] CCA also "disagrees with the [Commission's] assumption [in the *5G Fund FNPRM*] that download and upload speeds of at least 7/1 Mbps are the typical minimum desired mobile experience for 5G service,"[83] asserting that "[this speed threshold] myopically focuses on mobile phone 5G connectivity" even though 5G encompasses much more than that.[84] CCA also argues that "us[ing] a 5/1 Mbps speed threshold for 4G connectivity and a 7/1 Mbps speed threshold for 5G connectivity minimizes the significant differences between 4G and 5G technology and user experience."[85] CCA advocates using a speed threshold of 35/3 Mbps to define 5G service, contending that the 7/1 Mbps speed threshold the Commission proposes to set for 5G is "a fraction of the median nationwide speed" of over 83/8 Mbps and the speeds exceeding 4 Gbps that are enjoyed by Americans living in urban areas.[86]

27. We conclude that using a speed threshold of 7/1 Mbps for 5G for purposes of determining eligible areas will promote the expansion of 5G mobile broadband coverage at a speed threshold of at least 35/3 Mbps while avoiding the potential for overbuilding in areas where a provider already offers some level of unsubsidized 5G service (i.e., at 7/1 Mbps) and could upgrade to higher speeds in the future.[87] Conversely, using a speed threshold of 35/3 Mbps to determine eligible areas would result in

[80] CRWC Comments at 6; US Cellular Comments at 26-27.

[81] SBI Reply at 28-29.

[82] CCA Comments at 7 (footnotes omitted). CCA acknowledges that "these programs' speed thresholds target fixed deployment," but contends that "the Commission should not set an unreasonably lower speed threshold for 5G funding eligibility when it is clear that carriers can and do provide [service at higher speeds]," and submits that "[d]oing so would be arbitrary and push the U.S. further behind many countries that have 5G services at much higher speeds than what the Commission has contemplated." CCA Comments at 7-8.

[83] *Id.* at 7-8 (citing *5G Fund FNPRM* at *36-37, para. 17 n.39).

[84] CCA Comments at 9. ARA PAWR Rural Wireless Living Lab (ARA PAWR) similarly notes that "[t]he target rates tend to be low and inefficient to support many of the emerging rural applications, [such as] connected and automated vehicles, precision agriculture, remote education and work via extended reality" and submits that "[i]t will be invaluable to set the target rates with emerging applications in mind." ARA PAWR Comments at 3.

[85] CCA Comments at 10.

[86] CCA Reply at 8-9.

[87] We note that for mobile services, the Commission standardized the speed parameters that providers use in generating their BDC coverage areas, and for 5G mobile broadband service, those speed parameters are standardized at 7/1 Mbps and 35/5 Mbps. The BDC therefore collects 5G coverage data based only on speed thresholds of 7/1 Mbps and 35/3 Mbps. *See BDC Second Report and Order*, 35 FCC Rcd at 7479-80, para. 45. As a result, the Commission does not have data on 5G mobile broadband coverage at speed thresholds of 25/3 Mbps, 83/8 Mbps, 100/20 Mbps—which are all associated with performance requirements through which fixed service is funded (e.g., (continued….)

many more areas being eligible for support, which would unnecessarily tax the 5G Fund Phase I budget. Further, using a speed threshold of 35/3 Mbps would result in overbuilding in areas where providers will upgrade their 7/1 Mbps service to 35/3 Mbps service absent a subsidy. Moreover, we expect that a speed threshold of 7/1 Mbps reflects the minimum desired typical mobile user experience across broad 5G coverage areas.[88] We continue to believe that we should not use the same 35/3 Mbps speed threshold for purposes of determining areas eligible for 5G Fund support that support recipients are required to achieve in meeting their 5G Fund performance requirements. We note that CCA's assertion that the Commission is "[defining] 5G connectivity as merely 7/1 Mbps"[89] is incorrect and conflates our decision to use 7/1 Mbps as the speed threshold for purposes of determining eligible areas with the minimum speed threshold of 35/3 Mbps that a support recipient must achieve in order to meet its 5G Fund performance requirements.[90] This performance requirement will ensure that areas currently lacking unsubsidized 7/1 Mbps will not be left behind in experiencing the higher speeds that areas with 7/1 Mbps service are likely to experience as the result of provider network upgrades.[91] For these reasons, we also deny the Petitions for Reconsideration filed by CRWC, NTCA, and RWA to the extent they request that the Commission define areas eligible for the 5G Fund Phase I auctions as those that lack unsubsidized 5G mobile broadband service at speeds of at least 35/3 Mbps.[92]

28. We disagree with commenters' assertion that, if a 35/3 Mbps threshold is used to determine an area's eligibility for 5G Fund support, issues with support funds being diverted from unserved or underserved areas to fund areas with service "close to 35/3 Mbps" can be addressed by distributing support first to areas with service speeds not "close to 35/3 Mbps."[93] Such a process would be inconsistent with the mechanism we adopted to assign support under the 5G Fund, namely a reverse auction that considers in a single auction all eligible areas and that aims to assign the full budget to those eligible areas. A second reverse auction for the "close to 35/3 Mbps" areas would be required, with a corresponding rulemaking and pre-auction process to determine the areas that would be held back from the initial auction, the portion of the budget that would be withheld for later assignment, the timing of the later assignment mechanism, and any of a number of additional details that would need to be resolved for such a process to be carried out. Therefore, for this reason and for the reasons we adopt the 7/1 threshold more generally, we decline to accept the commenters' proposal and, as we explain in our decision today, we exclude from eligibility areas that already have some level of 5G service (at speeds faster than 7/1

the BEAD Program, A-CAM II)—or any other speed threshold combinations, and therefore can use only the speed threshold of 7/1 Mbps or 35/3 Mbps for which mobile coverage data is available in the BDC for purposes of determining eligible areas.

[88] *BDC Second Report and Order*, 35 FCC Rcd at 7480, para. 45. *But see* CCA Aug. 2 *Ex Parte* Letter at 19.

[89] CCA Comments at 7; CCA Aug. 2 *Ex Parte* Letter at 5-6.

[90] *See* 47 CFR §§ 54.1015(a), (c)(1) (requiring 5G Fund support recipients to deploy 5G-NR service at speeds of at least 35/3 Mbps).

[91] *See* 47 CFR § 54.1015(c)(1) (requiring 5G Fund support recipients to deploy 5G service with median speeds of at least 35/3 Mbps). We note that this approach is consistent with the approach adopted by the Commission in the *Mobility Fund Phase II Report and Order* with respect to determining eligible areas. *See Mobility Fund Phase II Report and Order*, 32 FCC Rcd at 2173, para. 51.

[92] *See CRWC Petition for Reconsideration* at 14 (asking the Commission to "define as eligible any area that lacks unsubsidized 5G service meeting the performance requirements set forth for 5G Fund auction winners); *RWA/NTCA Joint Petition for Reconsideration* at 6 (asking the Commission to "determine that all areas shown by the [BDC] to be lacking unsubsidized 5G deployments will be eligible for funding in the 5G fund auction or, in the alternative, define 4G LTE service for purposes of defining eligible areas as service meeting a speed threshold of 35/3 Mbps with a latency of 100 ms").

[93] CRWC Comments at 7; *accord* US Cellular Comments at 27; CCA Reply at 11.

Mbps). Instead, we target our limited universal service support funds to areas that do not already enjoy a provision of service that far exceeds areas that have service offerings no better than 4G LTE.

29. As noted above, we will use a speed threshold of 5/1 Mbps with respect to 4G LTE service in connection with identifying any areas within the universe of areas eligible for the 5G Fund Phase I auction that lack unsubsidized 4G LTE, for purposes of incentivizing the deployment of 5G service in areas that lack unsubsidized 4G LTE service. We note that the BDC collects 4G LTE coverage areas based on speed thresholds of 5/1 Mbps in accordance with the Broadband DATA Act,[94] and we conclude that using this speed threshold for this purpose is appropriate.[95]

### 3. Environment for Determining Eligible Areas

30. The record is split on whether the Commission should use outdoor stationary or in-vehicle BDC coverage maps to determine eligible areas. AT&T, CTIA, T-Mobile, and Verizon each express support for using outdoor stationary BDC coverage maps to identify areas that are eligible for 5G Fund support.[96] AT&T argues that the lack of standardized parameters for in-vehicle coverage maps "compromises the value of such maps and would only further complicate the distribution of 5G Fund support" and that "utilizing in-vehicle coverage maps instead of outdoor stationary maps will increase the eligible areas and allow support in areas that already have some amount of 5G coverage."[97] CTIA asserts that "[w]hile the idea of using in-vehicle mobile coverage maps might have some facial appeal, [it] remains concerned that such maps fail to account for significant variables . . . [such as] the location of the device within the vehicle, the type of vehicle, whether the windows are up or down, and the vehicle speed."[98] "Given the potential for inconsistency among in-vehicle mobile coverage maps, CTIA urges the Commission to use coverage maps produced to show outdoor stationary coverage . . . [in order to] use a more stable and reliable coverage dataset as the basis for the 5G Fund . . . [and] target 5G Fund subsidies to the areas most in need of support as the outdoor stationary maps provide a more targeted list of eligible areas."[99]

31. T-Mobile submits that "outdoor stationary data is a far more reliable and realistic basis for determining where wireless coverage is available than in-vehicle coverage data for several reasons."[100] T-Mobile argues that "[g]iven the number of variables, providers will inevitably use different parameters to model their in-vehicle coverage, making it practically impossible to make meaningful [apples-to-apples] comparisons between mobile providers' in-vehicle coverage maps."[101] T-Mobile notes that "[t]he variability of in-vehicle mobile speed testing also introduces unnecessary complications in the challenge process . . . [because], for purposes of the BDC, speed tests taken on bicycles, motorcycles, snowmobiles, and all-terrain vehicles are all considered tests from in-vehicle mobile environments, as are tests conducted in soft-top convertibles, hard-top sedans, SUVs, pickup trucks, and any type of recreational

[94] *See* 47 U.S.C. § 642(b)(2)(B)(ii) (establishing minimum speeds of 5/1 Mbps as a requirement of demonstrating 4G LTE coverage).

[95] Brian Dang and T-Mobile also express support for using 5/1 Mbps as the speed threshold for 4G LTE. Dang Comments at 1; T-Mobile Comments at 11.

[96] AT&T Reply at 5-6; CTIA Comments at 5; T-Mobile Comments at 12-13; Verizon Comments at 8-9.

[97] AT&T Reply at 5-6.

[98] CTIA Comments at 5 (footnote omitted). T-Mobile also notes that, because "[t]he Commission did not standardize any of the key parameters that affect the results of in-vehicle coverage, such as vehicle speed, the position of the phone inside the car, and the type of car, . . . in-vehicle data [will be] much more variable and therefore [provide a] less reliable basis for determining the actual coverage of an area." T-Mobile Comments at 13.

[99] CTIA Comments at 5.

[100] T-Mobile Comments at 12-13.

[101] *Id*. at 13.

vehicle, [which] entails a wide range of 'in-vehicle testing scenarios.'"[102] Verizon supports "using the outdoor stationary 7/1 Mbps 5G coverage map . . . [to] ensure that the entire budget is used to expand high-speed 5G coverage in areas that have little or no 5G coverage at the time of the auction, i.e., [those] that do not even meet the 7/1 Mbps outdoor stationary standard."[103] Verizon opposes "identifying eligible areas using the in-vehicle maps [because it] would allow part or all of the budget to be used to upgrade existing networks in those areas that meet the outdoor stationary 7/1 Mbps standard but fall short of the in-vehicle standard."[104]

32. CCA, RWA, and US Cellular express support for using in-vehicle BDC coverage maps to identify areas that are eligible for 5G Fund support.[105] CCA argues that coverage maps based on in-vehicle mobile environments "better reflects the purposes of the 5G Fund—achieving ubiquitous connectivity—by accounting for the mobile nature of 5G usage.[106] RWA similarly asserts that "[g]iven the inherent mobility aspect of in-vehicle data, [using] such data will best represent where 5G Fund support is needed to provide 5G mobility coverage.[107] RWA submits that "[w]hile there may be multiple variables related to in-vehicle mobile data collection, such data provides a more accurate picture of actual mobile coverage that consumers will experience in the relevant areas."[108] RWA further notes that "using in-vehicle mobile data would ease the costs of the challenge process as drive testing is a much more cost-efficient and effective way to measure mobile coverage as opposed to conducting measurements in off-road areas, which are expensive and difficult to access in rural and remote areas."[109] US Cellular likewise contends that "[a]n in-vehicle measurement standard aligns more closely with how mobile handsets interact with cell towers and will result in improved service quality for voice calls and data sessions conducted in a mobile environment."[110]

33. We are concerned that the use of in-vehicle mobile coverage maps could result in significant overbuilding, as claimed by commenters that oppose using such coverage maps. We conclude that relying on outdoor stationary coverage data will avoid potentially overbuilding in areas where a provider already offers some level of unsubsidized 5G service and could upgrade to better service in the future. We note that outdoor stationary coverage estimates are generally larger than those generated for in-vehicle mobile coverage, and therefore relying on them will reduce the likelihood of overbuilding.[111] Additionally, unlike in-vehicle mobile coverage data, outdoor stationary coverage data are unperturbed by

[102] *Id*. at 13 (footnote omitted).

[103] Verizon Comments at 9.

[104] *Id*. at 9.

[105] CCA Comments at 11; RWA Comments at 4; US Cellular Comments at 22; RWA Reply at 4-6.

[106] CCA Comments at 11.

[107] RWA Comments at 4.

[108] RWA Reply at 5. RWA maintains that if the Commission's goal is "expand[ing] 5G to rural areas where consumers live, work, and travel, ensuring that such consumers have 5G connectivity on rural roads is critical to that goal." *Id*. at 5-6. RWA contends that "[o]utdoor stationary mobile data does not depict actual mobile coverage and [thus] should not be used as a methodology for determining eligible areas for consumers traveling through rural areas on rural roads." *Id.* at 6.

[109] *Id.* at 5.

[110] US Cellular Comments at 22.

[111] *See* FCC, *National Broadband Map*, https://broadbandmap.fcc.gov/area-summary/mobile?version=jun2023&zoom=4&tech=tech5g_spd1&env=1 (last visited Mar. 15, 2024) and https://broadbandmap.fcc.gov/area-summary/mobile?version=jun2023&zoom=4&tech=tech5g_spd1&env=0 (last visited Mar. 15, 2024). Looking at data from June 30, 2023, as updated on February 7, 2024, about 34% of the U.S. is covered by 5G service at 7/1 according to in-vehicle mobile coverage data, whereas the analogous outdoor stationary data show that about 46% of the U.S. is covered.

the lack of standard assumptions about characteristics such as vehicle type and speed. In balancing our obligation to exercise fiscal responsibility to avoid excessive subsidization and the goal of deploying 5G services to where people live, work, and travel, we find the best approach is to use outdoor stationary BDC coverage maps in determining eligible areas.

#### 4. Limiting Eligibility to Areas With Locations or Roads

34. Because we intend to direct 5G Fund Phase I support to areas where people live, work, and travel, we will limit the areas eligible for the 5G Fund Phase I auction to areas that contain at least one location or at least some portion of a road. We will determine the areas that contain locations using the Broadband Serviceable Location Fabric (Fabric) created for the BDC.[112] We will use all locations included in the Fabric dataset, not just those that are identified as BSLs. This broader set of locations includes structures—such as community anchor institutions and large enterprises—that subscribe to, or would be expected to subscribe to, non-mass market broadband service. Including these locations, as well as BSLs, ensures that we will capture more of the areas where people live, work, and travel. We will determine the areas that contain roads using road data from OpenStreetMap (OSM).[113] We will define "roads" for purposes of determining areas eligible for the 5G Fund Phase I auction as those that include the following categories of roads: primary roads; secondary roads; local neighborhood roads, rural roads, and city streets; vehicular trails; ramps; private roads; parking lot roads; and winter trails. These categories of roads are encompassed in the OSM "highways" category, which includes motorways, trunks, primary roads, secondary roads, tertiary roads, residential roads, service roads, and tracks, and the associated links.[114] Defining roads in this manner is consistent with how we have defined roads for purpose of other mobile universal service auctions.[115] Further, because this definition includes many different types of roads, it helps ensure that areas where people live, work, and travel will be eligible for 5G Fund Phase I support.

35. Given that we are limiting the areas eligible for support in the 5G Fund Phase I auction to those that contain locations or roads, we do not believe it is necessary to also exclude water-only areas from eligibility. Further, excluding water-only areas from eligibility as part of the process of generating eligible areas could exclude portions of roads, such as bridges and causeways, that are located in water-only areas but which we believe should be eligible for support.

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[112] The Fabric is a dataset of every location (building or structure) in the United States and its Territories identified as a single point or record defined by a set of geographic coordinates that fall within the footprint of a structure, with each point assigned a unique Commission-issued Location ID. *See* FCC, *About the Fabric: What a Broadband Serviceable Location (BSL) Is and Is Not* (July 18, 2023), https://help.bdc.fcc.gov/hc/en-us/articles/16842264428059-About-the-Fabric-What-a-Broadband-Serviceable-Location-BSL-Is-and-Is-Not. Within the location records included in the Fabric are a subset of business, residential, or mixed-use locations at which mass-market fixed broadband internet access service are or could be installed, referred to as Broadband Serviceable Locations (BSLs). *Id.*

[113] OSM is a free, editable map of the world that is updated and maintained by a community of volunteers via open collaboration. *See* https://wiki.openstreetmap.org/wiki/About_OpenStreetMap (last visited Mar. 15, 2024). OSM is published and freely licensed under an Open Database License, which allows anyone to access, use, and share the data. *See id*. Contributors collect data from surveys, trace from permitted aerial photography and satellite imagery, and import other geographical data in the public domain (such as U.S. TIGER) and from freely licensed geodata sources. *See id*. These contributions are immediately ingested by OSM, resulting in a map made by local experts with data that can be as current as the time of access/download. *See id*.

[114] *See* https://wiki.openstreetmap.org/wiki/Key:highway (last visited Mar. 15, 2024).

[115] *See, e.g., Mobility Fund Phase I Auction Scheduled for September 27, 2012; Notice and Filing Requirements and Other Procedures for Auction 901*, Public Notice, 27 FCC Rcd 4725, 4736, para. 24 (WTB/WCB 2012).

36. Urban areas, as defined by the U.S. Census Bureau,[116] will not be eligible for support in the 5G Fund Phase I auction, because we conclude that making these areas eligible for support would be inconsistent with the objective of the 5G Fund program to fund the deployment of 5G service in rural areas.[117]

37. Commenters generally support the Commission's approach to limiting eligible areas to those areas that contain locations or roads in furtherance of its goal of directing 5G Fund Phase I support to areas where people live, work, and travel.[118] AT&T "supports limiting eligible areas to those resolution 9 hexagons [(hex-9s)[119]] that contain locations *and/or* certain roads," noting that if eligible areas were defined as "those areas where *both* locations *and* roads exist, it would overly limit the areas eligible for 5G Fund support, contrary to the Commission's goal of reaching all areas where people live, work, and travel."[120] CCA "agrees with AT&T that defining eligible areas as those where 'locations and roads exist" would be overly limiting and contrary to the Commission's goal of reaching all areas where people live, work, and travel, and advocates for "a definition of eligibility that includes both unserved roads and unserved locations" because it would "appropriately reflect the mobile nature of 5G service."[121] Michael Ravnitzky submits that limiting eligible areas to those that contain BSLs and/or roads will help "direct 5G Fund support [in Native American, Native Alaskan Native Hawaiian, Puerto Rican, and U.S. Virgin Island communities] to areas where people live, work, and travel and avoid wasting resources on areas that are uninhabited or inaccessible."[122]

38. In its initial comments, RWA advocates "limit[ing] eligible areas to roadways, rather than locations,"[123] and expresses concern that relying solely on locations would "disregard[] the inherent

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[116] *See* United States Census Bureau, *Urban and Rural*, https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html (last updated Sept. 26, 2023).

[117] The limited comment we received on this issue supports excluding urban areas from eligibility for support in support in the 5G Fund Phase I auction. *See* Verizon Comments at 10 (arguing that only hex-9s located outside urban areas, as defined by the U.S. Census Bureau, should be eligible for 5G Fund support because "[c]overage gaps in urban areas are more likely to reflect siting and permitting hurdles than the business case challenges that the 5G Fund is designed to address"); AT&T Reply at 6 (agreeing with Verizon that "coverage gaps in urban areas are likely to reflect siting and permitting hurdles than a lack of interest by private investment").

[118] *See* AT&T Comments at 1, 4, 8; CCA Comments at 12; CCA Reply at 6; CTIA Reply at 4 (noting support in the record for "limit[ing] eligible areas to those that contain BSLs *and/or* roads . . . [to direct funding to] areas where people live, work, and travel while making economical use of finite universal service resources"); Michael Ravnitzky Comments at 3; New York State Public Service Commission (NYPSC) Comments at 2; T-Mobile Comments at 15; Verizon Comments at 9-10.

[119] H3 hexagonal geospatial indexing system (H3 system) is an open-source GIS dataset developed by Uber Technologies, Inc., that overlays the globe with hexagonal cells of different sizes at various resolutions, from zero to 15. *See* Isaac Brodsky, *H3: Uber's Hexagonal Hierarchical Spatial Index* (June 27, 2018), https://eng.uber.com/h3/. The smallest hexagonal cells are at resolution 15, in which the average hexagonal cell has an area of approximately 0.9 square meters, and the largest are at resolution 0, in which the average hexagonal cell has an area of approximately 4.25 million square kilometers. *See id.* The H3 system is designed with a nested structure wherein a lower resolution cell (the "parent" hexagon) contains approximately seven hexagonal cells at the next higher resolution (its "children" where each "child" is a smaller, nested hexagon), which fit approximately within the "parent" hexagon. *See id.* ("H3 supports sixteen resolutions. Each finer resolution has cells with one seventh the area of the coarser resolution. Hexagons cannot be perfectly subdivided into seven hexagons, so the finer cells [i.e., the 'children'] are approximately contained within a parent cell. The identifiers for these child cells can be easily truncated to find their ancestor cell at a coarser resolution, enabling efficient indexing.").

[120] AT&T Comments at 4.

[121] CCA Reply at 6.

[122] Ravnitzky Comments at 1, 3.

[123] RWA Comments at 4-5; RWA Reply at 6.

mobility of 5G mobile services and could potentially be duplicating efforts made by the BEAD Program and other federal broadband programs which provide funding for both fiber and wireless projects, which focus on locations."[124] RWA maintains in its reply comments that the Commission should limit eligible areas to roadways if the 5G Fund budget is limited to $9 billion, but submits that "if additional funding is available, locations should also be included."[125] While acknowledging that serving both roads and locations is important, RWA expresses concern that "[if] locations [are included] in eligible areas, the funding may not go as far and the [Commission] could duplicate efforts of the [BEAD] Program and other federal broadband funding programs that [fund] . . . projects to serve locations."[126]

39. Other commenters ask the Commission to expand the eligibility criteria to specifically include agricultural lands.[127] Verizon supports expanding the eligibility criteria to include "rural hex-9s with roads, BSLs, or agricultural lands," and urges the Commission to "focus[] support on unserved areas that would have the most significant demand for mobile broadband service and require relatively smaller subsidies, rather than on areas that would have little demand for mobile broadband service and require larger subsidies."[128] Verizon submits that "including agricultural lands in the definition of eligible areas . . . will ensure that more of the nation's farmland gains the benefits of precision agriculture," which it notes is one of the goals articulated in the 5G *Fund Report and Order*.[129] WIA similarly advocates for including agricultural areas within the geographic areas determined to be eligible for 5G Fund support, and asks the Commission to specifically include such areas as eligible for 5G Fund support.[130] WIA acknowledges the importance of mobile service on roadways, but submits that there are areas that extend well beyond the reach of roads that need mobile connectivity as well (e.g., agricultural communities cultivating land).[131] WIA argues that support areas must include those that are crucial to economic activity, tourism, and public safety in which competitive solutions do not exist, noting that farmers now use a host of precision technologies to manage their operations that cannot be used without mobile connectivity.[132] John Deere Corporation (Deere) agrees with WIA, and urges the Commission to both include agricultural areas and farmlands within the areas that are eligible to receive 5G Fund support and make them the focus of the $1 billion in 5G Fund support that was set aside for precision agriculture in the *5G Fund Report and Order*.[133]

40. We decline either to narrow or expand the eligibility-limiting criteria used to determine areas eligible for the 5G Fund Phase I auction in response to these comments. Although BEAD and other programs fund the deployment of fixed broadband services to fixed locations, these locations also indicate where people use mobile devices and where they live, work, and travel. Thus, we disagree with RWA that we should limit the eligibility criteria for determining eligible areas to those areas with roads only. With respect to expanding the eligibility criteria to specifically include agricultural areas, as requested by Verizon, WIA, and Deere, we note that the Commission explained in the *5G Fund Report and Order* that "Phase II [of the 5G Fund] . . . will focus support to specifically target the deployment of technologically

[124] RWA Comments at 4-5.

[125] RWA Reply at 6.

[126] *Id.* at 6.

[127] John Deere Corporation (Deere) Reply at 3-4; Verizon Comments at 9-10; WIA Comments at 4-6.

[128] Verizon Comments at 9 (emphasis omitted).

[129] *Id.* at 10.

[130] WIA Comments at 6.

[131] *Id.* at 4-6. RWA expresses support for WIA's suggestion that "5G Fund support [be used] to deploy 5G in areas 'in between' roadways and serviceable locations that can help support the development of precision agriculture." RWA Reply at 6.

[132] WIA Comments at 5.

[133] Deere Reply at 3.

innovative 5G networks that facilitate precision agriculture."[134] Specifically, including agricultural areas would therefore be outside the scope of the 5G Fund Phase I auction. We further note that any agricultural areas located within an area determined to be eligible for the 5G Fund Phase I auction will indeed be eligible for support in that auction; the criteria we adopt today for determining the eligible areas will not categorically remove agricultural lands. Additionally, we believe the broad definition of "roads" we will use for purposes of determining the areas eligible for support in the 5G Fund Phase I auction may result in coverage reaching agricultural areas and farmlands because providers, when engineering their networks to cover the roads, are likely to cover such areas if they are in close proximity. Accordingly, we do not take any additional steps here to ensure that support under Phase I of the 5G Fund reaches agricultural lands specifically.

41. Several commenters address both the categories of roads and the data source(s) that the Commission should use for purposes of determining the eligible areas that contain roads. RWA and CCA advocate using the following roadways, as defined by the U.S. Census Bureau: primary roads; secondary roads; local neighborhood roads, rural roads, and city streets; vehicular trails; ramps; private roads; parking lot roads; and winter trails.[135] CCA asks the Commission to consider including other types of unserved roadways in determining an area eligible for support, "even if they are not captured in U.S. Census Bureau [road] data or are located close to a served roadway."[136] CCA submits that "the Commission cannot and should not assume a local road, alleyway, or agricultural road in a rural area receives or will receive unsubsidized 5G service simply because a highway in that same area receives 5G service," and urges the Commission to "consider data at a granular level to avoid leaving behind unserved roadways in areas where another roadway in that area is receiving 5G service."[137] CCA also expresses support for looking beyond roadways and including other unserved areas—such as waterways, agricultural lands, farmland and other cultivable land, parks, and trails—for purposes of determining an area's eligibility for support.[138] NYPSC asks the Commission to consider including waterways and other frequented areas, such as state parks, as well as remote areas, in making eligible area determinations, noting that "wired services may be unreliable or unavailable [in these rural and remote areas]."[139] SBI advocates making all active roads used on remote Tribal lands eligible for support if the Commission decides to limit eligible areas to those that contain locations or roads because "[t]housands of Tribal locations in SBI's service area are beyond the reach of the U.S. Postal Service as they receive no home delivery and they have no Postal Service address."[140] SBI notes that "[t]hese remote locations often are connected to primary roads by very small unpaved dirt roads through the high desert," many of which SBI states "are considered to be service and private roads[] categorized as S.1740" under the U.S. Census Bureau's feature class codes.[141] SBI submits that "[t]hese roads, which likely fall into the 1.6, 1.7, or 1.8 category in the OpenStreetMap hierarchy, must be included as eligible areas" if the Commission chooses to use OpenStreetMap.[142] SBI notes that that "there are substantial road areas in between homes and major roads that could be excluded if the Commission limits eligibility to only [hex-9s] with developed

[134] *5G Fund Report and Order,* 35 FCC Rcd at 12184, para. 22.

[135] RWA Comments at 4; CCA Reply at 6-7.

[136] CCA Reply at 7. CCA also urges the Commission to make use of available data at a granular level when making road-based eligibility determinations in order to identify unserved areas. CCA Reply at 6.

[137] CCA Reply at 7.

[138] *Id*.

[139] NYPSC Comments at 2, 3.

[140] SBI Reply at 30; *see id.* at 29-31.

[141] *Id*. at 30.

[142] *Id*. at 30-31 (emphasis omitted).

roads or locations."[143] SBI states that unlike much of the rest of the nation, this undeveloped network of roads comprise a substantial area within which Tribal residents will travel, and notes that the health and safety benefits of access to mobile services (especially 911 service) compel the Commission to ensure that all of these minor roads are considered when making eligible area determinations.[144]

42. CCA, Deere, RWA, and WIA each support using U.S. Census Bureau TIGER data when making road-based eligible area determinations.[145] WIA and Deere note that agricultural communities may fall outside of the maps for roads, and therefore caution against using a single data source, such as OpenStreetMap, to determine eligible areas that contain roads.[146] WIA and Deere therefore urge the Commission to instead rely on multiple sources, including the TIGER road miles database, the U.S. Department of Agriculture's cultivated land layer, and other sources, to provide redundancy and help ensure that all agricultural communities are included within the areas eligible to receive 5G Fund support.[147]

43. We conclude that the definition of roads, and the source of road data, we adopt here is broadly consistent with the categories of roads commenters ask us to consider when identifying the eligible areas that contain roads.[148] In addition, including areas with Fabric locations will ensure that the roads leading to those locations generally will receive 5G coverage even if such roads do not fall within the categories of roads we adopt today.[149] While we appreciate commenters' interest in using more than one road data source for redundancy and completeness, we believe that using multiple road data sources would be unwieldly and could cause confusion, and thus decline to do so. We conclude that using OpenStreetMap as the single road data source is beneficial because it includes all the road categories in the definition we adopt, it is updated more frequently than TIGER data, and it reflects input from the public.

### 5. Generating Areas Eligible for 5G Fund Support at the Hex-9 Level

44. We adopt our proposal to express the specific geographic areas eligible for 5G Fund as hex-9s, with certain modifications.[150] In the *5G Fund FNPRM*, we noted that in order to limit the areas eligible for support in the 5G Fund Phase I auction to those that contain locations or roads, we would need to designate the geographic areas that contain locations and/or roads.[151] The Commission sought comment on its approach to identifying specific geographic areas eligible for 5G Fund support, and the idea of expressing those eligible areas as hex-9s.[152] However, we are persuaded that a more granular

[143] *Id*. at 31.

[144] *Id*.

[145] CCA Reply at 6; Deere Reply at 3-4; RWA Comments at 4; WIA Comments at 5.

[146] WIA Comments at 5; Deere Reply at 3-4.

[147] WIA Comments at 5; Deere Reply at 3-4.

[148] RWA Comments at 4; CCA Reply at 6-7; SBI Reply at 30-31. As noted above, water-only areas will not be excluded from eligibility. *See* NYPSC Comments at 2, 3.

[149] *See* CCA Reply at 7; SBI Reply at 30-31; WIA Comments at 4-5.

[150] *See 5G Fund FNPRM* at *39-43, paras. 20-21.

[151] *Id.* at *38-43, paras. 19-21.

[152] *Id.* at *43, para. 21. The Commission explained that under this approach, "areas eligible for 5G Fund support [would be converted] to, and [made] available in the form of, [hex-9s]," noting that "unlike 'raw' coverage footprints based on propagation model output, which do not conform to any defined boundary, hex-9s are standardized and can be clearly identified and referenced." *Id.* The Commission noted that "because hex-9s are relatively small, with an average area of approximately 0.1 square kilometer, any reduction in map resolution when converting from raw propagation model output (as filed by providers) to hex-9s is minimal," and that "the use of (continued….)

analysis of coverage is needed to address concerns raised by commenters. We will therefore analyze mobile broadband coverage by first translating "raw" mobile coverage polygons to resolution 11 hexagons (hex-11s) and then evaluating the coverage of the hex-11s that compose a hex-9, using the process described below.[153]

45. A hex-9 will be eligible for 5G Fund support if it includes roads or locations and if a certain share of its component hex-11s *lack* unsubsidized 5G coverage and are in non-urban areas.[154] Here, 5G coverage is based on the "raw" polygon coverage areas submitted by providers in their biannual BDC submission for 5G outdoor-stationary service at 7/1 Mbps.[155] We will determine whether coverage is subsidized or unsubsidized using information from USAC on legacy support and CETC study area boundaries. Hex-11s are two levels more granular than hex-9s in the H3 system hierarchy and are therefore the "grandchildren" hexagons of hex-9s. Hex-11s have an average area of 2,150 square meters (about half an acre), which is smaller than the maximum area of the bin sizes used by providers when generating raw coverage areas submitted in the BDC.[156]

46. To understand how we will determine which hex-9s are eligible for support, it may be helpful to examine the inverse, i.e., how a hex-9 is defined as *served*. For each hex-9, we will determine the number of served grandchild hex-11s relative to the total number of grandchild hex-11s.[157] To find the number of served hex-11s, we will overlay hex-11 areas on a provider's unsubsidized 5G coverage polygon and urban areas. If any of those boundaries overlap the centroid, the geographic center point, of the hex-11, then we will treat the entire hex-11 as being covered by that boundary. Any hex-11 covered by unsubsidized 5G coverage or in an urban area will be considered served and counted in the number of served hex-11s. The total number of grandchild hex-11s of a hex-9 is typically 7x7, or 49.[158] If a substantial majority of the grandchild hex-11s are served, then the grandparent hex-9 will be considered served. For purposes of making this determination, we consider a "substantial majority" to be 70% or more.[159] Any hex-9 that is not served in this way is therefore considered unserved and will be eligible for 5G support, as long as it *also contains* at least one location or at least some portion of a road.

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hex-9s can strike the appropriate balance between the benefits of their use and this loss in granularity, particularly given that the data as filed are based on models of coverage." *Id*.

[153] We direct OEA, WCB, and WTB to make additional details regarding the methodology used to generate eligible areas available with the publication of the list of eligible areas.

[154] Non-urban areas are those outside the U.S. Census definition of urban areas. As noted above, urban areas can be presumed for this purpose to be implicitly covered by unsubsidized 5G, and thus ineligible for support in the 5G Fund Phase I auction.

[155] As noted above, we define the areas eligible for support in the 5G Fund Phase I auction as those areas that lack unsubsidized 5G mobile broadband service at speeds of at least 7/1 Mbps in an outdoor stationary environment by at least one service provider.

[156] The maximum resolution allowed when generating mobile broadband coverage areas under the BDC requirements is 100 meters. *See* 47 CFR § 1.7004(c)(3)(iii). This resolution would result in a bin or pixel, the individual square generated by a propagation model to represent predicted coverage, with an area of 10,000 square meters.

[157] For both the numerator and the denominator, the centroid—i.e., the geographic center point—of the hex-11 must fall within the boundary of United States or its territories to be counted.

[158] It would not be 49 when a hex-9 straddles an international boundary or coastline, for instance, and some its component hex-11s fall outside the United States or in coastal waters.

[159] For hex-9s with both land and water grandchild hex-11s, only the land hex-11s are considered in this calculation. We note that although the Commission has not formally defined what constitutes a "substantial majority," it has concluded that it is more than a simple majority. *See, e.g., Lifeline and Link Up Reform and Modernization; Telecommunications Carriers Eligible for Universal Service Support; Connect America Fund*, WC Docket Nos. 11-42, 09-197, and 10-90, Third Report and Order, Further Report and Order, and Order on Reconsideration, 31 FCC

(continued….)

47. CCA supports converting the areas eligible for 5G Fund support into hex-9 standardized units and excluding from 5G Fund eligibility any hex-9 unit that overlaps with a relevant mobile coverage area, such that the entire hex-9 area is considered covered or served.[160] Verizon also supports converting the areas eligible for 5G Fund support into hex-9s and notes that the Commission's BDC challenge and verification processes also use hex-9s.[161] Verizon also advocates making bidding units with only a handful of eligible hex-9s ineligible for support, consistent with the Commission's decision in the *5G Fund Report and Order* to exclude geographic areas with *de minimis* eligible areas.[162] ARA PAWR submits that using the H3 system can be an efficient way to identify specific geographic areas but notes that one challenge with that approach is the need to have multiple resolution implementations based on the geographical location.[163] AT&T expresses support for limiting the areas eligible for 5G Fund support to hex-9s in rural areas that are not 100% served.[164]

48. While not opposing converting eligible areas to hex-9s, T-Mobile notes that there are some issues with doing so. T-Mobile submits that "translating providers' submitted BDC coverage data into hex-9 cell maps does not result in a perfect match."[165] T-Mobile notes that "[t]he BDC rules require mobile wireless providers to report coverage using 100 meter by 100 meter square pixels, but [because] hex-9 cells are larger than these pixels[,] . . . providers' coverage data is more granular than the hex-9 cells used in the Commission's maps," and as a result, "translating providers' coverage data into hex-9 maps inevitably introduces some degree of inaccuracy and imprecision."[166] In an *ex parte* presentation, T-Mobile submits that "[u]sing more granular hexagonal areas for the 5G Fund, such as hex-10 or hex-11 cells, may help mitigate [the hex-9 translation issue]."[167] We agree. Overlaying hex-11 cells onto the raw coverage data submitted by mobile service providers and generating eligible hex-9s based on the percentage of unserved hex-11s will allow for a more granular assessment of coverage data in the geographic areas than the coverage data as rendered on the National Broadband Map. This approach also is more accurate and granular than the approach we outlined in the *5G Fund FNPRM* and will alleviate

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Rcd 3962, 3993, para. 86 (2016) (*Lifeline Third Report and Order*); *In Re Fed.-State Joint Bd. on Universal Serv*., Recommended Decision, 17 FCC Rcd 14095, 14105-06, para. 25 (2002) (holding that because "only 50.5 percent of U.S. households use computers to access" the Internet, a substantial majority of subscribers did not use computers to access the Internet). In the context of the Lifeline program, the Commission decided to "establish minimum service standards for all Lifeline supported services based on services to which a 'substantial majority' of consumers have already subscribed" and "conclude[d] that 70 percent of consumers constitutes a 'substantial majority' as it relates to fixed broadband speeds." *Lifeline Third Report and Order*, 31 FCC Rcd at 3989, 3992, 3993, paras. 74, 81, n.240, 86. The Commission also concluded in the context of Lifeline program mobile services that "after the phase-in of mobile data usage allowance standards, [it would] update mobile broadband standards for data usage allowance in line with the principle of supporting services that a "substantial majority" of American consumers subscribe to," and that "given the types of data that are [publicly] and regularly available, the minimum service standard for mobile broadband data usage allowance will be 70 percent of the calculated average mobile data usage per household." *Id*. at 3995, para. 94.

[160] CCA Comments at 12.

[161] Verizon Comments at 7; *see also BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3089 (explaining that the mobile challenge process methodology will group speed test measurements that fall within the same hex-9 cell for purposes of determining whether a sufficient number of hex-9 areas contain speed test results necessary to create a cognizable challenge to the parent hex-8 cell).

[162] Verizon Comments at 11 (citing *5G Fund Report and Order*, 35 FCC Rcd 12196, para. 52).

[163] ARA PAWR Comments at 3.

[164] AT&T Reply at 6.

[165] T-Mobile Comments at 16.

[166] *Id.* (footnotes omitted).

[167] Letter from Christopher Wieczorek, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 20-32, at 2 (filed Nov. 16, 2023) (T-Mobile Nov. 16 *Ex Parte* Letter).

certain concerns raised by commenters about converting coverage to hex-9s.[168] Because hex-11s are so small, there is little to no loss in granularity when converting from raw coverage areas to hex-11s, even when using the centroid method.

49. T-Mobile also argues that "smaller hexagonal cell[s] would require higher resolution terrain and clutter maps that are not readily available," "would require changes to the BDC submission processes," and "would . . . dramatically increase the size of the data files and computer processing requirements in a way that is unachievable."[169] We disagree with these arguments because the approach we adopt today would not require mobile service providers to submit coverage data into the system based upon hex-11s, thus obviating the potential computer processing requirements and other logistical hurdles to gathering the data based on hex-11s.

50. T-Mobile notes that "[i]n the *5G Fund FNPRM*, the Commission propose[d] to treat an entire hex-9 cell as served—and thus ineligible for 5G Fund support—if a provider's coverage data overlaps any portion of that hex-9 cell."[170] "[T]o ensure complete, robust rural coverage," T-Mobile argues that "hex-9 cells that are only partially covered (e.g., cells where BDC shows only 25%, 50%, or 75% coverage) should be included in the 5G Fund Phase I Auction to avoid denying support to unserved locations."[171] T-Mobile submits that this will "ensure[] that locations are not excluded because they are within a hex-9 cell [with less than 100% coverage] . . . [and] is consistent with the goal[] of the BDC . . . to produce more granular results."[172] In its reply comments, AT&T agrees with T-Mobile that eligible areas should include hex-9s that are not 100% served.[173] CTIA likewise supports excluding hexagons that are 100% covered and including those that are partially covered, and submits that this approach will mitigate the risk highlighted by T-Mobile of skewing support away from areas where unsubsidized service is actually unavailable.[174]

51. We will exclude from eligibility any hex-9s that are 100% covered by unsubsidized 5G service. However, we disagree with CCA that a hex-9 with any 5G coverage should be excluded from 5G Fund eligibility, because doing so would leave behind too many areas from gaining 5G coverage. We will therefore also make some hex-9s that are partially covered eligible for 5G Fund support, depending on the percentage of the hex-9 that is covered. To address commenters' concerns about excluding from eligibility hex-9s with only a small percentage of their area covered by unsubsidized 5G service, we will determine the eligibility of a hex-9 based on whether the percentage of its nested, non-urban "grandchild" hex-11s with unsubsidized 5G mobile coverage represents a "substantial majority" of the hex-11s in that hex-9. As noted above, we conclude that unsubsidized 5G mobile coverage of 70% or more represents a substantial majority.[175] Under this approach, a hex-9 will be ineligible if 70% or more of its nested, non-urban "grandchild" hex-11s show unsubsidized 5G coverage. We believe that our methodology strikes the appropriate balance between not leaving too many areas and locations ineligible for support and avoiding supporting areas that are largely covered by 5G service without a subsidy.

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[168] *See 5G Fund FNPRM* at *38-43, paras. 19-21. Our approach here is also more granular than the methodology used to report and depict mobile broadband coverage on the National Broadband Map, which considers a hex-9 covered if its centroid is overlapped by a provider's raw mobile broadband coverage area. FCC, *Broadband Data Collection: Specifications for Data Downloads from the National Broadband Map, Section 3.1.2.1*, at 5 (Mar. 11, 2024), https://us-fcc.box.com/v/bdc-data-downloads-output.

[169] T-Mobile Nov. 16 *Ex Parte* Letter at 2.

[170] T-Mobile Comments at 17 (citing *5G Fund FNPRM* at *42-43, para. 21).

[171] T-Mobile Comments at 17-18.

[172] *Id.* at 18.

[173] AT&T Reply at 6.

[174] CTIA Reply at 4.

[175] *See supra* note 157.

### 6. Source and Timing for Determining Final List of Eligible Areas

52. As the basis for determining the final list of areas eligible for support in the 5G Fund Phase I auction, we will use the most recent vintage of BDC mobile availability data published on the National Broadband Map that the public have had the opportunity to challenge.[176] We direct OEA, WCB, and WTB to implement this approach and to release the final list of eligible areas for that auction at least 30 days prior to the start of bidding in the auction. We intend to publish a "preview" map of the eligible areas based on the vintage (the "as-of date") of the BDC mobile availability data that we plan to use as the basis for the final eligible areas. The Commission also anticipates publishing an updated preview of the eligible areas before the short-form application filing window for the auction opens. This updated preview would be based on the same vintage of BDC mobile availability data and reflect any mobile challenges to that vintage resolved at the time of release. We conclude that providing both an initial and an updated preview of the eligible areas during the pre-auction process will afford potential auction applicants sufficient time to determine whether additional challenges to the data are needed, and to submit those challenges so that they can be processed and adjudicated sufficiently in advance of when the Commission expects to generate the final list of eligible areas. It will also enable them to make a more informed decision applying for, and bidding in, the auction.

53. We recognize that, depending on the timing for the 5G Fund Phase I auction, this approach means that we would not use the most recent vintage of published BDC mobile availability data as the basis for the eligible areas.[177] If we were to commit to using the most recent vintage of published BDC mobile availability data, there might be little or no time for the public to submit, and for the Commission to resolve, challenges to such coverage data; as a result, some areas that should be eligible for the auction might be excluded. We therefore conclude that, on balance, using a prior vintage of BDC mobile availability data to determine the final list of eligible areas is preferable because it will afford greater opportunity for public review, challenge submissions, Commission adjudications, and for provider updates on the National Broadband Map to be considered.

54. Michael Ravnitzky supports the proposal to make the map of eligible areas available no later than 30 days in advance of bidding, submitting that "this approach will ensure that the eligible areas are based on the most recent and accurate data available."[178] CCA expresses concern about the Commission's proposal "to use mobile availability data published no later than 30 days prior to the start of bidding as the basis for [determining] final eligible areas," arguing that "[p]articipating carriers will need to engage in considerable preparation for bidding and [that] 30 days is insufficient for small carriers with limited resources to review the data, make decisions regarding participating in the auction, and take the steps necessary to prepare for the auction."[179] CCA asserts that "[t]he Commission should ensure that

[176] The methodologies, processes, and timelines applicable to mobile challenges submitted under the BDC rules will apply. *See generally BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3010-54, paras. 8-85; *BDC Third Report and Order*, 36 FCC Rcd at 1164-74, paras. 97-124; *see also National Broadband Map: 2024 Key Dates* (Jan. 19, 2024), https://www.fcc.gov/sites/default/files/national-broadband-map-2024-key-dates.pdf. For example, a speed test conducted using a 5G-capable device in an area where a provider claims 4G LTE and 5G-NR service but the results show less than 5/1 Mbps would count as a negative test for both the 4G LTE and 5G-NR coverage. *BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3023, para. 27 (allowing "a speed test conducted using a device capable of connecting to a higher-generation technology, but that only connects to a lower-generation technology, to count as a test for the higher generation technology"). Alternatively, such a test would count as a positive test for 5G-NR if the test result is higher than 7/1 Mbps, even if the test is taken over a 4G LTE connection. *See id.*

[177] Carriers must submit their mobile availability data in the BDC on or before March 1 of each year (reflecting data as of December 31 of the prior year) and on or before September 1 of each year (reflecting data as of June 30 of the current year). *See* 47 CFR § 1.7002; *see* FCC, *National Broadband Map: Key 2024 Dates*, https://www.fcc.gov/BroadbandData (last updated Jan. 19, 2024).

[178] Ravnitzky Comments at 3.

[179] CCA Comments at 12.

there is sufficient time between when the final [eligible areas] data is made available and the start of bidding, so that adequate preparation can occur."[180] CCA also urges the Commission to "permit a robust mobility mapping challenge to run its course[] to detect and resolve any significant concerns regarding the accuracy of the current coverage maps."[181]

55. CTIA submits that "[the 5G Fund] program timelines should be aligned with the BDC timeline to enable the use of the most recent version of the [National Broadband Map] that has been verified by the challenge process."[182] While CTIA does not specifically oppose the Commission's specific proposed timing, it asserts that "[d]epending on the timing of when the map is published, 30 days may not be sufficient to ensure that the map can be validated through the challenge process."[183] "Since challenges are ordinarily accepted on a rolling basis, CTIA recommends that the Commission provide a target date for eligible parties to submit challenges for consideration in the map that will be used to determine eligible areas for the 5G Fund . . . [that is] sufficiently far in advance of the start of bidding to ensure that potential bidders in the auction have an adequate opportunity to evaluate the updated coverage data and its impact on their participation."[184] While not specifically addressing the Commission's specific proposed timing, RWA asserts that the Commission should set a deadline for determining the final areas eligible for the 5G Fund Phase I auction prior to making this determination, in order to enable providers to determine the most opportune time to file challenges to the BDC maps that the Commission will rely on to determine the areas eligible for the auction, noting that "[i]f a provider files a challenge too early, such challenge may be moot by the time a later version of the BDC map is released due to continued 5G build out by nationwide carriers."[185] RWA further notes that "[f]iling such challenges is also extremely costly for rural providers, making the timing of filing challenges even more difficult . . . [because] filing challenges to overstated coverage in perpetuity is economically infeasible for rural carriers."[186] RWA submits that "[p]roviding a date when the final eligible areas will be determined will provide needed clarity and avoid wasteful spending by carriers filing premature challenges . . . [and ensure] that industry and the Commission are in a better position to understand the impact of the BEAD Program, [as contemplated by the Commission in the *5G Fund FNPRM*]."[187]

56. The iterative nature of the National Broadband Map, which is published twice a year and updated on a bi-weekly basis to reflect provider updates and the results of challenges, addresses commenters concerns about the Map showing the most up-to-date coverage data. We therefore strongly encourage the public to review and, to the extent appropriate, challenge these data as soon as possible so that any challenges can be resolved by Commission staff prior to our announcement of the final eligible

[180] *Id.* at 12-13; CCA Reply at 18.

[181] CCA Reply at 17-18; CCA Aug. 2 *Ex Parte* Letter at 2 (asserting that the Commission's current broadband maps are neither reliable nor accurate and that its challenge process "is deeply flawed and in need of reform."). We note that the generalized concerns raised by CCA are not supported by any evidence submitted to the Commission in the challenge or crowdsource process. Moreover, the information cited by CCA in a recent *ex parte* filing relies in large part on references to the fixed challenge process as a basis for expressing concern about mobile data. *See* CCA Aug. 2 *Ex Parte* Letter at 9, n.42, 14 & nn. 69-72; *see generally id.* Exh. A (including comments that discuss all of the BDC challenge processes, including the Broadband Serviceable Location Fabric and fixed availability).

[182] CTIA Comments at 5.

[183] *Id.* at 6.

[184] *Id.*.

[185] RWA Comments at 5.

[186] *Id.*

[187] RWA Comments at 6; *see* RWA Reply at 6-7.

areas.[188] As outlined in the Commission's rules, speed tests submitted as part of the BDC mobile challenge process are valid for up to one year[189] and are combined with other tests conducted in nearby geographic areas to create a cognizable challenge to the mobile data once the geographic, testing, and temporal thresholds outlined in the BDC mobile challenge process have been met.[190] If a challenge is upheld, the challenged area will be removed from the National Broadband Map,[191] and the results of upheld challenges will continue to be reflected in future versions of the National Broadband Map, including future data vintages. The challenge outcome will remain until a mobile challenge restoration process has been implemented and a provider has successfully followed that process to demonstrate that coverage in the challenged area is available in a subsequent vintage after the loss or concession of a challenge.[192]

### B. Puerto Rico and the U.S. Virgin Islands

57. Consistent with the underlying policy objectives of the Commission's decisions in the Bringing Puerto Rico Together Fund and the Connect USVI Fund,[193] we conclude that areas in Puerto

[188] Challenges may take as long as 180 days to be reflected in corrections to the National Broadband Map. *See* 47 CFR § 1.7006(e)-(f). The mobile challenge process has been open for nearly two years, and to date, the Commission has received over 270,000 individual challenge and crowdsource speed test submissions, resulting in over 175 challenges being sent to mobile providers for response. The Commission is also aware of two attempted bulk mobile challenge submissions, both of which were unsuccessful due to missing data elements. One of those submissions was later shared with Commission staff and helped to inform a mobile verification. The Commission continues to fulfill its statutory obligation to verify the coverage maps, and it is in the process of finalizing multiple ongoing mobile verifications and audits. To date, the Commission has not been presented with additional evidence of widespread overreporting by mobile providers. Although CCA asserts that "the Commission has not received enough challenges . . . to pressure test the accuracy of the mobile broadband maps," *see* CCA Aug. 2 *Ex Parte* Letter at 11, CCA admits that its "carrier members . . . have refrained from participating in the challenge process so far given the lack of clarity on what data will be relevant to 5G Fund eligibility," *see* CCA Aug. 2 *Ex Parte* Letter at 2, 10.

[189] *BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3049, para. 70.

[190] *BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3012, 3025-28, paras. 12, 31-35 (adopting a proposal to combine speed tests conducted by consumers, governmental agencies, and other entities to determine whether the thresholds for a cognizable challenge have been met, and citing *BDC Third Report and Order*, 36 FCC Rcd at 1168, para. 105), 3036-41, paras. 50-56 (explaining and adopting the thresholds that aggregated groups of speed tests will be required to meet to establish a cognizable challenge).

[191] *See* 47 CFR § 1.7006(e)(5).

[192] Once an area is successfully challenged and the challenge is upheld, the provider will not simply be able to add the area back to their availability filing in the next biannual filing period. Instead, to show that a provider can serve a previously challenged area in a future BDC filing, it will need to separately submit the same type of detailed infrastructure data for the successfully challenged area that the Commission can require in an audit or verification (i.e. the type of data that would be sufficient to invalidate challenge speed tests through the challenge process).

[193] *Connect America Fund*, WC Docket No. 10-90, Order, 32 FCC Rcd 7981, 7981, 7983, 7985, paras. 1, 3, 7, 14-15 (2017) (directing USAC to make available, at the carrier's election, a single advance payment of up to seven months of high-cost support to facilitate expeditious restoration of essential communications services); *The Uniendo a Puerto Rico Fund and the Connect USVI Fund; Connect America Fund,* WC Docket Nos. 18-143, 10-90, and 14-58, Order and Notice of Proposed Rulemaking, 33 FCC Rcd 5404, 5408, 5423-24, paras. 13, 82 (2018) (*PR-USVI Stage 1 Order*) (establishing the two stages of the Bringing Puerto Rico Together Fund and the Connect USVI Fund, providing immediate Stage 1 support to help restore voice and broadband service on the islands following the devastation to the communications networks caused by Hurricanes Irma and Maria, and proposing to carve Puerto Rico and the U.S. Virgin Islands out from the Mobility Fund Phase II auction and instead provide support under Stage 2 of the Funds to rebuild, improve, and expand voice and broadband networks on the islands in the longer term); *The Uniendo a Puerto Rico Fund and the Connect USVI Fund; Connect America Fund,* WC Docket Nos. 18-143, 10-90, and 14-58, Report and Order and Order on Reconsideration, 34 FCC Rcd 9109, 9162-63, 9165, paras. 101, 110 (2019) (*PR-USVI Stage 2 Order*) (adopting a three-year funding period and budget for Stage 2 mobile

(continued….)

Rico and the U.S. Virgin Islands that meet the eligible areas definition for the 5G Fund will be included in the 5G Fund Phase I auction. We consider this conclusion to be a natural progression from the Commission's decision to provide support to mobile carriers in Puerto Rico and the U.S. Virgin Islands to restore and harden their networks after the devastation caused by Hurricanes Irma and Maria to the Commission's gradual transition to allow carriers in these areas to use a portion of the support they receive toward deploying high-speed 5G mobile services.[194] As the Commission anticipated in both the *PR-USVI Stage 2 Order,* and more recently in the *Transitional Support Report and Order*, the time has come to establish a competitive funding mechanism for the long-term expansion of advanced telecommunications access and next generation wireless services for Puerto Rico and the U.S. Virgin Islands,[195] and we conclude that it is now appropriate to view the funding needs for support for mobile broadband services in Puerto Rico and the U.S. Virgin Islands through the same lens as other areas eligible for support under the 5G Fund. Accordingly, eligible areas in Puerto Rico and the U.S. Virgin Islands will be included in the 5G Fund Phase I auction, and winning bidders that are authorized to receive 5G Fund Phase I support in those areas will be subject to the same terms and conditions as winning bidders authorized to receive support in other eligible areas.[196]

58. Over the past six years, the Commission has dedicated significant effort and financial support to accomplish the restoration of mobile communication networks in Puerto Rico and the U.S. Virgin Islands. In recognition of the advancements that have been made to achieve this goal, in its 2019 *PR-USVI Stage 2 Order*, the Commission began the process of transitioning from offering restorative support to a plan that would begin to offer support to mobile carriers to deploy high-speed 5G mobile services in areas that that would otherwise not see such services absent subsidies.[197] Thus, in Stage 2 of the Bringing Puerto Rico Together Fund and the Connect USVI Fund, the Commission adopted a three-year funding period and budget pursuant to which carriers could elect to receive up to 75% of the support for which they are eligible to restore, harden, and expand their networks using 4G LTE or better technology capable of providing service at speeds of at least 10/1 Mbps, and up to 25% of the support for which they are eligible to deploy 5G mobile networks capable of providing service at speeds of at least 35/3 Mbps.[198] In so doing, the Commission stated that it expected to establish a competitive funding mechanism for the long-term expansion of advanced telecommunications access and next-generation wireless services for

support under the Bringing Puerto Rico Together Fund and the Connect USVI Fund as an alternative to mobile high-cost support); *The Uniendo a Puerto Rico Fund and the Connect USVI Fund; Connect America Fund,* Report and Order and Order on Review, FCC 23-32, 2023 FCC LEXIS 1152, at *1, 17-19, paras. 1, 14-17 (2023) (*Transitional Support Report and Order*) (adopting a transitional support period of up to 24 months for mobile carriers in Puerto Rico and the U.S. Virgin Islands receiving support under Stage 2 of the Bringing Puerto Rico Together Fund and the Connect USVI Fund to allow these carriers to continue to strengthen and harden their networks and make advanced telecommunications service more resilient while the Commission develops a long-term funding mechanism for mobile support in these Territories).

[194] *PR-USVI Stage 1 Order*, 33 FCC Rcd at 5405, 5408-11, paras. 2-4, 14-22.

[195] *PR-USVI Stage 2 Order*, 34 FCC Rcd at 9162-63, 9165, paras. 101, 110 (adopting a three-year funding period and budget for Stage 2 mobile support under the Bringing Puerto Rico Together Fund and the Connect USVI Fund as an alternative to mobile high-cost support as an interim step to establishing a competitive funding mechanism for long-term expansion of advanced telecommunications access and next generation wireless services in Puerto Rico and the U.S. Virgin Islands); *Transitional Support Report and Order* at *19, *21-22, paras. 17, 20.

[196] *See generally,* 47 CFR §§54.1011-54.1021.

[197] *PR-USVI Stage 2 Order*, 34 FCC Rcd at 9170-72, paras. 119-24.

[198] *Id.* at 9163, paras. 101-02. Providers are currently receiving transitional support at levels lower than in Stage 2; this support is intended to harden and improve the resiliency and redundancy of facilities for 4G LTE or better technologies during natural disasters, but may be used for both 4G LTE and 5G-NR-capable networks in order to encourage the deployment of 5G-NR service while also ensuring resilient networks. *Transitional Support Report and Order* at *29-32, paras. 27-28.

Puerto Rico and the U.S. Virgin Islands by the conclusion of Stage 2.[199] However, in June 2023, when Stage 2 mobile support under the Bringing Puerto Rico Together Fund and the Connect USVI Fund was scheduled to conclude,[200] this next stage of the implementation of the 5G Fund had not yet begun. Without another option on the immediate horizon, and not wanting to lose the momentum that had been achieved in Puerto Rico and the U.S. Virgin Islands, the Commission adopted an additional transitional support period of up to 24 months to allow eligible mobile carriers currently receiving Stage 2 mobile support to continue receiving support until the Commission could develop a long-term funding mechanism.[201] The Commission nonetheless stated in the *Transitional Support Report and Order* that transitional support would end sooner than 24 months if a long-term funding mechanism were established before the transition period ends.[202]

59. We recognize that our decision to use the 5G Fund as the long-term competitive funding mechanism to advance high-speed, mobile broadband for eligible areas in Puerto Rico and the U.S. Virgin Islands may raise concerns for certain commenters.[203] Although some parties support the inclusion of eligible areas in Puerto Rico and the U.S. Virgin Islands in the 5G Fund because they maintain that the award of 5G Fund support has the potential to bring new services and service providers to these areas,[204] other commenters contend there should be a separate, specific funding mechanism for Puerto Rico and the U.S. Virgin Islands that addresses the unique challenges that service providers face there.[205] One commenter even argues that the Commission should continue offering support to providers through the Bringing Puerto Rico Together Fund and the Connect USVI Fund, and also include eligible areas in Puerto Rico in the 5G Fund.[206]

60. In reaching today's decision, we are mindful that, had it not been for the catastrophic damage caused by Hurricanes Irma and Maria, eligible areas in Puerto Rico and the U.S. Virgin Islands would have remained in Mobility Fund Phase II, which was later replaced by the 5G Fund. Moreover, after carefully reviewing the record on this issue, we have determined that there is no reasonable basis for Puerto Rico and the U.S. Virgin Islands to continue to be treated differently than other U.S. islands and territories, which also face the same factors that challenge the deployment of mobile service as those cited

[199] *PR-USVI Stage 2 Order*, 34 FCC Rcd at 9163, para. 102.

[200] *Transitional Support Report and Order* at *1, para. 1.

[201] *Id.* at *1, 17-19, paras. 1, 14-17.

[202] *Id*. at *20-21, paras. 19-20.

[203] *See, e.g.*, Liberty Mobile Puerto Rico Inc. and Liberty Mobile USVI Inc. (Liberty Mobile) Comments at 11 ("The same considerations that support the Commission's decision to establish the Alaska Plan and to exclude Alaska from the 5G Fund apply to Puerto Rico and USVI."); T-Mobile Reply at 1-2.

[204] *See, e.g.*, AST&Science Comments at 10 (reasoning that 5G Fund support, unlike the dedicated funding that went to incumbent carriers after the hurricanes, has the potential to bring in new services and service providers to the Territories, such as AST's satellite services); Ravnitzky Comments at 1 ("I urge the Commission to adopt policies and rules that will ensure that these communities are not left behind in the 5G era.").

[205] Liberty Mobile Comments at 8-9 (contending that the Commission has previously noted Puerto Rico's specific challenges, including its "mountainous terrain that limits signal propagation and [its] lower median household income compared to the United States" (internal quotation marks omitted)); Puerto Rico Telephone Company (PRTC) Comments at 2-5; Vitelcom Cellular, Inc. and Choice Communications LLC dba Viya Wireless (Viya Wireless) Comments at 2-4 (stating that in the U.S. Virgin Islands "poverty is double the U.S. average, and unemployment is two and a half times higher"; the GAO "recently concluded that the USVI faces serious demographic and economic challenges which impede efforts to grow its economy and attract investors" and that "[w]ithout tourism fully recovered, and weak financial management practices persisting, long-term economic growth and diversification remain a challenge").

[206] The Negociado de Telecomunicaciones de Puerto Rico (the Puerto Rico Telecommunications Regulatory Bureau) Comments at 5 (contending that "[t]here is no barrier facing the Commission [from including] areas in Puerto Rico [in] the 5G Fund and then prudently incorporate[ing] these areas into a long-term mechanism).

by commenters, including the economy, the costs of shipping materials from the mainland, and the limited availability of trained workers.[207] While we acknowledge and are not unsympathetic to these obstacles, we conclude that Puerto Rico and the U.S. Virgin Islands no longer warrant continued separate, dedicated, mobile funding mechanisms. As stewards of universal service support, we have an obligation to be fiscally responsible and to ensure that our limited resources are used efficiently.[208] Although the Commission stated in the *Transitional Support Report and Order* that transitional support would end sooner than 24 months if a long-term funding mechanism were established, we find that providing carriers in Puerto Rico and the U.S. Virgin Islands that are not winning bidders in the 5G Fund Phase I auction with a two-year phase down of the transitional support being provided under the Bringing Puerto Rico Together Fund, on the same terms and conditions as those being adopted for mobile legacy high-cost support recipients, will provide the continuity of support necessary to preserve the Commission's investment in restoring and hardening networks impacted by the hurricanes in these Territories. We conclude that our decision today serves the public interest and reduces the administrative burdens of continuing to manage separate funding mechanisms. Accordingly, areas in Puerto Rico and the U.S. Virgin Islands that meet the eligible areas definition for the 5G Fund will be included in the 5G Fund Phase I auction, subject to the same terms and conditions as other eligible areas, and the transition from the transitional support being provided under the Bringing Puerto Rico Together Fund and the Connect USVI Fund to 5G Fund support in Puerto Rico and the U.S. Virgin Islands, or to a two-year phase down of transitional support, will occur on the same terms and schedule adopted below.[209]

## IV. 5G FUND BUDGET

61. We increase the budget for Phase I of the 5G Fund from up to $8 billion to up to $9 billion by including the $1 billion that previously had been allocated by the Commission in the *5G Fund Report and Order* for Phase II, as suggested in the record.[210] In so doing, we affirm the Commission's prior

[207] *See, e.g.*, Viya Wireless Comments at 2-3 (noting that "[p]ersistent supply chain problems and inflation that have complicated deployment and maintenance for providers on the mainland, are significantly greater in an insular Territory [like the U.S. Virgin Islands] with no road or rail access to any mainland U.S. port or manufacturing facility"); Puerto Rico Telephone Company Comments at 5 (arguing that compared to other carriers it faces "(i) higher shipping-related costs; (ii) higher operational costs associated with the topography of Puerto Rico, such as the rough, hilly terrain and heavy tropical vegetation in sparsely populated inland areas; and (iii) higher operational costs associated with the tropical climate of Puerto Rico, which is corrosive to telecommunications equipment, leading to accelerated deterioration of equipment; and (iv) severe tropical weather in the Caribbean, which leads to frequent power outages that can damage equipment and which requires frequent reconstruction of existing infrastructure due to relentless storm and hurricane damage"); Liberty Mobile Reply at 1-2; T-Mobile Reply at 4-5 (stating that "[a]s the only provider that operates both in the continental United States and Puerto Rico, T-Mobile has first-hand knowledge of these challenges, including": (1) isolated island locations, (2) tropical climate, (3) mountainous interior, (4) severe weather, (5) seismically active area, (6) fragile power grid, and (7) supply chain and materials availability).

[208] *See* 47 U.S.C. § 254 (c)(1) ("Universal service is an evolving level of telecommunications services that the Commission shall establish periodically under this section, taking into account advances in telecommunications and information technologies and services.").

[209] *See infra* Section VII. For areas in Puerto Rico and the U.S. Virgin Islands, the transitional support being provided under the *Transitional Support Order* is the "mobile legacy high-cost support" that will transition to 5G Fund support or be subject to phase down (whichever is applicable). *See Transitional Support Order* at *22-25, paras. 22-23. Mobile wireless carriers receiving transitional support in areas in Puerto Rico and the U.S. Virgin Islands that are subject to a two-year phase down, as described in detail below, will receive support amounts as specified in 47 CFR § 54.307(e)(5)-(7), and will be subject to the same public interest obligations, performance requirements, reporting requirements, and non-compliance mechanisms adopted for mobile legacy high-cost support recipients specified in 47 CFR § 54.322.

[210] *5G Fund Report and Order*, 35 FCC Rcd at 12185, para. 28 (adopting a 5G Fund budget of up to $9 billion to be awarded in two phases: up to $8 billion dollars in Phase I and at least $1 billion in Phase II); *see* CCA Comments at

(continued….)

commitment to reassess the appropriate amount needed for the 5G Fund Phase II budget, including support that will be necessary for carriers to commit to the deployment of technologically innovative 5G networks that facilitate precision agriculture, following Phase I.[211] From this 5G Fund Phase I budget of up to $9 billion, we also proportionately increase the amount we reserve for service to Tribal lands from up to $680 million to up to $765 million,[212] and here too reaffirm the Commission's commitment to revisit the amount of this reserve after the conclusion of the 5G Fund Phase I auction.[213]

62. Our budget determinations today remain grounded in our effort to balance the policy objectives of the 5G Fund with our obligation to exercise fiscal responsibility to avoid excessive subsidization, recognizing that the cost of subsidies distributed through the 5G Fund will ultimately be borne by consumers and businesses.[214] We also heed the concerns of many commenters that caution the Commission against raising the 5G Fund budget to the detriment of the Universal Service Fund (USF) contribution factor.[215]

63. We nonetheless recognize the apprehension expressed by commenters that, particularly due to inflationary factors, an $8 billion budget for 5G Fund Phase I auction may be insufficient to achieve our policy goals.[216] The Commission has long acknowledged that extending deployment of 5G networks in rural areas will require significant expenditures.[217] We are mindful that the magnitude of such expenditures may only continue to increase. While many commenters favor raising the 5G Fund Phase I auction budget, most did not propose any alternative budget amount other than suggesting that the Commission should employ a cost model approach.[218] In reaching our decision today, we are persuaded, however, by the argument suggested in the record to increase the Phase I auction budget to include up to the full $1 billion previously allocated to the Phase II budget,[219] holding open a decision on the budget that will be necessary for Phase II of the 5G Fund. We recognize that Phase II will focus support on precision agriculture,[220] and our decision to reallocate the budget does not diminish that intention. Furthermore, precision agriculture connectivity relies upon a wide variety of broadband deployment

21-22 (commenting that the Commission should repurpose the $1 billion earmarked for precision agriculture funding and move those funds into the broader 5G Fund).

[211] *5G Fund Report and Order*, 35 FCC Rcd at 12188, para. 34.

[212] *Id.* at 12188, para. 35; *see also* National Tribal Telecommunications Association (NTTA) Reply at 2, 6 (advocating that that Tribal reserve budget is critical to narrowing the Tribal digital divide); SBI Reply at 18 (stating that the Commission should increase the budget for the Tribal reserve). .

[213] *5G Fund Report and Order*, 35 FCC Rcd at 12188, para. 35.

[214] *Id.* at 12186, para. 30 (citing 47 U.S.C. § 254).

[215] AT&T Comments at 8; CTIA Comments at 13-14; T-Mobile Comments at 2; Verizon Comments at 5; AT&T Reply at 3-4. *But see* US Cellular Comments at 24.

[216] AST&Science Comments at 5; CCA Comments at 18 (explaining that "inflation has risen . . . at a dizzying pace, at one point in 2022 soaring to a four-decade high of 9.1%"); RWA Comments at 8 (citing "rising inflation" as a factor in favor of raising the budget); US Cellular Comments at 15 (contending the budget is "well short" of what is necessary to achieve the objectives Congress has set for the Commission); WIA Comments at 4 ("It is well established that the most remote areas are disproportionately more expensive to serve."); CCA Reply at 12 ("[T]he 5G Fund budget must be increased."); CCA Aug. 2 *Ex Parte* Letter at 16.

[217] *5G Fund Report and Order,* 35 FCC Rcd at 12186, para. 29; *see also id*. at 12188, para. 34.

[218] AST Comments at 5-6; CRWC Comments at 18-20; RWA Comments at 7; US Cellular Comments at 24; WIA Comments at 4 *But see* AT&T Comments at 2-4; CCA Aug. 2 *Ex Parte* Letter at 17.

[219] *See* CCA Comments at 21-22 (commenting that the Commission should consider repurposing the $1 billion earmarked for precision agriculture funding and move those funds into the broader 5G Fund).

[220] *5G Fund Report and Order,* 35 FCC Rcd at 12187, para. 31.

technologies,[221] and the landscape of broadband infrastructure in rural areas continues to evolve.[222] We conclude that repurposing the budget amount previously allocated to Phase II of the 5G Fund strikes an appropriate balance in responding to commenters that advocate an increase in the Phase I budget, while also being conscious of our fiscal obligations to be good stewards of the Universal Service Fund.

64. We find that this 12.5% increase in the 5G Fund Phase I auction budget will help compensate for the inflationary pressures cited by commenters that might otherwise reduce the potential for the deployment of 5G service relative to when the budget was adopted in 2020.[223] Likewise, we increase the amount of the budget we reserve for service to Tribal lands proportionally by that same 12.5%. We nonetheless balance our decision to increase the 5G Fund Phase I auction budget with our obligation to ensure that the budget we establish provides sufficient, but not excessive support. We conclude that by distributing up to $9 billion in the 5G Fund Phase I auction, we can make a significant impact on the provision of advanced, high-speed 5G mobile broadband in areas where Americans live, work, and travel, and we will continue to monitor our progress as we review information collected through the BDC, annually.

65. We emphasize that we are aware that this budget, even as modified, will not cover the costs of serving every eligible area that will be offered in the 5G Fund Phase I auction, and we state again that it is not intended to do so.[224] Commenters that continue to argue in favor of using a cost model to

[221] *See generally* Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States, Report (Nov. 6, 2023), https://www.fcc.gov/sites/default/files/2024-Report-PrecisionAg-Task-Force-without-Signatures.pdf.

[222] *See generally* BEAD Program NOFO; U.S. Department of Agriculture, *ReConnect Loan and Grant Program*, https://www.usda.gov/reconnect (last visited Mar. 19, 2024).

[223] The price of broadcast and wireless communications equipment manufacturing increased by 6.18% from May 2020 to August 2023. U.S. Bureau of Labor Statistics, *Databases, Tables & Calculators by Subject*, https://data.bls.gov/timeseries/PCU334220334220 (last visited Mar. 15, 2024). The total compensation for private industry workers in the information industry increased by 13.32% from Q2 2020 to Q3 2023. U.S. Bureau of Labor Statistics, *Databases, Tables & Calculators by Subject*, https://data.bls.gov/timeseries/CIS20151000000000I (last visited Mar. 15, 2024). Assuming the wireless telecommunications industry uses equipment and labor in approximately equal shares, costs in the industry have gone up by approximately 10% since May 2020.

[224] Beginning with its efforts in 2011 to reform mobile high-cost support, the Commission sought comment on alternatives to using a reverse auction mechanism to distribute mobile support, including the use of a model that would estimate costs and revenues, to determine amounts of support to be made available in particular geographic areas. *See USF/ICC Transformation FNPRM*, 26 FCC Rcd at 18082-85, paras. 1174-88. In seeking such comment, the Commission has explained that in contrast to a competitive bidding method, a model-based approach does not include a mechanism for selecting among multiple providers that might be interested in receiving the support being offered. *Id*. at para. 1185. In adopting the requirements for Mobility Fund Phase II, including the use of competitive bidding, the Commission declined to adopt the use of a wireless cost model, finding that commenters that favored a model-based approach were challenging other aspects of the Commission's decision for the fund, including the decision that support should be provided to a single provider in a given area. *See Mobility Fund Phase II Report and Order* 32 FCC Rcd 2159, para. 20. The Commission further determined that parties that were advocating for the use of a model did not acknowledge or resolve the myriad policy goals that are addressed by the use of a reverse auction proposal, and therefore did not offer a realistic alternative – consistent with the Commission's policy decisions – to the proposed use of the auction mechanism. *Id*. In the absence of a workable, nationwide model to award ongoing support that addresses all of the Commission's core policy objectives, the Commission explained that it adopted its decision to use a reverse auction mechanism to distribute Mobility Fund Phase II support. *Id*. In sum, the Commission concluded its decision to utilize a reverse auction to award support to only one provider per area was the best approach to target support to where it is truly needed, eliminates inefficiencies, and helps limit the cost to consumers and businesses. *Id*. The Commission again elected to use a reverse auction instead of cost model in the 5G Fund, finding that an auction, rather than a cost model, would determine the most economically efficient allocation of winning bidders and funding levels across geographic areas. *5G Fund Report and Order*, 35 FCC Rcd at 12184 para. 23-24; *see also id*. at 12198, para. 60. The Commission reiterated its position on cost models and the budget in the *5G Fund FNPRM*. *5G Fund FNPRM*, *50-52, para. 29.

determine the 5G Fund budget[225] disregard the Commission's repeated explanation that relying on cost studies would wholly conflict with our intent to award support in eligible areas in amounts that are competitive, but still acceptable to the providers, as a reverse auction does.[226] In other situations in which the Commission has used a cost model to provide universal service support, the cost model generally served to establish the amount of support that would be offered to eligible legacy providers, and expenditures for those programs are determined by the total of the providers' acceptances of the modelled support offers.[227] The 5G Fund auction operates in a fundamentally different way; a budget is established in advance and the competitive bidding process, not the Commission, determines which providers will receive support and the amount of support they will be eligible to receive. Multiple entities—not only the

[225] *See* AST&Science Comments at 5-6; CCA Comments at 16-17; CRWC Comments at 19-20; RWA Comments at 7; US Cellular Comments at 24; CCA Aug. 2 *Ex Parte* Letter at 17.

[226] *See 5G Fund Report and Order,* 35 FCC Rcd at 12184, para. 23.

[227] For example, A-CAM, the Alternative Connect America Model, "[p]rovides set monthly payments based on a cost model to Rate of Return carriers to build broadband to a specific number of fixed locations in areas eligible for funding." *See* USAC, *High Cost, Funds*, https://www.usac.org/high-cost/funds/ (last visited Mar. 15, 2024). Contrary to the suggestion of some commenters, the Commission's decisions in the context of A-CAM are not dispositive of our decision to use a reverse auction for the 5G Fund. *See* NTCA Comments at 5-6; LMPR/LMUSVI Comments at 10-11; RWA Comments at 11-12; SBI Reply at 24-25. As early as 2011, the Commission determined that it would distinguish the treatment of rate-of-return carriers from price cap companies, and for rate-of-return carriers, it declined to shift support to the model- and competitive bidding-based mechanism it was employing for the Connect America Fund. *See USF/ICC Transformation Order*, 26 FCC Rcd at 17709, para. 117. Specifically, for rate-of-return carriers, the Commission elected to reform legacy support mechanisms and transition towards a more incentive-based form of regulation with better incentives for efficient operations. *Id*. As the Commission explained in 2011, rate-of-return carriers then served less than five percent of access lines in the U.S., and smaller rate-of-return carriers operate in many of the country's most difficult and expensive areas to serve. *Id*. at 17674, para. 26. As a general matter, rate-of-return carriers face the economic challenges of extending service in the high-cost areas of the country. *Id*. Accordingly, the Commission's decisions in the context of A-CAM have been founded upon the investment of billions of dollars in universal service support to upgrade the networks of rate-of-return carriers to deploy higher and higher broadband speeds as the local exchange industry evolved from a voice-centric network into a national broadband network. *See generally Enhanced A-CAM Report and Order* at *42-44, para. 33. In 2016, the Commission provided rate-of-return carriers a voluntary path from traditional rate-of-return support, based on the carrier's costs, to model- based high-cost universal service support (A-CAM I), tailored to reflect the specific characteristics of rate-of-return areas. *See Connect America Fund et al.*, Report and Order, Order and Order on Reconsideration, and Further Notice of Proposed Rulemaking, 31 FCC Rcd 3087 at 3094-117, paras. 17-79 (2016). The A-CAM model was used to establish fixed monthly support amounts over a 10-year term in exchange for broadband deployment to a pre-determined number of eligible locations. *Id*. at 3096-97 paras. 20-22 . A-CAM II was offered for a 10-year term, which ends in 2028. *See* Connect America Fund et al., WC Docket No. 10-90 et al., *Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration*, 33 FCC Rcd 11893, 11912, paras. 58-59 (2018) (*December 2018 Rate-of-Return Reform Order*).

Similarly, despite the suggestion of some commenters, given the unique characteristics of the state, the Alaska Plan differs from other high-cost mobile funding mechanisms. *See e.g.,* SBI Reply at 9-10; *see also Connect America Fund, et al*., WC Docket No. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 10139, 10159, para. 66(2016) (*Alaska Plan Order*). The Commission has recognized that Alaska is unique and that mobility support mechanisms in Alaska need to be flexible enough to account for Alaska's "remoteness, lack of roads, challenges and costs associated with transporting fuel, lack of scalability per community, satellite and backhaul availability, extreme weather conditions, challenging topography, and short construction season." *USF/ICC Transformation Order*, 26 FCC Rcd at 17829, para. 508. The mobile portion of the Alaska Plan established a mechanism to continue the high-cost support that competitive ETCs providing mobile service to remote areas of Alaska were receiving, frozen at December 2014 levels, for a ten-year period, totaling approximately $739 million in mobile high-cost, frozen support. *See Alaska Plan Order*, 31 FCC Rcd at 10159, 10164, paras. 66, 75. The December 31, 2014 support levels were frozen in 2011 in the *USF/ICC Transformation Order*. *See USF/ICC Transformation Order*, 26 FCC Rcd at 17675, para. 29. The mobile wireless portion of the Alaska Plan—like the fixed portion—is scheduled to end on December 31, 2026. *See* 47 CFR § 54.317(d); *Alaska Plan Order*, 31 FCC Rcd at 10159, para. 66.

legacy provider—may qualify to compete for support to an area and the auction will assign support to at most one entity in a fair and transparent process. Support amounts for a particular area will not be lower than an amount that the winning bidder (which knows its situation best) indicates that it is willing to accept in exchange for meeting the program requirements. A cost model may provide a generalized estimate of costs, but modelled costs will be overstated in many cases.[228] Accordingly, we do not base the budget that we adopt for Phase I of the 5G Fund on an estimate of total costs (however estimated, according to a model such as that submitted in the record[229] or any other method), but on a careful balancing of our priorities to expand the deployment of 5G mobile broadband service to rural areas where Americans live, work, and travel with our obligation to be fiscally responsible as the steward of limited universal service funds.[230]

66. Additionally, consistent with the Commission's conclusion in both the *5G Fund Report and Order* and the *Mobility Fund Phase II Report and Order*,[231] we decline to adopt any alternative mechanisms to distribute our limited budget, such as the plan requested by SBI in its Petition for Reconsideration filed in 2020, or as it recently revised and tailored in its reply comments concerning the *5G Fund FNPRM* (collectively SBI's request for a "Remote Tribal Areas Fund").[232] Likewise, we also decline to adopt the suggestion of NTCA to implement a Small Carrier Fund as part of our 5G Fund budget. NTCA renews a similar argument raised in 2020,[233] proposing that the Commission should retain $1.5 billion of the 5G Fund budget and, in lieu of having small carriers participate in an auction, should instead distribute this reserved budget over a ten-year period to current recipients of frozen support that have 500,000 or fewer subscribers in the aggregate in the U.S. Department of Agriculture's Rural-Urban Commuting Area (RUCA) Codes 5-10.[234]

67. We emphasize that we remain committed to reserving support for service to Tribal lands in the 5G Fund, and as the Commission has stated previously, we recognize that "Tribal lands will be more expensive to serve than non-Tribal lands due to their lower population density, and income levels, as well

[228] As the Commission explained in 2020, "[t]he Commission's experience in the CAF Phase II auction demonstrates that competitive bidding can bring costs below projections: the aggregate reserve price of more than 713,000 locations assigned in that auction was $5 billion, compared to total winning bids of $1.5 billion." *5G Fund Report and Order,* 35 FCC Rcd at 12188, para. 34.

[229] *See* Letter from Alexi Maltas, SVP & General Counsel, Competitive Carriers Association, to Marlene Dortch, FCC, GN Docket No. 20-32, *Ubiquitous Mobile Connectivity: A Plan for Nationwide 5G*, Whitepaper, Competitive Carriers Association (November 2021), and CostQuest Associates, *CostQuest National 5G Model: Methodology, Understanding the Costs to Deploy and Serve Unserved Areas Across the U.S. with 5G Mobile Broadband* (Nov. 2021) (filed Nov. 23, 2021) (CCA 5G Mobility Cost Model *Ex Parte* Filing) at 2 (stating that the adopted 5G Fund budget will fall short of supporting nationwide 5G).

[230] *See 5G Fund FNPRM* at *50-52, para. 29; *see also 5G Fund Report and Order,* 35 FCC Rcd at 12184, para. 23, n.59; *In re FCC 11-161,* 753 F.3d at 1055, 1082 (noting that the Commission has the discretion to balance competing universal service principles).

[231] *See 5G Fund Report and Order,* 35 FCC Rcd at 12189, para. 38; *Mobility Fund Phase II Report and Order* 32 FCC Rcd at 2159, para. 20.

[232] *See* SBI Reply at 22-25; *SBI Petition for Reconsideration* at 2-6.

[233] *5G Fund Report and Order,* 35 FCC Rcd at 12185, para. 26.

[234] NTCA Comments at 4-6. Specifically, NTCA "supports making up to $1.5 billion of the proposed $9 billion 5G Fund budget available over a ten-year period to current recipients of frozen support that have 500,000 or fewer subscribers in the aggregate in RUCAs 5-10." NTCA Comments at 4. NTCA stated that "[t]his '5G Small Carrier Fund' would only be available to serve RUCA's 5-10[,] and carriers would be required to identify where they are targeting their support by census tract." *Id*. NTCA further states that "[t]o the extent a carrier receives legacy support in an area not eligible for the 5G Small Carrier Fund (i.e., census tracts in RUCAs 1-4) or proposes to upgrade only some of its currently served census tracts within RUCAs 5-10, available support would be reduced proportionately, based on a measure such as the number of POPs or geography covered." *Id.* at 4 n.4.

as the lack of power or roads in some parts of Indian country and the need for federal approval (such as from the Bureau of Indian Affairs) before broadband can be deployed there."[235] However, as the Commission explained in the *5G Fund Report and Order*, and as we affirm today, we are not persuaded that adopting SBI's request for a Remote Tribal Areas Fund would result in an improved outcome for such areas over our decision to utilize a reverse auction to award a reserved portion of the budget for service to Tribal lands.[236] We therefore deny SBI's Petition for Reconsideration to the extent that it requests that the Commission adopt a special Remote Tribal Area Fund to distribute support rather than using an auction mechanism to distribute 5G Fund support reserved for Tribal areas.[237]

68. We also decline to adopt SBI's most recent version of its proposal to adopt a special case mechanism in lieu of making eligible areas on Tribal lands available in the 5G Fund Phase I auction or its suggestion that we should provide special case treatment for mobile legacy high-cost support in remote Tribal lands not won at auction.[238] While pointing to the rare decisions in which the Commission has awarded universal service support without the use of competitive bidding, SBI is unconvincing in arguing that we should create another exception in this instance.[239] The Commission has previously distinguished areas in Alaska from Tribal lands in the lower 48 states, and SBI has provided no new evidence that the Commission erred in its judgment, simply rearguing the same positions it has offered and the Commission has rejected twice before.[240] As the Commission explained the first time it declined to adopt SBI's request to adopt a funding plan for Tribal areas that was similar to the Alaska plan, "the unique basis for the adoption of the Alaska plan was not the existence of Tribal lands in Alaska" but rather was based on the challenges facing the entire state.[241] We also disagree with SBI that the amount we have reserved for Tribal support is inadequate. As explained above, we have proportionately increased the amount we reserve for service to Tribal lands in the 5G Fund Phase I auction to up to $765 million, which should lessen concerns that the budget reserved for providing support to Tribal lands is underfunded. The 5G Fund has insufficient resources to fund every area of the country that lacks unsubsidized 5G mobile service, and to do so at the level of support estimated to be needed by cost studies or other means, whether those areas are located in remote Tribal areas or otherwise. As stewards of the Universal Service Fund, the Commission has the obligation to adopt policies and procedures for the 5G Fund that benefit the public as a whole and that serve the public interest generally, within our abilities to do so.

69. Similarly, based on the Commission's decisions in the *5G Fund Report and Order*, the current record, and our experience with competitive bidding mechanisms, we are not convinced that NTCA's proposed approach for small carriers would be a more efficient or effective means of awarding support than through an auction.[242] We remain unpersuaded that reserving a portion of the budget to distribute through a Small Carrier Fund improves our ability to better target support or to significantly accelerate 5G deployment in rural areas; thus, we affirm the Commission's decision in the *5G Fund*

[235] *Mobility Fund Phase II Report and Order,* 32 FCC Rcd 2165, para. 33.

[236] *See 5G Fund Report and Order,* 35 FCC Rcd at 12189, para. 38.

[237] *See SBI Petition for Reconsideration* at 11-16 (arguing that the Commission erred in not adopting special case treatment for remote Tribal lands); *see also* SBI Reply at 22-25.

[238] SBI Reply at 23.

[239] *Id.* at 24-25 (arguing that the Commission's decision in the Enhanced A-CAM context and the Alaska Plan to offer support to incumbent carriers without the use of a competitive mechanism is grounds to do the same in remote Tribal areas).

[240] *See Mobility Fund Phase II Report and Order* 32 FCC Rcd at 2166-67, para. 36 (declining to adopt SBI's opt-in funding plan similar to the Alaska Plan); *5G Fund Report and Order,* 35 FCC Rcd at 12189, para. 38 (declining to adopt SBI's plan to fund Tribal areas as an alternative to awarding support through competitive bidding).

[241] *See Mobility Fund Phase II Report and Order* 32 FCC Rcd at 2166-67, para. 36.

[242] *5G Fund Report and Order,* 35 FCC Rcd at 12184-85, paras. 25-26.

*Report and Order* to distribute its entire budget through a reverse auction.[243] Moreover, we affirm the Commission's prior determination that such a proposal is inconsistent "with our decade-long efforts to reform universal service high-cost support."[244] As the Commission previously explained, to the extent NTCA is correct that carriers receiving legacy high-cost support can deploy 5G networks in their service areas more efficiently, we continue to anticipate they will have an advantage against bidders in the 5G Fund Phase I auction that do not already serve those eligible areas in the auction.[245] In sum, we continue to conclude that using a reverse auction to award 5G Fund support best achieves our policy goals and "that setting aside funds for a limited subset of providers would be an inefficient use of our scarce resources, and could limit our ability to expand 5G coverage to as many unserved areas as possible."[246] As the Commission explained in the *5G Fund Report and Order*, if we were to implement a plan such as this, we "would risk overpaying for 5G networks in some areas that another provider (or even the same legacy support recipient) would be willing to serve for less support through an auction."[247]

70. In contrast to reserving support and awarding it through a specialized fund of any sort, a reverse auction uses competition across areas and within areas to determine which areas will receive support, in what amounts, and which entities will receive that support, all within the available budget. This means the Commission will be able to distribute support across as many square kilometers as possible within the available budget at amounts the winning bidders have agreed to accept, consistent with our fiscal responsibilities. Doing so serves the Commission's policy goals to reform and modernize the distribution of mobile high-cost support, a goal that it has repeatedly articulated since 2011.[248] Moreover, and as explained previously, the funds available to subsidize 5G mobile broadband service are not unlimited, and, as commenters warn, raising the budget does not come without an impact to the universal service contribution factor.[249]

71. For similar reasons, we also decline to increase the 5G Fund Phase I budget further to account for the inclusion of eligible areas in Puerto Rico and the U.S. Virgin Islands in the 5G Fund Phase I auction. We disagree with commenters that suggest that the inclusion of eligible areas from Puerto Rico and the U.S. Virgin Islands will further strain the budget.[250] While increasing the budget might result in areas that have higher costs to serve receiving a winning bid, it is also possible that any additional increase in the budget could be split between supporting new areas and providing greater support to bidders that would have agreed to provide service at lower support amounts. Moreover, increasing the budget to account for the inclusion of additional eligible areas, regardless of where those areas are located, will not ensure any particular eligible area will ultimately receive support through the auction.

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[243] *See 5G Fund Report and Order,* 35 FCC Rcd at 12184, para. 23.

[244] *Id*. at 12185, para. 26.

[245] *Id.*

[246] *5G Fund Report and Order,* 35 FCC Rcd at 12185, para. 27 (footnote omitted).

[247] *Id*.

[248] In the *USF/ICC Transformation Order*, the Commission recognized the value of competitive bidding for awarding high-cost support, for both fixed and mobile, noting that a reverse auction "is the best available tool for identifying" areas where support can make the largest difference, as well as the associated support amounts. *USF/ICC Transformation Order*, 26 FCC Rcd at 17781, para. 322. The Commission cited this decisional point in 2020, explaining that in contrast to the use of competitive bidding, in the existing mobile legacy high-cost support program, neither the areas for which legacy support is disbursed nor the amount of support carriers receive have a direct nexus to the areas most in need of support or the amount needed to provide service therein. *See 5G Fund Report and Order,* 35 FCC Rcd at 12184, para. 23, n.59.

[249] *See e.g.*, AT&T Comments at 1, 2-4 (advocating that the Commission should not significantly expand the already overburdened Universal Service Fund that is long overdue for contribution reform).

[250] *See* RWA Comments at 7; CCA Reply at 14-15; CCA Aug. 2 *Ex Parte* Letter at 17.

72. Lastly, many commenters also advocate that the Commission should continue to consider how other federal and state funding to deploy broadband will impact the provision of 5G mobile broadband service before establishing the budget for the 5G Fund Phase I auction.[251] The majority of such comments focus on the funding stemming from the Infrastructure Investment and Jobs Act (Infrastructure Act),[252] which includes the largest-ever federal broadband investment. Section 60102 of the Infrastructure Act directs the National Telecommunications and Information Administration (NTIA) to establish the BEAD Program, through which NTIA will allocate $42.45 billion to states for grants "to bridge the digital divide."[253]

73. On May 13, 2022, NTIA released the BEAD Program NOFO, detailing the process for requesting BEAD Program funding for reliable broadband service.[254] In it, BEAD defines "Reliable Broadband Service" as service that the Broadband DATA Maps show is accessible to a location via: (i) fiber-optic technology; (ii) Cable Modem/Hybrid fiber-coaxial technology; (iii) digital subscriber line (DSL) technology; or (iv) terrestrial fixed wireless technology utilizing entirely licensed spectrum or using a hybrid of licensed and unlicensed spectrum.[255] Broadband networks funded by the BEAD Program must provide download speeds of at least 100 Mbps and upload speeds of at least 20 Mbps and "latency that is sufficiently low to allow reasonably foreseeable, real-time, interactive applications."[256]

74. The BEAD Program NOFO set a July 18, 2022 deadline for NTIA to receive letters of intent from states and territories, as well as an August 15, 2022 deadline for any supplemental information.[257]

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[251] *See* CCA Comments at 19 (stating that "the Commission should determine how the amount already earmarked for wireline deployment subsidies in the BEAD Program and similar programs instituted since the *5G Fund Report and Order* will impact wireless deployment" and "should consider how 5G Fund support can supplement wireline support to ensure that it meets its goal of universally available connectivity across the nation"); CRWC Comments at iii, 22-24 (stating that the Commission should take into account the BEAD program before it moves forward with the 5G Fund); T-Mobile Comments at 2 ("The [BEAD] Program provides funding to fixed broadband, including fixed wireless infrastructure deployed by licensed providers, which come with the added benefit of supporting 5G mobile service. Moreover, BEAD prioritizes broadband projects that will 'support the deployment of 5G, successor wireless technologies, and other advanced services.'"); T-Mobile Comments at 6-7 (arguing that "[i]n response to the Commission's *Notice of Inquiry* on its *Report on the Future of the Universal Service Fund*, T-Mobile, Verizon, and NTCA recommended pausing new USF support for high-cost deployments, including the 5G Fund, until the Commission could assess the impact of new federal funding for broadband deployments"); US Cellular Comments at 10-11 (maintaining that "the impact of the BEAD Program should be taken into account before the Commission moves forward [with the 5G Fund]"); CRWC Reply at 1-2 (explaining that T-Mobile and Verizon agreed with CRWC's contention that "5G Fund support would be distributed more efficiently if the Commission allows BEAD Program support to lead, so that new BEAD-funded fiber can be used to connect towers built with 5G Fund support, and to increase capacity at existing towers currently using microwave backhaul"); SBI Reply at 17-18 (urging that "[b]ecause of the ability to leverage BEAD support, the Commission should first determine where BEAD program funds will deploy fiber before conducting the 5G Fund auction, to stretch 5G Fund program support to the greatest extent possible"); US Cellular Reply at 3 (explaining that "[g]iven the magnitude of the overlap between the fixed and mobile broadband gaps in America, limited government dollars will be most efficiently spent if the FCC does not run the 5G Fund auction until after we know where BEAD will deploy critical infrastructure. BEAD-funded fiber will decrease the cost of constructing, maintaining, and upgrading towers providing mobile broadband service, while BEAD-funded fixed wireless access will automatically bring 5G mobility coverage in addition to home Internet for no additional cost, alleviating the need for 5G Funds in those areas."); CCA Aug. 2 *Ex Parte* Letter at 18-19.

[252] Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429 (2021) (Infrastructure Act).

[253] *Id.* § 60102(h)(4)(A)(i).

[254] *See* BEAD Program NOFO.

[255] *Id*. at I(C)(u).

[256] Infrastructure Act § 60102(h)(4)(A)(i).

[257] BEAD Program NOFO at 1, 8, 17, 23-24.

The BEAD Program NOFO also specifies a number of program requirements, including principles that states and territories must observe in their subgrantee selection, prioritization, and scoring processes. In particular, the BEAD Program NOFO prohibits states and territories from "treat[ing] as 'unserved' or 'underserved' any location that is already subject to an enforceable federal, state, or local commitment to deploy qualifying broadband" at the conclusion of the state's or territory's challenge process.[258] States and territories must also ensure that subgrantees comply with obligations spelled out in the BEAD Program NOFO regarding network capabilities (i.e., speed, latency, and uptime), deployment requirements, and service obligations.[259] Finally, the BEAD Program NOFO requires states and territories to ensure that prospective subgrantees have the managerial and financial capacity to meet the commitments of the subgrant and any BEAD program requirements.[260]

75. In recognition of the Infrastructure Act and the BEAD Program, in August 2022, the Commission released a report to Congress outlining the future of the Universal Service Fund.[261] In that report, the Commission explained that "[f]unding for deployment under the Infrastructure Act focuses on fixed services, not mobile services.[262] The Commission also noted that it "has a unique role to play in supporting the deployment of mobile broadband to maintain connectivity wherever people live, work, or travel."[263] The *Future of USF Report* recommended that the Commission include, as part of its long-term plans, an evaluation of the impact of the BEAD Program and other federal and state broadband infrastructure investments discussed in this report on future mobile deployments.[264]

76. The 5G Fund will support the deployment of advanced mobile broadband by requiring that support recipients deploy 5G-NR service at speeds of at least 35/3 Mbps. As the Commission explained in 2020, "we believe support is best directed to modern 5G deployments rather than further deployments of 4G LTE technology."[265] The 5G Fund therefore requires support recipients to meet public interest obligations to provide voice and 5G broadband service, and to satisfy distinct, measured performance requirements as a condition of receiving support.[266] The 5G Fund and the BEAD Program therefore clearly serve very different purposes.

77. Moreover, most recently, in the 2024 *Section 706 Report*, we concluded that "[b]ased on the separate use cases for fixed and mobile broadband as well as evidence that consumers tend to subscribe to both services when they can . . . fixed and mobile broadband services are not full substitutes."[267] As we explained in that report, "[b]oth services are necessary to ensure that all Americans have access to

[258] *Id.* at 36-37.

[259] *Id*. at 36-39.

[260] *Id*.

[261] *Future of USF Report*, 37 FCC Rcd 10041.

[262] *Future of USF Report*, 37 FCC Rcd at 10069, para. 53 (citing *BEAD Program NOFO* at 15 n.10 (stating that the Assistant Secretary, pursuant to authority in Infrastructure Act, § 60102(a)(2)(L), adopts the criteria that Reliable Broadband Service must be, among other things, a fixed broadband service)).

[263] *Future of USF Report*, 37 FCC Rcd at 10069, para. 53.

[264] *Id*. at para. 54.

[265] *5G Fund Report and Order,* 35 FCC Rcd at 12206, para. 79.

[266] *Id*. at 12183, para. 20.

[267] *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 2024 Section 706 Report, GN Docket No. 22-270, FCC 24-27, para. 18, n.60 (If the demand for a second good increases when the price of a first good increases, then the two goods are substitutes. If the demand for a second good increases when the price of the first good decreases, then the two goods are complements. Hal R. Varian, Intermediate Microeconomics: A Modern Approach 111-12 (9th ed. 2014) (W. W. Norton & Company, 2014) (rel. March 18, 2024).

advanced telecommunications capability."[268]

78. Similarly, in evaluating the impact of the BEAD Program on our implementation of the 5G Fund, we find that both programs are necessary to ensuring that all Americans have access to advanced telecommunications capability. The 5G Fund supports mobile broadband, BEAD supports fixed broadband, although some states may incorporate a provision among their prioritization selection criteria for subgrantees that favors a fixed broadband deployment that also supports mobile broadband. To date, however, the record does not indicate that any state has incorporated a mobile broadband service performance requirement on par with the 5G Fund's requirement for providing 5G-NR service at speeds of at least 35/3 Mbps.[269] Likewise, although we have seen at least one state incorporate a commitment for a subgrantee to advance mobile broadband in order to receive BEAD funding, that commitment is to provide only 4G LTE service.[270] For this reason, we are not persuaded by commenters that urge us to delay the 5G Fund Phase I auction until after BEAD support has been awarded because BEAD funding could be used to support mobile services as part of the BEAD recipients' broader deployment commitments.[271] We find that moving ahead expeditiously with support for robust mobile broadband will best advance our shared goal of ensuring that all Americans have access to advanced telecommunications services.

79. We are nonetheless mindful of our obligation to share information regarding our efforts to implement the 5G Fund with the U.S. Department of Agriculture (USDA) and NTIA, consistent with the Broadband Interagency Coordination Act (BICA).[272] On June 25, 2021, the Commission, USDA, and NTIA announced they had entered into an agreement to share information about existing or planned projects that have received, or will receive, funding through the Commission's high-cost programs and programs administered by NTIA and the USDA,[273] as required by BICA.[274] Representatives of the

[268] *Id*. at para. 18, n.61 (citing *2021 Report*, 36 FCC Rcd at 840-41, para. 10; *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 19-285, 2020 Broadband Deployment Report, 35 FCC Rcd 8986, 8990-91, paras. 11-12 (2020) (*2020 Report*); *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 18-238, 2019 Broadband Progress Report, 34 FCC Rcd 3857, 3861, para. 11 (2019) (*2019 Report*); *2016 Report*, 31 FCC Rcd at 699-719, paras. 1-44.

[269] *See* T-Mobile Comments at 7-8 (citing BEAD Program NOFO at 42) (T-Mobile explains that BEAD also prioritizes broadband projects that will "support the deployment of 5G, successor wireless technologies, and other advanced services."). Neither T-Mobile's Comments nor the BEAD Program NOFO define the meaning of the "deployment of 5G" in terms of what speed of mobile service may receive such prioritization.

[270] *See* ConnectLA – Louisiana's Office of Broadband Development and Connectivity, *BEAD Initial Proposal Vol. 2* at 107-08, https://connect.la.gov/media/a40jyhpl/louisiana-ip-vol-2-final.pdf (last visited Mar. 15, 2024).

[271] *See*, *e.g.*, CCA Comments at 19, CRWC Comments at 22-24, T-Mobile Comments at 7-8, US Cellular Comments at 2-3, SBI Reply at 17-18.

[272] Broadband Interagency Coordination Act. Pub. L. No. 116-260, 134 Stat. 3214, Div. FF, tit. IX, § 904 (2020) (codified at 47 U.S.C § 1308 et seq.).

[273] Press Release, FCC, NTIA and USDA Announce Interagency Agreement to Coordinate Broadband Funding Deployment (June 25, 2021), https://www.fcc.gov/document/fcc-ntia-usda-sign-interagency-pact-broadband-funding-deployment (*FCC, NTIA, USDA Interagency Agreement Press Release*).

[274] 47 U.S.C § 1308(b)(2); *see also* Memorandum of Understanding Regarding Information Sharing Between the FCC, the U.S. Department of Agriculture, the National Telecommunications and Information Administration of the U.S. Department of Commerce, and the U.S. Department of Treasury, dated as of May 9, 2022, https://docs.fcc.gov/public/attachments/DOC-404166A1.pdf; Memorandum of Understanding Regarding Information Sharing Between the FCC, the U.S. Department of Agriculture, National Telecommunications and Information Administration of the U.S. Department of Commerce, and the U.S. Department of Treasury, dated as of May 9, 2024, https://docs.fcc.gov/public/attachments/DOC-383278A1.pdf (renewing the 2022 Memorandum of Understanding).

agencies have been meeting regularly pursuant to the agreement.[275] On February 17, 2023, the Commission released a report on the effectiveness of BICA, detailing the steps that the agencies were taking to ensure the most effective allocation of broadband funding.[276]

80. Given our decision to make areas that lack unsubsidized 5G mobile broadband service at speeds of at least 7/1 Mbps eligible for support in the 5G Fund Phase I auction, areas that are being offered "unsubsidized"[277] 4G LTE service, or even low levels of 5G service, will still be included in the auction. After carefully considering the issue of whether duplicative support for advanced, 5G mobile wireless service might result from BEAD funding being awarded in substantially the same geographic area as support being offered in the 5G Fund Phase I auction,[278] we conclude that, in the event that a BEAD subgrantee has made an enforceable commitment to a state, prior to the Commission's release of the final list of eligible areas, to deploy 5G-NR service at a speed of at least 35/3 Mbps in an in-vehicle environment, we will consider that area to be ineligible for 5G Fund support, and we will not include such an area in the 5G Fund Phase I auction.[279] We adopt this speed determination of at least 35/3 Mbps here for the purposes of evaluating whether an enforceable commitment to a state for the award of BEAD funding duplicates the policy goals and deployment requirements we establish for the 5G Fund such that the area should be considered to be ineligible for such support. We direct OEA and WCB to determine during the pre-auction process, and after notice and comment, the procedures for removing areas from the final list of eligible areas for the 5G Fund Phase I auction. [280]

81. Because any BEAD-related enforceable commitments to deploy advanced, 5G mobile networks would be new network deployments—just like those deployed with support from the 5G Fund—we do not want to remove BEAD-funded areas summarily from the 5G Fund and risk the possibility that consumers in those areas might be left to accept a reduced level of service for an indeterminate period of time. For similar reasons, we conclude that an enforceable commitment to a state must also require that the BEAD subgrantee deploy 5G-NR service at speeds of at least 35/3 Mbps in an in-vehicle environment within the same milestone deadlines that apply to 5G Fund support recipients, thereby meeting the Commission's performance requirements for the 5G Fund. To ensure that an enforceable commitment made with BEAD funding complies with the 5G Fund's 5G-NR service and at

[275] *See FCC, NTIA, USDA Interagency Agreement Press Release*.

[276] Wireline Competition Bureau, Report on the Effectiveness of the Broadband Interagency Coordination Agreement Pursuant to § 1308 of the Broadband Interagency Coordination Act (2023), https://docs.fcc.gov/public/attachments/DOC-391167A1.pdf; *see also* Press Release, FCC, FCC Reports to Congress on Success of Broadband Interagency Coordination Act (Feb. 17, 2023), https://docs.fcc.gov/public/attachments/DOC-391169A1.pdf.

[277] Any advanced mobile service offered by a provider that has accepted BEAD funding would be considered to be unsubsidized because the BEAD program provides subsidies for the provision of fixed wireless service. *See BEAD Program NOFO* at 15 n.10 (stating that the Assistant Secretary, pursuant to authority in Infrastructure Act, § 60102(a)(2)(L), adopts the criteria that Reliable Broadband Service must be, among other things, a fixed broadband service).

[278] *See 5G Fund NPRM* at *66, para. 43 ("Given that the BEAD Program does not provide funding for mobile broadband deployment, we seek comment on whether our proposals herein, together with the rules and procedures already adopted for the 5G Fund, are sufficient to ensure that the Commission efficiently and effectively facilitates the deployment of mobile broadband service to those areas where support is most needed." (footnote omitted)).

[279] In order for an area subject to an enforceable commitment to be considered ineligible for support in the 5G Fund Phase I auction, the commitment must require deployment of 5G-NR service at speeds of at least 35/3 Mbps to the entire area that would have otherwise been eligible for support in the 5G Fund Phase I auction. To the extent any provider has an enforceable commitment to a state or locality or instrumentality thereof outside of the BEAD Program, we will treat such enforceable commitments the same as set forth in this section.

[280] We anticipate that OEA will propose a process whereby NTIA, representatives of state BEAD programs, BEAD subgrantees, or other interested parties could submit written evidence of an enforceable state commitment to deploy 5G-NR service at speeds of at least 35/3 Mbps.

least 35/3 Mbps speed requirements for the purposes of determining whether to remove such an area from eligibility from the 5G Fund, the enforceable state commitment must also include verification processes that involve the submission of infrastructure data or on-the-ground test data to verify that the BEAD subgrantee has met these service and speed requirements. We direct OEA and WCB to determine during the pre-auction process, and after notice and comment, a verification process that would demonstrate that a BEAD subgrantee has made an enforceable commitment to meet these service and speed requirements, prior to removing an area from the final list of eligible areas for the 5G Fund Phase I auction.

82. The Commission has previously taken aggressive measures post-auction to not award universal service support to areas where it has determined that there is an existing provision of service in an area or a significant concern regarding wasteful spending.[281] Accordingly, we direct OEA and WCB to seek comment in the pre-auction process on whether and how to establish a post-auction, pre-authorization procedure wherein an interested party could submit proof to the Commission prior to the award of 5G Fund support that demonstrates that there is a BEAD award that includes an enforceable state commitment for the deployment of verifiable mobile 5G-NR service at speeds of at least 35/3 Mbps that conflicts with a winning bid for an area offered in the 5G Fund Phase I auction. In the event such a process is implemented, consistent with our past practice, we anticipate that we would take similar action here, up to and including declining to authorize support for that area. Thus, applicants in the 5G Fund Phase I auction are encouraged to perform due diligence, research, and analysis and factor into their bids and bidding strategies any state BEAD requirements that include a commitment from a subgrantee to deploy 5G-NR service at speeds of at least 35/3 Mbps as a condition to receiving BEAD funds.

83. We recognize that offering support for advanced, 5G mobile broadband service that duplicates BEAD funding efforts would defeat the policy goals established for the 5G Fund. To that end, as explained above, the Commission is carefully coordinating its 5G Fund plans with other government agencies, including NTIA, as required by BICA.[282] Moreover, we agree with commenters that advocate that BEAD funding can be leveraged to amplify the reach of 5G Fund support.[283] We further agree that there are many benefits that can be derived from a 5G Fund support recipient's ability to capitalize on any advancements in fixed broadband service being offered in rural America, particularly so that new BEAD-funded fiber can be used to connect towers built with 5G Fund support, and can increase capacity at existing towers currently using microwave backhaul.[284] Insofar as it may cost a 5G support recipient less to provide 5G mobile broadband service in a rural area where a fixed broadband network has been, or will be, deployed with BEAD funding, we expect that a bidder in the 5G Fund Phase I auction for such an area would be willing to bid to accept less support than if the area did not have a fixed service offering. Additionally, we anticipate that even if the 5G Fund Phase I auction were to be held prior to all BEAD program support being awarded, applicants seeking to participate in a 5G Fund auction will have sufficient information about their own and others' current or future service offerings, including reasonably certain BEAD deployments, through basic due diligence to factor into their bids and bidding strategies the potential impact that BEAD funding may have on the market.[285]

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[281] *See* FCC, *Letters to Long-Form Applicants*, https://us-fcc.app.box.com/s/lq4iqpjt8ukal4wve6hbrkbs5473kpcw (last visited Mar. 15, 2024).

[282] 47 U.S.C. § 1308(b)(2).

[283] *See, e.g.*, SBI Reply at 17-18 ("To the extent that fiber moves closer to SBI's towers, and to areas where SBI would build new towers, the cost of installing 5G for both SBI and the USF program goes down.").

[284] *See*, *e.g.*, CRWC Reply at 1-2.

[285] On June 28, 2023, NTIA issued the BEAD Challenge Process Policy Notice, providing guidance on several BEAD Program processes, such as the identification of existing broadband funding and the required challenge processes that states must conduct, that aim to avoid broadband funding overlaps. *See* Department of Commerce, National Telecommunications and Information Administration, BEAD Challenge Process Policy Notice (June 28, 2023), https://ntia.gov/sites/default/files/publications/bead_challenge_process_policy_notice_final.pdf (BEAD

(continued….)

84. For these reasons, we disagree with commenters that advocate that we should delay the implementation of the 5G Fund while we determine the potential impact of BEAD funding on the deployment of mobile broadband services. Waiting to implement the 5G Fund until all BEAD funding is assigned and the success of that program is analyzed would do a disservice to Americans who live, work, and travel in rural areas, who should not be denied access to mobile services that are reasonably comparable to those provided in urban areas.[286] Delaying the 5G Fund would also require us to continue the current inefficient practice of providing legacy high-cost support in areas of the country where there is already unsubsidized mobile service and would thus be contrary to the policy initiatives the Commission has advocated since the adoption of the *USF/ICC Transformation Order*.[287] Not only does the legacy high-cost support often reach areas where unsubsidized service exists, but also it is often duplicative—i.e., given to more than one mobile provider serving the same area. Continued delay of the transition away from legacy support is antithetical to our efforts in this proceeding to avoid providing support to the same area where another mobile service provider is receiving or will receive support to deploy 5G service. It would also undermine the underlying policy goal of our BICA obligations, which is to avoid duplicating government subsidies for the same service in the same area. Having undertaken a tailored effort to refresh the record and reignite the 5G Fund, we are now well-positioned to make these determinations and ultimately begin the process to incentivize the deployment of networks providing advanced, 5G mobile broadband in areas where, absent subsidies, such service will continue to be lacking. Accordingly, we conclude that the 5G Fund can enhance achievements of the BEAD program rather than conflict with them.

85. By adopting a budget of up to $9 billion for the 5G Fund Phase I auction, using a reverse auction to distribute support, and committing to reassess the amount that will be needed for Phase II of the 5G Fund in the future, we will support the advancement of high-speed 5G mobile broadband in areas where Americans live, work, and travel. Moreover, we continue to anticipate, as the Commission did in 2020 that many providers will use private capital in conjunction with 5G Fund support to build their 5G networks.[288] We therefore adopt a 5G Fund Phase I budget today that again "seeks to balance the various competing objectives in section 254 of the Communications Act of 1934, as amended (the Act),[289] including the objective of providing support that is sufficient, but not so excessive so as to impose an undue burden on consumers and businesses."[290] Accordingly, we conclude that setting the 5G Fund

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Challenge Process Policy Notice) (last visited Mar. 15, 2024). The BEAD Challenge Process Policy Notice explains how, as part of BEAD Program challenge process, the states and other eligible entities conducting challenge processes must accept or reject certain kinds of evidence for challenges to the identification of previous federal, state, or local enforceable commitments, challenges to claimed broadband availability at particular locations, and challenges demonstrating that there is planned service to locations without an enforceable commitment. *Id.* at 15-19.

[286] As the Commission has previously explained, insofar as the BEAD Program serves to fund fixed wireless broadband deployment, the Commission has stated that pausing the process of preparing for a 5G Fund auction "would have detrimental impacts on consumers' access to advanced mobile wireless service." *Future of USF Report*, 37 FCC Rcd at 10069, para. 54.

[287] *See generally, USF/ICC Transformation Order,* 26 FCC Rcd 17663.

[288] *See 5G Fund Report and Order,* 35 FCC Rcd at 12188, para. 34.

[289] 47 U.S.C. § 254.

[290] *See 5G Fund Report and Order,* 35 FCC Rcd at 12186, para. 30 (citing judicial interpretation of these objectives, as well as the Commission's *Federal-State Joint Board on Universal Service, High-Cost Universal Service Support*, Order on Remand and Memorandum Opinion and Order, 25 FCC Rcd 4072, 4088, para. 30 (2010) (*Qwest II Remand Order*) (defining "sufficient" as "an affordable and sustainable amount of support that is adequate, but no greater than necessary, to achieve the goals of the universal service program"). Moreover, the courts have held that the Commission enjoys broad discretion when conducting exactly this type of balancing. *See, e.g.*, *Rural Cellular Ass'n v. FCC*, 588 F.3d 1095, 1103 (D.C. Cir. 2009); *Fresno Mobile Radio, Inc. v. FCC*, 165 F.3d 965, 971 (D.C. Cir. 1999); *see also Qwest II Remand Order*, 25 FCC Rcd at 4088, para. 29 ("[A] proper balancing inquiry must (continued….)

Phase I budget at up to $9 billion establishes a significant start to support the build out of advanced, 5G mobile wireless broadband networks in unserved and underserved rural areas.

## V. ACCEPTING BIDS AND IDENTIFYING WINNING BIDS

### A. Metric for Accepting Winning Bids and Identifying Winning Bids

86. We adopt a bidding and support price metric based on dollars per square kilometer that, as described below, includes a weighting factor that weights bids and support prices based upon service availability within an eligible area. In the *5G Fund FNPRM*, the Commission sought comment on using a bidding and support price metric based on dollars per square kilometer in the event that it decides to limit eligible areas to hex-9s that have locations and/or roads.[291] The Commission also sought comment on whether to adjust the square kilometers associated with an eligible area using either the adjustment factor that was adopted in 2020 or another approach.[292] Based on our policy goal to use the available budget most efficiently to provide 5G coverage to places where people live, work, and travel, we decline to employ the adjustment factor that the Commission adopted in the *5G Fund Report and Order* as part of the metric for accepting and identifying winning bids in a 5G Fund auction, because doing so would prioritize sparsely populated areas over areas where people live, work and travel as indicated by available data.[293] However, consistent with alternatives proposed in the current record, we adopt an alternative adjustment approach to differentiate between eligible areas that lack 4G-LTE service by an unsubsidized provider and those that have such service, as addressed below.

#### 1. Bidding and Support Metric

87. In the *5G Fund Report and Order*, the Commission decided that it would accept bids and identify winning bids in the 5G Fund Phase I auction using a support price per adjusted square kilometer.[294] Under this metric, each eligible area would be associated with a number of units equal to the square kilometers of the area multiplied by an adjustment factor that was also adopted in the 2020 proceeding.[295] The corresponding support amount for an area would be the number of adjusted square kilometers multiplied by the price.[296] Today, we retain a bidding and support metric based on dollars per adjusted square kilometer, but as explained further below, modify the factors upon which we will base the adjustment.

88. In the *5G Fund FNPRM*, the Commission asked whether there were alternative bidding and support metrics that might target unserved locations and/or unserved road miles more specifically, if eligible areas were limited to those census tracts that include unserved locations and/or roads.[297] The Commission further asked whether a single targeted metric would appropriately balance unserved road

take into account [the Commission's] generally applicable responsibility to be a prudent guardian of the public's resources.").

[291] *5G Fund FNPRM* at *57, para. 34.

[292] *Id.* at *57-58, para. 34.

[293] *See 5G Fund Report and Order,* 35 FCC Rcd at 12196-97, paras. 54-55 & n.135 (describing how the auction would work with the adjustment factor); *see Office of Economics and Analytics and Wireline Competition Bureau Adopt Adjustment Factor Values for the 5G Fund*, GN Docket No. 20-32, Public Notice, 35 FCC Rcd 12975 (OEA/WCB 2020) (*5G Fund Adjustment Factor Values Public Notice*); *see also Office of Economics and Analytics and Wireline Competition Bureau Seek Comment on Adjustment Factor Values for the 5G Fund*, GN Docket No. 20-32, Public Notice, 35 FCC Rcd 5704, 5706-08, paras. 7-11 (OEA/WCB 2020) (seeking comment on the factors to be considered in the models used to determine the adjustment factor);.

[294] *See 5G Fund Report and Order,* 35 FCC Rcd at 12198-99, para. 54.

[295] *Id.* at 12196-97, para. 48.

[296] *See Id*.

[297] *5G Fund FNPRM* at *57, paras. 35-37.

miles and unserved locations—for example, by using a weighted sum of unserved locations and unserved road miles—and how the balancing weights should be determined.[298]

89. There are no objections in the record to basing the bidding and support metric on square kilometers. Verizon affirms our choice of square kilometers, noting that "[b]ecause hex-9s are small—with an area of just 0.1 square kilometers—a per-square kilometer bidding and support metric is likely sufficient to ensure that roads or locations in the supported hex-9s have access to 5G service."[299]

90. CCA urges us not to use a metric based on the number of locations in an eligible area, since "[s]uch an approach would inappropriately adopt a fixed-centric basis for support price calculation."[300] We agree that an appropriate metric should target support for mobile service more broadly than solely based on locations. Accordingly, consistent with the goals of this proceeding to expand 5G coverage to areas where people live, work, and travel, we will use a bidding and support metric based on dollars per square kilometer.[301]

### 2. The Adjustment Factor as Adopted in 2020

91. We will not use the adjustment factor that was adopted in the *5G Fund Report and Order* for bidding in the 5G Fund Phase I auction.[302] We will, however, retain the adjustment factor for purposes of disaggregating legacy support.[303] We base our decision not to use the adjustment factor in bidding on the inconsistency between our goal of ensuring that the available budget is used to benefit as many people as possible and the purpose of the adjustment factor, as adopted in the *5G Fund Report and Order*. Our goal in 2020 was to allow the more costly eligible areas (defined, in part, by low population density and difficult terrain) to compete on a more equal basis with the eligible areas that were less costly to serve.[304] By applying such an adjustment factor, sparsely populated, particularly costly areas that would have a high adjustment factor and areas that could be served at lower cost per square kilometer, would have had approximately equal chances of winning support in the auction. Applying such an adjustment factor would have shifted funds away from more populated and traveled eligible areas, which is in conflict with our goal of targeting unserved and underserved residents, workers, and travelers. The Commission therefore sought comment on whether to use this adjustment factor, to adopt an alternative adjustment factor that would provide some advantage to particularly costly areas that nonetheless are areas with a considerable number of homes, businesses, and other locations and/or roads that are frequently traveled, or to abandon the use of any adjustment factor altogether.[305] With respect to our decision to retain the adjustment factor adopted in the *5G Fund Report and Order* for purposes of disaggregating legacy support, our rationale in 2020 for adopting the adjustment factor remains unchanged.[306]

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[298] *Id.*.

[299] Verizon Wireless Comments at 11-12.

[300] CCA Comments at 26.

[301] This decision also accords with CCA Comments at 3, 29 (urging that bidding and price support metrics support the 5G Fund's goals).

[302] *See 5G Fund Report and Order*, 35 FCC Rcd at 12198-99, para. 54.

[303] *See id.* at 12199, para. 54; *see also 5G Fund Adjustment Factor Values Public Notice,* 35 FCC Rcd at 12975-76, 12980-82, paras. 1-3, 11-14.

[304] *5G Fund FNPRM* at *57, para. 34.

[305] *Id.* at *57-58, para. 34.

[306] *See 5G Fund Adjustment Factor Values Public Notice,* 35 FCC Rcd at 12981-82, paras. 13-14; *see also 5G Fund Report and Order,* 35 FCC Rcd at 12198, para. 59 ("Using an adjustment factor [for the purposes of the disaggregation of legacy support] is appropriate because it will alleviate potential concerns over a carrier losing a disproportionate amount of its legacy support resulting from a disaggregation methodology in which more costly areas would be treated the same as less costly areas with respect to subsidies received.").

92. Relatively few parties commented on the continued use of the adjustment factor for bidding as adopted in the *5G Fund Report and Order*. Of those that submitted comments or reply comments on the issue, four parties—CRWC, RWA, SBI, and US Cellular—indicate that we should eliminate the adjustment factor only if we adopt a larger budget,[307] with CRWC noting that "[i]f the budget comes up short, funds will exhaust before the higher-cost areas, which are the areas most in need of support, receive any support."[308] T-Mobile recommends that we "reaffirm [the Commission's] approach of using an adjustment factor to prioritize areas that are the most costly and least profitable to serve."[309]

93. Verizon, on the other hand, urges us to eliminate the adjustment factor for bidding. It asserts that "[t]he Commission should maximize the impact of the limited 5G Fund budget by focusing support on those unserved areas that would have the most significant demand for mobile broadband service and require relatively smaller subsidies, rather than on areas that would have little demand for mobile broadband service and require larger subsidies."[310] We agree with Verizon that we should discontinue use of the adjustment factor for bidding as adopted in the *5G Fund Report and Order*, and with Verizon's reasoning that 5G Fund support dollars should instead be targeted to those currently unserved and underserved areas where more people are likely to live, work, and travel.

94. With respect to commenters' arguments that the bidding adjustment factor should be eliminated only if we significantly increase the budget, we are not persuaded that it would be a cost-effective use of 5G Fund support to increase the budget for the purpose of extending support to areas that would have been given an advantage with the current adjustment factor. As a threshold matter, and as addressed above, the adjustment factor would shift funds away from more populated and travelled areas to more remote areas, which is in conflict with our goal of covering as many areas where people live, work, and travel as possible. Therefore, we do not support the adjustment factor as originally designed, as suggested here. Second, under this reverse auction mechanism, a large increase in the budget would not translate into a similarly large increase in the total area that can be assigned 5G Fund support. Instead, the additional funds would be divided between support to some higher-cost areas that would not have been assigned support otherwise and support at unnecessarily high prices to the same areas that would win support under a lower budget.[311] Thus, we believe it would be an inefficient use of federal resources to increase the budget for the purpose of extending support to the most remote areas. Finally, even if we were persuaded that that the original adjustment factor should be retained (which we are not) or that increasing the budget significantly would be an acceptable alternative to the adjustment factor (which we also are not), fiscal responsibility precludes us from increasing the 5G Fund budget by more than the $1 billion increase set forth above. Although $1 billion is a substantial increase, it is likely less of an increase than is envisioned by the commenters.[312] Therefore, for all of these reasons, we are

[307] *See* CRWC Comments at 21; RWA Comments at 8; USCC Comments at 25; *see also* SBI Reply at 31-32 (asserting that the adjustment factor should be eliminated only if the budget is increased, but additionally noting that Tribal lands are so costly to serve that separate service requirements, or a special Tribal-specific program, is needed to address Tribal lands).

[308] CRWC Comments at 21.

[309] T-Mobile Comments at 15.

[310] Verizon Comments at 9.

[311] Under the descending price clock reverse auction mechanism, the budget clears and support assignment begins when total requested support at the current clock price is equal to or less than the budget. If the budget is increased significantly without a proportional increase in the number and cost distribution of eligible areas, the clearing round support price will be higher. Some of the more costly areas will likely be assigned at the higher support level, but the most costly areas will not receive support. Lower cost areas—those that would have won support under the original budget—will be funded, but at prices well above those they would have been willing to accept.

[312] CRWC, for example, in discussing a "sufficient" budget for the 5G Fund, cites to an estimate of $36 billion shortly before its comment that "there is nothing wrong with removing the adjustment factor, *as long as the budget is sufficient.*" Comments of CRWC at 20, 21 & n.46.

unpersuaded that increasing the budget by significantly more than $1 billion for the purpose of reaching the hardest-to-serve areas is a fiscally responsible approach to spending our limited universal service funds.

95. Given our decision today to eliminate the use of the adjustment factor adopted in the *5G Fund Report and Order* for bidding in the 5G Fund Phase I auction, we also dismiss as moot the Petition for Reconsideration filed by the 5G Fund Supporters to the extent that it requests relief concerning the use of the adjustment factor adopted in the *5G Fund Report and Order* for bidding in that auction.[313]

#### 3. An Adjustment That Weights Bids and Support Prices Based on Service Availability

96. In its discussion in the *5G Fund FNPRM* of the bidding and support metric and the adjustment factor adopted in the *5G Fund Report and Order*, the Commission asked "whether [it] should adopt an alternative approach that would provide some advantage to particularly costly areas that nonetheless are areas with a considerable number of homes, business[es], and other locations, and/or roads that are frequently travelled."[314] Several commenters suggest prioritizing areas based upon the level of service that is available.[315] To address these concerns, we will implement a service-based weighting factor for those areas that lack 4G LTE service.[316] While eligible areas will include both those that lack unsubsidized 5G broadband service but have access to unsubsidized 4G LTE and areas that lack both unsubsidized 5G service and any 4G LTE service, we find there are greater public benefits of providing 5G service to areas that lack 4G LTE than the benefits of 5G accruing to other eligible areas. As such, a weighting factor based on this distinction is warranted. We are mindful, however, of our primary responsibility to use the budget cost-effectively to provide support to people where they live, work, and travel. Accordingly, unlike the adjustment factor that was calculated to allow a bid to compete on an equal basis with bids to provide service to a geographic area with several times the number of square kilometers for the same support amount,[317] the weighting factor is intended to give bids for unserved areas an advantage, but not so great an advantage as to result in a significant reduction in the number of square kilometers that can be covered with 5G Fund support.

97. Therefore, we adopt a service-based weighting factor. Consistent with their existing authority concerning the distribution of universal service support,[318] we direct OEA, WCB, and WTB to establish during the pre-auction process, after notice and comment, the size of this service-based weighting factor. We direct OEA, WTB, and WCB to take into account the need to balance our fiscal responsibility to award 5G Fund support cost-effectively with a recognition that there may be additional challenges to and public benefits from providing service to areas that lack 4G LTE service.

### B. Minimum Geographic Area for Bidding

98. We will use census tracts as the minimum geographic unit for bidding in the 5G Fund Phase I

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[313] *See 5G Fund Supporters Petition for Reconsideration* at 1, 3-5 (asking the Commission to reconsider the timing for establishing the adjustment factor criteria for the 5G Fund Phase I auction and to explain the algorithm behind the adjustment factor it will use to prioritize communities with persistent poverty in the auction).

[314] *5G Fund FNPRM* at *58, para. 34.

[315] *See*, *e.g.*, Verizon Comments at 11; US Cellular Comments at 27; Letter from David A. LaFuria, Counsel for United States Cellular Corporation, to Marlene H. Dortch, Secretary, FCC (filed Jan. 16, 2024) at 2; CRWC Comments at 7; T-Mobile Comments at 14-15.

[316] To eliminate confusion with the adjustment factor adopted in the *5G Fund Report and Order*, which we will retain for purposes of disaggregating legacy support, we refer to the service-based factor we adopt here as a "weighting factor."

[317] *5G Fund FNPRM* at *57, para. 34.

[318] *See* 47 CFR §§ 0.21, 0.91, 0.271, 0.272, 0.273, 0.291, 0.302, 0.304.

auction[319] and will aggregate all of the eligible hex-9s into a census tract for purposes of bidding.[320] Our goal in adopting census tracts rather than hexes as the minimum geographic area for bidding is to ensure that a wide variety of interested bidders, including small entities, have the flexibility to design a network that matches their business model and technical capabilities and that allows them to efficiently achieve their public interest obligations and performance requirements. After considering the record on this issue, we conclude that, on balance, using census geographies is preferable to using hex areas. Census geographies provide a more efficient and appropriate way to group areas eligible for the 5G Fund into larger geographic areas for purposes of bidding for areas along state boundaries, particularly in view of our decision to convert those areas to hex-9s.[321]

99. Commenters are equally split on whether the Commission should use census geographies or the H3 hexagonal geospatial indexing system (H3 system) to group eligible hex-9s for bidding. CCA and Verizon each support aggregating eligible hex-9s into census geographies.[322] Verizon advocates grouping eligible hex-9s into census tracts or larger for ease of auction administration, and contends that using hexes—whether at the resolution 5 hexagon (hex-5) or resolution 6 hexagon (hex-6) level—"would introduce unnecessary complexity into the auction, require considerable software development by potential bidders, and could reduce auction participation."[323]

100. AT&T and Michael Ravnitzky, on the other hand, support using the H3 system to aggregate areas eligible for support to minimum geographic areas for bidding because, they assert, it is a logical approach and aligns areas eligible for 5G Fund support with the BDC mobile mapping and challenge processes, would be more efficient than trying to aggregate eligible hex-9s into census block groups (CBGs) or census tracts, and provides a consistent and flexible framework for defining and mapping eligible areas.[324] AT&T contends that "[a]ggregation of [eligible] hex-9s at the hex-6 level, which covers on average 36 square kilometers, best reflects the design of wireless infrastructure in rural areas with various terrain and foliage that has not already attracted private investment . . . [and] is more manageable [for providers than] committing to cover locations or certain roads in a hex-5 area, [which cover] 252 square kilometers."[325] Ravnitzky suggests "[u]s[ing] resolution 8 hexagons or higher for aggregating eligible areas . . . [to] provide sufficient granularity and accuracy for capturing the variations in cost and value of providing 5G service in different areas," and "group[ing] adjacent hexagons into larger geographic units based on their proximity, similarity, and contiguity . . . [to] create more coherent and efficient geographic units for bidding and support purposes."[326]

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[319] The Commission concluded in the *5G Fund Report and Order* that the minimum geographic unit for bidding would be no larger than a census tract and no smaller than a census block group, as designated by the U.S. Census Bureau. *5G Fund Report and Order*, 35 FCC Rcd at 12195, para. 50.

[320] *See supra* Section III.A; *see also 5G Fund FNPRM* at *61-63, para. 39 (seeking comment on what aggregation scheme would be an efficient and appropriate way to group eligible areas into larger geographic areas for purposes of bidding)

[321] *See supra* Section III.A.

[322] CCA Comments at 27; Verizon Comments at 10-11.

[323] Verizon Comments at 10-11.

[324] AT&T Comments at 1, 4-5; Ravnitzky Comments at 5.

[325] AT&T Comments at 5.

[326] Ravnitzky Comments at 5. Ravnitzky recommends "[u]s[ing] a minimum geographic unit size of 10 or more hexagons for aggregating eligible areas . . . [to] strike a balance between allowing bidders to target specific areas of interest and preventing excessive fragmentation and cherry-picking of eligible areas," and "[u]s[ing] a maximum geographic unit size of 100 or less hexagons . . . [to] strike a balance between allowing bidders to achieve economies of scale and preventing excessive aggregation and monopolization of eligible areas." *Id.* He further recommends "[a]llow[ing] bidders to bid on individual hexagons or combinations of hexagons within a geographic unit, subject to (continued….)

101. We conclude that, on balance, aggregating eligible hex-9s to census geographies is preferable, irrespective of the resolution of hexagon level used. Census geographies aggregate to the state level, and eligible telecommunications carriers (ETC) designations—which all winning bidders are required to obtain prior to being authorized for support[327]—are issued by state. In contrast, hex boundaries are not coterminous with state, county, and international boundaries. Additionally, due to the nature of the H3 system, in which not all higher resolution hexagons (e.g., hex-9) are contained within the boundaries of their ancestor lower resolution hexagons (e.g., hex-6 or hex-5), use of a lower resolution hexagon, such as hex-5 or hex-6, as the minimum geographic unit for bidding runs the risk that entire portions of the eligible areas, which will be converted to and expressed at the hex-9 level, may fall outside of the hex-5 or hex-6 boundary to which they are aggregated.[328] Because we would have to use fairly large hex areas for bidding units, we would have to account for many hexagons covering multiple state and international boundaries, which would complicate an applicant's inventory selections and state ETC designations. For these reasons, we do not agree that aggregating eligible hex-9s into larger hexagons would be more efficient than aggregating them to census tracts.

102. We further conclude that aggregating to census tracts, as opposed to census block groups (CBGs), is preferable for several reasons. First, because the boundaries of a CBG are often defined by roads, using CBGs could have the unintentional effect of leaving the road that bounds a CBG not served by the bidder that wins support for the CBG. Using census tracts minimizes that problem. Second, wireless networks are often built to cover areas that are larger than a CBG with a single cell site. Third, because census tracts are larger than CBGs, using census tracts will also help mitigate the risk of funding duplicative, overlapping networks if two different bidders were to win support for adjacent CBGs. Finally, using census tracts, as opposed to CBGs, will result in a smaller number of biddable items, which will make bidding in the auction more manageable.

## VI. COMPLIANCE WITH 5G FUND PUBLIC INTEREST OBLIGATIONS AND PERFORMANCE REQUIREMENTS

### A. Metric for Measuring Compliance with 5G Fund Public Interest Obligations and Performance Requirements

103. In the *5G Fund FNPRM*, the Commission sought comment on its approach to making any necessary corresponding modifications concerning the metric used to measure a 5G Fund support recipient's compliance with its public interest obligations and performance requirements if the Commission were to modify the bidding and support price metric that was adopted in the *5G Fund Report and Order*.[329] All commenters that address this issue support the Commission's approach for doing so,[330] and no commenter opposes it. As discussed above, we intend to use a bidding and support price metric for the 5G Fund Phase I auction that is based on dollars per adjusted square kilometer.[331] Because the metric for measuring compliance with the 5G Fund public interest obligations and performance

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a minimum bid increment and a maximum bid amount" to afford bidders the flexibility "to express their preferences and valuations for different areas more accurately and efficiently," and allowing Tribal entities "to bid on geographic units that correspond to their tribal boundaries or service territories, regardless of the size or shape of those units[,] . . . [to] respect the sovereignty and autonomy of these entities and facilitate their participation in the auction." *Id.* at 5-6.

[327] 47 CFR § 54.1014(b)(2)(iv).

[328] *5G Fund FNPRM* at *63, para. 39 (seeking comment on whether to aggregate all eligible hex-9s to another geographic area, such as the hex-5s). Moreover, we note that the average hex-5 has an average area that is larger than the average areas of either of the two census geographies considered, and thus may not provide the best opportunity for bidders to target their bids to win support for the areas they are interested in serving.

[329] *Id.* at *63-65, paras. 40-42.

[330] *See* CCA Comments at 27; Ravnitzky Comments at 6.

[331] *See supra* Section V.A.

requirements adopted in the *5G Fund Report and Order* is already based on square kilometers,[332] no modifications to the previously adopted compliance metric are necessary as a result of our decision today regarding the bidding and support price metric that will be used for the 5G Fund Phase I auction.

104. A few commenters suggest other changes concerning the public interest obligations and performance requirements adopted in the *5G Report and Order*. RWA asks the Commission to update the 3GPP performance standard for eligible 5G services to at least 3GPP Release 17, given that the 3GPP Release 15 standard adopted in the *5G Fund Report and Order* is now outdated.[333] ARA PAWR suggests that the Commission consider bidder capability in setting deployment milestones by, for example, giving a rural carrier trying to cover a very remote area more time to meet deployment milestones,[334] while SBI states that a better alternative to using adjustment factors is "changing the performance criteria for remote areas . . . [to] reduce the performance requirements commensurate with microwave backhaul capabilities."[335] According to SBI, carriers serving very remote areas (as defined by the Commission) "could be much more competitive in an auction if they are required to deliver mobile 4G LTE service at a median speed of 7/1 Mbps, rather than a median speed of 35/3 with 5G."[336] T-Mobile expresses support for the 5G Fund milestones, but suggests that the Commission create incentives to encourage 5G Fund support recipients to deploy service to more than 85% of an area by the final deployment milestone by reducing support proportionally to the percent of uncovered area between 85% and 100% and requiring recipients who deploy service to at least 85% but less than 100% of their winning geographic areas to return that support on a prorated basis.[337] T-Mobile also notes that "[t]he Commission could consider giving [support recipients] an extra year to meet the higher [deployment] thresholds."[338]

105. We note that when the Commission adopted the *5G Fund Report and Order*, it stated that 5G Fund support recipients would be required to comply with "at least the 5G-NR . . . technology standards developed by [3GPP] with Release 15 or any successor release that may be adopted by [OEA and WCB] after notice and comment."[339] Given that two successor releases have been completed since the 3GPP Release 15 standard was adopted for 5G Fund support recipients in the *5G Fund Report and Order*, we direct OEA and WCB to initiate a notice-and-comment rulemaking to determine whether and how to update the 3GPP standard.[340]

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[332] *5G Fund Report and Order*, 35 FCC Rcd at 12204, paras. 73-74; 47 CFR § 54.1015(b) (requiring a support recipient to offer 5G service meeting established public interest obligations and performance requirements to increasing percentages of the total square kilometers associated with the eligible areas for which it is authorized to receive 5G Fund support in a state).

[333] RWA Comments at ii, 9-10. RWA notes that 3GPP Release 18 (5G-Advanced) is expected to be rolled out in the fourth quarter of 2023, and that development of 3GPP Release 19 is set to begin in December 2023. *Id.* at 9.

[334] AWA PAWR Comments at 3.

[335] SBI Reply at 32-33.

[336] *Id.* at 33. SBI notes that there is precedent for this in the Commission's Alaska Plan, "where affected wireless carriers were given special buildout requirements." *Id.*

[337] T-Mobile Comments at 3, 19. Under this approach, a support recipient that deploys service to exactly 85% of the square kilometers in a given area by the end of year six would be required to return 15% of the total allocated support for that area; deployment to 95% would require returning 5% of the total support, etc. *Id.* at 19.

[338] *Id*.

[339] 47 CFR § 54.1015(a); *accord 5G Fund Report and Order*, 35 FCC Rcd at 12183, 12203, paras. 20, 70.

[340] The "Releases" page on 3GPP's website shows that work on 3GPP Releases 16 and 17 has been completed and they are now available, and that work on 3GPP Release 18 is expected to be completed later this year. *See* 3GPP Specifications & Technologies, Releases, https://www.3gpp.org/specifications-technologies/releases (last visited Mar. 19, 2024). We also note that, in making its determination that entities seeking to receive support from the 5G Fund must have access to spectrum and sufficient bandwidth (at a minimum, 10 megahertz x 10 megahertz using

(continued….)

106. We decline to make any of the other changes suggested by commenters concerning the previously adopted performance requirements. We find that the suggestions offered by ARA PAWR and SBI that we adopt differing compliance deadlines and performance standards for support recipients serving remote areas to be inconsistent with the 5G Fund's policy goals of ensuring the rapid deployment of 5G mobile wireless broadband networks. T-Mobile's suggestions are similar to suggestions offered earlier in the 5G Fund proceeding,[341] which the Commission declined to adopt as both unworkable and unrealistic.[342] As the Commission observed in the *5G Fund Report and Order*, "[t]here may be isolated areas that are particularly challenging to serve even in terrain that is otherwise not difficult to serve, and adopting a 100% coverage requirement could drastically increase costs in a 5G Fund auction if bidders reasonably conclude that certain areas they would otherwise be interested in serving are cost prohibitive due to an especially challenging terrain feature like a ravine or mountaintop," which "would [] potentially distort the 5G Fund auction with little gain."[343] We conclude that the Commission struck an appropriate balance in adopting an 85% final coverage requirement in the *5G Fund Report and Order*, and find that T-Mobile has not offered anything in its comments that persuades us to depart from the Commission's earlier conclusions.

### B. Methodologies for Demonstrating Compliance with 5G Fund Performance Requirements

107. Consistent with the recommendations of many commenters, we modify the methodologies for demonstrating compliance with 5G Fund performance requirements adopted in the *5G Fund Report and Order* to align largely with those adopted for the BDC verification process. In the *5G Fund Report and Order*, the Commission decided it would generally align with the BDC the methodologies used by 5G Fund support recipients to demonstrate compliance with their interim and final performance requirement milestones.[344] The Commission concluded that standardizing the data required for compliance reporting was likely to ease the burden on support recipients, while collecting sufficient data to confirm that the 5G Fund's requirements have been met.[345] In the *5G Fund FNPRM*, the Commission proposed and sought comment on requiring 5G Fund support recipients to use the methodologies adopted for the BDC mobile verification process as the basis for substantiating coverage

frequency division duplex (FDD) or 20 megahertz using time division duplex (TDD)) capable of supporting 5G services in the particular area(s) for which they intend to bid, the Commission observed in the *5G Fund Report and Order* that 3GPP Release 16 had finalized a list of various frequency bands for North America that appeared at that time to be capable of supporting 5G. *5G Fund Report and* Order, 35 FCC Rcd at 12254, para. 197 n.491. Given the passage of time and 3GPP's ongoing work since the *5G Fund Report and Order* was adopted, we direct OEA, WCB, and WTB to determine in the pre-auction process, and after notice and comment, whether there are 5G-capable spectrum bands other than those identified in 3GPP Release 16 that entities seeking to receive support from the 5G Fund could use to meet the 5G Fund public interest obligations and performance requirements.

[341] *See* California Public Utilities Commission Comments on *2020 5G Fund Notice of Proposed Rulemaking* at 5 (asking the Commission to adopt a higher service deployment milestone coverage requirements of 90% by the end of year six and 100% by the end of year seven).

[342] *5G Fund Report and Order*, 35 FCC Rcd at 12205, para. 76 n.191. The Commission agreed with CTIA that "'a 100% service requirement will create an impossible standard for winning bidders and the Commission to verify build-out.'" *Id.* (quoting CTIA Reply on *2020 5G Fund Notice of Proposed Rulemaking* at 6-7).

[343] *5G Fund Report and Order*, 35 FCC Rcd at 12205, para. 76. We note that the Commission also previously declined to adopt a 100% final deployment milestone percentage for Mobility Fund II based on commenters' arguments in that proceeding that a 100% buildout requirement is unrealistic in remote areas as well as most rural areas, and could discourage bids. *See MF-II Report and Order*, 32 FCC Rcd at 2193-95, para. 97, nn.255 & 259.

[344] *5G Fund Report and Order*, 35 FCC Rcd at 12233-34, paras. 143, 145.

[345] *Id.* at 12230-34, paras. 137-46.

and demonstrating compliance with the 5G Fund interim and final deployment milestones.[346] In addition, the Commission sought comment on whether 5G Fund support recipients should be required to submit on-the-ground test data for areas that are accessible and infrastructure data for areas that are inaccessible.[347] The Commission also sought comment on whether 5G Fund support recipients should submit infrastructure data sufficient to generate a "core coverage area," as defined in the BDC mobile verification process, and on-the-ground test data for areas outside of that core coverage area, or should instead be allowed to submit either type of data regardless of the type of area in which they are deploying service.[348] The Commission also described and sought comment on the specific on-the-ground test data and infrastructure data 5G Fund support recipients would need to submit.[349]

108. In response to the *5G Fund FNPRM*, many commenters express support generally for harmonizing the 5G Fund's compliance processes with the BDC's verification processes.[350] We agree with commenters and adopt the Commission's proposal to largely align the methodologies for demonstrating compliance with the 5G Fund interim and final deployment milestones with those adopted for the BDC mobile verification process. We find this approach will give 5G Fund support recipients the same flexibilities afforded under the BDC rules to choose which type of verification data to submit. This approach also affords Commission staff the right to collect additional data as necessary.[351] We therefore amend the Commission's rules as necessary to accommodate such alignment, consistent with the specific needs of the 5G Fund. Based on supportive comments in the record, we require that, in its interim and final milestone reports, each 5G Fund support recipient (1) certify that the 5G mobile broadband coverage data filed in its BDC biannual submissions demonstrate that its deployments in the area(s) for which it receives 5G Fund support meet the 5G Fund coverage, speed, and latency requirements, and (2) substantiate its reported 5G mobile coverage data by submitting either on-the-ground test data or infrastructure information. A support recipient can submit either type of information (either on-the-ground test data or infrastructure data), regardless of whether it is deploying service in an accessible or inaccessible area,[352] but it must submit at least one type of data for a whole state. A support recipient may submit different types of data for different states and may voluntarily submit the additional data type for part or all of a state.[353] As discussed below, 5G Fund support recipients submitting on-the-ground data

[346] *Id.* at *69-73, paras. 45-47. These BDC methodologies allow mobile providers to choose to submit either on-the-ground test data or infrastructure data to verify coverage in response to a mobile verification request from the Commission. *BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3055, para. 86.

[347] *5G Fund FNPRM* at *70, para. 45.

[348] *Id*.

[349] *Id.*at *71-73, paras. 46-47.

[350] CCA Comments at 27; Michael Ravnitzky Comments at 6; T-Mobile Comments at 20; Verizon Comments at 12; CTIA Reply at 4-5; *see also* AT&T Reply at 6-7 (supporting using the BDC mobile verification process methodology as the basis for 5G Fund support recipients to substantiate coverage and demonstrate compliance with 5G Fund interim and final deployment milestones). No commenters opposed this approach.

[351] *Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program*, WC Docket Nos. 11-10, 19-195, Third Report and Order, 36 FCC Rcd 1126, 1146, para. 47 (2021) (*BDC Third Report and Order*); *accord* 47 CFR § 1.7006(c) (OEA and WTB may require the submission of additional data when necessary to complete a verification inquiry).

[352] *5G Fund FNPRM* at *69, para. 45; T-Mobile Comments at 20 (encouraging the Commission to give providers the same flexibility they have under the BDC rules to choose which verification process to use); AT&T Reply at 7.

[353] For example, a 5G Fund support recipient may submit only infrastructure information reflecting coverage their supported area in State A, and only on-the-ground data for the sampled area(s) in State B, but it may not submit only infrastructure information in a census tract in State A and only on-the-ground data in a different census tract in State A. This does not preclude a 5G Fund support recipient from submitting both infrastructure information and on-the-ground data, so long as it submits one type of data for all of its supported areas in a state. A 5G Fund support (continued….)

will do so for a sample of hex-9s within its supported area, whereas support recipients submitting infrastructure information are required to submit data for all cell sites and antennas that serve a 5G Fund recipient's supported area. This approach is consistent with the BDC verification process, in which providers submitting on-the-ground data do so for a statistically valid sample of areas within a targeted area, whereas providers submitting infrastructure information do so for the entire targeted area.[354] We direct 5G Fund support recipients to indicate which type of data they will submit for each state. To ensure the accuracy of the data being submitted, we require 5G Fund support recipients to have their on-the-ground or infrastructure data certified by an engineer with the same qualifications as required for submitting the BDC biannual filings that apply under section 1.7004 of the Commission's rules.[355]

109. *On-the-Ground Test Data.* In the *5G Fund Report and Order*, the Commission required 5G Fund support recipients to conduct on-the-ground speed tests to substantiate 5G broadband coverage,[356] and adopted specific methodologies for on-the-ground speed tests to substantiate 5G broadband data.[357] Additionally, the Commission determined it would defer the adoption of additional requirements and parameters for such on-the-ground measurement tests until the pre-auction process.[358] As discussed above, 5G Fund support recipients have the option of submitting either on-the-ground test data or infrastructure information, on a state-by-state basis. We require 5G Fund support recipients submitting on-the-ground data to do so in accordance with the parameters and specifications established in the BDC mobile verification process[359] and the *BDC Data Specifications for Mobile Speed Test Data*,[360] and further require that all tests be taken in an in-vehicle mobile environment only.[361] A 5G Fund support recipient must submit on-the-ground test data for a sample of hex-9s within its supported area within a state. The sample will be statistically appropriate and selected by Commission staff.[362]

110. We also require a 5G Fund support recipient's cumulative on-the-ground test data within a sampled area to show that at least 90% of its speed test measurements report 5G-NR service at minimum download and upload speeds of at least 35/3 Mbps in an in-vehicle environment, and that at least 90% of tests record latency of 100 milliseconds or less for each of the support recipient's interim and final deployment milestones. We note this is a change from the performance requirements adopted in the *5G Fund Report and Order*, which require 5G Fund support recipients to meet baseline performance speed requirements of a *median* of 35 Mbps download and 3 Mbps upload, and with at least 90 percent of

recipient shall submit its interim service and final service milestone reports, including on-the-ground measurement tests or infrastructure information, in the Broadband Data Collection portal. 47 CFR § 54.1019(a).

[354] *BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3058-59, para. 94.

[355] 47 CFR § 1.7004(d).

[356] *5G Fund Report and Order*, 35 FCC Rcd at 12230-31, para. 137.

[357] *Id.* at 12232, para. 140; *accord* 47 CFR § 54.1019(a)(2)(i)-(iii).

[358] *Id.* at 12231, para. 137.

[359] *BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3062, para. 99; *accord* 47 CFR § 1.7006(c)(1)(i) (testing parameters), (ii) (test metrics).

[360] FCC, *Broadband Data Collection Data Specifications for Mobile Speed Test Data* (Nov. 18, 2022), https://us-fcc.app.box.com/v/bdc-mobile-speedtest-spec.

[361] As more fully explained below, unlike for the BDC, 5G Fund support recipients must demonstrate their compliance with the 5G Fund performance requirements by submitting tests that are taken in an in-vehicle mobile environment only.

[362] 47 CFR § 1.7006(c). The use of hex-9s is a variation from the mobile verification process, which uses a sample of hex-8s. Because eligible and supported areas in the 5G Fund Phase I will be based on hex-9s, we adopt a methodology that relies on hex-9s instead of hex-8s. If the number of supported hex-9s in a state is too small to sample a subset of them, all hexagons may be selected in that area, or the small area will be combined with other nearby area(s) where support has been awarded, to the extent they exist for the support recipient, to create a larger area that can be sampled.

measurements recording data transmission rates of not less than 7 Mbps download and 1 Mbps upload.[363] However, requiring 5G Fund support recipients to submit cumulative test data showing that at least 90% of its speed test measurements report 5G-NR service at *minimum* download and upload speeds of at least 35/3 Mbps in an in-vehicle environment more closely aligns with the requirements adopted for BDC reporting.[364] We therefore amend section 54.1015(c)(1) of our rules in connection with aligning the methodologies for demonstrating compliance with the 5G Fund interim and final deployment milestones with those adopted for the BDC mobile verification process to specify that 5G Fund support recipients must meet a minimum baseline performance speed requirement of 35 Mbps download and 3 Mbps upload in an in-vehicle environment, with at least 90 percent of measurements recording these data transmission speeds. When conducting tests to demonstrate compliance with its 5G Fund performance milestones, a 5G Fund support recipient must record and submit at least two tests within each of the selected hexagons where the time of the tests are at least four hours apart, irrespective of date.[365] However, if the 5G Fund support recipient has, and submits with its speed tests, actual cell loading data for the cell(s) covering the sampled hexagon showing that the median loading, measured in 15-minute intervals, did not exceed the BDC-modeled loading factor for the one-week period prior to the speed test submission, then the 5G Fund support recipient must submit two speed tests for the sampled hexagon, but without the restriction of testing four hours apart.[366] Further, the target of at least 35/3 Mbps speed must be taken in an in-vehicle mobile environment.[367] For in-vehicle tests, 5G Fund support recipients must conduct tests with the antenna located inside the vehicle to replicate typical consumer behavior and ensure more equivalent comparisons between the on-the-ground test data submitted by support recipients and the typical

[363] *5G Fund Report and Order*, 35 FCC Rcd at 12232-33, para. 141 (requiring that "cumulative test data results show at least 90% of measurements report 5G service record download and upload speeds of at least 7/1 Mbps, and record *median* download and upload speeds of at least 35/3 Mbps" (emphasis added)); 47 CFR § 54.1015(c)(1); *5G Fund FNPRM* at *72, para. 46 (proposing that, "a 5G Fund support recipient's cumulative test data will be required to show that at least 90% of measurements report 5G service at download and upload speeds of at least 7/1 Mbps and *median* download and upload speeds of at least 35/3 Mbps" (emphasis added)).

[364] 47 CFR § 1.7004(c)(3)(i) (requiring reporting 5G-NR services using "a minimum expected user download speed of 7 Mbps and user upload speed of 1 Mbps, and a minimum expected user download speed of *35 Mbps and user upload speed of 3 Mbps at the cell edge*" (emphasis added)), (ii) (requiring providers' BDC coverage maps to "reflect coverage areas where users should expect to receive the minimum required download and upload speeds *with cell edge coverage probability of not less than 90*% and a cell loading of not less than 50%" (emphasis added)).

[365] *See BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3061, para. 97; 47 CFR § 1.7006(c) (requiring providers to conduct tests with the antenna located inside the vehicle).

[366] *See* 47 CFR § 1.7006(c); *see also 5G Fund FNPRM* at *71-73, para. 46 (seeking comment on the numeric and temporal aspects of speed tests).

[367] We emphasize that 5G Fund support recipients must submit tests taken in an in-vehicle mobile environment only, and recognize that this requirement differs from the BDC verification process, in which providers must conduct on-the-ground speed tests for the technology (4G and/or 5G) and environment (outdoor stationary or in-vehicle mobile) listed within hexagons that require verification. 47 CFR § 1.7006(c)(1)(ii)(K); *BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3016, 3062, paras. 18, 99; *see also BDC Third Report and Order*, 36 FCC Rcd at 1149, paras. 57-58 (adopting an approach for verifying providers' claims of mobile coverage that allows mobile providers to submit on-the-ground test data (i.e., both mobile and stationary drive-test data)). However, we note that in the *5G Fund Report and Order*, the Commission made clear that "because [it has] a heightened obligation to ensure the prudent use of universal service support, [it] . . . may go further than the requirements adopted in the [BDC] proceeding, or otherwise adopt more stringent requirements during the pre-auction process." *5G Fund Report and Order*, 35 FCC Rcd at 12232, para. 139. Given that we are providing universal service support through the 5G Fund for the deployment of 5G-NR service in rural areas, we conclude that requiring 5G Fund support recipients to submit tests taken in an in-vehicle mobile environment only is appropriate, because measuring 5G-NR service at speeds of at least 35/3 Mbps in an in-vehicle environment reflects the most stringent and robust measurement we are collecting from providers in the BDC and will help ensure that rural areas receive service that is reasonably comparable to the service offered in urban areas.

consumer experience.[368]

111. *Identifying Areas for On-the-Ground Testing.* In the *5G Fund FNPRM*, the Commission proposed to use a methodology for demonstrating compliance with 5G Fund performance milestones that is similar to that adopted for the BDC mobile verification process, except that 5G Fund support recipients would be required to submit speed test data for all supported areas, rather than a sample of areas, and the area would be hex-9, rather than the hex-8 area used in BDC mobile verification process.[369] As discussed above, if a support recipient chooses to submit on-the-ground test data, it must do so for a sample of hex-9s. The Commission received limited feedback in response to its proposal to require on-the-ground testing in all supported areas.[370] However, T-Mobile argued that mandatory on-the-ground testing for all supported areas could become "prohibitively expensive and time consuming."[371] We agree and therefore require that tests conducted and submitted for a sample of hex-9s within the supported area of a state. However, the sampling methodology used in the BDC mobile verification process may not translate well to demonstrating compliance with 5G Fund performance milestones.[372] Therefore, we decline to adopt a specific sampling methodology at this time and direct OEA, WTB, and WCB to both establish the methodology that will be used by all 5G Fund support recipients to demonstrate compliance with their 5G Fund performance requirements and generate the sample of hex-9s for which each 5G Fund recipient must submit on-the-ground data at the time of its interim and final deployment milestones.

112. *Infrastructure Data.* In the *5G Fund FNPRM*, we proposed to require 5G Fund support recipients to submit the same infrastructure data required in the BDC mobile verification process to substantiate coverage in the areas for which they receive 5G Fund support.[373] We adopt this proposal, and require 5G Fund support recipients electing to substantiate their 5G Fund milestones with infrastructure data to submit all of the infrastructure data that providers submit as part of the BDC mobile verification process for all cell sites and antennas that serve a 5G Fund recipient's supported area.[374] In its comments, Verizon asks the Commission to specify how it will use infrastructure data to verify compliance with the deployment obligations.[375] Similar to BDC mobile verifications, staff will use the infrastructure data to estimate a "core coverage area," in which coverage at the modeled throughput is highly likely to exist at or above the minimum values reported in the provider's submitted coverage data.[376] For any areas that are outside of the "core coverage area" but within the required coverage area, Commission staff will

[368] *BDC Mobile Technical Requirements Order*, 37 FCC Rcd 3062, para. 99; *see* 47 CFR § 1.7006(c).

[369] *5G Fund FNPRM* at *71-72, para. 46.

[370] T-Mobile Comments at 20; The Puerto Rico Telecommunications Regulatory Bureau Comments at 7 (advocating using randomized mobile in-vehicle service auditing to assure that 5G Fund and BDC reporting is complete and accurate).

[371] T-Mobile Comments at 20.

[372] In the BDC mobile verification process, a verification inquiry can be conducted only when there is a "credible basis" for believing the provider's coverage may be inaccurate, while the basis for verifying coverage is different in the 5G Fund context. *BDC Third Report and Order*, 36 FCC Rcd at 1146, para. 47; *BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3055-56, para. 88 (explaining credible basis), 3058-60, paras. 94-96 (explaining the sampling methodology for identifying areas in need of verification by way of on-the-ground testing).

[373] *5G Fund FNPRM* at *73, para. 47. In the context of BDC mobile verifications, a provider must submit additional information beyond what is submitted as part of its biannual BDC availability data (propagation modeling details, as well as link budget and clutter data), including cell-site and antenna data for the targeted area. *BDC Mobile Technical Requirements Order*, 37 FCC Rcd at 3063-64, para. 104.

[374] *See* 47 CFR § 1.7006(c)(2)(i); FCC, *Broadband Data Collection Data Specifications for Provider Infrastructure Data in the Challenge, Verification, and Audit Processes §§ 1.1-1.9* (Feb. 20, 2024), https://us-fcc.app.box.com/v/bdc-infrastructure-spec.

[375] Verizon Comments at 13.

[376] *BDC Mobile Technical Requirements Order*, 37 FCC Rcd 3064, para. 104.

consider additional information submitted by the 5G Fund support recipient, such as on-the-ground test data, and may request such data from the provider if not already submitted.[377] To facilitate the process of Commission staff review of a 5G Fund support recipient's data, we direct staff to notify the support recipient of any additional requests for information, and we amend section 54.1019 of our rules to account for such case-by-case information requests.

## VII. SCHEDULE FOR TRANSITIONING FROM MOBILE LEGACY HIGH-COST SUPPORT TO 5G FUND SUPPORT

113. Consistent with the strong consensus among commenters, we conclude that the phase down of mobile legacy high-cost support will commence upon the release of a public notice announcing the authorization of 5G Fund support, as more fully explained below. In view of the provision in the Consolidated Appropriations Act of 2023 requiring that any support mechanism that serves as an alternative to Mobility Fund Phase II "shall maintain existing high-cost support to competitive eligible telecommunications carriers until support under such mechanism commences,"[378] the Commission sought comment in the *5G Fund FNPRM* on a proposal to treat the release of the public notice announcing the close of the 5G Fund Phase I auction to be the point at which support under the 5G Fund "commences."[379]

114. Many commenters maintain that the proposal suggested by the Commission in the *5G Fund FNPRM* is inconsistent with the language in the Consolidated Appropriations Act of 2023.[380] We are therefore persuaded that we should follow the recommendations of commenters to commence the phase down of mobile legacy high-cost support upon the release of a public notice announcing the authorization of 5G Fund support.

115. Under this approach, we will commence the two-year phase down of mobile legacy high-cost support in all areas that are ineligible for inclusion in the 5G Fund Phase I auction upon the release of the first public notice announcing the authorization of support in any eligible area. Similarly, the five-year phase down of mobile legacy high-cost support for eligible areas that are not won in the 5G Fund Phase I auction, where the carrier is a legacy support recipient and receives the minimum level of sustainable support for the area for which it receives support, will also commence upon the release of the first public notice announcing the authorization of the award of support in any eligible area. For eligible areas won in the 5G Fund Phase I auction in which the winning bidder is also the legacy support recipient for the area won, legacy support will cease and 5G Fund support will commence after the release of the public notice announcing the authorization of the award of support for that area.[381] For eligible areas that are won in the 5G Fund Phase I auction in which the legacy support carrier is not the winning bidder in the area, a two-year phase down of mobile high-cost legacy support will "commence" after the release of

[377] *Id*. If any areas outside the core coverage area but within the required coverage area are inaccessible, the Commission will consider whether alternatives to on-the-ground drive testing data are appropriate to validate coverage in such areas.

[378] Consolidated Appropriations Act, 2023, Pub. L. No. 117-328, Div. E, Title VI § 624, 136 Stat. 4459, 4702; *see also 5G Fund Report and Order*, 35 FCC Rcd at 12218-19, paras. 109-10 (discussing prior appropriations rider).

[379] *5G Fund FNPRM* at *74, para. 48.

[380] CCA Comments at 24-26; CRWC at 25-26, RWA Comments at 11-13; US Cellular Comments at 37; CRWC Reply at 7; RWA Reply 7-8; SBI Reply at 33; US Cellular Reply at 11.

[381] We recognize that this may create an incentive for winning bidders to delay prosecuting their long-form applications to the extent that the legacy support they currently receive is greater than 5G Fund support. Nonetheless, we expect long-form applicants to expeditiously complete their applications and respond in a timely manner to staff requests for additional or missing information. We note that in the Rural Digital Opportunity Fund Phase I auction, we dismissed the long-form applications of some winning bidders for this reason. *See, e.g.*, *Rural Digital Opportunity Fund Support Authorized for 1,865 Winning Bids; Bid Defaults Announced*, AU Docket No. 20-34, WC Docket Nos. 19-126 and 10-90, Public Notice, 37 FCC Rcd 11410, 11418 n.57 (WCB/OEA 2022) (finding Xiber to be in default after denying waiver due to Xiber's ongoing failure to meet the filing deadline for its audited financials).

the public notice announcing the authorization of the award of support for that eligible area.[382] Likewise, for eligible areas not won in the 5G Fund Phase I auction where the carrier is a legacy support recipient but does not receive the minimum level of sustainable support for the area for which it receives support, a two-year phase down of mobile high-cost legacy support will "commence" after the release of the first public notice announcing the authorization of the award of support for any eligible area. As explained above, areas in Puerto Rico and the U.S. Virgin Islands will proceed on the same transition schedule to either 5G Fund support or a two-year phase down of transitional support from the Bringing Puerto Rico Together Fund and the Connect USVI Fund, whichever is applicable. We conclude that this approach complies with the text of the Consolidated Appropriations Act of 2023. Accordingly, we adopt the following schedule for transitioning[383] from mobile legacy high-cost support to 5G Fund support:

| Area Eligibility | Auction Result | Bidder or Recipient Status | Support Type and Timing[384] |
|---|---|---|---|
| Ineligible | | | Two-year phase down of legacy support for all ineligible areas commences on the first day of the month after the release of the first public notice announcing the authorization of 5G Fund support in any eligible area |
| Eligible | Won in auction | Carrier is the winning bidder and is the legacy support recipient for` the area it won | Legacy support ceases and 5G Fund support commences in an area on the first day of the month after the release of the public notice announcing the authorization of 5G Fund support for that area |
| Eligible | Won in auction | Carrier is a legacy support recipient but is not the winning bidder in the area for which it receives support | Two-year phase down commences in an area on the first day of the month after the release of the public notice announcing the authorization of 5G Fund support in that area |
| Eligible | Not won in auction | Carrier is a legacy support recipient but does not receive the minimum level of sustainable support for the area for which it receives support | Two-year phase down of legacy support commences on the first day of the month after the release of the first public notice announcing the authorization of 5G Fund support in any eligible area won in the auction |
| Eligible | Not won in auction | Carrier is a legacy support recipient and receives the minimum level of sustainable support for the area for which it receives support | Legacy support continues for no more than five years and the phase down of such support commences on the first day of the month after the release of the first public notice announcing the authorization of 5G Fund support in any eligible area won in the auction |

[382] *See, e.g.*, CCA Comments at 26 ("Timing the phase down of legacy support to when money is flowing from the 5G Fund to the carriers best reflects the intent of Congress and best serves the public interest by foreclosing any lapse in funding.").

[383] Consistent with our decision above to include areas in Puerto Rico and the U.S. Virgin Islands that meet the eligible areas definition in the 5G Fund, these Territories will be subject to this transition schedule.

[384] For areas in Puerto Rico and the U.S. Virgin Islands, the transitional support being provided under the *Transitional Support Order* is the "mobile legacy high-cost support" that will transition to 5G Fund support or be subject to a two-year phase down (whichever is applicable). *See Transitional Support Order* at *22-25, paras. 22-

(continued….)

116. Other than the changes necessary to make our legacy support transition schedule consistent with the language in the Consolidated Appropriations Act of 2023, we make no other modifications to the decisions adopted in the *5G Fund Report and Order* regarding the transition from mobile legacy high-cost support to 5G Fund support.[385] The Commission was clear in the *5G Fund Report and Order* that "the continuation of legacy support is an interim measure" as it implemented its plans for the 5G Fund.[386] We therefore decline to accept any of the alternatives to the Commission's long-standing plan to phase down mobile legacy high-cost support suggested by commenters.[387] Those alternative approaches are contrary to the Commission's more than decade-old goal of reforming high-cost support and closing the digital divide, as well as the steps the Commission has taken to ensure the efficiency and good stewardship of its limited universal service fund dollars.[388] As explained by the Commission in 2020, and as addressed above in our discussion of the 5G Fund budget, "the Commission's experience awarding support via competitive bidding has shown it to be an effective use of ratepayer funds and none of these commenters has convinced us that departing from that approach is warranted."[389]

117. Consistent with today's decision that the phase down of mobile legacy high-cost support will commence upon the release of a public notice announcing the authorization of 5G Fund support, as well as Congress's language in the Consolidated Appropriations Act of 2023,[390] we dismiss CRWC's Petition for Reconsideration as moot to the extent that its arguments concern the transition schedule for

23. Notwithstanding the schedule adopted in the *Transitional Support Order*, the Commission will extend transitional support beyond the 24-month period as needed to facilitate the phase down schedule adopted herein and comply with the Consolidated Appropriations Act of 2023. *See 5G Fund FNPRM* at *74-75, para. 48 (seeking comment on whether the Consolidated Appropriations Act of 2023 requires the Commission to modify any other aspects of its plan for transitioning from mobile legacy high-cost support to 5G Fund support); *see id.* at *48, para. 26 (seeking comment on whether to make 5G Fund support available to areas in Puerto Rico and the U.S. Virgin Islands meeting the eligible areas definition, subject to the same terms and conditions as 5G Fund support awarded in other eligible areas); *see also Transitional Support Order* at *20-22, paras. 19-21. As noted above, mobile wireless carriers receiving transitional support in areas in Puerto Rico and the U.S. Virgin Islands that are subject to phase down will receive support amounts as specified in 47 CFR § 54.307(e)(5)-(7), and will be subject to the same public interest obligations, performance requirements, reporting requirements, and non-compliance mechanisms adopted for mobile legacy high-cost support recipients specified in 47 CFR § 54.322.

[385] *See 5G Fund Report and Order,* 35 FCC Rcd at 12221-28, paras. 116-30.

[386] *Id*. at 12217, para. 107.

[387] CRWC Comments at 29 (suggesting the Commission should abandon the complete phase down of legacy support); NTCA Comments at 3-6 (advocating the Commission should adopt a separate "Small Carrier Fund"); RWA Comments at 11-12 (stating the Commission should extend the two-year phase down of legacy support to three years); US Cellular Comments at 38-41 (advocating the Commission should abandon the complete phase down of legacy high-cost mobile support and adopt its proposed "Supplemental 5G Plan"); CRWC Reply at 4-6; RWA Reply at 8; SBI Reply at 23-24 (advocating that the Commission should not discontinue preservation of support in remote Tribal lands); US Cellular Reply at 7-10.

[388] *See 5G Fund Report and Order,* 35 FCC Rcd at 12223, para. 120. We also emphasize that, as the Commission previously determined, in an area where the legacy support provider becomes the winning bidder for 5G Fund support, if it "defaults on its bid prior to authorization, or otherwise fails to be authorized, we will not award 5G Fund support for that area. However, to avoid perverse incentives, consistent with our decision to maintain support to preserve service only in areas that lack a winning bid, a carrier receiving legacy support in the area of its winning bid will not receive preservation-of-service support and will instead be subject to phase down if not authorized to receive 5G Fund support." *Id*. at 12227, para. 128.

[389] *Id*. at 12203, para. 68; *see also supra* Section IV.

[390] *See* Consolidated Appropriations Act, 2023, Pub. L. No. 117-328, Div. E, Title VI § 624, 136 Stat. 4459, 4702 (requiring that any support mechanism that serves as an alternative to Mobility Fund Phase II "shall maintain existing high-cost support to competitive eligible telecommunications carriers until support under such mechanism commences").

mobile legacy high-cost support.[391] Additionally, for the same reasons expressed above, we deny the Petition for Reconsideration filed by SBI to the extent that it requests that the Commission reconsider the five-year phase down of mobile legacy high cost support for a carrier receiving the minimum sustainable level of support in an area that is eligible for 5G Fund support, but is not the winning bidder for that area.[392] This request for reconsideration conflicts with the Commission's plan to reform high-cost support and Congress's intention for the Commission to transition to a more modern support mechanism.

## VIII. CERTIFICATION OF NOTICE OF 5G FUND PHASE I AUCTION REQUIREMENTS AND PROCEDURES

118. Consistent with the approach taken in our recent spectrum auctions, we require any applicant seeking to participate in the 5G Fund Phase I auction to certify, under penalty of perjury, in its short-form application that the applicant has read the public notice adopting procedures for the auction and that it has familiarized itself both with the auction procedures and with the requirements, terms, and conditions associated with the receipt of 5G Fund support.[393] This certification helps ensure that an applicant educates itself about the procedures for auction participation and that, prior to submitting a short-form application, the applicant understands its obligation to stay abreast of relevant, forthcoming information.[394] As with other certifications required in the short-form application, an applicant's failure to make this required certification in its short-form application by the applicable filing deadline will render its application unacceptable for filing, and its application will be dismissed with prejudice.[395]

119. As noted in the *5G Fund FNPRM*, the Commission has a longstanding policy that expressly places a burden upon each auction applicant to be thoroughly familiar with the procedures, terms, and conditions contained in the relevant auction procedures public notice and any future public notices that may be released in the auction proceeding.[396] Both the Commission and OEA, in conjunction with WTB and the Media Bureau, have reinforced this policy in recent spectrum auctions by adopting a requirement that each auction participant certify, under penalty of perjury, that it has read the Procedures Public Notice for the applicable auction, and that it has familiarized itself with the auction procedures and with the requirements related to the licenses made available for bidding.[397] In adopting this certification

[391] *See CRWC Petition for Reconsideration* at 2-10.

[392] *See SBI Petition for Reconsideration* at iii, 16-18.

[393] *See 5G Fund FNPRM* at *75, para. 49.

[394] While this certification refers to information regarding auction procedures and the requirements, terms, and conditions associated with the receipt of 5G Fund support that is available at the time of certification, potential auction applicants are on notice from the time the auction procedures are adopted that their educational efforts must continue even after their short-form applications are filed. Commission staff routinely makes available detailed educational materials, such as interactive, online tutorials and technical guides, to enhance interested parties' comprehension of the pre-bidding and bidding processes and to help minimize the need for applicants to engage outside engineers, legal counsel, or other auction experts.

[395] *See* 47 CFR § 1.21001(f)(2).

[396] *5G Fund FNPRM* at *76-78, para. 50 (citing, as examples, *Rural Digital Opportunity Fund Phase I Auction Scheduled For October 29, 2020; Notice and Filing Requirements and Other Procedures For Auction 904*, AU Docket No. 20-34, WC Docket Nos. 19-126 and 10-90, Public Notice, FCC Rcd 6077, 6081, para. 7 (2020); *Tribal Mobility Fund Phase I Auction Rescheduled For December 19, 2013; Notice and Filing Requirements and Other Procedures for Auction 902*, AU Docket No. 13-53, Public Notice, 28 FCC Rcd 11628, 11647, para. 53 (2013)).

[397] *See, e.g.*, *Auction of Flexible-Use Licenses in the 2.5 GHz Band for Next-Generation Wireless Services; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 108*, AU Docket No. 20-429, Public Notice, 37 FCC Rcd 4370, 4381-83, paras. 24-28 (2022) (*Auction 108 Procedures Public Notice*); *Certification Adopted for Auction of Flexible-Use Service Licenses in the 3.45–3.55 GHz Band For Next-Generation Wireless Services,* AU Docket No. 21-62, Public Notice, 36 FCC Rcd 8444 (OEA/WTB 2021) (*Auction 110 Certification Public Notice*); *Auction of Construction Permits for Full Power Television Stations; Notice and*

(continued….)

requirement for prior auctions, the Commission noted that it was intended to bolster applicants' efforts to educate themselves to the greatest extent possible about the procedures for auction participation and to ensure that, prior to submitting their short-form applications, applicants understood their obligation to stay abreast of relevant, forthcoming information.[398] The Commission and OEA reasoned in the context of spectrum auctions that familiarity with the Commission's rules and procedures governing the auctions would help bidders avoid the consequences to them associated with defaults, which also cause harm to other applicants and the public by reducing the efficiency of the auction process and reducing the likelihood that the license or construction permit will be assigned to the bidder that values it the most.[399] Moreover, the Commission has also previously expressed in the context of spectrum auctions that the certification requirement will help ensure that an "auction applicant . . . has investigated and evaluated those technical and marketplace factors that may have a bearing on its potential use of any licenses won at auction."[400]

120. All commenters that address this certification requirement support it.[401] We conclude that applicants for universal service support in the 5G Fund Phase I auction will benefit from this certification because, as with spectrum auctions, familiarity with the rules and procedures governing the 5G Fund Phase I auction could help bidders avoid the consequences to them associated with defaults, which in turn harms other applicants and the public by reducing the efficiency of the auction process and potentially stranding areas without 5G mobile service. We further conclude that such a certification will promote the integrity of, and public confidence in, the Commission's auction processes, as well as help ensure that recipients of 5G Fund Phase I support are aware of and better prepared to comply with their public interest obligations and performance requirements. For these reasons, we will require each 5G Fund Phase I auction applicant to make the following certification, under penalty of perjury, in its short-form application:

> that the applicant has read the public notice adopting procedures for the 5G Fund Phase I auction, and that it has familiarized itself with those procedures and any requirements, terms, and conditions associated with receipt of 5G Fund support.

## IX. CYBERSECURITY AND SUPPLY CHAIN RISK MANAGEMENT

121. We require 5G Fund support recipients to implement both an operational cybersecurity risk management plan and a supply chain risk management plan as a condition of receiving 5G Fund support, as discussed in the *5G Fund FNPRM*.[402]

122. *Cybersecurity Risk Management.* Consistent with the Enhanced Alternative-Connect

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*Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 112*, AU Docket No. 21-449, Public Notice, 37 FCC Rcd 1155, 1162-1163, paras. 19-23 (OEA/MB 2022) (*Auction 112 Procedures Public Notice*).

[398] *Auction 108 Procedures Public Notice*, 37 FCC Rcd at 4382, para. 25; *Auction 110 Certification Public Notice*, 36 FCC Rcd at 8445, para. 4; *Auction 112 Procedures Public Notice*, 37 FCC Rcd at 1162, para. 20.

[399] *Auction 108 Procedures Public Notice* 37 FCC Rcd at 4382, para. 25; *Auction 110 Certification Public Notice*, 36 FCC Rcd at 8445, para. 4; *Auction 112 Procedures Public Notice*, 37 FCC Rcd at 1162, para. 20.

[400] *Auction of Flexible-Use Service Licenses in the 2.5 GHz Band for Next-Generation Wireless Services; Comment Sought on Competitive Bidding Procedures for Auction 108*, AU Docket No. 20-429, Public Notice, 36 FCC Rcd 645, 648, para. 8 (2021); *see also Auction of Flexible-Use Service Licenses in the 3.45-3.55 GHz Band for Next-Generation Wireless Services; Comment Sought on Competitive Bidding Procedures for Auction 110*, AU Docket No. 21-62, Public Notice, 36 FCC Rcd 6100, 6105, para. 12 (2021); *Auction of Construction Permits for Full Power Television Stations; Comment Sought on Competitive Bidding Procedures for Auction 112*, AU Docket No. 21-449, Public Notice, 36 FCC Rcd 16222, 16224, para. 6 (OEA/MB 2021).

[401] *See* AT&T Comments at 5; CCA Comments at 27; Ravnitzky Comments at 7.

[402] *5G Fund FNPRM* at *80-86, para. 52.

America Cost Model (Enhanced A-CAM) and BEAD programs,[403] 5G Fund support recipients' cybersecurity risk management plans must reflect at least the National Institute of Standards and Technology's Framework for Improving Critical Infrastructure Cybersecurity v.1.1 (2018) (NIST Framework),[404] or any successor version of the NIST Framework,[405] and must reflect established cybersecurity best practices that address each of the Core Functions described in the NIST Framework, such as the standards and controls set forth in the Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Cross-sector Performance Goals and Objectives (CISA CPGs)[406] or the Center for Internet Security Critical Security Controls (CIS Controls).[407] We delegate to the Public Safety and Homeland Security Bureau the authority to update these requirements, after notice and comment, to require that 5G Fund recipients' cybersecurity risk management plans reflect NIST Framework v.2.0 (2024) or any other successor versions that may be released.

123. *Supply Chain Risk Management.* Support recipients' supply chain risk management plans must incorporate the key practices discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry,[408] and related supply chain risk management guidance

[403] *See Connect America Fund: A National Broadband Plan for Our Future High-Cost Universal Service Support et al.,* Report and Order, Notice of Proposed Rulemaking, and Notice of Inquiry, 23 FCC LEXIS 2023, at *157-68, paras. 109-14 (2023) (*Enhanced A-CAM Report and Order*); *BEAD Program NOFO* at 70-71. We note that the BEAD program specifically requires that a recipient's cybersecurity risk management plan reflect the standards and controls set forth in Executive Order 14028. *Id*. (citing The White House, Executive Order 14028 (2021), https://www.whitehouse.gov/briefing-room/presidential-actions/2021/05/12/executive-order-on-improving-the-nations-cybersecurity/ (Executive Order 14028)). However, the development of standards and controls pursuant to Executive Order 14028 are still ongoing. Efforts to amend the Federal Acquisition Regulation to standardize common cybersecurity contractual requirements across all Executive agencies for unclassified information systems, to increase the sharing of information about cyber threats and incident information between the Federal government and certain providers, and to require certain contractors to report cyber incidents to the Federal government to facilitate effective cyber incident response and remediation are not yet final. A proposed rule to implement sections 2(i) and 8(b) of Executive Order 14028 was published in the Federal Register on October 3, 2023. Department of Defense (DoD), General Services Administration (GSA), and National Aeronautics and Space Administration (NASA), Federal Acquisition Regulation: Cyber Threat and Incident Reporting and Information Sharing, 88 Fed. Reg. 68,055 (Oct. 3, 2023). The public comment period for that item closed on December 4, 2023. Work on a proposed rule in case number 2023-002 that would implement section 4(n) of Executive Order 14028 is ongoing. *See* Open FAR Cases as of 3/15/2024 at 6, https://www.acq.osd.mil/DPAP/dars/opencases/farcasenum/far.pdf (last visited Mar. 15, 2024). While we recognize these continuing efforts elsewhere in the federal government, we will not expressly require that a 5G Fund recipient implement the standards and controls developed pursuant to Executive Order 14028. Once those standards and controls are finalized, however, we will consider them to be established cybersecurity best practices for purposes of the 5G Fund cybersecurity requirements that we adopt today.

[404] NIST, *Framework for Improving Critical Infrastructure Cybersecurity, v.1.1* (April 16, 2018), https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.04162018.pdf.

[405] A 5G Fund recipient will be considered in compliance with this requirement if its cybersecurity risk management plan reflects version 2.0 of the NIST Framework, or any successor versions that may be released, so long as the cybersecurity risk management plan otherwise meets the requirements adopted here. *See* NIST, *Framework for Improving Critical Infrastructure Cybersecurity, v.2.0* (Feb. 26, 2024), https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.29.pdf. (NIST Framework v.2.0).

[406] *See* CISA, *Cross-Sector Cybersecurity Performance Goals and Objectives*, https://www.cisa.gov/cpgs (last visited Mar. 15, 2024).

[407] *See* Center for Internet Security, *Critical Security Controls Version 8,* https://www.cisecurity.org/controls (last visited Mar. 15, 2024) (providing security controls grouped by priority and feasibility for different sizes and resources of businesses in Implementation Groups).

[408] *See*; NIST, *Key Practices in Cyber Supply Chain Risk Management: Observations from Industry (2021)*, https://csrc.nist.gov/publications/detail/nistir/8276/final (last visited Mar. 15, 2024) (presenting the following as key practices: 1) integrating cyber supply chain risk management across the organization; 2) establishing a formal (continued….)

from NIST 800-161.[409]

124. We require winning bidders to submit their cybersecurity risk management and supply chain risk management plans to USAC, and to certify that they have done so, by a date to be announced by Public Notice or within 30 days after approval under the Paperwork Reduction Act (PRA), whichever is later.[410] Consistent with the penalties adopted for the Enhanced A-CAM program, failure to submit such plans and make the required certification will result in 25% of monthly support being withheld until the recipient comes into compliance.[411] Once the 5G Fund support recipient comes into compliance, the Administrator will stop withholding support, and the support recipient will receive all of the support that had been withheld as a result of the recipient's failure to comply with the cybersecurity and supply chain risk management requirements we adopt here. These requirements will improve the cybersecurity and supply chain risk management of the nation's mobile broadband networks and protect consumers from online risks, such as fraud, theft, and ransomware, that can be mitigated or eliminated through the implementation of widely-accepted security measures.

125. Commenters generally support the requirement that 5G Fund support recipients implement cybersecurity and supply chain risk management plans.[412] Only one commenter, US Cellular, opposes such a requirement on the grounds that it "may place undue burdens and costs on 5G Fund support recipients."[413] Similarly, while generally supporting the requirements, the CCA urges us to "ensure that any such standards, while achieving cybersecurity and risk management goals, avoid

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cybersecurity supply chain risk management program; 3) knowing and managing critical components and suppliers; 4) understanding the organization's supply chain; 5) collaborating closely with key suppliers; 6) including key suppliers in resilience and improvement activities; 7) assessing and monitoring throughout the supplier relationship; and 8) planning for the full life cycle).

[409] NIST, *Cybersecurity Supply Chain Risk Management Practices for Systems and Organizations (2022)*, https://csrc.nist.gov/publications/detail/sp/800-161/rev-1/final (last visited Mar. 15, 2024) (NIST 800-161) (identifying critical success factors for cyber supply chain risk management).

[410] RWA suggests that 5G Fund support recipients' initial cybersecurity and supply chain risk management plans be submitted to USAC simultaneously with the day the 5G Fund support commences. *See* RWA Comments at 14. However, in view of our decision to require 5G Fund support recipients to implement operational cybersecurity and supply chain risk management plans as a condition of receiving support, we conclude that an earlier submission deadline is appropriate so that there is sufficient time to review a support recipient's plans prior to the authorization of support.

[411] *See FNPRM* at *83-85, para. 52 & n.101 (citing *Enhanced A-CAM Report & Order* at *157, para. 109). A 5G Fund support recipient may consider its "plans" for addressing cybersecurity and supply chain risks to be separate because they entail different kinds of actions, but they may satisfy this requirement by submitting to USAC a single document that contains both their cybersecurity risk management and supply chain risk management plans. This will likely be the case for most, if not all, support recipients because implementing the National Institute of Standards and Technology (NIST) Framework, as we require such recipients to do, includes an examination and treatment of supply chain risks.

[412] RWA Comments at 13 ("RWA fully supports the adoption of such cybersecurity requirements and firmly believes that cybersecurity and supply chain risk management is critically important in modern broadband networks. Ensuring proper cybersecurity measures are put into place by providers serves the public interest."); NTCA Comments at 7 ("NTCA and its members understand the importance of good cyber practices and do not take issue with the Commission's proposal to require 5G Fund recipients to adopt and implement C-SCRM Plans."); The Puerto Rico Telecommunications Regulatory Bureau Comments at 8 ("The Bureau supports the Commission's proposal to require 5G Fund recipients [to] have operational cybersecurity and supply chain plans."); AT&T Comments at 6 ("AT&T supports 5G Fund recipients being required to implement a cybersecurity risk management plan that reflects the latest version of the National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity, and that reflects an established set of cybersecurity best practices."); *see also* Ravnitzky Comments at 8; NYSPSC Comments at 2-3; CCA Comments at 27-28.

[413] US Cellular Comments at 42.

imposing onerous or piecemeal burdens on carriers."[414]

126. However, the cybersecurity and supply chain risk management requirements we adopt for 5G Fund support recipients are designed to mitigate concerns that development and implementation of cybersecurity plans are expensive and time consuming. As US Cellular itself explains, the NIST Framework is not a one-size-fits-all approach to cybersecurity and represents a flexible approach that "promotes customization and prioritization, allowing organizations to tailor their approach according to specific needs."[415] We therefore afford carriers the flexibility to develop plans that fit within their budgetary constraints, so long as they meet the baseline requirements. Moreover, we decline to require 5G Fund support recipients to certify that they have implemented the NIST Framework at a particular implementation tier, as suggested by Verizon,[416] as doing so would reduce flexibility and potentially impose unnecessary costs on providers. For the same reasons, we also decline to adopt the additional requirements recommended by the Puerto Rico Telecommunications Regulatory Bureau.[417]

127. Our approach will also likely reduce compliance costs by allowing 5G Fund support recipients that have already implemented the NIST Framework to comply with this requirement without redoing their plans so long as such plans include already implemented established cybersecurity best practices. To further mitigate costs for small providers, as suggested by commenter Michael Ravnitzky,[418] we encourage 5G Fund support recipients to take advantage of existing federal government resources designed to share supply chain security risk information with trusted communications providers and suppliers and facilitate the creation of cybersecurity and supply-chain risk management plans.[419]

128. In the *5G FNPRM*, we proposed to require a 5G Fund recipient's cybersecurity risk management plan to reflect "an established set of best practices, such as the [CISA CPGs] or the [CIS Controls].[420] Some commenters took issue with this proposal, expressing concerns about a prescriptive mandate that would require the use of either the CISA CPGs or the CISA Controls, without regard to the wider universe of established best practices that are currently available and that may be a better fit for

[414] CCA Comments at 28.

[415] *Id.* Other commenters agree that the NIST Framework provides an appropriate foundation for the required cybersecurity plans. *See* CTIA Comments at 8 ("CTIA supports the FCC's proposal for 5G Fund support recipients' cybersecurity risk management plans to reflect this core risk management document."); Verizon Comments at 13 ("To the extent the Commission goes forward with its proposal to require fund recipients to demonstrate they have a minimum level of cybersecurity in place, any such requirement should be future-proof, consistent with existing industry best practices, and harmonized with cybersecurity requirements elsewhere in the federal government. The Commission can best achieve those goals by leveraging the NIST Cybersecurity Framework ('CSF'), which for more than a decade has been the cornerstone for cybersecurity risk management by a wide variety of entities, including communications providers.").

[416] Verizon Comments at 15-16.

[417] The Puerto Rico Telecommunications Regulatory Bureau Comments at 8-9 (recommending the Commission adopt the use of the Cybersecurity Preparedness Evaluation Tool (CEPT) developed by the National Association of Regulatory Utility Commissioners (NARUC)).

[418] Ravnitzky Comments at 8.

[419] *See* FCC, *Cyber Planner*, https://www.fcc.gov/cyberplanner (last visited Mar. 15, 2024); *see also* FCC, *Cybersecurity for Small Businesses*, https://www.fcc.gov/communications-business-opportunities/cybersecurity-small-businesses (last visited Mar. 15, 2024); CISA, *CISA Cybersecurity Awareness Program Small Business Resources*, (Nov. 29, 2021), https://www.cisa.gov/publication/stopthinkconnect-small-business-resources;National Institute of Standards and Technology, *Small Business Cybersecurity Corner, Planning Tools & Workbooks*, https://www.nist.gov/itl/smallbusinesscyber/planning-tools-workbooks (last visited Mar. 15, 2024); *see also* CISA, *ICT Supply Chain Resource Library,* https://www.cisa.gov/ict-supply-chain-resource-library (last visited Mar. 15, 2024).

[420] *5G Fund FNPRM*, 2023 FCC LEXIS at *81-84, para. 52.

their particular circumstances.[421] We emphasize that the approach we adopt here does *not* require the use of either of these best practices, and is instead intended to afford 5G Fund support recipients the flexibility to implement *any* established best practices, including those identified in the relevant Informative References published by NIST,[422] so long as they address each of the Core Functions of the NIST Framework, as the CISA CPGs and the CIS Controls do. To that end, the rule that we adopt amends the language proposed in the *5G Fund Further Notice* to make clear that, rather than requiring the use of a complete set of best practices compiled by a third party, a 5G Fund recipient may use best practices selected from a variety of sources, so long as they are established and, in aggregate, they address each of the NIST Framework's Core Functions.

129. AT&T is the only commenter that takes issue with the requirement that 5G Fund support recipients' supply chain risk management plans incorporate guidance from NIST 800-161.[423] AT&T notes that NIST 800-161 itself states that it "is not one-size-fits-all" and that "the guidance . . . should be adopted and tailored to the unique size, [resources], and risk circumstances of each enterprise."[424] As with the NIST Framework, we believe that the flexibility provided within NIST 800-161 will benefit 5G Fund support recipients for the very reasons stated by AT&T. We do not view the use of NIST 800-161 as imposing rigid requirements. Instead, it serves as a baseline for ensuring that each 5G Fund support recipient has implemented an effective supply chain risk management plan that is appropriately tailored to its individual needs.

130. *Updating Cybersecurity and Supply Chain Risk Management Plans.* Consistent with the requirements adopted for both the Enhanced A-CAM and BEAD Programs, we also require that a 5G Fund support recipient submit an updated plan to USAC within 30 days after making any substantive modification to its cybersecurity or supply chain risk management plan.[425] A modification to a cybersecurity or supply chain risk management plan will be considered as substantive if at least one of the following conditions apply:

- There is a change in the plan's scope, including any addition, removal, or significant alteration to the types of risks covered by the plan (e.g., expanding a plan to cover new areas, such as supply

[421] Verizon Comments at 14 ("In contrast, the proposal to mandate a prescriptive set of static 'key practices' from a list of two possible sources would not be sufficiently future-proof, flexible, or harmonized with practices emerging across the ecosystem and at other state or federal regulators. Instead, it would contribute to piecemeal cybersecurity obligations that lack the very attributes that make the CSF appropriate."); CTIA Comments at 8 ("But the Commission should not impose a requirement for 5G Fund support recipients' cybersecurity plans to reflect—in addition to the CSF—'an established set of cybersecurity best practices, such as the standards and controls set forth in the [CISA] Cybersecurity Cross-sector Performance Goals and Objectives or the Center for Internet Security Critical Security (CIS) Controls,' as it did under the Enhanced A-CAM Order." (footnote omitted)); AT&T Comments at 6 ("However, the Commission should not endorse individual programs offered by third parties and, rather, authorize any widely accepted/accredited standards which may include the Center for Internet Security Critical Security (CIS) Controls but also International Organization for Standardization (ISO) 27001 and a variety of others."). *See also* Letter from Amy Bender, Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC at 2-4 (filed Mar. 22, 2024); Letter from Amy Bender, Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC at 2-3 (filed Apr. 24, 2024); Letter from Amy Bender, Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC at 2-3 (filed May 10, 2024); Letter from Amy Bender, Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC at 1-2 (filed May 23, 2024); Letter from Amy Bender, Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC at 1-2 (filed June 3, 2024) (each encouraging the Commission to adopt CTIA's alternative proposal in the event that it adopts cyber-related requirements).

[422] NIST Framework v.2.0 Informative References Spreadsheet (last updated Feb. 27, 2024), https://www.nist.gov/informative-references.

[423] AT&T Comments at 6-7.

[424] *Id.* at 7 (citing NIST 800-161).

[425] *See Enhanced A-CAM Report and Order* at *163-16648, para. 112; *BEAD Program NOFO* at 70-71.

chain risks to Internet of Things devices or cloud security, could be a substantive change);

- There is a change in the plan's risk mitigation strategies (e.g., implementing a new encryption protocol or deploying a different firewall architecture);
- There is a shift in organizational structure (e.g., creating a new information technology department or hiring a Chief Information Security Officer);
- There is a shift in the threat landscape prompting the organization to recognize the emergence of new threats or vulnerabilities that weren't previously accounted for in the plan;
- Updates are made to comply with new cybersecurity regulations, standards, or laws;
- Significant changes are made in the supply chain, including offboarding major suppliers or vendors, or shifts in procurement strategies that may impact the security of the supply chain; or
- A large-scale technological change is made, including the adoption of new systems or technologies, migrating to a new information technology infrastructure, or significantly changing the information technology architecture.

131. US Cellular opposes the requirement that a 5G Fund support recipient submit an updated plan to USAC within 30 days after making any substantive modification to its cybersecurity or supply chain risk management plan, stating that requiring the submission of an updated plan within 30 days "may pose challenges in responding swiftly to emerging threats or adopting cutting-edge cybersecurity solutions."[426] We disagree. To the extent that a 5G Fund support recipient makes a substantive change to its cybersecurity or supply chain risk management plan in response to a specific threat or the adoption of a new cybersecurity solution, the provider is not required to submit its updated plan until well after that change is made. We see no reason why the need to submit an updated plan after the fact would impact an organization's ability to modify its plan as needed at any given time, particularly given our enumeration above of the types of modifications that will be considered substantive.[427]

132. NTCA expresses concern that 5G Fund support recipients may be required to submit updated cybersecurity and supply chain risk management plans within 30 days after any substantive modifications to the best practices or standards reflected in those plans (e.g., within 30 days after any changes are made to the CISA CPGs or the CIS Controls).[428] This is a misreading of the requirement. While we fully expect that 5G Fund support recipients will regularly update their cybersecurity and supply chain risk management plans as best practices evolve, we do not impose a specific timeframe by which those plans must be updated after a best practices publication has been modified.

133. NTCA and RWA both suggest that, rather than requiring the submission of updated plans within 30 days after any substantive modification, 5G Fund support recipients should be required to file updated plans on an annual basis with their annual report.[429] We do not believe that the requirement we adopt will impose substantial burdens on 5G Fund support recipients. To the contrary, because this requirement aligns with the requirements adopted for the Enhanced A-CAM and BEAD programs, we believe that 5G Fund support recipients that also participate in those programs will benefit from having a single deadline by which they must submit their reports for each program.[430] Moreover, there is nothing

[426] US Cellular Comments at 45.

[427] *See id.* (advocating that, if the Commission does adopt such a requirement, it should adopt a clear definition of the term "substantive modification").

[428] NTCA Comments at 6-8; *see also* AT&T Comments at 9-10.

[429] RWA Comments at 14; NTCA Comments at 9.

[430] Consistent with requirements for other high-cost support recipients, such as Enhanced A-CAM program participants, 5G Fund support recipients must submit an annual report no later than July 1 of each year after the year in which it was authorized to receive support. *See* 47 CFR § 54.313(f)(1) (establishing the deadline for Enhanced A- (continued….)

in the record that explains how 5G Fund support recipients differ from Enhanced A-CAM and BEAD program participants with respect to this requirement such that they merit different treatment.

134. *Annual Certification.* Consistent with the requirements adopted for the Enhanced A-CAM program,[431] we also require that 5G Fund support recipients certify in their annual report following each support year that they have maintained their plans, whether they have submitted modifications in the prior year, and the date any modifications were submitted. If at any point during the support term a 5G Fund support recipient does not have in place operational cybersecurity and supply chain risk management plans meeting the Commission's requirements, we direct WCB to instruct USAC to withhold 25% of the 5G Fund recipient's support until the recipient comes into compliance.[432] As noted above, once the 5G Fund support recipient comes into compliance, support will no longer be withheld and the support recipient will receive all of the support that had been withheld as a result of its non-compliance with the cybersecurity and supply chain risk management requirements.

135. While we decline to adopt NTCA's proposal to treat 5G Fund support recipients' submitted cybersecurity and supply chain risk management plans as presumptively confidential under section 0.457 of the Commission's rules,[433] we recognize that such plans can contain sensitive information regarding providers' operations and networks. As a result, we will provide an abbreviated means by which 5G Fund support recipients may request confidential treatment of their cybersecurity and supply chain risk management plans pursuant to section 0.459 of our rules.[434]

136. We conclude that these requirements will serve to facilitate the nation's cybersecurity and supply chain risk management goals while minimizing the burden on 5G Fund support recipients in complying with such requirements. Our actions emphasize the critical importance of cybersecurity and supply chain risk management in modern broadband networks, consistent with broader initiatives across the federal government.[435] The enforcement mechanism carefully balances compliance with this important requirement with avoiding a disproportionate disruption to providers' support. Adopting these risk management requirements is necessary to ensure that the 5G Fund program does not deprive rural consumers in high-cost areas of receiving 5G mobile service that is equally as secure as the high-speed broadband service deployed pursuant to other federal funding initiatives, including through Enhanced A-CAM[436] and BEAD programs.[437]

## X. USE OF OPEN RADIO ACCESS NETWORK TECHNOLOGIES IN 5G FUND

CAM recipients to submit their annual reports to USAC); 47 CFR § 54.1018 (establishing the deadline for 5G Fund support recipients to submit their annual reports to USAC). AT&T supports this approach, stating that "5G Fund participants, who also participate in other programs with similar requirements, should only be required to provide the Commission supporting information about their cybersecurity risk management programs once as opposed to having to do so for each individual program." AT&T Comments at 7.

[431] 47 CFR § 54.313(f)(6)(iii).

[432] 47 CFR § 54.1015(g) ("A support recipient that fails to comply with the public interest obligations or any other terms and conditions associated with receiving 5G Fund support may be subject to action . . . .").

[433] NTCA Comments at 9.

[434] 47 CFR § 0.459(a)(4).

[435] *See generally* Executive Order 14028; NIST, *Key Practices in Cyber Supply Chain Risk Management: Observations from Industry (2021)*, https://csrc.nist.gov/publications/detail/nistir/8276/final (last visited Mar. 15, 2024); Infrastructure Act § 60102(g)(1)(B), 47 U.S.C. § 1702(g)(1)(B) (mandating compliance with "prudent cybersecurity and supply chain risk management practice").

[436] *Enhanced A-CAM Report and Order* at *157-158 para. 109 & n.311.

[437] *See BEAD Program NOFO* at 36-37 & n.52 (encouraging the Commission to "replicate" the BEAD program's cybersecurity and supply chain risk management requirements). *See BEAD Program NOFO* at 70-71.

**SUPPORTED NETWORKS**

137. We conclude that there are significant public interest benefits to incentivize and to promote the voluntary inclusion of Open Radio Access Network technologies (Open RAN) in networks that are deployed with 5G Fund support by allocating additional funds for this specific purpose. We further conclude that providing a 5G Fund support recipient with a process whereby it can seek additional time to meet the 5G Fund deployment milestones may also further incentivize the inclusion of Open RAN in networks supported through the 5G Fund. As expressed in the *5G Fund FNPRM*, we recognize that this proceeding presents an opportunity for the Commission to assist providers that elect to incorporate Open RAN in their network deployment plans.[438] By providing these additional incentives, we seek to encourage early adoption of Open RAN that will strengthen and secure the advanced, 5G mobile broadband networks that the 5G Fund is subsidizing.

138. As explained more fully in the Commission's recent *Open RAN NOI*, rather than relying on proprietary specifications, "Open RAN modularizes the hardware and software components of the traditional RAN to promote virtualization, to enable [artificial intelligence/machine learning] solutions to optimize performance, and to enable interoperability across multiple vendors."[439] The Commission has also noted that networks deploying Open RAN "have the potential to address national security and other concerns that the Commission and other federal stakeholders have raised in recent years about network integrity and supply chain reliability."[440] Commenters in the instant proceeding also have noted that the incorporation of Open RAN technologies within networks serves many public interest benefits including improving security, lessening provider costs, strengthening the domestic supply chain, and promoting competition.[441]

139. Consistent with record support, we conclude that using the 5G Fund to incentivize the voluntary inclusion of Open RAN in networks deployed with 5G Fund support serves our national priorities.[442] Thus, to incentivize deployment of Open RAN, as detailed below, we offer a process whereby a 5G Fund support recipient can seek a limited extension of its 5G Fund interim and final deployment milestones as set forth in section 54.1015(b) in order to afford it additional time to deploy Open RAN. Additionally, as explained fully below, we will allocate up to an additional $900 million of support in conjunction with implementation of the 5G Fund solely for the purpose of incentivizing providers to deploy Open RAN. This $900 million will allow us to award a 5G Fund support recipient that deploys Open RAN with additional funding in the amount of one-tenth of the support that it is being

[438] *5G Fund FNPRM* at *85-90, paras. 53-54 (citing Promoting Competition in the American Economy, Exec. Order No. 14,036 § 5(l)(iii), 86 Fed. Reg. 36,987, 36,994, (July 9, 2021)).

[439] *Promoting the Deployment of 5G Open Radio Access Networks*, GN Docket No. 21-63, Notice of Inquiry, 36 FCC Rcd 5947, 5950, para. 8 (2021) (*Open RAN NOI*); *see also 5G Fund FNPRM* at *85-87, para. 53 n.110 ("Open RAN is a term that describes a general disaggregation of RAN functionality built using open interface specifications between elements instead of proprietary specifications. Open RAN can be implemented in vendor-neutral hardware and software-defined technology based on open interfaces and community-developed standards providing a flexible and interoperable deployment architecture across multiple vendors.").

[440] *Open RAN NOI*, 36 FCC at 5949, para. 4.

[441] *See, e.g.,* Mavenir Comments at 5-6; US Ignite Comments at 1-2.

[442] *See* DISH Reply at 4-5 ("Indeed, the Administration's National Spectrum Strategy seeks to promote policies that 'drive technological innovation… boost U.S. industrial competitiveness; protect the security of the American people; foster scientific advancements; promote digital equity and inclusion; and maintain U.S. leadership in global markets for wireless equipment and services.' Using the 5G Fund to prioritize Open RAN is consistent with these directives; conversely, failing to provide support to carriers that commit to Open RAN risks undermining these national priorities.").

allocated through the 5G Fund Phase I auction.[443] To receive this additional funding, support recipients must deploy Open RAN technology through their network(s) for which they are authorized to receive 5G Fund support. We find that offering these incentives is consistent with section 254(b)(1)'s requirement that the Commission base its universal service policies on the principles of providing "[q]uality services,"[444] and we believe that providing this additional funding will hasten the deployment of fast, secure, flexible, resilient, advanced, 5G mobile broadband networks throughout rural America. We direct OEA and WTB to develop a post-auction process to evaluate applications for the award of this funding in accordance with the parameters that we adopt below. Additionally, we direct OEA and WTB to adopt provisions to allow a 5G Fund support recipient to seek and receive, if approved by OEA and WTB, an extension of time for its interim and final deployment milestones so that it may include Open RAN in its supported network.

140. As a general policy matter, the federal government has begun to undertake funding efforts that accelerate the development, deployment, and adoption of Open RAN in advanced mobile services.[445] Likewise, the government, together with nine other countries, has recently released a joint statement endorsing principles for secure 6G technology "that recognize the importance of international cooperation in promoting open, secure, resilient, inclusive, interoperable networks, such as Open Radio Access Networks, and safe, resilient, inclusive, and sustainable 6G ecosystem."[446] Incentivizing the inclusion of Open RAN technology in networks subsidized with universal service fund support is therefore consistent with global accord that interoperable networks are of significant importance both currently and in the future.[447]

141. We offer these incentives to 5G Fund support recipients because we anticipate that extending 5G deployment in unserved and underserved areas using Open RAN will be especially beneficial in promoting our 5G Fund goal of ensuring that Americans have access to advanced, 5G

[443] *See* DISH Comments at 6 ("To expedite connectivity in 5G Fund areas, the Commission should also consider providing an additional 10 percent credit to carriers that commit to deploying Open RAN on a faster timeline than required by the Commission's buildout…."); *see also id.* at 9 ("Open RAN is the future of wireless technology and an important driver of U.S. technology leadership. For that reason, any taxpayer funds should be prioritized for carriers that deploy Open RAN, rather than legacy, closed technologies.").

[444] 47 U.S.C. § 254(b)(1); *see, e.g., Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs*, WC Docket No. 18-89, Second Report and Order, 35 FCC Rcd 14284 (2020). The Commission concluded that sections 201(b) and 254(b) of the Act provide sufficient authority to adopt a remove-and-replace requirement (for Huawei and ZTE equipment) for ETCs receiving USF support to promote access to "quality" advanced telecommunications and information services. *Id*. at 14297-98, para. 28. The Commission rejected an argument that "the section 254(b) principles upon which the Commission must 'base policies for the preservation and advancement of universal service' do not include the promotion of national security or equipment regulation applied to a subset of USF recipients." *Id*. at 14299, para. 31.

[445] National Telecommunications and Information Administration, *Public Wireless Supply Chain Innovation Fund Grant Program—Expanding Testing and Evaluation*, Notice of Funding Opportunity (2023), https://www.ntia.gov/sites/default/files/publications/pwscif_final_nofo.pdf (last visited Mar. 15, 2024); Press Release, NTIA, Biden-Harris Administration Awards $42M For Wireless Innovation (Feb. 12, 2024), https://www.ntia.gov/press-release/2024/biden-harris-administration-awards-42m-wireless-innovation; Press Release, NTIA, Biden-Harris Administration Awards Nearly $80M For Wireless Innovation (Jan. 10, 2024), https://www.ntia.gov/press-release/2024/biden-harris-administration-awards-nearly-80m-wireless-innovation.

[446] *See, e.g.*, Press Release, Exec. Office of the President, Joint Statement Endorsing Principles for 6G: Secure, Open, and Resilient by Design (Feb. 26, 2024), https://www.whitehouse.gov/briefing-room/statements-releases/2024/02/26/joint-statement-endorsing-principles-for-6g-secure-open-and-resilient-by-design/.

[447] *See, e.g.*, DISH Reply at 4 ("Verizon also argues that because 'Open RAN is already benefiting from other government programs,' the industry is adequately incentivized to focus on Open RAN without providing 5G Fund priority to carriers that commit to Open RAN. But, contrary to Verizon's assertions, government support of Open RAN only serves to underscore exactly why the Commission should ensure that federal funding continues to facilitate Open RAN deployment.").

mobile broadband services where they live, work, and travel, now and in the long run. Accordingly, currently unserved and underserved areas where 5G Fund support will be used for an Open RAN deployment should be better positioned in the future not to be left behind.

142. In the *5G Fund FNPRM*, the Commission sought comment on whether the 5G Fund could be an appropriate vehicle to further the goals outlined in Executive Order 14036, which encouraged the Commission to "consider providing support for the continued development and adoption of 5G Open [RAN] . . . protocols and software," and if so, what the best mechanism(s) for doing so might be.[448] The Commission asked whether deploying Open RAN networks requires more time such that it would be appropriate to provide an extension of the interim and/or final service milestone deadlines to 5G Fund support recipients that use Open RAN in their network deployments.[449] The Commission also asked how a support recipient could demonstrate that it is using Open RAN and how the Commission could monitor compliance.[450]

143. A number of commenters commend the Commission's consideration of using the 5G Fund to incentivize Open RAN[451] and claim that doing so has the potential to increase competition among vendors, decrease reliance on foreign vendors, increase network security, increase innovation, and lower long-term costs.[452] Many commenters agree with the Commission's observation in its *Enhanced Competition Incentive Program Further Notice of Proposed Rulemaking* that "Open RAN has the potential to allow carriers to promote the security of their networks while driving innovation, in particular in next-generation technologies like 5G, lowering costs, increasing vendor diversity, and enabling more flexible network architecture."[453] Some commenters assert that smaller vendors and rural carriers will need support in order to deploy Open RAN.[454] Mavenir, an equipment manufacturer, suggests that 5G Fund incentives to deploy Open RAN may lessen the barriers to market entry that Open RAN vendors currently face and may encourage closed RAN incumbents to "open" their equipment without additional costs to providers.[455]

144. The Open RAN Policy Coalition suggests that in exchange for "demonstrable commitments" to use 5G Fund support to deploy Open RAN 5G, the Commission offer post-auction incentives for winning bidders, such as additional funding for various phases of the buildout, flexibility in timing for meeting build-out requirements, and also technical assistance, to encourage the deployment of Open RAN in areas receiving 5G Fund support.[456] CTIA agrees with the Open RAN Policy Coalition that

[448] *5G Fund FNPRM* at *85-90, paras. 53-54 (citing Promoting Competition in the American Economy, Exec. Order No. 14,036 § 5(l)(iii), 86 Fed. Reg. 36,987, 36,994, (July 9, 2021)).

[449] *Id.* at *90, para. 54.

[450] *Id*.

[451] *See, e.g.,* DISH Comments at 1; RWA Comments at 14; Mavenir Comments at 1; Ravnitzky Comments at 8; ARA PAWR Comments at 1-3; US Ignite Comments at 1-2.

[452] Ravnitzky Comments at 9.

[453] *See Partitioning, Disaggregation, and Leasing of Spectrum*, WT Docket No. 19-38, Further Notice of Proposed Rulemaking, 36 FCC Rcd 16956, 16977, para. 62 (2021); *see also, e.g.,* DISH Comments at 1; RWA Comments at 14; Mavenir Comments at 1; Ravnitzky Comments at 8; ARA PAWR Comments at 1-3; US Ignite Comments at 1-2.

[454] US Ignite Comments at 1; ARA PAWR Comments at 2.

[455] Mavenir Comments at 5-6.

[456] Letter from Diane Rinaldo, Executive Director, Open RAN Policy Coalition, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 20-32, at 1 (filed Mar. 13, 2024) (ORPC Mar. 13 *Ex Parte* Letter).

voluntary, post-auction incentives such as additional funding may help spur Open RAN deployment.[457]

145. By contrast, other commenters raise practical concerns about using the 5G Fund to support the deployment of Open RAN, contending that Open RAN has not been proven capable of providing 5G service at scale and that more suitable efforts are occurring elsewhere in the government and industry to support its development.[458] And some commenters raise concerns that certain specifications and protocols of Open RAN are still too early in development for a deployment scenario of Open RAN with advanced capabilities (e.g., Massive multiple-input multiple-output (Massive MIMO)),[459] and that Open RAN may need additional time for interoperability testing and network integration to be completed.[460] We are not persuaded, however, that these concerns should preclude us from using universal service support and the 5G Fund proceeding to encourage the use of Open RAN. To the contrary, we believe that the public interest benefits of incentivizing the use of Open RAN in 5G networks outweigh the concerns and, importantly, will hasten its use more widely in areas of the country where it might not otherwise be deployed.

146. Recognizing the practical challenges associated with deploying Open RAN raised by commenters, we have given careful consideration to the suggestion of the Open RAN Policy Coalition that we provide post-auction incentives to winning bidders to promote opportunities for Open RAN deployment.[461] We find that offering additional financial support from the 5G Fund to those support recipients that voluntarily incorporate Open RAN into their networks deployed using 5G Fund support in tandem with offering a process to obtain a potential extension of up to one year of the build-out milestone deadlines will best further the Commission's interests in incentivizing the development and deployment of Open RAN and accommodate the various needs of industry in doing so.

147. *Additional Funding for Deployment of Open RAN*. We will make available this additional high-cost funding exclusively to those 5G Fund support recipients that deploy networks using Open RAN through their network(s) for which they are awarded 5G Fund support. We will award an additional amount of one-tenth of the total support a 5G Fund support recipient is authorized to receive.[462] The inclusion of Open RAN in a network deployed using 5G Fund support will be entirely voluntary, as this additional support is being offered in recognition of the challenges that these service providers may face. Consistent with our goal, as stewards of the Universal Service Fund, of distributing funds in a responsible, and administratively efficient, manner, we require that this additional funding be used to deploy Open RAN and that 5G Fund support recipients that accept this additional funding certify to that effect.

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[457] Letter from Amy E. Bender, Vice-President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 20-32, at 3 (filed Mar. 19, 2024) ("Voluntary, post-auction incentives – such as additional funding, flexibility in build-out deadlines, and technical assistance – may help spur Open RAN deployment, depending on the source and structure any funding, the definition or version of Open RAN, the eligibility criteria for such incentives, and other conditions or requirements that may be associated with such incentives.") (CTIA Mar. 19 *Ex Parte* Letter).

[458] Verizon Comments at 17-18; AT&T Reply at 8; US Cellular Comments at 41-42.

[459] Verizon Comments at 18 (contending that "Open RAN is still under development with specifications, testing, trials and other efforts to advance the capabilities of ORAN architecture" and also claiming that "promotion of Open RAN deployment within the 5G Fund may detract from the overall goals of the fund to increase connectivity"); US Cellular Comments at 42 (claiming Open RAN technology is not mature enough to support commercial deployment and that it will increase the cost of vendor and infrastructure deployments and, in turn, strain the 5G Fund budget); *see also, e.g.*, CCA Comments at 28; AT&T Reply at 8-9; RWA Comments at 18.

[460] Verizon Comments at 18.

[461] ORPC Mar. 13 *Ex Parte* Letter at 1; *see also* CTIA Mar. 19 *Ex Parte* Letter at 3.

[462] We clarify that the amount is based on the 5G Fund support that is authorized following Commission's authorization of support following the long-form application process—not the total amount of an auction bidder's winning bids when the auction closes, to the extent that there is a difference in the two amounts.

148. To avoid a significant increase to the contribution factor from any single Open RAN incentive payment, we have determined to disburse support at specified intervals. Likewise, we seek to ensure that we are able to protect universal service funds in the event that support recipients do not timely deploy Open RAN. Based on our review of the information supporting a request for the additional funding, we will award each authorized support recipient funding related to its Open RAN deployment in three tranches, with the timing of the disbursements to be based on whether a support recipient seeks only the additional funding or both the additional funding and an extension of time to meet the deployment milestones. For 5G Fund support recipients seeking only the additional funding, we will award the support based on the following schedule: (1) one-third of the support upon meeting the Year Three Interim Service Milestone Deadline; (2) one-third upon meeting the Year Four Interim Service Milestone Deadline; and (3) one-third upon meeting the Year Six Final Service Milestone Deadline, at completion of buildout.[463] For support recipients seeking both additional funding and an extension of time of one year, we will award the additional support funding based on the following schedule: (1) one-third upon meeting the Year Four Interim Service Milestone Deadline; (2) one-third upon meeting the Year Five Interim Service Milestone Deadline; and (3) one-third upon completion of buildout at Year Seven.[464] Accordingly, we direct OEA and WTB to establish a process by which this funding may be elected and awarded post-auction.

149. *Extension of Deployment Milestones*. As noted above, to ensure that 5G Fund support recipients meet their obligation to provide advanced, 5G mobile broadband service in areas where they receive support, the Commission adopted interim and final service deployment milestones in the *5G Fund Report and Order* to monitor progress in timely meeting the 5G Fund public interest obligations and performance requirements.[465] Rather than adopt an Open RAN exception to section 54.1015(b) of the Commission's rules, which requires a support recipient to meet all of its interim and final 5G Fund deployment milestones and deadlines,[466] we will instead grant a one-year extension of the deployment milestones for a 5G Fund support recipient that demonstrates that it will incorporate Open RAN into its network. We find that providing flexibility to a 5G Fund support recipient by allowing more time to meet its public interest obligations and performance requirements is warranted here to incentivize the development and deployment of Open RAN networks.

150. Those commenters supporting use of the 5G Fund as a vehicle to promote the development of Open RAN also generally support the idea described in the *5G Fund FNPRM* of extending the milestone deadlines for a support recipient to meet its public interest obligations and performance requirements for those providers who deploy networks using Open RAN.[467] We believe that this approach addresses the concerns raised by some commenters that aspects of Open RAN make it so that deployment requires additional time.[468] In particular, we agree with DISH's argument in response to the Commission's *5G FNPRM* that "…extending buildout requirements for Open RAN deployments [will help] to prevent would-be Open RAN providers from choosing an outdated, closed technology merely to deploy faster."[469] This approach also addresses concerns that incorporating Open RAN in a network deployment could take longer to implement, and that each provider may have different constraints on its

[463] 47 CFR § 54.1015(b).

[464] *Id.*

[465] *See supra* Section II; *5G Fund Report and Order*, 35 FCC Rcd at 12204, para. 73; 47 CFR § 54.1015(b).

[466] 47 CFR § 54.1015(b).

[467] *See, e.g.,* DISH Comments at 9 (extending buildout requirements would prevent "would-be Open RAN providers from choosing an outdated, closed technology merely to deploy faster").

[468] *See, e.g.*, Verizon Comments at 18; US Cellular Comments at 42.

[469] *See* DISH Comments at 9 (citing *5G Fund FNPRM* at *90, para. 54 ("The Commission should also consider extending buildout requirements for Open RAN deployments to prevent would-be Open RAN providers from choosing an outdated, closed technology merely to deploy faster.")).

ability to deploy Open RAN.[470] We are creating separate processes for seeking additional Open RAN funding and for seeking an extension to accommodate the needs and goals of individual support recipients. Accordingly, we direct OEA and WTB to establish a process for a 5G Fund support recipient that needs additional time to obtain an extension of up to one year of the interim and final milestones as set forth in section 54.1015(b) if it can demonstrate that it will incorporate Open RAN into its network(s).[471]

151. Some commenters propose that auction participants that commit to deploying Open RAN should be given an advantage in bidding.[472] DISH advocates for a 40% bidding credit to auction participants that commit to certain Open RAN deployments,[473] and an additional 10% bidding credit to providers that commit to deploying Open RAN on a faster timeline than the Commission otherwise requires.[474] While we find that offering a combination of financial and extended milestone buildout deadline incentives will promote our interest in furthering the adoption of Open RAN solutions in networks for advanced, 5G mobile broadband services, given our goal of fiscal responsibility, we find it inappropriate to adopt a financial incentive as large as the 50% bidding credit that was proposed by DISH. Rather, we conclude that offering a 5G Fund support recipient additional funding in the amount of one-tenth of the total support it is authorized to receive through the 5G Fund Phase I auction, spread over three payments, will sufficiently encourage the deployment of Open RAN. This is especially true in light of some commenters assertions that Open RAN may be more cost-effective[475] because it is easier to administer and will discourage bidders from claiming a credit without sufficient due diligence about their ability to deploy Open RAN. In particular, we agree with DISH 's advocacy that "[d]espite the viability of Open RAN, there are still challenges in the ecosystem – often imposed by RAN incumbents – that can be alleviated by federal funding."[476] We therefore find that providing up to $900 million in funding to incentivize the deployment of Open RAN technology in networks supported through the 5G Fund, which amounts to an addition of 10% in funding beyond the up to $9 billion that will be allocated through the 5G Fund Phase I auction, strikes the proper balance to financially incentivize 5G Fund support recipients to consider deploying this innovative technology.

152. We direct OEA and WTB to establish, after notice and comment, the minimum

[470] AT&T notes that "[w]hile there have been encouraging deployments in enterprise 5G and greenfield environments, Open RAN requires additional steps to enable widescale deployment in large brownfield networks serving complex customer use cases at scale" and "[i]ncumbent suppliers need to open traditionally closed interfaces and significant integration testing must be performed between vendors to resolve questions about system integration cost and complexity, the operational model to support highly distributed infrastructure, ecosystem scalability, technology maturity, the ability for Open RAN to co-exist and integrate with existing network infrastructure, and performance trade-offs with integrated RAN." AT&T Reply at 8-9.

[471] With one exception, all commenters oppose making the deployment of Open RAN mandatory. CCA Comments at 28; RWA Comments at 14; US Cellular Comments at 42; AT&T Reply at 9; Verizon Comments at 17; *cf.* Mavenir Comments at 2 (stating that the Commission should "require 5G Fund recipients to deploy only Open RAN-compliant networks"). Given commenters' concerns that the specifications, testing, and standards for using Open RAN advanced technologies are still under development, and given that some of the major carriers are still assessing Open RAN's benefits, we do not believe Open RAN should be mandatory for 5G Fund support recipients. We also recognize, as AT&T notes, that some providers that have deployed or are currently deploying a greenfield Open RAN network have to consider different capital investment issues than incumbents that are currently integrating 5G networks with 4G LTE networks. AT&T Reply at 9.

[472] *See, e.g.*, Mavenir Comments at 5; RWA Comments at 14; DISH Comments at 9.

[473] *See, e.g.*, DISH Reply at 6 (proposing a 40% bidding credit for Open RAN deployments that are compliant with O-RAN Alliance fronthaul specification 7.2x).

[474] *Id*.

[475] *See, e.g.*, DISH Comments at 3; Mavenir Comments at 3; US Ignite Comments at 1.

[476] DISH Reply at 5.

specifications for Open RAN that a 5G Fund support recipient must implement in the 5G networks it deploys with 5G Fund support to qualify for additional funds and extended milestone deadlines; the mechanism by which such a recipient must demonstrate compliance (both initial and continued) with such specifications; and other requirements, if any, sufficient to justify additional post-auction funding and/or an extension of up to one year to meet the public interest obligations and/or performance requirements consistent with our goals described above.[477] Providing further details regarding the showing a 5G Fund support recipient must make in order to be granted additional funding and/or an extension will help ensure that the incentives discussed here are used appropriately to support the Commission's policy objectives. We further direct OEA and WTB to review each request for additional funding and extension to determine, as appropriate, whether such a request should be granted. OEA and WTB shall grant requests for funding only if the recipient's use of Open RAN technology in networks deployed with 5G support meets the Open RAN specifications that will be adopted by OEA and WTB and the recipient certifies its conformance with those specifications. Likewise, OEA and WTB shall grant an extension of up to one year only if they determine that the 5G Fund support recipient's proposal to deploy Open RAN is reasonably capable of meeting the prescribed minimum specifications.[478] To be clear, these determinations will be made on a case-by-case basis, measured against standards developed by OEA and WTB, taking each recipient's circumstances into account. We further direct OEA and WTB to adopt, after notice and comment, measures to ensure that we can appropriately address an Open RAN support recipient's non-compliance with its commitment to timely deploy a network consistent with the established Open RAN specifications. In particular, OEA and WTB shall address whether recipients should be required to increase the amount of the letter of credit required by section 54.1016 by the amount of the Open RAN support, be subject to a modified timeline before it can begin to decrease the amount of its letter of credit, and be subject to recovery of all distributed support for non-compliance with 5G Fund Open RAN obligations.

153. Our approach factors in the time that we anticipate is needed for the finalization of Open RAN specifications and also allows more time for industry to better address the challenges associated with interoperability and the RAN integration testing. The decision to deploy Open RAN in a network deployed with 5G Fund Phase I support is and will remain entirely optional. Potential bidders need not decide whether to deploy Open RAN or whether to seek the additional funding for Open RAN and/or an extension until after they know where they have been awarded 5G Fund support as well as the showing that will be required to receive the additional funding and/or extension of time.

## XI. PROMOTING DIGITAL EQUITY AND INCLUSION

154. The Commission sought comment on how the proposals and issues discussed in the *5G Fund FNPRM* may promote or inhibit advances in diversity, equity, inclusion, and accessibility, as well the scope of the Commission's relevant legal authority to address any such issues.[479] Although we received a few generalized comments regarding how the Commission's decisions could impact such issues,[480] no commenter offered any proposals for specific program requirements that we should adopt for the 5G Fund or any comments regarding our legal authority to address diversity, equity, inclusion, and

[477] *See* 47 U.S.C. § 155(c)(1) (allowing the Commission to delegate any of its functions to staff).

[478] Reasonably capable means meeting the Commission staff's reasonable expectation that the applicant would be able to meet the relevant Open RAN specifications in the areas where the applicant won support.

[479] *See 5G Fund FNPRM* at *92, para. 55.

[480] Viya Wireless Comments at 3 (contending that including the U.S. Virgin Islands in a nationwide fund may inhibit rather than promote digital equity and inclusion); CTIA Comments at 14 (noting that, "in the absence of broader reforms[,] [increasing the contribution factor] would shift a greater proportion of the funding burden from enterprises to consumers, which could negatively impact affordability and adoption—directly undermining the Commission's universal service goals, as well as digital equity and inclusion"); SBI Reply at 29 (stating that "raising the standard for mobile broadband, especially on Tribal lands, is an essential component to the Congressional and Commission goal of promoting digital equity and inclusion").

accessibility in this proceeding. We therefore lack a record to adopt any specific requirements for the 5G Fund.

155. For similar reasons, we also deny the Petition for Reconsideration filed by the 5G Fund Supporters to the extent it seeks reconsideration of the Commission's decision declining to extend the cable procurement rule requirements to 5G Fund support recipients, which the 5G Fund Supporters contend will ensure that qualified minority and women entrepreneurs receive information about upcoming infrastructure buildout contracts.[481] As the Commission has previously noted, "the cable procurement requirement and [the Commission rule implementing it] flow directly from the statutory mandate pertaining explicitly to the cable industry contained in the 1992 Cable Act."[482] Moreover, although the Commission has sought comment on whether this type of procurement requirement could be applied to the broadcast or other FCC-regulated industries,[483] it has not to date extended the cable procurement rule to any other FCC-regulated industries. Notably, no commenter offered support for adopting this type of procurement requirement for the 5G Fund in response to the Commission's public notice seeking comment on the 5G Fund Supporters' Petition for Reconsideration.[484] Nor did any commenter, including the 5G Fund Supporters, provide any additional information to support adopting this type of procurement requirement for the 5G Fund in response to the *5G Fund FNPRM*. Accordingly, we decline to extend the cable procurement rule requirements to 5G Fund support recipients.

156. As we implement and administer the 5G Fund, however, we remain mindful of the importance of considering how we can promote diversity, equity, inclusion, and accessibility and the impact our rules have on these issues. We emphasize that one of the general principles of the Universal Service Fund is to create equal access for every American to high-speed broadband in underserved and unserved areas.[485] To that end, the Commission has long used its Universal Service high-cost funding programs to further consumer access to broadband and bridge the digital divide. Most recently, the Commission adopted universal service goals for broadband—universal deployment, affordability,

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[481] *5G Fund Report and Order*, 35 FCC Rcd at 12204, para. 72; *5G Fund Supporters Petition for Reconsideration* at 5-8.

[482] *See 2018 Quadrennial Regulatory Review - Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996*, Notice of Proposed Rulemaking, MB Docket No. 18-349, 33 FCC Rcd 12111, 12146, para. 96 (2018) (*2018 Quadrennial Broadcast Ownership Review NPRM*). The Cable Act of 1992 provides that a cable system must "encourage minority and female entrepreneurs to conduct business with all parts of its operation; and . . . analyze the results of its efforts to recruit, hire, promote, and use the services of minorities and women and explain any difficulties encountered in implementing its equal employment opportunity program." 47 U.S.C. § 554(d)(2)(E)-(F). To implement this requirement, the Commission adopted section 76.75(e), which provides that a cable system must "[e]ncourage minority and female entrepreneurs to conduct business with all parts of its operation" and explains that "this requirement may be met by, [for example], . . . [r]ecruiting as wide as possible a pool of qualified entrepreneurs from sources such as employee referrals, community groups, contractors, associations, and other sources likely to be representative of minority and female interests." 47 CFR § 76.75(e).

[483] The Commission sought comment in its *2018 Quadrennial Broadcast Ownership Review NPRM* on a proposal submitted by the Multicultural Media, Telecom and Internet Council (MMTC) concerning extending the cable procurement requirement to the broadcast industry. *See 2018 Quadrennial Broadcast Ownership Review NPRM*, MB Docket No. 18-349, 33 FCC Rcd at paras. 93-100 (seeking comment on, among other things, the Commission's authority to adopt a similar procurement requirement for broadcast licensees, whether specifically identifying minority/female entrepreneurs in such a requirement would trigger heightened judicial scrutiny and, if so, whether it could be drafted to be race- and gender-neutral to avoid potential legal impediments, and the feasibility and utility of imposing such a requirement on the broadcast industry).

[484] *See Petitions for Reconsideration of Action in Proceeding*, Public Notice, Report No. 3165 (Jan. 6, 2021).

[485] *See Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order, 12 FCC Rcd 8776, (1997); *see also* 47 U.S.C. § 254(b)(2) (providing that universal access to advanced telecommunications and information services is a basic policy principle of the universal service program).

adoption, availability, and equitable access to broadband throughout the United States.[486] Accordingly, we are committed to ensuring that the policies and rules we have adopted for the 5G Fund remain in accord with the Commission's general efforts to advance digital equity for all.[487]

## XII. CTIA PETITION FOR PARTIAL RECONSIDERATION OF THE 5G FUND REPORT AND ORDER

157. We agree with CTIA that resolving its pending Petition for Partial Reconsideration of the Commission's *5G Fund Report and Order* serves the public interest, and is consistent with our intention to finalize the framework of the 5G Fund.[488] To that end, we grant in part and deny in part CTIA's petition to update the enforcement provisions associated with the award of mobile legacy high-cost support.

158. In the *5G Fund Report and Order*, the Commission adopted non-compliance measures for mobile legacy high-cost support recipients that fail to comply with any of the public interest obligations and/or performance requirements.[489] In particular, the Commission concluded that a non-compliant mobile legacy high-cost support recipient (1) "will receive no further support disbursements"; (2) "may be subject to recovery of up to the amount of support received since the effective date of the Report and Order, FCC 20-150, that was not used for the deployment, maintenance, and operation of mobile networks that provide 5G service"; and (3) "may be subject to further action, including the Commission's existing enforcement procedures and penalties, potential revocation of ETC designation, and suspension or debarment pursuant to § 54.8."[490] To address concerns about the possibility of disproportionate recovery, the Commission limited the amount of mobile legacy high-cost support that would be subject to recovery by indicating that it would not seek to recover any support that a recipient actually spent on the deployment, operation, and/or maintenance of voice and broadband networks that support 5G service, that it would retain the discretion to determine whether to seek up to full recovery of all support that was not spent on the deployment, operation, and/or maintenance of 5G services, and that it would seek to recover only support received since the effective date of the public interest obligations and performance requirements.[491] The Commission also noted that it may apply this recovery measure in cases of voluntary relinquishment of legacy support.[492]

159. CTIA takes issue with these non-compliance measures, contending that the Commission

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[486] *Future of USF Report*, 37 FCC Rcd at 10046, para. 12.

[487] Section 1 of the Communications Act of 1934, as amended, provides that the FCC "regulat[es] interstate and foreign commerce in communication by wire and radio so as to make [such service] available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex." 47 U.S.C. § 151.

[488] *See generally CTIA Petition for Reconsideration*; *see also* CTIA Comments at 11 ("Consistent with the Commission's intention to address issues that are necessary to move forward with the 5G Fund successfully, the Commission also should update the penalty mechanisms for legacy support recipients per CTIA's pending petition for partial reconsideration of the *5G Fund Order*.").

[489] *5G Fund Report and Order,* 35 FCC Rcd at 12199, 12217, 12289-90, paras. 61 n.154, 107-08, Appx. A (§ 54.322(k)). These public interest obligations include the requirement that a mobile legacy high-cost support recipient use an increasing percentage of its support for the deployment, maintenance, and operation of mobile networks that provide 5G service. *See id.* at 12199, 12200-01, 12286, paras. 61, 65, Appx. A (§ 54.322(c)) (requiring a mobile legacy high-cost support recipient to (1) use at least one-third of its total monthly support in calendar year 2021 for 5G service; (2) use at least two-thirds of its total monthly support in calendar year 2022 for 5G service; and (3) use all monthly support in calendar year 2023 and thereafter for 5G service).

[490] 47 CFR § 54.322(k)(2); *see 5G Fund Report and Order,* 35 FCC Rcd at 12217, 12290, paras. 107-08, Appx. A (§ 54.322(k)(2)).

[491] *5G Fund Report and Order,* 35 FCC Rcd at 12217, 12290, para. 108, Appx. A (§ 54.322(k)(2)).

[492] *Id.* at 12199, 12290, paras. 61, n.154, Appx. A (§ 54.322(k)(3)).

adopted an unreasonable and unprecedented penalty for those mobile legacy support recipients that do not meet the public interest obligations and performance requirements adopted in the *5G Fund Report and Order*.[493] Specifically, CTIA seeks to limit the recovery of support for non-compliance or voluntary relinquishment of support to the difference between the amount spent on 5G and the amount that our rules require mobile legacy high-cost support recipients to spend on 5G.[494] CTIA argues that it is inequitable for the Commission to recover all previous legacy support that a mobile legacy support recipient did not spend directly on 5G services during the transition to the 5G Fund, even though the Commission allowed mobile legacy support recipients to spend less than 100% of their support on 5G services in the first two years of the transition.[495] Moreover, CTIA asserts that the new rules unreasonably treat the voluntary relinquishment of future support as a "default" and subject to recovery all previous support that was not spent on 5G, even if the prior non-5G spending complied with the requirements adopted by the Commission.[496] CTIA contends that the Commission should revise its rules to make clear that a mobile legacy support recipient that fails to meet the new 5G-related obligations will be subject to recovery only for the portion of past support that the Commission required the ETC to spend on 5G.[497] In addition, CTIA advocates that in no event should the rules allow recovery of previously spent support where the mobile legacy support recipient's only "default" is electing voluntarily to relinquish prospective support.[498]

160. We respond to CTIA's concerns, in part, by amending section 54.322(k)(2) governing the recovery of mobile legacy high-cost support from non-compliant recipients. In particular, we clarify that a non-compliant mobile legacy high-cost support recipient will—not may—be subject to the recovery of the difference between the amount the recipient spent on 5G service and the amount that section 54.322(c) of our rules required the recipient to spend on 5G service. This clarification grants CTIA's request that we "make clear that mobile wireless ETCs who fail to meet the new 5G-related obligations *will* be subject to recovery . . . for the portion of past support that the Commission required the ETC to spend on 5G."[499] Our rules conditioned the continued distribution of mobile legacy high-cost support on the satisfaction of public interest obligations, including the use of an increasing percentage of its support for the deployment, maintenance, and operation of mobile networks that provide 5G service,[500] and required the recovery of funds where the percentage scheme envisioned by the rule is not satisfied.[501] CTIA's argument that the rule operates as an arbitrary penalty is unavailing in the context of the 5G Fund, which created a complex regulatory framework with specific conditions governing receipt of USF support. Our action here is wholly consistent with our obligation to recover federal funds where the associated regulatory requirements are not satisfied.[502] Furthermore, this clarification is generally

[493] *CTIA Petition for Reconsideration* at 2, 3-9; *see also* CTIA Comments at 11-12.

[494] *CTIA Petition for Reconsideration* at 3; *see also* 47 CFR §§ 54.322(c); 54.322(k)(1)-(3).

[495] *CTIA Petition for Reconsideration* at 4-5; CTIA Comments at 12.

[496] *CTIA Petition for Reconsideration* at 7-9; CTIA Comments at 12.

[497] CTIA Comments at 12.

[498] *CTIA Petition for Reconsideration* at 8; CTIA Comments at 12.

[499] *CTIA Petition for Reconsideration* at 3 (emphasis added); *accord* CTIA Comments at 12 (asking the Commission to "revise its rules to make clear that . . . mobile wireless ETCs who fail to meet 5G-related obligations *will* be subject to recovery . . . for the portion of past support that the Commission required the ETC to spend on 5G" (emphasis added)).

[500] 47 CFR § 54.322(c).

[501] 47 CFR § 54.322(k)(2).

[502] Section 54.322(c) of the Commission's rules requires a mobile legacy high-cost support recipient to use an increasing percentage of its support for the deployment, maintenance, and operation of mobile networks that provide 5G service. 47 CFR § 54.322(c); *accord 5G Fund Report and Order*, 35 FCC Rcd at 12199, 12200-01, 12286, (continued….)

consistent with other universal service high-cost rules, which require a recipient to repay support for locations where it failed to meet its build-out milestones.[503]

161. The Commission's authority to recover such support remains essential and relevant as we move forward with the implementation of the 5G Fund. In adopting the rule that allows the Commission to cease making legacy support payments and pursue the recovery of support that has been awarded but not used for 5G service, the Commission reasoned that "the continuation of legacy support is an interim mechanism in place as [the Commission] implement[s] the 5G Fund, and therefore, unlike the Commission's other modernized support mechanisms, the non-compliance measures here do not benefit from allowing legacy support recipients to come back into compliance prior to the end of the support term."[504] In sum, by providing authority to recover up to all legacy support a carrier received that was not spent toward the deployment, operation, and/or maintenance of 5G service, the Commission reasoned that it "better incentivize[d] 5G deployment."[505] We agree with this reasoning. We also expand on the Commission's conclusion in the *5G Fund Report and Order* that having strong public interest obligations and performance requirements for mobile legacy high-cost support recipients and the ability to enforce our rules in the event of a default, such as by recovering legacy support that was not spent on 5G services, is part of our obligation "[a]s stewards of the Universal Service Fund," and that such provisions will help us "ensure that all Americans living in areas served by these carriers receive the most advanced wireless services."[506]

162. We do, however, find merit in CTIA's argument that section 54.322(k)(2) should be revised because it includes the voluntary relinquishment of *future* support as a "default," even if a carrier's prior spending complied with the requirements adopted by the Commission.[507] We agree with CTIA that revising this limited aspect of the rule avoids creating an incentive for a carrier to continue to accept mobile legacy high-cost support if it otherwise wishes to voluntarily relinquish that support.[508] Accordingly, we grant this aspect of CTIA's Petition for Reconsideration and amend section 54.322(k)(3)

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paras. 61, 65, Appx. A (§ 54.322(c)). To the extent that a support recipient uses funds earmarked for 5G service for another purpose (i.e., not in accordance with section 54.322(c)), the Commission is obligated to recover those funds. *See* U.S. Const. art. IV, § 3, cl. 2 ("[N]othing in this Constitution shall be so construed as to Prejudice any Claims of the United States."); *Royal Indem. Co. v. United States,* 313 U.S. 289, 294 (1941) ("Power to release … the rights and property of the United States is lodged in the Congress by the Constitution. Art. IV, s 3, Cl. 2. Subordinate officers of the United States are without that power, save only as it has been conferred upon them by Act of Congress or is to be implied from other powers so granted."); *Fansteel Metallurgical Corp. v. United States*, 172 F. Supp. 268, 270 (Ct. Cl. 1959) ("[W]hen a payment is erroneously or illegally made[,] it is in direct violation of article IV, section 3, clause 2, of the Constitution[,] . . . [and] it is not only lawful but the duty of the Government to sue for a refund thereof . . . ."). Moreover, as a steward of the funds, the Commission "has an ongoing obligation to protect the [Universal Service] Fund from waste, fraud, and abuse and to ensure that universal service support is used for its intended purposes," *e.g.*, *Sandwich Isles Communications, Inc.; Waimana Enterprises, Inc; Albert S.N. Hee*, File No. EB-IHD-15-00019603, Forfeiture Order, 35 FCC Rcd 10831, 10832, para. 1 (2020); *see also* 47 U.S.C. § 254(e) (requiring that "[a] carrier that receives [federal universal service] support . . . use that support only for the provision, maintenance, and upgrading of facilities and services for which the support is intended."), which, in this case, would be for the deployment, maintenance, and operation of mobile networks that provide 5G service. *See also* Payment Integrity Information Act (PIIA), Pub. L. No. 116-117, 134 Stat. 113 (2019) (requiring agencies to engage in systemic reviews of federal programs to identify the root cause of improper payments and take corrective action).

[503] *See, e.g.*, 47 CFR §§ 54.320(d)(2), 54.806(c).

[504] *5G Fund Report and Order,* 35 FCC Rcd at 12217, para. 107.

[505] *Id*. at 12217, para. 108.

[506] *Id*. at 12217, para. 107.

[507] *CTIA Petition for Reconsideration* at 7-8; *see also* CTIA Comments at 12.

[508] *CTIA Petition for Reconsideration* at 7-8; *see also* CTIA Comments at 12.

of our rules to clarify that, to the extent a carrier receiving mobile legacy high-cost support has been in full compliance with the Commission's rules and subsequently elects to voluntarily relinquish future support, we will not deem the voluntary relinquishment of such future mobile legacy high-cost support alone to be a default for which the Commission will seek the recovery of prior support. However, for the reason discussed above, we deny CTIA's Petition to the extent that it seeks to amend section 54.322(k)(2) to preclude the recovery of legacy support that a mobile legacy high-cost support recipient received—other than the amount specified in section 54.322(c)—that was not spent toward the deployment, operation, and/or maintenance of mobile networks that support 5G service.

## XIII. NON-SUBSTANTIVE RULE CLARIFICATIONS

163. We also take this opportunity to make non-substantive editorial changes to the rules adopted by the Commission in the *5G Fund Report and Order* governing the annual reporting requirement for mobile legacy high-cost support recipients.[509] While the majority of the elements of this annual reporting requirement are contained in section 54.322(i) of the Commission's rules, which relates specifically to mobile legacy high-cost support recipients, other elements of this requirement are separately contained in section 54.313 of the Commission's rules, which relates to annual reporting requirements for high-cost recipients generally. We therefore consolidate the requirements contained in section 54.313(n), as adopted in the *5G Fund Report and Order*,[510] into section 54.322(i), to enhance clarity and make it easier for mobile legacy high-cost support recipients to locate all of the elements of their annual reporting requirement. No substantive change is intended or should result from this consolidation. Because these editorial changes are non-substantive, they have no impact on regulated parties or the public, and we find for good cause that notice and comment are unnecessary pursuant to 5 U.S.C. § 553(b)(B).

## XIV. SECOND FURTHER NOTICE OF PROPOSED RULEMAKING

164. In this *Second Further Notice of Proposed Rulemaking*, we seek comment on whether to require a winning bidder in the 5G Fund Phase I auction to demonstrate during the long-form application process, and prior to being authorized to receive support, that it has obtained the consent of the relevant Tribal government(s)[511] for any necessary access to deploy network facilities using its 5G Fund support on Tribal lands within the area(s) of its winning bid(s).[512] In its reply comments concerning the *5G Fund*

[509] *5G Fund Report and Order*, 35 FCC Rcd at 12213-14, 12285, 12288-89, paras. 95-99, Appx. A.

[510] The paragraph reference for this rule as adopted in the *5G Fund Report and Order* was incorrectly listed as section 54.313(n), rather than section 54.313(p). *5G Fund Report and Order*, 35 FCC Rcd at 12285, Appx. A; 85 Fed. Reg. 75,770, 75819 (Nov. 25, 2020). Section 54.313(n), as adopted in the *5G Fund Report and Order*, has a delayed effective date and has not yet been made effective. *See* 47 CFR § 54.313, Effective Date Notes, Note 4.

[511] For purposes of a requirement such as this, we would follow our long-standing precedent of using the term "Tribal Government" to mean "the recognized government of an Indian Tribe that has been determined eligible to receive services from the Department of Interior, Bureau of Indian Affairs." *Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes*, Policy Statement, 16 FCC Rcd 4078, 4080 (2000) (*Policy Statement*). The term "Indian Tribe," in turn, is defined in the *Policy Statement* to mean "any Indian or Alaska Native tribe, band, nation, pueblo, village or community which is acknowledged by the federal government to constitute a government-to-government relationship with the United States and eligible for the programs and services established by the United States for Indians." *Id.*

[512] We recognize that the definition of "Tribal lands" adopted by the Commission for the 5G Fund in the *5G Fund Report and Order* may not fully align with a Tribal Government's jurisdiction for purposes of providing Tribal consent for all of the areas within a particular winning bid. *See 5G Fund Report and Order*, 35 FCC Rcd at 12190-93, para. 40-44 (amending section 54.5 of the Commission's rules to provide for "[a] designation process [that] permits expansion of the definition of Tribal lands for the high-cost program upon an appropriate showing that certain areas or communities that fall outside of existing Tribal lands . . . have the same characteristics as exiting Tribal lands," and "designat[ing] three types of off-reservation lands as Tribal lands for purposes of the high-cost program"). In that circumstance, a winning bidder would nonetheless need to obtain Tribal consent for any area(s)

(continued….)

*FNPRM*, NTTA supports the adoption of a Tribal consent requirement during the long-form process and before the Commission authorizes any 5G Fund support to serve Tribal lands.[513] We seek comment on whether including a Tribal consent requirement would advance the goals of the 5G Fund and would be administratively efficient for all parties and the Commission. We tentatively conclude that adopting a Tribal consent requirement in our 5G Fund rules is consistent with our long-standing recognition that engagement between Tribal governments and communications providers, particularly early engagement, is an important element to promote the successful deployment and provision of service on Tribal lands.[514]

165. In seeking comment on this issue, we ask commenters to provide input on how we can best assess an applicant's eligibility to be authorized to receive 5G Fund support for the purpose of deploying network facilities that would enable 5G mobile broadband service located on Tribal lands, while incorporating Tribal government consent into our approval process. We note that, under the BEAD Program, "an Eligible Entity may not treat as 'unserved' or 'underserved' any location that is already subject to an enforceable federal, state, or local commitment to deploy qualifying broadband" and a commitment to deploy broadband will not be considered an enforceable commitment "unless it includes a legally binding agreement, which includes a Tribal Government Resolution, between the Tribal Government of the Tribal Lands encompassing that location, or its authorized agent, and a service provider offering qualifying broadband service to that location."[515] Does including a requirement for a winning bidder to demonstrate that it has obtained Tribal consent during the 5G Fund Phase I long-form application process ensure that evidence of Tribal government consent will be included in the Commission's process of authorizing the winning bidder to receive support? Does such a requirement also provide such evidence during a 5G Fund support recipient's deployment of network facilities to provide 5G mobile broadband service that are located on Tribal lands?

166. We envision that any Tribal consent requirement we may adopt for the 5G Fund will be a continuation of the Commission's commitment to ensuring Tribal engagement by service providers that receive high-cost universal service support and in furtherance of the Commission's Policy Statement establishing a government-to-government relationship with Tribes. In the *Policy Statement*, the Commission stated that it "recognizes the unique legal relationship that exists between the federal government and Indian Tribal governments, as reflected in the Constitution of the United States, treaties, federal statutes, Executive orders, and numerous court decisions."[516] Most recently, in the *Enhanced A-CAM Report and Order*, the Commission recognized "the deep digital divide that persists between Tribal lands and the rest of the country and emphasized that engagement between Tribal governments and

within the area of a winning bid for which the relevant Tribal Government has jurisdiction to grant such consent before we would award support for that particular winning bid.

[513] NTTA Reply at 2-4. We emphasize that insofar as this proceeding concerns a federal program to distribute high-cost universal service support to carriers who commit to deploy advanced, 5G mobile broadband service to eligible rural areas, including Tribal lands, we do not seek comment on or otherwise address NTTA's comments relating to spectrum over Tribal lands, which are issues that are outside the scope of this proceeding. NTTA Reply at 2, 4-5.

[514] *See USF/ICC Transformation Order*, 26 FCC Rcd at 17868-69, paras. 636-37; *see also Expanding Broadband Service Through the ACAM Program,* Report and Order, Notice of Proposed Rulemaking, and Notice of Inquiry, 2023 FCC LEXIS 2230, at *152, para. 105 (2023) (*Enhanced A-CAM Report and Order).*

[515] BEAD Program NOFO at 36 & n.52; *see also Enhanced A-CAM Report and Order* at *149-50, para. 104 ("In engaging with Tribal governments, Enhanced A-CAM carriers must be aware that the BEAD Program will not recognize the acceptance of an Enhanced A-CAM offer as an enforceable commitment for the deployment of qualifying broadband, 'unless it includes a legally binding agreement, which includes a Tribal Government Resolution, between the Tribal Government of the Tribal Lands encompassing that location, or its authorized agent, and a service provider offering qualifying broadband service to that location.'").

[516] *Policy Statement*, 16 FCC Rcd at 4080 (footnote omitted).

communications providers, either currently providing service or contemplating the provision of service on Tribal lands, is vitally important to the successful deployment and provision of service."[517]

167. As the Commission explained in the *Enhanced A-CAM Report and Order*, the rules governing the disbursement of high-cost universal service support already include an annual requirement for high-cost recipients whose support areas include Tribal lands to undertake Tribal engagement.[518] Pursuant to section 54.313(a)(5) of the Commission's rules, a recipient of high-cost support that serves Tribal lands must demonstrate that it has engaged with the relevant Tribal government on a range of issues, including compliance with local rights of way, land use permitting, facilities siting, and environmental and cultural preservation review processes, as well as Tribal business and licensing requirements, that are necessary for a carrier to obtain.[519] The Commission also reasoned that "[t]hrough these obligatory Tribal engagements, and as demonstrated through successfully satisfying the deployment obligations through previous high-cost programs, carriers receiving high-cost support through previous universal service programs should have received consent from the local Tribal government to satisfy the requisite permissions to deploy to certain locations."[520] Building on its existing rules, and in order to leverage any preexisting coordination and collaboration obligations that a service provider has with a Tribal government to complete the deployment required by Enhanced A-CAM,[521] the Commission also determined that it would require carriers receiving Enhanced A-CAM support to initiate engagement with any relevant Tribal government within 90 days of the Bureau extending an Enhanced A-CAM offer in the *Enhanced A-CAM Report and Order*.[522] In so doing, the Commission explained that it expects "carriers that intend to accept Enhanced A-CAM offers will act in good faith to provide the relevant Tribe(s) with an opportunity to consent to the Enhanced A-CAM carrier's deployment of broadband in the Tribal area."[523]

168. We are mindful that, as NTTA advocates,[524] a similar or even more developed process for the 5G Fund may be appropriate because, whereas an Enhanced A-CAM carrier already had a history of tribal engagement, in the 5G Fund Phase I auction any applicant may bid on support to serve eligible Tribal areas. Given the potential challenges that incorporating a Tribal consent requirement might raise in

[517] *Enhanced A-CAM Report and Order* at *146-47, para. 103 (citing *USF/ICC Transformation Order*, 26 FCC Rcd at 17868-69, paras. 636-37); *see also* NTTA Comments on *Enhanced A-CAM NPRM*, WC Docket No. 10-90 et al., at 7 ("[T]ribal governments should have significant input into how federal [universal service support] is utilized on Tribal lands to increase broadband deployment and sustain the affordable provision of broadband internet access service.").

[518] *Enhanced A-CAM Report and Order* at *147-49, para. 103.

[519] 47 CFR § 54.313(a)(5); *see Enhanced A-CAM Report and Order* at *147, para. 103. The Commission also has historic preservation requirements. *See also* https://www.fcc.gov/enforcement/areas/tower-siting-construction; 47 CFR §§ 1.1305-1.1320; 47 CFR §17.4; 47 CFR Part 1, Appendix B and C.

[520] *Enhanced A-CAM Report and Order* at *147, para. 103.

[521] *Id.* at *147-48, para. 103 (citing *USF/ICC Transformation Order*, 26 FCC Rcd at 17868-69, paras. 636-37; *Office of Native Affairs and Policy, Wireless Telecommunications Bureau, and Wireline Competition Bureau Issue Further Guidance on Tribal Government Engagement Obligation Provisions of the Connect America Fund*, WC Docket No. 10-90 et al., Public Notice, 27 FCC Rcd 8176 (ONAP/WTB/WCB 2012); *Consumer and Governmental Affairs Bureau Seeks Comment on Effectiveness of Its Tribal Engagement Guidance and to Refresh the Record on Related Petitions for Reconsideration*, WC Docket No. 10-90, Public Notice, 34 FCC Rcd 9508 (CGB 2019)).

[522] *Enhanced A-CAM Report and Order* at *149, para. 104.

[523] *Id.* at *149, para. 104. Since these efforts would constitute Tribal engagement, carriers will report on them in their FCC Form 481. *Id.* at *150-51, para. 104 n.298.

[524] Referencing the Tribal engagement rules the Commission adopted in the Enhanced A-CAM proceeding, NTTA states "[a] similar process for the 5G Fund is perhaps even more important due to the structure of the 5G Fund award system (reverse auction) and the fact that, as it now stands, any provider may bid on eligible Tribal areas." NTTA Reply at 3.

the 5G Fund long-form application process, should we consider following the same Tribal engagement approach as the Commission adopted in the *Enhanced A-CAM Report and Order*? Are the provisions included in the Enhanced A-CAM and/or the BEAD Program good analogues for the 5G Fund, given the differences between fixed service and mobile service? Are there other alternatives that we should consider that would result in more equitable and informed outcomes in connection with using 5G Fund support to fund proposed projects to provide advanced, 5G mobile broadband service using facilities that would be located on Tribal lands that would benefit Tribal communities and serve the public interest? Should the Commission use existing high-cost universal service Tribal engagement requirements to develop the criteria necessary to evidence Tribal consent in order to provide more consistency and predictability for both Tribal governments and service providers during the 5G Fund long-form application authorization process?

169. If we adopt a Tribal consent requirement during the 5G Fund long-form application process, how could we structure a requirement for a 5G Fund Phase I auction winning bidder to demonstrate during the long-form application process, and prior to being authorized to receive support, that it has obtained the relevant Tribal government's consent? Given Tribal sovereignty, how should we address circumstances in which a Tribal government neither declines nor provides consent? How might we use existing Tribal engagement requirements to assess the winning bidder's efforts to obtain Tribal consent? What are the costs and burdens of such requirements to providers? How might they be expected to influence auction participation or bidding for support in Tribal lands? As we consider how to frame a requirement for Tribal consent, we also seek comment on whether we should include parameters similar to the those that the Commission includes for a winning bidder that is applying for a Tribal Land Bidding Credit (TLBC) to demonstrate its compliance with any Tribal consent requirement we may adopt.[525]

170. For instance, using the TLBC requirements as a guide, we could include a requirement that within 180 calendar days after the filing deadline for a 5G Fund long-form application, an applicant seeking 5G Fund support to provide service on Tribal lands must amend its application to submit a certification from the Tribal government(s) that it has granted any required Tribal consent.[526] In particular, we could require that the certification of Tribal consent include: the signature of an official of the Tribal Government and their title; a statement that the Tribal government has not and will not enter into an exclusive contract with the applicant to preclude entry by other carriers and will not unreasonably discriminate among wireless carriers seeking to provide service on the eligible Tribal land; and a statement that the Tribal government will, as applicable, permit the applicant to locate and deploy facilities on the Tribal land consistent with the 5G Fund public interest obligations and performance requirements.[527] The Commission's existing 5G Fund long-form application rules already require an applicant to certify that it will comply with all 5G Fund program requirements, including its public interest obligations and performance requirements, in the areas for which it is a winning bidder, including any such areas that are on Tribal lands.[528] Would using the TLBC certification model, together with this existing long-form application certification required of an applicant seeking to be authorized for 5G Fund support, adequately reflect the contours of Tribal government consent in this context? *Under this model,* once the certifications from the applicant and the consent of the Tribal government(s) being served are received and reviewed by the Commission and determined to be consistent with the 5G Fund rules, 5G Fund support may be authorized. Should we consider revising the TLBC certification parameters for the purposes of the 5G Fund? Should we include any additional provisions to demonstrate Tribal consent if we adopt such a requirement? Should we require fewer or alternative provisions? Should a process such as the TLBC certification process be adopted, we seek comment on how we might be able to incorporate

[525] *See* 47 CFR § 1.2110(f)(3).

[526] *See* 47 CFR § 1.2110(f)(3)(ii)(A).

[527] *See id*.

[528] 47 CFR § 54.1014(b)(2)(vii).

flexibility in such a process.

171. In the event that we adopt a Tribal consent requirement for the 5G Fund Phase I auction long-form application process, how can we ensure that consent is valid throughout the term of support? Should a winning bidder's failure to obtain Tribal consent be considered an auction default under the Commission's existing rules? Should there be additional or alternative compliance or enforcement mechanisms?[529]

172. Finally, if we adopt a Tribal consent requirement for the 5G Fund, how can we assist in dispute resolution in the event that a Tribal government reconsiders its consent? Would the Commission need to adopt a specific Tribal consent dispute resolution process? Commenters should address any other issues the Commission should consider in adopting rules related to a Tribal consent requirement for a 5G Fund Phase I auction long form applicant to demonstrate that it has obtained the consent of the relevant Tribal government(s) for any necessary access to deploy network facilities using its 5G Fund support on Tribal lands within the area(s) of its winning bid(s).

173. Are there any reasons why the Commission should decline to adopt such a requirement? Should the Commission consider requiring something less than Tribal consent (e.g., a different type of engagement than the current requirement in section 54.313(a)(5) of the Commission's rules)?

## XV. PROCEDURAL MATTERS

174. *Ex Parte Presentations—Permit-But-Disclose.* The proceeding this Second Further Notice of Proposed Rulemaking initiates shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[530] Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must: (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made; and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with section 1.1206(b) of the Commission's rules. In proceedings governed by section 1.49(f) of the Commission's rules or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.[531]

175. *Comment Filing Procedures.* Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: https://www.fcc.gov/ecfs.

[529] 47 CFR § 1.21004(c); *see also* 47 CFR § 54.1014(a)(5).

[530] 47 CFR § 1.1200 *et seq.*

[531] 47 CFR § 1.49(f).

- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing.

  - Filings can be sent by hand or messenger delivery, by commercial courier, or by the U.S. Postal Service. **All filings must be addressed to the Secretary, Federal Communications Commission.**
  - Hand-delivered or messenger-delivered paper filings for the Commission's Secretary are accepted between 8:00 a.m. and 4:00 p.m. by the FCC's mailing contractor at 9050 Junction Drive, Annapolis Junction, MD 20701. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.
  - Commercial courier deliveries (any deliveries not by the U.S. Postal Service) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.
  - Filings sent by U.S. Postal Service First-Class Mail, Priority Mail, and Priority Mail Express must be sent to 45 L Street NE, Washington, DC 20554.

176. *Paperwork Reduction Act.* The Second Report and Order and Order on Reconsideration contains new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under section 3507(d) of the PRA. OMB, the general public, and other Federal agencies will be invited to comment on the new or modified information collection requirements adopted in this proceeding. In addition, we note that pursuant to the Small Business Paperwork Relief Act of 2002,[532] we previously sought specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees. We describe impacts that might affect small businesses, which includes most businesses with fewer than 25 employees, in the Supplemental Final Regulatory Flexibility Analysis (Supplemental FRFA) in Appendix B.

177. *Regulatory Flexibility Act.* The Regulatory Flexibility Act of 1980, as amended (RFA),[533] requires that an agency prepare a regulatory flexibility analysis for notice and comment rulemakings, unless the agency certifies that "the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities."[534] Accordingly, the Commission has prepared a Supplemental Final Regulatory Flexibility Analysis (Supplemental FRFA) concerning the possible impact of rule changes in this Second Report and Order and Order on Reconsideration on small entities. The Supplemental FRFA is set forth in Appendix B.

178. The Commission has also prepared a Supplemental Initial Regulatory Flexibility Analysis (Supplemental IRFA) concerning the potential impact of rule and policy changes in the Second Further Notice of Proposed Rulemaking on small entities. The Supplemental IRFA is set forth in Appendix C. The Commission invites the general public, in particular small businesses, to comment on the Supplemental IRFA. Comments must be filed by the deadlines for filing comments on the Second Further Notice of Proposed Rulemaking indicated on the first page of this document and must have a separate and distinct heading designating them as responses to the Supplemental IRFA.

179. *Congressional Review Act*. The Commission has determined, and the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, concurs that this rule is "non-major" under the Congressional Review Act, 5 U.S.C. § 804(2). The Commission will send a copy of this Second Report and Order and Order on Reconsideration to Congress and the Government

[532] Small Business Paperwork Relief Act of 2002, Pub. L. No. 107-198, 116 Stat 729 (2002); *see* 44 U.S.C. § 3506(c)(4).

[533] *See* 5 U.S.C. §§ 601-612. The RFA has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[534] 5 U.S.C. § 605(b).

Accountability Office pursuant to 5 U.S.C. § 801(a)(1)(A).

180. *Providing Accountability Through Transparency Act*: Consistent with the Providing Accountability Through Transparency Act, Public Law 118-9, a summary of this Second Further Notice of Proposed Rulemaking will be available on https://www.fcc.gov/proposed-rulemakings.

181. *People with Disabilities*. To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice).

182. *Further Information.* For additional information on this proceeding, contact Kelly Quinn of the Office of Economics and Analytics, Auctions Division, at *kelly.quinn@fcc.gov* or Valerie Barrish of the Office of Economics and Analytics, Auctions Division, at *valerie.barrish@fcc.gov* or (202) 418-0354.

## XVI. ORDERING CLAUSES

183. Accordingly, IT IS ORDERED that, pursuant to the authority contained in sections 4(i), 5, 214, 254, 303(r), 403, and 405 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 155, 214, 254, 303(r), 403, 405, this Second Report and Order and Order on Reconsideration IS ADOPTED.

184. IT IS FURTHER ORDERED that, pursuant to the authority contained in sections 4(i), 214, 254, 303(r), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 214, 254, 303(r), 403, and sections 1.1 and 1.421 of the Commission's rules, 47 CFR §§ 1.1, 1.421, this Second Further Notice of Proposed Rulemaking IS ADOPTED.

185. IT IS FURTHER ORDERED that the rules and requirements adopted in the Second Report and Order and Order on Reconsideration WILL BECOME EFFECTIVE thirty (30) days after publication in the *Federal Register*. Sections 54.322(b), 54.322(g), 54.322(h), 54.322(i), 54.322(j), 54.1014(a), 54.1014(b)(2), 54.1018(a), 54.1018(b), 54.1018(c), 54.1018(d), 54.1018(f), 54.1019(a)(1), 54.1019(a)(2), 54.1019(a)(3), 54.1019(b), 54.1022(b), and 54.1022(f) may contain new or modified information collection requirements that require review and approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act. The Commission directs OEA, WCB, and WTB to announce the compliance date for these sections in a document published in the *Federal Register* and directs them to cause sections 54.322(l), 54.1014(c), 54.1018(h), 54.1019(e), and 54.1022(g) to be revised accordingly.

186. IT IS FURTHER ORDERED that, pursuant to the authority contained in sections 4(i), 214, 254, 303(r), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 214, 254, 303(r), 403, and sections 1.1 and 1.421 of the Commission's rules, 47 CFR §§ 1.1, 1.421, NOTICE IS HEREBY GIVEN of the proposals described in this Second Further Notice of Proposed Rulemaking.

187. IT IS FURTHER ORDERED that the Joint Petition for Reconsideration filed by The Rural Wireless Association and NTCA – The Rural Broadband Association in GN Docket No. 20-32 on December 28, 2020, IS GRANTED IN PART AND DENIED IN PART, as indicated herein.

188. IT IS FURTHER ORDERED that the Petition for Reconsideration filed by The Coalition of Rural Wireless Carriers in GN Docket No. 20-32 on December 28, 2020, IS DISMISSED IN PART, GRANTED IN PART, AND DENIED IN PART, as indicated herein.

189. IT IS FURTHER ORDERED that the Petition for Partial Reconsideration filed CTIA in GN Docket No. 20-32 on December 28, 2020, IS GRANTED IN PART AND DENIED IN PART, as indicated herein.

190. IT IS FURTHER ORDERED that the Petition for Reconsideration filed by Smith Bagley, Inc. in GN Docket No. 20-32 on December 28, 2020, IS DENIED, as indicated herein.

191. IT IS FURTHER ORDERED that the Petition for Reconsideration filed by 5G Fund

Supporters in GN Docket No. 20-32 on November 30, 2020, IS DISMISSED IN PART AND DENIED IN PART, as indicated herein.

192. IT IS FURTHER ORDERED that the Office of the Managing Director, Performance Program Management, SHALL SEND a copy of this Second Report and Order in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, 5 U.S.C. § 801(a)(1)(A).

193. IT IS FURTHER ORDERED that the Commission's Office of the Secretary, SHALL SEND a copy of this Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking including the Supplemental Final Regulatory Flexibility Analysis and the Supplemental Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

## APPENDIX A

## Final Rules

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 54 to read as follows:

**PART 54 – UNIVERSAL SERVICE**

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

[INSERT CURRENT AUTHORITY CITATION]

2. Amend § 54.307 by revising paragraphs (e)(5) introductory text, (e)(5)(ii) through (iv), (e)(6), and (e)(7) to read as follows:

**§ 54.307 Support to a competitive eligible telecommunications carrier.**

* * * * *

(e) * * *

(5) ***Eligibility for interim support before 5G Fund Phase I auction.*** Beginning the first day of the month following December 28, 2020, a competitive eligible telecommunications carrier that receives support pursuant to paragraph (a) or (e)(2) of this section shall no longer receive such support and shall instead receive support as described in paragraph (e)(5).

* * * * *

(ii) Until the first day of the month following the release of the first public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the authorization of support for any area eligible for support in the 5G Fund Phase I auction as described in paragraph (e)(6) of this section:

(A) A mobile competitive eligible telecommunications carrier that receives support pursuant to paragraph (a) of this section shall receive "monthly baseline support" in an amount equal to one-twelfth (1/12) of its total support received for the preceding 12-month period.

(B) A mobile competitive eligible telecommunications carrier that receives support pursuant to paragraph (e)(2) of this section shall receive support at the same level described in paragraph (e)(2)(iii) of this section.

(iii) For mobile competitive eligible telecommunications carriers that receive support pursuant to paragraph (e)(5)(ii) of this section, beginning the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the final areas eligible for support in the 5G Fund Phase I auction, the geographic boundary for each carrier's subsidized service area shall be subdivided into the smallest constituent piece for which support must be disaggregated and transitioned separately by overlaying on each carrier's subsidized service area boundary data the eligible and ineligible area boundaries, the minimum geographic area for bidding (i.e., census tract boundaries), and the subsidized service area boundary data for other support recipients that receive support pursuant to paragraph (e)(5)(ii) of this section or that receive transitional support pursuant to § 54.1516(c). The percent area for each constituent piece shall then be calculated in order to disaggregate and apportion the legacy high-cost support amount for each area, which shall be calculated by multiplying the monthly support level described in paragraph (e)(5)(ii) of this section by the areal percentage of the constituent piece of the competitive eligible telecommunications carrier's service area, weighted by applying the 5G Fund adjustment factor methodology and values adopted by the Office of Economics and Analytics and Wireline Competition Bureau in Public Notice, DA 20-1361. At the conclusion of this disaggregation process, the sum of the disaggregated support amounts for all constituent parts shall precisely equal the legacy support amount for the carrier's service area consistent with the amount described in paragraph (e)(5)(ii) of this section.

(iv) For mobile competitive eligible telecommunications carriers that receive transitional support pursuant to § 54.1516(c), beginning the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the final areas eligible for support in the 5G Fund Phase I auction, the geographic boundary for each carrier's subsidized service

area shall be subdivided into the smallest constituent piece for which support must be disaggregated and transitioned separately by overlaying on each carrier's subsidized service area boundary data the eligible and ineligible area boundaries, the minimum geographic area for bidding (i.e., census tract boundaries), and the subsidized service area boundary data for other support recipients that receive support pursuant to paragraph (e)(5)(ii) of this section or that receive transitional support pursuant to § 54.1516(c). The percent area for each constituent piece shall then be calculated in order to disaggregate and apportion the transitional support amount for each area, which shall be calculated by multiplying the monthly support level described in § 54.1516(c) by the areal percentage of the constituent piece of the competitive eligible telecommunications carrier's service area, weighted by applying the 5G Fund adjustment factor methodology and values adopted by the Office of Economics and Analytics and Wireline Competition Bureau in Public Notice, DA 20-1361. At the conclusion of this disaggregation process, the sum of the disaggregated support amounts for all constituent parts shall precisely equal the transitional support amount for the carrier's service area consistent with the amount described in § 54.1516(c).

(6) ***Eligibility for support after 5G Fund Phase I auction.***

(i) For all areas that are ineligible for 5G Fund support, a two-year phase down of legacy high-cost support will commence on the first day of the month following the release of the first public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the authorization of support for any area eligible for support in the 5G Fund Phase I auction. At such time, a mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(5)(iii) or (iv) of this section shall instead receive monthly support amounts for such ineligible areas as follows:

(A) For 12 months starting the first day of the month following the release of the public notice described in paragraph (e)(6)(i) of this section, each mobile competitive eligible telecommunications carrier shall receive a monthly support amount that is two-thirds (2/3) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of its service area that is ineligible for 5G Fund

Phase I support.

(B) For 12 months starting the first day of the month following the period described in paragraph (e)(6)(i)(A) of this section, each mobile competitive eligible telecommunications carrier shall receive a monthly support amount that is one-third (1/3) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of its service area that is ineligible for 5G Fund Phase I support.

(C) Following the period described in paragraph (e)(6)(i)(B) of this section, no mobile competitive eligible telecommunications carrier shall receive monthly support for an area that is ineligible for 5G Fund Phase I support pursuant to this section.

(ii) For all areas that are eligible for support in the 5G Fund Phase I auction, the transition from legacy high-cost support will commence as follows:

(A) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(5)(iii) or (iv) of this section for an area and is the winning bidder for that area in the 5G Fund Phase I auction shall continue to receive support at the same level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, until the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing whether or not the carrier is authorized to receive 5G Fund Phase I support.

(*1*) If the mobile competitive eligible telecommunications carrier is authorized to receive 5G Fund Phase I support in that area, beginning the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau authorizing the carrier to receive such support in that area, the carrier shall no longer receive support pursuant to paragraph (e)(5)(iii) or (iv) of this section, as applicable, and shall instead receive monthly support in the amount determined by its 5G Fund Phase I winning bid pursuant to § 54.1017.

(*2*) If the mobile competitive eligible telecommunications carrier is not authorized to receive 5G Fund Phase I support in that area, the carrier shall no longer receive support at the level of monthly support described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for such area, and shall instead receive monthly support as follows:

(*i*) For 12 months starting the first day of the month following release of a public notice announcing that the carrier is not authorized to receive 5G Phase I auction support, the carrier shall receive a monthly support amount that is two-thirds (2/3) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of the area.

(*ii*) For 12 months starting the month following the period described in paragraph (e)(6)(ii)(A)(*2*)(*i*) of this section, the carrier shall receive a monthly support amount that is one-third (1/3) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of the area.

(*iii*) Following the period described in paragraph (e)(6)(ii)(A)(*2*)(*ii*) of this section, the carrier shall not receive monthly support for the area pursuant to this section.

(B) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(5)(iii) or (iv) of this section for an area and is not the winning bidder for such area in the 5G Fund Phase I auction shall continue to receive support at the same level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, until the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the authorization of 5G Fund Phase I support for that area. Thereafter, the carrier shall instead receive monthly support for that area as follows:

(*1*) For 12 months starting the first day of the month following the release of the public notice described in paragraph (e)(6)(ii)(B) of this section, the carrier shall receive a monthly support amount that is two-thirds (2/3) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of the area.

(*2*) For 12 months starting the month following the period described in paragraph (e)(6)(ii)(B)(*1*) of this section, the carrier shall receive a monthly support amount that is one-third (1/3) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of the area.

(*3*) Following the period described in paragraph (e)(6)(ii)(B)(*2*) of this section, the carrier shall not receive monthly support for the area pursuant to this section.

(C) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(5)(iii) or (iv) of this section for an area eligible for support in the 5G Fund Phase I auction, but for which support is not won, and for which the carrier is not receiving the minimum level of support for the area shall, beginning the first day of the month following the release of the first public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the authorization of support for any eligible area won in the 5G Fund Phase I auction, receive monthly support for that area as follows:

(*1*) For 12 months starting the first day of the month following the release of the public notice described in paragraph (e)(6)(ii)(C) of this section, the carrier shall receive a monthly support amount that is two-thirds (2/3) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of the area.

(*2*) For 12 months starting the month following the period described in paragraph (e)(6)(ii)(C)(*1*) of this section, the carrier shall receive a monthly support amount that is one-third (1/3) of the level described in paragraph (e)(5)(iii) or (e)(5)(iv) of this section, as applicable, for each constituent part of the area.

(*3*) Following the period described in paragraph (e)(6)(ii)(C)(*2*) of this section, the carrier shall not receive monthly support for the area pursuant to this section.

(D) A mobile eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(5)(iii) of this section for an area eligible for support in the 5G Fund Phase I auction, but for which

support is not won, and for which the carrier is receiving the minimum level of support for such area, shall continue to receive a monthly support amount for such area at the level described in paragraph (e)(5)(iii) of this section for each constituent part of the area for no more than 60 months from the first day of the month following the release of the first public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the authorization of support for any eligible area won in the 5G Fund Phase I auction. The "minimum level of sustainable support" is the lowest monthly support received by a mobile competitive eligible telecommunications carrier for the area that has deployed the highest level of technology (e.g., 5G) within the state encompassing the area.

(7) ***Eligibility for support after 5G Fund Phase II auction.*** For all areas that are eligible for support in the 5G Fund Phase II auction, the transition from support described in paragraphs (e)(6)(ii)(B), (C), or (D) of this section, as applicable, will commence as follows:

(i) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(6)(ii)(B), (C), or (D) of this section, as applicable, and is a winning bidder in the 5G Fund Phase II auction for the area for which it receives such support, shall receive support for such area at the same level described in paragraph (e)(6)(ii)(B), (C), or (D) of this section until the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing whether or not to the carrier is authorized to receive 5G Fund Phase II support.

(A) If the mobile competitive eligible telecommunications carrier is authorized to receive 5G Fund Phase II support in the area, the carrier shall no longer receive support pursuant to paragraph (e)(6)(ii)(B), (C), or (D) of this section for such area, and shall instead receive monthly support in the amount determined by its 5G Fund Phase II winning bid pursuant to § 54.1017.

(B) If the mobile competitive eligible telecommunications carrier is not authorized to receive 5G Fund Phase II support in that area, the carrier shall no longer receive support at the level of monthly support

pursuant to paragraph (e)(6)(ii)(B), (C), or (D) of this section for such area, as applicable, and shall instead receive monthly support as follows for such area:

(*1*) For 12 months starting the first day of the month following release of a public notice announcing that the carrier is not authorized to receive 5G Phase II auction support, the carrier shall receive an amount of monthly support that is two-thirds (2/3) of the level described in paragraph (e)(6)(ii)(B), (C), or (D) of this section for the area, as applicable.

(*2*) For 12 months starting the month following the period described in paragraph (e)(7)(i)(B)(*1*) of this section, the carrier shall receive an amount of monthly support that is one-third (1/3) of the level described in paragraph (e)(6)(ii)(B), (C), or (D) of this section for the area, as applicable.

(c) Following the period described in paragraph (e)(7)(i)(B)(*2*) of this section, the carrier shall not receive monthly support for the area pursuant to this section.

(ii) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(6)(ii)(B) or (C) of this section for an area for which support is won in the 5G Fund Phase II auction and for which the carrier is not the winning bidder shall continue to receive support for that area as described in paragraph (e)(6)(ii)(B) or (C) of this section.

(iii) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(6)(ii)(B), (C), or (D) of this section for an area, as applicable, for which support is not won in the 5G Fund Phase II auction, shall continue to receive support for that area as described in paragraph (e)(6)(ii)(B), (C), or (D) of this section.

(iv) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(6)(ii)(D) of this section for an area for which support is won in the 5G Fund Phase II auction and for which the carrier is not the winning bidder shall receive the following monthly support amounts for such areas:

(A) For 12 months starting the first day of the month following release of a public notice announcing the close of the 5G Fund Phase II auction, the mobile competitive eligible telecommunications carrier shall receive monthly support that is two-thirds (2/3) of the level described in paragraph (e)(6)(ii)(D) of this section for the area.

(B) For 12 months starting the month following the period described in paragraph (e)(7)(iv)(A) of this section, the mobile competitive eligible telecommunications carrier shall receive monthly support that is one-third (1/3) of the level described in paragraph (e)(6)(ii)(D) of this section for the area.

(C) Following the period described in paragraph (e)(7)(iv)(B) of this section, the mobile competitive eligible telecommunications carrier shall not receive monthly support for the area pursuant to this section.

* * * * *

3. Amend §§ 54.322 by:

a. Removing "§ 54.307(e)(5)(ii), (e)(5)(iii), (e)(6)(iii), or (e)(7)(iii)" and adding in its place "§ 54.307(e)(5)(ii) through (iv), (e)(6)(ii)(D), or (e)(7)(iii)" wherever it appears in paragraphs (a) through (c), (d) introductory text, and (j)(1);

b. Revising paragraph (h)(1);

c. Revising paragraph (i)(1)(i);

d. Redesignating paragraph (i)(1)(vi) as new paragraph (i)(1)(viii);

e. Redesignating paragraphs (i)(1)(iv) and (v) as paragraphs (i)(1)(v) and (vi), respectively;

f. Adding new paragraph (i)(1)(iv);

g. Revising newly redesignated paragraphs (i)(1)(v) and (vi);

h. Adding paragraph (i)(1)(vii);

i. Revising paragraphs (k)(2) and (3); and

j. Adding paragraph (l).

The revisions reads as follows:

**§ 54.322 Public interest obligations and performance requirements, reporting requirements, and non-compliance mechanisms for mobile legacy high-cost support recipients.**

(a) ***General.*** A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) shall deploy voice and broadband data services that meet at least the 5G-NR (New Radio) technology standards developed by the 3rd Generation Partnership Project with Release 15, or any successor release that may be adopted by the Office of Economics and Analytics and the Wireline Competition Bureau after notice and comment.

(b) ***Service milestones and deadlines.*** A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) shall deploy 5G service that meets the performance requirements specified in paragraph (d) of this section to a percentage of the service areas for which the carrier receives monthly support and on a schedule as specified and adopted by the Office of Economics and Analytics and Wireline Competition Bureau after notice and comment.

(c) ***Support usage.*** A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) shall use an increasing percentage of such support for the deployment, maintenance, and operation of mobile networks that provide 5G service as specified in paragraph (a) of this section and that meet the performance requirements specified in paragraph (d) of this section as follows:

(1) ***Year one support usage.*** The carrier shall use at least one-third (1⁄3) of the total monthly support received pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) in calendar year

2021 as specified in paragraph (c) of this section by December 31, 2021.

(2) ***Year two support usage.*** The carrier shall use at least two-thirds (2/3) of the total monthly support received pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) in calendar year 2022 as specified in paragraph (c) of this section by December 31, 2022.

(3) ***Year three and subsequent year support usage.*** The carrier shall use all monthly support received pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) as specified in paragraph (c) of this section in 2023 and thereafter.

(4) ***Year one support usage flexibility.*** If the carrier is unable to meet the support usage requirement in paragraph (c)(1) of this section, the carrier shall have the flexibility to instead proportionally increase the support usage requirement in paragraph (c)(2) of this section such that its combined usage of monthly support received pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) in calendar years 2021 and 2022 is equal to the total amount of such support that the carrier receives annually, provided that the carrier certifies to the Wireline Competition Bureau this amount and that it will make up for any shortfall in a filing due by March 31, 2021 or 30 days after Paperwork Reduction Act approval, whichever is later.

(d) ***Performance requirements.*** A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), (e)(6)(iii), or (e)(7)(iii) shall meet the following minimum baseline performance requirements for data speeds, data latency, and data allowances in areas that it has deployed 5G service as specified in paragraph (a) of this section and for which it receives support for at least one plan that it offers:

* * * * *

(h) ***Initial report of current service offerings.*** (1) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to § 54.307(e)(5), (e)(6), or (e)(7) shall submit an initial report describing its current service offerings in its subsidized service areas and how the monthly support

it is receiving is being used in such areas no later than three months after December 28, 2020, and Paperwork Reduction Act approval. This report shall include the following information:

* * * * *

(i) * * *

(1) * * *

(i) Except for areas for which the carriers receives monthly support pursuant to § 54.307(e)(6)(ii) or (e)(7)(iv), updated information regarding the carrier's current service offerings in its subsidized service areas for the previous calendar year, including the highest level of technology deployed, a target date for when 5G broadband service meeting the performance requirements specified in paragraph (d) of this section will be deployed within the subsidized service area, and an estimate of the percentage of area covered by 5G deployment meeting the performance requirements specified in paragraph (d) of this section within the subsidized service area;

* * * * *

(iv) Provide the information and certifications required by § 54.313(a);

(v) Certification that the carrier has filed relevant deployment data (either via FCC Form 477 or the Broadband Data Collection, as appropriate) that reflect its current deployment covering its subsidized service areas;

(vi) Certification that the carrier is in compliance with the public interest obligations as set forth in this section and all of the terms and conditions associated with the continued receipt of monthly support;

(vii) Certification as to whether the carrier used any monthly support it receives pursuant to § 54.307(e)(5), (6), or (7) pursuant to § 54.207(f), and if so, whether the carrier used such support in compliance with § 54.7; and

* * * * *

(j) ***Service milestone reports.***

(1) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) shall submit a report after each of the service milestones described in paragraph (b) of this section by the deadlines established by the Office of Economics and Analytics and Wireline Competition Bureau demonstrating that it has deployed 5G service that meets the performance requirements specified in paragraph (d) of this section, which shall include information as required by the Office of Economics and Analytics and Wireline Competition Bureau in a public notice.

* * * * *

(k) * * *

(2) Upon notification by a carrier of its non-compliance pursuant to paragraph (k) of this section, or a determination by the Administrator or Wireline Competition Bureau of a carrier's non-compliance with any of the public interest obligations set forth in paragraphs (e) through (j) of this section or the performance requirements set forth in paragraph (d) of this section, the carrier will be deemed to be in default, and for monthly support received pursuant to § 54.307(e)(5), (e)(6), or (e)(7), will no longer be eligible to receive such support, will receive no further support disbursements, will be subject to a recovery of the amount of support received since December 28, 2020 that was not used for the deployment, maintenance, and operation of mobile networks that provide 5G service as specified in paragraph (c) of this section, and may be subject to recovery of up to the amount of support received since December 28, 2020, other than the amount specified in paragraph (c) of this section, that was not used for the deployment, maintenance, and operation of mobile networks that provide 5G service as specified in paragraph (a) of this section and that meet the performance requirements specified in paragraph (d) of this section. The carrier may also be subject to further action, including the Commission's existing

enforcement procedures and penalties, potential revocation of ETC designation, and suspension or debarment pursuant to § 54.8.

(3) A mobile competitive eligible telecommunications carrier that voluntarily relinquishes receipt of monthly support pursuant to § 54.307(e)(5), (e)(6), or (e)(7) will no longer be required to comply with the public interest obligations specified in this section.

(l) Compliance with paragraphs (b), (g), (h), (i), and (j) of this section will not be required until after the completion of such review by the Office of Management and Budget as the Office of Economics and Analytics and Wireline Competition Bureau deem necessary. The Commission will publish a document in the *Federal Register* announcing that compliance date and revising or removing this paragraph (l).

4. Amend § 54.1011 by revising paragraphs (c), (d), and (e) to read as follows:

**§ 54.1011 5G Fund.**

* * * * *

(c) Areas eligible for 5G Fund Phase I support will be those areas identified by the Office of Economics and Analytics and Wireline Competition Bureau in a public notice that:

(1) Show a lack of unsubsidized 5G mobile wireless broadband coverage at a download speed of 7 Mbps and an upload speed of 1 Mbps in an outdoor stationary environment by at least one provider based on the mobile broadband coverage maps created by the Commission pursuant to § 1.7008 of this chapter;

(2) Do not contain urban areas, as defined by the U.S. Census Bureau; and

(3) Contain at least one location or at least some portion of a road.

(d) The Commission will incorporate a service-based weighting factor into the 5G Fund auction design that will assign a weight to each geographic area eligible in the 5G Fund Phase I auction using the weighting values adopted by the Office of Economics and Analytics and Wireline Competition Bureau

and announced in a public notice.

(e) The Commission will incorporate an adjustment factor into the methodology for disaggregation of high-cost legacy support pursuant to § 54.307(e)(5)(iii) and (iv) that will assign a weight to each geographic area using the adjustment factor values adopted by the Office of Economics and Analytics and Wireline Competition Bureau and announced in the *Adjustment Factor Values Public Notice*, DA 20-1361.

5. Amend § 54.1012 by adding paragraph (c) to read as follows:

**§ 54.1012 Geographic areas eligible for support.**

* * * * *

(c) The geographic areas identified as eligible for support in the 5G Fund Phase I auction will be converted, to, and made available in, the form of hexagons at the resolution 9 level (hex-9s) using the H3 standardized geospatial indexing system defined in § 1.7001(a)(20) of this chapter. All eligible hex-9s will then be grouped into census tracts for purposes of bidding in the auction.

(1) The hex-9s that are eligible for 5G Fund support in the 5G Fund Phase I auction will be generated using the following process:

(i) Overlay resolution 11 hexagons (hex-11s) on the "raw" mobile coverage polygons submitted in the Broadband Data Collection for 5G outdoor stationary coverage at speeds of at least 7/1 Mbps on unsubsidized areas, and on urban areas. If the centroid (i.e., the geographic center point) of the hex-11, overlaps any of those boundaries, then the entire hex-11 is considered covered by that boundary and "served."

(ii) Divide the number of served grandchild hex-11s belonging to the grandparent hex-9 by the total number of grandchild hex-11s belonging to the grandparent hex-9 to determine the percentage of the hex-9 that is considered served. The centroid of a hex-11 must fall within the boundary of United States or its

territories to be included in this calculation. For hex-9s with both land and water grandchild hex-11s, only the land hex-11s are considered in this calculation.

(iii) If a "substantial majority" of the grandchild hex-11s belonging to a grandparent hex-9 are served, then the entire hex-9 will be considered served. For purposes of this determination, a "substantial majority" is 70% or more.

(2) After completing the process described in paragraphs (c)(1)(i) through (iii) of this section, any hex-9 that is not considered served and that also contains at least one location or some portion of a road will be eligible for support in the 5G Fund Phase I auction.

6. Amend § 54.1014 by redesignating paragraph (a)(6) as paragraph (a)(7), adding new paragraph (a)(6), and adding new paragraph (c).

The additions read as follows:

**§ 54.1014 Application process.**

(a) * * *

(6) Certify, under penalty of perjury, that it has read the public notice adopting procedures for the 5G Fund Phase I auction, and that it has familiarized itself with those procedures and any requirements, terms, and conditions associated with receipt of 5G Fund support; and

* * * * *

(c) Compliance with paragraphs (a) and (b)(2) of this section will not be required until after the completion of such review by the Office of Management and Budget as the Office of Economics and

Analytics and Wireline Competition Bureau deem necessary. The Commission will publish a document in the *Federal Register* announcing that compliance date and revising or removing this paragraph (c).

7. Amend § 54.1015 by revising paragraph (c)(1) to read as follows:

**§ 54.1015 Public interest obligations and performance requirements for 5G Fund support recipients.**

* * * * *

(c) * * *

(1) 35 Mbps download and 3 Mbps upload in an in-vehicle environment, with at least 90 percent of measurements recording these data transmission speeds; and

* * * * *

8. Amend § 54.1018 by:

a. Revising paragraph (a);

b. Redesignating paragraphs (b), (c), (d), (e), and (f) as paragraphs (c), (d), (e), (f), and (g), respectively;

c. Adding new paragraph (b); and

d. Adding new paragraph (h).

The revisions and additions read as follows:

**§ 54.1018 Annual Reports.**

(a) A 5G Fund support recipient authorized to receive 5G Fund support shall submit an annual report to the Administrator no later than July 1 of each year after the year in which it was authorized to receive support. Each support recipient shall certify in its annual report that it:

(1) Is in compliance with the public interest obligations, performance requirements, and all of the terms and conditions associated with the receipt of 5G Fund support in order to continue receiving 5G Fund support disbursements; and

(2) Has maintained its cybersecurity and supply chain risk management plans pursuant to § 54.1022.

(b) Each 5G Fund support recipient authorized to receive 5G Fund support shall report in its annual report whether it filed any substantive modifications pursuant to § 54.1022(f) in the prior year, and shall report the date it filed any such substantive modifications.

* * * * *

(h) Compliance with paragraphs (a) through (d) and (f) of this section will not be required until after the completion of such review by the Office of Management and Budget as the Office of Economics and Analytics and Wireline Competition Bureau deem necessary. The Commission will publish a document in the *Federal Register* announcing that compliance date and revising or removing this paragraph (h).

9. Amend § 54.1019 by:

a. Revising paragraphs (a)(1) and (2);

b. Removing paragraph (a)(3);

c. Redesignating paragraph (a)(4) as paragraph (a)(3);

d. Revising newly redesignated paragraph (a)(3);

e. Revising paragraphs (b), (c), and (d); and

f. Adding paragraph (e).

The revisions and additions read as follows:

**§ 54.1019 Interim service and final service milestone reports.**

(a) * * *

(1) Certifications to representative data submitted in the Broadband Data Collection demonstrating mobile transmissions to and from the network that establish compliance with the 5G Fund coverage, speed, and latency requirements;

(2) On-the-ground test data or infrastructure data to substantiate 5G broadband coverage data;

(i) On-the-ground test data must:

(A) Be collected within each selected hexagon in a sample of hexagons at the resolution 9 level selected by Commission staff;

(B) Be conducted pursuant to the testing parameters and metrics for valid on-the-ground tests described in § 1.7006(c)(1)(i) and (ii) of this chapter;

(C) Show that at least 90% of the support recipient's speed test measurements demonstrate that it has deployed service meeting the 5G Fund performance requirements specified in § 54.1015(c) in the area(s) for which the support recipient is authorized to receive 5G Fund support;

(D) Include at least two tests within each of the selected hexagons where the time of the tests are at least four hours apart, irrespective of date, unless the support recipient has, and submits with its speed tests, actual cell loading data for the cell(s) covering the sampled hexagon showing that the median loading, measured in 15-minute intervals, did not exceed the modeled loading factor for the one-week period prior to the submission, in which case the support recipient must submit two speed tests for each hexagon and the two tests need not be recorded four hours apart;

(E) Be conducted in an in-vehicle mobile environment with the antenna located inside the vehicle.

(ii) Infrastructure data must include the information described in § 1.7006(c)(2)(i) of this chapter for all cell sites and antennas within the area(s) for which the support recipient is authorized to receive 5G Fund support;

(3) Additional information as required by Commission staff.

(b) All data submitted and certified to in compliance with a recipient's public interest obligations in the milestone report must be certified by an engineer with the same qualifications as required for submitting the Broadband Data Collection biannual filings described in § 1.7004 of this chapter.

(c) Each service milestone report must be submitted via the Commission's Broadband Data Collection portal.

(d) All data submitted in and certified to in any service milestone report shall be subject to verification by the Administrator and Commission staff for compliance with the 5G Fund performance requirements specified in § 54.1015(c).

(e) Compliance with paragraphs (a)(1) through (3) and (b) of this section will not be required until after the completion of such review by the Office of Management and Budget as the Office of Economics and Analytics and Wireline Competition Bureau deem necessary. The Commission will publish a document in the *Federal Register* announcing that compliance date and revising or removing this paragraph (e).

10. Add § 54.1022 to read as follows:

**§ 54.1022 Cybersecurity and supply chain risk requirements.**

(a) A 5G Fund support recipient must implement operational cybersecurity and supply chain risk management plans meeting the requirements of this section as a condition of receiving 5G Fund support.

(b) A 5G Fund support recipient must certify that it has implemented plans required under paragraph (a) of this section and submit the plans to the Administrator by the date announced by the Office of Economics and Analytics and the Wireline Competition Bureau in a public notice or within 30 days after approval under the Paperwork Reduction Act, whichever is later.

(c) A 5G Fund support recipient that fails to comply with any 5G Fund cybersecurity or supply chain risk management requirement is subject to the following non-compliance measures:

(1) The Wireline Competition Bureau shall direct the Administrator to withhold 25 percent of the 5G Fund support recipient's monthly support for failure to comply with paragraph (b) of this section until the support recipient makes the required certification and submits the required plans.

(2) At any time during the support term, if a 5G Fund support recipient does not have in place operational cybersecurity and supply chain risk management plans meeting the requirements of this section, the Wireline Competition Bureau shall direct the Administrator to withhold 25 percent of the support recipient's monthly support.

(3) Once the 5G Fund support recipient comes into compliance, the Administrator shall stop withholding support, and the support recipient will receive all of the support that had been withheld pursuant to this section.

(d) A 5G Fund support recipient's cybersecurity risk management plan must reflect at least the National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity v.1.1 (2018) (NIST Framework) or any successor version of the NIST Framework, and must reflect established cybersecurity best practices that address each of the Core Functions described in the NIST Framework, such as the standards and controls set forth in the Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Cross-sector Performance Goals and Objectives or the Center for Internet Security Critical Security Controls.

(e) A 5G Fund support recipient's supply chain risk management plan must incorporate the key practices discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry, and related supply chain risk management guidance from NIST 800-161.

(f) If a 5G Fund support recipient makes a substantive modification to a plan under this section, the carrier must file an updated plan with the Administrator within 30 days of making the modification. A modification to a plan under this section is substantive if at least one of the following conditions apply:

(1) There is a change in the plan's scope, including any addition, removal, or significant alternation to the types of risks covered by the plan (e.g., expanding a plan to cover new areas, such as supply chain risks to Internet of Things devices or cloud security, could be a substantive change);

(2) There is a change in the plan's risk mitigation strategies (e.g., implementing a new encryption protocol or deploying a different firewall architecture);

(3) There is a shift in organizational structure (e.g., creating a new information technology department or hiring a Chief Information Security Officer);

(4) There is a shift in the threat landscape prompting the organization to recognize that emergence of new threats or vulnerabilities that were not previously accounted for in the plan;

(5) Updates are made to comply with new cybersecurity regulations, standards, or laws;

(6) Significant changes are made in the supply chain, including offboarding major suppliers or vendors, or shifts in procurement strategies that may impact the security of the supply chain; or

(7) A large-scale technological change is made, including the adoption of new systems or technologies, migrating to a new information technology infrastructure, or significantly changing the information technology architecture.

(g) Compliance with paragraphs (b) and (f) of this section will not be required until after the completion of such review by the Office of Management and Budget as the Office of Economics and Analytics and Wireline Competition Bureau deem necessary. The Commission will publish a document in the *Federal Register* announcing that compliance date and revising or removing this paragraph (g).

## APPENDIX B

## Supplemental Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] a Supplemental Initial Regulatory Flexibility Analysis (Supplemental IRFA) was incorporated in the *5G Fund Further Notice of* Proposed *Rulemaking* (*5G Fund FNPRM*), released in September 2023.[2] The Commission prepared Regulatory Flexibility Analyses in connection with the *5G Fund NPRM* and *5G Fund Report and Order*.[3] The Commission sought written public comment on the proposals and issues raised in the *5G Fund NPRM*, and the *5G FNPRM*, including comment on the IRFA, and Supplemental IRFA. No comments were filed addressing the IRFAs. This Supplemental Final Regulatory Flexibility Analysis (Supplemental FRFA) supplements the Final Regulatory Flexibility Analysis (FRFA) in the *5G Fund Report and Order* to reflect actions taken in the *5G Fund FNPRM*, and conforms to the RFA.[4]

### A. Need for, and Objectives of, the Second Report and Order and Order on Reconsideration

2. We take important and necessary steps in the *5G Fund Second Report and Order and Order on Reconsideration* to implement the framework for the 5G Fund for Rural America (5G Fund) to support the build out of advanced, 5G mobile wireless broadband networks for those who live, work, and travel in rural areas. After over a decade of hard work to reach this pivotal moment, the 5G Fund reflects the Commission's persistent efforts to reform and redirect universal service funds for mobile broadband to areas of the country that need them the most. As we finalize the details for the 5G Fund, we are confident that our conclusions in the *5G Fund Second Report and Order* are solidly grounded in the improved mobile coverage data obtained in the Broadband Data Collection (BDC), which is reflected on our new National Broadband Map and provides us with the most comprehensive picture to date about where mobile broadband service is and is not across the entire country.[5] Unquestionably, the Commission's decision to wait to proceed with a 5G Fund Phase I auction until we had these data to rely on has dramatically improved our understanding of where high-speed mobile broadband service is being provided and has significantly enhanced our ability to hold a successful 5G Fund auction. We are now far better informed regarding which communities lack mobile broadband service.

[1] 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Further Notice of Proposed Rulemaking, FCC 23-74, 2023 LEXIS 2941, at *31-32, para. 14 (2023) (*5G Fund FNPRM*).

[3] *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, WT Docket No. 10-208, Notice of Proposed Rulemaking and Order, 35 FCC Rcd 3994, at App. C (2020) (*5G Fund NPRM*); *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Report and Order, 35 FCC Rcd 12174, 12304, at App. B (2020), modified by *Errata* released Nov. 10, 2020, Nov. 27, 2020, and Jan. 11, 2021 (*5G Fund Report and Order*). The Commission received five timely filed petitions for reconsideration of the *5G Fund Report and Order*. *See* The Rural Wireless Association and NTCA – The Rural Broadband Association, Joint Petition for Reconsideration, *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32 (filed Dec. 28, 2020); The Coalition of Rural Wireless Carriers, Petition for Reconsideration, *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32 (filed Dec. 28, 2020); CTIA, Petition for Partial Reconsideration, *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32 (filed Dec. 28, 2020); Smith Bagley, Inc, Petition for Reconsideration, *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32 (filed Dec. 28, 2020); 5G Fund Supporters, Petition for Partial Reconsideration, *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32 (filed Nov. 30, 2020); *see also Petitions for Reconsideration of Action in Proceeding*, Public Notice, Report No. 3165 (rel. Jan. 6, 2021).

[4] *See* 5 U.S.C. § 604.

[5] *See National Broadband Map*, https://broadbandmap.fcc.gov/home (last visited Mar. 15, 2024). At the time the *5G Fund Report and Order* was adopted, the BDC was known as the Digital Opportunity Data Collection.

3. As the Commission noted when it adopted the *5G Fund FNPRM*, the National Broadband Map reflects the stark reality that over 14 million homes and businesses nationwide continue to lack access to 5G mobile wireless broadband service. The Commission therefore undertook a tailored effort to refresh the record and reignite the 5G Fund's plan to expand the deployment of 5G service to those rural communities that remain trapped on the wrong side of the digital divide. After careful consideration of the record gathered in this proceeding, we conclude that the determinations we reached in the *5G Fund Second Report and Order and Order on Reconsideration* will best incentivize the deployment of networks providing advanced, 5G mobile wireless broadband in areas of the country where, absent subsidies, such service will continue to be lacking.

4. Specifically, in the *5G Fund Second Report and Order and Order on Reconsideration* we: (1) modify the definition of the areas that will be eligible for 5G Fund support and include areas in Puerto Rico and the U.S. Virgin Islands that meet this eligible area definition in the 5G Fund Phase I auction; (2) increase the budget for Phase I of the 5G Fund and the Tribal reserve budget; (3) modify the metric for accepting and identifying winning bids and adopt a service-based weighting factor for bidding in the 5G Fund Phase I auction; (4) explain how we will aggregate areas eligible for 5G Fund support to minimum geographic areas for bidding; (5) explain our approach to aligning the methodologies for demonstrating compliance with the 5G Fund public interest obligations and performance requirements with those used in the BDC; (6) revise the schedule for transitioning from mobile legacy high-cost support for 5G Fund support consistent with recent legislative amendments; (7) require each 5G Fund Phase I auction applicant to certify, under penalty of perjury, that it has read the public notice adopting procedures for the auction, and that it has familiarized itself with those procedures and any requirements related to the support made available for bidding in the auction; (8) require 5G Fund support recipients to implement cybersecurity and supply chain risk management plans as a condition of receiving support; and (9) encourage 5G Fund support recipients to incorporate Open Radio Access Network (Open RAN) technologies in networks funded through the 5G Fund through the use of incentive funding and an opportunity to seek additional time to meet their 5G Fund public interest obligations and performance requirements by the established service deployment milestones.

5. We also resolve the issues raised in the pending petitions for reconsideration of the Commission's *5G Fund Report and Order*. With the decisions we reach today, we advance the Commission's extensive efforts to modernize high-cost support for mobile broadband services[6] and

[6] Beginning in its 2011 *USF/ICC Transformation Order*, the Commission took numerous steps to comprehensively reform and modernize the universal service program to ensure that robust, affordable, fixed, and mobile broadband service are available to Americans living in rural, insular, and high cost areas of the country. *See Connect America Fund et al.*, WC Docket 10-90 et al., Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (*USF/ICC Transformation Order*), *aff'd sub nom. In re FCC 11-161*, 753 F.3d 1015 (10th Cir. 2014). Among other things, the Commission established a two-phased Mobility Fund dedicated to targeting universal service support for mobile services in a cost-effective manner to no more than one provider per area in areas where a private-sector business case was lacking. *See id.* at 17674-75, 17773, 17779, 17819, 17821, paras. 28, 299, 316, 481, 486. In Phase I of the Mobility Fund, which was composed of a general Mobility Fund and a Tribal Mobility Fund, the Commission awarded almost $350 million in one-time universal service support through two reverse auctions. *See 5G Fund Report and Order*, 35 FCC Rcd at 12176-77, para. 6. In 2017, the Commission adopted rules for Mobility Fund Phase II that provided $4.53 billion in ongoing support over a ten-year term, redirected universal service funds to areas of the country unlikely to receive 4G Long Term Evolution (LTE) service absent subsidies, and established the framework for a challenge process to resolve disputes about areas that were found to be presumptively ineligible for support. *See Connect America Fund; Universal Service Reform – Mobility Fund*, WC Docket No. 10-90; WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 2152, 2154, para. 2 (2017) (*Mobility Fund Phase II Report and Order*); *Connect America Fund; Universal Service Reform – Mobility Fund*, WC Docket No. 10-90, WT Docket No. 10-208, Order on Reconsideration and Second Report and Order, 32 FCC Rcd 6282 (2017) (requiring mobile wireless providers to submit 4G LTE coverage maps and adopting a process for challenging those coverage maps). After questions arose about the accuracy of the submitted coverage maps, the Commission launched an investigation into the 4G LTE coverage data submitted by some providers and suspended the challenge process pending the investigation. *See* News Release, FCC, FCC Launches Investigation

(continued….)

proceed with confidence that we are stretching our limited universal service fund dollars to support advanced, 5G mobile wireless broadband service to as many areas where Americans live, work and travel as possible.

### B. Summary of Significant Issues Raised by Public Comment in Response to the Supplemental IRFA

6. There were no comments filed that specifically addressed the rules and policies presented in the Supplemental IRFA.

### C. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration

7. Pursuant to the Small Business Jobs Act of 2010,[7] which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rule(s) as a result of those comments. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

### D. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply

8. The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the rules adopted herein.[8] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[9] In addition, the term "small business" has the same meaning as the term "small-business concern" under the Small Business Act.[10] A "small-business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.[11]

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into Potential Violations of Mobility Fund Phase II Mapping Rules (Dec. 7, 2018), https://docs.fcc.gov/public/attachments/DOC-355447A1.pdf. Commission staff ultimately determined that the coverage maps submitted by certain carriers overstated actual coverage and did not reflect on-the-ground performance in many instances, and recommended that the Commission terminate the challenge process because the coverage maps were not "a sufficiently reliable or accurate basis upon which to complete the challenge process as it was designed." Rural Broadband Auctions Task Force, Mobility Fund Phase II Coverage Maps Investigation Staff Report at 2, para. 6 (2019), https://docs.fcc.gov/public/attachments/DOC-361165A1.pdf (last visited Mar. 15, 2024) (*Mobility Fund Phase II Coverage Maps Investigation Staff Report*). The Commission proposed, and later established, the 5G Fund as a comprehensive replacement for Mobility Fund Phase II, and adopted the framework and rules for the 5G Fund. *See generally Establishing a 5G Fund for Rural America; Universal Service Reform – Mobility Fund*, GN Docket No. 20-32, WT Docket No. 10-208, Notice of Proposed Rulemaking and Order, 35 FCC Rcd 3994, 3996, para. 2 (2020) (*5G Fund NPRM*); *5G Fund Report and Order,* 35 FCC Rcd 12174.

[7] 5 U.S.C. § 604(a)(3).

[8] *See id.*.

[9] *See* 5 U.S.C. § 601(6).

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

[11] *See* 15 U.S.C. § 632.

9. As noted above, Regulatory Flexibility Analyses were incorporated into the *5G Fund NPRM*,[12] the *5G Fund Report and Order*,[13] and the *5G Fund FNPRM*.[14] In those analyses, we described in detail the small entities that might be significantly affected. In this Supplemental FRFA, we hereby incorporate by reference the descriptions and estimates of the number of small entities from the previous Regulatory Flexibility Analyses in the *5G Fund NPRM*,[15] the *5G Fund Report and Order*,[16] and the *5G Fund FNPRM*.[17]

### E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

10. The *5G Fund Second Report and Order and Order on Reconsideration* modifies some of the compliance requirements adopted in the *5G Report and Order* based on the proposals and/or the other issues on which the Commission sought comment in the *5G Fund FNPRM*. Such modifications could impact the reporting, recordkeeping, and other compliance requirements for small and other providers that receive 5G Fund support.

11. In the *5G Fund Second Report and Order and Order on Reconsideration,* we modify the methodologies by which 5G Fund support recipients must demonstrate compliance with their 5G Fund performance requirements to largely align with those adopted for the BDC verification process. At present, the record contains insufficient information to either quantify compliance costs for small entities as a result of the modified methodologies for 5G Fund support recipients, or determine whether there will be a need for small entities to hire attorneys, engineers, consultants, or other professionals. However, we note that our approach in largely aligning the methodologies for 5G Fund support recipients to demonstrate and report compliance with the 5G Fund performance requirements is likely to ease the burden on small and other 5G Fund support recipients, and afford such support recipients the same flexibilities afforded under the BDC rules to choose which type of verification data to submit.

12. The *5G Fund Second Report and Order and Order on Reconsideration* also adopts a requirement that each 5G Fund support recipient implement cybersecurity and supply chain risk management plans as a condition of receiving 5G Fund support. Cybersecurity risk management plans must reflect at least the National Institute of Standards and Technology's Framework for Improving Critical Infrastructure Cybersecurity v.1.1 (2018) (NIST Framework),[18] or any successor version of the NIST Framework, and must reflect established cybersecurity best practices that address each of the Core Functions described in the NIST Framework, such as the standards and controls set forth in the Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Cross-sector Performance Goals and Objectives (CISA CPGs)[19] or the Center for Internet Security Critical Security Controls (CIS Controls).[20] Support recipients' supply chain risk management plans must incorporate the key practices

[12] *5G Fund NPRM* at App. C.

[13] *5G Fund Report and Order* at App. B.

[14] *5G Fund FNPRM* at Appx. A.

[15] *5G Fund NPRM* at App. C.

[16] *5G Fund Report and Order* at App. B.

[17] *5G Fund FNPRM* at App. A.

[18] NIST, Framework for Improving Critical Infrastructure Cybersecurity, v.1.1 (April 16, 2018), https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.04162018.pdf.

[19] *See* CISA, *Cross-Sector Cybersecurity Performance Goals and Objectives*, https://www.cisa.gov/cpgs (last visited Mar. 15, 2024).

[20] *See* Center for Internet Security, *Critical Security Controls Version 8,* https://www.cisecurity.org/controls (last visited Mar. 15, 2024) (providing security controls grouped by priority and feasibility for different sizes and resources of businesses in Implementation Groups).

discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry,[21] and related supply chain risk management guidance from NIST 800-161.[22] We also require that a 5G Fund support recipient submit an updated plan to USAC within 30 days after making any substantive modification to its cybersecurity or supply chain risk management plan.[23] 5G Fund support recipients must also certify in their annual report following each subsequent support year that they have maintained their plans, whether they have submitted modifications in the prior year, and the date any modifications were submitted. If at any point during the support term a 5G Fund support recipient does not have in place operational cybersecurity and supply chain risk management plans meeting the Commission's requirements, 25% of the 5G Fund recipient's support will be withheld until the recipient comes into compliance.[24] There were no comments that specifically addressed this modification as presented in the Supplemental IRFA. In addition, the record does not include a detailed cost-benefit analysis that would enable us to quantify compliance costs for small entities, including whether there will be a need for small entities to hire attorneys, engineers, consultants, or other professionals.

13. We note however, that the cybersecurity and supply chain risk management requirements adopted for 5G Fund support recipients in the *5G Fund Second Report and Order and Order on Reconsideration* are designed to mitigate concerns that development and implementation of cybersecurity plans are expensive and time consuming. The requirements therefore afford small and other carriers the flexibility to develop plans that fit within their budgetary constraints, so long as they meet the baseline requirements. Our approach will also likely reduce compliance costs by allowing 5G Fund support recipients that have already implemented the NIST Framework to comply with this requirement without redoing their plans so long as they implement an established set of cybersecurity best practices. To further mitigate costs for small carriers, we also encourage 5G Fund support recipients to take advantage of existing federal government resources designed to share supply chain security risk information with trusted communications providers and suppliers and facilitate the creation of cybersecurity and supply-chain risk management plans.[25]

14. In addition, we adopt a requirement that any applicant seeking to participate in the 5G Fund Phase I auction to certify in its short-form application, under penalty of perjury, that the applicant has read the public notice adopting procedures for the auction and that it has familiarized itself both with

[21] *See* The White House, Executive Order 14028 (2021), https://www.whitehouse.gov/briefing-room/presidential-actions/2021/05/12/executive-order-on-improving-the-nations-cybersecurity/; NIST, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry (2021), https://csrc.nist.gov/publications/detail/nistir/8276/final (last visited Mar. 15, 2024) (presenting the following as key practices: 1) integrating cyber supply chain risk management across the organization; 2) establishing a formal cybersecurity supply chain risk management program; 3) knowing and managing critical components and suppliers; 4) understanding the organization's supply chain; 5) collaborating closely with key suppliers; 6) including key suppliers in resilience and improvement activities; 7) assessing and monitoring throughout the supplier relationship; and 8) planning for the full life cycle).

[22] NIST, Cybersecurity Supply Chain Risk Management Practices for Systems and Organizations (2022), https://csrc.nist.gov/publications/detail/sp/800-161/rev-1/final (last visited Mar. 15, 2024) (identifying critical success factors for cyber supply chain risk management).

[23] *See Enhanced A-CAM Order* at 55, para. 112; *BEAD Program NOFO* at 70-71.

[24] 47 CFR § 54.1015(g) ("A support recipient that fails to comply with public interest obligations or any other terms and conditions associated with receiving 5G Fund support may be subject to action . . . .").

[25] *See* FCC, *Cyber Planner*, https://www.fcc.gov/cyberplanner (last visited Mar. 15, 2024); *see also* FCC, *Cybersecurity for Small Businesses*, https://www.fcc.gov/communications-business-opportunities/cybersecurity-small-businesses (last visited Mar. 14, 2024); CISA, *CISA Cybersecurity Awareness Program Small Business Resources*, https://www.cisa.gov/publication/stopthinkconnect-small-business-resources (last visited Mar. 14, 2024); NIST, *Planning Tools & Workbooks*, https://www.nist.gov/itl/smallbusinesscyber/planning-tools-workbooks (last visited Mar. 15, 2024); *see also* CISA, *ICT Supply Chain Resource Library,* https://www.cisa.gov/ict-supply-chain-resource-library (last visited Mar. 15, 2024). .

the auction procedures and with the requirements, terms, and conditions associated with the receipt of 5G Fund support.[26] As with other certifications required in the short-form application, an applicant's failure to make this required certification in its short-form application by the applicable filing deadline will render its application unacceptable for filing, and its application will be dismissed with prejudice.[27] Typically, the auction procedures inform prospective applicants that they should familiarize themselves with the Commission's general competitive bidding rules, Commission decisions regarding competitive bidding procedures, application requirements, obligations of universal service support recipients, and the Commission's service rules support granted in the auction, and that they must be thoroughly familiar with the procedures, terms, and conditions contained in the public notice adopting procedures for the auction.[28] We therefore do not expect that the adopted certification requirement will increase the need for small entities to hire attorneys, engineers, consultants, or other professionals because it does not increase the level of education or due diligence beyond what was required of applicants prior to the adoption of the certification requirement, and thus it should not increase an applicant's burden in complying with the additional certification requirement.

### F. Steps Taken to Minimize the Significant Economic Impact on Small Entities and Significant Alternatives Considered

15. The RFA requires an agency to provide "a description of the steps the agency has taken to minimize the significant economic impact on small entities…including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected."[29]

16. In the *5G Fund Second Report and Order and Order on Reconsideration*, the Commission adopted rules seeking to balance its proposals in the *5G Fund FNPRM* with proposed alternatives commenters submitted and weighing their benefits against the potential costs to small and other entities. Some key areas of focus addressed in the adopted rules are discussed below.

17. *Definition of Eligible Areas*. The *5G Fund Second Report and Order and Order on Reconsideration* modifies the definition of the areas that will be eligible for 5G Fund Phase I support to be those areas where BDC mobile coverage data show a lack of unsubsidized 5G mobile broadband service at speeds of at least 7/1 Mbps in an outdoor stationary environment by at least one service provider, even if those areas are served by 4G LTE service. The Commission will also apply a service-based weighting factor in 5G Fund Phase I auction bidding to incentivize the deployment of 5G service in areas that lack unsubsidized 4G LTE service. We considered retaining the eligible areas definition adopted in the *5G Fund Report and Order*, however, we believe that this modification to the definition of areas eligible for 5G Fund support ensures that a wide variety of small entities and other interested bidders will have greater flexibility to design a network that matches their business model and that allows service providers to achieve their performance benchmarks and public interest obligations efficiently.

18. *Technology for Determining Eligible Areas.* The Commission considered, as an alternative to defining areas eligible for 5G Fund Phase I support as those where BDC mobile coverage data show a lack of unsubsidized 5G service by at least one service provider, retaining the definition of eligible areas as those areas that lack both unsubsidized 4G LTE and unsubsidized 5G broadband service, as adopted in the *5G Fund Report and Order*. As the Commission noted in the *5G Fund FNPRM*, however, throughout this proceeding, several parties have taken issue with the eligible areas definition,

[26] *See 5G Fund FNPRM* at *75, para. 49.

[27] *See* 47 CFR § 1.21001(f)(2).

[28] *See, e.g.*, *Rural Digital Opportunity Fund Phase I Auction Scheduled For October 29, 2020; Notice and Filing Requirements and Other Procedures For Auction 904*, AU Docket No. 20-34, WC Docket Nos. 19-126 and 10-90, Public Notice, FCC Rcd 6077, 6081, para. 7 (2020).

[29] 5 U.S.C. § 604(a)(6).

and have advocated that the Commission define as eligible for 5G Fund support any areas that lack unsubsidized 5G mobile broadband service.[30] We expect that small entities and other interested parties will benefit from our modification of the definition of eligible areas because it is likely to increase the total number of areas that are available in a 5G Fund auction and eligible for 5G Fund support, thus creating additional opportunities for them to expand their businesses.

19. *Speed Thresholds for Determining Eligible Areas.* Another alternative the Commission considered was a defining the areas eligible for 5G Fund support as those areas that lack unsubsidized 5G service at a speed threshold of 35/3 Mbps. We conclude that using a speed threshold of 7/1 Mbps for 5G for purposes of determining eligible areas will promote the expansion of 5G coverage to as many areas as possible, while also avoiding the potential for overbuilding in areas where a provider already offers some level of unsubsidized 5G service and could upgrade such service to higher speeds in the future.[31] We further determine that using a speed threshold of 35/3 Mbps to determine eligible areas will result in more areas being eligible for support, taxing the 5G Fund Phase I budget unnecessarily, especially in light of the increased number of eligible areas that we anticipate as a result of our other modifications to the definition. Increasing the number of eligible areas to such a great extent will likely reduce the support that may be available to winning bidders. We believe that defining areas eligible for 5G Fund support as those that lack unsubsidized 5G service at speeds of at least 7/1 Mbps strikes an appropriate balance of increasing the number of areas eligible for support without overly taxing the budget.

20. *Environment for Determining Eligible Areas*. The Commission also considered defining the areas eligible for 5G Fund Phase I support as those areas that lack unsubsidized 5G mobile broadband service at speeds of at least 7/1 Mbps in an in-vehicle environment. We conclude that using coverage maps based on an outdoor stationary environment for purposes of determining areas eligible for the 5G Fund Phase I auction is preferable to using in-vehicle BDC coverage maps because the key parameters for outdoor stationary coverage have been standardized.

21. *5G Fund Budget*. In the *5G Fund Second Report and Order and Order on Reconsideration*, the Commission modified the budget for Phase I of the 5G Fund auction by increasing it to include up to the $1 billion that previously had been allocated to Phase II by the Commission in the *5G Fund Report and Order and Order on Reconsideration*. A number of commenters, some of which include small entities, advocated for an increase in the original budget of $8 billion for Phase I. We conclude that adopting an increased budget for Phase I will benefit all 5G Fund recipients, including those that are small entities. We decline to adopt an alternative approach that would use a cost model to determine the 5G Fund budget, as such an approach would conflict with our interest in awarding support in eligible areas in amounts that are competitive, but still acceptable to providers.

22. *Bidding and Support Price Metric*. In addition, the *5G Fund Second Report and Order and Order on Reconsideration* adopts a bidding and support price metric of dollars per square kilometer that includes a service-based weighting factor that weights bids and support prices based on upon service availability within the area. This service-based weighting factor will distinguish between areas that lack unsubsidized 5G broadband service but have access to unsubsidized 4G LTE service, and areas that lack both 5G and 4G LTE service. We adopt this approach as an alternative to the adjustment factor that was adopted in the *5G Fund Report and Order* for bidding.

23. *Certification of Notice of 5G Fund Phase I Auction Requirements and Procedures.* With respect to the requirement that any applicant seeking to participate in the 5G Fund Phase I auction must certify in its short-form application, under penalty of perjury, that the applicant has read the public notice adopting procedures for the auction and that it has familiarized itself both with the auction procedures and with the requirements, terms, and conditions associated with the receipt of 5G Fund support, the

[30] *5G Fund FNPRM* at *22-27, para. 10 & nn.26, 27.

[31] The BDC collects 5G coverage areas based on speed thresholds of both 7/1 Mbps and 35/3 Mbps. *See BDC Second Report and Order*, 35 FCC Rcd at 7479-80, para. 45.

Commission has a longstanding policy that expressly places a burden upon each auction applicant to be thoroughly familiar with the procedures, terms, and conditions contained in the relevant auctions procedures public notice and any future public notices that may be released in the auction proceeding.[32]

24. However, the Commission has taken steps to minimize any economic impact of the certification requirement on small entities through the many free resources we provide to potential auction participants. The public notice adopting the procedures for each auction will be posted to the auction's website prior to the opening of the application window, and other relevant orders are available through EDOCS, the Commission's online document database (www.fcc.gov/edocs). We believe that reading these materials will be sufficient for applicants to certify that they have familiarized themselves with the relevant auction procedures and other requirements. The Commission also makes available additional educational materials to help potential auction participants understand the auction process, including short-form filing instructions and a tutorial. Further, we make this information publicly available, easily accessible, and without charge to benefit all potential auction applicants, including small entities, thereby lowering their administrative costs to comply with the Commission's competitive bidding rules.

25. Small entities participating in auctions may also seek clarification of, or guidance regarding, auction procedures, the competitive bidding rules, and any requirements related to the authorizations or support to be made available through the auction from Commission staff prior to each auction's application window. Additionally, an FCC Auctions Hotline provides small entities one-on-one access to Commission staff for information about the auction process and procedures. The FCC Auctions Technical Support Hotline is another resource that provides technical assistance to applicants, including small entities, on issues such as access to or navigation within the electronic short-form application and use of the bidding system.

26. *Cybersecurity and Supply Chain Risk Management*. The Commission also considered, as an alternative approach to the requirement that 5G Fund support recipients submit updated plans within 30 days of making any substantive modifications to those plans, a requirement that plans be updated on an annual basis. We do not believe that the requirement we adopt will impose substantial burdens on 5G Fund support recipients. To the contrary, because this requirement aligns with the requirements adopted other support programs, we believe that small entity 5G Fund support recipients that also participate in those programs will benefit from having a single deadline by which they must submit their reports for each program.

27. In general, the cybersecurity and supply chain risk management requirements we adopted for 5G Fund support recipients are designed to mitigate concerns that development and implementation of cybersecurity plans are expensive and time consuming. The NIST Framework is not a one-size-fits-all approach to cybersecurity and represents a flexible approach that promotes customization and prioritization, allowing organizations to tailor their approach according to specific needs. We therefore afford small and other carriers the flexibility to develop plans that fit within their budgetary constraints, so long as they meet the baseline requirements.

28. *Use of Open Radio Access Network Technologies in 5G Fund Supported Networks*. To promote and incentivize the voluntary inclusion of Open Radio Access Network (Open RAN) technology networks deployed using 5G Fund support, we offer a process whereby a 5G Fund support recipient can seek a limited extension of its 5G Fund interim and final deployment milestones as set forth in section 54.1015(b) of the Commission's rules in order to afford it additional time to deploy Open RAN. Additionally, we allocate up to an additional $900 million of support in conjunction with implementation of the 5G Fund solely for the purpose of incentivizing providers to deploy Open RAN. Specifically, we

[32] *5G Fund FNPRM* at *75-79, para. 50 (citing, as examples, *Rural Digital Opportunity Fund Phase I Auction Scheduled For October 29, 2020; Notice and Filing Requirements and Other Procedures For Auction 904*, AU Docket No. 20-34, WC Docket Nos. 19-126 and 10-90, Public Notice, FCC Rcd 6077, 6081, para. 7 (2020); *Tribal Mobility Fund Phase I Auction Rescheduled For December 19, 2013; Notice and Filing Requirements and Other Procedures for Auction 902*, AU Docket No. 13-53, Public Notice, 28 FCC Rcd 11628, 11647, para. 53 (2013)).

will allow a winning bidder that is authorized to receive 5G Fund support to apply for additional funding of one-tenth of the total support that the 5G Fund support recipient is authorized to receive to be spent on the deployment of Open RAN, to be awarded in a post-auction process. To receive this additional funding, support recipients must deploy Open RAN technology through their network(s) for which they are authorized to receive 5G Fund support. We direct OEA and WTB to establish a process by which this additional funding may be elected and awarded post-auction in accordance with the parameters set forth in the *5G Fund Second Report and Order*. Additionally, we direct OEA and WTB to establish a process for a 5G Fund support recipient that needs additional time to obtain an extension of up to one year of the interim and final deployment milestones as set forth in section 54.1015(b) if it can demonstrate that it will incorporate Open RAN into its network(s). Alternatives approaches that we considered in determining how best to encourage the use of Open RAN technologies included granting bidding credits to 5G Fund Phase I applicants that agree to use Open RAN technologies in their deployments as well as mandating the use of such technologies in deployments built with 5G Fund support. We concluded that the adopted approach will allow time for the Open RAN specifications to become more settled for the case of a deployment scenario with Open RAN advanced capabilities and also for industry to better address the challenges associated with interoperability and the RAN integration testing. This approach could benefit small providers, many of which have limited resources, by allowing them the flexibility to choose an option that may provide an extension of compliance deadlines.

### G. Report to Congress:

29. The Commission will send a copy of the *5G Fund Second Report and Order and Order on Reconsideration*, including this Supplemental FRFA, in a report to Congress.[33] In addition, the Commission will send a copy of the *5G Fund Second Report and Order and Order on Reconsideration*, including this Supplemental FRFA, to the Chief Counsel for Advocacy of the Small Business Administration. A copy of the *5G Fund Second Report and Order and Order on Reconsideration* and Supplemental FRFA (or summaries thereof) will also be published in the Federal Register.[34]

[33] 5 U.S.C. § 801(a)(1)(A).

[34] *See id*. § 604(b).

## APPENDIX C

## Supplemental Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] the Federal Communications Commission (Commission) has prepared this Supplemental Initial Regulatory Flexibility Analysis (Supplemental IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in the Second Further Notice of Proposed Rulemaking (*Second Further Notice*) to supplement the Commission's Regulatory Flexibility Analyses completed in the *5G Fund NPRM, 5G Fund Report and Order*, *5G Fund FNPRM*, and *5G Fund Second Report and Order and Order on Reconsideration*.[2] Written public comment are requested on this Supplemental IRFA. Comments must be identified as responses to the Supplemental IRFA and must be filed by the deadlines for comments on the *Second Further Notice*. The Commission will send a copy of the *Second Further Notice*, including this Supplemental IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).[3] In addition, the *Second Further Notice* and Supplemental IRFA (or summaries thereof) will be published in the Federal Register.[4]

### A. Need for, and Objectives of, the Proposed Rules

2. In the *Second Further Notice*, we seek comment on whether to require a winning bidder in the 5G Fund Phase I auction to demonstrate during the long-form application process, and prior to being authorized to receive support, that it has obtained the consent of the relevant Tribal government(s)[5] for any necessary access to deploy network facilities using its 5G Fund support on Tribal lands within the

[1] 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, WT Docket No. 10-208, Notice of Proposed Rulemaking and Order, 35 FCC Rcd 3994, App. C (2020) (*5G Fund NPRM*); *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Report and Order, 35 FCC Rcd 12174, 12304, App. B (2020), modified by *Errata* released Nov. 10, 2020, Nov. 27, 2020, and Jan. 11, 2021 (*5G Fund Report and Order*); *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Further Notice of Proposed Rulemaking, 2023 LEXIS 2941 at App. A (2023); *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Second Report and Order and Order on Reconsideration, GN Docket No. 20-32, FCC 24-[[XX]] (2024) (*5G Fund Second Report and Order and Order on Reconsideration*). The Commission received five timely filed petitions for reconsideration of the *5G Fund Report and Order*. *See* The Rural Wireless Association and NTCA – The Rural Broadband Association, Joint Petition for Reconsideration, *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32 (filed Dec. 28, 2020); The Coalition of Rural Wireless Carriers, Petition for Reconsideration, *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32 (filed Dec. 28, 2020); CTIA, Petition for Partial Reconsideration, *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32 (filed Dec. 28, 2020); Smith Bagley, Inc, Petition for Reconsideration, *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32 (filed Dec. 28, 2020); 5G Fund Supporters, Petition for Partial Reconsideration, *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32 (filed Nov. 30, 2020); *see also* Petitions for Reconsideration of Action in Proceeding, Public Notice, Report No. 3165 (rel. Jan. 6, 2021). The issues raised in each of these petitions are resolved in the *5G Fund Second Report and Order and Order on Reconsideration*.

[3] 5 U.S.C. § 603(a).

[4] *Id.*

[5] For the purposes of a requirement such as this, we follow our long-standing precedent of using the term "Tribal Government" to mean "the recognized government of an Indian Tribe that has been determined eligible to receive services from the Department of Interior, Bureau of Indian Affairs." *Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes*, Policy Statement, 16 FCC Rcd 4078, 4080 (2000) (*Policy Statement*). The term "Indian Tribe," in turn, is defined to mean "any Indian or Alaska Native tribe, band, nation, pueblo, village or community which is acknowledged by the federal government to constitute a government-to-government relationship with the United States and eligible for the programs and services established by the United States for Indians." *Id.*

area(s) of its winning bid(s).[6] We seek comment on whether including a Tribal consent requirement would advance the goals of the 5G Fund and would be administratively efficient for all parties and the Commission. We tentatively conclude that adopting a Tribal consent requirement in our 5G Fund rules is consistent with our long-standing recognition that engagement between Tribal governments and communications providers, particularly early engagement, is an important element to promote the successful deployment and provision of service on Tribal lands.[7] In seeking comment on this issue, we ask commenters to provide input on how we can best assess an applicant's eligibility to be authorized to receive 5G Fund support for the purpose of deploying network facilities that would enable 5G mobile broadband service located on Tribal lands, while incorporating Tribal government consent into our approval process.

### B. Legal Basis

3. The proposed action is authorized pursuant to sections 4(i), 214, 254, 303(r), and 403 of the Communications Act of 1934, as amended,[8] and sections 1.1 and 1.421 of the Commission's rules.[9]

### C. Description and Estimate of the Number of Small Entities Impacted to Which the Proposed Rules Will Apply

4. The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.[10] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[11] In addition, the term "small business" has the same meaning as the term "small-business concern" under the Small Business Act.[12] A "small-business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.[13]

5. As noted above, Regulatory Flexibility Analyses were incorporated into the *5G Fund NPRM, 5G Fund Report and Order*, *5G Fund FNPRM*, and *5G Fund Second Report and Order and*

[6] We recognize that the definition of "Tribal lands" adopted by the Commission for the 5G Fund in the *5G Fund Report and Order* may not fully align with a Tribal Government's jurisdiction for purposes of providing Tribal consent for all of the areas within a particular winning bid. *See 5G Fund Report and Order*, 35 FCC Rcd at 12190-93, para. 40-44 (amending section 54.5 of the Commission's rules to provide "[a] designation process for the 5G Fund that permits expansion of the definition of Tribal lands for the high-cost program upon an appropriate showing that certain areas or communities that fall outside of existing Tribal lands . . . have the same characteristics as exiting Tribal lands," and "designat[ing] three types of off-reservation lands as Tribal lands for purposes of the high-cost program"). In that circumstance, a winning bidder would nonetheless need to obtain Tribal consent for any area(s) within the area of a winning bid for which the relevant Tribal Government has jurisdiction to grant such consent before we would award support for that particular winning bid. .

[7] *See USF/ICC Transformation Order*, 26 FCC Rcd at 17868-69, paras. 636-37; *see also Expanding Broadband Service Through the ACAM Program,* Report and Order, Notice of Proposed Rulemaking, and Notice of Inquiry, 2023 FCC LEXIS 2230, at *152, para. 105 (2023) (*Enhanced A-CAM Report and Order).*

[8] 47 U.S.C. §§ 154(i), 214, 254, 303(r), and 403.

[9] 47 CFR §§ 1.1 and 1.42.

[10] 5 U.S.C. § 603(b)(3).

[11] *See id*. § 601(6).

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

[13] 15 U.S.C. § 632.

*Order on Reconsideration*.[14] In those analyses, we described in detail the small entities that might be significantly affected. In this Supplemental IRFA, we hereby incorporate by reference the descriptions and estimates of the number of small entities from the previous Regulatory Flexibility Analyses in the *5G Fund NPRM, 5G Fund Report and Order, 5G Fund NPRM, 5G Fund Report and Order*, *5G Fund FNPRM*, and *5G Fund Second Report and Order and Order on Reconsideration*.[15]

### D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

6. In the *5G Fund Report and Order*, the Commission adopted requirements for winning bidders to submit a post-auction long-form application in which they must submit ownership, agreement, and spectrum access information, as well as information about their qualifications, funding, and the networks they intend to use to meet their 5G Fund public interest obligations and performance requirements.[16] In the *Second Further Notice,* we seek comment on whether to add to the existing long-form application requirements a requirement that a winning bidder in the 5G Fund Phase I auction demonstrate during the long-form application process that it has obtained the consent of the relevant Tribal government(s) for any necessary access to deploy network facilities using its 5G Fund support on Tribal lands within the area(s) of its winning bid(s). If the Commission ultimately adopts a rule that would amend its existing rules to require that 5G Fund Phase I auction winning bidders make this demonstration during the long-form application process, it would impact the reporting, recordkeeping, and other compliance requirements for small business and other carriers that apply for 5G Fund support to serve Tribal lands within the area(s) of their winning bid(s).

7. In assessing the cost of compliance for small entities, record does not include a detailed cost-benefit analysis that would allow the Commission to quantify such costs, including whether small entities will be required to hire professionals, and therefore cannot currently quantify the cost of compliance resulting from an adopted requirement that winning bidders demonstrate during the long-form application process that they have obtained the consent of the relevant Tribal government(s) for any necessary access to deploy network facilities using its 5G Fund support on Tribal lands within the area(s) of their winning bid(s). We anticipate, however, that the comments the Commission receives will discuss the compliance costs or burdens resulting from any potential changes to the long-form application rules, and may help the Commission identify and evaluate other relevant compliance matters for small entities associated with this possible requirement, should changes be adopted in this proceeding.

### E. Steps Taken to Minimize the Significant Economic Impact on Small Entities and Significant Alternatives Considered

8. The RFA requires an agency to describe any significant alternatives that could minimize impacts to small entities that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities."[17]

9. We have taken steps to minimize any economic impact from a potential requirement that a winning bidder in the 5G Fund Phase I auction demonstrate during the long-form application process

[14] *5G Fund NPRM* at App. C; *5G Fund Report and Order* at App. B; *5G Fund NPRM* at App. A; *5G Fund Second Report and Order and Order on Reconsideration* at App. C.

[15] *5G Fund NPRM* at App. C; *5G Fund Report and Order* at App. B; *5G Fund NPRM* at App. A; *5G Fund Second Report and Order and Order on Reconsideration* at App. C.

[16] 47 CFR § 54.1014(b)(2).

[17] 5 U.S.C. § 603(c).

that it has obtained the consent of the relevant Tribal government(s) for any necessary access to deploy network facilities using its 5G Fund support on Tribal lands within the area(s) of its winning bid(s) on small entities. For example, given the potential challenges that incorporating a Tribal consent requirement might raise in the 5G Fund long-form application process, we seek comment in the *Second Further Notice* on whether we should consider following the same Tribal engagement approach used by the Commission in the Enhanced A-CAM program, rather than adopting a Tribal consent requirement. We also ask in the *Second Further Notice* whether there are other alternatives to a Tribal consent requirement we should consider that would result in more equitable and informed outcomes in connection with using 5G Fund support to fund proposed projects to provide advanced, 5G mobile broadband service using facilities that would be located on Tribal lands that would benefit Tribal communities and serve the public interest.

10. We likewise seek comment in the *Second Further Notice* on how we could structure a potential requirement for a 5G Fund Phase I auction winning bidder to demonstrate during the long-form application process that it has obtained the relevant Tribal government's consent and, for example, whether we should include parameters similar to the those that the Commission includes for a spectrum auction winning bidder that is applying for a Tribal land bidding credit (TLBC) for a 5G Fund winning bidder to demonstrate its compliance with any Tribal consent demonstration requirement we may adopt. We also seek comment on whether, if we were to include parameters similar to the those that the Commission includes for a spectrum auction winning bidder that is applying for a Tribal land bidding credit in any such 5G Fund Tribal consent requirement we may adopt, whether we should include all of the TLBC certification parameters for the purposes of the 5G Fund or, alternatively, whether we should adopt additional or fewer provisions than required for spectrum auction winning bidders seeking a TLBC. Further, we seek comment on how we might be able to incorporate flexibility if we were to adopt a process such as the TLBC certification process in connection with any Tribal consent demonstration requirement we may adopt. Finally, we seek comment whether we should consider requiring something less than Tribal consent of winning bidders (e.g., a different type of engagement than the current requirement in section 54.313(a)(5)).

11. The Commission expects to more fully consider the economic impact and alternatives for small entities following the review of comments and costs and benefits analyses filed in response to the *Second Further Notice*. Our evaluation of this information will shape the final alternatives it considers, the final conclusions it reaches, and any final actions it ultimately takes in this proceeding to minimize any significant economic impact that may occur on small entities.

### F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

12. None.

**STATEMENT OF**
**CHAIRWOMAN JESSICA ROSENWORCEL**

Re: *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Second Report and Order, Order on Reconsideration and Second Further Notice of Proposed Rulemaking (August 28, 2024)

There are more than 14 million homes and businesses in the United States that lack access to modern wireless service. There are millions more people who live, work, and travel in these locations and struggle with their mobile connections. So many of the people who spend their time in these communities can tell you with pinpoint accuracy where they can and cannot get a reliable signal. They are frustrated. They see how every day that goes by without service leaves rural areas further behind and at greater risk of being disconnected from modern economic life.

At the Federal Communications Commission we have a choice. We can continue to leave tens of millions of people in this country without reliable wireless service—or we can do something about it.

Today we choose action. We choose to establish the 5G Fund for Rural America because it is time to set out a clear path forward to reach those in this country who lack adequate wireless service. Waiting any longer to modernize our approach to universal service support for wireless communications only consigns communities without signals to many more years on the wrong side of the digital divide.

We are doing this now because for the first time we have comprehensive data about the state of wireless service across the country. To put a finer point on it, we now know exactly where there are mobile dead zones. This is thanks to the extraordinary work of our Broadband Data Task Force, which has carefully used the authority we have under the Broadband DATA Act to map what areas need assistance so we can use this information to direct universal service funding going forward. That means the 5G Fund for Rural America will be data driven like nothing that has come before.

We are doing this now because the universal service support system for wireless communications needs reform. The agency has been calling for modernizing this system since 2011. In the intervening years, mobile connections have only grown more essential, not less. Continuing to rely on a system that was cobbled together for an earlier wireless era and pays for networks in areas where there is already unsubsidized 5G service no longer makes sense.

We are doing this now because the approach we adopt is thoughtful. Thanks to the input of my colleagues, the 5G Fund for Rural America will be structured in a way that offers support to homes, businesses, and roads that lack unsubsidized 5G service and prioritizes deployment of 5G mobile broadband service in areas that lack even 4G LTE service. This makes sure we are reaching both rural areas without service and those that have been shortchanged because they have only the last generation of wireless technology. We also modernize our system to improve cybersecurity and reduce supply chain risk. In addition, to facilitate the development of new secure equipment markets, we incentivize the use of Open Radio Access Networks.

We are doing this now because we have built into this framework the flexibility to take into account enforceable commitments made in other broadband programs. This is important because in the aftermath of the pandemic, Congress created many new ways to support broadband infrastructure, including the Broadband, Equity, Access, and Deployment Program at the Department of Commerce. These funds, which are distributed by states and territories, are designed to support fixed broadband deployment rather than mobile broadband. But our framework allows us to remove areas from the 5G Fund for Rural America if we are presented with evidence of enforceable BEAD commitments to deploy 5G mobile broadband. This prevents duplication and ensures our limited resources stretch further.

There is more work to do in the weeks and months ahead to make dead zones a thing of the past. We will continue to refine our maps so they reflect up-to-date data and challenges to the accuracy of reported coverage from stakeholders, governments, and the public through our new mobile speed test app. We will use decades of auction expertise to develop a state-of-the-art bidding system that will streamline the process for participants. At every step, we will ensure the 5G Fund for Rural America carefully considers the impact of other broadband funding programs so that we can maximize the reach of this effort. But by putting this framework in place now we have a roadmap. It is time to get going and use it so we can build a digital future that works for everyone.

**DISSENTING STATEMENT OF COMMISSIONER BRENDAN CARR**

Re: *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Second Report and Order, Order on Reconsideration and Second Further Notice of Proposed Rulemaking (August 28, 2024)

In 2020, the Commission adopted an order establishing the 5G Fund for Rural America—a $9 billion effort to extend next-generation wireless service to communities across the country. The plan was to start the 5G Fund auction in 2022 and for builds to be underway today.[1] In adopting this plan, the Commission placed particular emphasis on getting the timeline and sequencing right. Specifically, we ensured that the 5G Fund would move forward only after providers knew the results of the then-current fixed broadband funding initiative, known as the Rural Digital Opportunity Fund or RDOF. After all, coordinating the two efforts would lead to synergies for providers and taxpayers alike.

A lot has changed since 2020. As relevant to today's decision, the federal government has opened the spigots wide open for broadband funding. In 2021, most notably, President Biden tasked Vice President Harris with leading the Administration's signature $42 billion plan—the Broadband Equity, Access, and Deployment or BEAD program—to extend Internet infrastructure to millions of Americans. Today, more than 1,000 days since BEAD was enacted, not one person has been connected to the Internet by that program. Indeed, not even one shovel worth of dirt has been turned. And it gets worse. The Administration now says that BEAD deployment will not start until sometime next year at the earliest.

The fact that the Administration's $42 billion BEAD program has gone off the rails is a problem for many reasons. For one, Americans have been left waiting on the wrong side of the digital divide for no reason. For another, the $42 billion program—for better or worse—now serves as the country's foundational broadband funding initiative. Everything else the government does from a broadband infrastructure funding perspective will, by definition, be built on top of BEAD. But BEAD is a faulty foundation. Indeed, there is not even a clear timeline by which we will know when exactly the $42 billion will flow. Nor is there any strategy in place to coordinate the federal government's various broadband funding efforts that are now spread across 15 different agencies and more than 130 funding programs. It is a recipe for overbuilding and wasteful duplication, as the GAO itself has warned.[2]

And that brings us to today's FCC decision, which restarts the process of conducting the $9 billion 5G Fund. As a threshold matter, I cannot support today's decision because it puts the cart before the horse. Unlike our 2020 decision, which aligned with RDOF funding decisions, the Commission is moving forward today before the results of the Administration's $42 billion BEAD program are known.

There are two main problems with the FCC's decision to barrel ahead today. First, it is never wise to build on top of a faulty foundation. So the government's focus today should be on fixing the fundamental flaws with BEAD and getting that program back on track. I have already identified some low-hanging fruit in this regard: Eliminate the BEAD program's DEI requirements, climate change agenda, unlawful price controls, technology preferences, and the wish list of progressive policy goals that

[1] *See Establishing a 5G Fund for Rural America*, Report & Order, 35 FCC Rcd 12174, at paras. 11-15 (2020); *id.* at Statement of FCC Commissioner Brendan Carr ("For a start, [the 5G Fund] builds off of other successful programs, since providers can use existing support to build fixed networks that support 5G. For example, a provider that receives RDOF funding to build out a network could use their previous investment to submit a lower bid in the 5G Fund auction."); *see also* Keynote Remarks of FCC Commissioner Brendan Carr, The American Enterprise Institute, *Extending America's 5G Leadership* (Mar. 15, 2021) (discussing the plan to commence the 5G Fund auction in 2022), https://docs.fcc.gov/public/attachments/DOC-370781A1.pdf.

[2] U.S. Government Accountability Office, *Broadband: National Strategy Needed to Guide Federal Efforts to Reduce Digital Divide*, GAO-22-104611 (May 31, 2022) (*2022 GAO Report*), https://www.gao.gov/assets/gao-22-104611.pdf.

have nothing to do with quickly connecting Americans. Second, the FCC is proceeding without synchronizing the 5G Fund with BEAD. Assuming we get BEAD back on the rails, lining up the two programs' timelines is the only way to ensure that they work with—rather than against—each other.

Moving ahead now with the 5G Fund, without knowing the results of BEAD, will lead to the same types of problems that have plagued the Biden-Harris Administration's other broadband funding initiatives: more overbuilding, more duplication, and less efficient use of taxpayer dollars.

For starters, the results of BEAD—something not expected until 2025 or 2026 at the earliest—will play a key role in the 5G Fund's success. In particular, BEAD funding decisions will inform rational bidding by would-be participants in a 5G Fund reverse auction. Although BEAD subsidizes fixed broadband, it offers promising synergies and potential overlap with the 5G Fund, much like RDOF before it. Indeed, BEAD funds will support fiber backhaul, fixed wireless, and other infrastructure projects that are part and parcel of a mobile broadband network. Wireless carriers can stretch each 5G Fund dollar further—and rationally commit to offer mobile broadband service for less money—if they know where these BEAD funds are flowing, for what technology, and to what ISP. The potential savings from leveraging BEAD investments to deploy 5G are estimated to range from 59% to 83%.[3]

On the other hand, moving ahead with a 5G Fund auction now, before BEAD results are known, would blindfold carriers to the state of future deployment, increase the risk of stranded investment, and raise per-location costs. The risk of stranded investment, in particular, could increase how much money carriers would be willing take to serve a location. Some carriers might forego bidding altogether in locations unserved by mobile broadband—an outcome that would run headlong against our shared goal of connecting Americans. And exorbitant per-location costs caused by stranded investments would deplete the 5G Fund sooner than expected. This is to say nothing about the risk that prematurely running a 5G Fund auction might lead to duplicative funding by subsidizing wireless infrastructure slated to be built with BEAD money. Carriers will think twice if they believe they will be overbuilt.

You do not have to take my word for it. Large and small providers alike have urged the FCC to exercise restraint before moving ahead with the 5G Fund, for many of the same reasons I outlined above.[4] Think about that. The very companies who stand to benefit financially from the 5G Fund have asked the FCC to proceed more slowly to account for BEAD. Likewise, a bicameral letter from members of Congress recently observed that "it is imperative to fully understand where [BEAD] investments will be directed before carriers can meaningfully participate in any 5G Fund auction."[5]

Now, to be sure, today's Order acknowledges these concerns and assures us that the FCC will engage in robust federal coordination before moving ahead with a 5G Fund auction. I appreciate that. But the Order stops far short of ensuring that the 5G Fund will align with key BEAD milestones. In fact, the Order expressly rejects the concerns of wireless carriers and members of Congress that moving ahead with the 5G Fund now would be premature. Plus, there is only so much the FCC can do on this front when the Biden-Harris Administration has refused to adopt a national coordinating strategy for broadband

[3] *See* Letter from Angela Simpson, Competitive Carriers Association, to Marlene Dortch, Secretary, FCC, GN Docket No. 20-32 (Mar. 21, 2024).

[4] *See, e.g.*, Letter from Sean Lev, Counsel to Competitive Carriers Association, to Marlene Dortch, Secretary, FCC, GN Docket No. 20-32, at 18 (Aug. 2, 2024); Letter from Amy Bender, CTIA, to Marlene Dortch, Secretary, FCC, GN Docket No. 20-32 (Apr. 25, 2024); Letter from Brian Hurley, ACA Connects, to Marlene Dortch, Secretary, FCC, GN Docket No. 20-32, at 1 (Apr. 8, 2024).

[5] Letter from the Hon. Robert E. Latta, et *al*., to Jessica Rosenworcel, Chairwoman, FCC, at 1 (Apr. 24, 2024), https://docs.fcc.gov/public/attachments/DOC-403860A1.pdf.

funding programs, even though the GAO recommended that it do so years ago.[6] So, while I appreciate the FCC's assurances that it intends to proceed cautiously, the evidence to date shows that the Administration has more interest in grabbing headlines than doing the actual work necessary to bridge the digital divide. I am concerned that this trend will only continue. I hope I am wrong.

For now, I respectfully dissent.

[6] *See 2022 GAO Report*.

**STATEMENT OF**
**COMMISSIONER GEOFFREY STARKS**

Re: *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Second Report and Order, Order on Reconsideration and Second Further Notice of Proposed Rulemaking (August 28, 2024)

It's clear why this order is so important: when we're talking about wireless connectivity, far too many Americans remain in areas where there are no Gs at all. For communities still lacking services, the consequences can be measured in population declines, lost jobs, and missed opportunities. By making 5G more accessible, this order brings us one step closer toward our shared goal of closing the digital divide, and setting us on a course where all can share in the benefits of connectivity, no matter your zip code.

In particular, I want to thank Chairwoman Rosenworcel for working with me on an issue that's been a pillar of my work at the Commission; Tribal engagement. Thinking critically on how we engage with Tribes is foundational. Having the best process possible will add more certainty and predictability for everyone involved in the 5G Fund. Honoring Tribal sovereignty is an essential part of the deployment process, and leveraging the unique knowledge and experience of Tribal governments will stretch funds further and connect more Tribal lands.

I appreciate the hard work of the staff involved in this item and look forward to continued engagement on this vital effort.

**STATEMENT OF**
**COMMISSIONER ANNA M. GOMEZ**

Re: *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Second Report and Order, Order on Reconsideration and Second Further Notice of Proposed Rulemaking (August 28, 2024)

We all know how important broadband is. The bipartisan efforts across government to support the deployment and adoption of broadband speak to that. Critical among these efforts is the Broadband Data Collection. This effort was spearheaded by the FCC's Broadband Data Task Force, which worked innovatively, collaboratively, and tirelessly with industry and communities to create a broadband map that is both the best we have ever had and perpetually iterative. As a result of that work, we now have a critical tool to identify where the provision of 5G services is lacking.

This order is the next step in a long-term bipartisan undertaking to update and target how limited Universal Service High Cost support resources are used to deliver 5G mobile broadband to rural America. Notably, it is both necessary to move forward and it is not the final step. We make critical decisions in this order that are informed by active engagement with a range of stakeholders that includes consumer advocates, nationwide wireless providers, and many smaller wireless providers that are serving rural America today. This order recognizes both the importance to potential bidders of knowing where the Broadband Equity, Access, and Deployment (BEAD) Program will support fiber deployment and the reality that we cannot wait until every dollar is awarded to start moving this parallel effort forward. The cost of delay to rural consumers has to be part of the equation.

I look forward to continued engagement with stakeholders as we move forward on this important and complex proceeding.

**EXHIBIT B**

## FEDERAL COMMUNICATIONS COMMISSION

### 47 CFR Part 54

**[GN Docket No. 20–32; FCC 24–89; FRS 247283]**

## Establishing a 5G Fund for Rural America

**AGENCY:** Federal Communications Commission.

**ACTION:** Final rule.

**SUMMARY:** In this document, the Federal Communications Commission (Commission or FCC) takes important and necessary steps to implement the 5G Fund for Rural America (5G Fund) to support the build out of advanced, 5G mobile wireless broadband networks for those who live, work, and travel in rural areas. The Commission also in this document resolves the issues raised in the five pending petitions for reconsideration of its 2020 *5G Fund Report and Order.*

**DATES:** Effective January 13, 2025. Compliance with §§ 54.322(b), 54.322(g), 54.322(h), 54.322(i), 54.322(j), 54.1014(a), 54.1014(b)(2), 54.1018(a), 54.1018(b), 54.1018(c), 54.1018(d), 54.1019(a)(1), 54.1019(a)(2), 54.1019(a)(3), 54.1019(b), 54.1022(b), and 54.1022(f) is not required until the Commission publishes a document in the **Federal Register** announcing the compliance date. As of December 13, 2024, instruction 10.b., amending § 54.313, and published November 25, 2020, at 85 FR 75770, is withdrawn.

**ADDRESSES:** Federal Communications Commission, 45 L Street NE, Washington, DC 20554.

**FOR FURTHER INFORMATION CONTACT:** For additional information on this proceeding, contact Kelly Quinn, Office of Economics and Analytics, Auctions Division, (202) 418–0660 or *Kelly.Quinn@fcc.gov,* Valerie M. Barrish, Office of Economics and Analytics, Auctions Division, (202) 418–0660 or *Valerie.Barrish@fcc.gov.* For information regarding the Paperwork Reduction Act of 1995 (PRA) information collection requirements contained in this PRA, contact Cathy Williams, Office of Managing Director, at (202) 418–2918 or *Cathy.Williams@fcc.gov.*

**SUPPLEMENTARY INFORMATION:** This is a summary of the Commission's *5G Fund Second Report and Order and Order on Reconsideration* in GN Docket No. 20–32, FCC 24–89, adopted on August 14, 2024 and released on August 29, 2024. The full text of this document is available on the Commission's website at *https://www.fcc.gov/document/fcc-reignite-5g-fund-target-investments-rural-communities.* To request materials in accessible formats for people with disabilities, send an email to *FCC504@fcc.gov* or call the Consumer & Governmental Affairs Bureau at 202–418–0530 (voice).

### Synopsis

### I. Introduction

1. The Commission takes important and necessary steps in the *5G Fund Second Report and*

*Order and Order on Reconsideration* to implement the framework for the 5G Fund for Rural America (5G Fund) to support the build out of advanced, 5G mobile wireless broadband networks for those who live, work, and travel in rural areas. After over a decade of hard work to reach this pivotal moment, the 5G Fund reflects the Commission's persistent efforts to reform and redirect universal service funds for mobile broadband to areas of the country that need them the most. As it finalizes the details for the 5G Fund, the Commission is confident that its conclusions are solidly grounded in the improved mobile coverage data obtained in the Broadband Data Collection (BDC), which is reflected on its new National Broadband Map and provides the Commission with the most comprehensive picture to date about where mobile broadband service is and is not across the entire country. Unquestionably, the Commission's decision to wait to proceed with the 5G Fund Phase I auction until the Commission had these data to rely on has dramatically improved its understanding of where high-speed mobile broadband service is being provided and has significantly enhanced its ability to hold a successful 5G Fund auction. The Commission is now far better informed regarding which communities lack mobile broadband service.

2. As the Commission noted when it adopted the *5G Fund Further Notice of Proposed Rulemaking* (*5G Fund FNPRM*), 88 FR 66781 (Sept. 28, 2023), the National Broadband Map reflects the stark reality that over 14 million homes and businesses nationwide continue to lack access to 5G mobile wireless broadband service. The Commission therefore undertook a tailored effort to refresh the record and reignite the 5G Fund's plan to expand the deployment of 5G service to those rural communities that remain trapped on the wrong side of the digital divide. After careful consideration of the record gathered in this proceeding, the Commission concludes that the determinations it reaches herein will best incentivize the deployment of networks providing advanced, 5G mobile wireless broadband in areas of the country where, absent subsidies, such service will continue to be lacking.

3. Specifically, in this *5G Fund Second Report and Order and Order on Reconsideration,* the Commission: (1) modifies the definition of the areas that will be eligible for support in the 5G Fund Phase I auction and include areas in Puerto Rico and the U.S. Virgin Islands that meet this eligible area definition in the 5G Fund Phase I auction; (2) increases the budget for Phase I of the 5G Fund and the Tribal reserve budget; (3) modifies the metric for accepting and identifying winning bids and adopt a service-based weighting factor for bidding in the 5G Fund Phase I auction; (4) explains how it will aggregate areas eligible for 5G Fund support to minimum geographic areas for bidding; (5) explains its approach to generally align the methodologies for demonstrating compliance with the 5G Fund public interest obligations and performance requirements with those used in the BDC; (6) modifies the schedule for transitioning from mobile legacy high-cost support to 5G Fund support consistent with recent legislative amendments; (7) requires each 5G Fund Phase I auction applicant to certify, under penalty of perjury, that it has read the public notice adopting procedures for the auction, and that it has familiarized itself with those procedures and any requirements related to the support made available for bidding in the auction; (8) requires 5G Fund support recipients to implement cybersecurity and supply chain risk management plans as a condition of receiving support; and (9) encourages 5G Fund support recipients to incorporate Open Radio Access Network (Open RAN) technologies in networks funded through the 5G Fund through the use of incentive funding and an opportunity to seek additional time to meet their 5G Fund public interest obligations and performance requirements by the established service deployment milestones.

4. The Commission also resolves the issues raised in the pending petitions for reconsideration of the *5G Fund Report and Order* filed by The Rural Wireless Association, Inc. (RWA) and NTCA—The Rural Broadband Association (NTCA), The Coalition of Rural Wireless Carriers (CRWC), CTIA, Smith Bagley, Inc. (SBI), and 5G Fund Supporters. *See* 86 FR 6611 (Jan. 22, 2021). With the decisions the

Commission reaches herein, the Commission advances its extensive efforts that began with the *USF/ICC Transformation Order,* 76 FR 73830 (Nov. 29, 2011), to modernize high-cost support for mobile broadband services and proceeds with confidence that it is stretching its limited universal service fund dollars to support advanced, 5G mobile wireless broadband service to as many areas where Americans live, work and travel as possible.

## II. Background

5. In its October 2020 *5G Fund Report and Order,* 85 FR 75770 (Nov. 25, 2020), the Commission established the 5G Fund and determined that it would use multi-round reverse auctions to distribute up to $9 billion, in two phases, to retarget mobile universal service in the high-cost program to bring voice and 5G mobile broadband service to rural areas of the country unlikely to otherwise see unsubsidized deployment of 5G-capable networks. In adopting a budget of up to $9 billion for the 5G Fund, the Commission explained that support would be awarded in two phases, with up to $8 billion for Phase I, of which it would reserve $680 million of support for service to Tribal lands, and at least $1 billion in Phase II, as well as any unawarded funds from Phase I. The Commission decided that it would use new, more precise, verified mobile coverage data gathered through the BDC to determine the areas eligible for support in a 5G Fund auction. The Commission defined the areas eligible for support in the 5G Fund Phase I auction as those that lack unsubsidized 4G LTE and 5G broadband service by at least one service provider based on BDC data. The Commission also decided that it would accept bids and identify winning bids in a 5G Fund auction using a support price per adjusted square kilometer. Under this approach, each eligible area would have an associated number of square kilometers that would be subject to an adjustment factor that would assign a weight to each geographic area and apply that adjustment factor to bidding for support amounts, and support amounts for an area would be determined by multiplying an area's associated adjusted square kilometers by the relevant price per square kilometer.

6. The Commission also concluded in the *5G Fund Report and Order* that ''[r]ural Americans deserve timely deployment of service by legacy recipients of high-cost support that is comparable to what is being offered in urban areas, and [that its] stewardship of the Universal Service Fund demands that [it] specify and clarify the obligations of legacy support recipients.'' Consistent with this conclusion, the Commission adopted additional 5G public interest obligations and performance requirements, as well as associated reporting requirements, for competitive eligible telecommunications carriers (ETCs) to continue to receive mobile legacy high-cost support. The Commission also adopted a requirement that competitive ETCs receiving mobile legacy high-cost support use an increasing percentage of their support toward the deployment, maintenance, and operation of voice and broadband networks that support 5G service in their subsidized areas. Furthermore, the Commission noted that it would terminate support payments to competitive ETCs receiving mobile legacy high-cost support that fail to comply with their public interest obligations and performance requirements. The Commission explained that such rules would help to ensure that the areas served by legacy support providers enjoyed the benefits that 5G promises.

7. Pursuant to the rules adopted in the *5G Fund Report and Order,* both recipients of mobile legacy high-cost support and recipients of 5G Fund auction support are required to meet minimum baseline performance requirements for data speed, latency, and data allowance, including: (1) deploying 5G networks that meet at least the 5G–NR (New Radio) technology standards developed by the 3rd Generation Partnership Project with Release 15 (or any successor release that may be adopted by the Office of Economics and Analytics (OEA) and Wireline Competition Bureau (WCB) after appropriate notice and comment) with median download and upload speeds of at least 35 Mbps and 3 Mbps and with minimum cell edge download and upload speeds of 7 Mbps and 1 Mbps; (2) meeting end-to-end round trip data latency measurements of 100 milliseconds or below; and (3) offering at least one service plan that includes a minimum monthly data allowance that is equivalent to the average United States subscriber data usage. The Commission explained that these performance requirements, along with public interest obligations for reasonably comparable rates, collocation, and voice and data roaming, will ensure that rural areas receive service reasonably comparable to high-speed mobile broadband service available in urban areas from both mobile legacy support recipients and 5G Fund support recipients.

8. To ensure that 5G Fund support recipients meet their public interest obligations and performance requirements in areas where they receive support, the Commission adopted interim and final service deployment milestones along with reporting requirements to monitor their progress. Specifically, the Commission adopted milestones requiring a 5G Fund support recipient to offer 5G service meeting established performance requirements to at least 40% of the total square kilometers associated with the eligible areas for which it is authorized to receive 5G Fund support in a state by the end of the third full calendar year following authorization of support, to at least 60% of the total square kilometers by the end of the fourth full calendar year, and to at least 80% of the total square kilometers by the end of the fifth full calendar year. Moreover, the Commission adopted a final service deployment milestone that would require a 5G Fund support recipient to offer 5G service that meets the established 5G Fund performance requirements to at least 85% of the total square kilometers associated with the eligible areas for which it is authorized to receive 5G Fund support in a state by the end of the sixth full calendar year following authorization of support. Additionally, a 5G Fund support recipient is required to demonstrate by the end of the sixth full calendar year following authorization of support that it provides service that meets the established 5G performance requirements to at least 75% of the total square kilometers within each of its individual biddable areas.

9. Figure 1 in the *5G Fund Second Report and Order and Order on Reconsideration,* titled ''USAC Mobile CETC Service Area Boundaries Map,'' depicts USAC's online map delineating the boundaries of the subsidized service areas of each competitive ETC receiving mobile legacy high-cost support used in determining which areas are subsidized for this purpose. The Commission stated in the *5G Fund Report and Order* that it will use Geographic Information Systems (GIS) data from the Universal Service Administrative Company (USAC) delineating the boundaries of the subsidized service areas of each competitive ETC receiving mobile legacy high-cost support in determining which areas are subsidized for this purpose. The *5G Fund Second Report and Order and Order on Reconsideration* notes that California, Connecticut, Delaware, Florida, Hawaii, Indiana, Maryland, Massachusetts, Minnesota, New Jersey, Ohio, Pennsylvania, Rhode Island, Vermont, and Washington, DC do not have any

mobile legacy high-cost support service areas. The charts in Figure 2 in the *5G Fund Second Report and Order and Order on Reconsideration,* titled ''Percent of a State's Total Area Within a Subsidized CETC Area and the Percent of Total High-Cost Subsidy Directed to That State,'' and Figure 3 in the *5G Fund Second Report and Order and Order on Reconsideration,* titled ''Percent of a State's Total Area Within the Subsidized Area of 1, 2, 3, or 4 CETCs,'' provide more detail about the distribution of mobile legacy high-cost support by state.

10. The Commission decided in the *5G Fund Report and Order* that it would wait to hold an auction to award 5G Fund support until it had new, more precise, verified mobile coverage data obtained through the BDC, and explained that waiting for the development of a National Broadband Map was critical to the 5G Fund's success. The Commission's National Broadband Map, which reflects the most recently available data submitted in the BDC concerning mobile broadband service availability, provides us with a substantially improved understanding about where such service is—and is not—available. Moreover, in areas where mobile broadband service is available, this map provides an improved picture of the type(s) of service available, the speeds at which service is available, and the environment(s) in which service is available.

11. Armed with this data, the Commission adopted the *5G Fund FNPRM* on September 21, 2023, to refresh the record and help inform the decisions the Commission makes below about how Phase I of the 5G Fund should operate. The *5G Fund FNPRM* therefore sought comment on a limited set of issues that are critical to the 5G Fund's success, namely: (1) defining the areas that will be eligible for 5G Fund support; (2) reassessing the budget for the 5G Fund; (3) potentially reconsidering the use of adjusted square kilometers as the metric for accepting bids and identifying winning bids in a 5G Fund auction; (4) aggregating areas eligible for 5G Fund support to minimum geographic areas for bidding; (5) measuring a 5G Fund support recipient's compliance with its public interest obligations and performance requirements based on any modified metric for accepting bids and identifying winning bids; (6) modifying the schedule for transitioning from mobile legacy high-cost support to 5G Fund support, consistent with recent legislative amendments; (7) requiring each 5G Fund Phase I auction applicant to certify, under penalty of perjury, that it has read the public notice adopting procedures for the auction, and that it has familiarized itself with those procedures and any requirements, terms, and conditions related to the support made available for bidding in the auction; (8) requiring 5G Fund support recipients to implement cybersecurity and supply chain risk management plans; (9) determining whether and how this proceeding might create an opportunity to support further deployment of Open Radio Access Network (Open RAN) technologies; and (10) asking how its proposals may promote or inhibit advances in diversity, equity, inclusion, and accessibility, as well the scope of the Commission's relevant legal authority to address any such issues.

## III. Identifying Areas Eligible for 5G Fund Support

### *A. Defining the Areas Eligible for 5G Fund Support*

12. The Commission modifies the definition of areas eligible for support in the 5G Fund Phase I auction to be those areas that: (1) show a lack of unsubsidized 5G mobile wireless broadband service at speeds of at least 7/1 Mbps in an outdoor stationary environment by at least one service provider based on mobile coverage data submitted in the BDC, (2) are not in urban areas, as defined by the U.S. Census Bureau, and (3) contain at least one location or at least some portion of a road. In the *5G Fund Second Report and Order and Order on Reconsideration,* the Commission noted that data submitted in the BDC does not include the subsidy status of a reported service or provider, and that to determine whether an area lacks unsubsidized service, it evaluates the subsidy status of a service provider by using information provided from USAC regarding the distribution of mobile legacy high-cost support from the universal service fund and competitive eligible telecommunications carrier (CETC) study boundaries. The Commission also noted that, consistent with the Commission's decision in the *5G Fund Report and Order* prohibiting any provider with enforceable 5G deployment obligations to use 5G Fund support to fund such deployments, it expects to give providers with enforceable 5G deployment obligations an opportunity to make pre-auction, binding commitments to deploy 5G in certain areas, thereby removing those areas from the inventory of areas eligible for the auction.

13. As the Commission noted in the *5G Fund FNPRM,* throughout this proceeding, several parties have taken issue with the previously adopted eligible areas definition—*i.e.,* areas where mobile coverage data submitted in the BDC show a lack of both unsubsidized 4G LTE and unsubsidized 5G broadband service by at least one service provider—and have advocated that the Commission more broadly define as eligible for 5G Fund support any areas that lack unsubsidized 5G mobile broadband service. The Commission also received two petitions seeking reconsideration of the eligible areas definition adopted in the *5G Fund Report and Order,* both of which ask the Commission to define as eligible for 5G Fund support any area that lacks unsubsidized 5G broadband service. *See* 86 FR 6611 (Jan. 22, 2021). The Commission is persuaded by the comments filed in response to the *5G Fund FNPRM* that, for a variety of reasons, unsubsidized providers of 4G LTE service may lack motivation to upgrade their networks to 5G technology in rural areas and thus may be unlikely to do so without incentives. To provide such incentives, the Commission therefore modifies the definition of eligible areas adopted in the *5G Fund Report and Order.* However, the Commission is also mindful that there are rural areas that lack unsubsidized 4G LTE service and thus lack access to any type of advanced high-speed mobile broadband service. Accordingly, as more fully explained in the *5G Fund Second Report and Order,* the Commission will apply a service-based weighting factor in 5G Fund Phase I auction bidding to incentivize the deployment of 5G mobile broadband service in areas that lack unsubsidized 4G LTE service. The Commission will use a speed threshold of 5/1 Mbps for purposes of determining the areas that lack unsubsidized 4G LTE in connection with this weighting approach. As noted in the *5G Fund Second Report and Order and Order on Reconsideration,* for 4G LTE, the BDC requires mobile broadband service providers to submit propagation maps and propagation model details that demonstrate where mobile wireless users should expect to receive minimum user speeds of 5/1 Mbps at the cell edge, with a cell edge probability of not less than 90% and a cell loading of not less than 50%, in accordance with the Broadband Deployment Accuracy and Technological Availability (Broadband DATA) Act. *See* 47 U.S.C. 642(b)(2)(B)(ii).

14. Consistent with the Commission's decision to modify the definition of areas eligible for support in the 5G Fund Phase I auction to be those areas where mobile coverage data submitted in the BDC show a lack of unsubsidized 5G mobile broadband service at speeds of at least 7/1 Mbps in an outdoor stationary environment by at least one service provider, the Commission also grants the Petitions for Reconsideration filed by CRWC, NTCA, and RWA to the extent they request that the Commission define the areas eligible for the 5G Fund Phase I auction as those where BDC data show a lack of unsubsidized 5G mobile broadband service.

1. Technology for Determining Eligible Areas

15. The record overwhelmingly supports modifying the definition of areas eligible for support in the 5G Fund Phase I auction to be those areas where BDC mobile coverage data show a lack of unsubsidized 5G mobile broadband service by at least one service provider, even if those areas are served by 4G LTE service. As the Competitive Carriers Association (CCA) emphasizes, ''the 5G Fund should be truly focused on 5G,'' and ''[t]he relevant question for 5G Fund eligibility is the presence or absence of currently-available 5G service in that area.'' CCA maintains that defining eligibility for 5G Fund support based on this baseline question will extend 5G service to both areas currently receiving only 4G service and those that do not receive 4G service. CCA notes that expanding eligibility to areas in which 4G LTE service is available but 5G service is not ''appropriately focuses the 5G Fund on expanding access to 5G service . . . [and] also avoids the potentially harmful consequences of stranding 4G-served areas without the potential for 5G service for an extended period of time.''

16. AT&T, Inc. (AT&T) and T-Mobile USA, Inc. (T-Mobile) are the only commenters that support continuing to define eligible areas as those that lack unsubsidized 4G LTE and 5G mobile broadband service. AT&T ''supports prioritizing 5G Fund support for areas without 4G LTE or 5G service'' and submits that ''[t]his could be accomplished by conducting a more targeted 5G Fund Phase I auction based on areas without 4G LTE and 5G service . . . [and] then expand[ing] the eligible areas [for the 5G Fund Phase II auction] to also include those that have 4G LTE service if the BDC maps at the time support [such an expansion].'' AT&T argues that ''[5G Fund support] should only be expended for areas that will not receive 5G service without private investment'' and asserts that ''the Commission . . . should first direct [its limited funds] to [areas] most in need—[those] that do not have 4G LTE or 5G service[,] . . . [which] will allow more time for private investment to upgrade 4G LTE coverage areas to 5G without [5G Fund] support but will also eventually allow support in the event it is not economical for a 4G LTE area[ ] to be [upgraded] without government support.'' T-Mobile argues that ''[t]argeting unserved areas is consistent with the framework of previous universal service auctions . . . [and] will avoid waste and inefficient use of resources due to overbuilding.'' T-Mobile submits that retaining the existing eligible areas definition ''will also help target funding to areas that lack mobile broadband service, as there are many places throughout the United States that lack even 4G LTE service,'' and maintains that ''[p]rioritizing areas that lack 4G LTE or 5G will ensure that funding is targeted to areas that lack any service.''

17. Several commenters address the questions posed by the Commission about what motivations there are for unsubsidized providers of 4G LTE service to upgrade their networks to 5G technology in rural areas. AST&Science LLC (AST&Science), CCA, CRWC, RWA, and Smith Bagley, Inc. (SBI) each submit that there is no reasonable basis to conclude that the provision of unsubsidized 4G LTE service in rural areas serves as an indicator that 5G mobile broadband service will be deployed in those areas absent subsidies. They argue that unsubsidized 4G LTE providers lack incentives and thus have limited motivation to upgrade their networks to support 5G service in rural areas, with AST&Science and CCA specifically noting the financial challenges of such rural upgrades as one of the main reasons. CCA contends that the record in this proceeding clearly demonstrates that the Commission's assumption in the *5G Fund Report and Order* that areas with unsubsidized 4G service tend to show a likelihood of unsubsidized 5G deployments such that they should be excluded from 5G Fund eligibility is incorrect and risks widening the digital divide instead of closing it. CRWC, US Cellular, and SBI each cite CRWC's claim in its Petition for Reconsideration of the *5G Fund Report and Order* that ''it would be[ ] premature in the extreme for the Commission to assume [in 2020] that, within the next several years, all rural areas that currently have 4G service will see [deployment of] 5G service [at levels meeting Commission's adopted performance requirements]'' and each notes ''that the facts appear to bear out [CRWC's earlier assertion]'' because ''[t]he BDC map [in Figure 1 of the *5G Fund FNPRM* ] continues to show vast swaths of rural America lacking unsubsidized 4G LTE service at 5/1 Mbps as well as unsubsidized 5G service at 7/1 Mbps or better.'' CRWC, US Cellular, and SBI submit that notwithstanding record low interest rates in effect at the time of, and following, the adoption of the *5G Fund Report and Order* and recent Commission auctions of spectrum suitable for 5G deployments, ''unsubsidized carriers have not rushed in over the past three years to close the mobile service gap in rural America . . . [and] it appears there is a great deal of work to do'' to upgrade areas that lack 4G LTE service, let alone upgrading to 5G service. According to US Cellular, another disincentive for providers to upgrade from 4G to 5G is that while upgrades from 3G to 4G LTE service have in the past served to deliver access to new services, such as internet access and streaming, that increased usage and in turn carrier revenues, ''almost every American already has a mobile device of some sort, even if they live in an area without high-quality coverage and service [and] [a]s a result, investing to upgrade to 5G-level service does not deliver substantial new revenues to a carrier from non-business customers, at least not yet.''

18. Verizon notes that ''[w]hile many areas that have unsubsidized 4G LTE coverage will soon obtain 5G coverage through the operation of the competitive market, some areas with 4G LTE coverage will require universal service support to upgrade to 5G.'' Verizon submits that the risk of preempting near-term 5G deployments by subsidizing them in areas where unsubsidized 4G LTE networks have been deployed—which the Commission previously sought to avoid—has already been reduced by the extensive unsubsidized 5G deployment that has occurred during the three-year pause in implementation of the 5G Fund, and ''will be further reduced by the time the Commission holds the [5G Fund] Phase I auction . . . as those unsubsidized deployments continue to expand. Verizon contends that as a result, ''[b]y the time [the Commission] holds the [5G Fund] Phase I auction, it will be more reasonable for the Commission to assume that any remaining 4G LTE-only areas shown on the BDC maps require universal service support to upgrade to 5G.'' NTCA maintains that ''in sparse

rural areas where the distance between buildings is significant, the population small, and often there is not a major highway passing through the area, there is little to justify or even absorb the cost of delivering 5G [mobile] broadband service'' and thus ''predicting that entities currently offering unsubsidized 4G LTE coverage in these areas might someday increase that coverage to 5G would miss the mark.'' NTCA further submits that ''[s]uch a baseless predictive judgment would instead result in the very areas the Commission intends to support through the 5G Fund remaining on the wrong side of the digital divide.''

19. T-Mobile is the only commenter that argues that the Commission's earlier assumption was correct because, ''[a]s in 2020, 5G deployments are likely in areas where unsubsidized 4G LTE networks have already been deployed . . . [and] [t]he market forces that brought unsubsidized 4G LTE to an area are likely to result in a provider's decision to upgrade their service to 5G.'' T-Mobile submits that the Commission's approach in the *5G Fund Report and Order* for defining eligible areas ''will help to mitigate overbuilding as providers continue to deploy 5G service to meet market demands.'' However, RWA disagrees, arguing that ''T-Mobile provide[s] no evidence to support the [Commission's] assumption [in the *5G Fund Report and Order*] that 5G deployments are likely in areas where unsubsidized 4G LTE networks have already been deployed . . . [and is] only able to point to 'market forces' that it argues will drive 5G deployment in areas where there is unsubsidized 4G LTE deployment and a general concern [regarding] overbuilding.'' RWA notes that, to the contrary, BDC filing data show that ''unsubsidized carriers have not [in fact] rushed to deploy 5G mobile service in rural America [during] the . . . three years since the *5G Fund [Report and] Order* was adopted.'' [1] RWA contends that ''the record clearly shows that rural areas served only by 4G LTE should be funded by the 5G Fund due to the high risk of being left behind in 5G rural deployments.''

20. The Commission agrees with commenters that defining eligible areas based on a lack of unsubsidized 5G mobile service is more consistent with the 5G-centered approach envisioned for the 5G Fund. While the Commission is mindful of the need to avoid overbuilding, it concludes that retaining the eligible areas definition adopted in the *5G Fund Report and Order* could exclude some areas where unsubsidized 4G LTE service is being provided that will not be upgraded to 5G service without 5G Fund support. Moreover, the Commission finds the risk of overbuilding such areas is outweighed by the benefit of ensuring that it does not inadvertently strand areas to lesser mobile broadband technology and speeds. The Commission recognized in 2020 in the *5G Fund Report and Order* that at least two providers—T-Mobile and DISH—would be deploying 5G mobile broadband service in rural areas in the then-near term pursuant to their enforceable merger commitments. For this reason, the Commission decided in the *5G Fund Report and Order* that it would first afford T-Mobile, and potentially others, an opportunity to make pre-auction, binding commitments to deploy 5G service in certain areas to allow the Commission to remove such areas from the inventory of areas eligible for the auction, and thereby avoid overbuilding in rural areas where it is known that a provider plans to deploy unsubsidized 5G mobile broadband service.

21. The Commission declines to adopt the approach proposed by AT&T that would stagger the implementation of the 5G Fund by first awarding support to ''areas that do not have 4G LTE or 5G service [in order to] allow more time for private investment to upgrade 4G LTE coverage areas to 5G service without support from the 5G Fund.'' AT&T's proposal essentially asks the Commission to retain the definition of eligible areas that it adopted in 2020 for an indeterminate period of time while the Commission continues to evaluate if the market will bring advanced, 5G mobile broadband service to those areas absent subsidies. T-Mobile similarly suggests in support of retaining that definition that the Commission wait to ''hold[ ] the 5G Fund Phase I Auction [until] pending wireless industry developments have been resolved'' in order to ''maximize the impact of the 5G Fund and minimize inefficient overbuilding.'' In support of waiting to move forward toward the 5G Fund Phase I auction until unsubsidized 5G mobile broadband service deployments play out, T-Mobile notes the Commission's decision to wait to decide '''how and/or whether future planned processes, such as [Phase II of the Rural Digital Opportunity Fund], remain necessary after the Commission's creation of the Fabric and deployment commitments under BEAD and/or other Infrastructure Act programs are made.''' However, unlike the timing for the creation of the Broadband Serviceable Location Fabric (Fabric) created for the BDC and the deployment commitments under BEAD and/or other Infrastructure Act programs, which have more structured parameters and are largely within the control of the government, decisions about where unsubsidized 5G mobile broadband service will be deployed and on what timeline rest solely with the carriers deploying such service. Moreover, one of the underlying policy principles of the 5G Fund is to direct high-cost universal service support to areas of the country where, absent subsidies, they are unlikely to experience advanced, 5G mobile broadband service. The Commission therefore finds both AT&T's and T-Mobile's approaches are wholly inconsistent with its decision herein to target 5G Fund support to the greatest number of rural areas as possible where people live, work, and travel within the available budget. Although the Commission is not persuaded that it should delay the 5G Fund Phase I auction until after BEAD support has been awarded, as more fully explained in the *5G Fund Second Report and Order,* the Commission will nonetheless assess eligible area determinations to ensure that 5G Fund support does not duplicate BEAD funding efforts.

2. Speed Thresholds for Determining Eligible Areas

22. Although virtually all commenters support basing the determination of eligible areas on where BDC mobile coverage data show a lack of unsubsidized 5G broadband service by at least one service provider, their positions about which speed thresholds to use in connection with applying this definition to determine eligible areas differ. Brian Dang (Dang), T-Mobile, and Verizon each express support for using 7/1 Mbps as the speed threshold for 5G service. Dang asserts that ''setting the benchmark for 5/1 Mbps for 4G and 7/1 Mbps for 5G seems to strike a reasonable balance for considering the mobile user experience.'' T-Mobile notes that the Commission has expressed that ''[a] speed threshold [of 7/1 Mbps] is likely to be attainable by mobile broadband service providers deploying 5G–NR service over smaller channel blocks of low-band spectrum.'' T-Mobile submits that defining eligible areas as those that lack 35/3 Mbps 5G coverage ''would certainly result in overbuilding areas that have 5G from unsubsidized providers and would divert resources away from the areas that need it most—namely, areas that still lack *any* 5G or 4G LTE coverage at all.'' T-Mobile maintains ''[t]he Commission can carry out its obligation to be 'a fiscally responsible steward of

[1] *Id.* at 2–3 (citing CRWC Comments at 9–14).

[the] limited universal service funds' and fulfill its 'commitment to preventing overbuilding' by reaffirming its decision to use speed thresholds that mirror the mapping parameters adopted for the BDC.'' T-Mobile notes that ''[t]he BDC uses 5/1 Mbps as the speed threshold for 4G LTE coverage and 7/1 Mbps as the speed threshold for 5G coverage,'' and contends that ''those same thresholds should be used for identifying eligible areas for the 5G Fund.''

23. Michael Ravnitzky recommends ''us[ing] a minimum speed threshold of 25 Mbps/3 Mbps to define unsubsidized 5G service [for funding 5G service for Native American, Native Alaskan Native Hawaiian, Puerto Rican, and U.S. Virgin Island communities]'' because it ''is consistent with the Commission's current definition of fixed broadband service and reflects the minimum level of service quality that these communities deserve and need.''

24. AST&Science, CCA, CRWC, RWA, SBI, and US Cellular each express support for using 35/3 Mbps as the speed threshold for 5G service. CRWC reiterates the request made in its pending Petition for Reconsideration that the Commission '''define as eligible any area that lacks unsubsidized 5G service meeting the performance requirements set forth for 5G Fund auction winners' . . . [*i.e.,*] [a]ny area lacking mobile broadband at a median speed of [35/3 Mbps], with 90% cell edge reliability, with no more than 100 milliseconds . . . of latency.'' CCA, CRWC, and US Cellular acknowledge that making every area lacking 5G service at a speed threshold of 35/3 Mbps eligible for the 5G Fund Phase I auction could mean areas with median speeds that are close to 35/3 Mbps might receive support, but they each submit that this could be addressed by ''giv[ing] a preference to areas that are unserved or underserved, weighting the 5G Fund auction so that these areas would be funded before any support is distributed in areas having median speeds close to 35/3 Mbps,'' or by ''tak[ing] steps to coordinate or time [the] 5G Fund [Phase I] auction to more completely consider the impacts of a robust mobile BDC challenge process and/or the impacts of BEAD-funded projects on the mobility landscape.'' CRWC and US Cellular contend that using a speed threshold of 7/1 Mbps for 5G service does not go far enough to fulfill the statutory goal of ''provid[ing] consumers in rural areas with access to service quality that is reasonably comparable to that which is available in urban areas,'' but submit that if the Commission does not adopt the eligible areas definition CRWC advocates for in its Petition for Reconsideration, ''making eligible for 5G Fund support any area lacking 5G technology at a speed of 7/1 Mbps or better'' represents ''a significant and commendable improvement over the eligibility provisions [adopted] in the *5G Fund [Report and] Order.*'' SBI likewise believes a speed threshold of 7/1 Mbps for 5G service does not go far enough, and supports adopting the eligible areas definition CRWC advocates in it Petition, but submits that if the Commission does not use a speed threshold of 35/3 Mbps for purposes of determining eligible areas, it should alternatively provide for a middle ground data collection by replacing the 7/1 Mbps collection in the BDC with 20/2 Mbps, so that all rural Americans receiving service at less than 20/2 Mbps can access 5G Fund support investments.

25. CCA compares the mobile speeds to fixed service speeds and argues that ''[defining the speed threshold for] 5G connectivity as merely 7/1 Mbps is inconsistent with the Commission's role as a global leader in technological innovation and connectivity . . . [and] also falls short of the speed threshold expectations the Administration and the Commission have expressed in other programs—for example, [Broadband Equity Access and Deployment (BEAD)] Program connectivity requires a speed threshold of 100/20 Mbps, and Alternative-Connect America[ ] Cost Model II ('A–CAM II') connectivity requires 25/3 Mbps.'' CCA also ''disagrees with the [Commission's] assumption [in the *5G Fund FNPRM*] that download and upload speeds of at least 7/1 Mbps are the typical minimum desired mobile experience for 5G service,'' asserting that ''[this speed threshold] myopically focuses on mobile phone 5G connectivity'' even though 5G encompasses much more than that. CCA also argues that ''us[ing] a 5/1 Mbps speed threshold for 4G connectivity and a 7/1 Mbps speed threshold for 5G connectivity minimizes the significant differences between 4G and 5G technology and user experience.'' CCA advocates using a speed threshold of 35/3 Mbps to define 5G service, contending that the 7/1 Mbps speed threshold the Commission proposes to set for 5G is ''a fraction of the median nationwide speed'' of over 83/8 Mbps and the speeds exceeding 4 Gbps that are enjoyed by Americans living in urban areas.

26. The Commission notes that for mobile services, it standardized the speed parameters that providers use in generating their BDC coverage areas, and for 5G mobile broadband service, those speed parameters are standardized at 7/1 Mbps and 35/5 Mbps. *See BDC Second Report and Order,* 85 FR 50886 (Aug. 18, 2020). The BDC therefore collects 5G coverage data based only on speed thresholds of 7/1 Mbps and 35/3 Mbps. As a result, the Commission does not have data on 5G mobile broadband coverage at speed thresholds of 25/3 Mbps, 83/8 Mbps, 100/20 Mbps—which are all associated with performance requirements through which fixed service is funded (*e.g.,* the BEAD Program, A–CAM II)—or any other speed threshold combinations, and therefore can use only the speed threshold of 7/1 Mbps or 35/3 Mbps for which mobile coverage data is available in the BDC for purposes of determining eligible areas.

27. The Commission concludes that using a speed threshold of 7/1 Mbps for 5G for purposes of determining eligible areas will promote the expansion of 5G mobile broadband coverage at a speed threshold of at least 35/3 Mbps while avoiding the potential for overbuilding in areas where a provider already offers some level of unsubsidized 5G service (*i.e.,* at 7/1 Mbps) and could upgrade to higher speeds in the future. Conversely, using a speed threshold of 35/3 Mbps to determine eligible areas would result in many more areas being eligible for support, which would unnecessarily tax the 5G Fund Phase I budget. Further, using a speed threshold of 35/3 Mbps would result in overbuilding in areas where providers will upgrade their 7/1 Mbps service to 35/3 Mbps service absent a subsidy. Moreover, the Commission expects that a speed threshold of 7/1 Mbps reflects the minimum desired typical mobile user experience across broad 5G coverage areas. The Commission continues to believe that it should not use the same 35/3 Mbps speed threshold for purposes of determining areas eligible for 5G Fund support that support recipients are required to achieve in meeting their 5G Fund performance requirements. The Commission notes that CCA's assertion that the Commission is ''[defining] 5G connectivity as merely 7/1 Mbps'' is incorrect and conflates its decision to use 7/1 Mbps as the speed threshold for purposes of determining eligible areas with the minimum speed threshold of 35/3 Mbps that a support recipient must achieve in order to meet its 5G Fund performance requirements. This performance requirement will ensure that areas currently lacking unsubsidized 7/1 Mbps will not be left behind in experiencing the higher speeds that areas with 7/1 Mbps service

are likely to experience as the result of provider network upgrades. For these reasons, the Commission also denies the Petitions for Reconsideration filed by CRWC, NTCA, and RWA to the extent they request that the Commission define areas eligible for the 5G Fund Phase I auctions as those that lack unsubsidized 5G mobile broadband service at speeds of at least 35/3 Mbps.

28. The Commission disagrees with commenters' assertion that, if a 35/3 Mbps threshold is used to determine an area's eligibility for 5G Fund support, issues with support funds being diverted from unserved or underserved areas to fund areas with service ''close to 35/3 Mbps'' can be addressed by distributing support first to areas with service speeds not ''close to 35/3 Mbps.'' Such a process would be inconsistent with the mechanism the Commission adopted to assign support under the 5G Fund, namely a reverse auction that considers in a single auction all eligible areas and that aims to assign the full budget to those eligible areas. A second reverse auction for the ''close to 35/3 Mbps'' areas would be required, with a corresponding rulemaking and pre-auction process to determine the areas that would be held back from the initial auction, the portion of the budget that would be withheld for later assignment, the timing of the later assignment mechanism, and any of a number of additional details that would need to be resolved for such a process to be carried out. Therefore, for this reason and for the reasons the Commission adopts the 7/1 threshold more generally, the Commission declines to accept the commenters' proposal and, as explained herein, the Commission excludes from eligibility areas that already have some level of 5G service (at speeds faster than 7/1 Mbps). Instead, the Commission targets its limited universal service support funds to areas that do not already enjoy a provision of service that far exceeds areas that have service offerings no better than 4G LTE.

29. As noted herein, the Commission will use a speed threshold of 5/1 Mbps with respect to 4G LTE service in connection with identifying any areas within the universe of areas eligible for the 5G Fund Phase I auction that lack unsubsidized 4G LTE, for purposes of incentivizing the deployment of 5G service in areas that lack unsubsidized 4G LTE service. The Commission notes that the BDC collects 4G LTE coverage areas based on speed thresholds of 5/1 Mbps in accordance with the Broadband DATA Act, and concludes that using this speed threshold for this purpose is appropriate.

3. Environment for Determining Eligible Areas

30. The record is split on whether the Commission should use outdoor stationary or in-vehicle BDC coverage maps to determine eligible areas. AT&T, CTIA, T-Mobile, and Verizon each express support for using outdoor stationary BDC coverage maps to identify areas that are eligible for 5G Fund support. AT&T argues that the lack of standardized parameters for in-vehicle coverage maps ''compromises the value of such maps and would only further complicate the distribution of 5G Fund support'' and that ''utilizing in-vehicle coverage maps instead of outdoor stationary maps will increase the eligible areas and allow support in areas that already have some amount of 5G coverage.'' CTIA asserts that ''[w]hile the idea of using in-vehicle mobile coverage maps might have some facial appeal, [it] remains concerned that such maps fail to account for significant variables . . . [such as] the location of the device within the vehicle, the type of vehicle, whether the windows are up or down, and the vehicle speed.'' T-Mobile also notes that, because ''[t]he Commission did not standardize any of the key parameters that affect the results of in-vehicle coverage, such as vehicle speed, the position of the phone inside the car, and the type of car, . . . in-vehicle data [will be] much more variable and therefore [provide a] less reliable basis for determining the actual coverage of an area.'' ''Given the potential for inconsistency among in-vehicle mobile coverage maps, CTIA urges the Commission to use coverage maps produced to show outdoor stationary coverage . . . [in order to] use a more stable and reliable coverage dataset as the basis for the 5G Fund . . . [and] target 5G Fund subsidies to the areas most in need of support as the outdoor stationary maps provide a more targeted list of eligible areas.''

31. T-Mobile submits that ''outdoor stationary data is a far more reliable and realistic basis for determining where wireless coverage is available than in-vehicle coverage data for several reasons.'' T-Mobile argues that ''[g]iven the number of variables, providers will inevitably use different parameters to model their in-vehicle coverage, making it practically impossible to make meaningful [apples-to-apples] comparisons between mobile providers' in-vehicle coverage maps.'' T-Mobile notes that ''[t]he variability of in-vehicle mobile speed testing also introduces unnecessary complications in the challenge process . . . [because], for purposes of the BDC, speed tests taken on bicycles, motorcycles, snowmobiles, and all-terrain vehicles are all considered tests from in-vehicle mobile environments, as are tests conducted in soft-top convertibles, hard-top sedans, SUVs, pickup trucks, and any type of recreational vehicle, [which] entails a wide range of 'in-vehicle testing scenarios.''' Verizon supports ''using the outdoor stationary 7/1 Mbps 5G coverage map . . . [to] ensure that the entire budget is used to expand high-speed 5G coverage in areas that have little or no 5G coverage at the time of the auction, *i.e.,* [those] that do not even meet the 7/1 Mbps outdoor stationary standard.'' Verizon opposes ''identifying eligible areas using the in-vehicle maps [because it] would allow part or all of the budget to be used to upgrade existing networks in those areas that meet the outdoor stationary 7/1 Mbps standard but fall short of the in-vehicle standard.''

32. CCA, RWA, and US Cellular express support for using in-vehicle BDC coverage maps to identify areas that are eligible for 5G Fund support. CCA argues that coverage maps based on in-vehicle mobile environments ''better reflects the purposes of the 5G Fund—achieving ubiquitous connectivity—by accounting for the mobile nature of 5G usage. RWA similarly asserts that ''[g]iven the inherent mobility aspect of in-vehicle data, [using] such data will best represent where 5G Fund support is needed to provide 5G mobility coverage. RWA submits that ''[w]hile there may be multiple variables related to in-vehicle mobile data collection, such data provides a more accurate picture of actual mobile coverage that consumers will experience in the relevant areas.'' RWA maintains that if the Commission's goal is ''expand[ing] 5G to rural areas where consumers live, work, and travel, ensuring that such consumers have 5G connectivity on rural roads is critical to that goal'' and that ''[o]utdoor stationary mobile data does not depict actual mobile coverage and [thus] should not be used as a methodology for determining eligible areas for consumers traveling through rural areas on rural roads.'' RWA further notes that ''using in-vehicle mobile data would ease the costs of the challenge process as drive testing is a much more cost-efficient and effective way to measure mobile coverage as opposed to conducting measurements in off-road areas, which are expensive and difficult to access in rural and remote areas.'' US Cellular likewise contends that ''[a]n in-vehicle measurement standard aligns more closely with how mobile handsets

interact with cell towers and will result in improved service quality for voice calls and data sessions conducted in a mobile environment.''

33. The Commission is concerned that the use of in-vehicle mobile coverage maps could result in significant overbuilding, as claimed by commenters that oppose using such coverage maps. The Commission concludes that relying on outdoor stationary coverage data will avoid potentially overbuilding in areas where a provider already offers some level of unsubsidized 5G service and could upgrade to better service in the future. The Commission notes that outdoor stationary coverage estimates as reflected on the its National Broadband Map are generally larger than those generated for in-vehicle mobile coverage, and therefore relying on them will reduce the likelihood of overbuilding. Looking at data from June 30, 2023, as updated on February 7, 2024, about 34% of the U.S. is covered by 5G service at 7/1 according to in-vehicle mobile coverage data, whereas the analogous outdoor stationary data show that about 46% of the U.S. is covered. Additionally, unlike in-vehicle mobile coverage data, outdoor stationary coverage data are unperturbed by the lack of standard assumptions about characteristics such as vehicle type and speed. In balancing the Commission's obligation to exercise fiscal responsibility to avoid excessive subsidization and the goal of deploying 5G services to where people live, work, and travel, the Commission finds the best approach is to use outdoor stationary BDC coverage maps in determining eligible areas.

4. Limiting Eligibility to Areas With Locations or Roads

34. Because the Commission intends to direct 5G Fund Phase I support to areas where people live, work, and travel, it will limit the areas eligible for the 5G Fund Phase I auction to areas that contain at least one location or at least some portion of a road. The Commission will determine the areas that contain locations using the BDC Fabric. The Fabric is a dataset of every location (building or structure) in the United States and its Territories identified as a single point or record defined by a set of geographic coordinates that fall within the footprint of a structure, with each point assigned a unique Commission-issued Location ID. Within the location records included in the Fabric are a subset of business, residential, or mixed-use locations at which mass-market fixed broadband internet access service are or could be installed, referred to as Broadband Serviceable Locations (BSLs). The Commission will use all locations included in the Fabric dataset, not just those that are identified as BSLs. This broader set of locations includes structures—such as community anchor institutions and large enterprises—that subscribe to, or would be expected to subscribe to, non-mass market broadband service. Including these locations, as well as BSLs, ensures that the Commission will capture more of the areas where people live, work, and travel.

35. The Commission will determine the areas that contain roads using road data from OpenStreetMap. OpenStreetMap is a free, editable map of the world that is updated and maintained by a community of volunteers via open collaboration. OpenStreetMap is published and freely licensed under an Open Database License, which allows anyone to access, use, and share the data. Contributors collect data from surveys, trace from permitted aerial photography and satellite imagery, and import other geographical data in the public domain (such as U.S. TIGER) and from freely licensed geodata sources. These contributions are immediately ingested by OpenStreetMap, resulting in a map made by local experts with data that can be as current as the time of access/download. The Commission will define ''roads'' for purposes of determining areas eligible for the 5G Fund Phase I auction as those that include the following categories of roads: primary roads; secondary roads; local neighborhood roads, rural roads, and city streets; vehicular trails; ramps; private roads; parking lot roads; and winter trails. These categories of roads are encompassed in the OpenStreetMap ''highways'' category, which includes motorways, trunks, primary roads, secondary roads, tertiary roads, residential roads, service roads, and tracks, and the associated links. Defining roads in this manner is consistent with how the Commission has defined roads for purpose of other mobile universal service auctions. Further, because this definition includes many different types of roads, it helps ensure that areas where people live, work, and travel will be eligible for 5G Fund Phase I support.

36. Given that the Commission is limiting the areas eligible for support in the 5G Fund Phase I auction to those that contain locations or roads, it does not believe it is necessary to also exclude water-only areas from eligibility. Further, excluding water-only areas from eligibility as part of the process of generating eligible areas could exclude portions of roads, such as bridges and causeways, that are located in water-only areas but which the Commission believes should be eligible for support.

37. Urban areas, as defined by the U.S. Census Bureau, will not be eligible for support in the 5G Fund Phase I auction, because the Commission concludes that making these areas eligible for support would be inconsistent with the objective of the 5G Fund program to fund the deployment of 5G service in rural areas. The limited comment the Commission received on this issue supports excluding urban areas from eligibility for support in support in the 5G Fund Phase I auction.

38. Commenters generally support the Commission's approach to limiting eligible areas to those areas that contain locations or roads in furtherance of its goal of directing 5G Fund Phase I support to areas where people live, work, and travel. AT&T ''supports limiting eligible areas to those resolution 9 hexagons [(hex-9s)] that contain locations *and/or* certain roads,'' noting that if eligible areas were defined as ''those areas where *both* locations *and* roads exist, it would overly limit the areas eligible for 5G Fund support, contrary to the Commission's goal of reaching all areas where people live, work, and travel.'' CCA ''agrees with AT&T that defining eligible areas as those where 'locations and roads exist'' would be overly limiting and contrary to the Commission's goal of reaching all areas where people live, work, and travel, and advocates for ''a definition of eligibility that includes both unserved roads and unserved locations'' because it would ''appropriately reflect the mobile nature of 5G service.'' Michael Ravnitzky submits that limiting eligible areas to those that contain BSLs and/or roads will help ''direct 5G Fund support [in Native American, Native Alaskan Native Hawaiian, Puerto Rican, and U.S. Virgin Island communities] to areas where people live, work, and travel and avoid wasting resources on areas that are uninhabited or inaccessible.''

39. In its initial comments, RWA advocates ''limit[ing] eligible areas to roadways, rather than locations,'' and expresses concern that relying solely on locations would ''disregard[ ] the inherent mobility of 5G mobile services and could potentially be duplicating efforts made by the BEAD Program and other federal broadband programs which provide funding for both fiber and wireless projects, which focus on locations.'' RWA maintains in its reply comments that the Commission should limit eligible areas to roadways if the 5G Fund budget is limited to $9 billion, but

submits that ''if additional funding is available, locations should also be included.'' While acknowledging that serving both roads and locations is important, RWA expresses concern that ''[if] locations [are included] in eligible areas, the funding may not go as far and the [Commission] could duplicate efforts of the [BEAD] Program and other federal broadband funding programs that [fund] . . . projects to serve locations.''

40. Other commenters ask the Commission to expand the eligibility criteria to specifically include agricultural lands. Verizon supports expanding the eligibility criteria to include ''rural hex-9s with roads, BSLs, or agricultural lands,'' and urges the Commission to ''focus[ ] support on unserved areas that would have the most significant demand for mobile broadband service and require relatively smaller subsidies, rather than on areas that would have little demand for mobile broadband service and require larger subsidies.'' Verizon submits that ''including agricultural lands in the definition of eligible areas . . . will ensure that more of the nation's farmland gains the benefits of precision agriculture,'' which it notes is one of the goals articulated in the 5G *Fund Report and Order*. WIA similarly advocates for including agricultural areas within the geographic areas determined to be eligible for 5G Fund support, and asks the Commission to specifically include such areas as eligible for 5G Fund support. WIA acknowledges the importance of mobile service on roadways, but submits that there are areas that extend well beyond the reach of roads that need mobile connectivity as well (*e.g.,* agricultural communities cultivating land). WIA argues that support areas must include those that are crucial to economic activity, tourism, and public safety in which competitive solutions do not exist, noting that farmers now use a host of precision technologies to manage their operations that cannot be used without mobile connectivity. John Deere Corporation (Deere) agrees with WIA, and urges the Commission to both include agricultural areas and farmlands within the areas that are eligible to receive 5G Fund support and make them the focus of the $1 billion in 5G Fund support that was set aside for precision agriculture in the *5G Fund Report and Order.*

41. The Commission declines either to narrow or expand the eligibility-limiting criteria used to determine areas eligible for the 5G Fund Phase I auction in response to these comments. Although BEAD and other programs fund the deployment of fixed broadband services to fixed locations, these locations also indicate where people use mobile devices and where they live, work, and travel. Thus, the Commission disagrees with RWA that it should limit the eligibility criteria for determining eligible areas to those areas with roads only. With respect to expanding the eligibility criteria to specifically include agricultural areas, as requested by Verizon, WIA, and Deere, the Commission notes that the Commission explained in the *5G Fund Report and Order* that ''Phase II [of the 5G Fund] . . . will focus support to specifically target the deployment of technologically innovative 5G networks that facilitate precision agriculture.'' Specifically, including agricultural areas would therefore be outside the scope of the 5G Fund Phase I auction. The Commission further notes that any agricultural areas located within an area determined to be eligible for the 5G Fund Phase I auction will indeed be eligible for support in that auction; the criteria the Commission adopts today for determining the eligible areas will not categorically remove agricultural lands. Additionally, the Commission believes the broad definition of ''roads'' it will use for purposes of determining the areas eligible for support in the 5G Fund Phase I auction may result in coverage reaching agricultural areas and farmlands because providers, when engineering their networks to cover the roads, are likely to cover such areas if they are in close proximity. Accordingly, the Commission does not take any additional steps here to ensure that support under Phase I of the 5G Fund reaches agricultural lands specifically.

42. Several commenters address both the categories of roads and the data source(s) that the Commission should use for purposes of determining the eligible areas that contain roads. RWA and CCA advocate using the following roadways, as defined by the U.S. Census Bureau: primary roads; secondary roads; local neighborhood roads, rural roads, and city streets; vehicular trails; ramps; private roads; parking lot roads; and winter trails. CCA asks the Commission to consider including other types of unserved roadways in determining an area eligible for support, ''even if they are not captured in U.S. Census Bureau [road] data or are located close to a served roadway.'' CCA submits that ''the Commission cannot and should not assume a local road, alleyway, or agricultural road in a rural area receives or will receive unsubsidized 5G service simply because a highway in that same area receives 5G service,'' and urges the Commission to ''consider data at a granular level to avoid leaving behind unserved roadways in areas where another roadway in that area is receiving 5G service.'' CCA also expresses support for looking beyond roadways and including other unserved areas—such as waterways, agricultural lands, farmland and other cultivable land, parks, and trails—for purposes of determining an area's eligibility for support. NYPSC asks the Commission to consider including waterways and other frequented areas, such as state parks, as well as remote areas, in making eligible area determinations, noting that ''wired services may be unreliable or unavailable [in these rural and remote areas].'' SBI advocates making all active roads used on remote Tribal lands eligible for support if the Commission decides to limit eligible areas to those that contain locations or roads because ''[t]housands of Tribal locations in SBI's service area are beyond the reach of the U.S. Postal Service as they receive no home delivery and they have no Postal Service address.'' SBI notes that ''[t]hese remote locations often are connected to primary roads by very small unpaved dirt roads through the high desert,'' many of which SBI states ''are considered to be service and private roads[ ] categorized as S.1740'' under the U.S. Census Bureau's feature class codes. SBI submits that ''[t]hese roads, which likely fall into the 1.6, 1.7, or 1.8 category in the OpenStreetMap hierarchy, must be included as eligible areas'' if the Commission chooses to use OpenStreetMap. SBI notes that that ''there are substantial road areas in between homes and major roads that could be excluded if the Commission limits eligibility to only [hex-9s] with developed roads or locations.'' SBI states that unlike much of the rest of the nation, this undeveloped network of roads comprise a substantial area within which Tribal residents will travel, and notes that the health and safety benefits of access to mobile services (especially 911 service) compel the Commission to ensure that all of these minor roads are considered when making eligible area determinations.

43. CCA, Deere, RWA, and WIA each support using U.S. Census Bureau TIGER data when making road-based eligible area determinations. WIA and Deere note that agricultural communities may fall outside of the maps for roads, and therefore caution against using a single data source, such as OpenStreetMap, to determine eligible areas that contain roads. WIA and Deere therefore urge the Commission to

instead rely on multiple sources, including the TIGER road miles database, the U.S. Department of Agriculture's cultivated land layer, and other sources, to provide redundancy and help ensure that all agricultural communities are included within the areas eligible to receive 5G Fund support.

44. The Commission concludes that the definition of roads, and the source of road data, it adopts here is broadly consistent with the categories of roads commenters ask us to consider when identifying the eligible areas that contain roads. In addition, including areas with Fabric locations will ensure that the roads leading to those locations generally will receive 5G coverage even if such roads do not fall within the categories of roads the Commission adopts today. While the Commission appreciates commenters' interest in using more than one road data source for redundancy and completeness, the Commission believes that using multiple road data sources would be unwieldly and could cause confusion, and thus decline to do so. The Commission concludes that using OpenStreetMap as the single road data source is beneficial because it includes all the road categories in the definition the Commission adopts, it is updated more frequently than TIGER data, and it reflects input from the public.

5. Generating Areas Eligible for 5G Fund Support at the Hex-9 Level

45. In the *5G Fund FNPRM,* the Commission noted that in order to limit the areas eligible for support in the 5G Fund Phase I auction to those that contain locations or roads, the Commission would need to designate the geographic areas that contain locations and/or roads. The Commission sought comment in the *5G Fund FNPRM* on its approach to identifying specific geographic areas eligible for 5G Fund support, and the idea of expressing those eligible areas as hex-9s. The Commission explained in the *5G Fund FNPRM* that under this approach, ''areas eligible for 5G Fund support [would be converted] to, and [made] available in the form of, [hex-9s],'' noting that ''unlike 'raw' coverage footprints based on propagation model output, which do not conform to any defined boundary, hex-9s are standardized and can be clearly identified and referenced.'' The Commission noted that ''because hex-9s are relatively small, with an average area of approximately 0.1 square kilometer, any reduction in map resolution when converting from raw propagation model output (as filed by providers) to hex-9s is minimal,'' and that ''the use of hex-9s can strike the appropriate balance between the benefits of their use and this loss in granularity, particularly given that the data as filed are based on models of coverage.''

46. The H3 hexagonal geospatial indexing system (H3 system) is an open-source GIS dataset developed by Uber Technologies, Inc., that overlays the globe with hexagonal cells of different sizes at various resolutions, from zero to 15. The smallest hexagonal cells are at resolution 15, in which the average hexagonal cell has an area of approximately 0.9 square meters, and the largest are at resolution 0, in which the average hexagonal cell has an area of approximately 4.25 million square kilometers. The H3 system is designed with a nested structure wherein a lower resolution cell (the ''parent'' hexagon) contains approximately seven hexagonal cells at the next higher resolution (its ''children'' where each ''child'' is a smaller, nested hexagon), which fit approximately within the ''parent'' hexagon. The H3 system supports sixteen resolutions. Each finer resolution has cells with one seventh the area of the coarser resolution. Hexagons cannot be perfectly subdivided into seven hexagons, so the finer cells—*i.e.,* the ''children''—are approximately contained within a parent cell. The identifiers for these ''child'' cells can be easily truncated to find their ancestor cell at a coarser resolution, enabling efficient indexing.

47. In the *5G Fund Second Report and Order and Order on Reconsideration,* the Commission adopts its proposal to express the specific geographic areas eligible for 5G Fund as hex-9s, with certain modifications, because it is persuaded that a more granular analysis of coverage is needed to address concerns raised by commenters. The Commission will therefore analyze mobile broadband coverage by first translating ''raw'' mobile coverage polygons to resolution 11 hexagons (hex-11s) and then evaluating the coverage of the hex-11s that compose a hex-9, using the process described herein, and directs OEA, WCB, and the Wireless Telecommunications Bureau (WTB) to make additional details regarding the methodology used to generate eligible areas available with the publication of the list of eligible areas.

48. A hex-9 will be eligible for 5G Fund support if it includes roads or locations and if a certain share of its component hex-11s *lack* unsubsidized 5G coverage and are in non-urban areas. Here, 5G coverage is based on the ''raw'' polygon coverage areas submitted by providers in their biannual BDC submission for 5G outdoor-stationary service at 7/1 Mbps. The Commission will determine whether coverage is subsidized or unsubsidized using information from USAC on legacy support and CETC study area boundaries. Hex-11s are two levels more granular than hex-9s in the H3 system hierarchy and are therefore the ''grandchildren'' hexagons of hex-9s. Hex-11s have an average area of 2,150 square meters (about half an acre), which is smaller than the maximum area of the bin sizes used by providers when generating raw coverage areas submitted in the BDC. The maximum resolution allowed when generating mobile broadband coverage areas under the BDC requirements is 100 meters. *See* 47 CFR 1.7004(c)(3)(iii). This resolution would result in a bin or pixel, the individual square generated by a propagation model to represent predicted coverage, with an area of 10,000 square meters.

49. To understand how the Commission will determine which hex-9s are eligible for support, it may be helpful to examine the inverse, *i.e.,* how a hex-9 is defined as *served.* For each hex-9, the Commission will determine the number of served grandchild hex-11s relative to the total number of grandchild hex-11s. For both the numerator and the denominator, the centroid—*i.e.,* the geographic center point—of the hex-11 must fall within the boundary of United States or its territories to be counted. To find the number of served hex-11s, the Commission will overlay hex-11 areas on a provider's unsubsidized 5G coverage polygon and urban areas. If any of those boundaries overlap the centroid, the geographic center point, of the hex-11, then the Commission will treat the entire hex-11 as being covered by that boundary. Any hex-11 covered by unsubsidized 5G coverage or in an urban area will be considered served and counted in the number of served hex-11s. The total number of grandchild hex-11s of a hex-9 is typically 7x7, or 49. However, it would not be 49 when a hex-9 straddles an international boundary or coastline, for instance, and some its component hex-11s fall outside the United States or in coastal waters. If a substantial majority of the grandchild hex-11s are served, then the grandparent hex-9 will be considered served. For hex-9s with both land and water grandchild hex-11s, only the land hex-11s are considered in this calculation. For purposes of making this determination, the Commission considers a ''substantial majority'' to be 70% or more. Any hex-9 that is not

served in this way is therefore considered unserved and will be eligible for 5G support, as long as it *also contains* at least one location or at least some portion of a road.

50. The Commission notes that although it has not formally defined what constitutes a ''substantial majority,'' it has concluded that it is more than a simple majority. In the context of the Lifeline program, the Commission decided in its *Lifeline Third Report and Order,* 81 FR 33026 (May 24, 2016), to ''establish minimum service standards for all Lifeline supported services based on services to which a 'substantial majority' of consumers have already subscribed'' and ''conclude[d] that 70 percent of consumers constitutes a 'substantial majority' as it relates to fixed broadband speeds.'' The Commission also concluded in its *Lifeline Third Report and Order* in the context of Lifeline program mobile services that ''after the phase-in of mobile data usage allowance standards, [it would] update mobile broadband standards for data usage allowance in line with the principle of supporting services that a ''substantial majority'' of American consumers subscribe to,'' and that ''given the types of data that are [publicly] and regularly available, the minimum service standard for mobile broadband data usage allowance will be 70 percent of the calculated average mobile data usage per household.''

51. CCA supports converting the areas eligible for 5G Fund support into hex-9 standardized units and excluding from 5G Fund eligibility any hex-9 unit that overlaps with a relevant mobile coverage area, such that the entire hex-9 area is considered covered or served. Verizon also supports converting the areas eligible for 5G Fund support into hex-9s and notes that the Commission's BDC challenge and verification processes also use hex-9s. Verizon also advocates making bidding units with only a handful of eligible hex-9s ineligible for support, consistent with the Commission's decision in the *5G Fund Report and Order* to exclude geographic areas with *de minimis* eligible areas. ARA PAWR submits that using the H3 system can be an efficient way to identify specific geographic areas but notes that one challenge with that approach is the need to have multiple resolution implementations based on the geographical location. AT&T expresses support for limiting the areas eligible for 5G Fund support to hex-9s in rural areas that are not 100% served.

52. While not opposing converting eligible areas to hex-9s, T-Mobile notes that there are some issues with doing so. T-Mobile submits that ''translating providers' submitted BDC coverage data into hex-9 cell maps does not result in a perfect match.'' T-Mobile notes that ''[t]he BDC rules require mobile wireless providers to report coverage using 100 meter by 100 meter square pixels, but [because] hex-9 cells are larger than these pixels[,] . . . providers' coverage data is more granular than the hex-9 cells used in the Commission's maps,'' and as a result, ''translating providers' coverage data into hex-9 maps inevitably introduces some degree of inaccuracy and imprecision.'' In an *ex parte* presentation, T-Mobile submits that ''[u]sing more granular hexagonal areas for the 5G Fund, such as hex-10 or hex-11 cells, may help mitigate [the hex-9 translation issue].'' The Commission agrees. Overlaying hex-11 cells onto the raw coverage data submitted by mobile service providers and generating eligible hex-9s based on the percentage of unserved hex-11s will allow for a more granular assessment of coverage data in the geographic areas than the coverage data as rendered on the National Broadband Map. This approach also is more accurate and granular than the approach the Commission outlined in the *5G Fund FNPRM* and will alleviate certain concerns raised by commenters about converting coverage to hex-9s. The Commission's approach in the *5G Fund Second Report and Order and Order on Reconsideration* is also more granular than the methodology used to report and depict mobile broadband coverage on the National Broadband Map, which considers a hex-9 covered if its centroid is overlapped by a provider's raw mobile broadband coverage area. Because hex-11s are so small, there is little to no loss in granularity when converting from raw coverage areas to hex-11s, even when using the centroid method.

53. T-Mobile also argues that ''smaller hexagonal cell[s] would require higher resolution terrain and clutter maps that are not readily available,'' ''would require changes to the BDC submission processes,'' and ''would . . . dramatically increase the size of the data files and computer processing requirements in a way that is unachievable.'' The Commission disagrees with these arguments because the approach it adopts would not require mobile service providers to submit coverage data into the system based upon hex-11s, thus obviating the potential computer processing requirements and other logistical hurdles to gathering the data based on hex-11s.

54. T-Mobile notes that ''[i]n the *5G Fund FNPRM,* the Commission propose[d] to treat an entire hex-9 cell as served—and thus ineligible for 5G Fund support—if a provider's coverage data overlaps any portion of that hex-9 cell.'' ''[T]o ensure complete, robust rural coverage,'' T-Mobile argues that ''hex-9 cells that are only partially covered (*e.g.,* cells where BDC shows only 25%, 50%, or 75% coverage) should be included in the 5G Fund Phase I Auction to avoid denying support to unserved locations.'' T-Mobile submits that this will ''ensure[ ] that locations are not excluded because they are within a hex-9 cell [with less than 100% coverage] . . . [and] is consistent with the goal[ ] of the BDC . . . to produce more granular results.'' In its reply comments, AT&T agrees with T-Mobile that eligible areas should include hex-9s that are not 100% served. CTIA likewise supports excluding hexagons that are 100% covered and including those that are partially covered, and submits that this approach will mitigate the risk highlighted by T-Mobile of skewing support away from areas where unsubsidized service is actually unavailable.

55. The Commission will exclude from eligibility any hex-9s that are 100% covered by unsubsidized 5G service. However, the Commission disagrees with CCA that a hex-9 with any 5G coverage should be excluded from 5G Fund eligibility, because doing so would leave behind too many areas from gaining 5G coverage. The Commission will therefore also make some hex-9s that are partially covered eligible for 5G Fund support, depending on the percentage of the hex-9 that is covered. To address commenters' concerns about excluding from eligibility hex-9s with only a small percentage of their area covered by unsubsidized 5G service, the Commission will determine the eligibility of a hex-9 based on whether the percentage of its nested, non-urban ''grandchild'' hex-11s with unsubsidized 5G mobile coverage represents a ''substantial majority'' of the hex-11s in that hex-9. As noted herein, the Commission concludes that unsubsidized 5G mobile coverage of 70% or more represents a substantial majority. Under this approach, a hex-9 will be ineligible if 70% or more of its nested, non-urban ''grandchild'' hex-11s show unsubsidized 5G coverage. The Commission believes that its methodology strikes the appropriate balance between not leaving too many areas and locations ineligible for

support and avoiding supporting areas that are largely covered by 5G service without a subsidy.

6. Source and Timing for Determining Final List of Eligible Areas

56. As the basis for determining the final list of areas eligible for support in the 5G Fund Phase I auction, the Commission will use the most recent vintage of BDC mobile availability data published on the National Broadband Map that the public have had the opportunity to challenge. The methodologies, processes, and timelines applicable to mobile challenges submitted under the BDC rules will apply. For example, a speed test conducted using a 5G-capable device in an area where a provider claims 4G LTE and 5G–NR service but the results show less than 5/1 Mbps would count as a negative test for both the 4G LTE and 5G–NR coverage. Alternatively, such a test would count as a positive test for 5G–NR if the test result is higher than 7/1 Mbps, even if the test is taken over a 4G LTE connection. The Commission directs OEA, WCB, and WTB to implement this approach and to release the final list of eligible areas for that auction at least 30 days prior to the start of bidding in the auction. The Commission intends to publish a ''preview'' map of the eligible areas based on the vintage (the ''as-of date'') of the BDC mobile availability data that the Commission plans to use as the basis for the final eligible areas. The Commission also anticipates publishing an updated preview of the eligible areas before the short-form application filing window for the auction opens. This updated preview would be based on the same vintage of BDC mobile availability data and reflect any mobile challenges to that vintage resolved at the time of release. The Commission concludes that providing both an initial and an updated preview of the eligible areas during the pre-auction process will afford potential auction applicants sufficient time to determine whether additional challenges to the data are needed, and to submit those challenges so that they can be processed and adjudicated sufficiently in advance of when the Commission expects to generate the final list of eligible areas. It will also enable them to make a more informed decision applying for, and bidding in, the auction.

57. The Commission recognizes that, depending on the timing for the 5G Fund Phase I auction, this approach means that it would not use the most recent vintage of published BDC mobile availability data as the basis for the eligible areas. If the Commission were to commit to using the most recent vintage of published BDC mobile availability data, there might be little or no time for the public to submit, and for the Commission to resolve, challenges to such coverage data; as a result, some areas that should be eligible for the auction might be excluded. The Commission therefore concludes that, on balance, using a prior vintage of BDC mobile availability data to determine the final list of eligible areas is preferable because it will afford greater opportunity for public review, challenge submissions, Commission adjudications, and for provider updates on the National Broadband Map to be considered.

58. Michael Ravnitzky supports the proposal to make the map of eligible areas available no later than 30 days in advance of bidding, submitting that ''this approach will ensure that the eligible areas are based on the most recent and accurate data available.'' CCA expresses concern about the Commission's proposal ''to use mobile availability data published no later than 30 days prior to the start of bidding as the basis for [determining] final eligible areas,'' arguing that ''[p]articipating carriers will need to engage in considerable preparation for bidding and [that] 30 days is insufficient for small carriers with limited resources to review the data, make decisions regarding participating in the auction, and take the steps necessary to prepare for the auction.'' CCA asserts that ''[t]he Commission should ensure that there is sufficient time between when the final [eligible areas] data is made available and the start of bidding, so that adequate preparation can occur.'' CCA also urges the Commission to ''permit a robust mobility mapping challenge to run its course[ ] to detect and resolve any significant concerns regarding the accuracy of the current coverage maps.''

59. CTIA submits that ''[the 5G Fund] program timelines should be aligned with the BDC timeline to enable the use of the most recent version of the [National Broadband Map] that has been verified by the challenge process.'' While CTIA does not specifically oppose the Commission's specific proposed timing, it asserts that ''[d]epending on the timing of when the map is published, 30 days may not be sufficient to ensure that the map can be validated through the challenge process.'' ''Since challenges are ordinarily accepted on a rolling basis, CTIA recommends that the Commission provide a target date for eligible parties to submit challenges for consideration in the map that will be used to determine eligible areas for the 5G Fund . . . [that is] sufficiently far in advance of the start of bidding to ensure that potential bidders in the auction have an adequate opportunity to evaluate the updated coverage data and its impact on their participation.'' While not specifically addressing the Commission's specific proposed timing, RWA asserts that the Commission should set a deadline for determining the final areas eligible for the 5G Fund Phase I auction prior to making this determination, in order to enable providers to determine the most opportune time to file challenges to the BDC maps that the Commission will rely on to determine the areas eligible for the auction, noting that ''[i]f a provider files a challenge too early, such challenge may be moot by the time a later version of the BDC map is released due to continued 5G build out by nationwide carriers.'' RWA further notes that ''[f]iling such challenges is also extremely costly for rural providers, making the timing of filing challenges even more difficult . . . [because] filing challenges to overstated coverage in perpetuity is economically infeasible for rural carriers.'' RWA submits that ''[p]roviding a date when the final eligible areas will be determined will provide needed clarity and avoid wasteful spending by carriers filing premature challenges . . . [and ensure] that industry and the Commission are in a better position to understand the impact of the BEAD Program, [as contemplated by the Commission in the *5G Fund FNPRM*].''

60. The iterative nature of the National Broadband Map, which is published twice a year and updated on a bi-weekly basis to reflect provider updates and the results of challenges, addresses commenters concerns about the Map showing the most up-to-date coverage data. The Commission therefore strongly encourages the public to review and, to the extent appropriate, challenge these data as soon as possible so that any challenges can be resolved by Commission staff prior to its announcement of the final eligible areas. Challenges may take as long as 180 days to be reflected in corrections to the National Broadband Map. As outlined in the Commission's rules, speed tests submitted as part of the BDC mobile challenge process are valid for up to one year and are combined with other tests conducted in nearby geographic areas to create a cognizable challenge to the mobile data once the geographic, testing, and temporal thresholds outlined in the BDC mobile challenge process have been met. If a challenge is upheld, the challenged area will be

removed from the National Broadband Map, and the results of upheld challenges will continue to be reflected in future versions of the National Broadband Map, including future data vintages. The challenge outcome will remain until a mobile challenge restoration process has been implemented and a provider has successfully followed that process to demonstrate that coverage in the challenged area is available in a subsequent vintage after the loss or concession of a challenge. Once an area is successfully challenged and the challenge is upheld, the provider will not simply be able to add the area back to their availability filing in the next biannual filing period. Instead, to show that a provider can serve a previously challenged area in a future BDC filing, it will need to separately submit the same type of detailed infrastructure data for the successfully challenged area that the Commission can require in an audit or verification (*i.e.,* the type of data that would be sufficient to invalidate challenge speed tests through the challenge process).

*B. Puerto Rico and the U.S. Virgin Islands*

61. Consistent with the underlying policy objectives of the Commission's decisions in the Bringing Puerto Rico Together Fund and the Connect USVI Fund, the Commission concludes that areas in Puerto Rico and the U.S. Virgin Islands that meet the eligible areas definition for the 5G Fund will be included in the 5G Fund Phase I auction. The Commission considers this conclusion to be a natural progression from the Commission's decision to provide support to mobile carriers in Puerto Rico and the U.S. Virgin Islands to restore and harden their networks after the devastation caused by Hurricanes Irma and Maria to the Commission's gradual transition to allow carriers in these areas to use a portion of the support they receive toward deploying high-speed 5G mobile services. As the Commission anticipated in both the *PR–USVI Stage 2 Order,* 84 FR 59937 (Nov. 7, 2019), and more recently in the *Transitional Support Report and Order,* 88 FR 28993 (May 5, 2023), the time has come to establish a competitive funding mechanism for the long-term expansion of advanced telecommunications access and next generation wireless services for Puerto Rico and the U.S. Virgin Islands, and the Commission concludes that it is now appropriate to view the funding needs for support for mobile broadband services in Puerto Rico and the U.S. Virgin Islands through the same lens as other areas eligible for support under the 5G Fund. Accordingly, eligible areas in Puerto Rico and the U.S. Virgin Islands will be included in the 5G Fund Phase I auction, and winning bidders that are authorized to receive 5G Fund Phase I support in those areas will be subject to the same terms and conditions as winning bidders authorized to receive support in other eligible areas.

62. Over the past six years, the Commission has dedicated significant effort and financial support to accomplish the restoration of mobile communication networks in Puerto Rico and the U.S. Virgin Islands. In recognition of the advancements that have been made to achieve this goal, in its 2019 *PR–USVI Stage 2 Order,* the Commission began the process of transitioning from offering restorative support to a plan that would begin to offer support to mobile carriers to deploy high-speed 5G mobile services in areas that that would otherwise not see such services absent subsidies. Thus, in Stage 2 of the Bringing Puerto Rico Together Fund and the Connect USVI Fund, the Commission adopted a three-year funding period and budget pursuant to which carriers could elect to receive up to 75% of the support for which they are eligible to restore, harden, and expand their networks using 4G LTE or better technology capable of providing service at speeds of at least 10/1 Mbps, and up to 25% of the support for which they are eligible to deploy 5G mobile networks capable of providing service at speeds of at least 35/3 Mbps. In so doing, the Commission stated that it expected to establish a competitive funding mechanism for the long-term expansion of advanced telecommunications access and next-generation wireless services for Puerto Rico and the U.S. Virgin Islands by the conclusion of Stage 2. However, in June 2023, when Stage 2 mobile support under the Bringing Puerto Rico Together Fund and the Connect USVI Fund was scheduled to conclude, this next stage of the implementation of the 5G Fund had not yet begun. Without another option on the immediate horizon, and not wanting to lose the momentum that had been achieved in Puerto Rico and the U.S. Virgin Islands, the Commission adopted an additional transitional support period of up to 24 months to allow eligible mobile carriers currently receiving Stage 2 mobile support to continue receiving support at levels lower than in Stage 2 that is intended to harden and improve the resiliency and redundancy of facilities for 4G LTE or better technologies during natural disasters, but may be used for both 4G LTE and 5G–NR-capable networks in order to encourage the deployment of 5G–NR service while also ensuring resilient networks until the Commission could develop a long-term funding mechanism. The Commission nonetheless stated in the *Transitional Support Report and Order* that transitional support would end sooner than 24 months if a long-term funding mechanism were established before the transition period ends.

63. The Commission recognizes that its decision to use the 5G Fund as the long-term competitive funding mechanism to advance high-speed, mobile broadband for eligible areas in Puerto Rico and the U.S. Virgin Islands may raise concerns for certain commenters. Although some parties support the inclusion of eligible areas in Puerto Rico and the U.S. Virgin Islands in the 5G Fund because they maintain that the award of 5G Fund support has the potential to bring new services and service providers to these areas, other commenters contend there should be a separate, specific funding mechanism for Puerto Rico and the U.S. Virgin Islands that addresses the unique challenges that service providers face there. One commenter even argues that the Commission should continue offering support to providers through the Bringing Puerto Rico Together Fund and the Connect USVI Fund, and also include eligible areas in Puerto Rico in the 5G Fund.

64. In reaching today's decision, the Commission is mindful that, had it not been for the catastrophic damage caused by Hurricanes Irma and Maria, eligible areas in Puerto Rico and the U.S. Virgin Islands would have remained in Mobility Fund Phase II, which was later replaced by the 5G Fund. Moreover, after carefully reviewing the record on this issue, the Commission has determined that there is no reasonable basis for Puerto Rico and the U.S. Virgin Islands to continue to be treated differently than other U.S. islands and territories, which also face the same factors that challenge the deployment of mobile service as those cited by commenters, including the economy, the costs of shipping materials from the mainland, and the limited availability of trained workers. While the Commission acknowledges and are not unsympathetic to these obstacles, it concludes that Puerto Rico and the U.S. Virgin Islands no longer warrant continued separate, dedicated, mobile funding mechanisms. As stewards of universal service support, the Commission has an obligation to be fiscally responsible and to ensure that

its limited resources are used efficiently. Although the Commission stated in the *Transitional Support Report and Order* that transitional support would end sooner than 24 months if a long-term funding mechanism were established, the Commission finds that providing carriers in Puerto Rico and the U.S. Virgin Islands that are not winning bidders in the 5G Fund Phase I auction with a two-year phase down of the transitional support being provided under the Bringing Puerto Rico Together Fund, on the same terms and conditions as those being adopted for mobile legacy high-cost support recipients, will provide the continuity of support necessary to preserve the Commission's investment in restoring and hardening networks impacted by the hurricanes in these Territories. The Commission concludes that its decision today serves the public interest and reduces the administrative burdens of continuing to manage separate funding mechanisms. Accordingly, areas in Puerto Rico and the U.S. Virgin Islands that meet the eligible areas definition for the 5G Fund will be included in the 5G Fund Phase I auction, subject to the same terms and conditions as other eligible areas, and the transition from the transitional support being provided under the Bringing Puerto Rico Together Fund and the Connect USVI Fund to 5G Fund support in Puerto Rico and the U.S. Virgin Islands, or to a two-year phase down of transitional support, will occur on the same terms and schedule adopted below. For areas in Puerto Rico and the U.S. Virgin Islands, the transitional support being provided under the *Transitional Support Order* is the ''mobile legacy high-cost support'' that will transition to 5G Fund support or be subject to phase down (whichever is applicable).

**IV. 5G Fund Budget**

65. The Commission increases the budget for Phase I of the 5G Fund from up to $8 billion to up to $9 billion by including the $1 billion that previously had been allocated by the Commission in the *5G Fund Report and Order* for Phase II, as suggested in the record. In so doing, the Commission affirms its prior commitment to reassess the appropriate amount needed for the 5G Fund Phase II budget, including support that will be necessary for carriers to commit to the deployment of technologically innovative 5G networks that facilitate precision agriculture, following Phase I. From this 5G Fund Phase I budget of up to $9 billion, the Commission also proportionately increases the amount it reserves for service to Tribal lands from up to $680 million to up to $765 million, and here too reaffirm the Commission's commitment to revisit the amount of this reserve after the conclusion of the 5G Fund Phase I auction.

66. The Commission's budget determinations today remain grounded in its effort to balance the policy objectives of the 5G Fund with its obligation to exercise fiscal responsibility to avoid excessive subsidization, recognizing that the cost of subsidies distributed through the 5G Fund will ultimately be borne by consumers and businesses. The Commission also heeds the concerns of many commenters that caution the Commission against raising the 5G Fund budget to the detriment of the Universal Service Fund (USF) contribution factor.

67. The Commission nonetheless recognizes the apprehension expressed by commenters that, particularly due to inflationary factors, an $8 billion budget for 5G Fund Phase I auction may be insufficient to achieve its policy goals. The Commission has long acknowledged that extending deployment of 5G networks in rural areas will require significant expenditures. The Commission is mindful that the magnitude of such expenditures may only continue to increase. While many commenters favor raising the 5G Fund Phase I auction budget, most did not propose any alternative budget amount other than suggesting that the Commission should employ a cost model approach. In reaching its decision today, the Commission is persuaded, however, by the argument suggested in the record to increase the Phase I auction budget to include up to the full $1 billion previously allocated to the Phase II budget, holding open a decision on the budget that will be necessary for Phase II of the 5G Fund. The Commission recognizes that Phase II will focus support on precision agriculture, and its decision to reallocate the budget does not diminish that intention. Furthermore, precision agriculture connectivity relies upon a wide variety of broadband deployment technologies, and the landscape of broadband infrastructure in rural areas continues to evolve. The Commission concludes that repurposing the budget amount previously allocated to Phase II of the 5G Fund strikes an appropriate balance in responding to commenters that advocate an increase in the Phase I budget, while also being conscious of its fiscal obligations to be good stewards of the Universal Service Fund.

68. According to the U.S. Bureau of Labor Statistics, the price of broadcast and wireless communications equipment manufacturing increased by 6.18% from May 2020 to August 2023, and the total compensation for private industry workers in the information industry increased by 13.32% from Q2 2020 to Q3 2023. Assuming the wireless telecommunications industry uses equipment and labor in approximately equal shares, costs in the industry have gone up by approximately 10% since May 2020. The Commission finds that a 12.5% increase in the 5G Fund Phase I auction budget will help compensate for the inflationary pressures cited by commenters that might otherwise reduce the potential for the deployment of 5G service relative to when the budget was adopted in 2020. Likewise, the Commission increases the amount of the budget it reserves for service to Tribal lands proportionally by that same 12.5%. The Commission nonetheless balances its decision to increase the 5G Fund Phase I auction budget with its obligation to ensure that the budget it establishes provides sufficient, but not excessive support. The Commission concludes that by distributing up to $9 billion in the 5G Fund Phase I auction, the Commission can make a significant impact on the provision of advanced, high-speed 5G mobile broadband in areas where Americans live, work, and travel, and the Commission will continue to monitor its progress as the Commission reviews information collected through the BDC, annually.

69. The Commission emphasizes that it is aware that this budget, even as modified, will not cover the costs of serving every eligible area that will be offered in the 5G Fund Phase I auction, and the Commission states again that it is not intended to do so. Commenters that continue to argue in favor of using a cost model to determine the 5G Fund budget disregard the Commission's repeated explanation that relying on cost studies would wholly conflict with its intent to award support in eligible areas in amounts that are competitive, but still acceptable to the providers, as a reverse auction does. In other situations in which the Commission has used a cost model to provide universal service support, the cost model generally served to establish the amount of support that would be offered to eligible legacy providers, and expenditures for those programs are determined by the total of the providers' acceptances of the modelled support offers. The 5G Fund auction operates in a fundamentally different way; a budget is established in advance and the competitive bidding process, not the Commission, determines which providers will receive support and the

amount of support they will be eligible to receive. Multiple entities—not only the legacy provider—may qualify to compete for support to an area and the auction will assign support to at most one entity in a fair and transparent process. Support amounts for a particular area will not be lower than an amount that the winning bidder (which knows its situation best) indicates that it is willing to accept in exchange for meeting the program requirements. A cost model may provide a generalized estimate of costs, but modelled costs will be overstated in many cases. Accordingly, the Commission does not base the budget that it adopts for Phase I of the 5G Fund on an estimate of total costs (however estimated, according to a model such as that submitted in the record or any other method), but on a careful balancing of its priorities to expand the deployment of 5G mobile broadband service to rural areas where Americans live, work, and travel with the Commission's obligation to be fiscally responsible as the steward of limited universal service funds.

70. Additionally, consistent with the Commission's conclusion in both the *5G Fund Report and Order* and the *Mobility Fund Phase II Report and Order,* 82 FR 15422 (Mar. 28, 2017), the Commission declines to adopt any alternative mechanisms to distribute its limited budget, such as the plan requested by SBI in its Petition for Reconsideration filed in 2020, or as it recently revised and tailored in its reply comments concerning the *5G Fund FNPRM* (collectively SBI's request for a ''Remote Tribal Areas Fund''). Likewise, the Commission also declines to adopt the suggestion of NTCA to implement a Small Carrier Fund as part of its 5G Fund budget. NTCA renews a similar argument raised in 2020, proposing that the Commission should retain $1.5 billion of the 5G Fund budget and, in lieu of having small carriers participate in an auction, should instead distribute this reserved budget over a ten-year period to current recipients of frozen support that have 500,000 or fewer subscribers in the aggregate in the U.S. Department of Agriculture's Rural-Urban Commuting Area (RUCA) Codes 5–10.

71. The Commission emphasizes that it remains committed to reserving support for service to Tribal lands in the 5G Fund, and as the Commission has stated previously, it recognizes that ''Tribal lands will be more expensive to serve than non-Tribal lands due to their lower population density, and income levels, as well as the lack of power or roads in some parts of Indian country and the need for federal approval (such as from the Bureau of Indian Affairs) before broadband can be deployed there.'' However, as the Commission explained in the *5G Fund Report and Order,* and as the Commission affirms herein, it is not persuaded that adopting SBI's request for a Remote Tribal Areas Fund would result in an improved outcome for such areas over its decision to utilize a reverse auction to award a reserved portion of the budget for service to Tribal lands. The Commission therefore denies SBI's Petition for Reconsideration to the extent that it requests that the Commission adopt a special Remote Tribal Area Fund to distribute support rather than using an auction mechanism to distribute 5G Fund support reserved for Tribal areas.

72. The Commission also declines to adopt SBI's most recent version of its proposal to adopt a special case mechanism in lieu of making eligible areas on Tribal lands available in the 5G Fund Phase I auction or its suggestion that the Commission should provide special case treatment for mobile legacy high-cost support in remote Tribal lands not won at auction. While pointing to the rare decisions in which the Commission has awarded universal service support without the use of competitive bidding, SBI is unconvincing in arguing that the Commission should create another exception in this instance. The Commission has previously distinguished areas in Alaska from Tribal lands in the lower 48 states, and SBI has provided no new evidence that the Commission erred in its judgment, simply rearguing the same positions it has offered and the Commission has rejected twice before. As the Commission explained the first time it declined to adopt SBI's request to adopt a funding plan for Tribal areas that was similar to the Alaska plan, ''the unique basis for the adoption of the Alaska plan was not the existence of Tribal lands in Alaska'' but rather was based on the challenges facing the entire state. The Commission also disagrees with SBI that the amount it has reserved for Tribal support is inadequate. As explained herein, the Commission has proportionately increased the amount it reserves for service to Tribal lands in the 5G Fund Phase I auction to up to $765 million, which should lessen concerns that the budget reserved for providing support to Tribal lands is underfunded. The 5G Fund has insufficient resources to fund every area of the country that lacks unsubsidized 5G mobile service, and to do so at the level of support estimated to be needed by cost studies or other means, whether those areas are located in remote Tribal areas or otherwise. As stewards of the Universal Service Fund, the Commission has the obligation to adopt policies and procedures for the 5G Fund that benefit the public as a whole and that serve the public interest generally, within its abilities to do so.

73. Similarly, based on the Commission's decisions in the *5G Fund Report and Order,* the current record, and its experience with competitive bidding mechanisms, the Commission is not convinced that NTCA's proposed approach for small carriers would be a more efficient or effective means of awarding support than through an auction. The Commission remains unpersuaded that reserving a portion of the budget to distribute through a Small Carrier Fund improves its ability to better target support or to significantly accelerate 5G deployment in rural areas; thus, the Commission affirms the Commission's decision in the *5G Fund Report and Order* to distribute its entire budget through a reverse auction. Moreover, the Commission affirms its prior determination that such a proposal is inconsistent ''with [its] decade-long efforts to reform universal service high-cost support.'' As the Commission previously explained, to the extent NTCA is correct that carriers receiving legacy high-cost support can deploy 5G networks in their service areas more efficiently, the Commission continues to anticipate they will have an advantage against bidders in the 5G Fund Phase I auction that do not already serve those eligible areas in the auction. In sum, the Commission continues to conclude that using a reverse auction to award 5G Fund support best achieves its policy goals and ''that setting aside funds for a limited subset of providers would be an inefficient use of [its] scarce resources, and could limit [the Commission's] ability to expand 5G coverage to as many unserved areas as possible.'' As the Commission explained in the *5G Fund Report and Order,* if the Commission were to implement a plan such as this, it ''would risk overpaying for 5G networks in some areas that another provider (or even the same legacy support recipient) would be willing to serve for less support through an auction.''

74. In contrast to reserving support and awarding it through a specialized fund of any sort, a reverse auction uses competition across areas and within areas to determine which areas will receive support, in what amounts, and which entities will receive that support, all within the available budget. This means the Commission will be able to distribute support across as many

square kilometers as possible within the available budget at amounts the winning bidders have agreed to accept, consistent with its fiscal responsibilities. Doing so serves the Commission's policy goals to reform and modernize the distribution of mobile high-cost support, a goal that it has repeatedly articulated since 2011. The Commission explained in the *5G Fund Report and Order* that in contrast to the use of competitive bidding, in the existing mobile legacy high-cost support program, neither the areas for which legacy support is disbursed nor the amount of support carriers receive have a direct nexus to the areas most in need of support or the amount needed to provide service therein. Moreover, and as explained previously, the funds available to subsidize 5G mobile broadband service are not unlimited, and, as commenters warn, raising the budget does not come without an impact to the universal service contribution factor.

75. For similar reasons, the Commission also declines to increase the 5G Fund Phase I budget further to account for the inclusion of eligible areas in Puerto Rico and the U.S. Virgin Islands in the 5G Fund Phase I auction. The Commission disagrees with commenters that suggest that the inclusion of eligible areas from Puerto Rico and the U.S. Virgin Islands will further strain the budget. While increasing the budget might result in areas that have higher costs to serve receiving a winning bid, it is also possible that any additional increase in the budget could be split between supporting new areas and providing greater support to bidders that would have agreed to provide service at lower support amounts. Moreover, increasing the budget to account for the inclusion of additional eligible areas, regardless of where those areas are located, will not ensure any particular eligible area will ultimately receive support through the auction.

76. Lastly, many commenters also advocate that the Commission should continue to consider how other federal and state funding to deploy broadband will impact the provision of 5G mobile broadband service before establishing the budget for the 5G Fund Phase I auction. The majority of such comments focus on the funding stemming from the Infrastructure Investment and Jobs Act (Infrastructure Act), Public Law 117–58, 135 Stat. 429 (2021), which includes the largest-ever federal broadband investment. Section 60102 of the Infrastructure Act directs the National Telecommunications and Information Administration (NTIA) to establish the BEAD Program, through which NTIA will allocate $42.45 billion to states for grants ''to bridge the digital divide.''

77. On May 13, 2022, NTIA released the Notice of Funding Opportunity for the BEAD Program (BEAD Program NOFO), detailing the process for requesting BEAD Program funding for reliable broadband service. In it, BEAD defines ''Reliable Broadband Service'' as service that the Broadband DATA Maps show is accessible to a location via: (i) fiber-optic technology; (ii) Cable Modem/Hybrid fiber-coaxial technology; (iii) digital subscriber line (DSL) technology; or (iv) terrestrial fixed wireless technology utilizing entirely licensed spectrum or using a hybrid of licensed and unlicensed spectrum. Broadband networks funded by the BEAD Program must provide download speeds of at least 100 Mbps and upload speeds of at least 20 Mbps and ''latency that is sufficiently low to allow reasonably foreseeable, real-time, interactive applications.''

78. The BEAD Program NOFO set a July 18, 2022 deadline for NTIA to receive letters of intent from states and territories, as well as an August 15, 2022 deadline for any supplemental information. The BEAD Program NOFO also specifies a number of program requirements, including principles that states and territories must observe in their subgrantee selection, prioritization, and scoring processes. In particular, the BEAD Program NOFO prohibits states and territories from ''treat[ing] as 'unserved' or 'underserved' any location that is already subject to an enforceable federal, state, or local commitment to deploy qualifying broadband'' at the conclusion of the state's or territory's challenge process. States and territories must also ensure that subgrantees comply with obligations spelled out in the BEAD Program NOFO regarding network capabilities (*i.e.,* speed, latency, and uptime), deployment requirements, and service obligations. Finally, the BEAD Program NOFO requires states and territories to ensure that prospective subgrantees have the managerial and financial capacity to meet the commitments of the subgrant and any BEAD program requirements.

79. In recognition of the Infrastructure Act and the BEAD Program, in August 2022, the Commission released its *Future of USF Report* (FCC 22–67)—a report to Congress outlining the future of the Universal Service Fund. In that report, the Commission explained that ''[f]unding for deployment under the Infrastructure Act focuses on fixed services, not mobile services. The Commission also noted that it ''has a unique role to play in supporting the deployment of mobile broadband to maintain connectivity wherever people live, work, or travel.'' The *Future of USF Report* recommended that the Commission include, as part of its long-term plans, an evaluation of the impact of the BEAD Program and other federal and state broadband infrastructure investments discussed in this report on future mobile deployments.

80. The 5G Fund will support the deployment of advanced mobile broadband by requiring that support recipients deploy 5G–NR service at speeds of at least 35/3 Mbps. As the Commission explained in 2020, ''the Commission believes support is best directed to modern 5G deployments rather than further deployments of 4G LTE technology.'' The 5G Fund therefore requires support recipients to meet public interest obligations to provide voice and 5G broadband service, and to satisfy distinct, measured performance requirements as a condition of receiving support. The 5G Fund and the BEAD Program therefore clearly serve very different purposes.

81. Moreover, most recently, in the 2024 *Section 706 Report* (FCC 24–27), the Commission concluded that ''[b]ased on the separate use cases for fixed and mobile broadband as well as evidence that consumers tend to subscribe to both services when they can . . . fixed and mobile broadband services are not full substitutes.'' As the Commission explained in that report, ''[b]oth services are necessary to ensure that all Americans have access to advanced telecommunications capability.''

82. Similarly, in evaluating the impact of the BEAD Program on the Commission's implementation of the 5G Fund, the Commission finds that both programs are necessary to ensuring that all Americans have access to advanced telecommunications capability. The 5G Fund supports mobile broadband, BEAD supports fixed broadband, although some states may incorporate a provision among their prioritization selection criteria for subgrantees that favors a fixed broadband deployment that also supports mobile broadband. To date, however, the record does not indicate that any state has incorporated a mobile broadband service performance requirement on par with the 5G Fund's requirement for providing 5G–NR service at speeds of at least 35/3 Mbps. Likewise, although the Commission has seen at least one state (Louisiana) incorporate a commitment for a subgrantee to advance mobile broadband in order to receive BEAD funding, that commitment is to provide

only 4G LTE service. For this reason, the Commission is not persuaded by commenters that urge it to delay the 5G Fund Phase I auction until after BEAD support has been awarded because BEAD funding could be used to support mobile services as part of the BEAD recipients' broader deployment commitments. The Commission finds that moving ahead expeditiously with support for robust mobile broadband will best advance its shared goal of ensuring that all Americans have access to advanced telecommunications services.

83. The Commission is nonetheless mindful of its obligation to share information regarding its efforts to implement the 5G Fund with the U.S. Department of Agriculture (USDA) and NTIA, consistent with the Broadband Interagency Coordination Act (BICA), Public Law 116–260, 134 Stat. 3214, Div. FF, tit. IX, section 904 (2020) (codified at 47 U.S.C. 1308 *et seq.*). On June 25, 2021, the Commission, USDA, and NTIA announced they had entered into an agreement to share information about existing or planned projects that have received, or will receive, funding through the Commission's high-cost programs and programs administered by NTIA and the USDA, as required by BICA. Representatives of the agencies have been meeting regularly pursuant to the agreement. On February 17, 2023, the Commission released a report on the effectiveness of BICA, detailing the steps that the agencies were taking to ensure the most effective allocation of broadband funding. In addition, the Commission, the U.S. Department of Agriculture, the National Telecommunications and Information Administration of the U.S. Department of Commerce, and the U.S. Department of Treasury entered into a memorandum of understanding regarding information sharing in May 2022, which was renewed in May 2024.

84. Given the Commission's decision to make areas that lack unsubsidized 5G mobile broadband service at speeds of at least 7/1 Mbps eligible for support in the 5G Fund Phase I auction, areas that are being offered ''unsubsidized'' 4G LTE service, or even low levels of 5G service, will still be included in the auction. After carefully considering the issue of whether duplicative support for advanced, 5G mobile wireless service might result from BEAD funding being awarded in substantially the same geographic area as support being offered in the 5G Fund Phase I auction, the Commission concludes that, in the event that a BEAD subgrantee has made an enforceable commitment to a state, prior to the Commission's release of the final list of eligible areas, to deploy 5G–NR service at a speed of at least 35/3 Mbps in an in-vehicle environment, the Commission will consider that area to be ineligible for 5G Fund support, and it will not include such an area in the 5G Fund Phase I auction. In order for an area subject to an enforceable commitment to be considered ineligible for support in the 5G Fund Phase I auction, the commitment must require deployment of 5G–NR service at speeds of at least 35/3 Mbps to the entire area that would have otherwise been eligible for support in the 5G Fund Phase I auction. To the extent any provider has an enforceable commitment to a state or locality or instrumentality thereof outside of the BEAD Program, the Commission will treat such enforceable commitments the same as set forth herein. The Commission adopts this speed determination of at least 35/3 Mbps here for the purposes of evaluating whether an enforceable commitment to a state for the award of BEAD funding duplicates the policy goals and deployment requirements the Commission establishes for the 5G Fund such that the area should be considered to be ineligible for such support. The Commission directs OEA and WCB to determine during the pre-auction process, and after notice and comment, the procedures for removing areas from the final list of eligible areas for the 5G Fund Phase I auction.

85. Because any BEAD-related enforceable commitments to deploy advanced, 5G mobile networks would be new network deployments—just like those deployed with support from the 5G Fund—the Commission does not want to remove BEAD-funded areas summarily from the 5G Fund and risk the possibility that consumers in those areas might be left to accept a reduced level of service for an indeterminate period of time. For similar reasons, the Commission concludes that an enforceable commitment to a state must also require that the BEAD subgrantee deploy 5G–NR service at speeds of at least 35/3 Mbps in an in-vehicle environment within the same milestone deadlines that apply to 5G Fund support recipients, thereby meeting the Commission's performance requirements for the 5G Fund. To ensure that an enforceable commitment made with BEAD funding complies with the 5G Fund's 5G–NR service and at least 35/3 Mbps speed requirements for the purposes of determining whether to remove such an area from eligibility from the 5G Fund, the enforceable state commitment must also include verification processes that involve the submission of infrastructure data or on-the-ground test data to verify that the BEAD subgrantee has met these service and speed requirements. The Commission directs OEA and WCB to determine during the pre-auction process, and after notice and comment, a verification process that would demonstrate that a BEAD subgrantee has made an enforceable commitment to meet these service and speed requirements, prior to removing an area from the final list of eligible areas for the 5G Fund Phase I auction.

86. The Commission has previously taken aggressive measures post-auction to not award universal service support to areas where it has determined that there is an existing provision of service in an area or a significant concern regarding wasteful spending. Accordingly, the Commission directs OEA and WCB to seek comment in the pre-auction process on whether and how to establish a post-auction, pre-authorization procedure wherein an interested party could submit proof to the Commission prior to the award of 5G Fund support that demonstrates that there is a BEAD award that includes an enforceable state commitment for the deployment of verifiable mobile 5G–NR service at speeds of at least 35/3 Mbps that conflicts with a winning bid for an area offered in the 5G Fund Phase I auction. In the event such a process is implemented, consistent with its past practice, the Commission anticipates that it would take similar action here, up to and including declining to authorize support for that area. Thus, applicants in the 5G Fund Phase I auction are encouraged to perform due diligence, research, and analysis and factor into their bids and bidding strategies any state BEAD requirements that include a commitment from a subgrantee to deploy 5G–NR service at speeds of at least 35/3 Mbps as a condition to receiving BEAD funds.

87. The Commissions recognizes that offering support for advanced, 5G mobile broadband service that duplicates BEAD funding efforts would defeat the policy goals established for the 5G Fund. To that end, as explained above, the Commission is carefully coordinating its 5G Fund plans with other government agencies, including NTIA, as required by BICA. Moreover, the Commission agrees with commenters that advocate that BEAD funding can be leveraged to amplify the reach of 5G Fund support. The Commission further agrees that there are many benefits that can be derived from a 5G Fund support recipient's ability to capitalize on any advancements in fixed broadband service being offered in rural

America, particularly so that new BEAD-funded fiber can be used to connect towers built with 5G Fund support, and can increase capacity at existing towers currently using microwave backhaul. Insofar as it may cost a 5G support recipient less to provide 5G mobile broadband service in a rural area where a fixed broadband network has been, or will be, deployed with BEAD funding, the Commission expects that a bidder in the 5G Fund Phase I auction for such an area would be willing to bid to accept less support than if the area did not have a fixed service offering. Additionally, the Commission anticipates that even if the 5G Fund Phase I auction were to be held prior to all BEAD program support being awarded, applicants seeking to participate in a 5G Fund auction will have sufficient information about their own and others' current or future service offerings, including reasonably certain BEAD deployments, through basic due diligence to factor into their bids and bidding strategies the potential impact that BEAD funding may have on the market. The Commission notes that on June 28, 2023, NTIA issued the BEAD Challenge Process Policy Notice, providing guidance on several BEAD Program processes, such as the identification of existing broadband funding and the required challenge processes that states must conduct, that aim to avoid broadband funding overlaps.

88. For these reasons, the Commission disagrees with commenters that advocate that it should delay the implementation of the 5G Fund while the Commission determines the potential impact of BEAD funding on the deployment of mobile broadband services. Waiting to implement the 5G Fund until all BEAD funding is assigned and the success of that program is analyzed would do a disservice to Americans who live, work, and travel in rural areas, who should not be denied access to mobile services that are reasonably comparable to those provided in urban areas. As the Commission previously explained in its *Future of USF Report,* insofar as the BEAD Program serves to fund fixed wireless broadband deployment, the Commission has stated that pausing the process of preparing for a 5G Fund auction ''would have detrimental impacts on consumers' access to advanced mobile wireless service.'' Delaying the 5G Fund would also require us to continue the current inefficient practice of providing legacy high-cost support in areas of the country where there is already unsubsidized mobile service and would thus be contrary to the policy initiatives the Commission has advocated since the adoption of the *USF/ICC Transformation Order.* Not only does the legacy high-cost support often reach areas where unsubsidized service exists, but also it is often duplicative—*i.e.,* given to more than one mobile provider serving the same area. Continued delay of the transition away from legacy support is antithetical to the Commission's efforts in this proceeding to avoid providing support to the same area where another mobile service provider is receiving or will receive support to deploy 5G service. It would also undermine the underlying policy goal of the Commission's BICA obligations, which is to avoid duplicating government subsidies for the same service in the same area. Having undertaken a tailored effort to refresh the record and reignite the 5G Fund, the Commission is now well-positioned to make these determinations and ultimately begin the process to incentivize the deployment of networks providing advanced, 5G mobile broadband in areas where, absent subsidies, such service will continue to be lacking. Accordingly, the Commission concludes that the 5G Fund can enhance achievements of the BEAD program rather than conflict with them.

89. By adopting a budget of up to $9 billion for the 5G Fund Phase I auction, using a reverse auction to distribute support, and committing to reassess the amount that will be needed for Phase II of the 5G Fund in the future, the Commission will support the advancement of high-speed 5G mobile broadband in areas where Americans live, work, and travel. Moreover, the Commission continues to anticipate, as the Commission did in 2020 that many providers will use private capital in conjunction with 5G Fund support to build their 5G networks. The Commission therefore adopts a 5G Fund Phase I budget herein that again ''seeks to balance the various competing objectives in section 254 of the Communications Act of 1934, as amended (the Act), including the objective of providing support that is sufficient, but not so excessive so as to impose an undue burden on consumers and businesses.'' The courts have held that the Commission enjoys broad discretion when conducting exactly this type of balancing. Accordingly, the Commission concludes that setting the 5G Fund Phase I budget at up to $9 billion establishes a significant start to support the build out of advanced, 5G mobile wireless broadband networks in unserved and underserved rural areas.

## V. Accepting Bids and Identifying Winning Bids

### *A. Metric for Accepting Winning Bids and Identifying Winning Bids*

90. The Commission adopts a bidding and support price metric based on dollars per square kilometer that, as described below, includes a weighting factor that weights bids and support prices based upon service availability within an eligible area. In the *5G Fund FNPRM,* the Commission sought comment on using a bidding and support price metric based on dollars per square kilometer in the event that it decides to limit eligible areas to hex-9s that have locations and/or roads. The Commission also sought comment on whether to adjust the square kilometers associated with an eligible area using either the adjustment factor that was adopted in 2020 or another approach. Based on its policy goal to use the available budget most efficiently to provide 5G coverage to places where people live, work, and travel, the Commission declines to employ the adjustment factor that it adopted in the *5G Fund Report and Order* as part of the metric for accepting and identifying winning bids in a 5G Fund auction, because doing so would prioritize sparsely populated areas over areas where people live, work and travel as indicated by available data. However, consistent with alternatives proposed in the current record, the Commission adopts an alternative adjustment approach to differentiate between eligible areas that lack 4G–LTE service by an unsubsidized provider and those that have such service, as addressed below.

#### 1. Bidding and Support Metric

91. In the *5G Fund Report and Order,* the Commission decided that it would accept bids and identify winning bids in the 5G Fund Phase I auction using a support price per adjusted square kilometer. Under this metric, each eligible area would be associated with a number of units equal to the square kilometers of the area multiplied by an adjustment factor that was also adopted in the 2020 proceeding. The corresponding support amount for an area would be the number of adjusted square kilometers multiplied by the price. The Commission retains a bidding and support metric based on dollars per adjusted square kilometer, but as explained further herein, modifies the factors upon which it will base the adjustment.

92. In the *5G Fund FNPRM,* the Commission asked whether there were alternative bidding and support metrics that might target unserved locations and/or unserved road miles more specifically, if eligible areas were limited to those census tracts that include unserved locations and/or roads. The Commission further asked whether a single targeted metric would appropriately balance unserved road miles and unserved locations—for example, by using a weighted sum of unserved locations and unserved road miles—and how the balancing weights should be determined.

93. There are no objections in the record to basing the bidding and support metric on square kilometers. Verizon affirms the Commission's choice of square kilometers, noting that ''[b]ecause hex-9s are small—with an area of just 0.1 square kilometers—a per-square kilometer bidding and support metric is likely sufficient to ensure that CCA urges us not to use a metric based on the number of locations in an eligible area, since ''[s]uch an approach would inappropriately adopt a fixed-centric basis for support price calculation.'' The Commission agrees that an appropriate metric should target support for mobile service more broadly than solely based on locations. Accordingly, consistent with the goals of this proceeding to expand 5G coverage to areas where people live, work, and travel, the Commission will use a bidding and support metric based on dollars per square kilometer. roads or locations in the supported hex-9s have access to 5G service.''

94. CCA urges us not to use a metric based on the number of locations in an eligible area, since ''[s]uch an approach would inappropriately adopt a fixed-centric basis for support price calculation.'' The Commission agrees that an appropriate metric should target support for mobile service more broadly than solely based on locations. Accordingly, consistent with the goals of this proceeding to expand 5G coverage to areas where people live, work, and travel, the Commission will use a bidding and support metric based on dollars per square kilometer.

2. The Adjustment Factor as Adopted in 2020

95. The Commission will not use the adjustment factor that was adopted in the *5G Fund Report and Order* for bidding in the 5G Fund Phase I auction. The Commission will, however, retain the adjustment factor for purposes of disaggregating legacy support. The Commission bases its decision not to use the adjustment factor in bidding on the inconsistency between its goal of ensuring that the available budget is used to benefit as many people as possible and the purpose of the adjustment factor, as adopted in the *5G Fund Report and Order.* The Commission's goal in 2020 was to allow the more costly eligible areas (defined, in part, by low population density and difficult terrain) to compete on a more equal basis with the eligible areas that were less costly to serve. By applying such an adjustment factor, sparsely populated, particularly costly areas that would have a high adjustment factor and areas that could be served at lower cost per square kilometer, would have had approximately equal chances of winning support in the auction. Applying such an adjustment factor would have shifted funds away from more populated and traveled eligible areas, which is in conflict with the Commission's goal of targeting unserved and underserved residents, workers, and travelers. The Commission therefore sought comment on whether to use this adjustment factor, to adopt an alternative adjustment factor that would provide some advantage to particularly costly areas that nonetheless are areas with a considerable number of homes, businesses, and other locations and/or roads that are frequently traveled, or to abandon the use of any adjustment factor altogether. With respect to its decision to retain the adjustment factor adopted in the *5G Fund Report and Order* for purposes of disaggregating legacy support, the Commission's rationale in 2020 for adopting the adjustment factor remains unchanged.

96. Relatively few parties commented on the continued use of the adjustment factor for bidding as adopted in the *5G Fund Report and Order.* Of those that submitted comments or reply comments on the issue, four parties—CRWC, RWA, SBI, and US Cellular—indicate that the Commission should eliminate the adjustment factor only if it adopts a larger budget, with CRWC noting that ''[i]f the budget comes up short, funds will exhaust before the higher-cost areas, which are the areas most in need of support, receive any support.'' T-Mobile recommends that the Commission ''reaffirm [the Commission's] approach of using an adjustment factor to prioritize areas that are the most costly and least profitable to serve.''

97. Verizon, on the other hand, urges us to eliminate the adjustment factor for bidding. It asserts that ''[t]he Commission should maximize the impact of the limited 5G Fund budget by focusing support on those unserved areas that would have the most significant demand for mobile broadband service and require relatively smaller subsidies, rather than on areas that would have little demand for mobile broadband service and require larger subsidies.'' [2] The Commission agrees with Verizon that it should discontinue use of the adjustment factor for bidding as adopted in the *5G Fund Report and Order,* and with Verizon's reasoning that 5G Fund support dollars should instead be targeted to those currently unserved and underserved areas where more people are likely to live, work, and travel.

98. With respect to commenters' arguments that the bidding adjustment factor should be eliminated only if the Commission significantly increases the budget, the Commission is not persuaded that it would be a cost-effective use of 5G Fund support to increase the budget for the purpose of extending support to areas that would have been given an advantage with the current adjustment factor. As a threshold matter, and as addressed above, the adjustment factor would shift funds away from more populated and travelled areas to more remote areas, which is in conflict with the Commission's goal of covering as many areas where people live, work, and travel as possible. Therefore, the Commission does not support the adjustment factor as originally designed, as suggested here. Second, under this reverse auction mechanism, a large increase in the budget would not translate into a similarly large increase in the total area that can be assigned 5G Fund support. Instead, the additional funds would be divided between support to some higher-cost areas that would not have been assigned support otherwise and support at unnecessarily high prices to the same areas that would win support under a lower budget. Under the descending price clock reverse auction mechanism, the budget clears and support assignment begins when total requested support at the current clock price is equal to or less than the budget. If the budget is increased significantly without a proportional increase in the number and cost distribution of eligible areas, the clearing round support price will be higher. Some of the more costly areas will likely be assigned at the higher support level, but the most costly areas will not receive support. Lower cost areas—those that would have won support under the original budget—will be funded, but at prices well above those they would have been willing to accept. Thus, the Commission believes

[2] Verizon Comments at 9.

it would be an inefficient use of federal resources to increase the budget for the purpose of extending support to the most remote areas. Finally, even if the Commission were persuaded that that the original adjustment factor should be retained (which it is not) or that increasing the budget significantly would be an acceptable alternative to the adjustment factor (which it also is not), fiscal responsibility precludes us from increasing the 5G Fund budget by more than the $1 billion increase set forth above. Although $1 billion is a substantial increase, it is likely less of an increase than is envisioned by the commenters. Therefore, for all of these reasons, the Commission is unpersuaded that increasing the budget by significantly more than $1 billion for the purpose of reaching the hardest-to-serve areas is a fiscally responsible approach to spending its limited universal service funds.

99. Given the Commission's decision today to eliminate the use of the adjustment factor adopted in the *5G Fund Report and Order* for bidding in the 5G Fund Phase I auction, the Commission also dismisses as moot the Petition for Reconsideration filed by the 5G Fund Supporters to the extent that it requests relief concerning the use of the adjustment factor adopted in the *5G Fund Report and Order* for bidding in that auction.

3. An Adjustment That Weights Bids and Support Prices Based on Service Availability

100. In its discussion in the *5G Fund FNPRM* of the bidding and support metric and the adjustment factor adopted in the *5G Fund Report and Order,* the Commission asked ''whether [it] should adopt an alternative approach that would provide some advantage to particularly costly areas that nonetheless are areas with a considerable number of homes, business[es], and other locations, and/or roads that are frequently travelled.'' Several commenters suggest prioritizing areas based upon the level of service that is available. To address these concerns, the Commission will implement a service-based weighting factor for those areas that lack 4G LTE service. To eliminate confusion with the adjustment factor adopted in the *5G Fund Report and Order,* which the Commission will retain for purposes of disaggregating legacy support, the Commission refers to the service-based factor it adopts herein as a ''weighting factor.'' While eligible areas will include both those that lack unsubsidized 5G broadband service but have access to unsubsidized 4G LTE and areas that lack both unsubsidized 5G service and any 4G LTE service, the Commission finds there are greater public benefits of providing 5G service to areas that lack 4G LTE than the benefits of 5G accruing to other eligible areas. As such, a weighting factor based on this distinction is warranted. The Commission is mindful, however, of its primary responsibility to use the budget cost-effectively to provide support to people where they live, work, and travel. Accordingly, unlike the adjustment factor that was calculated to allow a bid to compete on an equal basis with bids to provide service to a geographic area with several times the number of square kilometers for the same support amount, the weighting factor is intended to give bids for unserved areas an advantage, but not so great an advantage as to result in a significant reduction in the number of square kilometers that can be covered with 5G Fund support.

101. Therefore, the Commission adopts a service-based weighting factor. Consistent with their existing authority concerning the distribution of universal service support, the Commission directs OEA, WCB, and WTB to establish during the pre-auction process, after notice and comment, the size of this service-based weighting factor. The Commission directs OEA, WTB, and WCB to take into account the need to balance the Commission's fiscal responsibility to award 5G Fund support cost-effectively with a recognition that there may be additional challenges to and public benefits from providing service to areas that lack 4G LTE service.

*B. Minimum Geographic Area for Bidding*

102. The Commission will use census tracts as the minimum geographic unit for bidding in the 5G Fund Phase I auction and will aggregate all of the eligible hex-9s into a census tract for purposes of bidding. The Commission's goal in adopting census tracts rather than hexes as the minimum geographic area for bidding is to ensure that a wide variety of interested bidders, including small entities, have the flexibility to design a network that matches their business model and technical capabilities and that allows them to efficiently achieve their public interest obligations and performance requirements. After considering the record on this issue, we conclude that, on balance, using census geographies is preferable to using hex areas. Census geographies provide a more efficient and appropriate way to group areas eligible for the 5G Fund into larger geographic areas for purposes of bidding for areas along state boundaries, particularly in view of the Commission's decision herein to convert those areas to hex-9s.

103. Commenters are equally split on whether the Commission should use census geographies or the H3 hexagonal geospatial indexing system (H3 system) to group eligible hex-9s for bidding. CCA and Verizon each support aggregating eligible hex-9s into census geographies. Verizon advocates grouping eligible hex-9s into census tracts or larger for ease of auction administration, and contends that using hexes—whether at the resolution 5 hexagon (hex-5) or resolution 6 hexagon (hex-6) level—''would introduce unnecessary complexity into the auction, require considerable software development by potential bidders, and could reduce auction participation.''

104. AT&T and Michael Ravnitzky, on the other hand, support using the H3 system to aggregate areas eligible for support to minimum geographic areas for bidding because, they assert, it is a logical approach and aligns areas eligible for 5G Fund support with the BDC mobile mapping and challenge processes, would be more efficient than trying to aggregate eligible hex-9s into census block groups (CBGs) or census tracts, and provides a consistent and flexible framework for defining and mapping eligible areas. AT&T contends that ''[a]ggregation of [eligible] hex-9s at the hex-6 level, which covers on average 36 square kilometers, best reflects the design of wireless infrastructure in rural areas with various terrain and foliage that has not already attracted private investment . . . [and] is more manageable [for providers than] committing to cover locations or certain roads in a hex-5 area, [which cover] 252 square kilometers.'' Ravnitzky suggests ''[u]s[ing] resolution 8 hexagons or higher for aggregating eligible areas . . . [to] provide sufficient granularity and accuracy for capturing the variations in cost and value of providing 5G service in different areas,'' and ''group[ing] adjacent hexagons into larger geographic units based on their proximity, similarity, and contiguity . . . [to] create more coherent and efficient geographic units for bidding and support purposes.''

105. The Commission concludes that, on balance, aggregating eligible hex-9s to census geographies is preferable, irrespective of the resolution of hexagon level used. Census geographies aggregate to the state level, and eligible telecommunications carriers (ETC) designations—which all winning bidders are required to obtain prior to

being authorized for support—are issued by state. In contrast, hex boundaries are not coterminous with state, county, and international boundaries. Additionally, due to the nature of the H3 system, in which not all higher resolution hexagons (*e.g.,* hex-9) are contained within the boundaries of their ancestor lower resolution hexagons (*e.g.,* hex-6 or hex-5), use of a lower resolution hexagon, such as hex-5 or hex-6, as the minimum geographic unit for bidding runs the risk that entire portions of the eligible areas, which will be converted to and expressed at the hex-9 level, may fall outside of the hex-5 or hex-6 boundary to which they are aggregated. Moreover, we note that the average hex-5 has an average area that is larger than the average areas of either of the two census geographies considered, and thus may not provide the best opportunity for bidders to target their bids to win support for the areas they are interested in serving. Because the Commission would have to use fairly large hex areas for bidding units, it would have to account for many hexagons covering multiple state and international boundaries, which would complicate an applicant's inventory selections and state ETC designations. For these reasons, the Commission does not agree that aggregating eligible hex-9s into larger hexagons would be more efficient than aggregating them to census tracts.

106. The Commission further concludes that aggregating to census tracts, as opposed to census block groups (CBGs), is preferable for several reasons. First, because the boundaries of a CBG are often defined by roads, using CBGs could have the unintentional effect of leaving the road that bounds a CBG not served by the bidder that wins support for the CBG. Using census tracts minimizes that problem. Second, wireless networks are often built to cover areas that are larger than a CBG with a single cell site. Third, because census tracts are larger than CBGs, using census tracts will also help mitigate the risk of funding duplicative, overlapping networks if two different bidders were to win support for adjacent CBGs. Finally, using census tracts, as opposed to CBGs, will result in a smaller number of biddable items, which will make bidding in the auction more manageable.

## VI. Compliance WitH 5G Fund Public Interest Obligations and Performance Requirements

### *A. Metric for Measuring Compliance With 5G Fund Public Interest Obligations and Performance Requirements*

107. In the *5G Fund FNPRM,* the Commission sought comment on its approach to making any necessary corresponding modifications concerning the metric used to measure a 5G Fund support recipient's compliance with its public interest obligations and performance requirements if the Commission were to modify the bidding and support price metric that was adopted in the *5G Fund Report and Order.* All commenters that address this issue support the Commission's approach for doing so, and no commenter opposes it. As discussed above, the Commission intends to use a bidding and support price metric for the 5G Fund Phase I auction that is based on dollars per adjusted square kilometer. Because the metric for measuring compliance with the 5G Fund public interest obligations and performance requirements adopted in the *5G Fund Report and Order* is already based on square kilometers, no modifications to the previously adopted compliance metric are necessary as a result of the Commission's decision today regarding the bidding and support price metric that will be used for the 5G Fund Phase I auction.

108. A few commenters suggest other changes concerning the public interest obligations and performance requirements adopted in the *5G Fund Report and Order.* RWA asks the Commission to update the 3GPP performance standard for eligible 5G services to at least 3GPP Release 17, given that the 3GPP Release 15 standard adopted in the *5G Fund Report and Order* is now outdated. RWA notes that 3GPP Release 18 (5G-Advanced) is expected to be rolled out in the fourth quarter of 2023, and that development of 3GPP Release 19 is set to begin in December 2023. ARA PAWR suggests that the Commission consider bidder capability in setting deployment milestones by, for example, giving a rural carrier trying to cover a very remote area more time to meet deployment milestones, while SBI states that a better alternative to using adjustment factors is ''changing the performance criteria for remote areas . . . [to] reduce the performance requirements commensurate with microwave backhaul capabilities.'' According to SBI, carriers serving very remote areas (as defined by the Commission) ''could be much more competitive in an auction if they are required to deliver mobile 4G LTE service at a median speed of 7/1 Mbps, rather than a median speed of 35/3 with 5G.'' T-Mobile expresses support for the 5G Fund milestones, but suggests that the Commission create incentives to encourage 5G Fund support recipients to deploy service to more than 85% of an area by the final deployment milestone by reducing support proportionally to the percent of uncovered area between 85% and 100% and requiring recipients who deploy service to at least 85% but less than 100% of their winning geographic areas to return that support on a prorated basis. T-Mobile also notes that ''[t]he Commission could consider giving [support recipients] an extra year to meet the higher [deployment] thresholds.''

109. The Commission notes that when the Commission adopted the *5G Fund Report and Order,* it stated that 5G Fund support recipients would be required to comply with ''at least the 5G–NR . . . technology standards developed by [3GPP] with Release 15 or any successor release that may be adopted by [OEA and WCB] after notice and comment.'' The ''Releases'' page on 3GPP's website shows that work on 3GPP Releases 16 and 17 has been completed and they are now available, and that work on 3GPP Release 18 is expected to be completed later this year. Given that two successor releases have been completed since the 3GPP Release 15 standard was adopted for 5G Fund support recipients in the *5G Fund Report and Order,* the Commission directs OEA and WCB to initiate a notice-and-comment rulemaking to determine whether and how to update the 3GPP standard. We also note that, in making its determination in the *5G Fund Report and Order* that entities seeking to receive support from the 5G Fund must have access to spectrum and sufficient bandwidth (at a minimum, 10 megahertz x 10 megahertz using frequency division duplex (FDD) or 20 megahertz using time division duplex (TDD)) capable of supporting 5G services in the particular area(s) for which they intend to bid, the Commission observed that 3GPP Release 16 had finalized a list of various frequency bands for North America that appeared at that time to be capable of supporting 5G. Given the passage of time and 3GPP's ongoing work since the *5G Fund Report and Order* was adopted, the Commission directs OEA, WCB, and WTB to determine in the pre-auction process, and after notice and comment,

whether there are 5G-capable spectrum bands other than those identified in 3GPP Release 16 that entities seeking to receive support from the 5G Fund could use to meet the 5G Fund public interest obligations and performance requirements.

110. The Commission declines to make any of the other changes suggested by commenters concerning the previously adopted performance requirements. The Commission finds that the suggestions offered by ARA PAWR and SBI that it adopt differing compliance deadlines and performance standards for support recipients serving remote areas to be inconsistent with the 5G Fund's policy goals of ensuring the rapid deployment of 5G mobile wireless broadband networks. T-Mobile's suggestions are similar to suggestions offered earlier in the 5G Fund proceeding, which the Commission declined to adopt as both unworkable and unrealistic. As the Commission observed in the *5G Fund Report and Order,* ''[t]here may be isolated areas that are particularly challenging to serve even in terrain that is otherwise not difficult to serve, and adopting a 100% coverage requirement could drastically increase costs in a 5G Fund auction if bidders reasonably conclude that certain areas they would otherwise be interested in serving are cost prohibitive due to an especially challenging terrain feature like a ravine or mountaintop,'' which ''would [] potentially distort the 5G Fund auction with little gain.'' We note that the Commission also previously declined to adopt a 100% final deployment milestone percentage for Mobility Fund II based on commenters' arguments in that proceeding that a 100% buildout requirement is unrealistic in remote areas as well as most rural areas, and could discourage bids. The Commission concludes that the Commission struck an appropriate balance in adopting an 85% final coverage requirement in the *5G Fund Report and Order,* and find that T-Mobile has not offered anything in its comments that persuades us to depart from the Commission's earlier conclusions.

*B. Methodologies for Demonstrating Compliance With 5G Fund Performance Requirements*

111. Consistent with the recommendations of many commenters, the Commission modifies the methodologies for demonstrating compliance with 5G Fund performance requirements adopted in the *5G Fund Report and Order* to align largely with those adopted for the BDC verification process. In the *5G Fund Report and Order,* the Commission decided it would generally align with the BDC the methodologies used by 5G Fund support recipients to demonstrate compliance with their interim and final performance requirement milestones. The Commission concluded that standardizing the data required for compliance reporting was likely to ease the burden on support recipients, while collecting sufficient data to confirm that the 5G Fund's requirements have been met. In the *5G Fund FNPRM,* the Commission proposed and sought comment on requiring 5G Fund support recipients to use the methodologies adopted for the BDC mobile verification process—which allow mobile providers to choose to submit either on-the-ground test data or infrastructure data to verify coverage in response to a mobile verification request from the Commission—as the basis for substantiating coverage and demonstrating compliance with the 5G Fund interim and final deployment milestones. In addition, the Commission sought comment on whether 5G Fund support recipients should be required to submit on-the-ground test data for areas that are accessible and infrastructure data for areas that are inaccessible. The Commission also sought comment on whether 5G Fund support recipients should submit infrastructure data sufficient to generate a ''core coverage area,'' as defined in the BDC mobile verification process, and on-the-ground test data for areas outside of that core coverage area, or should instead be allowed to submit either type of data regardless of the type of area in which they are deploying service. The Commission also described and sought comment on the specific on-the-ground test data and infrastructure data 5G Fund support recipients would need to submit.

112. In response to the *5G Fund FNPRM,* many commenters express support generally for harmonizing the 5G Fund's compliance processes with the BDC's verification processes, and no commenters oppose this approach. The Commission agrees with commenters and adopts its proposal to largely align the methodologies for demonstrating compliance with the 5G Fund interim and final deployment milestones with those adopted for the BDC mobile verification process. The Commission finds this approach will give 5G Fund support recipients the same flexibilities afforded under the BDC rules to choose which type of verification data to submit. This approach also affords Commission staff the right to collect additional data as necessary. The Commission therefore amends the Commission's rules as necessary to accommodate such alignment, consistent with the specific needs of the 5G Fund. Based on supportive comments in the record, the Commission requires that, in its interim and final milestone reports, each 5G Fund support recipient (1) certify that the 5G mobile broadband coverage data filed in its BDC biannual submissions demonstrate that its deployments in the area(s) for which it receives 5G Fund support meet the 5G Fund coverage, speed, and latency requirements, and (2) substantiate its reported 5G mobile coverage data by submitting either on-the-ground test data or infrastructure information. A support recipient can submit either type of information (either on-the-ground test data or infrastructure data), regardless of whether it is deploying service in an accessible or inaccessible area, but it must submit at least one type of data for a whole state. A support recipient may submit different types of data for different states and may voluntarily submit the additional data type for part or all of a state. For example, a 5G Fund support recipient may submit only infrastructure information reflecting coverage their supported area in State A, and only on-the-ground data for the sampled area(s) in State B, but it may not submit only infrastructure information in a census tract in State A and only on-the-ground data in a different census tract in State A. This does not preclude a 5G Fund support recipient from submitting both infrastructure information and on-the-ground data, so long as it submits one type of data for all of its supported areas in a state. A 5G Fund support recipient shall submit its interim service and final service milestone reports, including on-the-ground measurement tests or infrastructure information, in the Broadband Data Collection portal. As discussed below, 5G Fund support recipients submitting on-the-ground data will do so for a sample of hex-9s within its supported area, whereas support recipients submitting infrastructure information are required to submit data for all cell sites and antennas that serve a 5G Fund recipient's supported area. This approach is consistent with the BDC verification process, in which providers submitting on-the-ground data do so for a statistically valid sample of areas within a targeted area, whereas providers submitting infrastructure information do so for the entire targeted area. The Commission directs 5G Fund support recipients to indicate which type of data they will submit for each

state. To ensure the accuracy of the data being submitted, the Commission requires 5G Fund support recipients to have their on-the-ground or infrastructure data certified by an engineer with the same qualifications as required for submitting the BDC biannual filings that apply under section 1.7004 of the Commission's rules.

113. *On-the-Ground Test Data.* In the *5G Fund Report and Order,* the Commission required 5G Fund support recipients to conduct on-the-ground speed tests to substantiate 5G broadband coverage, and adopted specific methodologies for on-the-ground speed tests to substantiate 5G broadband data. Additionally, the Commission determined it would defer the adoption of additional requirements and parameters for such on-the-ground measurement tests until the pre-auction process. As discussed above, 5G Fund support recipients have the option of submitting either on-the-ground test data or infrastructure information, on a state-by-state basis. The Commission requires 5G Fund support recipients submitting on-the-ground data to do so in accordance with the parameters and specifications established in the BDC mobile verification process and the *BDC Data Specifications for Mobile Speed Test Data.* The Commission further requires that all such tests be taken in an in-vehicle mobile environment only because, as more fully explained herein, unlike for the BDC, 5G Fund support recipients must demonstrate their compliance with the 5G Fund performance requirements by submitting tests that are taken in an in-vehicle mobile environment only. A 5G Fund support recipient must submit on-the-ground test data for a sample of hex-9s within its supported area within a state. The sample will be statistically appropriate and selected by Commission staff. The use of hex-9s is a variation from the mobile verification process, which uses a sample of hex-8s. Because eligible and supported areas in the 5G Fund Phase I will be based on hex-9s, the Commission adopts a methodology that relies on hex-9s instead of hex-8s. If the number of supported hex-9s in a state is too small to sample a subset of them, all hexagons may be selected in that area, or the small area will be combined with other nearby area(s) where support has been awarded, to the extent they exist for the support recipient, to create a larger area that can be sampled.

114. The Commission also requires a 5G Fund support recipient's cumulative on-the-ground test data within a sampled area to show that at least 90% of its speed test measurements report 5G–NR service at minimum download and upload speeds of at least 35/3 Mbps in an in-vehicle environment, and that at least 90% of tests record latency of 100 milliseconds or less for each of the support recipient's interim and final deployment milestones. The Commission notes this is a change from the performance requirements adopted in the *5G Fund Report and Order,* which require 5G Fund support recipients to meet baseline performance speed requirements of a *median* of 35 Mbps download and 3 Mbps upload, and with at least 90 percent of measurements recording data transmission rates of not less than 7 Mbps download and 1 Mbps upload. However, requiring 5G Fund support recipients to submit cumulative test data showing that at least 90% of its speed test measurements report 5G–NR service at *minimum* download and upload speeds of at least 35/3 Mbps in an in-vehicle environment more closely aligns with the requirements adopted for BDC reporting. The Commission therefore amends section 54.1015(c)(1) of its rules, 47 CFR 54.1015(c)(1), in connection with aligning the methodologies for demonstrating compliance with the 5G Fund interim and final deployment milestones with those adopted for the BDC mobile verification process to specify that 5G Fund support recipients must meet a minimum baseline performance speed requirement of 35 Mbps download and 3 Mbps upload in an in-vehicle environment, with at least 90 percent of measurements recording these data transmission speeds. When conducting tests to demonstrate compliance with its 5G Fund performance milestones, a 5G Fund support recipient must record and submit at least two tests within each of the selected hexagons where the time of the tests are at least four hours apart, irrespective of date. However, if the 5G Fund support recipient has, and submits with its speed tests, actual cell loading data for the cell(s) covering the sampled hexagon showing that the median loading, measured in 15-minute intervals, did not exceed the BDC-modeled loading factor for the one-week period prior to the speed test submission, then the 5G Fund support recipient must submit two speed tests for the sampled hexagon, but without the restriction of testing four hours apart. Further, the target of at least 35/3 Mbps speed must be taken in an in-vehicle mobile environment. The Commission emphasizes that 5G Fund support recipients must submit tests taken in an in-vehicle mobile environment only, and recognizes that this requirement differs from the BDC verification process, in which providers must conduct on-the-ground speed tests for the technology (4G and/or 5G) and environment (outdoor stationary or in-vehicle mobile) listed within hexagons that require verification. Given that the Commission is providing universal service support through the 5G Fund for the deployment of 5G–NR service in rural areas, the Commission concludes that requiring 5G Fund support recipients to submit tests taken in an in-vehicle mobile environment only is appropriate, because measuring 5G–NR service at speeds of at least 35/3 Mbps in an in-vehicle environment reflects the most stringent and robust measurement we are collecting from providers in the BDC and will help ensure that rural areas receive service that is reasonably comparable to the service offered in urban areas. For in-vehicle tests, 5G Fund support recipients must conduct tests with the antenna located inside the vehicle to replicate typical consumer behavior and ensure more equivalent comparisons between the on-the-ground test data submitted by support recipients and the typical consumer experience.

115. *Identifying Areas for On-the-Ground Testing.* In the *5G Fund FNPRM,* the Commission proposed to use a methodology for demonstrating compliance with 5G Fund performance milestones that is similar to that adopted for the BDC mobile verification process, except that 5G Fund support recipients would be required to submit speed test data for all supported areas, rather than a sample of areas, and the area would be hex-9, rather than the hex-8 area used in BDC mobile verification process. As discussed herein, if a support recipient chooses to submit on-the-ground test data, it must do so for a sample of hex-9s. The Commission received limited feedback in response to its proposal to require on-the-ground testing in all supported areas. However, T-Mobile argued that mandatory on-the-ground testing for all supported areas could become ''prohibitively expensive and time consuming.'' The Commission agrees and therefore require that tests conducted and submitted for a sample of hex-9s within the supported area of a state. However, the sampling methodology used in the BDC mobile verification process may not translate well to demonstrating compliance with 5G Fund performance milestones. In the BDC mobile verification process, a verification inquiry can be conducted only when there is a ''credible basis'' for believing the provider's coverage may

be inaccurate, while the basis for verifying coverage is different in the 5G Fund context. Therefore, the Commission declines to adopt a specific sampling methodology at this time and directs OEA, WTB, and WCB to both establish the methodology that will be used by all 5G Fund support recipients to demonstrate compliance with their 5G Fund performance requirements and generate the sample of hex-9s for which each 5G Fund recipient must submit on-the-ground data at the time of its interim and final deployment milestones.

116. *Infrastructure Data.* In the *5G Fund FNPRM,* the Commission proposed to require 5G Fund support recipients to submit the same infrastructure data required in the BDC mobile verification process to substantiate coverage in the areas for which they receive 5G Fund support. In the context of BDC mobile verifications, a provider must submit additional information beyond what is submitted as part of its biannual BDC availability data (propagation modeling details, as well as link budget and clutter data), including cell-site and antenna data for the targeted area. The Commission adopts this proposal, and require 5G Fund support recipients electing to substantiate their 5G Fund milestones with infrastructure data to submit all of the infrastructure data that providers submit as part of the BDC mobile verification process for all cell sites and antennas that serve a 5G Fund recipient's supported area. In its comments, Verizon asks the Commission to specify how it will use infrastructure data to verify compliance with the deployment obligations. Similar to BDC mobile verifications, staff will use the infrastructure data to estimate a ''core coverage area,'' in which coverage at the modeled throughput is highly likely to exist at or above the minimum values reported in the provider's submitted coverage data. For any areas that are outside of the ''core coverage area'' but within the required coverage area, Commission staff will consider additional information submitted by the 5G Fund support recipient, such as on-the-ground test data, and may request such data from the provider if not already submitted. If any areas outside the core coverage area but within the required coverage area are inaccessible, the Commission will consider whether alternatives to on-the-ground drive testing data are appropriate to validate coverage in such areas. To facilitate the process of Commission staff review of a 5G Fund support recipient's data, the Commission directs staff to notify the support recipient of any additional requests for information, and the Commission amends section 54.1019 of its rules, 54 CFR 1019, to account for such case-by-case information requests.

## VII. Schedule for Transitioning From Mobile Legacy High-Cost Support to 5G Fund Support

117. Consistent with the strong consensus among commenters, the Commission concludes that the phase down of mobile legacy high-cost support will commence upon the release of a public notice announcing the authorization of 5G Fund support, as more fully explained below. In view of the provision in the Consolidated Appropriations Act of 2023, Public Law 117–328, Div. E, Title VI section 624, 136 Stat. 4459, 4702, requiring that any support mechanism that serves as an alternative to Mobility Fund Phase II ''shall maintain existing high-cost support to competitive eligible telecommunications carriers until support under such mechanism commences,'' the Commission sought comment in the *5G Fund FNPRM* on a proposal to treat the release of the public notice announcing the close of the 5G Fund Phase I auction to be the point at which support under the 5G Fund ''commences.''

118. Many commenters maintain that the proposal suggested by the Commission in the *5G Fund FNPRM* is inconsistent with the language in the Consolidated Appropriations Act of 2023. The Commission is therefore persuaded that it should follow the recommendations of commenters to commence the phase down of mobile legacy high-cost support upon the release of a public notice announcing the authorization of 5G Fund support.

119. Under this approach, the Commission will commence the two-year phase down of mobile legacy high-cost support in all areas that are ineligible for inclusion in the 5G Fund Phase I auction upon the release of the first public notice announcing the authorization of support in any eligible area. Similarly, the five-year phase down of mobile legacy high-cost support for eligible areas that are not won in the 5G Fund Phase I auction, where the carrier is a legacy support recipient and receives the minimum level of sustainable support for the area for which it receives support, will also commence upon the release of the first public notice announcing the authorization of the award of support in any eligible area. For eligible areas won in the 5G Fund Phase I auction in which the winning bidder is also the legacy support recipient for the area won, legacy support will cease and 5G Fund support will commence after the release of the public notice announcing the authorization of the award of support for that area. The Commission recognizes that this may create an incentive for winning bidders to delay prosecuting their long-form applications to the extent that the legacy support they currently receive is greater than 5G Fund support. Nonetheless, the Commission expects long-form applicants to expeditiously complete their applications and respond in a timely manner to staff requests for additional or missing information. For eligible areas that are won in the 5G Fund Phase I auction in which the legacy support carrier is not the winning bidder in the area, a two-year phase down of mobile high-cost legacy support will ''commence'' after the release of the public notice announcing the authorization of the award of support for that eligible area. Likewise, for eligible areas not won in the 5G Fund Phase I auction where the carrier is a legacy support recipient but does not receive the minimum level of sustainable support for the area for which it receives support, a two-year phase down of mobile high-cost legacy support will ''commence'' after the release of the first public notice announcing the authorization of the award of support for any eligible area. As explained above, areas in Puerto Rico and the U.S. Virgin Islands will proceed on the same transition schedule to either 5G Fund support or a two-year phase down of transitional support from the Bringing Puerto Rico Together Fund and the Connect USVI Fund, whichever is applicable. The Commission concludes that this approach complies with the text of the Consolidated Appropriations Act of 2023. The following chart summarizes the schedule the Commission adopts for transitioning from mobile legacy high-cost support to 5G Fund support:

TRANSITION SCHEDULE FOR LEGACY HIGH-COST SUPPORT TO 5G FUND SUPPORT

| Area eligibility | Auction result | Bidder or recipient status | Support type and timing |
|---|---|---|---|
| Ineligible | | | Two-year phase down of legacy support for all ineligible areas commences on the first day of the month after the release of the first public notice announcing the authorization of 5G Fund support in any eligible area. |
| Eligible | Won in auction | Carrier is the winning bidder and is the legacy support recipient for the area it won. | Legacy support ceases and 5G Fund support commences in an area on the first day of the month after the release of the public notice announcing the authorization of 5G Fund support for that area. |
| Eligible | Won in auction | Carrier is a legacy support recipient but is not the winning bidder in the area for which it receives support. | Two-year phase down commences in an area on the first day of the month after the release of the public notice announcing the authorization of 5G Fund support in that area. |
| Eligible | Not won in auction | Carrier is a legacy support recipient but does not receive the minimum level of sustainable support for the area for which it receives support. | Two-year phase down of legacy support commences on the first day of the month after the release of the first public notice announcing the authorization of 5G Fund support in any eligible area won in the auction. |
| Eligible | Not won in auction | Carrier is a legacy support recipient and receives the minimum level of sustainable support for the area for which it receives support. | Legacy support continues for no more than five years and the phase down of such support commences on the first day of the month after the release of the first public notice announcing the authorization of 5G Fund support in any eligible area won in the auction. |

120. Consistent with the Commission's decision to include areas in Puerto Rico and the U.S. Virgin Islands that meet the eligible areas definition in the 5G Fund, these Territories will be subject to this transition schedule. For areas in Puerto Rico and the U.S. Virgin Islands, the transitional support being provided under the *Transitional Support Order* is the ''mobile legacy high-cost support'' that will transition to 5G Fund support or be subject to a two-year phase down (whichever is applicable). Notwithstanding the schedule adopted in the *Transitional Support Order,* the Commission will extend transitional support beyond the 24-month period as needed to facilitate the phase down schedule adopted herein and comply with the Consolidated Appropriations Act of 2023. As noted herein, mobile wireless carriers receiving transitional support in areas in Puerto Rico and the U.S. Virgin Islands that are subject to phase down will receive support amounts as specified in section 54.307(e)(5)–(7) of the Commission's rules, 47 CFR 54.307(e)(5)–(7), and will be subject to the same public interest obligations, performance requirements, reporting requirements, and non-compliance mechanisms adopted for mobile legacy high-cost support recipients specified in section 54.322 of the Commission's rules, 47 CFR 54.322.

121. Other than the changes necessary to make its legacy support transition schedule consistent with the language in the Consolidated Appropriations Act of 2023, the Commission makes no other modifications to the decisions adopted in the *5G Fund Report and Order* regarding the transition from mobile legacy high-cost support to 5G Fund support. The Commission was clear in the *5G Fund Report and Order* that ''the continuation of legacy support is an interim measure'' as it implemented its plans for the 5G Fund. The Commission therefore declines to accept any of the alternatives to the Commission's long-standing plan to phase down mobile legacy high-cost support suggested by commenters. Those alternative approaches are contrary to the Commission's more than decade-old goal of reforming high-cost support and closing the digital divide, as well as the steps the Commission has taken to ensure the efficiency and good stewardship of its limited universal service fund dollars. As the Commission previously determined in the *5G Fund Report and Order,* in an area where the legacy support provider becomes the winning bidder for 5G Fund support, if it ''defaults on its bid prior to authorization, or otherwise fails to be authorized, [the Commission] will not award 5G Fund support for that area. However, to avoid perverse incentives, consistent with [the Commission's] decision to maintain support to preserve service only in areas that lack a winning bid, a carrier receiving legacy support in the area of its winning bid will not receive preservation-of-service support and will instead be subject to phase down if not authorized to receive 5G Fund support.'' As explained by the Commission in 2020, and as addressed herein in the Commission's discussion of the 5G Fund budget, ''the Commission's experience awarding support via competitive bidding has shown it to be an effective use of ratepayer funds and none of these commenters has convinced us that departing from that approach is warranted.''

122. Consistent with the Commission's decision that the phase down of mobile legacy high-cost support will commence upon the release of a public notice announcing the authorization of 5G Fund support, as well as Congress's language in the Consolidated Appropriations Act of 2023, the Commission dismisses CRWC's Petition for Reconsideration as moot to the extent that its arguments concern the transition schedule for mobile legacy high-cost support. Additionally, for the same reasons expressed herein, the Commission denies the Petition for Reconsideration filed by SBI to the extent that it requests that the Commission reconsider the five-year phase down of mobile legacy high cost support for a carrier receiving the minimum sustainable level of support in an area that is eligible for 5G Fund support, but is not the winning bidder for that area. This request for reconsideration conflicts with the Commission's plan to reform high-cost support and Congress's intention for the Commission to transition to a more modern support mechanism.

## VIII. Certification of Notice of 5G Fund Phase I Auction Requirements and Procedures

123. Consistent with the approach taken in its recent spectrum auctions, the Commission requires any applicant seeking to participate in the 5G Fund Phase I auction to certify, under penalty of perjury, in its short-form application that the applicant has read the public notice adopting procedures for the auction and that it has familiarized itself both with the auction procedures and with the requirements, terms, and conditions associated with the receipt of 5G Fund support. This certification helps ensure that an applicant educates itself about the procedures for auction participation and that, prior to submitting a short-form application, the applicant understands its obligation to stay abreast of relevant, forthcoming information. While this certification

refers to information regarding auction procedures and the requirements, terms, and conditions associated with the receipt of 5G Fund support that is available at the time of certification, potential auction applicants are on notice from the time the auction procedures are adopted that their educational efforts must continue even after their short-form applications are filed. As with other certifications required in the short-form application, an applicant's failure to make this required certification in its short-form application by the applicable filing deadline will render its application unacceptable for filing, and its application will be dismissed with prejudice.

124. As noted in the *5G Fund FNPRM,* the Commission has a longstanding policy that expressly places a burden upon each auction applicant to be thoroughly familiar with the procedures, terms, and conditions contained in the relevant auction procedures public notice and any future public notices that may be released in the auction proceeding. Both the Commission and OEA, in conjunction with WTB and the Media Bureau, have reinforced this policy in recent spectrum auctions by adopting a requirement that each auction participant certify, under penalty of perjury, that it has read the Procedures Public Notice for the applicable auction, and that it has familiarized itself with the auction procedures and with the requirements related to the licenses made available for bidding. In adopting this certification requirement for prior auctions, the Commission noted that it was intended to bolster applicants' efforts to educate themselves to the greatest extent possible about the procedures for auction participation and to ensure that, prior to submitting their short-form applications, applicants understood their obligation to stay abreast of relevant, forthcoming information. The Commission and OEA reasoned in the context of spectrum auctions that familiarity with the Commission's rules and procedures governing the auctions would help bidders avoid the consequences to them associated with defaults, which also cause harm to other applicants and the public by reducing the efficiency of the auction process and reducing the likelihood that the license or construction permit will be assigned to the bidder that values it the most. Moreover, the Commission has also previously expressed in the context of spectrum auctions that the certification requirement will help ensure that an ''auction applicant . . . has investigated and evaluated those technical and marketplace factors that may have a bearing on its potential use of any licenses won at auction.''

125. All commenters that address this certification requirement support it. The Commission concludes that applicants for universal service support in the 5G Fund Phase I auction will benefit from this certification because, as with spectrum auctions, familiarity with the rules and procedures governing the 5G Fund Phase I auction could help bidders avoid the consequences to them associated with defaults, which in turn harms other applicants and the public by reducing the efficiency of the auction process and potentially stranding areas without 5G mobile service. The Commission further concludes that such a certification will promote the integrity of, and public confidence in, the Commission's auction processes, as well as help ensure that recipients of 5G Fund Phase I support are aware of and better prepared to comply with their public interest obligations and performance requirements. For these reasons, the Commission will require each 5G Fund Phase I auction applicant to make the following certification, under penalty of perjury, in its short-form application:

that the applicant has read the public notice adopting procedures for the 5G Fund Phase I auction, and that it has familiarized itself with those procedures and any requirements, terms, and conditions associated with receipt of 5G Fund support.

## IX. Cybersecurity and Supply Chain Risk Management

126. The Commission requires 5G Fund support recipients to implement both an operational cybersecurity risk management plan and a supply chain risk management plan as a condition of receiving 5G Fund support, as discussed in the *5G Fund FNPRM.*

127. *Cybersecurity Risk Management.* Consistent with the Enhanced Alternative-Connect America Cost Model (Enhanced A–CAM) and BEAD programs, 5G Fund support recipients' cybersecurity risk management plans must reflect at least the National Institute of Standards and Technology's (NIST) Framework for Improving Critical Infrastructure Cybersecurity v.1.1 (2018) (NIST Framework), or any successor version of the NIST Framework, and must reflect established cybersecurity best practices that address each of the Core Functions described in the NIST Framework, such as the standards and controls set forth in the Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Cross-sector Performance Goals and Objectives (CISA CPGs) or the Center for internet Security Critical Security Controls (CIS Controls). The Commission notes that the BEAD program specifically requires that a recipient's cybersecurity risk management plan reflect the standards and controls set forth in Executive Order 14028. However, the development of standards and controls pursuant to Executive Order 14028 are still ongoing. While the Commission recognizes these continuing efforts elsewhere in the federal government, it will not expressly require that a 5G Fund recipient implement the standards and controls developed pursuant to Executive Order 14028. Once those standards and controls are finalized, however, the Commission will consider them to be established cybersecurity best practices for purposes of the 5G Fund cybersecurity requirements that it adopts herein. The Commission delegates to the Public Safety and Homeland Security Bureau the authority to update these requirements, after notice and comment, to require that 5G Fund recipients' cybersecurity risk management plans reflect NIST Framework v.2.0 (2024) or any other successor versions that may be released.

128. *Supply Chain Risk Management.* Support recipients' supply chain risk management plans must incorporate the key practices discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry, and related supply chain risk management guidance from NIST 800–161, Cybersecurity Supply Chain Risk Management Practices for Systems and Organizations (2022).

129. The Commission requires winning bidders to submit their cybersecurity risk management and supply chain risk management plans to USAC, and to certify that they have done so, by a date to be announced by Public Notice or within 30 days after approval under the Paperwork Reduction Act (PRA), whichever is later. Consistent with the penalties adopted for the Enhanced A–CAM program, failure to submit such plans and make the required certification will result in 25% of monthly support being withheld until the recipient comes into compliance. A 5G Fund support recipient may consider its ''plans'' for addressing cybersecurity and supply chain risks to be separate because they entail different kinds of actions, but they may satisfy this requirement by submitting to USAC a single document that contains both their cybersecurity risk management and supply chain risk management plans. Once the 5G Fund

support recipient comes into compliance, the Administrator will stop withholding support, and the support recipient will receive all of the support that had been withheld as a result of the recipient's failure to comply with the cybersecurity and supply chain risk management requirements the Commission adopts herein. These requirements will improve the cybersecurity and supply chain risk management of the nation's mobile broadband networks and protect consumers from online risks, such as fraud, theft, and ransomware, that can be mitigated or eliminated through the implementation of widely-accepted security measures.

130. Commenters generally support the requirement that 5G Fund support recipients implement cybersecurity and supply chain risk management plans. Only one commenter, US Cellular, opposes such a requirement on the grounds that it ''may place undue burdens and costs on 5G Fund support recipients.'' Similarly, while generally supporting the requirements, the CCA urges us to ''ensure that any such standards, while achieving cybersecurity and risk management goals, avoid imposing onerous or piecemeal burdens on carriers.''

131. However, the cybersecurity and supply chain risk management requirements the Commission adopts for 5G Fund support recipients are designed to mitigate concerns that development and implementation of cybersecurity plans are expensive and time consuming. As US Cellular itself explains, the NIST Framework is not a one-size-fits-all approach to cybersecurity and represents a flexible approach that ''promotes customization and prioritization, allowing organizations to tailor their approach according to specific needs.'' Other commenters agree that the NIST Framework provides an appropriate foundation for the required cybersecurity plans. The Commission therefore affords carriers the flexibility to develop plans that fit within their budgetary constraints, so long as they meet the baseline requirements. Moreover, the Commission declines to require 5G Fund support recipients to certify that they have implemented the NIST Framework at a particular implementation tier, as suggested by Verizon, as doing so would reduce flexibility and potentially impose unnecessary costs on providers. For the same reasons, the Commission also declines to adopt the additional requirements recommended by the Puerto Rico Telecommunications Regulatory Bureau.

132. The Commission's approach will also likely reduce compliance costs by allowing 5G Fund support recipients that have already implemented the NIST Framework to comply with this requirement without redoing their plans so long as such plans include already implemented established cybersecurity best practices. To further mitigate costs for small providers, as suggested by commenter Michael Ravnitzky, the Commission encourages 5G Fund support recipients to take advantage of existing federal government resources designed to share supply chain security risk information with trusted communications providers and suppliers and facilitate the creation of cybersecurity and supply-chain risk management plans.

133. In the *5G FNPRM,* the Commission proposed to require a 5G Fund recipient's cybersecurity risk management plan to reflect ''an established set of best practices, such as the [CISA CPGs] or the [CIS Controls]. Some commenters took issue with this proposal, expressing concerns about a prescriptive mandate that would require the use of either the CISA CPGs or the CISA Controls, without regard to the wider universe of established best practices that are currently available and that may be a better fit for their particular circumstances. The Commission emphasizes that the approach it adopts herein does *not* require the use of either of these best practices, and is instead intended to afford 5G Fund support recipients the flexibility to implement *any* established best practices, including those identified in the relevant NIST Framework v. 2.0 Informative References Spreadsheet, so long as they address each of the Core Functions of the NIST Framework, as the CISA CPGs and the CIS Controls do. To that end, the rule that the Commission adopts amends the language proposed in the *5G Fund FNPRM* to make clear that, rather than requiring the use of a complete set of best practices compiled by a third party, a 5G Fund recipient may use best practices selected from a variety of sources, so long as they are established and, in aggregate, they address each of the NIST Framework's Core Functions.

134. AT&T is the only commenter that takes issue with the requirement that 5G Fund support recipients' supply chain risk management plans incorporate guidance from NIST 800–161. AT&T notes that NIST 800–161 itself states that it ''is not one-size-fits-all'' and that ''the guidance . . . should be adopted and tailored to the unique size, [resources], and risk circumstances of each enterprise.'' As with the NIST Framework, the Commission believes that the flexibility provided within NIST 800–161 will benefit 5G Fund support recipients for the very reasons stated by AT&T. The Commission does not view the use of NIST 800–161 as imposing rigid requirements. Instead, it serves as a baseline for ensuring that each 5G Fund support recipient has implemented an effective supply chain risk management plan that is appropriately tailored to its individual needs.

135. *Updating Cybersecurity and Supply Chain Risk Management Plans.* Consistent with the requirements adopted for both the Enhanced A–CAM and BEAD Programs, the Commission also requires that a 5G Fund support recipient submit an updated plan to USAC within 30 days after making any substantive modification to its cybersecurity or supply chain risk management plan. A modification to a cybersecurity or supply chain risk management plan will be considered as substantive if at least one of the following conditions apply:

- There is a change in the plan's scope, including any addition, removal, or significant alteration to the types of risks covered by the plan (*e.g.,* expanding a plan to cover new areas, such as supply chain risks to Internet of Things devices or cloud security, could be a substantive change);
- There is a change in the plan's risk mitigation strategies (*e.g.,* implementing a new encryption protocol or deploying a different firewall architecture);
- There is a shift in organizational structure (*e.g.,* creating a new information technology department or hiring a Chief Information Security Officer);
- There is a shift in the threat landscape prompting the organization to recognize the emergence of new threats or vulnerabilities that weren't previously accounted for in the plan;
- Updates are made to comply with new cybersecurity regulations, standards, or laws;
- Significant changes are made in the supply chain, including offboarding major suppliers or vendors, or shifts in procurement strategies that may impact the security of the supply chain; or

A large-scale technological change is made, including the adoption of new systems or technologies, migrating to a new information technology infrastructure, or significantly changing the information technology architecture.

136. US Cellular opposes the requirement that a 5G Fund support recipient submit an updated plan to USAC within 30 days after making any substantive modification to its

cybersecurity or supply chain risk management plan, stating that requiring the submission of an updated plan within 30 days ''may pose challenges in responding swiftly to emerging threats or adopting cutting-edge cybersecurity solutions.'' The Commission disagrees. To the extent that a 5G Fund support recipient makes a substantive change to its cybersecurity or supply chain risk management plan in response to a specific threat or the adoption of a new cybersecurity solution, the provider is not required to submit its updated plan until well after that change is made. The Commission sees no reason why the need to submit an updated plan after the fact would impact an organization's ability to modify its plan as needed at any given time, particularly given its enumeration herein of the types of modifications that will be considered substantive.

137. NTCA expresses concern that 5G Fund support recipients may be required to submit updated cybersecurity and supply chain risk management plans within 30 days after any substantive modifications to the best practices or standards reflected in those plans (*e.g.,* within 30 days after any changes are made to the CISA CPGs or the CIS Controls). This is a misreading of the requirement. While the Commission fully expects that 5G Fund support recipients will regularly update their cybersecurity and supply chain risk management plans as best practices evolve, the Commission does not impose a specific timeframe by which those plans must be updated after a best practices publication has been modified.

138. NTCA and RWA both suggest that, rather than requiring the submission of updated plans within 30 days after any substantive modification, 5G Fund support recipients should be required to file updated plans on an annual basis with their annual report. The Commission does not believe that the requirement it adopts will impose substantial burdens on 5G Fund support recipients. To the contrary, because this requirement aligns with the requirements adopted for the Enhanced A–CAM and BEAD programs, the Commission believes that 5G Fund support recipients that also participate in those programs will benefit from having a single deadline by which they must submit their reports for each program. Consistent with requirements for other high-cost support recipients, such as Enhanced A–CAM program participants, 5G Fund support recipients must submit an annual report no later than July 1 of each year after the year in which it was authorized to receive support. Moreover, there is nothing in the record that explains how 5G Fund support recipients differ from Enhanced A–CAM and BEAD program participants with respect to this requirement such that they merit different treatment.

139. *Annual Certification.* Consistent with the requirements adopted for the Enhanced A–CAM program, the Commission also requires that 5G Fund support recipients certify in their annual report following each support year that they have maintained their plans, whether they have submitted modifications in the prior year, and the date any modifications were submitted. If at any point during the support term a 5G Fund support recipient does not have in place operational cybersecurity and supply chain risk management plans meeting the Commission's requirements, the Commission directs WCB to instruct USAC to withhold 25% of the 5G Fund recipient's support until the recipient comes into compliance. As noted above, once the 5G Fund support recipient comes into compliance, support will no longer be withheld and the support recipient will receive all of the support that had been withheld as a result of its non-compliance with the cybersecurity and supply chain risk management requirements.

140. While the Commission declines to adopt NTCA's proposal to treat 5G Fund support recipients' submitted cybersecurity and supply chain risk management plans as presumptively confidential under section 0.457 of the Commission's rules, 47 CFR 0.457, the Commission recognizes that such plans can contain sensitive information regarding providers' operations and networks. As a result, the Commission will provide an abbreviated means by which 5G Fund support recipients may request confidential treatment of their cybersecurity and supply chain risk management plans pursuant to section 0.459 of its rules, 47 CFR 0.459(a)(4).

141. The Commission concludes that these requirements will serve to facilitate the nation's cybersecurity and supply chain risk management goals while minimizing the burden on 5G Fund support recipients in complying with such requirements. The Commission's actions emphasize the critical importance of cybersecurity and supply chain risk management in modern broadband networks, consistent with broader initiatives across the federal government. The enforcement mechanism carefully balances compliance with this important requirement with avoiding a disproportionate disruption to providers' support. Adopting these risk management requirements is necessary to ensure that the 5G Fund program does not deprive rural consumers in high-cost areas of receiving 5G mobile service that is equally as secure as the high-speed broadband service deployed pursuant to other federal funding initiatives, including through Enhanced A–CAM and BEAD programs.

### X. Use of Open Radio Access Network Technologies in 5G Fund Supported Networks

142. The Commission concludes that there are significant public interest benefits to incentivize and to promote the voluntary inclusion of Open Radio Access Network technologies (Open RAN) in networks that are deployed with 5G Fund support by allocating additional funds for this specific purpose. The Commission further concludes that providing a 5G Fund support recipient with a process whereby it can seek additional time to meet the 5G Fund deployment milestones may also further incentivize the inclusion of Open RAN in networks supported through the 5G Fund. As expressed in the *5G Fund FNPRM,* the Commission recognizes that this proceeding presents an opportunity for the Commission to assist providers that elect to incorporate Open RAN in their network deployment plans. By providing these additional incentives, the Commission seeks to encourage early adoption of Open RAN that will strengthen and secure the advanced, 5G mobile broadband networks that the 5G Fund is subsidizing.

143. As explained more fully in the Commission's recent *Open RAN NOI,* rather than relying on proprietary specifications, ''Open RAN modularizes the hardware and software components of the traditional RAN to promote virtualization, to enable [artificial intelligence/machine learning] solutions to optimize performance, and to enable interoperability across multiple vendors.'' The Commission has also noted that networks deploying Open RAN ''have the potential to address national security and other concerns that the Commission and other federal stakeholders have raised in recent years about network integrity and supply chain reliability.'' Commenters in the instant proceeding also have noted that the incorporation of Open RAN technologies within networks serves many public interest benefits including improving security, lessening provider costs, strengthening the domestic supply chain, and promoting competition.

144. Consistent with record support, the Commission concludes that using

the 5G Fund to incentivize the voluntary inclusion of Open RAN in networks deployed with 5G Fund support serves its national priorities. Thus, to incentivize deployment of Open RAN, as detailed herein, the Commission offers a process whereby a 5G Fund support recipient can seek a limited extension of its 5G Fund interim and final deployment milestones as set forth in section 54.1015(b) in order to afford it additional time to deploy Open RAN. Additionally, as explained fully herein, the Commission will allocate up to an additional $900 million of support in conjunction with implementation of the 5G Fund solely for the purpose of incentivizing providers to deploy Open RAN. This $900 million will allow us to award a 5G Fund support recipient that deploys Open RAN with additional funding in the amount of one-tenth of the support that it is being allocated through the 5G Fund Phase I auction. To receive this additional funding, support recipients must deploy Open RAN technology through their network(s) for which they are authorized to receive 5G Fund support. The Commission finds that offering these incentives is consistent with the requirement in section 254(b)(1) of the Act, 47 U.S.C. 254(b)(1), that the Commission base its universal service policies on the principles of providing ''[q]uality services,'' and the Commission believes that providing this additional funding will hasten the deployment of fast, secure, flexible, resilient, advanced, 5G mobile broadband networks throughout rural America. The Commission directs OEA and WTB to develop a post-auction process to evaluate applications for the award of this funding in accordance with the parameters that the Commission adopts herein. Additionally, the Commission directs OEA and WTB to adopt provisions to allow a 5G Fund support recipient to seek and receive, if approved by OEA and WTB, an extension of time for its interim and final deployment milestones so that it may include Open RAN in its supported network.

145. As a general policy matter, the federal government has begun to undertake funding efforts that accelerate the development, deployment, and adoption of Open RAN in advanced mobile services. Likewise, the government, together with nine other countries, has recently released a joint statement endorsing principles for secure 6G technology ''that recognize the importance of international cooperation in promoting open, secure, resilient, inclusive, interoperable networks, such as Open Radio Access Networks, and safe, resilient, inclusive, and sustainable 6G ecosystem.'' Incentivizing the inclusion of Open RAN technology in networks subsidized with universal service fund support is therefore consistent with global accord that interoperable networks are of significant importance both currently and in the future.

146. The Commission offers these incentives to 5G Fund support recipients because it anticipates that extending 5G deployment in unserved and underserved areas using Open RAN will be especially beneficial in promoting its 5G Fund goal of ensuring that Americans have access to advanced, 5G mobile broadband services where they live, work, and travel, now and in the long run. Accordingly, currently unserved and underserved areas where 5G Fund support will be used for an Open RAN deployment should be better positioned in the future not to be left behind.

147. In the *5G Fund FNPRM,* the Commission sought comment on whether the 5G Fund could be an appropriate vehicle to further the goals outlined in Executive Order 14036, which encouraged the Commission to ''consider providing support for the continued development and adoption of 5G Open [RAN] . . . protocols and software,'' and if so, what the best mechanism(s) for doing so might be. The Commission asked whether deploying Open RAN networks requires more time such that it would be appropriate to provide an extension of the interim and/or final service milestone deadlines to 5G Fund support recipients that use Open RAN in their network deployments. The Commission also asked how a support recipient could demonstrate that it is using Open RAN and how the Commission could monitor compliance.

148. A number of commenters commend the Commission's consideration of using the 5G Fund to incentivize Open RAN and claim that doing so has the potential to increase competition among vendors, decrease reliance on foreign vendors, increase network security, increase innovation, and lower long-term costs. Many commenters agree with the Commission's observation in its *Enhanced Competition Incentive Program Further Notice of Proposed Rulemaking* that ''Open RAN has the potential to allow carriers to promote the security of their networks while driving innovation, in particular in next-generation technologies like 5G, lowering costs, increasing vendor diversity, and enabling more flexible network architecture.'' Some commenters assert that smaller vendors and rural carriers will need support in order to deploy Open RAN. Mavenir, an equipment manufacturer, suggests that 5G Fund incentives to deploy Open RAN may lessen the barriers to market entry that Open RAN vendors currently face and may encourage closed RAN incumbents to ''open'' their equipment without additional costs to providers.

149. The Open RAN Policy Coalition suggests that in exchange for ''demonstrable commitments'' to use 5G Fund support to deploy Open RAN 5G, the Commission offer post-auction incentives for winning bidders, such as additional funding for various phases of the buildout, flexibility in timing for meeting build-out requirements, and also technical assistance, to encourage the deployment of Open RAN in areas receiving 5G Fund support. CTIA agrees with the Open RAN Policy Coalition that voluntary, post-auction incentives such as additional funding may help spur Open RAN deployment.

150. By contrast, other commenters raise practical concerns about using the 5G Fund to support the deployment of Open RAN, contending that Open RAN has not been proven capable of providing 5G service at scale and that more suitable efforts are occurring elsewhere in the government and industry to support its development. And some commenters raise concerns that certain specifications and protocols of Open RAN are still too early in development for a deployment scenario of Open RAN with advanced capabilities (*e.g.,* Massive multiple-input multiple-output (Massive MIMO)), and that Open RAN may need additional time for interoperability testing and network integration to be completed. The Commission does not persuaded, however, that these concerns should preclude us from using universal service support and the 5G Fund proceeding to encourage the use of Open RAN. To the contrary, the Commission believes that the public interest benefits of incentivizing the use of Open RAN in 5G networks outweigh the concerns and, importantly, will hasten its use more widely in areas of the country where it might not otherwise be deployed.

151. Recognizing the practical challenges associated with deploying Open RAN raised by commenters, the Commission has given careful consideration to the suggestion of the Open RAN Policy Coalition that it provide post-auction incentives to winning bidders to promote opportunities for Open RAN deployment. The Commission finds that offering additional financial support

from the 5G Fund to those support recipients that voluntarily incorporate Open RAN into their networks deployed using 5G Fund support in tandem with offering a process to obtain a potential extension of up to one year of the build-out milestone deadlines will best further the Commission's interests in incentivizing the development and deployment of Open RAN and accommodate the various needs of industry in doing so.

152. *Additional Funding for Deployment of Open RAN.* The Commission will make available this additional high-cost funding exclusively to those 5G Fund support recipients that deploy networks using Open RAN through their network(s) for which they are awarded 5G Fund support. The Commission will award an additional amount of one-tenth of the total support a 5G Fund support recipient is authorized to receive. The inclusion of Open RAN in a network deployed using 5G Fund support will be entirely voluntary, as this additional support is being offered in recognition of the challenges that these service providers may face. Consistent with its goal, as stewards of the Universal Service Fund, of distributing funds in a responsible, and administratively efficient, manner, the Commission requires that this additional funding be used to deploy Open RAN and that 5G Fund support recipients that accept this additional funding certify to that effect.

153. To avoid a significant increase to the contribution factor from any single Open RAN incentive payment, the Commission has determined to disburse support at specified intervals. Likewise, the Commission seeks to ensure that it is able to protect universal service funds in the event that support recipients do not timely deploy Open RAN. Based on its review of the information supporting a request for the additional funding, the Commission will award each authorized support recipient funding related to its Open RAN deployment in three tranches, with the timing of the disbursements to be based on whether a support recipient seeks only the additional funding or both the additional funding and an extension of time to meet the deployment milestones. For 5G Fund support recipients seeking only the additional funding, the Commission will award the support based on the following schedule: (1) one-third of the support upon meeting the Year Three Interim Service Milestone Deadline; (2) one-third upon meeting the Year Four Interim Service Milestone Deadline; and (3) one-third upon meeting the Year Six Final Service Milestone Deadline, at completion of buildout. For support recipients seeking both additional funding and an extension of time of one year, the Commission will award the additional support funding based on the following schedule: (1) one-third upon meeting the Year Four Interim Service Milestone Deadline; (2) one-third upon meeting the Year Five Interim Service Milestone Deadline; and (3) one-third upon completion of buildout at Year Seven. Accordingly, the Commission directs OEA and WTB to establish a process by which this funding may be elected and awarded post-auction.

154. *Extension of Deployment Milestones.* As noted herein, to ensure that 5G Fund support recipients meet their obligation to provide advanced, 5G mobile broadband service in areas where they receive support, the Commission adopted interim and final service deployment milestones in the *5G Fund Report and Order* to monitor progress in timely meeting the 5G Fund public interest obligations and performance requirements. Rather than adopt an Open RAN exception to section 54.1015(b) of the Commission's rules, which requires a support recipient to meet all of its interim and final 5G Fund deployment milestones and deadlines, the Commission will instead grant a one-year extension of the deployment milestones for a 5G Fund support recipient that demonstrates that it will incorporate Open RAN into its network. The Commission finds that providing flexibility to a 5G Fund support recipient by allowing more time to meet its public interest obligations and performance requirements is warranted here to incentivize the development and deployment of Open RAN networks.

155. Those commenters supporting use of the 5G Fund as a vehicle to promote the development of Open RAN also generally support the idea described in the *5G Fund FNPRM* of extending the milestone deadlines for a support recipient to meet its public interest obligations and performance requirements for those providers who deploy networks using Open RAN. The Commission believes that this approach addresses the concerns raised by some commenters that aspects of Open RAN make it so that deployment requires additional time. In particular, the Commission agrees with DISH's argument in response to the Commission's *5G FNPRM* that ''. . . extending buildout requirements for Open RAN deployments [will help] to prevent would-be Open RAN providers from choosing an outdated, closed technology merely to deploy faster.'' This approach also addresses concerns that incorporating Open RAN in a network deployment could take longer to implement, and that each provider may have different constraints on its ability to deploy Open RAN. The Commission is creating separate processes for seeking additional Open RAN funding and for seeking an extension to accommodate the needs and goals of individual support recipients. Accordingly, the Commission directs OEA and WTB to establish a process for a 5G Fund support recipient that needs additional time to obtain an extension of up to one year of the interim and final milestones as set forth in section 54.1015(b) if it can demonstrate that it will incorporate Open RAN into its network(s).

156. With one exception, all commenters oppose making the deployment of Open RAN mandatory. Given commenters' concerns that the specifications, testing, and standards for using Open RAN advanced technologies are still under development, and given that some of the major carriers are still assessing Open RAN's benefits, the Commission does not believe Open RAN should be mandatory for 5G Fund support recipients. The Commission also recognizes, as AT&T notes, that some providers that have deployed or are currently deploying a greenfield Open RAN network have to consider different capital investment issues than incumbents that are currently integrating 5G networks with 4G LTE networks.

157. Some commenters propose that auction participants that commit to deploying Open RAN should be given an advantage in bidding. DISH advocates for a 40% bidding credit to auction participants that commit to certain Open RAN deployments, and an additional 10% bidding credit to providers that commit to deploying Open RAN on a faster timeline than the Commission otherwise requires. While the Commission finds that offering a combination of financial and extended milestone buildout deadline incentives will promote its interest in furthering the adoption of Open RAN solutions in networks for advanced, 5G mobile broadband services, given its goal of fiscal responsibility, the Commission finds it inappropriate to adopt a financial incentive as large as the 50% bidding credit that was proposed by DISH. Rather, the Commission concludes that offering a 5G Fund support recipient additional funding in the amount of one-tenth of the total support it is authorized to receive through the 5G Fund Phase I auction, spread over three payments, will sufficiently encourage the deployment

of Open RAN. This is especially true in light of some commenters assertions that Open RAN may be more cost-effective because it is easier to administer and will discourage bidders from claiming a credit without sufficient due diligence about their ability to deploy Open RAN. In particular, the Commission agrees with DISH 's advocacy that ''[d]espite the viability of Open RAN, there are still challenges in the ecosystem—often imposed by RAN incumbents—that can be alleviated by federal funding.'' The Commission therefore finds that providing up to $900 million in funding to incentivize the deployment of Open RAN technology in networks supported through the 5G Fund, which amounts to an addition of 10% in funding beyond the up to $9 billion that will be allocated through the 5G Fund Phase I auction, strikes the proper balance to financially incentivize 5G Fund support recipients to consider deploying this innovative technology.

158. The Commission directs OEA and WTB to establish, after notice and comment, the minimum specifications for Open RAN that a 5G Fund support recipient must implement in the 5G networks it deploys with 5G Fund support to qualify for additional funds and extended milestone deadlines; the mechanism by which such a recipient must demonstrate compliance (both initial and continued) with such specifications; and other requirements, if any, sufficient to justify additional post-auction funding and/or an extension of up to one year to meet the public interest obligations and/or performance requirements consistent with its goals described herein. Providing further details regarding the showing a 5G Fund support recipient must make in order to be granted additional funding and/or an extension will help ensure that the incentives discussed here are used appropriately to support the Commission's policy objectives. The Commission further directs OEA and WTB to review each request for additional funding and extension to determine, as appropriate, whether such a request should be granted. OEA and WTB shall grant requests for funding only if the recipient's use of Open RAN technology in networks deployed with 5G support meets the Open RAN specifications that will be adopted by OEA and WTB and the recipient certifies its conformance with those specifications. Likewise, OEA and WTB shall grant an extension of up to one year only if they determine that the 5G Fund support recipient's proposal to deploy Open RAN is reasonably capable of meeting the prescribed minimum specifications. Reasonably capable means meeting the Commission staff's reasonable expectation that the applicant would be able to meet the relevant Open RAN specifications in the areas where the applicant won support. To be clear, these determinations will be made on a case-by-case basis, measured against standards developed by OEA and WTB, taking each recipient's circumstances into account. The Commission further directs OEA and WTB to adopt, after notice and comment, measures to ensure that it can appropriately address an Open RAN support recipient's non-compliance with its commitment to timely deploy a network consistent with the established Open RAN specifications. In particular, OEA and WTB shall address whether recipients should be required to increase the amount of the letter of credit required by section 54.1016 of the Commission's rules, 47 CFR 54.1016, by the amount of the Open RAN support, be subject to a modified timeline before it can begin to decrease the amount of its letter of credit, and be subject to recovery of all distributed support for non-compliance with 5G Fund Open RAN obligations.

159. The Commission's approach factors in the time that it anticipates is needed for the finalization of Open RAN specifications and also allows more time for industry to better address the challenges associated with interoperability and the RAN integration testing. The decision to deploy Open RAN in a network deployed with 5G Fund Phase I support is and will remain entirely optional. Potential bidders need not decide whether to deploy Open RAN or whether to seek the additional funding for Open RAN and/or an extension until after they know where they have been awarded 5G Fund support as well as the showing that will be required to receive the additional funding and/or extension of time.

## XI. Promoting Digital Equity and Inclusion

160. The Commission sought comment on how the proposals and issues discussed in the *5G Fund FNPRM* may promote or inhibit advances in diversity, equity, inclusion, and accessibility, as well the scope of the Commission's relevant legal authority to address any such issues. Although the Commission received a few generalized comments regarding how the Commission's decisions could impact such issues, no commenter offered any proposals for specific program requirements that the Commission should adopt for the 5G Fund or any comments regarding its legal authority to address diversity, equity, inclusion, and accessibility in this proceeding. The Commission therefore lacks a record to adopt any specific requirements for the 5G Fund.

161. For similar reasons, the Commission also denies the Petition for Reconsideration filed by the 5G Fund Supporters to the extent it seeks reconsideration of the Commission's decision declining to extend the cable procurement rule requirements to 5G Fund support recipients, which the 5G Fund Supporters contend will ensure that qualified minority and women entrepreneurs receive information about upcoming infrastructure buildout contracts. As the Commission has previously noted, ''the cable procurement requirement and [the Commission rule implementing it] flow directly from the statutory mandate pertaining explicitly to the cable industry contained in the 1992 Cable Act.'' Moreover, although the Commission has sought comment on whether this type of procurement requirement could be applied to the broadcast or other FCC-regulated industries, it has not to date extended the cable procurement rule to any other FCC-regulated industries. Notably, no commenter offered support for adopting this type of procurement requirement for the 5G Fund in response to the Commission's public notice seeking comment on the 5G Fund Supporters' Petition for Reconsideration. Nor did any commenter, including the 5G Fund Supporters, provide any additional information to support adopting this type of procurement requirement for the 5G Fund in response to the *5G Fund FNPRM.* Accordingly, the Commission declines to extend the cable procurement rule requirements to 5G Fund support recipients.

162. As the Commission implements and administers the 5G Fund, however, it remains mindful of the importance of considering how the Commission can promote diversity, equity, inclusion, and accessibility and the impact its rules have on these issues. The Commission emphasizes that one of the general principles of the Universal Service Fund is to create equal access for every American to high-speed broadband in underserved and unserved areas. To that end, the Commission has long used its Universal Service high-cost funding programs to further consumer access to broadband and bridge the digital divide. Most recently, in its *Future of USF Report,* the Commission adopted universal service goals for broadband—universal deployment, affordability, adoption,

availability, and equitable access to broadband throughout the United States. Accordingly, the Commission is committed to ensuring that the policies and rules the Commission has adopted for the 5G Fund remain in accord with the Commission's general efforts to advance digital equity for all.

**XII. CTIA Petition for Partial Reconsideration of the 5G Fund Report and Order**

163. The Commission agrees with CTIA that resolving its pending Petition for Partial Reconsideration of the Commission's *5G Fund Report and Order* serves the public interest, and is consistent with the Commission's intention to finalize the framework of the 5G Fund. To that end, the Commission grants in part and denies in part CTIA's petition to update the enforcement provisions associated with the award of mobile legacy high-cost support.

164. In the *5G Fund Report and Order,* the Commission adopted non-compliance measures for mobile legacy high-cost support recipients that fail to comply with any of the public interest obligations and/or performance requirements. *See* 47 CFR 54.322(k). These public interest obligations include, among other things, a requirement that a mobile legacy high-cost support recipient use an increasing percentage of its support for the deployment, maintenance, and operation of mobile networks that provide 5G service. *See* 47 CFR 54.322(c). In particular, the Commission concluded in the *5G Fund Report and Order* that a non-compliant mobile legacy high-cost support recipient (1) ''will receive no further support disbursements''; (2) ''may be subject to recovery of up to the amount of support received since the effective date of the *Report and Order,* FCC 20–150, that was not used for the deployment, maintenance, and operation of mobile networks that provide 5G service''; and (3) ''may be subject to further action, including the Commission's existing enforcement procedures and penalties, potential revocation of ETC designation, and suspension or debarment pursuant to [section] 54.8.'' To address concerns about the possibility of disproportionate recovery, the Commission limited the amount of mobile legacy high-cost support that would be subject to recovery by indicating that it would not seek to recover any support that a recipient actually spent on the deployment, operation, and/or maintenance of voice and broadband networks that support 5G service, that it would retain the discretion to determine whether to seek up to full recovery of all support that was not spent on the deployment, operation, and/or maintenance of 5G services, and that it would seek to recover only support received since the effective date of the public interest obligations and performance requirements. The Commission also noted that it may apply this recovery measure in cases of voluntary relinquishment of legacy support.

165. CTIA takes issue with these non-compliance measures, contending that the Commission adopted an unreasonable and unprecedented penalty for those mobile legacy support recipients that do not meet the public interest obligations and performance requirements adopted in the *5G Fund Report and Order.* Specifically, CTIA seeks to limit the recovery of support for non-compliance or voluntary relinquishment of support to the difference between the amount spent on 5G and the amount that the Commission's rules require mobile legacy high-cost support recipients to spend on 5G. CTIA argues that it is inequitable for the Commission to recover all previous legacy support that a mobile legacy support recipient did not spend directly on 5G services during the transition to the 5G Fund, even though the Commission allowed mobile legacy support recipients to spend less than 100% of their support on 5G services in the first two years of the transition. Moreover, CTIA asserts that the new rules unreasonably treat the voluntary relinquishment of future support as a ''default'' and subject to recovery all previous support that was not spent on 5G, even if the prior non-5G spending complied with the requirements adopted by the Commission. CTIA contends that the Commission should revise its rules to make clear that a mobile legacy support recipient that fails to meet the new 5G-related obligations will be subject to recovery only for the portion of past support that the Commission required the ETC to spend on 5G. In addition, CTIA advocates that in no event should the rules allow recovery of previously spent support where the mobile legacy support recipient's only ''default'' is electing voluntarily to relinquish prospective support.

166. The Commission responds to CTIA's concerns, in part, by amending section 54.322(k)(2) of its rules, 47 CFR 54.322(k)(2), governing the recovery of mobile legacy high-cost support from non-compliant recipients. In particular, the Commission clarifies that a non-compliant mobile legacy high-cost support recipient will—not may—be subject to the recovery of the difference between the amount the recipient spent on 5G service and the amount that section 54.322(c) of its rules, 47 CFR 54.322(c), required the recipient to spend on 5G service. This clarification grants CTIA's request that the Commission ''makes clear that mobile wireless ETCs who fail to meet the new 5G-related obligations *will* be subject to recovery . . . for the portion of past support that the Commission required the ETC to spend on 5G.'' The Commission's rules conditioned the continued distribution of mobile legacy high-cost support on the satisfaction of public interest obligations, including the use of an increasing percentage of its support for the deployment, maintenance, and operation of mobile networks that provide 5G service, and required the recovery of funds where the percentage scheme envisioned by the rule is not satisfied. CTIA's argument that the rule operates as an arbitrary penalty is unavailing in the context of the 5G Fund, which created a complex regulatory framework with specific conditions governing receipt of USF support. The Commission's action herein is wholly consistent with its obligation to recover federal funds where the associated regulatory requirements are not satisfied. Furthermore, this clarification is generally consistent with other universal service high-cost rules, which require a recipient to repay support for locations where it failed to meet its build-out milestones.

167. The Commission's authority to recover such support remains essential and relevant as the Commission moves forward with the implementation of the 5G Fund. In adopting the rule that allows the Commission to cease making legacy support payments and pursue the recovery of support that has been awarded but not used for 5G service, the Commission reasoned that ''the continuation of legacy support is an interim mechanism in place as [the Commission] implement[s] the 5G Fund, and therefore, unlike the Commission's other modernized support mechanisms, the non-compliance measures here do not benefit from allowing legacy support recipients to come back into compliance prior to the end of the support term.'' In sum, by providing authority to recover up to all legacy support a carrier received that was not spent toward the deployment, operation, and/or maintenance of 5G service, the Commission reasoned that it ''better incentivize[d] 5G deployment.'' The Commission agrees with this reasoning.

The Commission also expands on the Commission's conclusion in the *5G Fund Report and Order* that having strong public interest obligations and performance requirements for mobile legacy high-cost support recipients and the ability to enforce its rules in the event of a default, such as by recovering legacy support that was not spent on 5G services, is part of its obligation ''[a]s stewards of the Universal Service Fund,'' and that such provisions will help us ''ensure that all Americans living in areas served by these carriers receive the most advanced wireless services.''

168. The Commission does, however, find merit in CTIA's argument that section 54.322(k)(2) should be revised because it includes the voluntary relinquishment of *future* support as a ''default,'' even if a carrier's prior spending complied with the requirements adopted by the Commission. The Commission agrees with CTIA that revising this limited aspect of the rule avoids creating an incentive for a carrier to continue to accept mobile legacy high-cost support if it otherwise wishes to voluntarily relinquish that support. Accordingly, the Commission grants this aspect of CTIA's Petition for Reconsideration and amends section 54.322(k)(3) of its rules, 47 CFR 54.322(k)(3), to clarify that, to the extent a carrier receiving mobile legacy high-cost support has been in full compliance with the Commission's rules and subsequently elects to voluntarily relinquish future support, the Commission will not deem the voluntary relinquishment of such future mobile legacy high-cost support alone to be a default for which the Commission will seek the recovery of prior support. However, for the reason discussed herein, the Commission denies CTIA's Petition to the extent that it seeks to amend section 54.322(k)(2) to preclude the recovery of legacy support that a mobile legacy high-cost support recipient received—other than the amount specified in section 54.322(c)—that was not spent toward the deployment, operation, and/or maintenance of mobile networks that support 5G service.

## XIII. Non-Substantive Rule Clarifications

169. The Commission also takes this opportunity to make non-substantive editorial changes to the rules adopted by the Commission in the *5G Fund Report and Order* governing the annual reporting requirement for mobile legacy high-cost support recipients. While the majority of the elements of this annual reporting requirement are contained in section 54.322(i) of the Commission's rules, 47 CFR 54.322(i), which relates specifically to mobile legacy high-cost support recipients, other elements of this requirement are separately contained in section 54.313 of the Commission's rules, 47 CFR 54.313, which relates to annual reporting requirements for high-cost recipients generally. The Commission therefore consolidates the requirements contained in section 54.313(n), as adopted in the *5G Fund Report and Order,* into section 54.322(i), to enhance clarity and make it easier for mobile legacy high-cost support recipients to locate all of the elements of their annual reporting requirement. The Commission notes that paragraph reference for this rule as adopted in the *5G Fund Report and Order* was incorrectly listed as section 54.313(n), rather than section 54.313(p), in the both the final rules appendix in the *5G Fund Report and Order* and in the **Federal Register** summary of that decision published at 85 FR 75,770 on November 25, 2020. Section 54.313(n), as adopted in the *5G Fund Report and Order,* has a delayed effective date and has not yet been made effective. *See* 47 CFR 54.313, Effective Date Notes, Note 4. No substantive change is intended or should result from this consolidation. Because these editorial changes are non-substantive, they have no impact on regulated parties or the public, and the Commission finds for good cause that notice and comment are unnecessary pursuant to 5 U.S.C. 553(b)(B).

## XIV. Procedural Matters

170. *Paperwork Reduction Act.* The *5G Fund Second Report and Order and Order on Reconsideration* contains new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104–13. It will be submitted to the Office of Management and Budget (OMB) for review under section 3507(d) of the PRA. OMB, the general public, and other Federal agencies will be invited to comment on the new or modified information collection requirements adopted in this proceeding. In addition, the Commission notes that pursuant to the Small Business Paperwork Relief Act of 2002, it previously sought specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees. The Commission describes impacts that might affect small businesses, which includes most businesses with fewer than 25 employees, in the Supplemental Final Regulatory Flexibility Analysis (Supplemental FRFA) herein.

171. *Congressional Review Act.* The Commission has determined, and the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, concurs that this rule is ''non-major'' under the Congressional Review Act, 5 U.S.C. 804(2). The Commission will send a copy of the *5G Fund Second Report and Order and Order on Reconsideration* to Congress and the Government Accountability Office pursuant to 5 U.S.C. 801(a)(1)(A).

172. *Regulatory Flexibility Act.* As required by the Regulatory Flexibility Act of 1980, as amended (RFA), a Supplemental Initial Regulatory Flexibility Analysis (Supplemental IRFA) was incorporated in the *5G Fund FNPRM.* The Commission prepared Regulatory Flexibility Analyses in connection with its 2020 *5G Fund NPRM,* 85 FR 31616 (May 26, 2020), and its 2020 *5G Fund Report and Order.* The Commission sought written public comment on the proposals and issues raised in the *5G Fund NPRM,* and the *5G FNPRM,* including comment on the IRFA, and Supplemental IRFA. No comments were filed addressing the IRFAs. This Supplemental FRFA supplements the Final Regulatory Flexibility Analysis (FRFA) in the *5G Fund Report and Order* to reflect actions taken in the *5G Fund FNPRM,* and conforms to the RFA.

173. The Commission takes important and necessary steps in the *5G Fund Second Report and Order and Order on Reconsideration* to implement the framework for the 5G Fund to support the build out of advanced, 5G mobile wireless broadband networks for those who live, work, and travel in rural areas. After over a decade of hard work to reach this pivotal moment, the 5G Fund reflects the Commission's persistent efforts to reform and redirect universal service funds for mobile broadband to areas of the country that need them the most. As the Commission finalizes the details for the 5G Fund, it is confident that its conclusions in the *5G Fund Second Report and Order and Order on Reconsideration* are solidly grounded in the improved mobile coverage data obtained in the Broadband Data Collection (BDC), which is reflected on its new National Broadband Map and provides the Commission with the most comprehensive picture to date about where mobile broadband service is and is not across the entire country. Unquestionably, the Commission's decision to wait to proceed with a 5G Fund Phase I auction until the Commission had these data to rely on has dramatically improved its understanding of where high-speed

mobile broadband service is being provided and has significantly enhanced its ability to hold a successful 5G Fund auction. The Commission is now far better informed regarding which communities lack mobile broadband service.

174. As the Commission noted when it adopted the *5G Fund FNPRM,* the National Broadband Map reflected the stark reality that over 14 million homes and businesses nationwide continued to lack access to 5G mobile wireless broadband service. The Commission therefore undertook a tailored effort to refresh the record and reignite the 5G Fund's plan to expand the deployment of 5G service to those rural communities that remain trapped on the wrong side of the digital divide. After careful consideration of the record gathered in this proceeding, the Commission concludes that the determinations it reaches in the *5G Fund Second Report and Order and Order on Reconsideration* will best incentivize the deployment of networks providing advanced, 5G mobile wireless broadband in areas of the country where, absent subsidies, such service will continue to be lacking.

175. Specifically, in the *5G Fund Second Report and Order and Order on Reconsideration* the Commission: (1) modifies the definition of the areas that will be eligible for 5G Fund support and include areas in Puerto Rico and the U.S. Virgin Islands that meet this eligible area definition in the 5G Fund Phase I auction; (2) increases the budget for Phase I of the 5G Fund and the Tribal reserve budget; (3) modifies the metric for accepting and identifying winning bids and adopt a service-based weighting factor for bidding in the 5G Fund Phase I auction; (4) explains how the Commission will aggregate areas eligible for 5G Fund support to minimum geographic areas for bidding; (5) explains its approach to aligning the methodologies for demonstrating compliance with the 5G Fund public interest obligations and performance requirements with those used in the BDC; (6) revises the schedule for transitioning from mobile legacy high-cost support for 5G Fund support consistent with recent legislative amendments; (7) requires each 5G Fund Phase I auction applicant to certify, under penalty of perjury, that it has read the public notice adopting procedures for the auction, and that it has familiarized itself with those procedures and any requirements related to the support made available for bidding in the auction; (8) requires 5G Fund support recipients to implement cybersecurity and supply chain risk management plans as a condition of receiving support; and (9) encourages 5G Fund support recipients to incorporate Open Radio Access Network (Open RAN) technologies in networks funded through the 5G Fund through the use of incentive funding and an opportunity to seek additional time to meet their 5G Fund public interest obligations and performance requirements by the established service deployment milestones. The Commission also resolves the issues raised in the pending petitions for reconsideration of the Commission's 2020 *5G Fund Report and Order.* With the decisions the Commissions reaches in the *5G Fund Second Report and Order and Order on Reconsideration,* it advances its extensive efforts to modernize high-cost support for mobile broadband services and proceeds with confidence that it is stretching its limited universal service fund dollars to support advanced, 5G mobile wireless broadband service to as many areas where Americans live, work and travel as possible.

176. There were no comments filed that specifically addressed the rules and policies presented in the Supplemental IRFA.

177. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rule(s) as a result of those comments. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

178. The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the rules adopted herein. The RFA generally defines the term ''small entity'' as having the same meaning as the terms ''small business,'' ''small organization,'' and ''small governmental jurisdiction.'' In addition, the term ''small business'' has the same meaning as the term ''small-business concern'' under the Small Business Act. A ''small-business concern'' is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA. As noted herein, Regulatory Flexibility Analyses were incorporated into the *5G Fund NPRM,* the *5G Fund Report and Order,* and the *5G Fund FNPRM.* In those analyses, the Commission described in detail the small entities that might be significantly affected. In this Supplemental FRFA, the Commission incorporates by reference the descriptions and estimates of the number of small entities from the previous Regulatory Flexibility Analyses in the *5G Fund NPRM,* the *5G Fund Report and Order,* and the *5G Fund FNPRM.*

179. The *5G Fund Second Report and Order and Order on Reconsideration* modifies some of the compliance requirements adopted in the *5G Report and Order* based on the proposals and/or the other issues on which the Commission sought comment in the *5G Fund FNPRM.* Such modifications could impact the reporting, recordkeeping, and other compliance requirements for small and other providers that receive 5G Fund support.

180. In the *5G Fund Second Report and Order and Order on Reconsideration,* the Commission modifies the methodologies by which 5G Fund support recipients must demonstrate compliance with their 5G Fund performance requirements to largely align with those adopted for the BDC verification process. At present, the record contains insufficient information to either quantify compliance costs for small entities as a result of the modified methodologies for 5G Fund support recipients, or determine whether there will be a need for small entities to hire attorneys, engineers, consultants, or other professionals. However, the Commission notes that its approach in largely aligning the methodologies for 5G Fund support recipients to demonstrate and report compliance with the 5G Fund performance requirements is likely to ease the burden on small and other 5G Fund support recipients, and afford such support recipients the same flexibilities afforded under the BDC rules to choose which type of verification data to submit.

181. The *5G Fund Second Report and Order and Order on Reconsideration* also adopts a requirement that each 5G Fund support recipient implement cybersecurity and supply chain risk management plans as a condition of receiving 5G Fund support. Cybersecurity risk management plans must reflect at least the National Institute of Standards and Technology's Framework for Improving Critical Infrastructure Cybersecurity v.1.1 (2018) (NIST Framework), or any successor version of the NIST Framework, and must reflect established cybersecurity best practices that address each of the Core Functions described in the NIST Framework, such as the standards and controls set forth in the Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Cross-sector Performance

Goals and Objectives (CISA CPGs) or the Center for internet Security Critical Security Controls (CIS Controls). Support recipients' supply chain risk management plans must incorporate the key practices discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry, and related supply chain risk management guidance from NIST 800–161. The Commission also requires that a 5G Fund support recipient submit an updated plan to USAC within 30 days after making any substantive modification to its cybersecurity or supply chain risk management plan. 5G Fund support recipients must also certify in their annual report following each subsequent support year that they have maintained their plans, whether they have submitted modifications in the prior year, and the date any modifications were submitted. If at any point during the support term a 5G Fund support recipient does not have in place operational cybersecurity and supply chain risk management plans meeting the Commission's requirements, 25% of the 5G Fund recipient's support will be withheld until the recipient comes into compliance. There were no comments that specifically addressed this modification as presented in the Supplemental IRFA. In addition, the record does not include a detailed cost-benefit analysis that would enable us to quantify compliance costs for small entities, including whether there will be a need for small entities to hire attorneys, engineers, consultants, or other professionals. The Commission notes, however, that the cybersecurity and supply chain risk management requirements adopted for 5G Fund support recipients in the 5G Fund Second Report and Order and Order on Reconsideration are designed to mitigate concerns that development and implementation of cybersecurity plans are expensive and time consuming. The requirements therefore afford small and other carriers the flexibility to develop plans that fit within their budgetary constraints, so long as they meet the baseline requirements. The Commission's approach will also likely reduce compliance costs by allowing 5G Fund support recipients that have already implemented the NIST Framework to comply with this requirement without redoing their plans so long as they implement an established set of cybersecurity best practices. To further mitigate costs for small carriers, the Commission also encourages 5G Fund support recipients to take advantage of existing federal government resources designed to share supply chain security risk information with trusted communications providers and suppliers and facilitate the creation of cybersecurity and supply-chain risk management plans.

182. In addition, the Commission adopts a requirement that any applicant seeking to participate in the 5G Fund Phase I auction to certify in its short-form application, under penalty of perjury, that the applicant has read the public notice adopting procedures for the auction and that it has familiarized itself both with the auction procedures and with the requirements, terms, and conditions associated with the receipt of 5G Fund support. As with other certifications required in the short-form application, an applicant's failure to make this required certification in its short-form application by the applicable filing deadline will render its application unacceptable for filing, and its application will be dismissed with prejudice. Typically, the auction procedures inform prospective applicants that they should familiarize themselves with the Commission's general competitive bidding rules, Commission decisions regarding competitive bidding procedures, application requirements, obligations of universal service support recipients, and the Commission's service rules support granted in the auction, and that they must be thoroughly familiar with the procedures, terms, and conditions contained in the public notice adopting procedures for the auction. The Commission therefore does not expect that the adopted certification requirement will increase the need for small entities to hire attorneys, engineers, consultants, or other professionals because it does not increase the level of education or due diligence beyond what was required of applicants prior to the adoption of the certification requirement, and thus it should not increase an applicant's burden in complying with the additional certification requirement.

183. The RFA requires an agency to provide ''a description of the steps the agency has taken to minimize the significant economic impact on small entities . . . including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected.'' In the *5G Fund Second Report and Order and Order on Reconsideration,* the Commission adopted rules seeking to balance its proposals in the *5G Fund FNPRM* with proposed alternatives commenters submitted and weighing their benefits against the potential costs to small and other entities. Some key areas of focus addressed in the adopted rules are:

184. *Definition of Eligible Areas.* The *5G Fund Second Report and Order and Order on Reconsideration* modifies the definition of the areas that will be eligible for 5G Fund Phase I support to be those areas where BDC mobile coverage data show a lack of unsubsidized 5G mobile broadband service at speeds of at least 7/1 Mbps in an outdoor stationary environment by at least one service provider, even if those areas are served by 4G LTE service. The Commission will also apply a service-based weighting factor in 5G Fund Phase I auction bidding to incentivize the deployment of 5G service in areas that lack unsubsidized 4G LTE service. The Commission considered retaining the eligible areas definition adopted in the *5G Fund Report and Order,* however, it believes that this modification to the definition of areas eligible for 5G Fund support ensures that a wide variety of small entities and other interested bidders will have greater flexibility to design a network that matches their business model and that allows service providers to achieve their performance benchmarks and public interest obligations efficiently.

185. *Technology for Determining Eligible Areas.* The Commission considered, as an alternative to defining areas eligible for 5G Fund Phase I support as those where BDC mobile coverage data show a lack of unsubsidized 5G service by at least one service provider, retaining the definition of eligible areas as those areas that lack both unsubsidized 4G LTE and unsubsidized 5G broadband service, as adopted in the *5G Fund Report and Order.* As the Commission noted in the *5G Fund FNPRM,* however, throughout this proceeding, several parties have taken issue with the eligible areas definition, and have advocated that the Commission define as eligible for 5G Fund support any areas that lack unsubsidized 5G mobile broadband service. The Commission expects that small entities and other interested parties will benefit from its modification of the definition of eligible areas because it is likely to increase the total number of areas that are available in a 5G Fund auction and eligible for 5G Fund support, thus creating additional opportunities for them to expand their businesses.

186. *Speed Thresholds for Determining Eligible Areas.* Another alternative the Commission considered was a defining the areas eligible for 5G

Fund support as those areas that lack unsubsidized 5G service at a speed threshold of 35/3 Mbps. The Commission concludes that using a speed threshold of 7/1 Mbps for 5G for purposes of determining eligible areas will promote the expansion of 5G coverage to as many areas as possible, while also avoiding the potential for overbuilding in areas where a provider already offers some level of unsubsidized 5G service and could upgrade such service to higher speeds in the future. The Commission further determines that using a speed threshold of 35/3 Mbps to determine eligible areas will result in more areas being eligible for support, taxing the 5G Fund Phase I budget unnecessarily, especially in light of the increased number of eligible areas that the Commission anticipates as a result of its other modifications to the definition. Increasing the number of eligible areas to such a great extent will likely reduce the support that may be available to winning bidders. The Commission believes that defining areas eligible for 5G Fund support as those that lack unsubsidized 5G service at speeds of at least 7/1 Mbps strikes an appropriate balance of increasing the number of areas eligible for support without overly taxing the budget.

187. *Environment for Determining Eligible Areas.* The Commission also considered defining the areas eligible for 5G Fund Phase I support as those areas that lack unsubsidized 5G mobile broadband service at speeds of at least 7/1 Mbps in an in-vehicle environment. The Commission concludes that using coverage maps based on an outdoor stationary environment for purposes of determining areas eligible for the 5G Fund Phase I auction is preferable to using in-vehicle BDC coverage maps because the key parameters for outdoor stationary coverage have been standardized.

188. *5G Fund Budget.* In the *5G Fund Second Report and Order and Order on Reconsideration,* the Commission modified the budget for Phase I of the 5G Fund auction by increasing it to include up to the $1 billion that previously had been allocated to Phase II by the Commission in the *5G Fund Report and Order and Order on Reconsideration.* A number of commenters, some of which include small entities, advocated for an increase in the original budget of $8 billion for Phase I. The Commission concludes that adopting an increased budget for Phase I will benefit all 5G Fund recipients, including those that are small entities. The Commission declines to adopt an alternative approach that would use a cost model to determine the 5G Fund budget, as such an approach would conflict with its interest in awarding support in eligible areas in amounts that are competitive, but still acceptable to providers.

189. *Bidding and Support Price Metric.* In addition, the *5G Fund Second Report and Order and Order on Reconsideration* adopts a bidding and support price metric of dollars per square kilometer that includes a service-based weighting factor that weights bids and support prices based on upon service availability within the area. This service-based weighting factor will distinguish between areas that lack unsubsidized 5G broadband service but have access to unsubsidized 4G LTE service, and areas that lack both 5G and 4G LTE service. The Commission adopts this approach as an alternative to the adjustment factor that was adopted in the *5G Fund Report and Order* for bidding.

190. *Certification of Notice of 5G Fund Phase I Auction Requirements and Procedures.* With respect to the requirement that any applicant seeking to participate in the 5G Fund Phase I auction must certify in its short-form application, under penalty of perjury, that the applicant has read the public notice adopting procedures for the auction and that it has familiarized itself both with the auction procedures and with the requirements, terms, and conditions associated with the receipt of 5G Fund support, the Commission has a longstanding policy that expressly places a burden upon each auction applicant to be thoroughly familiar with the procedures, terms, and conditions contained in the relevant auctions procedures public notice and any future public notices that may be released in the auction proceeding. However, the Commission has taken steps to minimize any economic impact of the certification requirement on small entities through the many free resources it provides to potential auction participants. The public notice adopting the procedures for each auction will be posted to the auction's website prior to the opening of the application window, and other relevant orders are available through EDOCS, the Commission's online document database (*www.fcc.gov/edocs*). The Commission believes that reading these materials will be sufficient for applicants to certify that they have familiarized themselves with the relevant auction procedures and other requirements. The Commission also makes available additional educational materials to help potential auction participants understand the auction process, including short-form filing instructions and a tutorial. Further, the Commission makes this information publicly available, easily accessible, and without charge to benefit all potential auction applicants, including small entities, thereby lowering their administrative costs to comply with the Commission's competitive bidding rules.

191. Small entities participating in auctions may also seek clarification of, or guidance regarding, auction procedures, the competitive bidding rules, and any requirements related to the authorizations or support to be made available through the auction from Commission staff prior to each auction's application window. Additionally, an FCC Auctions Hotline provides small entities one-on-one access to Commission staff for information about the auction process and procedures. The FCC Auctions Technical Support Hotline is another resource that provides technical assistance to applicants, including small entities, on issues such as access to or navigation within the electronic short-form application and use of the bidding system.

192. *Cybersecurity and Supply Chain Risk Management.* The Commission also considered, as an alternative approach to the requirement that 5G Fund support recipients submit updated plans within 30 days of making any substantive modifications to those plans, a requirement that plans be updated on an annual basis. The Commission does not believe that the requirement it adopts will impose substantial burdens on 5G Fund support recipients. To the contrary, because this requirement aligns with the requirements adopted other support programs, the Commission believes that small entity 5G Fund support recipients that also participate in those programs will benefit from having a single deadline by which they must submit their reports for each program. In general, the cybersecurity and supply chain risk management requirements the Commission adopted for 5G Fund support recipients are designed to mitigate concerns that development and implementation of cybersecurity plans are expensive and time consuming. The NIST Framework is not a one-size-fits-all approach to cybersecurity and represents a flexible approach that promotes customization and prioritization, allowing organizations to tailor their approach according to specific needs. The Commission therefore affords small and other carriers the flexibility to develop plans that fit within their budgetary constraints, so long as they meet the baseline requirements.

193. *Use of Open Radio Access Network Technologies in 5G Fund Supported Networks.* To promote and incentivize the voluntary inclusion of Open Radio Access Network (Open RAN) technology networks deployed using 5G Fund support, the Commission offers a process whereby a 5G Fund support recipient can seek a limited extension of its 5G Fund interim and final deployment milestones as set forth in section 54.1015(b) of the Commission's rules in order to afford it additional time to deploy Open RAN. Additionally, the Commission allocates up to an additional $900 million of support in conjunction with implementation of the 5G Fund solely for the purpose of incentivizing providers to deploy Open RAN. Specifically, the Commission will allow a winning bidder that is authorized to receive 5G Fund support to apply for additional funding of one-tenth of the total support that the 5G Fund support recipient is authorized to receive to be spent on the deployment of Open RAN, to be awarded in a post-auction process. To receive this additional funding, support recipients must deploy Open RAN technology through their network(s) for which they are authorized to receive 5G Fund support. The Commission directs OEA and WTB to establish a process by which this additional funding may be elected and awarded post-auction in accordance with the parameters set forth in the *5G Fund Second Report and Order and Order on Reconsideration.* Additionally, the Commission directs OEA and WTB to establish a process for a 5G Fund support recipient that needs additional time to obtain an extension of up to one year of the interim and final deployment milestones as set forth in section 54.1015(b) of the Commission's rules if it can demonstrate that it will incorporate Open RAN into its network(s). Alternatives approaches that the Commission considered in determining how best to encourage the use of Open RAN technologies included granting bidding credits to 5G Fund Phase I applicants that agree to use Open RAN technologies in their deployments as well as mandating the use of such technologies in deployments built with 5G Fund support. The Commission concluded that the adopted approach will allow time for the Open RAN specifications to become more settled for the case of a deployment scenario with Open RAN advanced capabilities and also for industry to better address the challenges associated with interoperability and the RAN integration testing. This approach could benefit small providers, many of which have limited resources, by allowing them the flexibility to choose an option that may provide an extension of compliance deadlines.

194. The Commission will send a copy of the *5G Fund Second Report and Order and Order on Reconsideration,* including this Supplemental FRFA, in a report to Congress. In addition, the Commission will send a copy of the *5G Fund Second Report and Order and Order on Reconsideration,* including this Supplemental FRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

## XVI. Ordering Clauses

195. Accordingly, *it is ordered* that, pursuant to the authority contained in sections 4(i), 5, 214, 254, 303(r), 403, and 405 of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 155, 214, 254, 303(r), 403, 405, the *5G Fund Second Report and Order and Order on Reconsideration is adopted.*

196. *It is further ordered* that the rules and requirements adopted in the *5G Fund Second Report and Order and Order on Reconsideration will become effective* thirty (30) days after publication in the **Federal Register**. Sections 54.322(b), 54.322(g), 54.322(h), 54.322(i), 54.322(j), 54.1014(a), 54.1014(b)(2), 54.1018(a), 54.1018(b), 54.1018(c), 54.1018(d), 54.1018(f), 54.1019(a)(1), 54.1019(a)(2), 54.1019(a)(3), 54.1019(b), 54.1022(b), and 54.1022(f), may contain new or modified information collection requirements that require review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act. The Commission directs OEA, WCB, and WTB to announce the compliance date for these sections in a document published in the **Federal Register** and directs them OEA to cause sections 54.322(l), 54.1014(c), 54.1018(h), 54.1019(e), and 54.1022(g) to be revised accordingly.

197. *It is further ordered* that the Joint Petition for Reconsideration filed by The Rural Wireless Association and NTCA—The Rural Broadband Association in GN Docket No. 20–32 on December 28, 2020, *is granted in part and denied in part,* as indicated herein.

198. *It is further ordered* that the Petition for Reconsideration filed by The Coalition of Rural Wireless Carriers in GN Docket No. 20–32 on December 28, 2020, *is dismissed in part, granted in part, and denied in part,* as indicated herein.

199. *It is further ordered* that the Petition for Partial Reconsideration filed CTIA in GN Docket No. 20–32 on December 28, 2020, *is granted in part and denied in part,* as indicated herein.

200. *It is further ordered* that the Petition for Reconsideration filed by Smith Bagley, Inc. in GN Docket No. 20–32 on December 28, 2020, *is denied,* as indicated herein.

201. *It is further ordered* that the Petition for Reconsideration filed by 5G Fund Supporters in GN Docket No. 20–32 on November 30, 2020, *is dismissed in part and denied in part,* as indicated herein.

202. *It is further ordered* that the Office of the Managing Director, Performance Program Management, *shall send* a copy of the *5G Fund Second Report and Order and Order on Reconsideration* in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, 5 U.S.C. 801(a)(1)(A).

203. *It is further ordered* that the Commission's Office of the Secretary, *shall send* a copy of the *5G Fund Second Report and Order and Order on Reconsideration,* including the Supplemental Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

## List of Subjects in 47 CFR Part 54

Communications common carriers, Internet, Reporting and recordkeeping requirements, Telecommunications.

Federal Communications Commission.

**Marlene Dortch,**

*Secretary, Office of the Secretary.*

## Final Rules

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 54 to read as follows:

## PART 54—UNIVERSAL SERVICE

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

**Authority:** 47 U.S.C. 151, 154(i), 155, 201, 205, 214, 219, 220, 229, 254, 303(r), 403, 1004, 1302, 1601–1609, and 1752, unless otherwise noted.

■ 2. Amend § 54.307 by revising paragraphs (e)(5) introductory text, (e)(5)(ii) through (iv), (e)(6), and (e)(7) to read as follows:

### § 54.307 Support to a competitive eligible telecommunications carrier.

* * * * *

(e) * * *

(5) *Eligibility for interim support before 5G Fund Phase I auction.* Beginning the first day of the month following December 28, 2020, a competitive eligible

telecommunications carrier that receives support pursuant to paragraph (a) or (e)(2) of this section shall no longer receive such support and shall instead receive support as described in paragraph (e)(5).

* * * * *

(ii) Until the first day of the month following the release of the first public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the authorization of support for any area eligible for support in the 5G Fund Phase I auction as described in paragraph (e)(6) of this section:

(A) A mobile competitive eligible telecommunications carrier that receives support pursuant to paragraph (a) of this section shall receive ''monthly baseline support'' in an amount equal to one-twelfth (1/12) of its total support received for the preceding 12-month period.

(B) A mobile competitive eligible telecommunications carrier that receives support pursuant to paragraph (e)(2) of this section shall receive support at the same level described in paragraph (e)(2)(iii) of this section.

(iii) For mobile competitive eligible telecommunications carriers that receive support pursuant to paragraph (e)(5)(ii) of this section, beginning the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the final areas eligible for support in the 5G Fund Phase I auction, the geographic boundary for each carrier's subsidized service area shall be subdivided into the smallest constituent piece for which support must be disaggregated and transitioned separately by overlaying on each carrier's subsidized service area boundary data the eligible and ineligible area boundaries, the minimum geographic area for bidding (*i.e.,* census tract boundaries), and the subsidized service area boundary data for other support recipients that receive support pursuant to paragraph (e)(5)(ii) of this section or that receive transitional support pursuant to § 54.1516(c). The percent area for each constituent piece shall then be calculated in order to disaggregate and apportion the legacy high-cost support amount for each area, which shall be calculated by multiplying the monthly support level described in paragraph (e)(5)(ii) of this section by the areal percentage of the constituent piece of the competitive eligible telecommunications carrier's service area, weighted by applying the 5G Fund adjustment factor methodology and values adopted by the Office of Economics and Analytics and Wireline Competition Bureau in Public Notice, DA 20–1361. At the conclusion of this disaggregation process, the sum of the disaggregated support amounts for all constituent parts shall precisely equal the legacy support amount for the carrier's service area consistent with the amount described in paragraph (e)(5)(ii) of this section.

(iv) For mobile competitive eligible telecommunications carriers that receive transitional support pursuant to § 54.1516(c), beginning the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the final areas eligible for support in the 5G Fund Phase I auction, the geographic boundary for each carrier's subsidized service area shall be subdivided into the smallest constituent piece for which support must be disaggregated and transitioned separately by overlaying on each carrier's subsidized service area boundary data the eligible and ineligible area boundaries, the minimum geographic area for bidding (*i.e.,* census tract boundaries), and the subsidized service area boundary data for other support recipients that receive support pursuant to paragraph (e)(5)(ii) of this section or that receive transitional support pursuant to § 54.1516(c). The percent area for each constituent piece shall then be calculated in order to disaggregate and apportion the transitional support amount for each area, which shall be calculated by multiplying the monthly support level described in § 54.1516(c) by the areal percentage of the constituent piece of the competitive eligible telecommunications carrier's service area, weighted by applying the 5G Fund adjustment factor methodology and values adopted by the Office of Economics and Analytics and Wireline Competition Bureau in Public Notice, DA 20–1361. At the conclusion of this disaggregation process, the sum of the disaggregated support amounts for all constituent parts shall precisely equal the transitional support amount for the carrier's service area consistent with the amount described in § 54.1516(c).

(6) *Eligibility for support after 5G Fund Phase I auction.* (i) For all areas that are ineligible for 5G Fund support, a two-year phase down of legacy high-cost support will commence on the first day of the month following the release of the first public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the authorization of support for any area eligible for support in the 5G Fund Phase I auction. At such time, a mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(5)(iii) or (iv) of this section shall instead receive monthly support amounts for such ineligible areas as follows:

(A) For 12 months starting the first day of the month following the release of the public notice described in paragraph (e)(6)(i) of this section, each mobile competitive eligible telecommunications carrier shall receive a monthly support amount that is two-thirds (2/3) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of its service area that is ineligible for 5G Fund Phase I support.

(B) For 12 months starting the first day of the month following the period described in paragraph (e)(6)(i)(A) of this section, each mobile competitive eligible telecommunications carrier shall receive a monthly support amount that is one-third (1/3) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of its service area that is ineligible for 5G Fund Phase I support.

(C) Following the period described in paragraph (e)(6)(i)(B) of this section, no mobile competitive eligible telecommunications carrier shall receive monthly support for an area that is ineligible for 5G Fund Phase I support pursuant to this section.

(ii) For all areas that are eligible for support in the 5G Fund Phase I auction, the transition from legacy high-cost support will commence as follows:

(A) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(5)(iii) or (iv) of this section for an area and is the winning bidder for that area in the 5G Fund Phase I auction shall continue to receive support at the same level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, until the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing whether or not the carrier is authorized to receive 5G Fund Phase I support.

(*1*) If the mobile competitive eligible telecommunications carrier is authorized to receive 5G Fund Phase I support in that area, beginning the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau authorizing the carrier to receive such support in that area, the carrier shall no longer receive support pursuant to paragraph (e)(5)(iii)

or (iv) of this section, as applicable, and shall instead receive monthly support in the amount determined by its 5G Fund Phase I winning bid pursuant to § 54.1017.

(*2*) If the mobile competitive eligible telecommunications carrier is not authorized to receive 5G Fund Phase I support in that area, the carrier shall no longer receive support at the level of monthly support described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for such area, and shall instead receive monthly support as follows:

(*i*) For 12 months starting the first day of the month following release of a public notice announcing that the carrier is not authorized to receive 5G Phase I auction support, the carrier shall receive a monthly support amount that is two-thirds (⅔) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of the area.

(*ii*) For 12 months starting the month following the period described in paragraph (e)(6)(ii)(A)(*2*)(*i*) of this section, the carrier shall receive a monthly support amount that is one-third (⅓) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of the area.

(*iii*) Following the period described in paragraph (e)(6)(ii)(A)(*2*)(*ii*) of this section, the carrier shall not receive monthly support for the area pursuant to this section.

(B) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(5)(iii) or (iv) of this section for an area and is not the winning bidder for such area in the 5G Fund Phase I auction shall continue to receive support at the same level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, until the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the authorization of 5G Fund Phase I support for that area. Thereafter, the carrier shall instead receive monthly support for that area as follows:

(*1*) For 12 months starting the first day of the month following the release of the public notice described in paragraph (e)(6)(ii)(B) of this section, the carrier shall receive a monthly support amount that is two-thirds (⅔) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of the area.

(*2*) For 12 months starting the month following the period described in paragraph (e)(6)(ii)(B)(*1*) of this section, the carrier shall receive a monthly support amount that is one-third (⅓) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of the area.

(*3*) Following the period described in paragraph (e)(6)(ii)(B)(*2*) of this section, the carrier shall not receive monthly support for the area pursuant to this section.

(C) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(5)(iii) or (iv) of this section for an area eligible for support in the 5G Fund Phase I auction, but for which support is not won, and for which the carrier is not receiving the minimum level of support for the area shall, beginning the first day of the month following the release of the first public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the authorization of support for any eligible area won in the 5G Fund Phase I auction, receive monthly support for that area as follows:

(*1*) For 12 months starting the first day of the month following the release of the public notice described in paragraph (e)(6)(ii)(C) of this section, the carrier shall receive a monthly support amount that is two-thirds (⅔) of the level described in paragraph (e)(5)(iii) or (iv) of this section, as applicable, for each constituent part of the area.

(*2*) For 12 months starting the month following the period described in paragraph (e)(6)(ii)(C)(*1*) of this section, the carrier shall receive a monthly support amount that is one-third (⅓) of the level described in paragraph (e)(5)(iii) or (e)(5)(iv) of this section, as applicable, for each constituent part of the area.

(*3*) Following the period described in paragraph (e)(6)(ii)(C)(*2*) of this section, the carrier shall not receive monthly support for the area pursuant to this section.

(D) A mobile eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(5)(iii) of this section for an area eligible for support in the 5G Fund Phase I auction, but for which support is not won, and for which the carrier is receiving the minimum level of support for such area, shall continue to receive a monthly support amount for such area at the level described in paragraph (e)(5)(iii) of this section for each constituent part of the area for no more than 60 months from the first day of the month following the release of the first public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing the authorization of support for any eligible area won in the 5G Fund Phase I auction. The ''minimum level of sustainable support'' is the lowest monthly support received by a mobile competitive eligible telecommunications carrier for the area that has deployed the highest level of technology (*e.g.,* 5G) within the state encompassing the area.

(7) *Eligibility for support after 5G Fund Phase II auction.* For all areas that are eligible for support in the 5G Fund Phase II auction, the transition from support described in paragraph (e)(6)(ii)(B), (C), or (D) of this section, as applicable, will commence as follows:

(i) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(6)(ii)(B), (C), or (D) of this section, as applicable, and is a winning bidder in the 5G Fund Phase II auction for the area for which it receives such support, shall receive support for such area at the same level described in paragraph (e)(6)(ii)(B), (C), or (D) of this section until the first day of the month following the release of a public notice by the Office of Economics and Analytics and Wireline Competition Bureau announcing whether or not the carrier is authorized to receive 5G Fund Phase II support.

(A) If the mobile competitive eligible telecommunications carrier is authorized to receive 5G Fund Phase II support in the area, the carrier shall no longer receive support pursuant to paragraph (e)(6)(ii)(B), (C), or (D) of this section for such area, and shall instead receive monthly support in the amount determined by its 5G Fund Phase II winning bid pursuant to § 54.1017.

(B) If the mobile competitive eligible telecommunications carrier is not authorized to receive 5G Fund Phase II support in that area, the carrier shall no longer receive support at the level of monthly support pursuant to paragraph (e)(6)(ii)(B), (C), or (D) of this section for such area, as applicable, and shall instead receive monthly support as follows for such area:

(*1*) For 12 months starting the first day of the month following release of a public notice announcing that the carrier is not authorized to receive 5G Phase II auction support, the carrier shall receive an amount of monthly support that is two-thirds (⅔) of the level described in paragraph (e)(6)(ii)(B), (C), or (D) of this section for the area, as applicable.

(*2*) For 12 months starting the month following the period described in paragraph (e)(7)(i)(B)(*1*) of this section, the carrier shall receive an amount of monthly support that is one-third (⅓) of the level described in paragraph

(e)(6)(ii)(B), (C), or (D) of this section for the area, as applicable.

(*3*) Following the period described in paragraph (e)(7)(i)(B)(*2*) of this section, the carrier shall not receive monthly support for the area pursuant to this section.

(ii) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(6)(ii)(B) or (C) of this section for an area for which support is won in the 5G Fund Phase II auction and for which the carrier is not the winning bidder shall continue to receive support for that area as described in paragraph (e)(6)(ii)(B) or (C) of this section.

(iii) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(6)(ii)(B), (C), or (D) of this section for an area, as applicable, for which support is not won in the 5G Fund Phase II auction, shall continue to receive support for that area as described in paragraph (e)(6)(ii)(B), (C), or (D) of this section.

(iv) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to paragraph (e)(6)(ii)(D) of this section for an area for which support is won in the 5G Fund Phase II auction and for which the carrier is not the winning bidder shall receive the following monthly support amounts for such areas:

(A) For 12 months starting the first day of the month following release of a public notice announcing the close of the 5G Fund Phase II auction, the mobile competitive eligible telecommunications carrier shall receive monthly support that is two-thirds (⅔) of the level described in paragraph (e)(6)(ii)(D) of this section for the area.

(B) For 12 months starting the month following the period described in paragraph (e)(7)(iv)(A) of this section, the mobile competitive eligible telecommunications carrier shall receive monthly support that is one-third (⅓) of the level described in paragraph (e)(6)(ii)(D) of this section for the area.

(C) Following the period described in paragraph (e)(7)(iv)(B) of this section, the mobile competitive eligible telecommunications carrier shall not receive monthly support for the area pursuant to this section.

* * * * *

■ 3. Amend § 54.322 by:

■ a. Removing ''§ 54.307(e)(5)(ii), (e)(5)(iii), (e)(6)(iii), or (e)(7)(iii)'' and adding in its place ''§ 54.307(e)(5)(ii) through (iv), (e)(6)(ii)(D), or (e)(7)(iii)'' wherever it appears in paragraphs (a) through (c), (d) introductory text, and (j)(1);

■ b. Revising paragraph (h)(1);

■ c. Revising paragraph (i)(1)(i);

■ d. Redesignating paragraph (i)(1)(vi) as paragraph (i)(1)(viii);

■ e. Redesignating paragraphs (i)(1)(iv) and (v) as paragraphs (i)(1)(v) and (vi), respectively;

■ f. Adding new paragraph (i)(1)(iv);

■ g. Revising newly redesignated paragraphs (i)(1)(v) and (vi);

■ h. Adding paragraph (i)(1)(vii);

■ i. Revising paragraphs (k)(2) and (3); and

■ j. Adding paragraph (l).

The revisions and additions read as follows:

**§ 54.322 Public interest obligations and performance requirements, reporting requirements, and non-compliance mechanisms for mobile legacy high-cost support recipients.**

(a) *General.* A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) shall deploy voice and broadband data services that meet at least the 5G–NR (New Radio) technology standards developed by the 3rd Generation Partnership Project with Release 15, or any successor release that may be adopted by the Office of Economics and Analytics and the Wireline Competition Bureau after notice and comment.

(b) *Service milestones and deadlines.* A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) shall deploy 5G service that meets the performance requirements specified in paragraph (d) of this section to a percentage of the service areas for which the carrier receives monthly support and on a schedule as specified and adopted by the Office of Economics and Analytics and Wireline Competition Bureau after notice and comment.

(c) *Support usage.* A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) shall use an increasing percentage of such support for the deployment, maintenance, and operation of mobile networks that provide 5G service as specified in paragraph (a) of this section and that meet the performance requirements specified in paragraph (d) of this section as follows:

(1) *Year one support usage.* The carrier shall use at least one-third (⅓) of the total monthly support received pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) in calendar year 2021 as specified in paragraph (c) of this section by December 31, 2021.

(2) *Year two support usage.* The carrier shall use at least two-thirds (⅔) of the total monthly support received pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) in calendar year 2022 as specified in paragraph (c) of this section by December 31, 2022.

(3) *Year three and subsequent year support usage.* The carrier shall use all monthly support received pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) as specified in paragraph (c) of this section in 2023 and thereafter.

(4) *Year one support usage flexibility.* If the carrier is unable to meet the support usage requirement in paragraph (c)(1) of this section, the carrier shall have the flexibility to instead proportionally increase the support usage requirement in paragraph (c)(2) of this section such that its combined usage of monthly support received pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) in calendar years 2021 and 2022 is equal to the total amount of such support that the carrier receives annually, provided that the carrier certifies to the Wireline Competition Bureau this amount and that it will make up for any shortfall in a filing due by March 31, 2021 or 30 days after Paperwork Reduction Act approval, whichever is later.

(d) *Performance requirements.* A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), (e)(6)(iii), or (e)(7)(iii) shall meet the following minimum baseline performance requirements for data speeds, data latency, and data allowances in areas that it has deployed 5G service as specified in paragraph (a) of this section and for which it receives support for at least one plan that it offers:

* * * * *

(h) *Initial report of current service offerings.* (1) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to *§ 54.307(e)(5), (e)(6),* or *(e)(7)* shall submit an initial report describing its current service offerings in its subsidized service areas and how the monthly support it is receiving is being used in such areas no later than three months after December 28, 2020, and Paperwork Reduction Act approval.

This report shall include the following information:

* * * * *

(i) * * *

(1) * * *

(i) Except for areas for which the carriers receives monthly support pursuant to § 54.307(e)(6)(ii) or (e)(7)(iv), updated information regarding the carrier's current service offerings in its subsidized service areas for the previous calendar year, including the highest level of technology deployed, a target date for when 5G broadband service meeting the performance requirements specified in paragraph (d) of this section will be deployed within the subsidized service area, and an estimate of the percentage of area covered by 5G deployment meeting the performance requirements specified in paragraph (d) of this section within the subsidized service area;

* * * * *

(iv) Provide the information and certifications required by § 54.313(a);

(v) Certification that the carrier has filed relevant deployment data (either via FCC Form 477 or the Broadband Data Collection, as appropriate) that reflect its current deployment covering its subsidized service areas;

(vi) Certification that the carrier is in compliance with the public interest obligations as set forth in this section and all of the terms and conditions associated with the continued receipt of monthly support;

(vii) Certification as to whether the carrier used any monthly support it receives pursuant to § 54.307(e)(5), (6), or (7) pursuant to § 54.207(f), and if so, whether the carrier used such support in compliance with § 54.7; and

* * * * *

(j) *Service milestone reports.* (1) A mobile competitive eligible telecommunications carrier that receives monthly support pursuant to § 54.307(e)(5)(ii), (e)(5)(iii), (e)(5)(iv), (e)(6)(ii)(D), or (e)(7)(iii) shall submit a report after each of the service milestones described in paragraph (b) of this section by the deadlines established by the Office of Economics and Analytics and Wireline Competition Bureau demonstrating that it has deployed 5G service that meets the performance requirements specified in paragraph (d) of this section, which shall include information as required by the Office of Economics and Analytics and Wireline Competition Bureau in a public notice.

* * * * *

(k) * * *

(2) Upon notification by a carrier of its non-compliance pursuant to paragraph (k) of this section, or a determination by the Administrator or Wireline Competition Bureau of a carrier's non-compliance with any of the public interest obligations set forth in paragraphs (e) through (j) of this section or the performance requirements set forth in paragraph (d) of this section, the carrier will be deemed to be in default, and for monthly support received pursuant to § 54.307(e)(5), (e)(6), or (e)(7), will no longer be eligible to receive such support, will receive no further support disbursements, will be subject to a recovery of the amount of support received since December 28, 2020 that was not used for the deployment, maintenance, and operation of mobile networks that provide 5G service as specified in paragraph (c) of this section, and may be subject to recovery of up to the amount of support received since the December 28, 2020, other than the amount specified in paragraph (c) of this section, that was not used for the deployment, maintenance, and operation of mobile networks that provide 5G service as specified in paragraph (a) of this section and that meet the performance requirements specified in paragraph (d) of this section. The carrier may also be subject to further action, including the Commission's existing enforcement procedures and penalties, potential revocation of ETC designation, and suspension or debarment pursuant to § 54.8.

(3) A mobile competitive eligible telecommunications carrier that voluntarily relinquishes receipt of monthly support pursuant to § 54.307(e)(5), (e)(6), or (e)(7) will no longer be required to comply with the public interest obligations specified in this section.

(l) Compliance with paragraphs (b), (g), (h), (i), and (j) of this section will not be required until after the completion of such review by the Office of Management and Budget as the Office of Economics and Analytics and Wireline Competition Bureau deem necessary. The Commission will publish a document in the **Federal Register** announcing that compliance date and revising or removing this paragraph (l).

■ 4. Amend § 54.1011 by revising paragraphs (c), (d), and (e) to read as follows:

**§ 54.1011 5G Fund.**

* * * * *

(c) Areas eligible for 5G Fund Phase I support will be those areas identified by the Office of Economics and Analytics and Wireline Competition Bureau in a public notice that:

(1) Show a lack of unsubsidized 5G mobile wireless broadband coverage at a download speed of 7 Mbps and an upload speed of 1 Mbps in an outdoor stationary environment by at least one provider based on the mobile broadband coverage maps created by the Commission pursuant to § 1.7008 of this chapter;

(2) Do not contain urban areas, as defined by the U.S. Census Bureau; and

(3) Contain at least one location or at least some portion of a road.

(d) The Commission will incorporate a service-based weighting factor into the 5G Fund auction design that will assign a weight to each geographic area eligible in the 5G Fund Phase I auction using the weighting values adopted by the Office of Economics and Analytics and Wireline Competition Bureau and announced in a public notice.

(e) The Commission will incorporate an adjustment factor into the methodology for disaggregation of high-cost legacy support pursuant to § 54.307(e)(5)(iii) and (iv) that will assign a weight to each geographic area using the adjustment factor values adopted by the Office of Economics and Analytics and Wireline Competition Bureau and announced in the *Adjustment Factor Values Public Notice,* DA 20–1361.

■ 5. Amend § 54.1012 by adding paragraph (c) to read as follows:

**§ 54.1012 Geographic areas eligible for support.**

* * * * *

(c) The geographic areas identified as eligible for support in the 5G Fund Phase I auction will be converted, to, and made available in, the form of hexagons at the resolution 9 level (hex-9s) using the H3 standardized geospatial indexing system defined in § 1.7001(a)(20) of this chapter. All eligible hex-9s will then be grouped into census tracts for purposes of bidding in the auction.

(1) The hex-9s that are eligible for 5G Fund support in the 5G Fund Phase I auction will be generated using the following process:

(i) Overlay resolution 11 hexagons (hex-11s) on the ''raw'' mobile coverage polygons submitted in the Broadband Data Collection for 5G outdoor stationary coverage at speeds of at least 7/1 Mbps on unsubsidized areas, and on urban areas. If the centroid (*i.e.,* the geographic center point) of the hex-11, overlaps any of those boundaries, then the entire hex-11 is considered covered by that boundary and ''served.''

(ii) Divide the number of served grandchild hex-11s belonging to the grandparent hex-9 by the total number

of grandchild hex-11s belonging to the grandparent hex-9 to determine the percentage of the hex-9 that is considered served. The centroid of a hex-11 must fall within the boundary of United States or its territories to be included in this calculation. For hex-9s with both land and water grandchild hex-11s, only the land hex-11s are considered in this calculation.

(iii) If a ''substantial majority'' of the grandchild hex-11s belonging to a grandparent hex-9 are served, then the entire hex-9 will be considered served. For purposes of this determination, a ''substantial majority'' is 70% or more.

(2) After completing the process described in paragraphs (c)(1)(i) through (iii) of this section, any hex-9 that is not considered served and that also contains at least one location or some portion of a road will be eligible for support in the 5G Fund Phase I auction.

■ 6. Amend § 54.1014 by redesignating paragraph (a)(6) as paragraph (a)(7), adding new paragraph (a)(6), and adding new paragraph (c) to read as follows:

**§ 54.1014 Application process.**

(a) * * *

(6) Certify, under penalty of perjury, that it has read the public notice adopting procedures for the 5G Fund Phase I auction, and that it has familiarized itself with those procedures and any requirements, terms, and conditions associated with receipt of 5G Fund support; and

* * * * *

(c) Compliance with paragraphs (a) and (b)(2) of this section will not be required until after the completion of such review by the Office of Management and Budget as the Office of Economics and Analytics and Wireline Competition Bureau deem necessary. The Commission will publish a document in the **Federal Register** announcing that compliance date and revising or removing this paragraph (c).

■ 7. Amend § 54.1015 by revising paragraph (c)(1) to read as follows:

**§ 54.1015 Public interest obligations and performance requirements for 5G Fund support recipients.**

* * * * *

(c) * * *

(1) 35 Mbps download and 3 Mbps upload in an in-vehicle environment, with at least 90 percent of measurements recording these data transmission speeds; and

* * * * *

■ 8. Amend § 54.1018 by:

■ a. Revising paragraph (a);

■ b. Redesignating paragraphs (b), (c), (d), (e), and (f) as paragraphs (c), (d), (e), (f), and (g), respectively;

■ c. Adding new paragraph (b); and

■ d. Adding new paragraph (h).

The revisions and additions read as follows:

**§ 54.1018 Annual reports.**

(a) A 5G Fund support recipient authorized to receive 5G Fund support shall submit an annual report to the Administrator no later than July 1 of each year after the year in which it was authorized to receive support. Each support recipient shall certify in its annual report that it:

(1) Is in compliance with the public interest obligations, performance requirements, and all of the terms and conditions associated with the receipt of 5G Fund support in order to continue receiving 5G Fund support disbursements; and

(2) Has maintained its cybersecurity and supply chain risk management plans pursuant to § 54.1022.

(b) Each 5G Fund support recipient authorized to receive 5G Fund support shall report in its annual report whether it filed any substantive modifications pursuant to § 54.1022(f) in the prior year, and shall report the date it filed any such substantive modifications.

* * * * *

(h) Compliance with paragraphs (a) through (d) and (f) of this section will not be required until after the completion of such review by the Office of Management and Budget as the Office of Economics and Analytics and Wireline Competition Bureau deem necessary. The Commission will publish a document in the **Federal Register** announcing that compliance date and revising or removing this paragraph (h).

■ 9. Amend § 54.1019 by:

■ a. Revising paragraphs (a)(1) and (2);

■ b. Removing paragraph (a)(3);

■ c. Redesignating paragraph (a)(4) as paragraph (a)(3);

■ d. Revising newly redesignated paragraph (a)(3);

■ e. Revising paragraphs (b), (c), and (d); and

■ f. Adding paragraph (e).

The revisions and additions read as follows:

**§ 54.1019 Interim service and final service milestone reports.**

(a) * * *

(1) Certifications to representative data submitted in the Broadband Data Collection demonstrating mobile transmissions to and from the network that establish compliance with the 5G Fund coverage, speed, and latency requirements;

(2) On-the-ground test data or infrastructure data to substantiate 5G broadband coverage data;

(i) On-the-ground test data must:

(A) Be collected within each selected hexagon in a sample of hexagons at the resolution 9 level selected by Commission staff;

(B) Be conducted pursuant to the testing parameters and metrics for valid on-the-ground tests described in § 1.7006(c)(1)(i) and (ii) of this chapter;

(C) Show that at least 90% of the support recipient's speed test measurements demonstrate that it has deployed service meeting the 5G Fund performance requirements specified in § 54.1015(c) in the area(s) for which the support recipient is authorized to receive 5G Fund support;

(D) Include at least two tests within each of the selected hexagons where the time of the tests are at least four hours apart, irrespective of date, unless the support recipient has, and submits with its speed tests, actual cell loading data for the cell(s) covering the sampled hexagon showing that the median loading, measured in 15-minute intervals, did not exceed the modeled loading factor for the one-week period prior to the submission, in which case the support recipient must submit two speed tests for each hexagon and the two tests need not be recorded four hours apart;

(E) Be conducted in an in-vehicle mobile environment with the antenna located inside the vehicle.

(ii) Infrastructure data must include the information described in § 1.7006(c)(2)(i) of this chapter for all cell sites and antennas within the area(s) for which the support recipient is authorized to receive 5G Fund support;

(3) Additional information as required by Commission staff.

(b) All data submitted and certified to in compliance with a recipient's public interest obligations in the milestone report must be certified by an engineer with the same qualifications as required for submitting the Broadband Data Collection biannual filings described in § 1.7004 of this chapter.

(c) Each service milestone report must be submitted via the Commission's Broadband Data Collection portal.

(d) All data submitted in and certified to in any service milestone report shall be subject to verification by the Administrator and Commission staff for compliance with the 5G Fund performance requirements specified in § 54.1015(c).

(e) Compliance with paragraphs (a)(1) through (3) and (b) of this section will not be required until after the completion of such review by the Office of Management and Budget as the Office of Economics and Analytics and

Wireline Competition Bureau deem necessary. The Commission will publish a document in the **Federal Register** announcing that compliance date and revising or removing this paragraph (e).

■ 10. Add § 54.1022 to read as follows:

**§ 54.1022 Cybersecurity and supply chain risk requirements.**

(a) A 5G Fund support recipient must implement operational cybersecurity and supply chain risk management plans meeting the requirements of this section as a condition of receiving 5G Fund support.

(b) A 5G Fund support recipient must certify that it has implemented plans required under paragraph (a) of this section and submit the plans to the Administrator by the date announced by the Office of Economics and Analytics and the Wireline Competition Bureau in a public notice or within 30 days after approval under the Paperwork Reduction Act, whichever is later.

(c) A 5G Fund support recipient that fails to comply with any 5G Fund cybersecurity or supply chain risk management requirement is subject to the following non-compliance measures:

(1) The Wireline Competition Bureau shall direct the Administrator to withhold 25 percent of the 5G Fund support recipient's monthly support for failure to comply with paragraph (b) of this section until the support recipient makes the required certification and submits the required plans.

(2) At any time during the support term, if a 5G Fund support recipient does not have in place operational cybersecurity and supply chain risk management plans meeting the requirements of this section, the Wireline Competition Bureau shall direct the Administrator to withhold 25 percent of the support recipient's monthly support.

(3) Once the 5G Fund support recipient comes into compliance, the Administrator shall stop withholding support, and the support recipient will receive all of the support that had been withheld pursuant to this section.

(d) A 5G Fund support recipient's cybersecurity risk management plan must reflect at least the National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity v.1.1 (2018) (NIST Framework) or any successor version of the NIST Framework, and must reflect established cybersecurity best practices that address each of the Core Functions described in the NIST Framework, such as the standards and controls set forth in the Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Cross-sector Performance Goals and Objectives or the Center for internet Security Critical Security Controls.

(e) A 5G Fund support recipient's supply chain risk management plan must incorporate the key practices discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry, and related supply chain risk management guidance from NIST 800–161.

(f) If a 5G Fund support recipient makes a substantive modification to a plan under this section, the carrier must file an updated plan with the Administrator within 30 days of making the modification. A modification to a plan under this section is substantive if at least one of the following conditions apply:

(1) There is a change in the plan's scope, including any addition, removal, or significant alternation to the types of risks covered by the plan (*e.g.,* expanding a plan to cover new areas, such as supply chain risks to Internet of Things devices or cloud security, could be a substantive change);

(2) There is a change in the plan's risk mitigation strategies (*e.g.,* implementing a new encryption protocol or deploying a different firewall architecture);

(3) There is a shift in organizational structure (*e.g.,* creating a new information technology department or hiring a Chief Information Security Officer);

(4) There is a shift in the threat landscape prompting the organization to recognize that emergence of new threats or vulnerabilities that were not previously accounted for in the plan;

(5) Updates are made to comply with new cybersecurity regulations, standards, or laws;

(6) Significant changes are made in the supply chain, including offboarding major suppliers or vendors, or shifts in procurement strategies that may impact the security of the supply chain; or

(7) A large-scale technological change is made, including the adoption of new systems or technologies, migrating to a new information technology infrastructure, or significantly changing the information technology architecture.

(g) Compliance with paragraphs (b) and (f) of this section will not be required until after the completion of such review by the Office of Management and Budget as the Office of Economics and Analytics and Wireline Competition Bureau deem necessary. The Commission will publish a document in the **Federal Register** announcing that compliance date and revising or removing this paragraph (g).

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