

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

In the Matter of)
)
Inquiry Concerning Deployment of Advanced) GN Docket No. 24-214
Telecommunications Capability to All)
Americans in a Reasonable and Timely)
Fashion)

COMMENTS OF CTIA

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TABLE OF CONTENTS

I.	INTRODUCTION AND SUMMARY.	1
II.	SECTION 706 CALLS FOR A PROGRESS-BASED INQUIRY REGARDING BROADBAND DEPLOYMENT.	2
	A. The Commission Must Reach Its Determination Based on Deployment.	3
	B. The Commission Must Evaluate Progress, Not Completion.	7
III.	WIRELESS BROADBAND DEPLOYMENT CONTINUES TO BE REASONABLE AND TIMELY.	8
	A. By Any Measure, Wireless Broadband Deployment Is Reasonable and Timely. ..	9
	B. Fixed Wireless Access Contributes Significantly to the Reasonable and Timely Deployment of Fixed Broadband.....	12
IV.	THE COMMISSION’S SECTION 706 ANALYSIS SHOULD BE CONSUMER-FOCUSED AND BASED ON RELIABLE DATA.	15
	A. The Commission’s Analysis of the Deployment of Mobile Advanced Telecommunications Capability Should Focus on the Consumer Experience and Reliable Data.....	15
	B. The Commission Should Retain Its Fixed Broadband Threshold Based on IJJA Requirements and Actual Consumer Usage.	17
V.	THE COMMISSION’S REGULATORY CONDITIONS CAN HELP ENSURE THAT THE DEPLOYMENT OF WIRELESS ADVANCED TELECOMMUNICATIONS CAPABILITY REMAINS REASONABLE AND TIMELY.	20
	A. Additional Full-Power, Licensed Spectrum Is Needed to Support Enhanced Wireless Deployments and Growing Consumer Demands.....	20
	B. The Commission Should Schedule the 5G Fund to Maximize Its Impact and Set Technology-Neutral Universal Service Policies.	23
	C. Sound Infrastructure Deployment Policies Can Further Promote Wireless Buildout.....	24
VI.	CONCLUSION.	25

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CTIA hereby submits these comments in response to the Federal Communications Commission’s (“Commission”) Eighteenth Section 706 Report Notice of Inquiry (“NOI”).¹

I. INTRODUCTION AND SUMMARY.

The Commission’s next broadband progress report should hew to the requirements set by Congress in Section 706 and provide a progress-based analysis of advanced broadband deployment. By any measure, the data show that the deployment of wireless “advanced telecommunications capability”—wireless broadband—is reasonable and timely:

- *Wireless investment tops \$700 billion.* Wireless carriers have invested \$705 billion to date, including \$30 billion in the last year alone and \$190 billion since 2018, the year 5G was launched.
- *More cell sites support broader wireless coverage.* By the end of 2023, there were 432,469 operational cell sites, the physical backbone of our wireless networks, across the nation—a 24 percent increase since pivotal wireless siting reforms were enacted in 2018. Due to expanding networks, approximately 99 percent of the U.S. population lives in areas with 4G LTE coverage and 97 percent of the population lives in areas with 5G coverage.
- *5G home broadband expands the availability of fixed broadband.* Over the past two years, 95 percent of net new fixed broadband subscribers chose 5G home service—

¹ *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, Eighteenth Section 706 Report Notice of Inquiry, FCC 24-92 (rel. Sept. 6, 2024) (“NOI”).

and importantly, 1 out of 5 net 5G home adds were entirely new home broadband subscribers, underscoring 5G’s role in helping to close the digital divide.

- *Wireless networks continue to support skyrocketing data demand.* Americans used more than 100 trillion megabytes in 2023—the largest single-year increase in wireless data ever, nearly double the amount of data used just two years ago.
- *More wireless connections and 5G devices.* In 2023, nearly 40 percent of all wireless devices had a 5G connection, a 34 percent increase over the previous year. This growth helped propel the total number of wireless connections to 558 million, more than 1.6 wireless connections for every American.

In analyzing the status of broadband deployment, the Commission should focus on criteria reflecting the consumer experience. For mobile broadband, the Commission should continue to rely on a range of data and eschew an arbitrary benchmark. For fixed broadband, it should continue to tie its analysis to the 100/20 Mbps standard used in the Infrastructure Investment and Jobs Act (“IIJA”) and actual consumer usage.

The Commission also should ensure that its regulations create a positive environment for continued wireless broadband investment. It can do so by preparing a spectrum pipeline for current and future needs, even as it awaits congressional action on spectrum auction authority; leveraging the best available data in the 5G Fund auction, including from other broadband programs, to maximize the impact; and continuing progress on measures to ensure wireless broadband infrastructure can be constructed in a timely fashion.

II. SECTION 706 CALLS FOR A PROGRESS-BASED INQUIRY REGARDING BROADBAND DEPLOYMENT.

The NOI proposes to repeat two legal errors from the *2024 Section 706 Report*.² First, it incorrectly proposes to reach a determination based on multiple factors, even though Section 706 directs the Commission to reach its determination based on deployment. Second, it proposes to

² *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 2024 Section 706 Report, FCC 24-27 (rel. Mar. 18, 2024) (“*2024 Section 706 Report*”).

reach a determination regarding whether advanced telecommunications capability “is available universally throughout the country,” even though Section 706 directs the Commission to evaluate progress.³ The Supreme Court made clear in *Loper Bright* that agencies cannot depart from the best interpretation of a statute.⁴ Accordingly, the Commission must make its determination based on progress in deployment, not based on an atextual standard.

A. The Commission Must Reach Its Determination Based on Deployment.

Section 706 directs the Commission to reach its determination based on deployment and not on other factors. The plain text of Section 706(b) requires this approach. It directs the Commission to “determine” whether advanced telecommunications capability is being “deployed” to all Americans in a reasonable and timely fashion.⁵ Thus, “deploy[ment]” is the sole criterion for the Commission’s “determin[ation].”⁶ The plain text of the statute precludes a determination based on any other factor.⁷

Deployment means the physical presence of a broadband network. “In the absence of . . . a [statutory] definition, [courts] construe a statutory term in accordance with its ordinary or natural meaning.”⁸ The ordinary meaning of “deploy” is “[t]o organize one or more (soldiers, pieces of military equipment, etc.) so as to be in the right place at the desired time.”⁹ In other

³ NOI ¶ 6.

⁴ See generally *Loper Bright Enterprises v. Raimondo*, 144 S. Ct. 2244 (2024).

⁵ 47 U.S.C. § 1302(b).

⁶ *Id.*

⁷ See, e.g., *Caminetti v. United States*, 242 U.S. 470, 485 (1917) (citing *Hamilton v. Rathbone*, 175 U.S. 414, 421 (1899)) (“Where the language is plain and admits of no more than one meaning, the duty of interpretation does not arise, and the rules which are to aid doubtful meanings need no discussion.”).

⁸ *F.D.I.C. v. Meyer*, 510 U.S. 471, 476 (1994).

⁹ *Deploy*, BLACK’S LAW DICTIONARY (12th ed. 2024); see also, *Deploy*, Collins Dictionary, <https://www.collinsdictionary.com/us/dictionary/english/deploy> (last visited Oct. 7, 2024) (“To deploy troops or military resources means to organize or position them so that they are ready to be used.”).

words, deployed means in position physically. The Commission itself has used the term “deployment” to refer to the physical presence of networks, both at the time of enactment of the Telecommunications Act of 1996 and today.¹⁰

The *2024 Section 706 Report* claims that the Commission’s statutory duty to “initiate a notice of inquiry concerning . . . availability”¹¹ allows it to “consider factors other than solely the state of ‘deployment’” as part of its determination.¹² It does not. “Availability” in Section 706(b) refers to deployment only, as reflected by its ordinary meaning,¹³ its usage by Congress in the Communications Act (including, significantly, the Broadband DATA Act),¹⁴ and prior statements by the Commission.¹⁵ Thus, the Commission’s Section 706(b) inquiry and

¹⁰ See, e.g., 47 C.F.R. § 54.802(c) (discussing Rural Digital Opportunity Fund “deployment” obligations with reference to the physical presence of networks); NOI ¶ 18 (using “deployment” to refer to the presence of networks with particular speeds); *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Second Annual Report, 11 FCC Rcd 2060, 2063 ¶ 5 (1995) (“Some LECs are continuing their deployment of wire based facilities in selected markets”); *Applications of Pacific Bell et al.*, Order and Authorization, 10 FCC Rcd 12448, 12453 ¶ 8 (1995) (“The coax wire will be deployed in a ‘bus’ system from the node to a ‘service tap’ or ‘pedestal,’ which will serve 2 to 8 homes with individual coax drops.”).

¹¹ 47 U.S.C. § 1302(b).

¹² *2024 Section 706 Report* ¶ 10 (citing *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, Eighth Broadband Progress Report, 27 FCC Rcd 10342, 10363, ¶ 27 (2012)).

¹³ *Available*, Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/available> (last visited Oct. 7, 2024) (“present or ready for immediate use”); *Available*, Collins Dictionary, <https://www.collinsdictionary.com/us/dictionary/english/available> (last visited Oct. 7, 2024) (“If something you want or need is available, you can find it or obtain it.”).

¹⁴ See, e.g., 47 U.S.C. § 254(i) (distinguishing between universal service being “available” and “rates”); *id.* § 642(a)(1)(A)(i) (directing the Commission to adopt rules to collect data “relating to the availability” of broadband); *id.* § 642(b)(2)(A)(i)(I-II) (stating that the data must encompass where a provider “has actually built out [its] broadband network infrastructure” and where it is “capable of performing a standard broadband installation”).

¹⁵ See, e.g., *Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier*, Order, 11 FCC Rcd 3271, 3297 ¶ 47 (1995) (“According to AT&T, the factor limiting supply expansion is not the availability of transport facilities”).

determination both must concern deployment and only deployment. Even if “availability” had a broader meaning than “deployment,” that merely suggests that the Commission’s inquiry—that is, its information gathering and reporting—may sweep more broadly than deployment; the statute plainly states that the *sole* basis of the ultimate “determin[ation]” is “deploy[ment].”¹⁶

Although the text of the controlling sentence of Section 706(b) is dispositive, the remainder of Section 706 also supports the conclusion that the Commission’s determination must be based on deployment. Otherwise, the prescribed solution for a negative finding—“immediate action to accelerate deployment”¹⁷—would be mismatched with the problem to solve. Further, the list that the Commission must compile as part of its inquiry of “geographical areas that are not served” refers to areas that lack deployment of advanced telecommunications capability.¹⁸

The question of what the Commission must “determine” is a matter of statutory interpretation. Pursuant to *Loper Bright*, if a statutory reading “is not the best, it is not permissible.”¹⁹ The best reading of Section 706(b) is that the Commission’s determination must be based on deployment.

The Commission’s reliance on Section 60104 of the IJJA to support its approach is misplaced. In the course of directing the Commission to issue a report on the future of universal service, Section 60104(a)(2) defined the relevant “universal service goals for broadband” as “the

¹⁶ 47 U.S.C. § 1302(b). The Commission asserts that “[t]he legislative history of section 706 . . . supports the view that Congress expects us to examine more than physical availability.” *2024 Section 706 Report* ¶ 10. But the Commission’s claim says nothing about the basis of the Commission’s *determination*, as opposed to its inquiry. Regardless, as the statutory text is clear, legislative history is not relevant. See *N.L.R.B. v. SW Gen., Inc.*, 580 U.S. 288, 305 (2017) (“The text is clear, so we need not consider . . . extra-textual evidence” such as legislative history).

¹⁷ 47 U.S.C. § 1302(b).

¹⁸ *Id.* § 1302(c).

¹⁹ *Loper Bright*, 144 S. Ct. at 2266 (discussing *Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837 (1984), overruled by *Loper Bright*).

statutorily mandated goals of universal service for advanced telecommunications capability under section 706”²⁰ This definition reflects that encouraging deployment, as directed by Section 706(a) and, in the event of a negative finding, Section 706(b), helps achieve universal service goals.²¹ It says nothing about how the Commission is to conduct its Section 706(b) inquiry or make its Section 706(b) determination. Congress knows how to amend Section 706,²² and the Commission acknowledges that Section 60104 of the IJA did not do so.²³ “Vague notions of statutory purpose provide no warrant for expanding [a statutory] prohibition beyond the field to which it is unambiguously limited”²⁴

Considerations beyond deployment are undoubtedly important, but the Commission has other dedicated vehicles to evaluate these topics, such as the broadband consumer labels and reporting associated with the various universal service programs.²⁵ In any event, Congress selected the specific topic for the Section 706(b) determination—deployment—and that must be what the Commission evaluates.

²⁰ Infrastructure Investment and Jobs Act of 2021, Pub. L. No. 117-58, div. F, tit. I, § 60104(a)(2), 135 Stat. 429, 1205 (2021) (“IIJA”).

²¹ For this same reason, the Commission’s statement that the legislative history “explicitly identifies affordability in describing the goals of section 706” is not persuasive. *2024 Section 706 Report* ¶ 10. The goals of Section 706 as a whole are distinct from what the Commission must determine pursuant to Section 706(b). Further, as noted above, references to legislative history cannot overcome clear statutory text.

²² *See Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, Seventeenth Section 706 Report Notice of Inquiry, FCC 23-89, ¶ 5 n.8 (rel. Nov. 1, 2023) (identifying amendments).

²³ *2024 Section 706 Report* ¶ 6.

²⁴ *Freeman v. Quicken Loans, Inc.*, 566 U.S. 624, 637 (2012).

²⁵ *See, e.g.*, 47 C.F.R. §§ 8.2, 54.308(d), 54.313.

B. The Commission Must Evaluate Progress, Not Completion.

The Commission’s task is to evaluate whether advanced telecommunications capability “is being” deployed to all Americans “in a reasonable and timely fashion.”²⁶ In other words, it must evaluate whether there is adequate *progress* in deployment. The NOI follows the *2024 Section 706 Report* by incorrectly proposing to “determine whether advanced telecommunications capability *is* available universally throughout the country.”²⁷ This all-or-nothing approach cannot be squared with the statutory text.

The Commission’s proposed approach disregards the phrase “is being,” which employs the present progressive tense. “Congress’ use of a verb tense is significant in construing statutes.”²⁸ The “use of the present progressive tense . . . generally indicates continuing action.”²⁹ Here, the continuing action is broadband deployment. Thus, the Commission must evaluate continuing progress in deployment, not whether we are at an endpoint. The incompatibility of the Commission’s approach with the statute is illustrated by the NOI’s “propos[al] to continue to determine whether the section 706 threshold is met by evaluating whether advanced telecommunications capability *is deployed* and available to all Americans.”³⁰ The NOI has excised the word “being” from the phrase “is being deployed” because including it—as Congress did—is inconsistent with the Commission’s current reading.

²⁶ 47 U.S.C. § 1302(b).

²⁷ NOI ¶ 6 (emphasis added).

²⁸ *United States v. Wilson*, 503 U.S. 329, 333 (1992).

²⁹ *United States v. Balint*, 201 F.3d 928, 933 (7th Cir. 2000).

³⁰ NOI ¶ 6 (emphasis added).

The Commission’s approach also is irreconcilable with the statutory phrase “reasonable and timely.”³¹ If the pertinent determination were whether universal service had been achieved, timeliness would be irrelevant—universal service is either achieved or it is not. Thus, the Commission’s reading violates the canon against surplusage.³² Similarly, the Commission’s approach reads out “reasonable,” as a simple question of whether universal service has been achieved leaves no room to evaluate anything for reasonableness.

The proper construction of the statute is purely a question of legal interpretation, and post-*Loper Bright*, agencies do not routinely receive deference in matters of legal interpretation. Instead, they must adopt the best legal interpretation.³³ Thus, the Commission must evaluate whether *progress* in deployment of advanced telecommunications capability is occurring in a “reasonable and timely” fashion.³⁴ Section 60104 of the IJA is not contrary to this conclusion.³⁵ As described above, it has no bearing on the determination that the Commission must make, as Congress did not alter the operative and clear text of Section 706. Moreover, Congress’s suggestion that Section 706 embodies and promotes universal service goals does not modify the nature of the Commission’s determination under Section 706(b).

III. WIRELESS BROADBAND DEPLOYMENT CONTINUES TO BE REASONABLE AND TIMELY.

All available indicia clearly show that wireless broadband deployment is reasonable and timely. Consumers continue to rely on wireless broadband services for more and more in their

³¹ 47 U.S.C. § 1302(a).

³² See *Young v. United Parcel Serv., Inc.*, 575 U.S. 206, 226 (2015) (explaining that statutes should be read so that “no clause is rendered superfluous, void, or insignificant” (internal quotation marks and citation omitted)).

³³ *Loper Bright*, 144 S. Ct. at 2266.

³⁴ 47 U.S.C. § 1302(a).

³⁵ IJA § 60104(a)(2). *But see 2024 Section 706 Report* ¶ 11.

daily lives, and providers' broadband networks continue to deliver. Broadband services have only become more enmeshed in Americans' lives. The NOI notes that, "[e]very single day, Americans turn to their broadband connections for work, education, healthcare, commerce, and communication."³⁶ As the Commission consistently has found, "consumers have advanced telecommunications capability only to the extent that they have access to both fixed and mobile broadband service,"³⁷ and "[h]aving access to both mobile and fixed advanced telecommunications capability services in an area is important for communities not to fall behind."³⁸ Wireless providers continue to invest in their networks to bring advanced telecommunications capability to U.S. consumers across the country.

A. By Any Measure, Wireless Broadband Deployment Is Reasonable and Timely.

Wireless providers' deployment of advanced telecommunications capability in a reasonable and timely fashion is readily apparent through their sustained commitment to investment in their networks, resulting in ongoing growth in the number of cell sites and expanding wireless coverage, including 5G coverage. The deployment of wireless networks is supporting skyrocketing consumer usage of wireless broadband service, as reflected in ever-higher data usage and the increasing number of mobile devices that total well beyond the number of people in the United States.

Wireless providers continue investing to build, upgrade, and maintain their networks. Since 5G launched in 2018, providers have invested more than \$190 billion in their networks,

³⁶ NOI ¶ 1.

³⁷ 2024 Section 706 Report ¶ 18 (citing prior reports).

³⁸ *Id.* ¶ 19.

including more than \$30 billion in 2023 alone.³⁹ This decade, mobile wireless providers have invested an average of \$54 billion per year, making them the second-largest source of direct investment in the United States.⁴⁰ Since the beginning of the wireless industry, providers have invested \$705 billion in their networks.⁴¹

United States providers have invested more per subscriber in their wireless networks than providers anywhere else in the world.⁴² On average, U.S. providers have collectively invested between two and three or four times more per subscriber unit than any other country.⁴³ For instance, by 2023, U.S. wireless carriers invested \$54.80 per subscriber unit versus \$25.90 in the European Union.⁴⁴

These investments have driven wireless providers' expansion of their network infrastructure. Cell sites are the physical backbone of wireless networks, and, by the end of 2023, there were over 432,000 operational cell sites across the United States.⁴⁵ This is a 24 percent increase since pivotal wireless siting reforms were enacted in 2018.⁴⁶ Small cells, an

³⁹ *2024 Annual Survey Highlights*, CTIA, at 5 (Sept. 10, 2024), <https://www.ctia.org/news/2024-annual-survey-highlights> (“CTIA 2024 Annual Survey Highlights”).

⁴⁰ *Id.* at 2. These investment numbers do not include the hundreds of billions of dollars in winning bids paid to the U.S. Treasury for spectrum licenses over time. Timothy J. Tardiff, *Wireless Investment and Economic Benefits*, at 2 (Apr. 2024), <https://api.ctia.org/wp-content/uploads/2024/04/Wireless-Investment-and-Economic-Benefits.pdf>.

⁴¹ CTIA 2024 Annual Survey Highlights at 5.

⁴² Robert F. Roche & Sean McNicholas, *CTIA's Wireless Industry Indices Report*, CTIA, at 52 (Sept. 2024) (“CTIA Year-End 2023 Indices Report”).

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ CTIA 2024 Annual Survey Highlights at 6.

⁴⁶ *Id.*

essential part of 5G infrastructure, and Distributed Antenna Systems make up more than 36 percent of total cell sites.⁴⁷

Providers' investments and deployment of network infrastructure have brought coverage of advanced wireless networks to almost all U.S. consumers. Approximately 99 percent of the U.S. population lives in areas with 4G LTE coverage, 97 percent of the population lives in areas with 5G coverage at 7/1 Mbps, and 92 percent of the population lives in areas with 5G coverage at 35/3 Mbps.⁴⁸

Even as wireless networks have expanded, their performance has increased to meet and exceed consumers' increasing reliance on wireless broadband. In 2023, Americans used more than 100 trillion megabytes of wireless data—"enough data for every single U.S. household to watch the first season of House of the Dragon every day for the entire year."⁴⁹ 100 trillion megabytes is nearly double the amount of data used two years ago and is a 36 percent increase over 2022—the largest single-year increase in wireless data ever.⁵⁰ Traffic is increasing per device as well; average monthly traffic per smartphone was over 15.5 GB in 2023, up from 14.0 GB in 2022.⁵¹ This growth in wireless data demand is expected to continue, as Ericsson predicts that Americans' data use will increase by more than 3x by 2029.⁵²

The skyrocketing growth in wireless data traffic shows the importance of wireless broadband services to U.S. consumers, many of whom rely on wireless as their sole or primary

⁴⁷ CTIA Year-End 2023 Indices Report at 53.

⁴⁸ *Internet Access Services: Status as of December 31, 2023*, FCC, Industry Analysis Division – Office of Economics & Analytics, at 17 fig.10 (Sept. 2024), <https://docs.fcc.gov/public/attachments/DOC-405488A1.pdf>.

⁴⁹ CTIA 2024 Annual Survey Highlights at 3.

⁵⁰ *Id.*

⁵¹ CTIA Year-End 2023 Indices Report at 61–62.

⁵² CTIA 2024 Annual Survey Highlights at 3.

broadband connection. This includes 15 percent of adults nationwide, 18 percent of adults in rural areas,⁵³ 25 percent of Hispanic adults, 17 percent of Black adults,⁵⁴ and 27 percent of adults who live in a household earning less than \$30,000 annually.⁵⁵ Thus, wireless has been “a significant factor in bridging the digital divide and providing underserved communities with the 21st century tools they need for advancement.”⁵⁶

Mobile wireless connections continue to be increasingly important to connecting Americans. CTIA estimates that, at the end of 2023, there were over 558 million active mobile wireless devices, or more than 1.6 mobile wireless connections for every American, up from 523 million connections in 2022.⁵⁷ These wireless connections increasingly use advanced wireless networks. Nearly 40 percent of all wireless devices—including phones, smartwatches, Internet of Things devices, and more—have a 5G connection, a 34 percent increase from 2022.⁵⁸

B. Fixed Wireless Access Contributes Significantly to the Reasonable and Timely Deployment of Fixed Broadband.

Fixed Wireless Access (“FWA”) provides high-quality home Internet connections using wireless links instead of a wired connection. The growth of FWA continues to expand fixed broadband services to connect more U.S. consumers. These connections can deliver speeds up to 1 gigabit, thereby meeting or exceeding the Commission’s current and proposed fixed broadband

⁵³ CTIA Year-End 2023 Indices Report at 31–32.

⁵⁴ Andrew Perrin, *Mobile Technology and Home Broadband 2021*, PEW RESEARCH CENTER, at 7 (June 3, 2021), https://www.pewresearch.org/wp-content/uploads/sites/20/2021/06/PI_2021.06.03_Mobile-Broadband_FINAL.pdf.

⁵⁵ *Id.*

⁵⁶ *Wireless in Communities of Color: Bridging the Digital Divide*, Multicultural Media, Telecom & Internet Council, at 6 (July 2022), <https://www.mmtconline.org/wp-content/uploads/2022/07/Wireless-in-Communities-of-Color-July-2022.pdf>.

⁵⁷ CTIA 2024 Annual Survey Highlights at 4.

⁵⁸ *Id.*

speed benchmarks.⁵⁹ As a result of the expanding availability of FWA, the percentage of U.S. households with competitive choice between two or more high-speed broadband providers grew from 50 percent in early 2022 to 78 percent in late 2023.⁶⁰

Consumers increasingly are selecting FWA for home broadband connectivity. FWA subscriptions have represented nearly “all broadband subscriber growth in the market since mid-2022.”⁶¹ Indeed, “[o]ver the past two years, 95 [percent] of net new fixed broadband subscribers chose 5G home service—and importantly, 1 out of 5 net 5G home adds were entirely new home broadband subscribers.”⁶² The absolute number of net new broadband customers subscribing to FWA has significantly exceeded the number of net new customers selecting any other broadband platform—for example, FWA gained 3.2 million subscribers in 2022 and 3.7 million in 2023, compared to 2.4 million in each of those years for fiber and significant net subscriber losses for cable and DSL.⁶³ Even in areas where a fiber alternative exists, 10 percent of new broadband customers and 12 percent of broadband customers switching providers choose FWA, and those customers stay with their FWA provider—the Fiber Broadband Association reports that, in areas

⁵⁹ Doug Dawson, *Upgrades for FWA Cellular Wireless*, CCG CONSULTING (Nov. 16, 2023), <https://potsandpansbyccg.com/2023/11/16/upgrades-for-fwa-cellular-wireless/>.

⁶⁰ Robert Wyrzykowski, *5G Fixed Wireless Access (FWA) Success in the US: A Roadmap for Broadband Success Elsewhere?*, OPENSIGNAL, at fig.3 (June 6, 2024) (“OpenSignal Roadmap”), <https://www.opensignal.com/2024/06/06/5g-fixed-wireless-access-fwa-success-in-the-us-a-roadmap-for-broadband-success-elsewhere>.

⁶¹ *See id.*; *see also* Nick Ludlum, *5G Home Broadband Continues to Bring Real Competition to Cable*, CTIA: BLOG (Jan. 31, 2024), <https://www.ctia.org/news/5g-home-broadband-continues-to-bring-real-competition-to-cable>.

⁶² CTIA 2024 Annual Survey Highlights at 7.

⁶³ *See In-Depth View of U.S. Broadband Net Adds*, RVA, LLC & Fiber Broadband Ass’n, at 2–3 (Oct. 1, 2024), attached to Letter from Gary Bolton, President & CEO, Fiber Broadband Ass’n, to Marlene H. Dortch, Sec’y, FCC, GN Docket No. 24-119 (filed Oct. 2, 2024).

where fiber is available, fiber providers experience a 15 percent churn-out rate, compared to FWA providers' 1 percent churn-out rate in the same areas.⁶⁴

FWA is vital to bringing advanced telecommunications capability to rural and remote areas. FWA has the potential to serve up to 8.4 million rural households, or nearly half the rural homes in the United States.⁶⁵ FWA is already the only home broadband option at 100/20 Mbps speeds or higher for 8% of rural households and has brought broadband choice to 23% of rural households.⁶⁶ The expansion of 5G is bringing the benefits of FWA to underserved rural communities.⁶⁷ As the CEO of Carolina West Wireless explains, “[t]he first place that we see the biggest benefit with fixed wireless is . . . unserved or underserved areas.”⁶⁸ They are moving quickly to bring 5G services to its service area in rural northwestern North Carolina because “5G is going to change people’s lives. 5G will facilitate advances that will allow businesses to be more effective and more efficient,” allowing “newer business models and creative business plans” so the region can remain competitive and young people can stay and invest in their communities’ future.⁶⁹ Additionally, Cellcom is bringing FWA—and the opportunities it brings to communities—to residences and businesses in rural parts of Wisconsin and Michigan, while Union has brought FWA to rural Wyoming.⁷⁰

⁶⁴ *Id.* at 4.

⁶⁵ *5G Fixed Wireless Broadband: Helping close the digital divide in rural America*, ACCENTURE, at 5 (2021), <https://api.ctia.org/wp-content/uploads/2021/11/CTIA-Rural-HHs-mini-POV-V2-20211115.pdf>.

⁶⁶ See *2024 Section 706 Report* ¶ 68 fig.5 (percentages calculated from comparison of the number of broadband options at 100/20 Mbps for households in rural areas, based on Form 477 and BDC data).

⁶⁷ See generally *Regional Wireless Providers: Closing the Digital Divide & Growing Local Economies Across the U.S.*, CTIA & CCA, <https://api.ctia.org/wp-content/uploads/2024/03/Regional-Wireless-Providers-Report.pdf>.

⁶⁸ *Id.* at 6.

⁶⁹ *Id.* at 6–7.

⁷⁰ *Id.* at 8, 16.

Given consumers' increasing reliance on FWA for home broadband connectivity and FWA's demonstrated ability to meet or exceed the Commission's fixed broadband benchmark, the Commission should adopt its proposal to stop presenting fixed broadband deployment data that excludes fixed wireless service.⁷¹ Fixed wireless and wireline services are both functional and economic substitutes, meaning that consumers may use one service instead of the other,⁷² and the Commission should reflect this reality in its next Section 706 report.

IV. THE COMMISSION'S SECTION 706 ANALYSIS SHOULD BE CONSUMER-FOCUSED AND BASED ON RELIABLE DATA.

A. The Commission's Analysis of the Deployment of Mobile Advanced Telecommunications Capability Should Focus on the Consumer Experience and Reliable Data.

Consistent with past practice, the Commission should consider a variety of indices, rather than a specific benchmark, to conclude that the deployment of mobile advanced telecommunications capability is reasonable and timely.⁷³ As the Commission has correctly noted in prior reports, including its most recent, mobile broadband coverage and speed depends upon many factors, including whether the device is moving and whether it is indoors or outdoors, the weather, and topography, that are outside the control of broadband providers.⁷⁴ Thus, the Commission has recognized "that the performance characteristics of mobile service can be highly variable" and has "continue[d] to evaluate mobile advanced telecommunications

⁷¹ See NOI ¶ 19.

⁷² See generally Hal Singer & Augustus Urschel, *Competitive Effects of Fixed Wireless Access on Wireline Broadband Technologies*, ECON ONE (June 2023), <https://api.ctia.org/wp-content/uploads/2023/06/Competitive-Effects-of-Fixed-Wireless-Access-on-Wireline-Broadband-Technologies-FINAL.pdf>.

⁷³ NOI ¶¶ 30–31.

⁷⁴ 2024 Section 706 Report ¶ 71; see, e.g., *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 2020 Broadband Deployment Report, 35 FCC Rcd 8986, 9001 ¶ 33 n.109 (2020).

capability service availability without setting a performance benchmark for the purpose of [the 2024 Section 706] Report.”⁷⁵

The Commission’s Broadband Data Collection (“BDC”) can serve as a valuable source of data for the Commission’s inquiry into mobile broadband deployment. However, given that many factors continue to affect the consumer’s wireless experience, the Commission should take a holistic view of mobile broadband deployment progress, as it has in the past, factoring in such data points as investment and cell site growth and not gauging progress by advances in speed alone. Such a holistic evaluation of deployment would consider how consumers actually use mobile broadband services.

In analyzing BDC data for purposes of its report, the Commission should focus on outdoor stationary coverage.⁷⁶ Consistent data is important to obtain an accurate picture of advanced telecommunications capability deployment. However, as CTIA has explained, mobile BDC data for in-vehicle coverage are less reliable because of the inherent variability involved in measuring network performance inside a moving vehicle and the lack of uniform standards for such measurements. For example, in-vehicle coverage does not account for variables such as the type of vehicles, whether windows are up or down, the vehicle speed, and the location of the device within the vehicle.⁷⁷

The Commission’s analysis also should continue to consider mobile broadband service provided over 4G LTE networks as well as 5G-NR networks. Although 5G adoption is rapid, with nearly 40 percent of all wireless devices able to use 5G in 2023—a 34 percent increase from

⁷⁵ 2024 Section 706 Report ¶ 71.

⁷⁶ NOI ¶¶ 24–25.

⁷⁷ Comments of CTIA, GN Docket No. 20-32, at 5 (filed Oct. 23, 2023).

2022⁷⁸—this means that 4G LTE network coverage continues to provide important data for more than half of consumers’ wireless devices. Those consumers, too, are part of the story of the reasonable and timely deployment of mobile broadband.

B. The Commission Should Retain Its Fixed Broadband Threshold Based on IIJA Requirements and Actual Consumer Usage.

The Commission should, as proposed, maintain the benchmark for fixed advanced communications capability at 100/20 Mbps.⁷⁹ The 100/20 Mbps benchmark is aligned with Congress’s directives and accounts for how American households use broadband and how important government broadband programs are structured. The fixed broadband benchmark of 100/20 Mbps the Commission adopted earlier this year in the *2024 Section 706 Report* reflects Congress’s determination of speeds that meet consumer needs and, in fact, does meet consumer needs based on objective data.⁸⁰ Further, setting a “long-term” goal is inconsistent with the unpredictable nature of technological advancement and future consumer uses of broadband networks.⁸¹

The Commission should set its benchmark based on the consumer-centric statutory definition of “advanced telecommunications capability.” In Section 706, Congress directed the Commission to emphasize the features of networks available to users as a result of deployment by defining “advanced telecommunications capability” as “high-speed, switched, broadband telecommunications capability that enables *users* to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.”⁸² The Commission also

⁷⁸ CTIA 2024 Annual Survey Highlights at 4.

⁷⁹ See NOI ¶ 12.

⁸⁰ *2024 Section 706 Report* ¶ 22.

⁸¹ *Id.*

⁸² 47 U.S.C. § 1302(d)(1) (emphasis added).

considered consumer-centric factors when it established the benchmark, examining the speeds used for “common applications”⁸³ and the speeds that consumers adopted when having the option to purchase various fixed broadband plans.⁸⁴ The Commission should continue to place consumers at the forefront of its Section 706 inquiry.

Concrete experience confirms that 100/20 Mbps fixed service meets the needs of U.S. consumers. With 100/20 Mbps speeds, a household in the United States can engage in telework, telehealth, educational, social, and entertainment digital activities, as well as contact emergency services. As CTIA’s comments last year showed, household members can stream a movie in 4K HD; attend a work video conference in HD; attend class in 1080 HD; talk with their doctors; have a video call with friends; and stream videos, all with 100/20 Mbps.⁸⁵ A separate calculator from Consumer Reports demonstrates that separate devices in a household can stream 4K video, play online video games, browse the web, edit shared documents, engage in group video calls, and operate connected security cameras all with 100 Mbps download speeds.⁸⁶

The Commission also should follow Congress’s lead when determining what speeds are necessary to meet consumer needs. As the Commission explained in the *2024 Section 706 Report*, in the IIJA, Congress “included the largest ever federal investment in high-speed broadband.”⁸⁷ Therein, Congress determined that “underserved” areas, among those areas

⁸³ *2024 Section 706 Report* ¶ 23.

⁸⁴ *Id.* ¶¶ 29–35.

⁸⁵ Comments of CTIA, GN Docket No. 22-270, at 16–17 (filed Dec. 1, 2023) (“CTIA 2023 Section 706 NOI Comments”).

⁸⁶ James K. Wilcox & Andy Bergmann, *How Much Internet Speed Do You Need?*, CONSUMER REPORTS (Dec. 18, 2023), <https://www.consumerreports.org/electronics/internet/how-much-internet-speed-do-you-need-a1714131782/>.

⁸⁷ *2024 Section 706 Report* ¶ 2; *see also id.* ¶ 24 (agreeing that “considering Congress’s action” is important for the fixed broadband benchmark inquiry).

prioritized for Broadband Equity, Access, and Deployment (“BEAD”) Program funding to deploy broadband networks, are areas that lack access to 100/20 Mbps broadband.⁸⁸ The Commission should keep its fixed broadband benchmark aligned with the BEAD Program, which will guide much of the broadband network deployment over the next few years.

Additionally, there is no basis for the Commission to consider a fixed broadband benchmark with symmetrical speeds or to establish a forward-looking goal of symmetrical speeds.⁸⁹ A benchmark with symmetrical speeds continues to be a poor fit for a Section 706 consumer-centric inquiry, as the Commission recognized in the *2024 Section 706 Report*.⁹⁰ More recent data continues to show that consumers’ data usage is highly asymmetric. For example, OpenVault’s Average Broadband Household Index for the fourth quarter of 2023 showed average downstream usage of over 600 GB but average upstream usage of only 40 GB, a ratio of 15 to 1.⁹¹ Consumers simply do not upload data as much as they download data.

Further, as discussed above, the BEAD Program does not use symmetrical speeds as a benchmark. Considering that the Commission’s decision in the *2024 Section 706 Report* not to adopt a symmetrical benchmark was “heavily influenced by the standards that Congress established for determining inadequately served locations for the BEAD Program,”⁹² there is no basis for the Commission to change course now.

⁸⁸ IIIA § 60102(a)(1)(C)(ii).

⁸⁹ *But see* NOI ¶ 12.

⁹⁰ *See 2024 Section 706 Report* ¶ 42 (noting that proponents of a symmetrical requirement did not point to “consumer usage statistics . . . justifying a symmetrical standard”).

⁹¹ *Broadband Insights Report (OVBI) – 4Q23*, OPENVAULT, at 2 (2024), https://openvault.com/wp-content/uploads/2024/02/OVBI_4Q23_Report_v3.pdf.

⁹² *2024 Section 706 Report* ¶ 42.

A long-term speed goal, especially one with symmetrical download and upload speeds, does not reflect the consumer-centric inquiry the Commission should use to determine the fixed broadband speed benchmark. Technological advancement and consumer needs are impossible to predict, and a set speed goal undermines the flexibility needed to account for these factors. As CTIA warned last year, it is virtually impossible to predict all Americans' speed or capacity needs even over the next five years.⁹³

V. THE COMMISSION'S REGULATORY CONDITIONS CAN HELP ENSURE THAT THE DEPLOYMENT OF WIRELESS ADVANCED TELECOMMUNICATIONS CAPABILITY REMAINS REASONABLE AND TIMELY.

A. Additional Full-Power, Licensed Spectrum Is Needed to Support Enhanced Wireless Deployments and Growing Consumer Demands.

As highlighted herein, wireless providers are investing billions of dollars each year to enhance and expand their networks to serve growing data demands and evolving consumer needs. At the same time, the U.S. wireless industry is facing a nearly 1,500-megahertz licensed spectrum shortfall in the next decade absent government action to open additional airwaves for commercial wireless use.⁹⁴ While global competitors have freed up spectrum at an industrial scale to support advanced wireless services, operators and vendors in the U.S. are planning today for future networks and equipment without a clear picture of the spectrum that will be available to support these innovations and connectivity needs, creating uncertainty around investments.

As a preliminary matter, it remains imperative that Congress renew the Commission's authority to auction spectrum, and CTIA continues to urge the Commission to work with

⁹³ CTIA 2023 Section 706 NOI Comments at 19.

⁹⁴ Coleman Bazelon & Paroma Sanyal, *How Much Licensed Spectrum is Needed to Meet Future Demands for Network Capacity?*, THE BRATTLE GROUP, at 24 (Apr. 17, 2023), <https://api.ctia.org/wp-content/uploads/2023/04/Network-Capacity-Constraints-and-the-Need-for-Spectrum-Brattle.pdf>.

Congress and the Administration to restore the Commission’s spectrum auction authority.⁹⁵ As CTIA has explained, “[t]his absence of Congressional action has stymied the ability of industry and the Commission to leverage proven mechanisms for America’s continued wireless success.”⁹⁶

As the Commission awaits the auction tools it needs to enable additional licensed spectrum to enter the marketplace, it should take all the steps that it can to make additional licensed, full-power spectrum available as soon as possible once auction authority is restored.⁹⁷ Full-power mid-band spectrum, in particular, is essential to facilitate the coverage and capacity to support next-generation services, even while low-, upper-mid, and high-band spectrum remain important for sustaining 5G and beyond. Given the pressing need for additional mid-band spectrum for licensed, full-power use, the Commission should prioritize developing a pipeline of licensed mid-band spectrum. There is a clear deficit of licensed mid-band spectrum available for wireless use, especially as compared to peer nations.⁹⁸ Experts project a deficit of approximately 400 megahertz of mid-band spectrum by 2027 and nearly 1,500 megahertz by 2032.⁹⁹ The Commission should establish clear, public benchmarks regarding the amount of licensed spectrum it would make available upon restoration of its spectrum auction authority.

The Commission should facilitate the Administration’s evaluation of the 3.1-3.45 GHz (“lower 3 GHz”) and 7.125-8.4 GHz (“7/8 GHz”) bands as part of the National Spectrum

⁹⁵ See, e.g., Comments of CTIA, WT Docket No. 24-72 (filed Apr. 8, 2024).

⁹⁶ *Id.* at 2.

⁹⁷ See, e.g., Comments of CTIA, Implementation of the National Spectrum Strategy (filed Jan. 2, 2024), <https://www.ntia.gov/sites/default/files/ctia-written-input.pdf> (“CTIA NSS IP Comments”).

⁹⁸ *Id.* at 7.

⁹⁹ Comments of CTIA, Docket No. NTIA-2023-0003, at 5–8 (Apr. 17, 2023), <https://api.ctia.org/wp-content/uploads/2023/04/CTIA-Comments-on-NTIA-National-Spectrum-Strategy-230417.pdf>.

Strategy to enable economically viable licensed, full-power commercial wireless connectivity.¹⁰⁰ Opening up the lower 3 GHz band for licensed, full-power use, particularly in the harmonized range, will allow U.S. wireless providers and U.S.-aligned manufacturers to participate and lead in the global market sector leveraging this band, while making suitable licensed opportunities available in the 7/8 GHz band will give the United States an early foothold for influencing the international mid-band market in this tuning range.¹⁰¹

The United States should also work swiftly to evaluate additional mid-band spectrum, especially in the 3.98-4.2 GHz and 4.4-4.94 GHz bands. U.S. wireless providers are leveraging the full-power access opportunities in the 3.7-3.98 GHz band today as part of a globally harmonized tuning range that includes the 3GPP frequency bands n77 and n78, spanning the 3.3-4.2 GHz frequency range. The upper adjacent 4.0-4.2 GHz band has been viewed as a viable candidate for expanded commercial use by wireless providers, as it offers a substantial opportunity for deployment of 5G services in a globally harmonized and contiguous band; indeed, other countries have explored or are exploring opening the band for additional uses.¹⁰² Additionally, although the 4.4-4.94 GHz band is currently licensed for federal use, it has shown increased global interest and reallocating spectrum in this band for non-federal uses would make

¹⁰⁰ See *National Spectrum Strategy*, THE WHITE HOUSE, at 6 (Nov. 13, 2023), https://www.ntia.gov/sites/default/files/publications/national_spectrum_strategy_final.pdf; Alan Davidson, *National Spectrum Strategy Implementation Plan*, NAT'L TELECOMMS. AND INFO. ADMIN., at 6 (Mar. 12, 2024), <https://www.ntia.gov/sites/default/files/publications/national-spectrum-strategy-implementation-plan.pdf>.

¹⁰¹ See, e.g., Comments of CTIA, NTIA-2024-001, Docket No. 240430–0121, at 12–13 (filed Aug. 21, 2024), <https://www.regulations.gov/comment/NTIA-2024-0001-0028> (“CTIA 6G RFC Comments”).

¹⁰² See Comments of CTIA, ET Docket No. 24-121, at 8–10 (filed July 31, 2024); Comments of CTIA, OIA Docket No. 24-30, at 5, 15–17 (filed Aug. 20, 2024).

a large, contiguous block of mid-band spectrum available to support 5G deployment and use cases.¹⁰³

The Commission should work with stakeholders across government and with industry to develop and promote positions for the 2027 World Radiocommunication Conference that enable the United States to facilitate the identification and use of harmonized spectrum bands into the future—which can accelerate innovation and network deployment, promote economies of scale, and unlock as much as \$200 billion in value for industry and consumers over the next 10 years.¹⁰⁴

B. The Commission Should Schedule the 5G Fund to Maximize Its Impact and Set Technology-Neutral Universal Service Policies.

Although wireless providers’ significant investments in their networks—totaling over \$705 billion at year-end 2023—have led to broadband coverage for the vast majority of Americans,¹⁰⁵ subsidies can play a vital role in ensuring mobile broadband deployment due to the sparse population and difficult terrain in certain parts of the country. As Congress and the Commission have long recognized, universal service funding is crucial in such areas to ensure that all Americans receive the benefits of broadband.¹⁰⁶ For mobile broadband, the Commission has adopted the 5G Fund for Rural America (“5G Fund”), which will help expand advanced mobile wireless services to the hardest-to-serve parts of the country.¹⁰⁷

¹⁰³ See, e.g., CTIA 6G RFC Comments at 14; CTIA NSS IP Comments at 17–18.

¹⁰⁴ Comments of CTIA, OIA Docket No. 24-30, at 7–8 (filed Aug. 20, 2024).

¹⁰⁵ CTIA Year-End 2023 Indices Report at 5.

¹⁰⁶ See generally, e.g., *Federal-State Joint Board on Universal Service et al.*, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, 26 FCC Rcd 4554 (2011) (proposing to reform the Universal Service Fund to bring broadband to unserved areas).

¹⁰⁷ See generally *Establishing a 5G Fund for Rural America*, Report and Order, 35 FCC Rcd 12174 (2020).

To ensure that the limited budget for the 5G Fund is used most effectively, CTIA urges the Commission to schedule the 5G Fund auction to take advantage of the most up-to-date information regarding broadband deployments, including projects funded through BEAD, other federal and state broadband infrastructure programs, and continued private investment. While BEAD funding is not available for mobile services, the fixed broadband deployment funded by BEAD will affect both the map of areas where 5G deployment is economical without subsidies and the amount of subsidy needed to deploy 5G in areas where it is not. As such, the Commission should schedule the 5G Fund auction to maximize the benefits of both BEAD and the 5G Fund.

CTIA also urges the Commission to ensure that all of its universal service funding mechanisms retain a technology-neutral approach to maximize the reach of finite universal service dollars.

C. Sound Infrastructure Deployment Policies Can Further Promote Wireless Buildout.

Additional network architecture will continue to be needed as providers look to expand and enhance wireless coverage and services while densifying their networks to add capacity for use cases such as fixed 5G home broadband offerings. The steps the Commission has taken to improve the processes for deploying network infrastructure, which largely have been upheld by federal courts, have been instrumental in helping to support wireless deployments in the 5G era. Indeed, the U.S. has seen a 24 percent increase in operational cell sites since pivotal wireless siting reforms were enacted in 2018.¹⁰⁸ The Commission should continue to support bipartisan

¹⁰⁸ CTIA 2024 Annual Survey Highlights at 6.

efforts to streamline siting policies to enable timely and efficient wireless deployment across the country.

The Commission also should move forward with adopting a Declaratory Ruling clarifying the application of the Section 224 regulations to investor-owned utilities' light poles, which will provide certainty to utilities and wireless attachers, reduce disputes, and speed mobile and fixed wireless deployment.¹⁰⁹

Finally, the Commission should encourage federal partners to promote efficient and cost-effective deployments on federal lands and properties, including by promoting technology-neutral policies and recognizing that service and infrastructure providers use an array of deployment options, both new tower builds and colocations, to enable increased capacity and network buildout.¹¹⁰ And it should continue to work with the Federal Aviation Administration to develop a process for more seamlessly adding new spectrum bands to the Colocation Void Policy, thereby streamlining deployments for sites without negatively impacting aviation safety.

VI. CONCLUSION.

Evaluating the status of advanced telecommunications capability as the statute requires clearly shows that wireless broadband deployment is reasonable and timely. Wireless broadband networks continue to meet consumers' ever-expanding needs and demands, and fixed wireless is an integral piece of the fixed broadband deployment story. The Commission should conclude that wireless broadband deployment is reasonable and timely and ensure that its regulations do

¹⁰⁹ See generally CTIA Petition for Declaratory Ruling, WT Docket No. 17-79, WC Docket No. 17-84 (filed Sept. 6, 2019); Letter from Scott Bergmann, CTIA, to Marlene H. Dortch, FCC, WC Docket No. 17-84 (June 7, 2024).

¹¹⁰ See generally Comments of CTIA, Docket No. NPW-WASO-PPFL-36986 (Aug. 9, 2024), <https://www.regulations.gov/comment/NPS-2024-0004-0010>.

not hinder this deployment and create a positive environment for continued investment in wireless broadband networks.

Respectfully submitted,

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