

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

In the Matter of)
)
Inquiry Concerning the Deployment of Advanced) GN Docket No. 22-270
Telecommunications Capability to All Americans)
in a Reasonable and Timely Fashion)
)

2024 SECTION 706 REPORT

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

TABLE OF CONTENTS

I. INTRODUCTION.....1
II. STATUTORY STANDARD FOR THE SECTION 706 INQUIRY5
III. EVALUATION OF ADVANCED TELECOMMUNICATIONS CAPABILITY
UNIVERSAL SERVICE GOALS16
A. Physical Deployment17
1. Fixed Broadband Service22
2. Mobile Broadband Service71
3. Fixed and Mobile Broadband Data.....85
B. Affordability89
C. Adoption105
D. Availability115
E. Equitable Access124
F. School and Classroom Access130
IV. COMMISSION ACTIONS ALREADY TAKEN TO PROMOTE UNIVERSAL SERVICE
GOALS FOR ADVANCED TELECOMMUNICATIONS CAPABILITY136
A. Measuring Broadband Deployment and Policy Development and Coordination.....136
B. Removing Barriers to and Encouraging Broadband Investment151
C. Improving Access to Spectrum154
D. Supporting Affordability, Adoption, and Reasonable Access180
E. Providing High Cost Universal Service Support197
F. Facilitating Access For Schools, Libraries, and Health Care211
V. SECTION 706 DETERMINATION222
VI. ORDERING CLAUSE227
APPENDIX A - POPULATION ALLOCATION METHODOLOGY
APPENDIX B - SUPPLEMENTAL FIGURES

I. INTRODUCTION

1. Access to affordable, reliable broadband is essential to full participation in modern life. Consumers rely on both their fixed and mobile connections to work, learn, access health care, and connect with each other. Today, we issue this Report pursuant to our obligation under section 706 of the Telecommunications Act of 1996, concluding our inquiry into whether “advanced telecommunications

capability is being deployed to all Americans in a reasonable and timely fashion.”¹ We find that more work remains to ensure that all Americans have access to advanced telecommunications capability.

2. Consumers’ use of broadband service continues to evolve, and so must our standards for evaluating broadband deployment and availability, the quality of our available data, and the framework that we use to make our finding under section 706. Congress, in the Infrastructure Investment and Jobs Act (Infrastructure Act), included the largest ever federal investment in high-speed broadband as well as a number of directives focused on the universal service goals of section 706—universal deployment, affordability, adoption, availability, and equitable access to broadband throughout the United States.² In this first Report issued following the enactment of the Infrastructure Act, we examine these universal service goals as part of our inquiry. With respect to physical deployment, we adopt a new, long-overdue, benchmark for defining advanced telecommunications capability for fixed broadband of 100 megabits per second (Mbps) download speed paired with 20 Mbps upload speed. We also establish a long-term fixed broadband speed goal of 1,000 Mbps, or 1 gigabit per second (Gbps), download speed paired with 500 Mbps upload speed. While we continue to evaluate service availability of mobile broadband without adopting a benchmark, for the first time we assess 5G-NR mobile coverage data for speeds of at least 35/3 Mbps. We also update our short-term goal for school and classroom broadband access to 1 Gbps per 1,000 students and staff.

3. This Report also represents an important milestone with regard to the data that we use for our inquiry. For the first time, we use data from the Commission’s Broadband Data Collection (BDC). The Commission’s Section 706 Reports have for many years relied primarily on the FCC Form 477 deployment data to evaluate consumers’ broadband options for fixed and mobile services.³ The BDC data, unavailable for past section 706 inquiries, represent significant improvements over FCC Form 477 data, through the use of more precise location-by-location fixed data, mobile data based on standardized parameters, and the Commission’s ability to improve the data through public challenge processes and conducting verifications and audits of provider-reported data.

4. Based on our evaluation of the data, we find that our universal service goals for section 706 have not been met, and we therefore conclude that advanced telecommunications capability is not being deployed to all Americans in a reasonable and timely fashion. Most significantly, at present,

¹ 47 U.S.C. § 1302(b). For simplicity in past inquiries, the Commission has sometimes used the term “broadband” to refer to “advanced telecommunications capability.” However, “advanced telecommunications capability” is a statutory term with a definition that is more limited than the term “broadband.” See 47 U.S.C. § 1302(d)(1) (“The term ‘advanced telecommunications capability’ is defined, without regard to any transmission media or technology, 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.”). As this definition makes clear, while all services providing advanced telecommunications capability are “broadband,” not all broadband services provide advanced telecommunications capability. Thus, in this Report, we do not equate the term “broadband” with the statutory term “advanced telecommunications capability,” but we do necessarily consider the availability of various broadband services that contribute to advanced telecommunications capability in our analysis under the statute. See *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*, GN Docket No. 15-191, 2016 Broadband Progress Report, 31 FCC Rcd 699, 700 n.1 (2016) (*2016 Report*).

² Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429 (2021) (Infrastructure Act).

³ See, e.g., *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 20-269, *Fourteenth Broadband Deployment Report*, 36 FCC Rcd 836, 847-48, para. 21 (2021) (*2021 Report*); *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 17-199, 2018 Broadband Deployment Report, 33 FCC Rcd 1660, 1677, para. 43 (2018) (*2018 Report*); *2016 Report*, 31 FCC Rcd at 729, para. 73.

100/20 Mbps terrestrial fixed broadband service⁴ has not been physically deployed to approximately 7% of Americans. Rural areas and Tribal lands significantly trail more urban areas, with approximately 28% of people living in rural areas and approximately 23% of people living on Tribal lands lacking access to 100/20 Mbps fixed broadband services.⁵ While we expect the Broadband Equity, Access, and Deployment (BEAD) Program and other federal and state programs will narrow these divides in the coming years, at this time, we find that these physical deployment shortcomings are sufficient to warrant a negative finding under section 706 before we even begin to consider our other universal service goals, for which we hope to have more comprehensive data available in future inquiries.

II. STATUTORY STANDARD FOR THE SECTION 706 INQUIRY

5. Section 706 requires the Commission to annually conduct an inquiry “concerning the availability of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms)” as part of an effort to “determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.”⁶ If that determination is negative, the Commission “shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.”⁷ As proposed in the *Notice*, we adopt universal deployment, affordability, adoption, availability, and equitable access to broadband throughout the United States as our goals for conducting our section 706 inquiry.⁸ We find that these universal service goals, which are not limited to the narrow question of physical deployment of service, are consistent with those adopted in the *Report on the Future of the Universal Service Fund (Future of USF Report)*, and accurate indicators of whether advanced telecommunications capability is universally available.⁹

6. As we observed in the *Notice*, for the first time since enacting section 706, Congress, in the Infrastructure Act, provided additional statutory text regarding the meaning of the provision.¹⁰ Specifically, Congress describes section 706 as setting out “the statutorily mandated goals of universal service for advanced telecommunications capability.”¹¹ Congress’s description of section 706 is consistent with the approach the Commission has historically undertaken as recently as in 2016, when it stated that “the standard for success is universal availability of advanced telecommunication capability.”¹²

⁴ When this Report presents broadband speed figures, both download and upload speeds are used. In the case of 100/20 Mbps, for example, we refer to broadband service that has a download speed of 100 Mbps and an upload speed of 20 Mbps.

⁵ See *infra* Fig. 1.

⁶ 47 U.S.C. § 1302(b).

⁷ *Id.*

⁸ *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 22-270, *Notice of Inquiry*, FCC 23-89, at 3-4, paras. 5-7 (Nov. 1, 2023) (*Notice*).

⁹ *Report on the Future of the Universal Service Fund*, 37 FCC Rcd 10041, 10046, para. 11 (2022) (*Future of USF Report*). In the *Future of USF Report*, the Commission adopted the universal service goals of universal deployment, affordability, adoption, availability, and equitable access to broadband throughout the United States as the Commission’s universal service goals for broadband. The Commission defined these goals in order to “improv[e] our effectiveness in achieving the universal goals for broadband.” *Id.* (emphasis added).

¹⁰ *Notice* at 3, para. 6.

¹¹ Infrastructure Act, div. F, tit. I, § 60104(a)(2), 135 Stat. at 1205.

¹² *2016 Report*, 31 FCC Rcd at 751, para. 124 (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*, 2015 Broadband Progress Report and Notice of Inquiry On Immediate Action to

We therefore believe the Infrastructure Act supports the view that the Commission must determine whether advanced telecommunications capability is available universally throughout the country, or, in the words of the statute, “to all Americans.”¹³ While we agree with TechFreedom that the Infrastructure Act did not amend section 706,¹⁴ we find that the Commission cannot ignore the Infrastructure Act’s clear description of section 706 as containing “statutorily mandated goals of universal service.”¹⁵

7. As the Commission has previously recognized, “[t]here is arguably a tension between the directive in section 706 to make broadband available to all Americans and the directive to consider whether service *is being deployed in a reasonable and timely fashion*.”¹⁶ We disagree, however, with certain commenters that argue that our approach ignores the “reasonable and timely” statutory language.¹⁷ We find that statutory phrase must be interpreted in the underlying factual context of the Commission’s inquiry. For this inquiry, that context includes Congress’s recent enactment of the Infrastructure Act, in which Congress made a historic federal investment in an effort to effectuate what it described as section 706’s “statutorily mandated goal of universal service for advanced telecommunications capability.”¹⁸ We

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Accelerate Deployment, 30 FCC Rcd 1375, 1455, para. 140 (2015 Report); *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, 10403, para. 138; *Inquiry Concerning 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*, GN Docket No. 10-159, Seventh Broadband Progress Report and Order on Reconsideration, 26 FCC Rcd 8008, 8033, para. 48 (2011) (2011 Report); *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; A National Broadband Plan for our Future*, GN Docket Nos. 09-137, 09-51, Sixth Broadband Deployment Report, 25 FCC Rcd 9556 at 9574, para. 28 (2010) (2010 Report)).

¹³ 47 U.S.C. § 1302(b) (emphasis added).

¹⁴ See, e.g., TechFreedom Comments at 6. We also disagree with TechFreedom’s contention that the *Notice* reversed the Commission finding in the *Restoring Internet Freedom Order* that section 706 is hortatory. See *id.* at 4-5. The Commission is currently considering that question in a separate rulemaking, *Safeguarding and Securing the Open Internet*, WC Docket No. 23-320, Notice of Proposed Rulemaking, FCC 23-83 (Oct. 20, 2023) (2023 *Open Internet NPRM*), but in any event, the *Notice* merely sought comment on how the Commission should interpret section 706 for the purposes of carrying out section 706(b)’s annual reporting requirement.

¹⁵ Infrastructure Act, div. F, tit. I, § 60104(a)(2), 135 Stat. at 1205.

¹⁶ 2015 Report, 30 FCC Rcd at 1452, para. 133 (emphasis in original). We acknowledge that this standard differs from that used by the Commission in for its Reports in 2018-21. See 2021 Report, 36 FCC Rcd at 838-39, paras. 7-9; *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, 8989-90, paras. 7-10 (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, 3859-60, paras. 8-9 (2019) (2019 Report); 2018 Report, 33 FCC Rcd at 1663-64, paras. 10-13.

¹⁷ See, e.g., ACA Connects Comments at 3-4 (“reasonable and timely”); NCTA–The Internet & Television Association (NCTA) Comments at 7 (“reasonable and timely”); CTIA Comments at 5-6 (“is being”); Free State Foundation at 21 (“is being”).

¹⁸ Infrastructure Act, div. F, tit. I, § 60102(b)(2), 135 Stat. at 1184 (authorizing \$42.45 billion of appropriations for the BEAD program). On June 26, 2023, the BEAD Program allocations for all 50 states and the U.S. Territories were announced. National Telecommunications and Information Administration, U.S. Department of Commerce, *Biden-Harris Administration Announces State Allocations for \$42.45 Billion High-Speed Internet Grant Program as Part of Investing in America Agenda* (June 26, 2023), <https://www.ntia.gov/pressrelease/2023/biden-harris->

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therefore find that for deployment to occur in a “reasonable and timely fashion,” it must occur in rapid fashion so as to not leave large groups of Americans without access to broadband.¹⁹

8. We also disagree with TechFreedom’s argument that because section 706 has both a “temporal component (whether broadband is being deployed in a ‘reasonable and timely basis’)” and supposedly “self-limiting component (the Commission may use only those ‘measures that promote competition’ and those ‘methods that remove barriers to infrastructure investment’),” that “[t]he current proceeding is essentially the antithesis of this statutory mandate.”²⁰ We believe that the Commission should remain vigilant of enhanced measures and methods to accelerate broadband deployment even while previously enacted measures are still unfolding (for example, BEAD Program funding). For this reason, we disagree that our approach is inconsistent with our statutory mandate under section 706.

9. For similar reasons, we disagree with commenters that suggest that we continue to take an incremental approach to measuring broadband deployment progress.²¹ We find that such commenters place undue significance on the tense of certain words in section 706—namely “is being” in the context of the section 706 deployment statement—and too little significance on the words “*all Americans*,” which were clearly Congress’s focus in enacting the Infrastructure Act. We find the universal availability of broadband to all Americans—informed by incorporating the universal service goals defined in the *Future of USF Report*—to be the relevant goal for determining what constitutes the reasonable and timely deployment of broadband in the United States.

10. In addition, we find, consistent with the *Notice*, that the Infrastructure Act’s language referring to section 706 as embodying “the statutorily mandated *goals* of universal service for advanced telecommunications capability,”²² is best read to mean that the Commission’s inquiry must include an examination of multiple universal service goals and not be limited to the narrow question of physical deployment of service. While Congress did not define the terms “deployment” and “availability” as used in section 706, Congress stated that the Commission must assess the “availability” of advanced telecommunications capability, and it then directed that specific findings be made regarding “deployment.”²³ Section 706 does not equate these two terms, and we find that in order to give meaning to both terms we have discretion in assessing “availability” to consider factors other than solely the state of “deployment.”²⁴ The legislative history of section 706 further supports the view that Congress expects us to examine more than physical availability,²⁵ and explicitly identifies affordability in describing the goals of section 706.²⁶

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[administration-announces-state-allocations-4245-billion-high-speed](#); Infrastructure Act, div. F, tit. I, § 60104(a)(2), 135 Stat. at 1205.

¹⁹ 47 U.S.C. § 1302(b) (emphasis added).

²⁰ See TechFreedom Comments at 2 (internal citations omitted in original).

²¹ See e.g., ADTRAN Comments at 1; CTIA Comments at 22; Free State Foundation Comments at 21; NCTA Comments at 5-7; NCTA Reply at 2.

²² Infrastructure Act, div. F, tit. I, § 60104(a)(2), 135 Stat. at 1205 (emphasis added).

²³ 47 U.S.C. § 1302(b).

²⁴ See, e.g., *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, para. 27 (2012) (observing that these terms are broader than physical deployment); *2011 Report*, 26 FCC Rcd at 8022-23, paras. 18-20 (providing a legal analysis that, under section 706, “broadband ‘deployment’ and ‘availability’ are broader than physical deployment.”).

²⁵ For example, the Senate Report explained that the Commission “shall include an assessment . . . of the availability, at reasonable cost, of equipment needed to deliver advanced broadband capability.” S. Rep. No. 104-23, at 50 (1995) (Senate Report); see also *2011 Report*, 26 FCC Rcd at 8023, para. 19.

11. Consistent with this Congressional direction, the Commission, in the *Future of USF Report* issued pursuant to the requirements of the Infrastructure Act, determined the broadband universal service goals of section 706 to be “universal deployment, affordability, adoption, availability, and equitable access to broadband throughout the United States.”²⁷ While broadband deployment is a necessary predicate to its availability, we agree with certain commenters that examination of only broadband deployment is insufficient and that our section 706 inquiry must be broadened to include an examination of additional goals.²⁸

12. We thus disagree with commenters that argue that if Congress had intended for provisions of the Infrastructure Act to influence our section 706 inquiry, it would have directly amended section 706.²⁹ A later-enacted statute may inform interpretation of an earlier statute, even if the latter statute does not amend the former.³⁰ We therefore use the Infrastructure Act’s language to advise our interpretation of section 706, particularly when, as here, the Infrastructure Act explicitly encourages the Commission to employ such an expansive interpretation of the Commission’s universal service goals for broadband.³¹ Further, we disagree with commenters that assert that our inquiry should be limited to an analysis of deployment data and the delineated demographic information in section 706(c).³² We also disagree with CTIA that the reporting requirements associated with our Universal Service Fund (USF) programs render our evaluation of the other universal service goals in this Report unnecessary.³³ Consistent with section 706, our evaluation in this Report is intended to provide information that goes beyond any USF program-specific reporting requirements.

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²⁶ The Senate Report states that the goal of section 706 is “to promote and encourage advanced telecommunications networks, capable of enabling users to originate and receive *affordable*, high-quality voice, data, image, graphics, and video telecommunications services.” Senate Report at 50 (1995) (emphasis added).

²⁷ *Future of USF Report*, 37 FCC Rcd at 10046, para. 12.

²⁸ See e.g., Benton Institute for Broadband & Society (Benton Institute) Comments at 5-8, Appx. A, at 2; Next Century Cities Comments; National Digital Inclusion Alliance (NDIA) Reply at 3-4; National Rural Electric Cooperative Association (NRECA) Comments at 3; Open Technology Institute at New America (OTI) Comments at 9-10; WTA – Advocates for Rural Broadband (WTA) Comments at 12-18.

²⁹ See, e.g., CTIA Comments at 21; Free State Foundation Comments at 7; NCTA Comments at 8; TechFreedom Comments at 8-9.

³⁰ See, e.g. *Food & Drug Admin. v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000); *United States v. Estate of Romani*, 523 U.S. 617, 530-31 (1998) (specifically with respect to a later statute not amending an earlier-enacted statute).

³¹ The Infrastructure Act itself explicitly instructs the Commission to “*not in any way reduce the congressional mandate to achieve the universal service goals for broadband.*” Infrastructure Act, div. F, tit. I, § 60104(c)(3)(A), 135 Stat. at 1206 (emphasis added). See also *id.* at (c)(3)(B) (stating that the Commission “may provide recommendations for Congress to *expand* the universal service goals for broadband.”) (emphasis added).

³² TechFreedom Comments at 7-9 (referencing 47 U.S.C. § 1302(c)); CTIA Reply at 3-5.

³³ CTIA Comments at 22; CTIA Reply at 2-3. We also disagree with CTIA’s arguments that the potential difficulty in collecting and evaluating data for purposes of non-physical deployment goals, as well as the Infrastructure Act’s lack of provision for such collections despite providing for other collections should limit the scope of our inquiry. CTIA Reply at 6; CTIA Comments at 23. To begin, based on information currently available to us, at present, we do not believe that such a collection would be unreasonably difficult or burdensome. Second, and more importantly, the Infrastructure Act could not have provided for the subject collections because it preceded the *Future of USF Report* in which we defined the universal service goals and therefore could not have anticipated what the collections would be. For the same reasons, we disagree with NCTA’s assertions that the complexity of evaluating affordability prevents us from including the matter in our section 706 evaluation. See Letter From Steven F. Morris, Vice President & Deputy General Counsel, NCTA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 22-270, 2-3 (filed Mar. 1, 2024) (NCTA *Ex Parte*).

13. We observe that there is substantial support in the record for including an examination of the universal service goals of affordability, adoption, and equitable access, rather than limiting our inquiry to the narrow question of physical deployment of broadband.³⁴ With respect to affordability, many commenters agree that “[t]o truly close the connectivity gap and ensure that all Americans have access to advanced telecommunications capability, broadband services must be affordable.”³⁵ As the Benton Institute states, “[c]onsumer behavior is part of the picture: we cannot reach our universal broadband goals without widespread adoption and we cannot achieve universal broadband adoption if service is not affordable.”³⁶ We find that broadband affordability is critical to our assessment of its availability and agree with commenters, such as the Wireless Infrastructure Association (WIA), which states that “[f]or many Americans on the wrong side of the digital divide the biggest barrier is not the availability of service but the lack of resources to connect.”³⁷ We also agree with Open Technology Institute at New America’s (OTI’s) statement that “if the cost of broadband service is higher than millions of people can afford, service cannot be said to be available.”³⁸

14. The record also supports considering information relating to adoption as relevant to the section 706 inquiry.³⁹ As we discuss below, we do not require 100% adoption for our universal service goal relating to adoption to be met – Americans are free to make a voluntary choice not to subscribe to broadband.⁴⁰ We do, however, believe that certain barriers to adoption can effectively evidence a lack of availability. Commenters that oppose including the universal service goal of adoption in our section 706 analysis present what they consider to be individual barriers to adoption that they consider irrelevant to our section 706 analysis.⁴¹ While there are theoretically barriers to adoption that may not be relevant to our inquiry, this does not necessarily lead to the conclusion that all potential barriers to adoption are not germane.⁴² Further, low adoption rates in areas where broadband is technically deployed and available, for example, may evidence that other factors are in play that make it effectively unavailable for some

³⁴ See e.g., OTI Comments at 9-11; WTA Comments at 12-18; Benton Institute Comments at 5-8; Next Century Cities Comments; NDIA Reply at 4.

³⁵ Notice at 22, para. 54. See e.g., NDIA Reply at 4; NRECA Comments at 9; OTI Comments at 9-10 (“Broadband adoption and availability are directly affected by affordability and cost of service.”); Wireless Infrastructure Association (WIA) Comments at 6-7 (“Indeed, while not incorporating adoption into the section 706 mandate, Congress considered this in the [BEAD] program by requiring states to address affordability in their plans for broadband deployment; expressly using participation in the ACP program as evidence of an affordable offering.”).

³⁶ See Benton Institute Comments, Appx. A, at 1.

³⁷ See WIA Comments at 6-7; see also OTI Comments at 9.

³⁸ OTI Comments at 9.

³⁹ Benton Institute Comments at 5 (stating, in part, “we cannot reach our universal broadband goals without widespread adoption...”); Next Century Cities Comments at 8 (stating, in part, that “the gathering and sharing broadband adoption data is similarly critical for meeting the Commission’s universal service goals,” and that “[c]ollecting and disseminating broadband pricing and adoption data will help other agencies, states, and communities target those households that need broadband support the most.”).

⁴⁰ See Section III.C, *infra*.

⁴¹ See, e.g., USTelecom-The Broadband Association (USTelecom) Comments at 7 (lack of access to devices, or lack of digital skills). *But see* Next Century Cities Comments at 7 (also giving alternative reasons that people may fail to adopt broadband even when available, such as access to devices and digital skills training, but nonetheless supporting our inclusion of the universal service goal of adoption in the section 706 inquiry).

⁴² Indeed, statistically lower rates of adoption in areas of the country where broadband is currently deployed may be an indicator that broadband is unaffordable in those areas, that there is insufficient competition, or some other reason altogether. See Benton Institute Comments at 6-7.

portion of the population.⁴³

15. We also conclude that in addition to affordability and adoption, our section 706 inquiry into the availability of broadband to “all Americans” must include an analysis of the universal goal of equitable access, as identified in the *Future of USF Report*.⁴⁴ Commenters in the record support our incorporation of equitable access into the Commission’s section 706 inquiry,⁴⁵ including the Benton Institute, which appends a survey of recent research on the topic.⁴⁶ We agree with commenters, such as OTI, that suggest that our section 706 inquiry must incorporate markers of inclusive and equitable access into the analysis to accomplish our mission of ensuring that broadband is being deployed to all Americans in a reasonable and timely fashion as the statute requires.⁴⁷ This view is further reinforced by the Commission’s work to implement section 60506 of the Infrastructure Act, directing us to take action to prevent and eliminate digital discrimination of access.⁴⁸ We note that the record contained objections to including analysis of equitable access as a universal service goal in our section 706 inquiry by commenters that found it inappropriate to include because the section 706 inquiry should focus strictly on deployment,⁴⁹ and others that, among other things, stated that the Commission was already pursuing this topic in other proceedings.⁵⁰ While true that the Commission has adopted rules to promote equitable access to broadband as part of our effort to combat digital discrimination of access as mandated by section 60506 of the Infrastructure Act,⁵¹ the Commission’s other concurrent efforts to address digital discrimination of access should not act as a bar to the Commission evaluating equitable access in its section 706 inquiry. We therefore conclude that the defined universal service goal of equitable access, in addition to affordability and adoption, is an integral part of our analysis to examine whether broadband is

⁴³ See, e.g., OTI Comments at 9 (suggesting that “the Commission could compare and contrast data revealed in its National Broadband Map with other federal data, including maps of high-income and low-income areas, to see whether there are differences in adoption for higher speed services between higher income and lower income areas.”).

⁴⁴ *Future of USF Report*, 37 FCC Rcd at 10046, para. 12. In the *Future of USF Report*, the Commission explained the goal of equitable access with respect to its work to prevent and eliminate digital discrimination, referencing the pertinent provision of the Infrastructure Act. *Id.* at 10049, para. 20. We describe this goal in greater detail in Section III.E, *infra*.

⁴⁵ See e.g., OTI Comments at 8-11 (stating at 11 that, “[f]or the Commission to accomplish its mission of ensuring that broadband is being deployed to all Americans in a reasonable and timely fashion as the statute requires, it must [*inter alia*] incorporate affordability and markers of inclusive and equitable access into its analysis.”); See Benton Institute Comments at 6 (noting that universal broadband cannot be achieved without *inter alia* equitable access and observing that “[w]hether service offerings are affordable and how adoption of them unfolds along lines of income, race, ethnicity, and geography are also important metrics.”); NDIA Reply at 4.

⁴⁶ See Benton Institute Comments at Appx. A., *Are We There Yet? Affordability, Adoption, Equity and the U.S.’s Universal Broadband Goals*, John B. Horrigan, PhD.

⁴⁷ See, e.g., OTI Comments at 8-11; Benton Institute Comments at 6; NDIA Reply at 4.

⁴⁸ Infrastructure Act, div. F, tit. V, § 60506(b), 135 Stat. at 1246 (codified at 47 U.S.C. § 1754(b)) (stating that not later than two years after November 15, 2021, “the Commission shall adopt final rules to facilitate equal access to broadband internet access service, taking into account issues of technical and economic feasibility presented by that objective, including—(1) preventing digital discrimination of access based on income level, race, ethnicity, color, religion, or national origin; and (2) identifying necessary steps for the Commission to take to eliminate discrimination described in paragraph (1)”); see also *Digital Discrimination Report and Order*.

⁴⁹ See e.g., ACA Connects Comments at 7; ADTRAN Comments at 9; CTIA Comments at 2-3.

⁵⁰ See e.g., USTelecom Comments at 7 (“While equitable access to broadband is undoubtedly an important issue, Congress did not authorize examination of this issue as part of the Section 706 inquiry. Moreover, Congress has already charged the Commission with adopting rules to “facilitate equal access to broadband” under section 60506 of the Infrastructure Act.”).

⁵¹ Infrastructure Act, div. F, tit. V § 60506, 135 Stat. at 1246; see also *Digital Discrimination Report and Order*.

available pursuant to our section 706 inquiry.⁵²

III. EVALUATION OF ADVANCED TELECOMMUNICATIONS CAPABILITY UNIVERSAL SERVICE GOALS

16. Having concluded that our section 706 evaluation framework will be based on the goals of universal deployment, affordability, adoption, availability, and equitable access to broadband throughout the United States, we turn to evaluating and measuring these goals. We begin with physical deployment and we then turn to our other universal service goals.

A. Physical Deployment

17. Today, we take a fresh, multifaceted approach to determining what constitutes “advanced telecommunications capability” in order to evaluate its availability to all Americans.⁵³ Advanced telecommunications capability is defined by section 706 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.”⁵⁴ What constitutes “high-speed” and “high-quality” will necessarily be an evolving standard, requiring regular re-examination and re-evaluation by the Commission in its annual inquiry.⁵⁵

18. As in past reports, we continue to find that both fixed and mobile services can provide “advanced telecommunications capability” under section 706.⁵⁶ The language of the statute defines advanced telecommunications capability “without regard to any transmission media or technology.”⁵⁷ Because both services are “high-speed, switched, broadband telecommunications capability that enable users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology,”⁵⁸ they both meet the section 706 definition. As observed in prior reports, however, the salient differences between the two service types are not found in their technological differences, but instead in the distinct capabilities that they provide to consumers.⁵⁹ Based 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, we find that fixed and mobile broadband services are not full substitutes.⁶⁰ Both services are

⁵² As we discuss further below, *see infra*, Section III.E, because we have just begun the process of implementing our digital discrimination of access rules, and the standards and metrics for determining compliance with those rules will be highly context specific, we limit our discussion of equitable access in this Report solely to presenting the demographic analysis required by section 706(c). 47 U.S.C. § 1302(c).

⁵³ In the *Notice*, the Commission proposed to take a fresh look at the standards that we use to determine what constitutes “advanced telecommunications capability.” *Notice*, FCC 23-89, at 4, para. 8.

⁵⁴ 47 U.S.C. § 1302(d)(1).

⁵⁵ As the Commission has stated in the past, we believe this approach best reflects Congress’s intent in adopting section 706. *2015 Report*, 30 FCC Rcd at 1390-91, paras. 20-21.

⁵⁶ *See 2021 Report*, 36 FCC Rcd at 840-41, para. 10; *see also 2016 Report*, 31 FCC Rcd at 699-719, paras. 1-44.

⁵⁷ 47 U.S.C. § 1302(d)(1); *see also 2016 Report*, 31 FCC Rcd at 718, para. 43.

⁵⁸ 47 U.S.C. § 1302(d)(1).

⁵⁹ *Id.*; *2016 Report*, 31 FCC Rcd at 718, para. 43 (“Although fixed and mobile broadband may use different network technologies, the salient differences between the two service types are found not in their technological differences, but in the distinct capabilities that they provide consumers. Nothing in the language of section 706 prevents the Commission from considering these features, indeed, they are of particular importance to our inquiry insofar as they affect consumer access to ‘high-quality’ and ‘advanced’ telecommunications services.”); *see also NCTA Comments* at 14-15.

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).

necessary to ensure that all Americans have access to advanced telecommunications capability.⁶¹ Accordingly, we find that consumers have advanced telecommunications capability only to the extent that they have access to both fixed *and* mobile broadband service.⁶² Consistent with this finding, we undertake a holistic analysis, as discussed below, of whether advanced telecommunications capability is available to all Americans⁶³ and as part of that analysis, we assess where both fixed and mobile advanced telecommunications capability are deployed.⁶⁴

19. The clear majority of comments in the record support the conclusion that fixed and mobile broadband services are complementary,⁶⁵ and not full substitutes.⁶⁶ Fixed advanced telecommunications capability services are used at a given location to connect all of the devices at that location to the Internet, allowing many of those devices to be used at the same time.⁶⁷ Fixed advanced telecommunications capability services typically offer higher speeds,⁶⁸ higher usage allowances,⁶⁹ and more reliable service quality.⁷⁰ Fixed advanced telecommunications capability services best enable applications that require these faster speeds and better reliability, such as remote learning,⁷¹ telehealth,⁷² telework and in-depth research,⁷³ smart home devices,⁷⁴ larger transfers of data,⁷⁵ and larger screens.⁷⁶

⁶¹ See *2021 Report*, 36 FCC Rcd at 840-41, para. 10; *2020 Report*, 35 FCC Rcd at 8990-91, paras. 11-12; *2019 Report*, 34 FCC Rcd at 3860-61, para. 11; *2016 Report*, 31 FCC Rcd at 699-719, paras. 1-44.

⁶² *2016 Report*, 31 FCC Rcd at 706-707, para. 17 (making the same finding); see also *2021 Report*, 36 FCC Rcd at 840, para. 10 (concluding that mobile and fixed are not full substitutes). NCTA states that the Commission should conclude that advanced telecommunications capability is present if either mobile *or* fixed are available. See NCTA Comments at 14. But, as Americans need both for the full range of advanced telecommunications capability, we reject that approach.

⁶³ *2016 Report*, 31 FCC Rcd at 705, 707, 721, paras. 14, 19, 49.

⁶⁴ See *id.* at 721, para. 49. While we focus the main analysis on where 100/20 Mbps fixed service and 35/3 Mbps outdoor stationary mobile service are both available, we also analyze where they are each available and assess other mobile advanced telecommunications capability data for a complete analysis. See NCTA Comments at 14-15 (“the appropriate choice is for the Commission to continue to evaluate these services separately and together for the time being”); NRECA Comments at 7-8.

⁶⁵ See CTIA Comments at 20; INCOMPAS Comments at 8-9; Mississippi Center for Justice (Miss. Center for Justice) Reply at 2 (noting that low-income communities rely on mobile advanced telecommunications capability where fixed advanced telecommunications capability is not available); NRECA Comments at 7-8; NTCA – The Rural Broadband Association (NTCA) Comments at 9-10; OTI Comments at 6; WTA Comments at 15.

⁶⁶ As explained in the following paragraph, only Free State Foundation argues that mobile and fixed can serve as full substitutes “for a significant portion of the user base.” Free State Foundation Comments at 19.

⁶⁷ Benton Institute Comments at 2 (“As of 2021, the average U.S. household had a total of 25 connected devices, across 14 different categories (up from 11 in 2019), including laptops, tablets, and smartphones; video streaming devices and smart TVs; wireless headphones and earbuds; gaming consoles and smart home devices; and fitness trackers and connected exercise machines.”); OTI Comments at 8; WTA Comments at 15.

⁶⁸ INCOMPAS Comments at 9; OTI Comments at 7.

⁶⁹ INCOMPAS Comments at 9; NTCA Comments (noting that some mobile advanced telecommunications capability now have unlimited usage allowances but limit data usage for sufficient capacity to all subscribers, much more than for fixed advanced telecommunications capability); OTI Comments at 7-8

⁷⁰ OTI Comments at 7.

⁷¹ Miss. Center for Justice Reply at 2; NTCA Comments at 9-10, NTCA Reply at 6; OTI Comments at 9; NDIA Reply at 3-4.

⁷² OTI Comments at 9.

⁷³ NDIA Reply 3-4; OTI Comments at 9.

Mobile advanced telecommunications capability services allow consumers to access advanced telecommunications capability on the go.⁷⁷ Although speeds, service quality, and usage allowances tend to be lower for mobile than for fixed services,⁷⁸ mobile broadband services offer consumers the ability to stay connected outside of their homes, including in emergency situations⁷⁹—such as sending video or other documentation of crimes and weather events⁸⁰—ubiquitous access to health information,⁸¹ engagement in commerce,⁸² and as a stopgap when fixed advanced telecommunications capability services are not available.⁸³ Capable mobile devices can also run over mobile networks, such as health monitors,⁸⁴ Internet-connected outdoor cameras,⁸⁵ and smart wearables.⁸⁶ Having access to both mobile and fixed advanced telecommunications capability services in an area is important for communities not to fall behind.⁸⁷

20. The fact that consumers tend to subscribe to both fixed and mobile broadband if they can also highlights that the two advanced telecommunications capability services are not substitutes for one another in many use cases.⁸⁸ Based on 2022 estimates from the U.S. Census Bureau’s American Community Survey (ACS), approximately 91% of households in the United States paid for at least one type of Internet service subscription.⁸⁹ Among households that paid for an Internet subscription,

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⁷⁴ Benton Institute Comments at 2; *see also* Angela Moscaritolo, *The Best Smart Home Devices for 2024*, PC Mag (June 30, 2023), <https://www.pcmag.com/picks/the-best-smart-home-devices>; NYT, *Smart Home Devices*, <https://www.nytimes.com/wirecutter/home-garden/smart-home/> (last visited Jan. 12, 2024).

⁷⁵ WTA Comments at 15.

⁷⁶ *Id.*

⁷⁷ NDIA Reply at 3-4; NRECA Comments at 7-8; WTA Comments at 15.

⁷⁸ *See, e.g.*, INCOMPAS Comments at 9; NDIA Reply at 3-4; OTI Comments at 7, 9.

⁷⁹ Miss. Center for Justice Reply at 2 (noting that “mobile broadband service[s] assist communities experiencing disaster”).

⁸⁰ *See id.*

⁸¹ *See id.* at 3.

⁸² Miss. Center for Justice Reply at 3 (noting that mobile advanced telecommunications capability is needed where “residents cannot access necessary telehealth, food, banking, and other resources if fixed broadband is unavailable or too expensive.”); *see also* Michelle Faverio & Monica Anderson, *For Shopping, Phones are Common*, Pew Research Center (Nov. 21, 2022), <https://www.pewresearch.org/short-reads/2022/11/21/for-shopping-phones-are-common-and-influencers-have-become-a-factor-especially-for-young-adults/>.

⁸³ *See* Miss. Center for Justice Reply at 2 (noting usage of mobile hotspots for schooling), 3-4.

⁸⁴ *See, e.g.*, Philips, Philips Mobile Cardiac Telemetry—MCOT, <https://www.myheartmonitor.com/device/mcot-patch/> (sending ECG data via a wireless connection); *see also* 2016 Report, 31 FCC Rcd at 708, para. 20.

⁸⁵ *See, e.g.*, Alfred Camera, Blog, Security On Your 4G Data Plan? Best Cellular Security Cameras & More, <https://alfred.camera/blog/cellular-security-camera/>.

⁸⁶ *See* Alfredo J. Perez & Sherali Zeadally, *Recent Advances in Wearable Sensing Technologies*, Sensors (Oct. 14, 2021), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8541055/pdf/sensors-21-06828.pdf>.

⁸⁷ Miss. Center for Justice Reply at 2; NRECA Comments at 7-8; NTCA Comments at 9-10.

⁸⁸ INCOMPAS Comments at 9; NCTA Comments at 14-15; NRECA Comments at 7-8; OTI Comments at 6.

⁸⁹ Estimates based on the ACS 1-Year Estimates—Public Use Microdata Sample for year 2022. U.S. Census Bureau, American Community Survey, *American Community Survey Data*, <https://www.census.gov/programs-surveys/acs/data.html> (last visited Jan. 9, 2024) (American Community Survey 2022 Microdata). The ACS asks participants who indicate that they gain access to the Internet at their “house, apartment, or mobile home” by “paying a cell phone company or Internet service provider” whether they, “or a member of [their] household have access to the Internet using” a “broadband (high speed) Internet service such as cable, fiber optic, or DSL service

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approximately 13% relied on a mobile data plan as their only means of access and approximately 6% relied on fixed broadband as their only means of access; the remaining 81% of households subscribed to both services.⁹⁰ Pew Research similarly found that 85% of consumers own a smartphone, that 77% have home broadband, and that only 15% of U.S. adults are “smartphone-only” Internet users, indicating the majority of Americans subscribe to both fixed and mobile advanced telecommunications capability services at the same time.⁹¹ The decision of households to subscribe to both services may be driven by differences in quality and other plan characteristics.⁹² Free State Foundation is the sole commenter that argues that fixed and mobile are full substitutes for some groups, pointing to the Pew Research study and contending that for a “significant portion of the user base, mobile broadband offerings, both 4G LTE and 5G, can serve as full substitutes for a home Internet connection.”⁹³ However, we find that while some groups do not incur the additional expense of subscribing to both services—including younger consumers and lower income groups⁹⁴—the evidence clearly shows that the vast majority of Americans subscribe to both services at the same time.

21. The significant and distinct use cases for fixed and mobile advanced telecommunications capability service, as well as the evidence on how these services are used, demonstrate that consumers and businesses “expect to have both types of networks available to them because the experience of using these services can be distinctly different.”⁹⁵ The pandemic has only served to underscore that need.⁹⁶ Because consumers continue to rely on both types of technologies for different use cases,⁹⁷ we find that access to both fixed and mobile broadband services are necessary for Americans to have access to

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installed in [the] household,” “cellular data plan for a smartphone or other mobile device,” or other means, including satellite or dial-up Internet. See U.S. Census Bureau, American Community Survey, *Why We Ask Questions About Computer and Internet Use*, <https://www.census.gov/acs/www/about/why-we-ask-each-question/computer/> (last visited Jan. 9, 2024). The survey question does not ask about the speed of service to which respondents subscribe and, therefore answers do not necessarily correspond with the Commission’s past or current benchmarks for advanced telecommunications capability. We note that an additional 3.2 million households (more than 2%) connected to the Internet without a paid subscription.

⁹⁰ American Community Survey (ACS) 2022 Microdata.

⁹¹ Andrew Perrin, Pew Research Center, *Mobile Technology and Home Broadband 2021* at 3-5, 7 (Jun. 2021) (Pew Research 2021), https://www.pewresearch.org/internet/wp-content/uploads/sites/9/2021/06/PI_2021.06.03_Mobile-Broadband_FINAL.pdf; see also CTIA Comments at 12 (“Some 15 percent of Americans only use wireless as their broadband connection, including nearly 30 percent of adults under 30”), citing *id.* CTIA observes that, for voice, most U.S. adults are wireless-only, which they argue indicates that wireless and wireline are substitutes for voice service. CTIA Comments at 12 n.49.

⁹² See *Communications Marketplace Report*, GN Docket No. 22-203, 2022 Communications Marketplace Report, 37 FCC Red 15514, 15628, para. 157 (2022) (*2022 Communications Marketplace Report*).

⁹³ Free State Foundation at 19; see also NCTA Comments at 14-15 (noting that 12% of people rely solely on mobile service).

⁹⁴ See Pew Research 2021 at 5 (showing lower income groups with lower subscription levels); Miss. Center for Justice Reply at 2; NCTA Comments at 14-15; NRECA Comments at 7-8; OTI Comments at 6.

⁹⁵ INCOMPAS Comments at 8-9.

⁹⁶ See ADTRAN Comments at i; Benton Institute Comments at 1-2; Computer & Communications Industry Association (CCIA) Comments at 1; CTIA Comments at 10-11; NCC Comments at 2-3; NRECA Comments at 5-6; NTCA Comments at 7-8; OTI Comments at 5-6, 9; Tech Freedom Comments at 13-14; Dr. William H. Hawkins (Hawkins) Comments at 1-2; WTA Comments at 10-11; Miss. Center for Justice Reply at 2 (“In order to continue conducting classes during a pandemic, schools provided mobile hotspots to families without fixed broadband access. Other families used their cell phones to conduct virtual learning”); NCTA Reply at 3-4.

⁹⁷ See NTCA Reply at 6.

advanced telecommunications capability.⁹⁸

1. Fixed Broadband Service

a. Speed Benchmark

22. We increase the fixed broadband speed benchmark from 25/3 Mbps to 100/20 Mbps based on the current state of broadband needs, usage, and deployment. We also adopt a long-term goal of 1,000 Mbps, or 1 gigabit per second (Gbps), download speed paired with 500 Mbps upload speed.⁹⁹ The speed benchmark for determining whether broadband service constitutes advanced telecommunications capability is indisputably an evolving standard, which the Commission has previously raised on two separate occasions.¹⁰⁰ Based on our evaluation of available data, we can no longer conclude that broadband at speeds of 25/3 Mbps—the fixed benchmark established in 2015 and relied on in the last seven reports—supports “advanced” functions.¹⁰¹ We find that having “advanced telecommunications capability” for fixed broadband service requires access to download speeds of at least 100 Mbps and upload speeds of at least 20 Mbps.¹⁰² The record overwhelmingly supports increasing the fixed speed benchmark in this manner.¹⁰³

23. We base our conclusion that 100/20 Mbps is the appropriate fixed speed benchmark on several considerations. Section 706 defines “advanced telecommunications capability” as, without regard to transmission media, “high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.”¹⁰⁴ As the Commission has done in the past when determining the speed benchmark,¹⁰⁵ we interpret terms in the definition, such as “advanced,” “high-speed,” and “high-quality”—terms Congress

⁹⁸ 2016 Report, 31 FCC Rcd at 706-07, para. 17.

⁹⁹ In the Notice, we discussed service quality both in the context of the universal service goals of physical deployment and availability. Notice, FCC 23-89, at 12-13, 26, paras. 27-29, 62. In this Report, we discuss service quality exclusively with respect to our goal of availability. See Section III.D, *infra*.

¹⁰⁰ 2010 Report, 25 FCC Rcd at 9563, para. 11 (raising the benchmark to 4/1 Mbps); 2015 Report, 30 FCC Rcd at 1393, para. 26 (raising the benchmark to 25/3 Mbps). For reports in which the Commission considered increasing the benchmark, but elected not to do so, see, e.g., 2021 Report, 36 FCC Rcd at 837, 841-43, paras. 2, 12-14; 2016 Report, 31 FCC Rcd at 721-23, paras. 49-55.

¹⁰¹ In the 2015 Report, the Commission updated this speed benchmark from 4 Mbps download and 1 Mbps upload. 2015 Report, 30 FCC Rcd at 1377, para. 3. See also 2016 Report, 31 FCC Rcd at 707, para. 19.

¹⁰² We decline to adopt Environmental Health Trust’s request that we not set or increase fixed or mobile wireless speed benchmarks, speed goals, or deployment goals until the federal government has determined safe levels of radiofrequency radiation exposure from wireless technology, especially from cell towers and transmission infrastructure, for humans, wildlife, and the environment. Environmental Health Trust Comments at 1. We have a statutory reporting obligation to fulfill under section 706 and this proceeding is ill-suited to examine the issues that Environmental Health Trust raises, which are not directly relevant to the Commission’s section 706 reporting obligation.

¹⁰³ See, e.g., ACAM Coalition Comments at 1-2; ADTRAN Comments at 9-10; Benton Institute Comments at 1-5; CCIA Comments at 1-2; Letter From Dinni Jain, CEO, Google Fiber, et al., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 22-270, 1 (filed Dec. 11, 2023) (Google Fiber et al. *Ex Parte*); Next Century Cities Comments at 3-4; NRECA Comments at 3-7; NTCA Comments at 3-4; Letter From Stephanie Weiner, Chief Counsel, NTIA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 22-270, 1-2 (filed Dec. 26, 2023) (NTIA *Ex Parte*); New York Public Service Commission (New York PSC) Comments at 1-2; OTI Comments at 5-6; USTelecom Comments at 2-3; WISPA – Broadband Without Boundaries (WISPA) Comments at 3; WTA Comments.

¹⁰⁴ 47 U.S.C. § 1302(d)(1).

¹⁰⁵ 2015 Report, 30 FCC Rcd at 1394, para. 27. Factors are evaluated systematically in the 2015 Report. 2015 Report, 30 FCC Rcd at 1392-1403, paras. 24-44.

left to the Commission to define—by examining trends in providers’ speed offerings (that is, what they are deploying to American households), what speeds are required to use various common applications, and data regarding what speeds consumers are adopting when they have the option to purchase various speeds. We believe that looking at these factors, along with other relevant programs and recent Congressional action, remains helpful to evaluate the benchmark.¹⁰⁶

24. We find substantial commenter support for the 100/20 Mbps standard generally,¹⁰⁷ and for taking into consideration Congress’s judgment that areas receiving broadband speeds of less than 100/20 Mbps are not adequately served with high enough speeds.¹⁰⁸ Commenters also point to programs and initiatives at the federal, state, local, and Tribal levels that require speeds at or above 100/20 Mbps.¹⁰⁹ Notably, the National Telecommunications and Information Administration (NTIA) points to Congress’s action in passing the Infrastructure Act and the creation of the BEAD program as supporting a 100/20 Mbps benchmark.¹¹⁰ We agree that considering Congress’s action and examining other federal and state programs are important for this inquiry.

25. We agree with commenters such as the New York State Public Service Commission that noted the current benchmark of 25/3 Mbps is not aligned with typical consumer needs.¹¹¹ As discussed below, the speeds marketed by many Internet service providers (ISPs) generally substantially exceed 25/3 Mbps. Deployment of infrastructure of at least 100/20 Mbps is widespread, consumers are adopting higher speeds where they are available, and the requirements for high-quality applications necessitating higher speeds have dramatically increased since we last updated the benchmark and appear to trend towards requiring more bandwidth over time. These factors all support raising the benchmark to 100/20 Mbps.

¹⁰⁶ We also note commenter support for the notion of looking at these factors. For example, CTIA notes that examining actual broadband use and needs of consumers is valuable information to assist in determining a benchmark speed, and by considering these factors transparently it allows the public to better understand the Commission’s decision making. CTIA Reply at 10.

¹⁰⁷ See ACA Connects Comments at 3-4, 8; ACAM Coalition Comments at 1-2, 4; ADTRAN Comments at 8-9; Benton Institute Comments at 1-5; CTIA Comments at 15-16; Fiber Broadband Association (FBA) Comments at 3 (supports a benchmark faster than 100/20 Mbps); NDIA Reply at 2 (noting that higher, symmetrical speeds are required); Nebraska Public Service Commission (Nebraska PSC) Reply at 2 (supports a benchmark faster than 100/20 Mbps); New York PSC, 1-2; Next Century Cities Comments at 3-4; NRECA Comments at 4; NTCA Comments at 3, 6-7, 13; OTI Comments at 3, 5-6; Dave Taht & Members and supporters of the Bufferbloat.net community (Taht/Bufferbloat) Comments 9-12 (referencing improved upload speeds to 20 Mbps as necessary and a potential download to upload ratio of at least 5:1); USTelecom Comments at 2-3, 8; Vantage Point Solutions (Vantage Point) Comments at 5; WIA Reply at 3; WISPA Reply at 2; WTA Comments at 2.

¹⁰⁸ CTIA Comments at 4, 14-15; WTA Comments at 2; ADTRAN Comments at 9; ACAM Coalition Comments at 3; OTI Comments at 5; WISPA Comments at 2-3.

¹⁰⁹ See, e.g., ACAM Coalition Comments at 2-3 (BEAD and Enhanced A-CAM); New York PSC, 2 (BEAD); Next Century Cities Comments at 3-4 (BEAD); NRECA Comments at 5-6 (noting the importance of Congress and federal agencies establishing high-speed standards, including the Treasury Department’s Coronavirus State and Local Fiscal Recovery Funds establishing a standard of reliable 100/100 Mbps and the Department of Agriculture’s ReConnect program requiring applicants deploy symmetrical 100 Mbps); NTCA Comments at 1, 3 (BEAD); WTA Comments at ii, 2, 7, 17 (BEAD). NRECA highlights the Department of the Treasury’s rationale in adopting a standard of 100/100 Mbps: a lower threshold would lower near-term cost to build but would, in the near-term, become obsolete and no longer meet household needs. NRECA Comments at 5-6 (citing Department of the Treasury, Coronavirus State and Local Fiscal Recovery Funds, Final Rule, 87 Fed. Reg. 4338, 4443 (Jan. 22, 2022), available at <https://www.govinfo.gov/content/pkg/FR-2022-01-27/pdf/2022-00292.pdf>).

¹¹⁰ NTIA *Ex Parte* at 1-2.

¹¹¹ See, e.g., New York PSC Comments at 1 (“[U]se of the current 25/3 Mbps benchmark – a standard that has not been updated since 2015 – is simply out of step with a typical customer’s broadband needs.”).

26. *Federal and State Programs Require Broadband Speeds at or Above 100/20 Mbps.* Congress’s passage of the Infrastructure Act, which provides funding for broadband only when such service providers offer broadband service at speeds of at least 100/20 Mbps provides strong support for the Commission to update its fixed speed benchmark.¹¹² Specifically, the Infrastructure Act directed NTIA to establish the BEAD Program, through which NTIA allocated \$42.45 billion to states for grants “to bridge the digital divide.”¹¹³ Broadband networks funded by the BEAD Program must provide download speeds of at least 100 Mbps and upload speeds of at least 20 Mbps.¹¹⁴ Any areas that do not meet these specific speed requirements are considered underserved.¹¹⁵ We find that Congress’s determination that areas receiving broadband speeds of less than 100/20 Mbps are not adequately served necessitates that the Commission raise its fixed speed benchmark accordingly. A diverse group of commenters agree.¹¹⁶

27. In raising our fixed speed benchmark, we also account for the standards established by states and other federal agencies. Numerous programs set broadband speed targets of at least 100 Mbps.¹¹⁷ Many states have developed broadband deployment programs requiring funded projects to deliver speeds at or exceeding this threshold benchmark.¹¹⁸ At least one state has set 100 Mbps as a goal

¹¹² Infrastructure Act, div. F, tit. I, § 60102(b)(1), (f)(1), (h)(4)(A)(i)(I), 135 Stat. at 1199; *Notice*, FCC 23-89, at 5, para. 11.

¹¹³ Infrastructure Act, div. F, tit. I, § 60102(b)(1), 135 Stat. at 1184. On June 26, 2023, the BEAD Program allocations for all 50 states and the U.S. Territories were announced. National Telecommunications and Information Administration, U.S. Department of Commerce, *Biden-Harris Administration Announces State Allocations for \$42.45 Billion High-Speed Internet Grant Program as Part of Investing in America Agenda* (June 26, 2023), <https://www.ntia.gov/press-release/2023/biden-harris-administration-announces-state-allocations-4245-billion-high-speed>. NTIA points to the Congressional action through the Infrastructure Act and the BEAD program generally as support for raising the benchmark to 100/20 Mbps. *NTIA Ex Parte* at 1-2.

¹¹⁴ *Notice*, FCC 23-89, at 7-8, para. 15.

¹¹⁵ Infrastructure Act, div. F, tit. I, § 60102(a)(1)(C)(ii), 135 Stat. at 1182-83. *See also* National Telecommunications and Information Administration, Broadband Equity, Access, and Deployment Program Notice of Funding Opportunity 16 (2022), <https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf> (NTIA BEAD NOFO) (specifying that locations are “underserved” if they do not meet download/upload speeds of at least 100/20 Mbps and have a latency above 100 milliseconds, and that locations are “unserved” if they do not meet download/upload speeds of at least 25/3 Mbps).

¹¹⁶ ACAM Coalition Comments at 2-3; ADTRAN Comments at 9; CTIA Comments at 4, 14-15; Google Fiber et al. *Ex Parte* at 1; New York PSC Comments at 2; Next Century Cities Comments at 3-4; NTCA Comments at 1, 3; NTIA *Ex Parte* at 1-2; OTI Comments at 5; WISPA Comments at 2-3; WTA Comments at 2.

¹¹⁷ *Notice*, FCC 23-89, at 7-8, para. 15.

¹¹⁸ *See, e.g.*, Iowa Department of Management, Empower Rural Iowa Broadband Grant Program Notice of Funding Availability at 4 (2023), https://ocio.iowa.gov/sites/default/files/exhibit_a_-_notice_of_funding_availability_-_nofa_008.pdf (Iowa Program) (offering definitions only for 100/100 Mbps and 100/20 Mbps broadband in grant funding notice); Maine Connectivity Authority, Broadband Service Triennial Strategic Plan 2022-24 (2022), https://www.maine.gov/connectme/sites/maine.gov.connectme/files/inline-files/Plan_Triennial_2022.pdf (declaring 25 Mbps/3 Mbps insufficient and “designat[ing] broadband service as 100/100 mbps”); Maryland Department of Housing and Community Development, Connect Maryland: FY23 Network Infrastructure Grant Program: Request for Applications at 6 (2022), <https://dhcd.maryland.gov/Broadband/Documents/FY23NIGP/ApplicationPackage.pdf> (Maryland Program) (defining “broadband service” as providing “the minimum data rate of one hundred (100) megabits per second downstream and twenty (20) megabit per second upstream”); Michigan Department of Labor and Economic Opportunity, Realizing Opportunities with Broadband Infrastructure Networks (ROBIN) Grant Program Guidance at 2 (2023), https://www.michigan.gov/leo/-/media/Project/Websites/leo/Documents/MIHI/ROBIN-Grant/ROBIN_Program_Guidance.pdf (Michigan Program) (defining “broadband service” as supporting “a symmetrical rate of at least 100 megabits per second downstream and upstream”); Miss. Code Ann. § 77-19-3(b) (defining “broadband service” as mass-market retail service at speeds of at least 100/20 Mbps); North Dakota Legislative Branch, 2018-2019 Annual Report, Appendix at 8

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for all state programs and at least one other has made 100 Mbps an official standard for multiple state programs.¹¹⁹ With regard to federal programs other than BEAD, the U.S. Department of Agriculture’s Rural Utilities Service (RUS) provides broadband loans with a set of minimum speed requirements, which vary based on the duration of the project. For 5-10 year award terms, which are comparable to the term of support for many high-cost Universal Service Fund broadband programs,¹²⁰ the RUS requires awardees to provide service at a minimum speed of 100/12 Mbps.¹²¹ In addition, the U.S. Department of Treasury, as part of its implementation of the American Rescue Plan Act’s (ARPA’s) provisions relating to broadband infrastructure funding,¹²² has adopted a requirement that projects be designed to deliver service that reliably meets or exceeds 100/100 Mbps.¹²³ We also note the 2021 recommendation of the Commission’s Task Force for Reviewing the Connectivity and Technology Needs of Agriculture in the United States (Precision Agriculture Connectivity Task Force) to increase the Commission’s benchmark speed to 100/20 Mbps, on the grounds that 25/3 Mbps is insufficient to enable innovation and utilization of precision agriculture and for transferring large amounts of data from field or farm to the cloud for storage.¹²⁴

28. The Commission’s high-cost USF policies also strongly support raising the benchmark to at least 100/20 Mbps. As explained in the *Notice*, the Commission has, in recent years, awarded high-cost universal service support almost exclusively to projects with broadband service at speeds of 100/20 Mbps or faster.¹²⁵ All recipients of the Bringing Together Puerto Rico Stage 2 fixed support program, for example, are required to provide service at a minimum speed of 100/20 Mbps, with service obligations at

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(2019), https://www.legis.nd.gov/files/committees/66-2019/21_5124_03000appendixj.pdf (noting that their objective is statewide Gigabit connectivity and that “more than 75% of North Dakotans already have access to Gigabit broadband delivered in more than 325 communities”); Washington State Department of Commerce, *CERB Rural Broadband Program*, <https://www.commerce.wa.gov/building-infrastructure/community-economic-revitalization-board/rural-broadband/> (last visited Jan. 18, 2024) (Washington Program) (setting speed benchmarks for broadband provided via cable modem, powerlines, and microwave at 100/20 Mbps, 100/100 Mbps, and 100/20 Mbps, respectively).

¹¹⁹ California Broadband Council, *Broadband Action Plan 2020 at 20* (2020), <https://broadbandcouncil.ca.gov/wp-content/uploads/sites/68/2020/12/BB4All-Action-Plan-Final-Draft-v26.pdf> (setting 100 Mbps as a goal); Neb. Rev. Stat. §§ 86-135(1), 86-324(1), 86-5, 109, 86-1302(11).

¹²⁰ See, e.g., 47 CFR § 54.309(a)(2)(ii) (10-year term for CAF Phase II Auction Support); 47 CFR § 54.802(b) (10-year term for RDOF); 47 CFR § 54.1504(a) (10-year term for Stage 2 fixed support under the Bringing Together Puerto Rico and Connect USVI Funds).

¹²¹ See Department of Agriculture, *Rural Broadband Loans, Loan/Grant Combinations, and Loan Guarantees*, 85 Fed. Reg. 14393, 14396 (Mar. 12, 2020) (noting that the RUS’s broadband lending speed benchmark is currently set at 25/3 Mbps); 7 CFR § 1738.55(a)(2) (requiring projects with an award term of 5-10 years to provide service at a benchmark of “four times the broadband lending speed,” which equates to a benchmark of 100 Mbps in download speed for such loans).

¹²² American Rescue Plan Act of 2021 (ARPA), Pub. L. No. 117-2, tit. IX, § 9901(c)(1)(D), 135 Stat. 4, 226 (codified at 42 U.S.C. § 802(c)(1)(D)) (ARPA).

¹²³ See 31 CFR § 35.6(e)(2)(i)(B)(2) (if providing an upload speed of 100 Mbps “is not practicable, because of the excessive cost of the project or geography or topography of the area to be served by the project,” recipients are permitted to deploy service at an upload speed of 20 Mbps, so long as the upload speed is scalable to 100 Mbps).

¹²⁴ Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States, *Report of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States at 6* (2021), <https://www.fcc.gov/sites/default/files/precision-ag-report-11102021.pdf>; see also Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States, *Report adopted as of November 6, 2023, 5* (2023), <https://www.fcc.gov/sites/default/files/2024-Report-PrecisionAg-Task-Force-without-Signatures.pdf>.

¹²⁵ *Notice*, FCC 23-89, at 6, para. 14.

some locations as high as 1 Gbps/500 Mbps.¹²⁶ In addition, 1 Gbps/500 Mbps service will have to be deployed to all locations subject to Connect USVI Stage 2 fixed support in the U.S. Virgin Islands.¹²⁷ Authorized Rural Digital Opportunity Fund (RDOF) auction winners are required to provide 1 Gbps/500 Mbps service to over 97% of locations being funded.¹²⁸ We believe the wide variety of federal and state programs setting standards at or above 100/20 Mbps is compelling evidence that the benchmark should be raised at least to this level. Multiple commenters state that support raising the benchmark speed also reference federal, state, and local programs in support of their arguments.¹²⁹ As Vantage Point puts it, by adopting 100/20 Mbps, we are “formally recognizing the de facto minimum standard broadband speed in the country.”¹³⁰

29. *Consumer Use Trends Support a Faster Benchmark.* The COVID-19 pandemic forced families to adapt to working, learning, receiving healthcare, and interacting with the outside world simultaneously using multiple devices on the same household connection. These changes resulted in increased demands for faster broadband services and more bandwidth. We find that many of the adaptations Americans made during the COVID-19 pandemic are here to stay—for example, more widespread teleworking and continued expansion of telehealth.¹³¹ Indeed, almost 68% of households have

¹²⁶ See *Wireline Competition Bureau Authorizes Stage 2 Support for Puerto Rico Telephone Company and Liberty Communications of Puerto Rico*, WC Docket Nos. 18-143 and 10-90, Public Notice, 36 FCC Rcd 9914 (WCB 2021) (*Bringing Together Puerto Rico Winning Applicant Announcement*) (identifying Puerto Rico Telephone Co., Inc. (PRTC) and Liberty Communications of Puerto Rico (Liberty) as the winning applicants); PRTC Uniendo a Puerto Rico Fund Stage 2 Fixed Support Application Form, WC Docket Nos. 18-143 and 10-90, Initial Overview at 1 (filed June 22, 2021) (*PRTC Network Description*); Liberty Uniendo a Puerto Rico Fund Stage 2 Fixed Support Application Form, WC Docket Nos. 18-143 and 10-90, Initial Overview at 4 (filed June 22, 2021) (*Liberty Network Description*). We refer to the *Bringing Together Puerto Rico Winning Applicant Announcement*, *PRTC Network Description*, and *Liberty Network Description* together as the *Bringing Together Puerto Rico Broadband Speed Requirements*.

¹²⁷ See *Connect USVI Fund Stage 2 Support Authorized for Broadband VI*, WC Docket Nos. 18-143 and 10-90, Public Notice, 36 FCC Rcd 9405 (WCB 2021) (*USVI Fund Winning Applicant Announcement*) (identifying Broadband VI as the winning applicant); Broadband VI Uniendo a Puerto Rico Fund Connect USVI Fund Stage 2 Fixed Support Application Form, WC Dockets Nos. 18-143 and WC 10-90, Initial Overview at 1 (filed June 11, 2021) (together with the *USVI Fund Winning Applicant Announcement*, the *USVI Fund Broadband Speed Requirements*).

¹²⁸ See FCC, *Auction 904: Rural Digital Opportunity Fund*, <https://www.fcc.gov/auction/904> (Results webpage tab, Authorized Auction 904 Long-Form Applicant Spreadsheet (updated 1/13/2023), Performance Tier and Latency Tab).

¹²⁹ See, e.g., ACA Connects Comments at 4; ACAM Coalition Comments at 2-3; Next Century Cities Comments at 3-4; New York PSC Comments at 2; NRECA Comments at 5-6; NTCA Comments at 1, 3; WTA Comments at ii, 2, 7, 17. WTA does, however, observe that Enhanced A-CAM does not require complete build-out of 100/20 Mbps until 2028, which may serve as a “complication” with this benchmark. WTA Comments at 7. For the reasons discussed in Section II, *supra*, we believe that the standard for our section 706 evaluation should be universal deployment and that we should strive for full deployment at our speed benchmark threshold, regardless of specific programmatic obligations.

¹³⁰ Vantage Point Comments at 5. We note Benton Institute’s request that we “adopt a methodology to continually set the threshold to mirror market realities.” Benton Institute Comments at 3. We believe the forgoing analysis does so and intend to continue to use such an analysis in future inquiries.

¹³¹ See, e.g., U.S. Bureau of Labor Statistics, U.S. Business Response Summary (Mar. 22, 2023), <https://www.bls.gov/news.release/brs1.nr0.htm> (*Bureau of Labor Statistics 3Q2022 Survey*); MGMA Staff Members, *Telehealth utilization and patient demand in 2023: Best guesses and best practices* (Nov. 3, 2022), <https://www.mgma.com/data/data-stories/telehealth-utilization-and-patient-demand-in-2023> (*MGMA Telehealth Survey*). The vintage of the data referenced throughout our discussion of current uses, including usage statistics, many cited in the Notice, directly contradicts TechFreedom’s claims that the above-referenced data solely relate to the era of COVID lockdowns. See TechFreedom Comments at 13-14.

subscribed to services meeting a 100 Mbps download speed threshold where it is available. The number of American households subscribing to services meeting a 100 Mbps download speed threshold increased from approximately 57.4 million in December 2018 to approximately 89.4 million in December 2022.¹³² As of December 2022, the mean download speed for all residential fixed broadband subscriptions was 439 Mbps while the median residential download speed was 300 Mbps, and nearly 79% of all residential subscriptions had a download speed of at least 100 Mbps.¹³³

30. Consumers are not only subscribing to faster speeds, but also using more bandwidth.¹³⁴ According to OpenVault, average U.S. household bandwidth consumption increased by approximately 86% between the end of 2019 and the end of 2023.¹³⁵ OpenVault has previously observed that such a dramatic increase in bandwidth consumption “confirms the linkage between significant growth trajectories in both bandwidth consumption and faster speed adoption.”¹³⁶ In addition, many ISPs upgraded the speed provided to customers to accommodate their consumers’ need for higher bandwidth services.¹³⁷

31. Telehealth has become an established method of providing and receiving healthcare,¹³⁸ with one poll of medical group leaders finding that 72% of medical groups expect patient demand for telehealth to stay the same or increase in 2023.¹³⁹ With regard to telework, a Bureau of Labor Statistics

¹³² Based upon staff evaluation of FCC Form 477 subscription data as of December 31, 2018 and December 31, 2022.

¹³³ Based upon staff evaluation of FCC Form 477 subscription data as of December 31, 2022.

¹³⁴ NTIA points out that current and anticipated user needs demonstrate the necessity of a 100/20 Mbps benchmark. NTIA *Ex Parte* at 1-2.

¹³⁵ See OpenVault, Broadband Insights Report (OVBI) 4Q23, at 4 (2024), <https://openvault.com/resources/ovbi/> (*OpenVault 4Q2023 Report*).

¹³⁶ OpenVault, Broadband Insights Report (OVBI) 4Q21, at 2 (2021), <https://openvault.com/resources/ovbi/>.

¹³⁷ See, e.g., Charter Launches Spectrum One, Offering Customers Unrivaled Connectivity and Value (Oct. 31, 2022), <https://corporate.charter.com/newsroom/charter-launches-spectrum-one> (announcing the launch of Spectrum One for new and existing subscribers across all its markets with starting speeds of 300 Mbps); Comcast Boosting Speeds for more than 20 Million Xfinity Internet Customers Across the Country (Oct. 17, 2022), <https://corporate.comcast.com/press/releases/faster-internet-speeds-xfinity-customers-2022> (announcing upgraded speeds at all plan levels for customers in Xfinity’s Northeast, Central, and West divisions); Eli Blumenthal, AT&T is boosting the speeds of its Fiber home internet plans for new and existing users, CNET (Apr. 28, 2021), <https://www.cnet.com/home/internet/at-t-is-boosting-the-speeds-of-its-fiber-home-internet-plans-for-new-and-existing-users/>; Spectrum Continues to Double Internet Starting Speed to 200 Mbps (Mar. 3, 2021), <https://corporate.charter.com/newsroom/spectrum-doubles-spectrum-internet-starting-speed-to-200-mbps-in-17-additional-markets>.

¹³⁸ As the Commission has previously recognized, “[t]he success of these solutions, however, relies on broadband connectivity—i.e., access to broadband to enable virtual care and other digital solutions—and broadband service providers offering Internet service at adequate speed and at an affordable price.” *Broadband Connectivity and Maternal Health—Implementation of the Data Mapping to Save Moms’ Lives Act*, GN Docket No. 23-309, Notice of Inquiry, FCC 23-85, at para. 7 (Oct. 20, 2023); see also Connect2HealthFCC Task Force, *Broadband Connectivity: A “Super” Determinant of Health*, Staff Research Monograph, FCC, GN Docket No. 16-46, at 12 (May 23, 2019), <https://www.fcc.gov/ecfs/document/109020780702729/1> (concluding that broadband itself may have a direct influence on health and health outcomes and is a social determinant of health, if not a “super” determinant of health). While there are many factors associated with a consumer’s ability to use telehealth/telemedicine (e.g., rurality, age, literacy, income, etc.), studies have found that adequate broadband speeds are a “critical factor.” See, e.g., Amy M.J. O’Shea et al., *Association of Adequacy of Broadband Internet Service With Access to Primary Care in the Veterans Health Administration Before and During the COVID-19 Pandemic*, JAMA Network (Oct. 17, 2022), <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2797400> (“Our findings support the expanded availability of broadband, in particular, upload and download speeds of 100 [Mbps] or more to better meet the growing need for high-speed connectivity for daily life.”).

survey conducted in the third quarter of 2022 of private-sector establishments found that over 27% have some or all of their employees teleworking some or all of the time (with over 11% of respondents reporting that all of their employees teleworked all of the time), and over 95% expecting current levels of telework to stay the same over the next six months.¹⁴⁰ Similar to telehealth and telework, increased levels of online learning are likely here to stay beyond the COVID-19 pandemic. For example, virtual school enrollment across ten states increased 176% in the 2021-22 school year, as compared to the 2019-20 school year.¹⁴¹ And even students who are attending school in person still rely on home connectivity for schoolwork outside of school hours.¹⁴²

32. Current consumer broadband usage involves an increasing number of streams serving applications ranging from telehealth, remote learning, streaming video and gaming, and video conferencing/telework.¹⁴³ With approximately 21% of U.S. households having four or more people and an increasing number of homebuyers seeking multigenerational housing, this can lead to substantial household demand.¹⁴⁴ In addition, the number of connected devices per U.S. household continues to grow, from an average of 13 in 2021 to an average of 17 in 2023.¹⁴⁵ Several commenters agree that

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¹³⁹ MGMA Stat, *Telehealth Utilization and Patient Demand in 2023: Best Guesses and Best Practices* (Nov. 3, 2022), <https://www.mgma.com/data/data-stories/telehealth-utilization-and-patient-demand-in-2023> see also Tanya Albert Henry, *Millions of Medicare Patients Kept Telehealth Habit Post-Vaccines*, AMA (Feb. 6, 2023), <https://www.ama-assn.org/practice-management/digital/millions-medicare-patients-kept-telehealth-habit-post-vaccines> (finding that about 4 million Medicare patients received medical care through telehealth in each of the first two quarters in 2022); Jiang Li, *Telemedicine And Telehealth In 2023 And Beyond: From Leveling Out To Leveling Up* (Dec 27, 2022), <https://www.forbes.com/sites/forbestechcouncil/2022/12/27/telemedicine-and-telehealth-in-2023-and-beyond-from-leveling-out-to-leveling-up/?sh=5a02ef654843>; FAIR Health, *Monthly Telehealth Regional Tracker*, <https://www.fairhealth.org/fh-trackers/telehealth>.

¹⁴⁰ See *Bureau of Labor Statistics 3Q2022 Survey*. See also Jennifer Liu, *More Americans are Now Working Fully Remote than 3 Months Ago, Despite Fewer WFH Job Openings*, CNBC (Feb. 13, 2023) <https://www.cnbc.com/2023/02/13/remote-work-ticked-up-in-january-and-could-signal-the-future-of-wfh.html> (noting that 46% of respondents in a January 2023 LinkedIn survey are working a hybrid or remote schedule); Kim Parker, *About a Third of U.S. Workers Who Can Work From Home Now Do So All the Time*, Pew Research Center (Mar. 30, 2023) <https://www.pewresearch.org/fact-tank/2023/03/30/about-a-third-of-us-workers-who-can-work-from-home-do-so-all-the-time/> (finding that 59% of hybrid workers work from home three or more days in a typical week).

¹⁴¹ Asher Lehrer-Small, *Virtual School Enrollment Kept Climbing Even As COVID Receded, New Data Reveal*, The 74 (Nov. 14, 2022), <https://www.the74million.org/article/virtual-school-enrollment-kept-climbing-even-as-covid-receded-new-data-reveal/> (updated Nov. 16, 2022).

¹⁴² CoSN, *CoSN Releases Findings of 2022 Home Connectivity Study* (July 14, 2022), <https://www.cosn.org/cosn-news/cosn-releases-findings-of-2022-home-connectivity-study/>.

¹⁴³ See, e.g., U.S. Bureau of Labor Statistics, U.S. Business Response Summary (Mar. 22, 2023), <https://www.bls.gov/news.release/brs1.nr0.htm> (*Bureau of Labor Statistics 3Q2022 Survey*); MGMA Staff Members, *Telehealth utilization and patient demand in 2023: Best guesses and best practices* (Nov. 3, 2022), <https://www.mgma.com/data/data-stories/telehealth-utilization-and-patient-demand-in-2023> (*MGMA Telehealth Survey*).

¹⁴⁴ In 2023, 16,038,000 households had four members, 7,192,000 had five, 2,721,000 had six, and 1,656,000 had seven or more, or 27,601,000 in total. 27,601,000 out of all 131,434,000 households in 2023 is approximately 21%. U.S. Bureau of the Census, *Historical Households Tables*, <https://www.census.gov/data/tables/time-series/demo/families/households.html> (Nov. 2023) (Table HH-4 Households by Size: 1960 to Present). See also Oyin Adedoyin, *More Parents are Moving In With Adult Children – at Younger Ages*, Wall Street Journal, (Feb. 22, 2023) <https://www.wsj.com/articles/more-parents-are-moving-in-with-adult-children-at-younger-ages-a931f3d7> (reporting that 14% of all home buyers in 2022 set up multigenerational homes, up from 11% in 2021).

¹⁴⁵ Parks Associates, *At CES 2024, Parks Associates announces new research showing average number of connected devices per US internet household reached 17 in 2023* (Jan. 11, 2024),

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households increasingly have multiple people demanding bandwidth at the same time and note the need for higher speeds.¹⁴⁶ ADTRAN, in particular, asserts that in multiple-person households, multiple people make use of applications simultaneously, which requires extra capacity.¹⁴⁷ We do not anticipate usage decreasing, and accordingly must recognize that households of all sizes must have sufficient bandwidth to satisfy their needs.

33. Several commenters noted that fast speeds are vital to enable remote applications to work properly. For example, Next Century Cities observes that higher speeds are necessary for accessing healthcare, education, and legal services.¹⁴⁸ ADTRAN explains that consumers use of broadband service has changed significantly since 2015 and that “the pandemic catalyzed the development of numerous applications to support remote education, telehealth and work-from-home applications and services” which require “robust and reliable broadband service.”¹⁴⁹ Graphics-intensive telework, alone, can require 45 Mbps or more.¹⁵⁰

34. Changes in the use of remote applications are not the only drivers of higher speed requirements. A combination of remote applications, streaming, and other needs play a role in household broadband use. Services such as video and music streaming applications necessitate access to higher speeds. For example, as 4K video increases in popularity, individual households may have an increasing number of 25 Mbps video streams serving applications such as video conferencing, telehealth, and remote learning, in addition to streaming of video entertainment and gaming.¹⁵¹

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<https://www.parksassociates.com/blogs/press-releases/at-ces-2024-parks-associates-announces-new-research-showing-average-number-of-connected-devices-per-us-internet-household-reached-17-in-2023> with LinkedIn, *US internet household have an average of 16 connected devices* (May 4, 2022), <https://www.linkedin.com/pulse/us-internet-household-have-average-16-connected-devices-> (Parks Associates post).

¹⁴⁶ See ADTRAN Comments at 9; INCOMPAS Comments at 3; OTI Comments at 9. Additionally, several commenters note that changes brought about by the COVID-19 pandemic are here to stay that would affect household use. See ADTRAN Comments at 9; Next Century Cities Comments at 2, 11; NTCA Comments at 4. Commenters also remarked about how these applications demand greater usage than what is possible under the current benchmark. See ADTRAN Comments at 8; CCIA Comments at 1; NTCA Comments at 5-6; Next Century Cities Comments at 5; WTA Comments at 6.

¹⁴⁷ ADTRAN Comments at 9.

¹⁴⁸ Next Century Cities Comments at 5. See also FBA Comments at 14; Letter from Angie Kronenberg, Chief Advocate & General Counsel, INCOMPAS, 2 (filed Aug. 1, 2022) (INCOMPAS August 2022 *Ex Parte*).

¹⁴⁹ ADTRAN Comments at 8; see also Letter from Angie Kronenberg, Chief Advocate & General Counsel, INCOMPAS, 2 (filed Aug. 1, 2022) (INCOMPAS August 2022 *Ex Parte*) (“INCOMPAS’ members are experiencing more customers demanding higher-speed services”).

¹⁵⁰ Fast Feed Editorial Staff, *How To Get the Fastest Internet in a Home Office* (Mar. 12, 2020), <https://blog.frontier.com/2020/03/how-much-speed-do-you-need-to-do-your-job-from-home/>; see also Chantel Buchi, *The Best Internet Setup for Working from Home* (Sept. 26, 2023), <https://www.reviews.org/internet-service/work-from-home-internet-guide/> (recommending 100 Mbps for “most” teleworkers”).

¹⁵¹ Some recommend 25 Mbps download speed for streaming 4K video. See, e.g., Anthony Spadafora, *What internet speed do I need? Here’s how many Mbps is enough*, <https://www.tomsguide.com/us/internet-speed-what-you-need,news-24289.html> (last visited Feb. 14, 2024); *Find movies with 4K, HDR, Dolby Vision, or Dolby Atmos in the Apple TV app*, <https://support.apple.com/en-us/HT207949>, (last visited Feb. 14, 2024). While we acknowledge that not all services require 25 Mbps for 4K video, those citing lower-than-25 Mbps is required appear to either require bandwidth close to 25 Mbps or else would in many cases still consume a significant amount of household bandwidth. See, Google, *System requirements & supported devices for YouTube*, <https://support.google.com/youtube/answer/78358?hl=en> (last visited Feb. 14, 2024) (*YouTube Video Bandwidth Recommendations*) (recommends 20 Mbps); Netflix, *Internet connection speed recommendations*, <https://help.netflix.com/en/node/306> (last visited Feb. 14, 2024) (recommends 15 Mbps).

35. We believe that broad consumer demand for 100/20 Mbps service alone sufficiently demonstrates that the practical reality of consumer broadband usage often requires speeds of at least 100/20 Mbps, regardless of whether we have delineated a specific “use case,” as Free State Foundation claims is required.¹⁵² Several commenters support the significance of these adoption statistics.¹⁵³ In addition, as we explained in the *Notice*, in examining household use cases, a simple summation of required speeds for individual activities may provide a misleading picture of actual broadband needs for at least three reasons. First, occasional downloads of very large files can be bandwidth-intensive.¹⁵⁴ Second, it is important to account for larger households—as discussed above, as of 2023, approximately 21% of all U.S. households had four or more people.¹⁵⁵ Households of all sizes must have sufficient bandwidth to satisfy their needs. In addition, as discussed above, the number of connected devices per household continues to grow. Taking these factors into account suggests that fixed broadband download/upload needs could easily exceed 100/20 Mbps.¹⁵⁶

36. *ISP Deployment and Marketing Trends Demonstrate that a Higher Benchmark is Long Overdue.* BDC data show widespread deployment of speeds faster than 25 Mbps, and that deployment of at least 100/20 Mbps is the norm. Deployment trends suggest an overwhelming majority of providers are already offering speeds of at least 100 Mbps download: approximately 93% Americans had access to a terrestrial fixed broadband service with download speeds of at least 100 Mbps in December 2022.¹⁵⁷ In fact, FCC Form 477 deployment data indicate that since 2018, more than 90% of the population has had access to terrestrial fixed broadband service with download speeds of at least 100 Mbps.¹⁵⁸

¹⁵² Free State Foundation Comments at 6-7, 17-18.

¹⁵³ See, e.g., FBA Comments at 5-13; NTCA Comments at 3-4, 10.

¹⁵⁴ Morgan Park, *The era of 100GB games is upon us, and the average PC gamer is underprepared*, PC Gamer (May 12, 2023), <https://www.pcgamer.com/the-era-of-100gb-games-is-upon-us-and-the-average-pc-gamer-is-underprepared/>; RJ Pierce, *Why Are Games Getting MASSIVE Install Sizes? Here's a Tech Explainer*, Tech Times (Sept. 2, 2021), <https://www.techtimes.com/articles/264914/20210902/why-games-getting-massive-install-sizes-heres-tech-explainer.htm>. At 25 Mbps, it would take roughly nine hours to download 100 GB.

¹⁵⁵ U.S. Bureau of the Census, *Historical Households Tables*, <https://www.census.gov/data/tables/time-series/demo/families/households.html> (Nov. 2022) (Table HH-4 Households by Size: 1960 to Present).

¹⁵⁶ We disagree with TechFreedom’s claims that the Commission is basing the decision to raise the benchmark solely on “entertainment uses of the Internet” and that we have not outlined information concerning other uses that justified raising the benchmark. TechFreedom Comments at 14-15. As an initial matter, section 706 places no limitation on the content of information that Americans may need to be able to receive or transmit by broadband. Indeed, “high-quality video,” a potential use of advanced telecommunications capability described in section 706, would seem to best describe entertainment uses. 47 U.S.C. § 1302(d)(1). Further, we have identified numerous current non-entertainment uses of broadband, such as telework, telehealth, and telelearning, each of require significant bandwidth. We also decline to adopt the suggestion of Andrew Coy and the Digital Harbor Foundation that we create a speed index representing the needs of users by applying an approach similar to that of the consumer price index, measuring the online activities of American households by examining download, upload, and latency factors. Andrew Coy and the Digital Harbor Foundation Comments at 1-2. The Commission currently lacks sufficient data to conduct this type of comprehensive examination and calculation.

¹⁵⁷ Fig. 1, *infra*.

¹⁵⁸ This considers access to download speeds of at least 100 Mbps only, and does not consider upload speeds. In contrast, other analyses in this Report consider access to a combined download/upload speed threshold, and therefore are not directly comparable. These percentages include all 50 States and the District of Columbia. Our data regarding 100/20 Mbps, while demonstrating a generally high level of current deployment nevertheless reveal notable digital divides between urban and rural and non-Tribal and Tribal areas. See Section III.A.1.c. TechFreedom, a critic of raising the benchmark to 100/20 Mbps, presents as an argument that “raising the benchmark for what constitutes broadband will instantly widen the digital divide.” TechFreedom Comments at 11. TechFreedom is partially correct – raising the benchmark will correctly reveal a greater digital divide than previously reported. This is not a reason for ignoring the reality that 25/3 Mbps is no longer a relevant standard.

37. Most of the nation's largest providers focus their marketing efforts on fixed broadband speeds of at least 100 Mbps download, making slower offerings increasingly irrelevant.¹⁵⁹ For example, Charter markets 300 Mbps as their slowest Internet speed.¹⁶⁰ Verizon appears to market three tiers of fixed service with discounts for low-income customers, with the slowest tier being 300 Mbps.¹⁶¹ Google Fiber appears to market only 1, 2, 5, and 8 Gbps service.¹⁶²

38. *Increasing the Upload Speed Benchmark.* In addition to raising our download speed benchmark from 25 Mbps to 100 Mbps, we raise the current 3 Mbps upload speed benchmark for fixed services to 20 Mbps. Our rationale for our increase in the download benchmark applies equally, if not more, to increasing the upload speed.¹⁶³ Broadband funding programs have evolved not only to expect faster download speeds, but faster upload speeds, as well. For example, the BEAD Program requires an upload speed of 20 Mbps and winning bidders in the Bringing Puerto Rico Together and USVI Fund programs are committed to providing minimum upload speeds of 20 and 500 Mbps, respectively.¹⁶⁴

39. Consumer subscription patterns and usage requirements indicate that upload speed is increasingly important—the subscription patterns and consumer uses discussed above that support increasing the download speed benchmark, also support an increase in the upload speed benchmark. Further, OpenVault's data shows that average household monthly upload broadband usage increased over 30% faster than download usage increased between December 2019 and December 2023.¹⁶⁵ Several commenters also noted trends indicating increased upload traffic and speed requirements, especially as they relate to remote applications like telework, telehealth, and online cloud storage.¹⁶⁶

¹⁵⁹ Commenters agree that marketing trends are relevant in setting the benchmark. *See, e.g.*, INCOMPAS Comments at 4-5; NTCA Reply at 3-4.

¹⁶⁰ Charter Communications, *Spectrum Internet Speeds*, <https://www.spectrum.com/internet> (last visited Feb. 14, 2024) (Charter Communications provides broadband service under the brand Spectrum).

¹⁶¹ Verizon, *Check if you're eligible to save on Verizon Home Internet*, <https://www.verizon.com/discounts/verizon-forward/> (last visited Feb. 14, 2024) (see "Which Verizon Home Internet plans qualify for Verizon Forward").

¹⁶² *Choose the speed you need — from the 1 Gig we're known for to the fastest we've ever offered*, <https://fiber.google.com/internet/> (last visited Feb. 14, 2024).

¹⁶³ No commenter specifically argued against increasing the benchmark upload speed to at least 20 Mbps (as discussed below, some requested a faster benchmark). Rather, commenters that argued against increasing the upload speed did so by simultaneously critique both our proposed download and upload speeds using the same general arguments. *See* Free State Foundation Comments at 13-19, TechFreedom Comments at 9-16.

¹⁶⁴ Infrastructure Act, div. F, tit. I, § 60102(h)(4)(A)(i)(I), 135 Stat. at 1199; *Bringing Together Puerto Rico Broadband Speed Requirements*; *USVI Fund Broadband Speed Requirements*. Multiple state programs also require upload speeds of at least 20 Mbps. *See, e.g.*, Iowa Program (20 Mbps), Maryland Program (20 Mbps), Michigan Program (100 Mbps), Washington Program (20 Mbps).

¹⁶⁵ *See OpenVault 4Q2023 Report* at 13; *OpenVault 4Q2020 Report* at 7. OpenVault reports average monthly download bandwidth consumption was 600.9 GB in December 2022, compared to 325 GB (344 GB - 19 GB) in December 2019 (a roughly 85% increase), while it reports average monthly upload bandwidth consumption was 40.05 GB in December 2023, compared to 19 GB in December 2019 (a roughly 111% increase). *Id.*

¹⁶⁶ OTI notes the upward trend in upload speeds in their comment by noting most of the 30-40% upward trend increase in traffic is related to uploads. OTI Comments at 6 (citing Doug Dawson, *How Will Cable Companies Cope with COVID-19?* (June 26, 2020), <https://potsandpansbyccg.com/2020/06/26/how-will-cable-companies-cope-with-covid-19>). OTI also observes that higher upload speed is especially important with people continuing to use significant upload bandwidth for remote tasks like virtual meetings, doctors' appointments, and classes. OTI Comments at 6. Commenter Dave Taht at Bufferbloat.net notes that there is more need for upload bandwidth for services like cloud-based storage, cross-device synching, telehealth, security cameras that store video, and emerging technology like virtual reality – all of which demand higher upload speeds than past requirements. Taht/Bufferbloat Comments at 11-12.

40. As noted above, multiple household members simultaneously using today's applications may often need more bandwidth, necessitating speeds higher than the current 3 Mbps benchmark. A 2021 study conducted by the Consortium for School Networking (CoSN) concluded that 3 Mbps is an inadequate upload speed to support even a single student in a household, let alone multiple students in the same household.¹⁶⁷ Instead, in 2021 CoSN recommended a per-student benchmark upload speed of 12 Mbps.¹⁶⁸ Zoom suggests 1.2 Mbps upload for a single 720p one-on-one video call and far more for higher quality video (3.8 Mbps) and video calls with groups of people (2.6-3.8 Mbps).¹⁶⁹ 4K live streams can require between 8 Mbps and 50 Mbps upload depending on, among other things, frame rate.¹⁷⁰ Thus it appears that in many instances, simultaneous use of telework, telehealth, remote learning, or personal video calling would significantly outstrip a 3 Mbps upload capability.

41. In the *Notice*, we sought comment on adopting a symmetrical benchmark which, in this case, would entail a 100 Mbps upload standard. Multiple commenters support adopting such a symmetrical benchmark, which also serves as support for increasing the upload benchmark as a general matter.¹⁷¹ We decline, however, to adopt a symmetrical benchmark at this time.

42. Our decision not to adopt a symmetrical 100/100 Mbps benchmark is heavily influenced by the standards that Congress established for determining inadequately served locations for the BEAD Program. While it is true that the RUS ReConnect Program (which received additional funding in the Infrastructure Act) requires deployment of symmetrical 100 Mbps service and the ARPA program has a preference for deployment of 100 Mbps symmetrical service,¹⁷² the size of these programs (\$3.3 billion

¹⁶⁷ Consortium for School Networking, Student Home Connectivity Study, at 8 (2021), https://emma-assets.s3.amazonaws.com/paqab/37cf06d0de533f59eb780f4ec065d766/Home_Connectivity_Study_Report_5.3.21_FINAL.pdf.

¹⁶⁸ Consortium for School Networking, Student Home Connectivity Study, at 8 (2021), https://emma-assets.s3.amazonaws.com/paqab/37cf06d0de533f59eb780f4ec065d766/Home_Connectivity_Study_Report_5.3.21_FINAL.pdf. Commenter ADTRAN points out that remote applications require more than 3 Mbps upload, especially if a household includes two or more people, and particularly as consumers originate additional traffic from applications like social media, gaming, and Internet-of-things-related applications. ADTRAN Comments at 11.

¹⁶⁹ Zoom, *Zoom system requirements: Windows, macOS, Linux*, <https://support.zoom.us/hc/en-us/articles/201362023-System-requirements-for-Windows-macOS-and-Linux> (last visited Feb. 14, 2024). Microsoft recommends 1.5 Mbps upload for a single 720p one-on-one video call, 4.0 Mbps for higher quality video, and 2.5-4.0 for video calls with groups of people using Teams, which Microsoft states “is always conservative on bandwidth utilization.” Microsoft, *Prepare your organization's network for Microsoft Teams*, <https://learn.microsoft.com/en-us/microsoftteams/prepare-network> (last visited Feb. 14, 2024).

¹⁷⁰ Boxcast, *Upload Speeds for 4K Live Streaming* (Dec. 20, 2022), <https://www.boxcast.com/blog/internet-speeds-for-4k-live-streaming>; YouTube Help, Choose Live Encoder Settings, Bitrates, and Resolutions, <https://support.google.com/youtube/answer/2853702?hl=en> (*YouTube Recommended Live Encoder Settings*) (last visited Feb. 14, 2024). Bandwidth recommendations for live streaming tend to be higher than for merely watching video of the same quality to ensure consistent throughput at the necessary speed. See Restream, *What is a good upload speed for streaming?* (July 1, 2022), <https://restream.io/blog/what-is-a-good-upload-speed-for-streaming/>. Compare, e.g., *YouTube Recommended Live Encoder Settings with YouTube Video Bandwidth Recommendations*.

¹⁷¹ See, e.g., FBA Comments at 3-4, 14-16 (supporting a 1 Gbps/1Gbps benchmark); Nebraska PSC Reply at 1-2 (referencing previously supporting 100/100 Mbps for high-cost USF programs); Next Century Cities Comments at 3-4 (arguing for a symmetrical benchmark to situate the Commission “as a broadband leader”); NRECA Comments at 4-6, 10 (arguing for a symmetrical benchmark based on NRECA member offerings and certain federal programs). We sought comment on this matter in the *Notice*. *Notice*, FCC 23-89 at 11, para. 22.

¹⁷² ReConnect's rules require that recipients provide speeds in the latest Federal Register Notice, which currently requires 100 Mbps symmetrical speeds. 7 CFR § 1740.3(a)(2); Rural Utilities Service, Rural eConnectivity Program, 87 Fed. Reg. 47690, 47692 (Aug. 4, 2022). The Department of the Treasury's rules state that if providing an upload speed of 100 Mbps “is not practicable, because of the excessive cost of the project or geography or

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for the ReConnect Program, \$10 billion for the ARPA program) pale in comparison to the BEAD Program.¹⁷³ Commenters only identify a “handful” of state programs and no Commission high-cost programs with such a requirement.¹⁷⁴ Further, proponents of a symmetrical requirement do not point to consumer usage statistics, deployment statistics, or specific significant widespread ISP offerings justifying a symmetrical standard.¹⁷⁵ Despite our decision to not adopt a symmetrical upload benchmark at this time, we fully support deployment of broadband at faster upload speeds, as evidenced by our high-cost USF programs, as well as the long-term goal that we discuss below. We intend to monitor upload speeds in future inquiries for purposes of considering additional updates to the fixed speed benchmark.

43. *Proposed Higher Speed Benchmarks.* Some commenters request that the Commission raise the benchmark higher than 100/20 Mbps because changes to speeds offered to consumers and consumers’ reliance on those speeds justifies a larger leap in the benchmark.¹⁷⁶ INCOMPAS, for example, argues that fundamental changes to speeds offered in the marketplace as well consumer reliance on these speeds would support raising the benchmark to 1 Gbps and that adopting a 100/20 Mbps baseline is not truly “advanced” because many providers have already surpassed this benchmark.¹⁷⁷ The Fiber Broadband Association also seeks a higher benchmark, although it does not identify a specific speed alternative.¹⁷⁸ Other commenters argue that raising the benchmark above 100/20 Mbps is not necessary at this time, with some pointing to the incongruity of establishing a benchmark in excess of the BEAD standard of 100/20 Mbps.¹⁷⁹ We find that quadrupling our download benchmark while increasing the upload benchmark by nearly seven times its predecessor represents a significant change worthy of evaluation before considering additional increases, particularly in light of the current early stage of the BEAD Program.

44. *Transparency in Establishing and Evaluating Our Benchmark.* In the *Notice*, we sought comment, consistent with a recent recommendation by the Government Accountability Office (GAO), on means by which the Commission could make its current and future consideration of a benchmark for fixed broadband service as consistent and transparent as possible.¹⁸⁰ No commenters explicitly responded to this request, though commenters suggested a variety of means by which we could establish and evaluate our benchmark.¹⁸¹ In this Report, we have endeavored to fully explain our reasoning behind the

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topography of the area to be served by the project,” recipients are permitted to deploy service at an upload speed of 20 Mbps, so long as the upload speed is scalable to 100 Mbps. 31 CFR § 35.6(e)(2)(i)(B), *ARPA Final Rule*.

¹⁷³ Congress appropriated funding to the ReConnect program in various appropriations laws, including the Infrastructure Act, the Coronavirus Aid, Relief, and Economic Security Act, and annual appropriations. Lisa S. Benson, Cong. Rsch. Serv., R47017, *USDA’s ReConnect Program: Expanding Rural Broadband* (2020), <https://crsreports.congress.gov/product/pdf/R/R47017>. ARPA amounts are provided directly from the American Rescue Plan Act. 42 U.S.C. § 804(a).

¹⁷⁴ Next Century Cities Comments at 4

¹⁷⁵ We note that OpenVault’s most recent monthly usage data support the conclusion that upload and download demand is far from symmetrical. See *OpenVault 4Q2023 Report* at 13.

¹⁷⁶ See INCOMPAS Comments at 2-6; FBA Comments at 2-14.

¹⁷⁷ INCOMPAS Comments at 2-6.

¹⁷⁸ FBA Comments at 2-14.

¹⁷⁹ ADTRAN Comments at 9-12; CTIA Comments at 15-16; WISPA Reply at 2.

¹⁸⁰ *Notice*, FCC 23-89, at 11, para. 24, *referencing* U.S. Government Accountability Office, *FCC Should Improve Its Communication of Advanced Telecommunications Capability Assessments* at 19 (2023), <https://www.gao.gov/assets/gao-23-105655.pdf>.

¹⁸¹ See, e.g., ADTRAN Comments at 10-13; Andrew Coy and the Digital Harbor Foundation Comments at 1-2; Adaptive Spectrum and Signal Alignment, Incorporated (ASSIA) Comments at 5-6; FBA Comments at 5-14; Free State Foundation Comments at 13-19; WTA Comments at 5-7.

decision to raise the fixed speed benchmark and, with the exception of subscription statistics, which are based on business-sensitive confidential information, have used publicly available data to inform our analysis of fixed broadband speeds. We have similarly strived to use the same methods in setting our download and upload speeds, often relying on similar evidence. We intend to continue to examine evidence and the record similarly in the future, including the use of new and improved data sources to the extent such data becomes available.

45. *Technological Neutrality.* While some commenters suggest addressing different technologies with separate standards,¹⁸² other commenters noted preferences to applying the benchmark in a technology-neutral manner.¹⁸³ Our directive from Congress is to evaluate “whether advanced communications capability is being deployed to all Americans in a reasonable and timely fashion,” and section 706 is clear that advanced telecommunication capability can be delivered using “any technology.”¹⁸⁴ This directive requires us to adopt a standard for what consumers actually need for these purposes; it does not allow us to favor a technology or to advance the needs of a particular portion of the telecommunications industry. Additionally, the statutory standard does not invite differing standards for separate technologies. Either a technology is capable of providing advanced telecommunications capability or it is not. And while our examination takes into consideration what speeds are deployed and adopted, our benchmark is appropriately set without regard to specific technologies.¹⁸⁵

46. *Small Business Needs.* In the *Notice*, we asked what needs of small businesses should be taken into consideration in our determination of a new speed benchmark, noting that we agree with the GAO that conducting an analysis of small business broadband needs, assuming adequate data are available, could assist the Commission in determining whether the current fixed broadband benchmark is adequate.¹⁸⁶ ADTRAN, the only party to comment on this issue, argues that small businesses tend to purchase service that differs from consumer service, such as through performance guarantees (and at a higher price), and that, therefore, including small business would distort our analysis under section 706.¹⁸⁷ We are unable to evaluate ADTRAN’s assertions because the Commission does not currently have sufficiently comprehensive data on this issue, and we therefore lack a basis for meaningfully considering small business needs in this inquiry.¹⁸⁸ We hope to reexamine this issue in the future in the event small business specific data becomes available. Further, the Commission will continue to consider additional

¹⁸² See NTCA Comments at 6-9; NTCA Reply at 5 (NTCA Reply); WTA Comments at 9-10. NTCA and WTA comments seem to suggest that technology neutrality somehow disadvantages technologies with a higher bandwidth capacity. We disagree. Technology neutrality, which is mandated by the text of section 706, requires us to look at the needs of consumers to use advanced communications capabilities and make a benchmark determination accordingly.

¹⁸³ See CCIA Comments at 2; Free State Foundation Comments at 17; USTelecom Comments at 2-3.

¹⁸⁴ 47 U.S.C. § 1302(b) and (d)(1).

¹⁸⁵ As explained below, our analysis of fixed broadband is based on all fixed terrestrial services (fixed broadband services excluding fixed satellite service). Further, we conduct our analysis of fixed broadband both with and without fixed wireless.

¹⁸⁶ *Notice*, FCC 23-89, at 11, para. 25. We also noted GAO’s view is that the current minimum benchmark speed of 25/3 Mbps is likely not fast enough to meet the needs of small businesses, particularly with regard to upload speeds. *Notice*, FCC 23-89, at 11, para. 25. See also U.S. Government Accountability Office, *FCC Should Analyze Small Business Needs* at 26 (2021), <https://www.gao.gov/assets/gao-21-494.pdf>.

¹⁸⁷ ADTRAN Comments at 12.

¹⁸⁸ Although the BDC collects information on where mass market broadband service is made available to business, residential, and mixed-use locations, it does not collect service availability information on which business or mixed-use locations house small businesses. See FCC, *How to Format Fixed Broadband Availability Location Lists*, <https://help.bdc.fcc.gov/hc/en-us/articles/5291539645339-How-to-Format-Fixed-Broadband-Availability-Location-Lists> (last visited Feb. 14, 2024).

ways in which it can obtain more information about small business broadband needs.

47. *Long-Term Speed Goal.* In addition to raising our fixed speed benchmark speed from 25/3 Mbps to 100/20 Mbps, we find that adopting the *Notice*'s proposed aspirational goal of deployment of 1 Gbps/500 Mbps is necessary to give stakeholders a collective goal towards which to strive—a better, faster, more robust system of communication for American consumers.¹⁸⁹ We find that setting such a long-term goal is necessary so as to avoid sending an inappropriate signal to other policymakers as it appears, for instance, that some states may still be using 25/3 Mbps as their standard for some programs.¹⁹⁰ This long-term speed goal is aspirational—we do not intend to use it as the measure to determine our finding under section 706. Rather, we intend for it to serve as a guidepost for evaluating our efforts to encourage deployment. In addition, we believe that establishing an aspirational goal will have the effect of encouraging deployment of services more relevant for the future.¹⁹¹

48. As explained in the *Notice*, we based our new long-term goal on a speed adopted for many locations in recently established Commission USF programs.¹⁹² Many commenters note that setting a long-term goal is appropriate and support setting that goal at 1 Gbps/500 Mbps or higher.¹⁹³ The Nebraska PSC, for example, accurately explains that “[a]doption of a strategic forward-looking vision will help the Commission set the desired pace for broadband deployment and provide a clear gauge as to whether that deployment is on track,” while encouraging the Commission to consider an even higher goal.

49. While some commenters suggest that a long-term 1 Gbps symmetrical goal is necessary,¹⁹⁴ we decline to adopt a symmetrical long-term benchmark at this time. This decision is guided in part by the Commission's 2022 BDC data, which shows that 1 Gbps/500 Mbps service, the long-term fixed physical deployment goal, is not yet deployed to 50% of households¹⁹⁵—deployment of 1 Gbps symmetrical is even further off.¹⁹⁶ We will continue to re-evaluate our long term goal in future reports.¹⁹⁷

¹⁸⁹ *Notice*, FCC 23-89, at 11-12, para. 26.

¹⁹⁰ See, e.g., Georgia Code § 50-40-1(2), 50-40-2(a) (defining “broadband services” for purposes of “state-wide efforts to promote and facilitate deployment of broadband services” as services with a capability to transmit at a minimum speed of 25/3 Mbps); Business Oregon, *Rural Broadband Capacity Program*, https://www.oregon.gov/biz/aboutus/boards/bac/Pages/Rural_Broadband_Capacity_Pilot_Program.aspx (last visited Jan. 18, 2024) (permitting grants to fund construction of broadband infrastructure capable of delivering service at speed of at least 25/3 Mbps). At least two states tie the speed requirements for at least one of their programs to the Commission's benchmark (to change as the Commission's benchmark changes). See Minn. Stat. § 116J.394(b) (citing, in turn, Minn Stat. § 116J.39(b)); State of West Virginia, *West Virginia Broadband Infrastructure Loan Insurance Guide at 5* (2018), <https://broadband.wv.gov/assets/files/pdfs/inner-pages/loan-insurance/WVEDA-Loan-Insurance-Guide-and-Form-2018.11.9.pdf>.

¹⁹¹ The Commission has previously stated that it reads section 706(a) as Congress's direction to accelerate deployment when deployment might not be proceeding in a reasonable and timely fashion. *2015 Report* at 1405, para. 49.

¹⁹² *Notice*, FCC 23-89, at 11-12, para. 26. See, e.g., *Bringing Together Puerto Rico Broadband Speed Requirements*; *USVI Fund Broadband Speed Requirements*; *Rural Digital Opportunity Fund Report and Order*, 35 FCC Rcd at 702-703, para. 3.

¹⁹³ Benton Institute Comments at 2-3; CCIA Comments at 1-2; Letter from Angie Kronenberg, Chief Advocate & General Counsel, INCOMPAS, 3 (filed Aug. 1, 2022) (INCOMPAS August 2022 *Ex Parte*); Nebraska PSC Reply at 2; Vantage Point Comments at 6; Vantage Point Reply at 6 (suggesting that our proposed long-term goal will soon be met, but based on average download speeds rather than 100% deployment); WTA Comments at 3, 10, 20-21.

¹⁹⁴ See ADTRAN Comments at 13-15; FBA Comments at 4; NDIA Reply at 3; NRECA Comments at 4, 6, 10; NTCA Comments at 6.

¹⁹⁵ For purposes of this Report, each unit within a populated BDC Broadband Serviceable Location (BSL) is considered to be a household.

50. We disagree with commenters that argue that the Commission should simply continue to review benchmarks yearly and increase the standard speed benchmark when necessary as opposed to setting a long-term goal,¹⁹⁸ as well as commenters that object to setting a long-term goal because it is difficult to predict what will be needed.¹⁹⁹ While we understand the reservations of certain commenters citing the difficulty in predicting future needs, we believe it still important to set an aspirational goal against which the industry can strive to achieve.²⁰⁰ This goal can be changed in the future should the progress of deployment slow down or speed up. As NTCA puts it: “[s]etting a long-term goal does not preclude providers capable of providing only 100/20 Mbps today from securing funds while also considering the capability to meet the demand they will experience from consumers in the future.”²⁰¹

51. In addition to proposing a long-term goal, we also sought comment in the *Notice* on how we should define “long-term,” noting that the length of support for many high-cost programs is 10 years.²⁰² We recognize that our long-term goal is new, and many ISPs are several years away from successfully completing the 1 Gbps/500 Mbps (or greater) 10-year buildout commitments that they have made. As a result, we conclude that it is best to initially observe market and investment trends before attaching a timeframe to our long-term goal. We intend to continually monitor this issue.

b. Data Sources and Methodology

52. As proposed in the *Notice*, we use the FCC BDC data in our analysis of December 2022 broadband service availability²⁰³ and rely on FCC Form 477 data for December 2018 through December

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¹⁹⁶ For example, the Commission’s estimates of 940/500 Mbps deployment from 2022 demonstrate that between approximately 55% and 61% of households do not have access to this speed, while between approximately 38% and 41% of households have at least one provider offering access to this speed tier. *Communications Marketplace Report et al.*, GN Docket No. 22-203, 37 FCC Rcd 15514, 15563, para. 61, Fig. II.A.33 (2022), (2022 *Communications Marketplace Report*), <https://docs.fcc.gov/public/attachments/FCC-22-103A1.pdf>. For purposes of this report, we use a download speed of 940 Mbps because that is the maximum advertised download speed reported in BDC data by two of the largest providers of fixed terrestrial broadband service. This is also what we reported in the 2022 *Communications Marketplace Report*. 2022 *Communications Marketplace Report*, 37 FCC Rcd at 15533, para. 31 & n.64.

¹⁹⁷ To the extent that we find this 1 Gbps/500 Mbps goal to be inadequate in light of future developments, as some parties have suggested it may be, we will raise it. See FBA Comments at 4; Letter from Angie Kronenberg, Chief Advocate & General Counsel, INCOMPAS, 3 (filed Aug. 1, 2022) (INCOMPAS August 2022 *Ex Parte*); NDIA Reply at 3; Nebraska PSC Reply at 2; NRECA Comments at 4, 6, 10; NTCA Comments at 6; Vantage Point Comments at 6; Vantage Point Reply at 6-7; WTA Comments at 3, 10, 20-21.

¹⁹⁸ See ACAM Coalition Comments at 1, 3-4; Rally Networks Comments at 2.

¹⁹⁹ See ACA Connects Comments at 7-8; CTIA Comments at 19; Free State Foundation Comments at 14; USTelecom Comments at 2, 4; WISPA Comments at 4-5; WISPA Reply at 3-4.

²⁰⁰ We note that our aspirational goal is merely that – aspirational. It should not distort otherwise rational ISP investment plans, as feared by ACA Connects. Further, because our long-term goal is not being used for our section 706 finding, it need not necessarily be based on a detailed projection of consumer needs; rather, we believe our already-established long-term goals in our high-cost USF programs serve as an adequate basis for our long-term goal.

²⁰¹ NTCA Reply at 4.

²⁰² *Notice*, FCC 23-89, at 12, para. 26.

²⁰³ BDC data as of December 31, 2022 includes all filings certified as of December 1, 2023. In the FCC’s BDC, data on fixed “availability” of broadband services show locations where a provider currently has a customer or where the provider is capable of performing a “standard broadband installation” (that is, can complete a routine installation within 10 business days after a service request is initiated with no charges or delays attributable to the extension of the provider’s network). These data provide a more highly granular assessment of “service availability” than the Commission’s former Form 477 fixed broadband deployment collection. The BDC does not currently factor in all

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2021 for historical trend purposes.²⁰⁴ The Commission has for many years relied primarily on the FCC Form 477 deployment data to evaluate the progress of advanced telecommunications capability,²⁰⁵ as that dataset was the most reliable and comprehensive data to assess broadband service availability.²⁰⁶ However, in the years since the Commission’s last Section 706 Report, the Commission has established a new data collection for broadband service availability—the BDC.²⁰⁷ The Commission now requires facilities-based providers of fixed broadband Internet access services to file location-level service availability data directly with the Commission.²⁰⁸

53. In March 2020, Congress passed the Broadband Deployment Accuracy and Technological Availability Act (Broadband DATA Act),²⁰⁹ which required the Commission, among other things, to collect biannual data relating to the service availability and quality of service of fixed and mobile broadband Internet access service for the Commission to create broadband coverage maps.²¹⁰ Pursuant to the Broadband DATA Act, we now collect more precise, location level data on mass market broadband service availability and fixed broadband services through the BDC. In addition to improved precision, the BDC data is subject to input from consumers, state, local, and Tribal governmental entities, and other stakeholders who may submit challenges and crowdsource data to further refine the accuracy of service availability data, as well as the Commission’s verification and audit efforts which collectively help to validate the accuracy of the provider-reported service availability data. Accordingly, in December 2022, the Commission sunset the collection of broadband deployment data through the FCC Form 477.²¹¹

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of the universal service goals that the Commission is analyzing as a part of this inquiry into “availability,” and as a result in this report we use the term “service availability” to refer to “availability” as reported in the Broadband Data Collection. See Broadband Data Collection, Data Specifications for Biannual Submission of Subscription, Availability, and Supporting Data (Feb. 7, 2023), <https://us-fcc.app.box.com/v/bdc-availability-spec> and 47 CFR § 1.7004.

²⁰⁴ Historically, service providers used the FCC Form 477 to report on where they had deployed broadband service. See FCC Form 477, Instructions for Filings as of December 31, 2019-June 30, 2022, <https://usfcc.app.box.com/v/Form477InstThruJune2022>. The first BDC filing window for the collection of data as of June 30, 2022, opened on June 30, 2022 and closed September 1, 2022. See *Inaugural Filing Window for Broadband Data Collection Has Opened; Filers May Begin Submitting Broadband Availability Data*, WC Docket Nos. 11-10, 19-195, Public Notice, 37 FCC Rcd 7656 (WCB/WTB/OEA 2022). The second BDC filing window for the collection of data as of December 31, 2022, opened on January 3, 2023 and closed March 1, 2023. See *Broadband Data Task Force Announces Opening of the Second Broadband Data Collection Filing Window*, WC Dockets Nos. 11-10, 19-195, Public Notice, 37 FCC Rcd 15161 (WCB/WTB/OEA 2022).

²⁰⁵ See, e.g., *2021 Report*, 36 FCC Rcd at 847-48, para. 21; *2018 Report*, 33 FCC Rcd at 1677, para. 43; *2016 Report*, 31 FCC Rcd at 729, para. 73.

²⁰⁶ *2021 Report*, 36 FCC Rcd at 847-48, para. 21.

²⁰⁷ *Establishing the Digital Opportunity Data Collection*, WC Dockets Nos. 19-195 and 11-10, Third Report and Order, 36 FCC Rcd 1126 (2021) (*BDC Third Report and Order*); *Establishing the Digital Opportunity Data Collection*, WC Dockets Nos. 19-195 and 11-10, Second Report and Order and Third Further Notice of Proposed Rulemaking, 35 FCC Rcd 7460, 7461, para. 1 (2020) (*BDC Second Order and Third Further Notice*); *Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program*, WC Dockets Nos. 19-195 and 11-10, Report and Order and Second Further Notice of Proposed Rulemaking, 34 FCC Rcd 7505, 7549, para. 112 (2019); *Modernizing the FCC Form 477 Data Program*, WC Docket No. 11-10, Further Notice of Proposed Rulemaking, 32 FCC Rcd 6329, 6331-32, para. 8 (2017).

²⁰⁸ See 47 CFR § 1.7004.

²⁰⁹ Broadband Deployment Accuracy and Technological Availability Act, Pub. L. No. 116-130, 134 Stat. 228 (2020) (codified at 47 U.S.C. §§ 641-646) (Broadband DATA Act).

²¹⁰ 47 U.S.C. § 642(a)(1)(A).

²¹¹ *Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program*, WC Docket Nos. 19-195, 11-10, Order, 37 FCC Rcd 14957 (2022) (*2022 Form 477 Order*) (sunsetting the collection of

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The third BDC filing window, for data as of June 30, 2023, closed on September 15, 2023.

54. The BDC offers several advantages over the FCC Form 477 data for the purposes of our section 706 analysis. The BDC is the most granular, detailed collection of broadband service availability data the FCC has ever gathered or released, depicting location-level information on fixed broadband Internet access service availability across the United States as well as standardized coverage maps for 3G, 4G LTE, and 5G-NR mobile wireless services. As part of the BDC, the Commission developed the Broadband Serviceable Location Fabric (Fabric).²¹² The Fabric is a dataset of all locations in the United States where fixed broadband Internet access service is or can be installed.²¹³ Fixed providers must then report whether they make services “available,” as the term is used for BDC purposes, specifying the technology and maximum advertised speed, at each location identified in the Fabric.²¹⁴ This allows the Commission to determine whether terrestrial fixed advanced telecommunications capability is available (as defined for BDC purposes) on a location-by-location basis. Previously, as part of their FCC Form 477 filings, facilities-based fixed broadband providers submitted data, by census block, about where they had deployed fixed broadband service; a census block was submitted if a fixed provider had deployed broadband service to at least one end-user premises in that block.²¹⁵ As the Commission has previously explained, this previous approach could overstate the coverage experienced by some consumers, especially in large or irregularly-shaped census blocks.²¹⁶ Because the BDC collects service availability data below the census block level, it represents a significant increase in granularity starting in 2022.

55. Our analysis of deployment for both fixed and mobile services uses census block population data developed by the U.S. Census Bureau and Commission staff estimates.²¹⁷ Prior to 2022,

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broadband deployment data through FCC Form 477). The Commission clarified that it will continue to collect broadband and voice subscription data using the FCC Form 477, but filers will submit their data through the FCC BDC system. *Id.* at 14957, para. 1.

²¹² See *Broadband Data Task Force Announces the Availability of the Production Version of the Broadband Serviceable Location Fabric*, WC Docket Nos. 19-195, 11-10, Public Notice, 37 FCC Rcd 7537 (2022) (announcing that the Fabric was now available for broadband service providers and governmental entities to access) and Federal Communications Commission Broadband Data Collection Help Center, *What is the Location Fabric?* (Aug. 2, 2023), <https://help.bdc.fcc.gov/hc/en-us/articles/5375384069659-What-is-the-Location-Fabric->.

²¹³ See 47 U.S.C. § 642(b)(1)(A).

²¹⁴ Terrestrial fixed and satellite providers can do this by either submitting a list of locations (by unique location ID) for which they can make their service “available” or by providing a polygon that can be overlaid onto the Fabric data. See 47 CFR § 1.7004(c)(1); Broadband Data Collection, Data Specifications for Biannual Submission of Subscription, Availability, and Supporting Data at 21 (Feb. 7, 2023), <https://us-fcc.app.box.com/v/bdc-availability-spec>. Similarly, terrestrial fixed wireless providers may either submit a list of locations or propagation maps and model details that reflect the speeds and latency of its service. *Id.*

²¹⁵ For purposes of the analysis of access to advanced telecommunications capability in this report, for years 2018-2021, a census block is classified as served by fixed broadband if the FCC Form 477 data indicate that service is available in the census block, even if not to every location. Therefore, it is not necessarily the case that every household, housing unit, or person will have coverage from a given service provider in a census block that this analysis indicates is served. *2021 Report*, 36 FCC Rcd at 848, para. 22; see also *2022 Communications Marketplace Report*, 37 FCC Rcd at 15521, para. 15. Because a provider that reports offering service in a particular census block may not offer service, or service at that speed, to all locations in the census block, the number of providers presented in this report does not necessarily reflect the number of choices available in a particular household and does not purport to measure competition. See, e.g., *2022 Communications Marketplace Report*, 37 FCC Rcd at 15521, para. 15 & n.26.

²¹⁶ See, e.g., *2021 Report*, 36 FCC Rcd at 848, para. 22; *2020 Report*, 35 FCC Rcd at 8998, para. 26.

²¹⁷ Commission staff developed population estimates for 2018-21 by updated Census Bureau-level population and household-level data. These estimates are based on annual U.S. Census mid-year county- (or county-equivalent) level population and housing unit estimates for the 50 states and the District of Columbia. These data are used in

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the Commission had no information about broadband service availability below the census block, and therefore block-level population estimates were applied directly to the existing broadband service availability data to estimate the population with access to advanced telecommunications capability. Beginning in 2022, the BDC offers us sub-block, location-level broadband service availability data. The Fabric dataset, on which the BDC is based, contains the number of units in each Broadband Serviceable Location (BSL) but it does not contain information on the population of each BSL or unit therein. To estimate the population with access to advanced telecommunications capability for December 2022 and beyond, we will use our established block-level population estimation methodology as an input to estimate the population of each BSL.²¹⁸ Generally, we estimate the population of each unit within a census block by iteratively assigning the estimated population of the block to BSLs in turn based on a fixed probability, where that fixed probability is a decreasing function of the total number of units in the block. In this way, the population of each census block will equal the sum of population counts across all units in the block, but each unit—and therefore each BSL—within a block will generally not have the same population. We then estimate the number of households by counting the number of units within populated BSLs.²¹⁹

56. *Urban/Rural Classification.* For years prior to 2021, the designation of a census block as urban is based on the 2010 Urban Areas delineated by the U.S. Census Bureau, while for 2021 and 2022, urban/rural status is derived from the 2020 Urban Areas.²²⁰ Census blocks are completely within or outside of an urban area. A block's population, housing/BSLs, and territory are classified as urban if the block is within an Urban Area. Otherwise, a block's population, housing/BSLs, and territory are considered rural.

57. *Tribal Lands Classification.* The Commission uses federally recognized American Indian, Alaska Native, and Native Hawaiian Areas maintained by the U.S. Census Bureau as the source for Tribal lands classification. For metrics provided prior to 2021, the data vintage is the 2010 Census. For 2021 and 2022, data from the 2020 Census are used.²²¹

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conjunction with U.S. Census Bureau Topological Integrated Geographic Encoding and Referencing (TIGER) data to indicate new roads, that is, new housing development, to distribute population amongst the census blocks comprising each county (or county-equivalent). FCC, *Staff Block Estimates*, <https://www.fcc.gov/reports-research/data/staff-block-estimates> (last visited Jan. 9, 2024) (Staff Block Estimates).

²¹⁸ Federal Communications Commission Broadband Data Collection Help Center, *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>.

²¹⁹ For example, if a block has a population of 20 persons (based on staff estimates or Census counts, depending on the year of the data) and six units distributed across three BSLs (based on the contemporaneous version of the Fabric), each person is essentially assigned to a unit in turn by rolling a six-sided die. In the end, the population of each BSL will be an integer, and the population of the six units will not necessarily be equal. See Appendix A for a comprehensive explanation of our population distribution methodology.

²²⁰ For year-end 2018-2020 FCC Form 477 data that are submitted according to 2010 Census block geographies, we define as “urban” all 2010 Census urban areas and urban clusters that sit within a Metropolitan Statistical Area. See *Connect America Fund*, WC Docket No. 10-90, Order, 28 FCC Rcd 4242, 4244, para. 10 (WCB/WTB 2013). For year-end 2021 and 2022, we rely on the 2020 Census block geographies. United States Census Bureau, *Urban and Rural*, <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html>.

²²¹ For purposes of the analysis of Tribal lands in this report, we use the definition that was used in the 2022 *Commercial Marketplace Report* and in the Commission's *Broadband Deployment Reports* since 2012. See 2022 *Communications Marketplace Report*, 37 FCC Rcd at 15538, para. 35 & n.71; *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 11-121, Eighth Broadband Progress Report, 27 FCC Rcd 10342, 10414-15 (2012). We acknowledge that the Commission has used other definitions of Tribal lands in other contexts. See, e.g., *Transforming the 2.5 GHz Band*, WT Docket No. 18-120, Report and Order, 34 FCC Rcd 5446, 5465-66, paras. 51-55 (2019) (*2.5 GHz Report and*

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58. *Satellite Services.* We find that FCC Form 477 deployment data and FCC BDC service availability data for satellite broadband service may overstate the extent to which satellite broadband service is available. The 2022 FCC BDC service availability data for satellite broadband indicate that satellite service offering 25/3 Mbps speeds is available to nearly all of the population.²²² However, other FCC Form 477 data indicate that satellite services have a relatively low subscription rate despite their apparent widespread service availability, and satellite capacity limits the number of subscribers that can be served without service degradation.²²³ Given this, and unless stated otherwise, consistent with past Reports, our analysis in this section is based on all fixed terrestrial services and does not include satellite services.²²⁴

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Order); *Bridging the Digital Divide for Low-Income Consumers*, Fourth Report and Order, Order on Reconsideration, Memorandum Opinion and Order, WC Docket No. 17-287, Notice of Proposed Rulemaking, and Notice of Inquiry, 32 FCC Rcd 10475 (2017); *Connect America Fund et al.*, Report and Order, WC Docket No. 10-90, Further Notice of Proposed Rulemaking, and Order on Reconsideration, 33 FCC Rcd 11893, 11910-11, para. 55 & n.122 (2018); *Wireless Telecommunications Bureau Announces Procedures for 2.5 GHz Rural Tribal Priority Window*, WT Docket No. 18-20, Public Notice, 35 FCC Rcd 308, 313, para. 19 (WTB 2020). However, for purposes of this Report, we maintain our definition as previously employed.

As identified by the U.S. Census Bureau, Tribal lands fall into one of the following American Indian Area/Alaska Native Area/Hawaiian Home Land Class Code categories: (1) legal federally recognized American Indian area consisting of reservation and associated off-reservation trust land; (2) legal federally recognized American Indian area consisting of reservation only; (3) legal federally recognized American Indian area consisting of off-reservation trust land only; (4) joint use areas (legal); (5) statistical American Indian area defined for a federally recognized Tribe that does not have reservation or off-reservation trust land, specifically a Tribal Designated Statistical Area (TDSA) or Oklahoma Tribal Statistical Area (OTSA); (6) joint use areas (statistical); (7) Alaskan Native Village Statistical Areas (ANVSAs); and (8) Hawaiian Home Lands established by the Hawaiian Homes Commission Act of 1921. We exclude state recognized areas from the analysis of Tribal lands. Categories (1), (2), (3), and (4) are grouped together as Federal Reservations and categories (5) and (6) comprise Tribal Statistical Areas within this report. United States Census Bureau, *TIGER/Line Shapefiles and TIGER/Line Files Technical Documentation*, (Feb., 2021) https://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2020/TGRSHP2020_TechDoc.pdf.

²²² The December 2022 BDC data indicate that satellite service offering 25/3 Mbps speeds is available to close to 100% of the U.S. population while a speed of 100/20 Mbps is available to approximately 16% of the U.S. population only.

²²³ The FCC Form 477 subscription data indicate that between December 2018 and December 2022, consumer subscriptions for satellite services at any speed increased slightly from approximately 1.8 million to approximately 1.9 million. The take rate for satellite services is just under 1.4%. While satellite coverage may enable operators to offer services to wide swaths of the country, overall satellite capacity may limit the number of consumers that can actually subscribe to satellite service at any one time. *2022 Communications Marketplace Report*, 37 FCC Rcd at 15704, para. 332 & n.963.

²²⁴ See *2021 Report*, 36 FCC Rcd at 851, para. 27; *2020 Report*, 35 FCC Rcd at 9000, para. 31; *2019 Report*, 34 FCC Rcd at 3870, para. 28; *2018 Report*, 33 FCC Rcd at 1678, para. 45; *2016 Report*, 31 FCC Rcd at 703, para. 3 (describing the matter as moot because no satellite services met or exceeded the then-applicable 25/3 Mbps fixed broadband benchmark). Service availability data submitted through the BDC continue to improve as filers become more acquainted with the filing requirements and as Commission staff conduct additional verifications of the data. Recently, as part of this effort, the Broadband Data Task Force released an updated data specification which included common data fields for satellite infrastructure data that satellite service providers use to estimate their service and coverage. See Broadband Data Collection, Data Specifications for Provider Infrastructure Data in the Challenge, Verification, and Audit Processes § 2.3 (December 21, 2023), <https://us-fcc.app.box.com/v/bdc-infrastructure-spec>. The Task Force has notified service providers (including satellite providers) that it will collect these additional data in the context of the Commission's statutory obligations to verify broadband service availability data. See *Establishing the Digital Opportunity Data Collection; Competitive Carriers Association and USTelecom – The Broadband Association Petition for Extension of Waiver Regarding the Requirement for a Certified Professional Engineer to Certify Broadband Data Collection Maps*, WC Docket No. 19-195, Order, DA 23-1123 at para. 22 (WTB/WCB/OEA Nov. 30, 2023).

59. *Terrestrial Fixed Wireless Services.* We find that the FCC Form 477 deployment data and BDC service availability data for terrestrial fixed wireless services indicate that these services are widely available and that subscription to these services has increased over time. However, the overall subscription rate remains relatively low.²²⁵ Therefore, for purposes of this Report, we present two sets of deployment and service availability estimates: one including fixed wireless services and one excluding fixed wireless services.²²⁶ As demonstrated in the Figures below, excluding fixed wireless services has the greatest effect in rural areas and Tribal lands.

c. Fixed Broadband Data

60. Figure 1 shows service availability of fixed terrestrial broadband at three minimum speed thresholds: 25/3 Mbps, 100/20 Mbps, and 940/500 Mbps.²²⁷ As noted above, the new fixed speed benchmark for evaluating access to advanced telecommunications capability is 100/20 Mbps and the new long-term goal is 1000/500 Mbps—the 25/3 Mbps threshold, the Commission’s former fixed speed benchmark, is included for comparison purposes. Further, because of the change in census geographies during our data collection period, caution should be exercised when considering the trends in service availability over time for urban and rural areas. In addition, due to the different parameters of the underlying data collections, the results for 2022 should not be directly compared with previous years. For purposes of the December 31, 2022 analysis, we measure service availability of fixed services based on the Fabric.²²⁸ Unless otherwise explicitly stated, the data we use in our analysis of the fixed marketplace are for the 50 states and the District of Columbia.²²⁹ Our analysis of deployment and service availability for both fixed and mobile services uses census block data developed by the U.S. Census Bureau and Commission staff estimates.²³⁰

61. As of 2022, Figure 1 shows that approximately 24 million Americans lack access to fixed broadband at our speed benchmark of 100/20 Mbps. Figure 1 also shows that service availability of advanced telecommunications capability at 100/20 Mbps is highest in urban areas and lowest in rural areas, with service availability in Tribal areas falling somewhere in between. Including fixed wireless, service availability is at approximately 98% in urban areas, approximately 72% in rural areas, and

²²⁵ Based on the FCC Form 477 subscription data, while subscription to fixed wireless services more than tripled between December 2018 and December 2022, from approximately 1.3 million to 4.5 million, the take rate for fixed wireless service in 2022 was approximately 4%.

²²⁶ As of December 31, 2022, the adoption rate of services meeting a 100/20 Mbps speed threshold was approximately 2% for fixed wireless services, approximately 26% for cable services, and approximately 38% for fiber-based services.

²²⁷ As discussed above, we use a download speed of 940 Mbps because that is the maximum advertised speed reported by two of the largest providers of fixed terrestrial broadband service. See Section III.A.1(a), *supra*. Appx. B-1 reports on service availability of fixed terrestrial services at our speed benchmark of 100/20 Mbps by state, District of Columbia, and U.S. Territory, while Appx. B-2 reports on service availability of fixed services, including satellite services, at different speed tiers.

²²⁸ Federal Communications Commission Broadband Data Collection Help Center, *What is the Location Fabric?* (Aug. 2, 2023), <https://help.bdc.fcc.gov/hc/en-us/articles/5375384069659-What-is-the-Location-Fabric->.

²²⁹ We separately present estimates for Puerto Rico, American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands in Appx. B-3.

²³⁰ Commission staff developed population estimates for 2018-21 by updated Census Bureau-level population and household-level data. These estimates are based on annual U.S. Census mid-year county- (or county-equivalent) level population and housing unit estimates for the 50 states and the District of Columbia. These data are used in conjunction with U.S. Census Bureau Topological Integrated Geographic Encoding and Referencing (TIGER) data to indicate new roads, that is, new housing development, to distribute population amongst the census blocks comprising each county (or county-equivalent). FCC, *Staff Block Estimates*, <https://www.fcc.gov/reports-research/data/staff-block-estimates> (last visited Jan. 9, 2024) (Staff Block Estimates).

approximately 76% in Tribal areas. Excluding fixed wireless, service availability is at approximately 97% in urban areas, approximately 64% in rural areas, and approximately 70% in Tribal areas. At 940/500 Mbps, an approximation for our long-term goal, the data show service availability of approximately 40% overall, approximately 45% in urban areas, approximately 24% in rural areas, and approximately 28% in Tribal areas.

Fig. 1
Service Availability (Millions) of Fixed Terrestrial Services at Different Speed Tiers

	2018		2019		2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%
25/3 Mbps										
United States	309.000	94.4%	313.749	95.6%	321.606	97.6%	325.816	98.2%	318.921	95.7%
Rural Areas	50.146	77.7%	53.834	82.7%	59.821	90.9%	62.146	92.6%	56.254	83.1%
Urban Areas	258.854	98.5%	259.915	98.8%	261.786	99.3%	263.669	99.6%	262.667	98.9%
Tribal Areas	2.922	72.3%	3.203	79.1%	3.545	86.8%	3.682	90.9%	3.567	88.2%
25/3 Mbps - Excluding Fixed Wireless										
United States	301.943	92.3%	304.341	92.7%	309.260	93.9%	315.008	94.9%	305.478	91.7%
Rural Areas	44.508	69.0%	46.358	71.2%	49.634	75.4%	53.382	79.5%	45.859	67.7%
Urban Areas	257.435	98.0%	257.983	98.0%	259.625	98.5%	261.625	98.8%	259.618	97.8%
Tribal Areas	2.685	66.5%	2.847	70.3%	3.047	74.6%	3.250	80.2%	2.981	73.7%
100/20 Mbps										
United States	289.752	88.6%	294.124	89.6%	301.670	91.6%	312.472	94.1%	309.107	92.7%
Rural Areas	37.561	58.2%	40.377	62.0%	44.691	67.9%	51.576	76.9%	48.767	72.0%
Urban Areas	252.191	96.0%	253.747	96.4%	256.979	97.5%	260.896	98.5%	260.341	98.0%
Tribal Areas	1.999	49.5%	2.221	54.8%	2.487	60.9%	2.998	74.0%	3.087	76.3%
100/20 Mbps - Excluding Fixed Wireless										
United States	287.781	88.0%	291.342	88.8%	297.851	90.4%	307.791	92.7%	301.531	90.5%
Rural Areas	36.322	56.3%	38.747	59.5%	42.097	64.0%	47.943	71.4%	43.104	63.6%
Urban Areas	251.458	95.7%	252.596	96.0%	255.754	97.0%	259.847	98.1%	258.427	97.3%
Tribal Areas	1.949	48.3%	2.133	52.6%	2.355	57.7%	2.906	71.7%	2.810	69.5%
940/500 Mbps										
United States	91.352	27.9%	106.014	32.3%	119.083	36.1%	148.069	44.6%	134.617	40.4%
Rural Areas	6.830	10.6%	9.038	13.9%	11.960	18.2%	16.084	24.0%	16.204	23.9%
Urban Areas	84.522	32.2%	96.976	36.9%	107.123	40.6%	131.985	49.8%	118.413	44.6%
Tribal Areas	0.453	11.2%	0.587	14.5%	0.820	20.1%	1.096	27.1%	1.117	27.6%
940/500 Mbps - Excluding Fixed Wireless										
United States	88.853	27.2%	103.256	31.5%	115.136	34.9%	145.358	43.8%	132.059	39.6%
Rural Areas	6.681	10.4%	8.907	13.7%	11.480	17.4%	15.810	23.6%	15.670	23.1%
Urban Areas	82.172	31.3%	94.349	35.9%	103.656	39.3%	129.549	48.9%	116.389	43.8%
Tribal Areas	0.453	11.2%	0.586	14.5%	0.817	20.0%	1.096	27.0%	1.109	27.4%
Pop. Evaluated	327.167	100.0%	328.210	100.0%	329.491	100.0%	331.894	100.0%	333.288	100.0%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

62. Figure 2 shows service availability of advanced telecommunications capability on Tribal lands, by rural and urban areas and by major Tribal lands category. As of December 2022, service availability on rural Tribal lands continues to lag behind service availability on urban Tribal lands: approximately 60% of Americans living on Tribal lands in rural areas have access to broadband at minimum speeds of 100/20 Mbps (including fixed wireless) while approximately 96% of Americans living on Tribal lands in urban areas have such access. The same pattern is observed excluding fixed wireless.

Fig. 2
Service Availability (Millions) on Tribal Lands of Fixed Terrestrial Services at 100/20 Mbps

Area	2018		2019		2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%
100/20 Mbps Including Fixed Wireless										
Tribal Lands	1.999	49.5%	2.221	54.8%	2.487	60.9%	2.998	74.0%	3.087	76.3%
Rural Areas	0.568	27.0%	0.728	34.4%	0.926	43.1%	1.256	56.0%	1.338	60.3%
Urban Areas	1.431	74.0%	1.494	77.1%	1.561	80.6%	1.743	96.4%	1.749	95.9%
Alaska Native Village Statistical Areas	0.149	56.1%	0.160	60.0%	0.165	61.3%	0.182	67.0%	0.163	60.4%
Rural Areas	0.071	41.1%	0.081	47.0%	0.086	49.2%	0.094	53.0%	0.078	44.2%
Urban Areas	0.079	83.2%	0.079	83.6%	0.080	83.6%	0.088	93.8%	0.085	90.6%
Federal Reservations	0.394	36.3%	0.481	44.1%	0.542	49.3%	0.603	55.4%	0.599	56.7%
Rural Areas	0.190	25.2%	0.250	33.0%	0.296	38.7%	0.359	44.3%	0.359	46.1%
Urban Areas	0.204	61.3%	0.231	69.3%	0.246	73.7%	0.244	88.2%	0.240	86.6%
Hawaiian Home Lands	0.030	88.7%	0.032	92.8%	0.032	93.2%	0.034	98.9%	0.033	94.7%
Rural Areas	0.003	46.1%	0.004	63.2%	0.004	65.8%	0.008	95.5%	0.006	78.9%
Urban Areas	0.027	98.1%	0.028	99.5%	0.028	99.5%	0.026	100%	0.026	99.6%
Tribal Statistical Areas	1.425	53.7%	1.548	58.2%	1.749	65.2%	2.179	82.0%	2.292	85.5%
Rural Areas	0.304	25.9%	0.392	33.3%	0.541	45.0%	0.794	63.8%	0.895	71.3%
Urban Areas	1.121	75.8%	1.156	78.0%	1.208	81.7%	1.385	98.1%	1.397	97.9%
100/20 Mbps Excluding Fixed Wireless										
Tribal Lands	1.949	48.3%	2.133	52.6%	2.355	57.7%	2.906	71.7%	2.810	69.5%
Rural Areas	0.521	24.8%	0.647	30.6%	0.807	37.6%	1.174	52.3%	1.082	48.8%
Urban Areas	1.427	73.8%	1.486	76.7%	1.549	80.0%	1.731	95.8%	1.727	94.7%
Alaska Native Village Statistical Areas	0.128	47.9%	0.133	49.6%	0.137	50.9%	0.153	56.4%	0.138	51.0%
Rural Areas	0.049	28.7%	0.054	31.3%	0.058	33.3%	0.067	37.6%	0.055	31.0%
Urban Areas	0.078	82.7%	0.079	83.1%	0.079	83.1%	0.086	92.3%	0.083	88.4%
Federal Reservations	0.380	35.0%	0.432	39.6%	0.470	42.8%	0.556	51.1%	0.516	48.9%
Rural Areas	0.178	23.6%	0.208	27.4%	0.234	30.6%	0.321	39.6%	0.291	37.3%
Urban Areas	0.202	60.8%	0.224	67.2%	0.236	70.9%	0.234	84.8%	0.226	81.5%
Hawaiian Home Lands	0.030	88.7%	0.032	92.8%	0.032	93.2%	0.034	98.9%	0.033	94.7%
Rural Areas	0.003	46.1%	0.004	63.2%	0.004	65.8%	0.008	95.5%	0.006	78.9%
Urban Areas	0.027	98.1%	0.028	99.5%	0.028	99.5%	0.026	100%	0.026	99.6%
Tribal Statistical Areas	1.411	53.2%	1.537	57.8%	1.716	64.0%	2.163	81.4%	2.123	79.2%
Rural Areas	0.291	24.8%	0.381	32.3%	0.510	42.5%	0.778	62.5%	0.731	58.2%
Urban Areas	1.120	75.7%	1.156	78.0%	1.206	81.5%	1.385	98.1%	1.392	97.6%
Pop. Evaluated	4.039	100%	4.052	100%	4.083	100%	4.051	100%	4.043	100%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

63. *Number of Fixed Service Providers.* We examine the number of fixed broadband provider options available to consumers in the United States using year-end FCC Form 477 deployment data from 2018 to 2021 and year-end FCC BDC service availability data from 2022. Our analysis considers options for fixed terrestrial services meeting three minimum speed thresholds— 25/3 Mbps, 100/20 Mbps, and 940/500 Mbps.

64. INCOMPAS suggests that the Commission should recreate the analysis it did in the 2022 *Communications Marketplace Report* where the Commission published a chart that showed the percentage of households living in census blocks with multiple provider options, including the subscription take rates of 1% to 5%.²³¹ INCOMPAS argues that this type of analysis is helpful to understand the state of available broadband options in the market as viewed by customers.²³² INCOMPAS notes that the Commission can continue to do its analysis based on a census block and county level in order to more easily compare with its prior report, but in addition, it argues that the Commission should also do its analysis based on the individual household now that it has access to more granular information from the BDC data.²³³ INCOMPAS claims that adding subscribership information to the BDC data will lessen concern that the BDC data overstates the competitive options available to customers.²³⁴ We provide alternative estimates of the number of provider options available to households along the lines suggested by INCOMPAS in Figure 6, below.

65. As of December 2022, there were 2,179 entities of varying sizes and deployment and service availability footprints that reported providing fixed broadband technology services to residential consumers at speeds exceeding 200 kbps in at least one direction. Figure 3 presents the total number of providers of fixed broadband services, as well as the number of fixed broadband providers in rural and urban areas, from December 2018 through December 2022. The total number of providers has increased by approximately 9% since December 2018. The growth in the number of providers is higher in rural areas than in urban areas: Between December 2018 and December 2022, the number of providers in urban areas and rural areas increased by approximately 1% and approximately 9%, respectively.

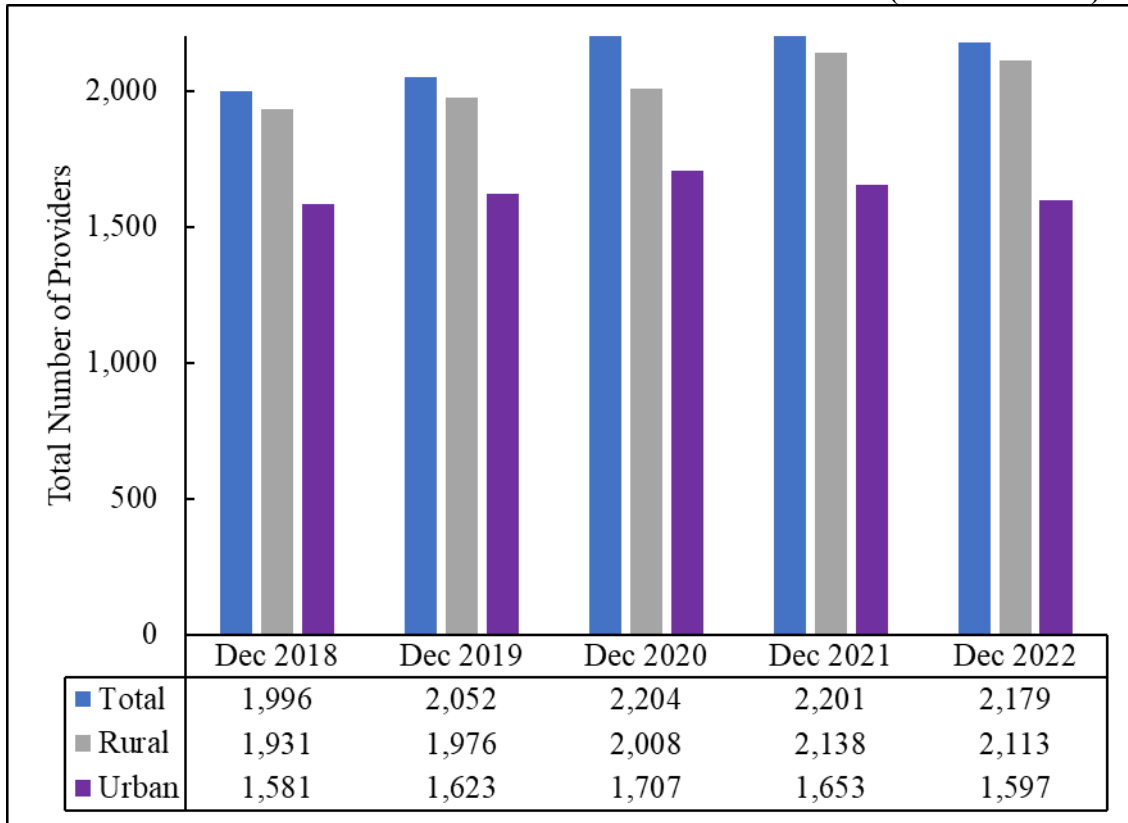
²³¹ INCOMPAS Comments at 7; Letter from Angie Kronenberg, President, INCOMPAS, to Marlene H. Dortch, Secretary, FCC, GN Docket 22-270, at 1 (filed Dec. 19, 2023) (INCOMPAS December 2023 *Ex Parte*).

²³² *Id.*

²³³ INCOMPAS Comments at 7-8.

²³⁴ *Id.* at 8; INCOMPAS December 2023 *Ex Parte* at 1.

Fig. 3
Total Number of Providers of Fixed Terrestrial Services over Time (December 2022)



Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates; 2010 and 2020 Census.

66. While there are over 2,000 providers of residential services, there is considerable variation in provider size and deployment and service availability footprint. The overwhelming majority of providers cover less than 1% of the U.S. population. In December 2022, only 10 providers covered at least 5% of the U.S. population, based on their reported service availability data; this is an increase from nine providers in December 2019.

67. Figure 4 reports estimates of the percentage of U.S. households living in areas where data indicate that zero, one, two, and three or more providers of fixed terrestrial broadband services are deployed at various speed tiers.²³⁵ This Figure uses FCC Form 477 year-end data from 2018-21 and FCC BDC year-end data for 2022. As noted above, we cannot compare the results for 2022 with previous years and therefore cannot compare any changes between 2018-21 and 2022. As of December 2022, there is a significant difference in the percentage of households with at least two provider options for 100/20 Mbps service compared to those with at least two provider options for 940/500 Mbps service.²³⁶

²³⁵ The FCC Form 477 year-end data from 2018 to 2020 are based on the 2010 census geographies; whereas the FCC Form 477 year-end 2021 and FCC BDC year-end 2022 data are based on 2020 census geographies. The percentage of households with an estimated number of fixed terrestrial provider options is measured as the number of households covered by the specific number of providers (e.g., zero, one, two, and at least three) divided by the total number of households. Throughout this section, percentages provided may not sum to exactly 100% due to rounding.

²³⁶ Figure 4 indicates that as of December 2022, approximately 55% of U.S. households had a choice of at least two fixed broadband providers. Using a methodology that defines broadband service availability as including both actual and potential competitive presence. ACA Connects asserts, though the Commission cannot independently verify, that as of mid-2023, 88.4 million U.S. households (that staff estimates to be approximately 68% of households) had at least two actual or potential competitive options for fixed broadband service. Letter from Brian

(continued...)

Approximately 45% of households do not have more than one provider option for 100/20 Mbps service, and over 96% of households do not have more than one provider option for 940/500 Mbps service. This pattern persists when fixed wireless services are excluded. Approximately 40% of households do not have more than one provider for 100/20 Mbps service when fixed wireless services are excluded, and over 96% of households have less than two provider options for 940/500 Mbps service when fixed wireless services are excluded.

Fig. 4
Percentage of U.S. Households with Zero, One, Two, or At Least Three Provider Options for Fixed Terrestrial Services at Different Speed Tiers

Provider Options	2018	2019	2020	2021	2022
25/3 Mbps					
Zero	5.4%	4.3%	2.3%	1.6%	4.7%
One	27.2%	22.5%	10.9%	8.6%	18.8%
Two	46.1%	44.8%	33.6%	20.8%	30.5%
At Least Three	21.3%	28.4%	53.1%	69.0%	46.0%
25/3 Mbps - Excluding Fixed Wireless					
Zero	7.4%	6.9%	5.8%	4.6%	8.9%
One	32.4%	30.5%	28.6%	27.7%	39.5%
Two	51.5%	53.1%	55.0%	55.9%	44.1%
At Least Three	8.7%	9.4%	10.6%	11.9%	7.4%
100/20 Mbps					
Zero	11.3%	10.2%	8.3%	5.5%	7.9%
One	39.9%	36.9%	34.6%	30.8%	37.4%
Two	38.9%	41.1%	41.9%	43.0%	36.6%
At Least Three	9.9%	11.7%	15.2%	20.7%	18.2%
100/20 Mbps - Excluding Fixed Wireless					
Zero	11.9%	11.0%	9.4%	6.7%	10.2%
One	42.0%	40.2%	38.7%	37.3%	49.8%
Two	40.0%	42.1%	44.4%	47.1%	34.9%
At Least Three	6.1%	6.7%	7.5%	8.8%	5.1%
940/500 Mbps					
Zero	72.0%	67.6%	63.6%	55.0%	62.0%
One	25.6%	29.7%	31.3%	40.9%	34.4%
Two	2.2%	2.5%	4.6%	3.6%	3.5%
At Least Three	0.2%	0.2%	0.5%	0.4%	0.2%
940/500 Mbps - Excluding Fixed Wireless					
Zero	72.8%	68.4%	64.8%	55.8%	62.8%
One	25.7%	29.7%	31.1%	40.8%	33.7%
Two	1.4%	1.7%	3.9%	3.1%	3.4%
At Least Three	0.1%	0.1%	0.1%	0.3%	0.1%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

68. We next evaluate the percentage of households that have a choice among multiple fixed terrestrial broadband service providers in rural and urban areas, and on Tribal lands. As shown in Figure 5, there is a significant difference in the percentage of households with at least two provider options in urban areas compared to households in rural areas and on Tribal lands. While approximately 63% of

(Continued from previous page) _____

Hurley, Chief Regulatory Counsel, ACA Connects, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 22-270 at 1-3 (filed Mar. 7, 2024) (ACA Connects *Ex Parte*).

households in urban areas have at least two provider options for 100/20 Mbps service, less than 24% of households living in rural areas and less than 31% of households on Tribal lands have at least two options for this service tier. This pattern persists when fixed wireless services are excluded. Approximately 47% of households in urban areas have at least two provider options for 100/20 Mbps service when fixed wireless services are excluded, while approximately 12% of households living in rural areas and approximately 17% of households on Tribal lands have at least two options for this service tier. Currently, for services meeting a 940/500 Mbps threshold, approximately 4% of households in urban areas have at least two options, compared to approximately 1% of households in rural areas and approximately 2% of households on Tribal lands. This pattern persists when fixed wireless services are excluded.

Fig. 5

Percentage of U.S. Households with Zero, One, Two, or At Least Three Provider Options for Fixed Terrestrial Services at Different Speed Tiers in Rural Areas, Urban Areas, and on Tribal Lands

Provider Options	2018	2019	2020	2021	2022
25/3 Mbps - Rural Areas					
Zero	22.0%	17.1%	8.9%	6.7%	17.7%
One	44.1%	40.4%	23.8%	22.1%	37.4%
Two	25.7%	29.5%	32.2%	28.6%	27.0%
At Least Three	8.2%	13.0%	35.2%	42.6%	17.8%
25/3 Mbps - Urban Areas					
Zero	1.2%	1.0%	0.6%	0.3%	1.3%
One	22.9%	18.0%	7.7%	5.2%	13.8%
Two	51.2%	48.7%	34.0%	18.9%	31.4%
At Least Three	24.6%	32.3%	57.7%	75.6%	53.5%
25/3 Mbps - Tribal Lands					
Zero	25.6%	19.3%	11.8%	7.7%	12.2%
One	36.4%	35.4%	24.2%	18.6%	29.1%
Two	23.7%	27.9%	26.0%	23.9%	27.5%
At Least Three	14.3%	17.4%	37.9%	49.9%	31.3%
25/3 Mbps Excluding Fixed Wireless - Rural Areas					
Zero	30.2%	27.8%	23.6%	19.0%	32.9%
One	46.9%	46.2%	46.0%	47.5%	49.8%
Two	20.7%	23.3%	26.7%	29.2%	16.1%
At Least Three	2.3%	2.8%	3.6%	4.4%	1.2%
25/3 Mbps Excluding Fixed Wireless- Urban Areas					
Zero	1.6%	1.6%	1.3%	0.9%	2.6%
One	28.7%	26.5%	24.1%	22.7%	36.8%
Two	59.3%	60.7%	62.2%	62.7%	51.6%
At Least Three	10.3%	11.1%	12.3%	13.7%	9.0%
25/3 Mbps Excluding Fixed Wireless - Tribal Lands					
Zero	31.4%	27.9%	23.8%	17.7%	26.4%
One	44.1%	44.1%	44.3%	40.7%	48.0%
Two	22.7%	25.7%	29.0%	36.2%	23.7%
At Least Three	1.8%	2.3%	2.9%	5.3%	1.9%
100/20 Mbps - Rural Areas					
Zero	41.4%	37.5%	31.6%	22.2%	28.9%
One	45.1%	46.0%	47.2%	49.0%	47.9%
Two	11.8%	14.4%	18.2%	23.5%	18.8%
At Least Three	1.7%	2.1%	3.1%	5.4%	4.4%

Provider Options	2018	2019	2020	2021	2022
100/20 Mbps - Urban Areas					
Zero	3.8%	3.3%	2.4%	1.3%	2.3%
One	38.5%	34.6%	31.4%	26.2%	34.7%
Two	45.7%	47.9%	48.0%	48.0%	41.3%
At Least Three	12.0%	14.2%	18.3%	24.6%	21.8%
100/20 Mbps - Tribal Lands					
Zero	48.8%	43.7%	38.0%	23.4%	23.7%
One	37.6%	37.7%	38.9%	43.0%	45.5%
Two	13.1%	17.7%	21.6%	30.0%	24.1%
At Least Three	0.5%	0.9%	1.4%	3.5%	6.8%
100/20 Mbps Excluding Fixed Wireless - Rural Areas					
Zero	43.1%	39.8%	35.3%	27.3%	37.0%
One	44.9%	45.6%	47.2%	51.8%	50.7%
Two	11.0%	13.4%	15.8%	18.8%	11.7%
At Least Three	1.0%	1.3%	1.7%	2.1%	0.6%
100/20 Mbps Excluding Fixed Wireless - Urban Areas					
Zero	4.0%	3.8%	2.8%	1.6%	3.1%
One	41.3%	38.8%	36.5%	33.7%	49.6%
Two	47.2%	49.4%	51.7%	54.3%	41.0%
At Least Three	7.4%	8.0%	9.0%	10.5%	6.3%
100/20 Mbps Excluding Fixed Wireless - Tribal Lands					
Zero	50.0%	45.6%	40.7%	25.7%	30.5%
One	37.3%	37.4%	38.8%	44.1%	52.4%
Two	12.3%	16.4%	19.5%	27.6%	16.2%
At Least Three	0.3%	0.7%	1.0%	2.5%	0.9%
940/500 Mbps - Rural Areas					
Zero	89.4%	86.1%	81.8%	75.7%	76.2%
One	10.1%	13.2%	16.9%	22.2%	22.5%
Two	0.4%	0.7%	1.3%	1.9%	1.1%
At Least Three	0.0%	0.0%	0.0%	0.2%	0.1%
940/500 Mbps - Urban Areas					
Zero	67.7%	62.9%	59.0%	49.7%	58.2%
One	29.5%	33.8%	34.9%	45.7%	37.5%
Two	2.6%	3.0%	5.5%	4.1%	4.1%
At Least Three	0.2%	0.2%	0.6%	0.5%	0.2%
940/500 Mbps - Tribal Lands					
Zero	88.0%	84.7%	79.0%	71.5%	72.6%
One	11.3%	14.5%	19.1%	24.9%	25.0%
Two	0.7%	0.8%	1.9%	3.3%	2.3%
At Least Three	0.0%	0.0%	0.0%	0.3%	0.1%
940/500 Mbps Excluding Fixed Wireless - Rural Areas					
Zero	89.6%	86.2%	82.5%	76.1%	77.0%
One	10.0%	13.1%	16.3%	22.0%	21.9%
Two	0.4%	0.6%	1.2%	1.7%	1.0%
At Least Three	0.0%	0.0%	0.0%	0.1%	0.1%
940/500 Mbps Excluding Fixed Wireless- Urban Areas					
Zero	68.6%	63.9%	60.3%	50.7%	59.0%
One	29.7%	34.0%	34.9%	45.5%	36.9%

Provider Options	2018	2019	2020	2021	2022
Two	1.6%	2.0%	4.7%	3.5%	4.0%
At Least Three	0.1%	0.1%	0.2%	0.4%	0.2%
940/500 Mbps Excluding Fixed Wireless - Tribal Lands					
Zero	88.0%	84.7%	79.0%	71.6%	72.8%
One	11.3%	14.5%	19.0%	24.9%	24.9%
Two	0.7%	0.8%	1.9%	3.3%	2.3%
At Least Three	0.0%	0.0%	0.0%	0.3%	0.1%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

69. Figure 6 provides alternative estimates of the number of provider options available to households in an attempt to present a more comprehensive assessment. To reduce the effect of the factors that could result in an understatement or overstatement of the proportion of households with a choice of multiple providers, we incorporate information from our confidential subscriber data before assessing the number of providers in each census block. In Figure 6, we present alternative estimates of the number of provider options for 25/3 Mbps, 100/20 Mbps, and 940/500 Mbps based on three scenarios that include *all* fixed technologies.²³⁷ These alternative estimates include satellite service, as well as any of the other fixed technologies, to the extent that the service meets the speed threshold and the scenario criteria. For comparison purposes, Scenario I presents fixed broadband coverage for all reported technologies, and takes the filer's data as released by the Commission. The two remaining scenarios include the filer's service availability data only if the filer's residential connections data meet the minimum penetration rate for the scenario. Scenario II compares each filer's BDC service availability data to its residential connections data and excludes the filer's service availability data from the tract if the filer does not attain a 1% penetration rate.²³⁸ Scenario III increases the penetration rate in Scenario II from 1% to 5%. Scenarios II and III analyze penetration rates without regard to subscription speed to account for consumers opting to subscribe to slower speed services than the maximum advertised speed offered by a provider. We reiterate that, in Scenarios II and III, our decision to exclude a filer's BDC service availability data does not mean that such service is not available in a particular census tract, only that the filer failed to attain the relevant penetration rate for purposes of these alternate estimates.

70. Comparing Scenario I to Scenario II and Scenario III shows the effect of penetration adjustments on the estimates of the number of provider options when a filer failed the penetration rate criteria for the scenario and its deployment data are excluded. For example, comparing Scenario I to Scenario II for 100/20 Mbps suggests that the percentage of households with at least two provider options would fall from approximately 61% to 49%, while comparing the Scenario I to Scenario III suggests that the percentage would fall from approximately 61% to 42%. In other words, a Scenario with a lower penetration rate results in more households having a greater number of provider options and fewer households having a lower number of provider options, relative to a Scenario with a higher penetration rate.

²³⁷ These estimates include fixed satellite services. The estimates for Scenarios II and III rely on confidential residential connections (subscriber) data.

²³⁸ We define the penetration rate as the filer's total number of residential connections in the tract divided by the filer's number of deployed households meeting the speed threshold in the census tract.

Fig. 6
Alternative Estimates for the Percentage of Households with Multiple Provider Options
for Fixed Terrestrial Services (December 31, 2022)

Provider Options (December 31, 2022)	Fixed Terrestrial Services Excluding Satellite	Fixed Terrestrial Services Excluding Satellite and Fixed Wireless	Scenario I: All Technologies	Scenario II: All Technologies; 1% Penetration Rate	Scenario III: All Technologies; 5% Penetration Rate
25/3 Mbps					
Zero	4.7%	8.9%	0.0%	1.9%	5.0%
One	18.8%	39.5%	0.0%	20.2%	37.1%
Two	30.5%	44.1%	0.3%	37.8%	47.1%
At Least Three	46.0%	7.4%	99.7%	40.1%	10.8%
100/20 Mbps					
Zero	7.9%	10.2%	6.9%	8.2%	9.2%
One	37.4%	49.8%	32.4%	43.1%	48.6%
Two	36.6%	34.9%	36.4%	36.8%	36.2%
At Least Three	18.2%	5.1%	24.3%	12.0%	6.1%
940/500 Mbps					
Zero	62.0%	62.8%	62.0%	63.4%	64.1%
One	34.4%	33.7%	34.4%	33.4%	33.0%
Two	3.5%	3.4%	3.5%	3.1%	2.9%
At Least Three	0.2%	0.1%	0.2%	0.1%	0.0%

Source: FCC BDC, FCC Form 477 data; Staff Block Estimates.

Scenario I: Includes all technologies, including satellite services, and uses the filer data as released by the Commission.

Scenario II: Compares each filer's BDC service availability data to its confidential residential connections data, and excludes the filer's service availability data from any Census tract where the filer does not attain a 1% penetration rate. (Penetration rate= filer's total residential connections in the tract/filer's deployed households in the census tract that meet the speed threshold).

Scenario III: Increases the test penetration rate to 5%.

2. Mobile Broadband Service

a. Speed Benchmark

71. Consistent with past Commission practice, we decline to set a benchmark for determining service availability of advanced telecommunications capability for mobile services (mobile advanced telecommunications capability) in this Report. While the Commission now collects much improved mobile broadband data via the BDC, we continue to recognize that the performance characteristics of mobile service can be highly variable.²³⁹ Accordingly, we continue to evaluate mobile advanced telecommunications capability service availability without setting a performance benchmark for the purpose of this Report. While we do not set a benchmark for mobile advanced telecommunications capability at this time, we focus our main analysis of mobile broadband service availability on a single threshold speed for 5G-NR of 35/3 Mbps, which is the highest speed that the Commission collects in the BDC for mobile broadband.²⁴⁰ Specifically, we first analyze the provider-reported 5G-NR outdoor stationary coverage based on the Commission's BDC data from December 31, 2022, where service

²³⁹ 2021 Report, 36 FCC Rcd at 843-44, para. 15 (declining to set a benchmark, noting the inherent variability in the performance characteristics of mobile service); 2020 Report, 35 FCC Rcd at 8993, para. 16 (same).

²⁴⁰ See 47 CFR § 1.7004(c)(3)(i).

providers claim to provide 5G-NR mobile broadband service at speeds of at least 35/3 Mbps.²⁴¹ Second, in areas where providers claim to provide 5G-NR outdoor stationary coverage with speeds of at least 35/3 Mbps, we supplement provider-reported data with Ookla speed-test data, that identify areas showing median 5G-NR speed tests of at least 35/3 Mbps.²⁴² This supplemental approach attempts to further our understanding of the mobile broadband speeds that consumers are actually experiencing.²⁴³ By continuing the approach taken by the Commission in previous section 706 reports, we also can more readily assess progress over time.²⁴⁴

72. We analyze 5G-NR for this Report because it is the most advanced mobile technology that mobile providers are currently deploying. Because this Report focuses on *advanced* telecommunications capability, it is most appropriate to analyze a threshold beyond the mobile technology and speeds that are minimally adequate to originate and receive voice, data, graphics, and video telecommunications.²⁴⁵ Rather, mobile service throughout the country needs to be sufficiently advanced so as to provide a “high quality” experience for consumers.²⁴⁶ And this assessment must necessarily evolve with the advancement of mobile technology, as section 706 requires the Commission to inquire and assess mobile advanced telecommunications capability annually.²⁴⁷ Although we have analyzed 4G LTE in past reports, because 5G-NR is the advanced mobile technology that is currently being deployed and the main focus of the Commission’s efforts to ensure mobile service is universally available to all Americans,²⁴⁸ we use 5G-NR as the generation of technology for this Report’s analysis.

73. We analyze a 35 Mbps download-speed threshold for mobile advanced telecommunications capability. The statute requires an analysis of whether advanced telecommunications capability is being deployed to all Americans and defines advanced telecommunications capability as able

²⁴¹ As we explain below, while we focus our analysis in the main body of the Report on the 5G-NR outdoor stationary coverage at speeds of 35/3 Mbps, we also analyze other deployed provider-reported BDC coverage data for mobile broadband (e.g., 5G-NR 35/3 Mbps in-vehicle, 5G-NR 7/1 Mbps outdoor stationary and in-vehicle; 4G LTE 5/1 Mbps outdoor stationary and in-vehicle) in Appx. B-4. Further, for the years prior to 2022, we base our analysis on FCC Form 477 data.

²⁴² The Ookla speed-test data used in this report are user-initiated; therefore, they include tests taken under conditions that may be described as indoor, outdoor stationary, and in-vehicle mobile. We are not able to identify the conditions under which a given test was taken.

²⁴³ In addition to the analysis of 5G-NR coverage at 35/3 Mbps, in Appx. B-5 we also present the following: in areas where providers claim to provide 5G-NR outdoor stationary coverage with speeds of at least 7/1 Mbps, we supplement provider-reported data with Ookla speed-test data which identify areas showing median 5G-NR speed tests of at least 7/1 Mbps; and in areas where providers claim to provide 4G LTE or 5G-NR at 5/1 Mbps or better, we supplement provider-reported data with Ookla speed-test data which identify areas showing median mobile broadband speed tests of at least 10/3 Mbps.

²⁴⁴ *2021 Report*, 36 FCC Rcd at 841-42, para. 12; *2020 Report*, 35 FCC Rcd at 8993-94, para. 16; *2019 Report*, 34 FCC Rcd at 3863-64, para. 16.

²⁴⁵ 47 U.S.C. § 1302(d)(1); *2015 Report*, 30 FCC Rcd at 1390-91, paras. 19-23 (providing a legal analysis that these reports require an analysis of telecommunications capability that is “advanced”); *see also 2016 Report*, 31 FCC Rcd at 705, para. 13.

²⁴⁶ *2016 Report*, 31 FCC Rcd at 723-25; paras. 56-61 (discussing considerations for an appropriate speed for mobile service to be “advanced” telecommunication capability); *see also 2015 Report*, 30 FCC Rcd at 1390-91, paras. 20-21 (discussing interpretation of “advanced” in section 706).

²⁴⁷ 47 U.S.C. § 1302(a).

²⁴⁸ *See, e.g., Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Further Notice of Proposed Rulemaking, FCC 23-74 (Sept. 22, 2023) (*5G Fund FNPRM*) (seeking comment on a proposed 5G Fund for Rural America that would advance Commission efforts to ensure the deployment of high-speed, 5G-NR mobile service in areas of the country where, absent subsidies, it will continue to be lacking).

“to originate and receive high-quality voice, data, graphics, and video telecommunications.”²⁴⁹ When consumers attempt to access these services, they want them immediately—the longer it takes for a person to access these services, the less of an advanced experience they have. Smartphones—the ubiquitously used device for mobile broadband²⁵⁰—can have hundreds of gigabytes of memory, and a common use for smartphones can include downloading content such as pictures or videos from family and friends’ smartphones or other large data files.²⁵¹ The slower the download speed, the further Americans are from experiencing advanced, high-quality service as required by the statute.²⁵² Given the available BDC data, 35 Mbps is the most advanced download threshold we can analyze at this time.²⁵³

74. We use an upload speed threshold of 3 Mbps for our analysis. While the downlink brings content to consumers—and more bandwidth can bring that content to them more quickly—the uplink allows for consumers to send data to the Internet and higher upload speeds can allow consumers to send greater amounts of data to the Internet faster. Unlike download speeds, which determine how quickly a consumer receives the requested data, upload speeds need to be sufficiently fast to allow consumers to send data to the cloud. To that end, in considering upload speeds for mobile broadband, the upload threshold needs to be sufficient “to originate . . . high-quality . . . video telecommunications.”²⁵⁴ For smartphones to originate and stream video calls of at least 1080p resolution—a common resolution screen for smartphones²⁵⁵—3 Mbps allows for high-definition video conferencing on-the-go across several

²⁴⁹ 47 U.S.C. § 1302(d)(1).

²⁵⁰ Several different types of devices depend on mobile advanced telecommunications capability, such as smartwatches, tablets, hotspot devices, Internet of Things, and Internet services for cars. *See, e.g.*, T-Mobile, Plans and Devices, <https://www.t-mobile.com/cell-phones?INTNAV=tNav:Devices>; Samuel Greengard, *5G and IoT: Making Connections to Change the World*, Verizon (Dec. 1, 2022), <https://www.verizon.com/about/news/5g-iot-together-changing-our-world>; Tesla, Connectivity, <https://www.tesla.com/support/connectivity> (reselling mobile service as a premium service that allows security camera footage to be sent to the owner, video and music streaming within the car, live traffic visualization, and Internet browsing). While mobile uses are not just confined to a smartphone, smartphones are the ubiquitous use device, and the threshold for analysis must at least be sufficient to allow for high-quality usage of a smartphone. While mobile services need to be sufficiently advanced to support the ever evolving ecosystem of devices used by Americans, advanced telecommunications capability is not advanced if it cannot support advanced uses of smartphones, as over 85% of Americans now own a smartphone. Pew Research, Mobile Fact Sheet (Apr. 7, 2021), <https://www.pewresearch.org/internet/fact-sheet/mobile/>.

²⁵¹ A standard 5 MB high-quality photo, for example, would take just over a second to download at 35 Mbps: there are 8 bits to a byte; 5 megabytes (MB) is 40 megabits (mb). A download speed of 35 Mbps would download 5 MB (40 megabits) in just over 1 second. and the slower the download speed, the longer such downloads take. Receiving videos at high-definition resolutions, such as 4K or 1080p—consistent with high-quality data under the statute—can still require one to download a short video that can easily exceed 100 MB in size, and mobile broadband download speeds need to be commensurate with the ability to download such content to the smartphones that consumers have with them everywhere they go. Jack Schofield, *How Do I Shrink the Size of My Phone Videos?*, The Guardian (Mar. 5, 2020), <https://www.theguardian.com/technology/askjack/2020/mar/05/how-do-i-shrink-the-size-of-my-phone-videos> (noting the phone cameras are capable of ultra-high definition recordings but analyzing a 63-second video of 165MB). A 35 Mbps download speed allows that 100 MB video to download in less than 23 seconds.

²⁵² 47 U.S.C. § 1302(d)(1).

²⁵³ *See, e.g.*, 47 U.S.C. § 254(b)(2) (“Access to advanced telecommunications and information services should be provided in all regions of the Nation.”), (b)(3) (“Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas.”).

²⁵⁴ 47 U.S.C. § 1302(d)(1).

²⁵⁵ 1920 x 1080 resolution displays or better are common in smartphones, but due to screen size, most manufacturers of high-end smartphones tend to not make these 4k screens. *See, e.g.*, Sydney Butler, *Why Don't Smartphones Have*

(continued...)

software platforms at a frame rate of 24 frames per second²⁵⁶ or higher, depending on the platform.²⁵⁷ As a consequence, 3 Mbps allows for smooth origination of high-quality video telecommunications.²⁵⁸

75. For this Report, we focus on the providers' outdoor stationary coverage data for 5G-NR coverage, rather than in-vehicle 5G-NR coverage data. We recognize that providers are still in the process of deploying 5G-NR, and that this is our first Report analyzing the BDC data. The outdoor stationary coverage data—which typically shows broader coverage than in-vehicle data—will give us a better understanding of deployment of this technology today. We note, however, that as we look forward, we expect 5G-NR networks to continue to advance; as such, in other contexts (for example, in setting conditions for 5G-NR deployment in the 5G Fund),²⁵⁹ evaluating coverage using in-vehicle coverage maps may be appropriate in the future. Further, to provide a more complete picture of mobile deployment, we also evaluate provider-reported BDC coverage data for 5G-NR in-vehicle at speeds of 35/3 Mbps, 5G-NR outdoor stationary and in-vehicle at speeds of 7/1 Mbps, and 4G LTE outdoor stationary and in-vehicle at speeds of 5/1 Mbps in Appendix B-4.

b. Data Sources and Methodology

76. Under FCC Form 477 requirements for broadband deployment data, facilities-based providers of mobile wireless services were required to submit polygons indicating the minimum advertised upstream and downstream data speeds associated with that polygon, where the boundaries of that polygon represented the coverage area within which users should expect to receive those advertised speeds (or, if the provider did not advertise such speeds, the minimum upload and download data speeds

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4k Screens Yet?, How To Geek (Feb. 22, 2022), <https://www.howtogeek.com/779368/why-dont-smartphones-have-4k-screens-yet/>.

²⁵⁶ 24 frames per second is the standard frame rate for cinema quality video. See Adobe, Frame Rate, <https://www.adobe.com/creativecloud/video/discover/frame-rate.html>.

²⁵⁷ See, e.g., Microsoft, Prepare Your Organization's Network for Microsoft Teams (Feb. 14, 2023), <https://learn.microsoft.com/en-us/microsoftteams/prepare-network> (“Teams is always conservative on bandwidth utilization and can deliver HD video quality in under 1.5Mbps. The actual bandwidth consumption in each audio/video call or meeting will vary based on several factors, such as video layout, video resolution, and video frames per second. When more bandwidth is available, quality and usage will increase to deliver the best experience.”). Microsoft observes that at least 1.5 Mbps upload speed is recommended and 4 Mbps upload is needed for best performance. See *id.* See also, e.g., Cisco, Webex, Help Center, What Are the Minimum Bandwidth Requirements for Sending and Receiving Video in Cisco Webex Meetings? (Oct. 31, 2023), <https://help.webex.com/en-us/article/WBX22158/What-are-the-Minimum-Bandwidth-Requirements-for-Sending-and-Receiving-Video-inCisco-Webex-Meetings?>; FreeConference.com, What is Minimum Speed for Video Conferencing, <https://www.freeconference.com/blog/the-minimum-speed-required-for-video-conferencing/> (recommending 3 Mbps for high definition video conferencing); Zoom, Zoom System Requirements: iOS, iPadOS, And Android (Oct. 20, 2023), <https://support.zoom.us/hc/en-us/articles/201179966> (“For 720p HD video: 2.6 Mbps/1.8 Mbps (up/down); For 1080p HD video: 3.8 Mbps/3.0 Mbps (up/down).”); Vimeo, Video and Audio Compression Guidelines, <https://help.vimeo.com/hc/en-us/articles/12426043233169-Video-and-audio-compression-guidelines>.

²⁵⁸ The lowest upload speed that the Commission collects—1 Mbps—can lead to video telecommunications that are noticeably grainy and not “high quality” for an advanced experience. See, e.g., Microsoft, Prepare Your Organization's Network for Microsoft Teams (Feb. 14, 2023), <https://learn.microsoft.com/en-us/microsoftteams/prepare-network>; Cisco, Webex, Help Center, What Are the Minimum Bandwidth Requirements for Sending and Receiving Video in Cisco Webex Meetings? (Oct. 31, 2023), <https://help.webex.com/en-us/article/WBX22158/What-are-the-Minimum-Bandwidth-Requirements-for-Sending-and-Receiving-Video-inCisco-Webex-Meetings?>; FreeConference.com, What is Minimum Speed for Video Conferencing, <https://www.freeconference.com/blog/the-minimum-speed-required-for-video-conferencing/> (recommending 3 Mbps for high definition video conferencing); Zoom, Zoom System Requirements: iOS, iPadOS, And Android (Oct. 20, 2023), <https://support.zoom.us/hc/en-us/articles/201179966>.

²⁵⁹ See generally *5G Fund FNPRM*.

that users would expect to receive within the polygon).²⁶⁰ The FCC Form 477 instructions did not specify parameters that providers should use in their propagation models used to generate the projected coverage.²⁶¹ This allowed for two mobile providers with theoretically the exact same network deployment to file different coverage polygons with the Commission, leading to potential inconsistencies among mobile-provider coverage filings.

77. By contrast, the BDC has standardized certain factors that must be included in the mobile providers' propagation modeling, including requiring maps that represent specified speeds.²⁶² For example, for 5G-NR coverage, the BDC requires mobile broadband service providers to submit coverage data that indicate where mobile wireless users should expect to receive minimum user speeds of 7/1 Mbps with a cell edge probability of not less than 90% and cell loading of not less than 50%.²⁶³ And, the BDC also requires that a mobile provider report the assumptions that it relied on for its coverage modeling so that the Commission can better evaluate the modeled coverage.²⁶⁴ Importantly, the BDC also provides opportunities for consumers, State, local, and Tribal governmental entities, and other stakeholders to challenge the coverage and broadband service availability information reported to the FCC and depicted in the new maps. The Commission also has adopted verification and audit processes to ensure that the BDC data that a mobile provider submits are accurate, and coverage areas can be substantiated.²⁶⁵

78. We also supplement BDC data with Ookla's speed test data.²⁶⁶ FCC staff use data from these tests to calculate average upload and download speeds associated with U.S. geographic areas.²⁶⁷ We rely on the Ookla data to supplement our analysis primarily because they provide us with a large set of observations of actual speeds that customers receive.²⁶⁸ As the Commission has done previously, our

²⁶⁰ FCC Form 477, Instructions for Filings as of December 31, 2019-June 30, 2022 at 24-25, <https://usfcc.app.box.com/v/Form477InstThruJune2022>.

²⁶¹ *See id.* at 24-25, 31.

²⁶² Mobile broadband service providers submit separate coverage maps based upon standardized propagation modeling parameters for 3G, 4G LTE, and 5G-NR technologies. *See* Broadband Data Collection, Data Specifications for Biannual Submission of Subscription, Availability, and Supporting Data (Feb. 7, 2023), <https://usfcc.app.box.com/v/bdc-availability-spec>.

²⁶³ *See, e.g., BDC Second Report and Order and Third Further Notice*, 35 FCC Rcd at 7479, para. 44. The maps also "must account for terrain and clutter and use terrain and clutter data with a resolution of 100 meters or better." 47 CFR § 1.7004(c)(3)(iii).

²⁶⁴ *Compare* FCC Form 477, Instructions for Filings as of December 31, 2019-June 30, 2022 at 24-25, 31, <https://usfcc.app.box.com/v/Form477InstThruJune2022> with Broadband Data Collection, Data Specifications for Biannual Submission of Subscription, Availability, and Supporting Data at 49-71 (Feb. 7, 2023), <https://usfcc.app.box.com/v/bdc-availability-spec>.

²⁶⁵ *See* Broadband Data Collection, Data Specifications for Provider Infrastructure Data in the Challenge, Verification, and Audit Processes (December 21, 2023), <https://us-fcc.app.box.com/v/bdc-infrastructure-spec>; FCC, Broadband Data Collection, BDC System User Guide 242-47 (Sept. 20, 2023), <https://us-fcc.app.box.com/v/bdc-filer-user-guide>.

²⁶⁶ The data collected by the Ookla Speedtest mobile app include test results for download speed, upload speed, and latency, as well as other information, such as the location of the test and operating system of the handset. Ookla, *Speedtest*®, <https://www.speedtest.net/about> (last visited Jan. 19, 2024).

²⁶⁷ The Ookla data presented in this Report are based on tests that were executed in the second half of the year for 2020, 2021, and 2022 on the smartphone's cellular connection. Tests taken on 5G-NR networks were used to evaluate actual median speeds of at least 35/3 Mbps, tests taken on 5G-NR and 4G LTE networks were used to evaluate actual median speeds of at least 10/3 Mbps. FCC staff excluded test data that had missing GPS location data or a reported download or upload speed less than zero. Multiple tests by a single phone in the same locality and in the same day were averaged (using the median). All Ookla speed tests are user-initiated.

²⁶⁸ We note that, in general, crowd-sourced data can offer the advantage of generating a large volume of data at a very low cost, and of measuring actual consumer experience on a network in a wide variety of locations, indoor and

(continued....)

analysis of the service availability of mobile broadband services with a particular set of median speeds includes actual speed test data in counties with at least 300 test observations.²⁶⁹ The more densely populated counties have a higher likelihood of being included in this analysis because there generally are more observations in those geographical areas.²⁷⁰

c. Mobile Broadband Data

79. Figure 7 reports coverage for 5G-NR with a minimum speed of 35/3 Mbps.²⁷¹ Due to differences in the FCC Form 477 and FCC BDC data, as noted above, caution should be exercised when examining any changes between 2021 and 2022. At year-end 2022, approximately 91% of Americans lived in areas with 5G-NR coverage with minimum speeds of 35/3 Mbps, including approximately 64% of the population in rural areas, approximately 98% of the population in urban areas, and approximately 78% of the population in Tribal areas.

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outdoor. Crowd-sourced data, however, often are not collected pursuant to statistical sampling techniques, and may require adjustments to construct a representative sample from the raw data. For instance, crowd-sourced mobile data come from a self-selected group of users, and there is often little control for most tests regarding such parameters as when people implement the test, whether the test is performed indoors or outdoors, the geographic location of the tester, and the vintage of the consumer's device. *2022 Communications Marketplace Report*, 37 FCC Rcd at 15705, para. 336 & n.969.

²⁶⁹ See *2022 Communications Marketplace Report*, 37 FCC Rcd at 15705-06, para. 336. This sample size threshold applies to each county for each time frame (2H2020, 2H2021, and 2H2022). If a county does not have at least 300 5G-NR observations during one of these time frames, the county is not included in the actual speed analysis for the period during which the number of observations falls below 300. The 300 observations threshold is a conservative threshold and is based on a general mean and median sample size analysis. We consider a county to have a sufficient sample size if there are at least 300 5G-NR observations in the second half of a given year, after the cleaning and trimming rules have been applied. County geography is assigned using the latitude and longitude coordinates that are collected during each Ookla speed test, via the device's GPS. This allows us to evaluate actual median upload and download speeds at the county level, in each year of the three-year time period, for counties in which approximately 80% to 92% of the U.S. population live (excluding the U.S. Territories). If an area has mobile broadband coverage with the minimum speeds in question, it is assigned the median upload and download speeds that are calculated for the county in which it is located.

²⁷⁰ Mobile wireless speeds vary both over time and over small local areas. Therefore, ascribing the median county Ookla speed to an entire county will sometimes overestimate or underestimate realized local speeds. Use of Ookla data alone would overestimate coverage as counties with only partial coverage would be represented as having 100% coverage.

²⁷¹ The analysis presented in Figure 7 includes the states and the District of Columbia. For analyses including U.S. Territories, see *infra* Appx. B-1 (reporting service availability of fixed terrestrial services at 100/20 Mbps, mobile 5G-NR with a minimum speed of 35/3 Mbps, and mobile 5G-NR with a median speed of 35/3 Mbps by state, District of Columbia, and U.S. Territory); Appx. B-6 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile 5G-NR with a minimum speed of 35/3 Mbps, and fixed terrestrial services at 100/20 Mbps and mobile 5G-NR with a median speed of 35/3 Mbps by state, District of Columbia, and U.S. Territory); Appx. B-7 (reporting the adoption rate of fixed terrestrial services in the United States and U.S. Territories); and Appx. B-8 and Appx. B-9 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile services at different speed tiers in the United States, with and without U.S. territories). For analyses involving Tribal Lands, see *infra* Appx. B-10 (reporting service availability of mobile 5G-NR with a minimum speed of 35/3 Mbps on Tribal Lands).

Fig. 7
Service Availability (Millions) of Mobile 5G-NR with a Minimum Speed of 35/3 Mbps²⁷²

	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
United States	237.475	72.1%	321.790	97.0%	303.330	91.0%
Rural Areas	28.467	43.3%	58.748	87.5%	43.540	64.3%
Urban Areas	209.008	79.3%	263.041	99.3%	259.791	97.8%
Tribal Areas	2.308	56.5%	3.603	88.9%	3.145	77.8%
Pop. Evaluated	329.491	100.0%	331.894	100.0%	333.288	100.0%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

80. Figure 8 reports the percentage of Americans living in the United States with mobile 5G-NR services at median speeds of at least 35/3 Mbps.²⁷³ At year-end 2022, approximately 98% of the population living in urban areas had access to 5G-NR services with a median speed of 35/3 Mbps, compared to approximately 71% of the population living in rural areas. Figure 8 does not reflect the service availability of 5G-NR at speeds of 35/3 Mbps across the entire United States; instead it reflects the percentage of the population living in counties with a sufficient number of Ookla speed tests such that we can evaluate the actual speeds of 35/3 Mbps.²⁷⁴ Further, the population within eligible counties is overlaid with coverage data from the FCC Form 477 and the FCC BDC data such that only the population living in areas where providers claim 5G-NR coverage with a minimum expected speed of 35/3 Mbps is counted towards the covered population figure.²⁷⁵

²⁷² The BDC requires filers to submit mobile broadband service availability coverage maps showing a minimum 90% cell edge probability of the designated speeds, whereas in years prior to 2022, FCC Form 477 required filers to submit coverage maps indicating the minimum advertised upload and download data speeds associated with the given network technology in the given frequency band. FCC, *Broadband Data Collection, Data Specifications for Biannual Submission of Subscription, Availability, and Supporting Data* at 50 (2023), <https://us-fcc.app.box.com/v/bdc-availability-spec>; FCC, *FCC Form 477 Local Telephone Competition and Broadband Reporting Instructions for Filings Through June 30, 2019* at 23 (2021), <https://us-fcc.app.box.com/v/Form477InstThruJune19>.

²⁷³ We present additional service availability data for mobile 5G-NR services at median speeds of at least 35/3 Mbps for each state, the District of Columbia, and U.S. Territory in Appx. B-1 (reporting service availability by state, the District of Columbia, and U.S. Territory).

²⁷⁴ The percentages in Figure 8 are higher than those in Figure 7 because we are not evaluating the population in counties that have fewer than 300 5G tests. This condition eliminates many rural and otherwise unserved counties.

²⁷⁵ The analysis in Figure 8 is based on Ookla data, and excludes any county for which there is insufficient Ookla data. Further, the population within eligible counties is overlaid with coverage data from FCC Form 477 and the FCC BDC such that only the population living in areas where providers claim 5G-NR coverage with a minimum expected speed of 35/3 Mbps is counted towards the covered population figure. The combination of a limited number of counties with 5G-NR Ookla data and the use of FCC 477 coverage data in 2021 leads to a very high percentage of the evaluated population in 2021 being classified as served in Figure 8. The subsequent decline in the percentage of the evaluated population with 5G-NR coverage with a median speed of 35/3 Mbps in 2022 is also related to the switch to BDC data and a greater number of counties meeting the minimum Ookla test threshold.

Fig. 8
Service Availability (Millions) of Mobile 5G-NR with a Median Speed of 35/3 Mbps (Ookla)²⁷⁶

	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
United States	209.080	79.0%	288.126	98.4%	286.315	93.9%
Rural Areas	15.758	55.9%	36.499	92.0%	33.283	71.0%
Urban Areas	193.322	81.8%	251.627	99.4%	253.032	98.0%
Pop. Evaluated	264.520	80.3%	292.861	88.2%	304.974	91.5%

Source: FCC Form 477 data; FCC BDC data; Ookla Speedtest data; Staff Block Estimates.

81. *Number of Mobile Service Providers.* As of December 31, 2022, there were three nationwide facilities-based providers of mobile broadband services. In addition, a new nationwide facilities-based provider has since entered the market.²⁷⁷ Besides these nationwide providers, there are many regional providers and smaller local providers offering service in a few geographical areas. Many Mobile Virtual Network Operators (MVNOs) and cable providers also offer mobile broadband services.

82. Figure 9 presents 5G-NR coverage by number of service providers.²⁷⁸ Approximately 91% of the population, 61% of road miles, and 25% of square miles were covered by at least one 5G-NR service provider at advertised speeds of 35/3 Mbps. In contrast, approximately 77% of the population, 38% of road miles, and 10% of square miles were covered by at least two 5G-NR service providers. Finally, approximately 48% of the population, 19% of road miles, and 3% of square miles were covered by at least three 5G-NR service providers.

Fig. 9
Estimated 5G-NR Coverage with a Minimum Speed of 35/3 Mbps (December 31, 2022)

Geography	One or More Providers	Two or More Providers	Three or More Providers
Area	24.8%	9.5%	3.2%
Population	91.0%	76.8%	48.0%
Road Miles	60.5%	37.7%	19.0%

Source: FCC BDC and 2020 Census data.

83. Figure 10 reports 5G-NR population coverage in rural and urban areas. At least one 5G-NR service provider covered almost 98% of the urban population and approximately 64% of the rural population. Further, at least two 5G-NR service providers covered approximately 88% of the urban population and approximately 33% of the rural population. Finally, at least three 5G-NR service providers covered approximately 58% of the urban population and 11% of the rural population.

²⁷⁶ We do not report results for Tribal lands in Figure 8 because we have concerns with the reliability of the Ookla data for these areas. Tribal areas not only typically have fewer speed tests, but there are also fewer of these areas relative to urban and rural areas. Thus, service availability estimates for Tribal areas are more sensitive to sample variance. The population figure reported in the bottom row of Figure 8 is the population evaluated for the reported time period, and the percentage is the percentage of the U.S. population evaluated. Figures that include service availability of 5G-NR services with a median speed of 35/3 Mbps show less than 100% of the population evaluated due to the unavailability of Ookla data in certain places as explained. Thus, for example, the 264.520 million population evaluated figure for 2020 in Figure 8 represents approximately 80% of the overall population in the 50 U.S. states and the District of Columbia.

²⁷⁷ As a result, we present information using up to three or more providers since the data we use is as of December 31, 2022.

²⁷⁸ See CTIA Comments at 8; WIA Comments at 1.

Fig. 10
Estimated 5G-NR Coverage with a Minimum Speed of 35/3 Mbps
in Rural and Urban Areas (December 31, 2022)

Geography	One or More Providers	Two or More Providers	Three or More Providers
Population	91.0%	76.8%	48.0%
Rural Population	64.3%	32.8%	10.8%
Urban Population	97.8%	88.1%	57.5%

Source: FCC BDC and 2020 Census data.

84. Figure 11 reports 5G-NR population coverage in Tribal and non-Tribal areas. At least one 5G-NR service provider covered approximately 91% the population in non-Tribal areas and approximately 78% of the population in Tribal areas. Further, at least two 5G-NR service providers covered 77% of the population in non-Tribal areas and approximately 55% of the population in Tribal areas. Finally, at least three 5G-NR service providers covered approximately 48% of the population in non-Tribal areas and approximately 31% of the population in Tribal areas.

Fig. 11
Estimated 5G-NR Coverage with a Minimum Speed of 35/3 Mbps
in Tribal and Non-Tribal Areas (December 31, 2022)

Geography	One or More Providers	Two or More Providers	Three or More Providers
Population	91.0%	76.8%	48.0%
Non-Tribal Population	91.2%	77.1%	48.2%
Tribal Population	77.8%	55.4%	30.5%

Source: FCC BDC and 2020 Census data.

3. Fixed and Mobile Broadband Data

85. Figure 12 shows service availability of fixed terrestrial services with speeds of at least 100/20 Mbps and 5G-NR mobile broadband services with a minimum speed of 35/3 Mbps.²⁷⁹ At year-end 2022, approximately 45 million Americans lacked access to both services. Service availability of 5G-NR services in rural areas significantly lagged behind the service availability in urban areas. While approximately 96% of Americans living in urban areas had access to fixed terrestrial services at 100/20 Mbps and mobile 5G-NR services at 35/3 Mbps, less than 50% of Americans living in rural areas had access to such services.

²⁷⁹ We present additional service availability data for fixed terrestrial and/or mobile broadband services in the appendices. See *infra* Appx. B-1 (reporting service availability of fixed terrestrial services at 100/20 Mbps, mobile 5G-NR with a minimum speed of 35/3 Mbps, and mobile 5G-NR with a median speed of 35/3 Mbps by state, District of Columbia, and U.S. Territory); Appx. B-6 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile 5G-NR with a minimum speed of 35/3 Mbps, and fixed terrestrial services at 100/20 Mbps and mobile 5G-NR with a median speed of 35/3 Mbps by state, District of Columbia, and U.S. Territory); Appx. B-8 and Appx. B-9 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile services at different speed tiers in the United States, with and without U.S. territories); Appx. B-11 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile services at different median speed tiers in the United States based on Ookla data); and Appx. B-3 (reporting service availability of fixed terrestrial and mobile services at different speed tiers in the U.S. Territories).

Fig. 12
Service Availability (Millions) of Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR
with a Minimum Speed of 35/3 Mbps

	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
100/20 Mbps and Mobile 5G-NR 35/3 Mbps						
United States	224.640	68.2%	305.321	92.0%	288.503	86.6%
Rural Areas	20.181	30.7%	46.103	68.7%	33.736	49.8%
Urban Areas	204.460	77.5%	259.218	97.9%	254.767	95.9%
Tribal Areas	1.685	41.3%	2.842	70.1%	2.664	65.9%
100/20 Mbps and Mobile 5G-NR 35/3 Mbps - Excluding Fixed Wireless						
United States	222.645	67.6%	301.096	90.7%	282.785	84.8%
Rural Areas	18.883	28.7%	42.900	63.9%	29.896	44.1%
Urban Areas	203.762	77.3%	258.196	97.5%	252.889	95.2%
Tribal Areas	1.618	39.6%	2.767	68.3%	2.481	61.4%
Pop. Evaluated	329.491	100.0%	331.894	100.0%	333.288	100.0%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

86. Figure 13 shows service availability of fixed terrestrial services at speeds of at least 100/20 Mbps and 5G-NR mobile broadband services with a median speed of 35/3 Mbps using Ookla mobile data. Including fixed wireless, service availability was approximately 96% in urban areas and 56% in rural areas. Excluding fixed wireless, service availability was approximately 96% in urban areas and 49% in rural areas.

Fig. 13
Service Availability (Millions) of Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR
with a Median Speed of 35/3 Mbps (Ookla)

	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
100/20 Mbps and Mobile 5G-NR 35/3 Mbps						
United States	202.224	76.4%	278.414	95.1%	274.424	90.0%
Rural Areas	12.062	42.8%	30.119	75.9%	26.163	55.8%
Urban Areas	190.163	80.5%	248.295	98.1%	248.261	96.2%
100/20 Mbps and Mobile 5G-NR 35/3 Mbps - Excluding Fixed Wireless						
United States	201.036	76.0%	275.401	94.0%	269.607	88.4%
Rural Areas	11.398	40.4%	28.054	70.7%	23.124	49.3%
Urban Areas	189.638	80.3%	247.347	97.7%	246.483	95.5%
Pop. Evaluated	264.520	80.3%	292.861	88.2%	304.974	91.5%

Source: FCC Form 477 data; FCC BDC data; Ookla Speedtest data; Staff Block Estimates.

87. Figure 14 shows service availability of fixed terrestrial services for the United States, including U.S. territories, with speeds of at least 100/20 Mbps and 5G-NR broadband with a minimum speed of 35/3 Mbps.²⁸⁰ At year-end 2022, service availability in urban areas was significantly higher than

²⁸⁰ We present additional service availability data for 100/20 Mbps fixed terrestrial and/or mobile broadband services, including U.S. territories, in the appendices. See *infra* Appx. B-8 and Appx. B-9 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile services at different speed tiers, with and without U.S. Territories); Appx. B-12 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile 5G-NR with a minimum speed of 35/3 Mbps by state and county, including U.S. Territories); and Appx. B-13 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile 5G-NR with a minimum speed of 35/3 Mbps by state and county, segmented by urban and rural areas, including U.S. Territories)

service availability in rural areas, with service availability in Tribal areas falling somewhere in between. Including fixed wireless, service availability was approximately 96% in urban areas, approximately 66% in Tribal areas, and approximately 50% in rural areas. Excluding fixed wireless, service availability was approximately 95% in urban areas, approximately 61% in Tribal areas, and approximately 44% in rural areas.

Fig. 14

Service Availability (Millions) of Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps for the United States, Including U.S. Territories

	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
100/20 Mbps and Mobile 5G-NR 35/3 Mbps						
United States	224.645	67.5%	308.660	92.0%	291.746	86.6%
Rural Areas	20.181	30.6%	46.362	68.8%	33.916	49.9%
Urban Areas	204.464	76.6%	262.298	97.8%	257.830	95.9%
Tribal Areas	1.685	41.3%	2.842	70.1%	2.664	65.9%
100/20 Mbps and Mobile 5G-NR 35/3 Mbps - Excluding Fixed Wireless						
United States	222.650	66.9%	303.997	90.6%	285.699	84.8%
Rural Areas	18.883	28.6%	43.039	63.8%	29.995	44.1%
Urban Areas	203.766	76.3%	260.958	97.3%	255.704	95.1%
Tribal Areas	1.618	39.6%	2.767	68.3%	2.481	61.4%
Pop. Evaluated	333.018	100.0%	335.530	100.0%	336.881	100.0%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

88. Figure 15 shows service availability of fixed terrestrial services with speeds of at least 100/20 Mbps and 5G-NR broadband with a minimum speed of 35/3 Mbps on Tribal lands.²⁸¹ As of year-end 2022, Tribal lands in urban areas had higher service availability compared to Tribal lands in rural areas.

Fig. 15

Service Availability (Millions) on Tribal Lands of Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps

Area	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
Including Fixed Wireless						
Tribal Lands	1.685	41.3%	2.842	70.1%	2.664	65.9%
Rural Areas	0.477	22.2%	1.123	50.1%	0.956	43.1%
Urban Areas	1.208	62.4%	1.719	95.1%	1.708	93.6%

²⁸¹ We present additional service availability data for 100/20 Mbps fixed terrestrial and/or mobile broadband services on tribal lands in the appendices. See *infra* Appx. B-14 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile 5G-NR with a minimum speed of 35/3 Mbps on tribal lands by state); Appx. B-15 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile 5G-NR with a minimum speed of 35/3 Mbps (in-vehicle) on tribal lands); Appx. B-16 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile 5G-NR with a minimum speed of 7/1 Mbps on tribal lands); Appx. B-17 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile 5G-NR with a minimum speed of 7/1 Mbps (in-vehicle) on tribal lands); Appx. B-18 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile 4G LTE with a minimum speed of 5/1 Mbps on tribal lands); and Appx. B-19 (reporting service availability of fixed terrestrial services at 100/20 Mbps and mobile 4G LTE with a minimum speed of 5/1 Mbps (in-vehicle) on tribal lands).

Area	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
Alaska Native Village Statistical Areas	0.095	35.3%	0.133	49.0%	0.098	36.3%
Rural Areas	0.036	20.7%	0.062	34.8%	0.033	18.5%
Urban Areas	0.059	62.0%	0.071	76.2%	0.065	69.4%
Federal Reservations	0.271	24.7%	0.539	49.5%	0.467	44.2%
Rural Areas	0.109	14.2%	0.296	36.5%	0.232	29.8%
Urban Areas	0.163	48.8%	0.242	87.7%	0.235	84.8%
Hawaiian Home Lands	0.010	28.5%	0.030	88.3%	0.031	89.8%
Rural Areas	0.001	18.5%	0.006	72.1%	0.005	61.6%
Urban Areas	0.009	30.8%	0.024	93.6%	0.026	98.7%
Tribal Statistical Areas	1.309	48.8%	2.140	80.5%	2.068	77.1%
Rural Areas	0.331	27.6%	0.759	61.0%	0.686	54.6%
Urban Areas	0.978	66.1%	1.381	97.8%	1.382	96.9%
Excluding Fixed Wireless						
Tribal Lands	1.618	39.6%	2.767	68.3%	2.481	61.4%
Rural Areas	0.416	19.4%	1.059	47.2%	0.793	35.7%
Urban Areas	1.202	62.1%	1.708	94.4%	1.688	92.5%
Alaska Native Village Statistical Areas	0.091	33.6%	0.116	42.9%	0.087	32.3%
Rural Areas	0.032	18.2%	0.047	26.2%	0.023	13.1%
Urban Areas	0.059	61.8%	0.070	74.7%	0.064	68.4%
Federal Reservations	0.236	21.4%	0.497	45.7%	0.408	38.6%
Rural Areas	0.077	10.0%	0.264	32.5%	0.187	24.0%
Urban Areas	0.159	47.8%	0.233	84.4%	0.221	79.8%
Hawaiian Home Lands	0.010	28.5%	0.030	88.3%	0.031	89.8%
Rural Areas	0.001	18.5%	0.006	72.1%	0.005	61.6%
Urban Areas	0.009	30.8%	0.024	93.6%	0.026	98.7%
Tribal Statistical Areas	1.282	47.8%	2.123	79.9%	1.955	72.9%
Rural Areas	0.306	25.5%	0.743	59.7%	0.578	46.0%
Urban Areas	0.976	65.9%	1.381	97.7%	1.377	96.5%
Pop. Evaluated	4.083	100.0%	4.051	100.0%	4.043	100.0%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

B. Affordability

89. If broadband is unaffordable, it is not effectively available, even if it has been physically deployed.²⁸² Far too many households across the country wrestle with how to pay for gas and groceries and also keep up with the broadband bill. We find that to truly close the connectivity gap and ensure that all Americans have access to advanced telecommunications capability, broadband services must be affordable. While income is not the only factor, 2023 data collected by the Pew Research Center indicated that adults with annual household incomes of \$30,000-\$69,999 per year were more than four times more likely not to subscribe to home broadband service than those with incomes of \$100,000 or more per year, and those with incomes less than \$30,000 per year were more than eight times more likely not to have home broadband service.²⁸³ Furthermore, the COVID-19 pandemic made clear the

²⁸² See Section II, *supra*.

²⁸³ Pew Research Center, *Internet, Broadband Fact Sheet* (Jan. 31, 2024), <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/>. Further, a University of Kansas study

(continued....)

importance of obtaining affordable broadband. According to an EveryoneOn survey taken during the COVID-19 pandemic, 18% of households making \$50,000 or less lost broadband connectivity and 49% were on the brink of doing so due to an inability to pay.²⁸⁴

90. Determining whether broadband service is affordable, however, warrants thoughtful consideration. First, there is no consensus on how to define affordability. For example, the Cambridge Dictionary defines “affordability” as “the state of being cheap enough for people to be able to buy,”²⁸⁵ while economists have devised other definitions of affordability.²⁸⁶ Second, while the concept of broadband adoption is related to the concept of broadband affordability, the two concepts are not the same. For example, a household might have the income to afford broadband service, but choose not to subscribe because it does not have a need for the Internet or streaming video, or because broadband is not available. Alternatively, a household might subscribe to broadband even though it imposes significant financial hardship. Third, affordability is likely to vary not only with a household’s income, but also with

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conducted between January 2021 and January 2022 found that cost is the top reason that respondents living in cities do not have broadband access at home. Donna Ginther et al., University of Kansas, *Broadband in Kansas: The Challenges of Digital Access and Affordability* at 24 (2023), <https://ipsr.ku.edu/broadband/BroadbandinKansas.pdf> (*Kansas Study*).

²⁸⁴ EveryoneOn, *Affordability and the Digital Divide*, at 5 (Dec. 2021), <https://static1.squarespace.com/static/5aa8af1fc3c16a54bcbb0415/t/61ad7722de56262d89e76c94/1638758180025> (*EveryoneOn 2021*). See also Colleen McClain et al., Pew Research Center, *90% of Americans say the internet has been essential or important to them, many made video calls and 40% used technology in new ways. But while tech was a lifeline for some, others faced struggles* (Sept. 1, 2021), <https://www.pewresearch.org/internet/2021/09/01/the-internet-and-the-pandemic/> (survey finding that more than half of lower-income broadband users said they worried a lot or some about being able to pay for high-speed internet). For a description of the methodology used to determine lower income, see Pew Research Center, *53% of Americans Say the Internet Has Been Essential During the COVID-19 Outbreak*, (Apr. 30, 2020), at n.1, <https://www.pewresearch.org/internet/2020/04/30/53-of-americans-say-the-internet-has-been-essential-during-the-covid-19-outbreak/>.

²⁸⁵ Cambridge Dictionary, *Meaning of affordability in English* <https://dictionary.cambridge.org/us/dictionary/english/affordability> (last visited Jan. 10, 2024). Definitions of the related word “affordable” include “able to be afforded: having a cost that is not too high” and “[t]hat can be afforded (in various senses); (now usually) inexpensive, reasonably priced”. Merriam Webster Dictionary, *affordable*, <https://www.merriam-webster.com/dictionary/affordable> (last visited Jan. 10, 2024) and Oxford English Dictionary, *Oxford English Dictionary*, <https://www.oed.com/search/dictionary/?scope=Entries&q=affordable> (last visited Jan. 10, 2024).

²⁸⁶ Most economists’ definitions of affordability relate prices to income. Economists have defined affordability in a narrow sense as the ability of a household to purchase a specific bundle of necessary goods and service with the available disposable income. They have defined it more broadly as the ability to purchase such a bundle without having to constrain the consumption of other necessities. These concepts are difficult to translate into empirical measures. Indicators to approximate them include prices, the share of income needed to purchase a good or service, and the residual income left after expenses for a necessity. See generally Karen E. Hancock, “*Can pay? Won’t pay?*” or *Economic Principles of “Affordability,”* 30 *Urban Studies* 127 (1993). There have also been efforts to establish affordability thresholds. For example, in 1998, the U.S. Environmental Protection Agency (EPA) introduced an affordability threshold for the cost of water of 2.5% of median household income and uses it to vary policy interventions. Environmental Protection Agency, *Announcement of Small System Compliance Technology Lists for Existing National Primary Drinking Water Regulations and Findings Concerning Variance Technologies*, 63 Fed. Reg. 42032, at 42046 (Aug. 6, 1998). In housing, 30% of median income is often considered an affordability benchmark. Christopher Herbert, Alexander Hermann & Daniel McCue, Joint Center for Housing Studies of Harvard University, *Measuring Housing Affordability: Assessing the 30-Percent of Income Standard* at 2-3 (Dec. 2018), https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Herbert_Hermann_McCue_measuring_housing_affordability.pdf.

the choices and characteristics of the available broadband services (including the number of competing providers, the characteristics of the broadband offerings, and the price of such offerings), and the price of other goods and services the household consumes. In addition, whether a household adopts broadband service depends not only on its affordability but also on the household's preferences and other household characteristics.

91. In the *Notice*, we sought comment on whether affordability should be examined and how it could be defined and measured.²⁸⁷ Several commenters express general support for the Commission's universal service goals and suggest that an analysis of affordability should be dealt with in the universal service context.²⁸⁸ Other commenters contend that an analysis of affordability is beyond the legal scope of the Report.²⁸⁹ Other commenters emphasize the importance of developing a comprehensive understanding of affordability and note the relevance of price and affordability for broadband adoption.²⁹⁰ Commenters point out that a thorough assessment of affordability would require a comprehensive evidentiary basis using multiple indicators, such as the share of income needed to pay for broadband, the vulnerability of households to interruptions in subscriptions, and the total cost of broadband.²⁹¹ Commenters also allude to the need to examine these factors for income groups, geographies, and demographics.²⁹²

92. Two recent studies suggest that affordability is a barrier to broadband subscription for low-income households,²⁹³ and cost appears to be a primary obstacle.²⁹⁴ Other studies suggest that

²⁸⁷ *Notice*, at 22-24, paras. 54-57.

²⁸⁸ See, e.g., INCOMPAS Comments at 10-12; USTelecom Comments at 6-7; NCTA Comments at 11-12; and CTIA Reply Comments at 2-3.

²⁸⁹ See, e.g., ADTRAN Comments at 7-8; CTIA Comments at 21-24; Free State Foundation Comments at 19-22; US Telecom Comments at 5-7; TechFreedom Comments at 4-6; ACA Connects Comments at 6-8 and NCTA Comments at 7-9.

²⁹⁰ See, e.g., Benton Institute Comments at 6-7; OTI Comments at 9-11; Next Century Cities Comments at 6-7; NDIA Reply Comments at 3-4; and NRECA Comments at 9-10.

²⁹¹ See, e.g., Benton Institute Comments at 7-8. The Benton Institute encourages the Commission to establish a data collection program for affordability. It should be modeled after the Measuring Broadband America program and measure the following dimensions of affordability: prices by income, subscribed speeds by income, devices in household and the associated cost for purchases and maintenance, consistency and continuity of service each year, and discount information such as participation in Lifeline, ACP, and Internet Essentials. See OTI Comments at 9-11; NDIA Reply Comments at 4.

²⁹² See, e.g., Next Century Cities Comments at 2; NRECA Comments at 9-20; WTA Comments at 4.

²⁹³ See, e.g., National Telecommunications and Information Administration, *New Analysis Shows Offline Households are Willing to Pay \$10-a-Month on Average for Home Internet Service, Though Three in Four Say Any Cost is Too Much* (Oct. 6, 2022), <https://www.ntia.gov/blog/2022/new-analysis-shows-offline-households-are-willing-pay-10-month-average-home-internet>; Benton Institute Comments, Appendix A at 9-21.

²⁹⁴ See, e.g., National Telecommunications and Information Administration, *New Analysis Shows Offline Households are Willing to Pay \$10-a-Month on Average for Home Internet Service, Though Three in Four Say Any Cost is Too Much* (Oct. 6, 2022), <https://www.ntia.gov/blog/2022/new-analysis-shows-offline-households-are-willing-pay-10-month-average-home-internet>; *EveryoneOn 2021*, at 5 (survey finding that 40% of households making \$50,000 or less report being unable to pay anything for high-speed internet and 22% of them report being able to pay only \$25/month for it); Andrew Perrin, *Mobile Technology and Home Broadband 2021*, Pew Research Center (June 3, 2021), <https://www.pewresearch.org/internet/2021/06/03/mobile-technology-and-home-broadband-2021/> (finding that 45% of non-adopters “do not subscribe to high-speed internet at home . . . [because] the monthly cost of a subscription is too expensive”); Becky Chao & Claire Park, *The Cost of Connectivity 2020* at 10 (2020), https://d1y8sb8igg2f8e.cloudfront.net/documents/The_Cost_of_Connectivity_2020_XatkXnf.pdf; Benton Foundation 2019 at 65-66 (discussing multiple studies); Rafi Goldberg, National Telecommunications and Information Administration, *Unplugged: NTIA Survey Finds Some Americans Still Avoid Home Internet Use*,

(continued....)

affordability varies across different demographics and geographies.²⁹⁵ These studies suggest that the affordability of broadband depends on various household characteristics, including household income and expenditures, and the choices, product characteristics, and prices of not only broadband service but also the prices of other products and services that a household consumes. This suggests that a comprehensive analysis of affordability will require access to detailed and disaggregated data on broadband characteristics and prices, the prices of other household goods and services, and on various household characteristics – characteristics that are likely to vary with geography.

93. Given the lack of data and information in the record, in this Report, we necessarily limit ourselves to an initial analysis of some of the factors that affect affordability. We do not have sufficient data to draw detailed conclusions as to the general affordability of broadband service or its affordability for particular types of households. Specifically, we examine the level and variability of prices for fixed and mobile broadband service, the share of income used to pay for broadband for different income groups and geographies, and we present information on an example household.²⁹⁶

94. *Prices for Broadband.* Given we find above that full access to advanced telecommunications capabilities requires fixed and mobile service, we examine the costs of stand-alone and combined service. We also discuss the contribution of low-cost plans and of subsidy programs in improving affordability.

95. Figure 16 compares prices for telecommunications and Internet services with the chained Consumer Price Index for all Urban Consumers (chained CPI-U).²⁹⁷ Between December 2009 and 2023, prices for goods and services overall increased by approximately 37%. Prices for Internet services increased at a lower rate, by approximately 11%. However, in real, inflation-adjusted terms, prices for Internet services declined by approximately 19%. Prices for wireless telephone services decreased by approximately 25% (45% in inflation-adjusted prices). On the other hand, prices for landline telephone services increased faster than prices overall, by approximately 51% (10% in inflation-adjusted prices).

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<https://www.ntia.doc.gov/blog/2019/unplugged-ntia-survey-finds-some-americans-still-avoid-home-internet-use> (with respect to families with incomes of less than \$25,000/year) (last visited Feb. 14, 2024); John B. Horrigan & Maeve Duggan, Pew Research Center, Home Broadband 2015 at 15-18 (2015), <https://www.pewresearch.org/wp-content/uploads/sites/9/2015/12/Broadband-adoption-full.pdf>.

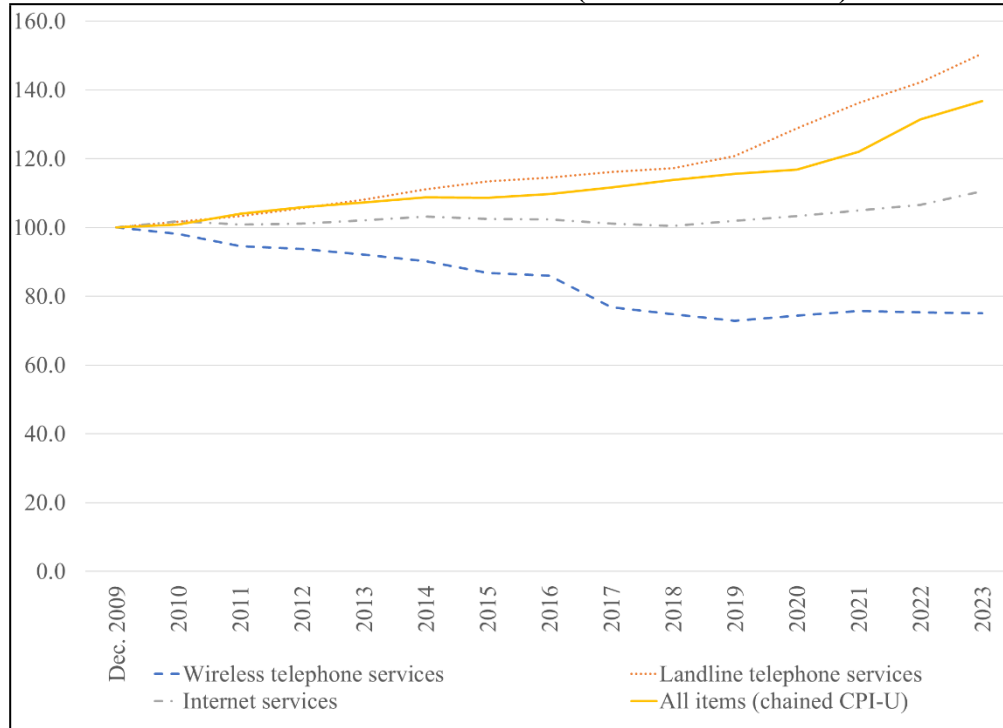
²⁹⁵ See, e.g., Kansas Study, discussed, *supra*. See also *EveryoneOn 2021*, discussed, *supra*.

²⁹⁶ To overcome data limitations, we explore several scenarios using an “example household” which is a hypothetical household with characteristics suitable for assessing affordability. For the purposes of our analysis, we assume that this household has an income of 200% of the federal poverty level, as this was one of the qualifying criteria for the Affordable Connectivity Program. To reflect variation in household sizes, we look at households with one to four members. To reflect price and income variation across geographies, we create example households for each census division and Alaska, which accommodates our use of the URS data. For one, two, three, and four member households in the 48 contiguous states and the District of Columbia, the 2023 federal poverty level for annual income is \$14,580, \$19,720, \$24,860, and \$30,000, respectively. In Alaska, the 2023 federal poverty level for one, two, three, and four member households is \$18,210, \$24,640, \$31,070, and \$37,500, respectively. The federal poverty income levels are then doubled and used to determine the share of income that households of varying size would have to spend on fixed and mobile internet access and for fixed and mobile service combined.

²⁹⁷ BLS, Databases, *Tables & Calculators by Subject*,

https://data.bls.gov/timeseries/CUUR0000SEED03?output_view=data (last visited Jan. 9, 2024); BLS, *Databases, Tables & Calculators by Subject*, https://data.bls.gov/timeseries/CUUR0000SEED04?output_view=data (last visited Jan. 9, 2024); BLS, *Databases, Tables & Calculators by Subject*, https://data.bls.gov/timeseries/CUUR0000SEEE03?output_view=data (last visited Jan. 9, 2024); and BLS, *Databases, Tables & Calculators by Subject*, https://data.bls.gov/timeseries/SUUR0000SA0?output_view=data (last visited Jan. 9, 2024).

Fig. 16
Annual Consumer Price Indices for All Urban Consumers (CPI-U)
Telecommunications 2009-2023 (December 2009=100)



Source: BLS, *Databases, Tables & Calculators by Subject*, https://data.bls.gov/timeseries/CUUR0000SEED03?output_view=data (last visited Jan. 9, 2024); BLS, *Databases, Tables & Calculators by Subject*, https://data.bls.gov/timeseries/CUUR0000SEED04?output_view=data (last visited Jan. 9, 2024); BLS, *Databases, Tables & Calculators by Subject*, https://data.bls.gov/timeseries/CUUR0000SEEE03?output_view=data (last visited Jan. 9, 2024); and BLS, *Databases, Tables & Calculators by Subject*, https://data.bls.gov/timeseries/SUUR0000SA0?output_view=data (last visited Jan. 9, 2024).

96. The Commission currently collects price data in the Urban Rate Survey (URS).²⁹⁸ The URS collects advertised prices for undiscounted, residential fixed broadband.²⁹⁹ While the URS includes prices from across the United States, for many providers and for multiple speed tiers, it is not a comprehensive census of all fixed prices.³⁰⁰ The URS data only document prices for certain urban areas,³⁰¹ and even for the reported geographic areas, URS prices are not necessarily the ones faced by households due to differences in promotional pricing or service availability. We therefore use the URS data only to construct average prices for large areas, in line with its intended use in the Universal Service program to construct national average prices for speed tiers.³⁰²

97. For purposes of this Report, we use the 2024 URS, documenting prices for fixed broadband in December 2023, to examine fixed broadband prices. In addition, we use the same

²⁹⁸ FCC, *Urban Rate Survey Data & Resources* (Dec. 26, 2023), <https://www.fcc.gov/economics-analytics/industry-analysis-division/urban-rate-survey-data-resources>.

²⁹⁹ FCC, *2024 Urban Rate Survey – Fixed Broadband Service* (Dec. 26, 2023) <https://us-fcc.app.box.com/s/nm4oqvqpeywxlgmtui3lhkbwiunjmqxb> at 1.

³⁰⁰ *Id.*

³⁰¹ *Id.*

³⁰² *Id.*

methodology as in the International Broadband Data Report (IBDR)³⁰³ to collect mobile broadband prices for 27 representative service providers (both facilities based and MVNOs). We then use this price information to examine the share of income an example household at 200% of the 2023 federal poverty line—one of the thresholds used to determine whether a household qualifies for the Affordable Connectivity Program (ACP)—would need to spend to obtain fixed, mobile, and both fixed and mobile broadband.³⁰⁴

98. Figure 17 shows weighted summary statistics of the monthly fixed broadband Internet prices per household at the national-level and for the nine census divisions, Alaska, and Puerto Rico—census divisions are the smallest geographic unit for which the 2024 URS data are statistically representative.³⁰⁵ We include plans with unlimited capacity across three speed tiers: 25/3 Mbps; 100/20 Mbps; and 940/500 Mbps. Because prices vary depending on local conditions, such as population density and dispersion, difficulty of construction, technology, and the intensity of competition, both the mean and standard deviation of prices vary across census divisions. The high standard deviation points to the variability of prices within each geographic area. This suggests that across geographies, low-cost options are available, but it does not imply that such options are available at every location.³⁰⁶

Fig. 17
Monthly Fixed Broadband Internet Prices Per Household,
by Census Division and Speed Tier

Download / Upload	Census Division/AK/PR	Mean (\$)	St.Dev. (\$)	Min. (\$)	Median (\$)	Max. (\$)	Count
25/3 Mbps	New England	83.83	17.25	30.00	87.00	112.00	62
	Middle Atlantic	86.24	17.26	15.00	87.00	160.39	298
	East North Central	69.63	24.39	14.95	79.99	139.99	354
	West North Central	42.94	24.93	14.95	30.00	111.50	340
	South Atlantic	78.71	17.39	14.95	79.99	144.94	390
	East South Central	67.14	20.46	14.95	79.99	95.00	128
	West South Central	81.59	10.50	25.00	80.41	129.99	125
	Mountain	66.70	25.58	14.95	55.00	150.00	215
	Pacific Except Alaska	77.22	13.26	14.95	79.99	185.00	232
	Alaska	131.38	14.02	60.00	129.99	159.00	199
	Puerto Rico	77.08	48.01	29.99	49.99	149.00	226
National	75.94	22.95	14.95	79.99	185.00	2569	
100/20 Mbps	New England	105.38	22.77	39.95	109.99	188.96	173

³⁰³ 47 U.S.C. § 1303(b). The IBDR price collection considers discounts, promotions, and bundles for both fixed and mobile service, but because the IBDR is focused on international comparisons, the U.S. data are not collected at the level of granularity needed for the analysis in this Report. See *2022 Communications Marketplace Report*, 37 FCC Rcd at 16415, para. 96, Appx. G.

³⁰⁴ The calculation assumes that households subscribe to broadband for the entire household but obtain mobile broadband for each household member, taking advantage of multi-line discounts.

³⁰⁵ We use the sampling weights of the URS. A description of the URS weights can be found at FCC, *2024 Urban Rate Survey – Fixed Broadband Service* (Dec. 26, 2023) at 6, <https://us-fcc.box.com/s/nm4oqvqpeywxlgmtui31hkbwiunjqmxb>. In the fixed broadband URS, Alaska is separated from the Pacific census division and sampled in its own strata. FCC, *2024 Urban Rate Survey – Fixed Broadband Service* (Dec. 26, 2023) at 3-4, <https://us-fcc.box.com/s/nm4oqvqpeywxlgmtui31hkbwiunjqmxb>. By using census divisions, we lose information on the local variability of fixed broadband prices. However, the number of data points in the URS is too small to make statistically valid inferences for smaller geographic units.

³⁰⁶ See, e.g., Udit Paul, Vinothini Gunasekaran, Jiamo Liu, Tejas N. Narechania, Arpit Gupta, & Elizabeth Belding, *Decoding the Divide: Analyzing Disparities in Broadband Plans Offered by Major US ISPs*. arXiv: 2302.14216 (2023), <https://arxiv.org/abs/2302.14216>.

Download / Upload	Census Division/AK/PR	Mean (\$)	St.Dev. (\$)	Min. (\$)	Median (\$)	Max. (\$)	Count
	Middle Atlantic	104.49	24.96	30.00	109.99	186.39	738
	East North Central	98.94	28.45	30.00	99.99	185.76	657
	West North Central	81.41	25.63	30.00	79.00	148.50	607
	South Atlantic	101.78	25.85	15.00	107.00	315.00	780
	East South Central	97.50	20.58	41.95	99.99	119.99	168
	West South Central	100.35	25.21	15.00	100.51	159.99	340
	Mountain	74.43	33.44	30.00	72.75	139.99	162
	Pacific Except Alaska	99.03	23.83	30.00	99.99	127.76	297
	Alaska	184.99	1.10	179.99	184.99	199.00	125
	Puerto Rico	74.71	9.12	30.00	79.99	84.99	292
National	100.18	26.26	15.00	100.99	315.00	4339	
940/500 Mbps	New England	231.10	92.14	69.95	300.00	350.00	72
	Middle Atlantic	206.21	93.09	69.95	180.00	350.00	272
	East North Central	203.15	107.49	69.99	255.00	1000.00	240
	West North Central	159.40	82.97	49.00	125.00	299.95	273
	South Atlantic	199.07	108.10	35.00	255.00	599.99	367
	East South Central	167.38	89.89	30.00	119.99	350.00	96
	West South Central	176.50	89.28	69.95	140.97	301.52	197
	Mountain	220.23	103.74	20.00	299.95	299.95	112
	Pacific Except Alaska	208.69	96.62	49.99	255.00	300.00	339
	Alaska	-	-	-	-	-	0
Puerto Rico	88.43	13.39	70.00	84.99	140.00	62	
National	197.85	99.46	20.00	240.00	1000.00	2030	

Source: FCC, Urban Rate Survey Data and Resources (Dec. 26, 2023), <https://www.fcc.gov/economics-analytics/industry-analysis-division/urban-rate-survey-data-resources>. The download/upload speed indicates that the advertised speed is between that speed and the higher tier (for example, 25/3 Mbps means advertised download/upload speed is at least 25/3 Mbps but not greater than 100/20 Mbps).

99. As noted above, we collect price information for 27 facilities-based service providers and MVNOs.³⁰⁷ Price information comes from manual data collection from providers’ websites, as of December 2023 and January 2024.³⁰⁸ Only plans that offered at least 30 GB of unthrottled data per month and line were considered,³⁰⁹ and we also collected information for both post-paid and pre-paid service

³⁰⁷ The sample includes 27 providers with extensive nationwide service either as a facilities based provider or an MVNO: AT&T, T-Mobile, Verizon, Consumer Cellular, Credo, Boost Mobile, Boost Infinite, Cricket, FreeUp, Gen Mobile, Good2Go, Google Fi, H2O Wireless, MetroPCS, Mint, Pure Talk, RedPocket, Simple Mobile, Straight Talk, Tello, Ting, Total by Verizon, US Cellular, US Mobile, Ultra Mobile, Visible, and Wing.

³⁰⁸ We use the following formula (that takes into account one-time and on-going fees) to calculate the average monthly rate:

$$\begin{aligned}
 Price_{24Month} = & [(PromoPrice_1 * PromoDuration_1) + (PromoPrice_2 * PromoDuration_2) \\
 & + NonPromoPrice * (24 - PromoDuration_1 - PromoDuration_2) + 24 \\
 & * (AccessFee + MonthlyOtherFees - MonthlyRebate) + ActivationFee + OtherFees \\
 & - Rebate] / 24
 \end{aligned}$$

See 2022 Communications Marketplace Report, 37 FCC Rcd at Appx. G, para. 102.

³⁰⁹ Reports on mobile data usage provide a range of estimates and tend to rely on an average. Ericsson estimates average mobile data use in North America for 2023 at 25.9 GB and expected use in 2024 at 32.4 GB per month. Ericsson, *Mobile Data Traffic Outlook* (Nov. 2023), <https://www.ericsson.com/en/reports-and-papers/mobility-report/dataforecasts/mobile-traffic-forecast> (see Figure 10); see also GSMA, *The Mobile Economy North America 2023*, at 16 (2023) (citing Ericsson’s projections), <https://www.gsma.com/mobileeconomy/wp->

(continued....)

options. For comparability reasons, we exclude plans with device discounts, and only include plans that assume consumers bring their own devices. We also exclude provider discounts that may be inaccessible for low-income households.³¹⁰ Providers sometimes have multiple plans that meet our requirements for inclusion into the dataset. In those cases, we only include a provider’s lowest priced plan or combination of plans that serve one, two, three, and four lines. Figure 18 summarizes the median, mean, minimum, and maximum prices for the cheapest available one-, two-, three-, and four-line plans across the 27 providers sampled. Figure 18 reflects the overall price level and variance across the nation but does not imply that all plans are available in all locations. Cheaper plans with lower data caps are available in many locations for consumers with lower mobile data use.³¹¹

Fig. 18
Lowest Cost 30 GB Nationwide Mobile Plan Prices (Price per Line)

	Mean (\$)	St. Dev. (\$)	Min. (\$)	Median (\$)	Max. (\$)
1 Line (\$)	47.28	12.36	20.00	50.00	71.50
2 Lines (\$)	43.47	11.66	20.00	40.00	65.00
3 Lines (\$)	40.86	11.98	20.00	39.17	65.00
4 Lines (\$)	39.29	12.24	20.00	38.02	64.00

Source: Statistics calculated over the lowest cost plan or combination of plans from each provider that provides unthrottled 30 GB 5G-NR service for specified number of lines. No discounts included other than introductory promotional offers. Staff data collection from providers’ websites between Dec. 19, 2023 and Jan. 12, 2024.

100. *Income Shares Used to Subscribe to Broadband.* Whether a particular price is affordable also depends in part on the disposable income of a household.³¹² As a first step, this Report presents data on broadband expenses across income deciles (Figure 19) and on the burden of broadband on an example household with an income corresponding to 200% of the 2023 federal poverty level (Figure 20).

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[content/uploads/2023/09/260923-Mobile-Economy-North-America-2023.pdf](https://www.fcc.gov/content/uploads/2023/09/260923-Mobile-Economy-North-America-2023.pdf)); CTIA, *2023 Annual Survey Highlights* at 3 (2023), <https://api.ctia.org/wp-content/uploads/2023/11/2023-Annual-Survey-Highlights.pdf> (“Wireless data traffic is only expected to increase even more, as Ericsson predicts average monthly data use per smartphone to grow to 58 GB by 2028—more than 4x the 14 GB of monthly use per smartphone seen today.”). For the purposes of our analysis for this report, we have adopted a threshold of 30 GB per month, consistent with current advanced uses. 47 U.S.C. § 1302(d)(1); *2015 Report*, 30 FCC Rcd at 1390-91, paras. 19-23 (providing a legal analysis that these reports require an analysis of telecommunications capability that is “advanced”); *2016 Report*, 31 FCC Rcd at 705, para. 13. We therefore did not include plans that provided lower data limits at a lower price such as Twigby, TracFone, Reach Mobile, Unreal, and Spectrum, nor did we include providers that have no data component in their plans, like Textnow and Go Talk.

³¹⁰ We did not include any discounts for using auto-payments because these may be hard for low-credit scoring or unbanked households to claim. For some prepaid plans, a different rate might be available if one pays in advance for longer period of time. In those cases, we chose the prepaid plan with the shortest term period, in order not to exclude households with liquidity constraints. We also did not include any discounts for online purchase in order not to exclude households without internet service. Finally, we did not include any plans that also required a fixed Internet subscription from the provider.

³¹¹ For example, the one-line Verizon Unlimited prepaid plan is \$60 per month, while the one-line Verizon 15 GB prepaid plan is \$45 per month. Verizon, *Verizon Prepaid*, <https://www.verizon.com/plans/prepaid/> (last visited Feb. 12, 2024). Similarly, the one-line T-Mobile Unlimited prepaid plan is \$50 per month, while the one-line T-Mobile 10 GB prepaid plan is \$40 per month. T-Mobile, *T-Mobile Prepaid*, <https://prepaid.t-mobile.com/prepaid-plans> (last visited Feb. 12, 2024).

³¹² In 2016, the Commission directed the Wireline Competition Bureau “to measure the extent to which voice and broadband service expenditures exceeded two percent of low-income consumers’ disposable household income as compared to the next highest income group.” It stated that it did not intend to establish a presumption that this threshold distinguished affordable from non-affordable service. See *Lifeline and Link Up Reform and Modernization, et al.*, WC Docket No. 11-42 et al., Third Report and Order, Further Report and Order, and Order on Reconsideration, 31 FCC Rcd 3962, 4112, para. 408 (2016).

Economic analysis suggests that affordability cannot be purely defined using a fixed percentage of income, as incomes vary greatly.³¹³ However, evaluating the share of income spent is broadly informative of the degree of affordability and can be improved upon in future editions of this Report.

101. Figure 19 shows the median cost of fixed broadband as a share of household income,³¹⁴ differentiated for three speed tiers, by Census division. Differences in broadband prices and regional incomes translate into considerable variation even within speed tiers, particularly for the two lowest income deciles. For example, households at the 10th income percentile must spend between approximately 5% of their income in the Mountain Census Division and approximately 11% in Alaska for subscription to median-priced 100/20 Mbps broadband service. Households at the 20th percentile must spend between approximately 3% (Mountain) and approximately 6% (Alaska) for median-priced 100/20 Mbps broadband service.

Fig. 19
Median Fixed Broadband Internet Cost as a Share of Household Income,
by Census Division, Speed Tier, and Income Percentile

Download/ Upload	Census Division/AK	Income Percentile			
		10 th	20 th	50 th	90 th
25/3 Mbps	New England	6.0%	3.1%	1.2%	0.4%
	Middle Atlantic	6.7%	3.4%	1.3%	0.4%
	East North Central	6.2%	3.3%	1.4%	0.5%
	West North Central	2.1%	1.2%	0.5%	0.2%
	South Atlantic	6.0%	3.2%	1.3%	0.5%
	East South Central	7.6%	4.0%	1.6%	0.6%
	West South Central	6.5%	3.5%	1.4%	0.5%
	Mountain	3.6%	2.0%	0.9%	0.3%
	Pacific Except Alaska	5.1%	2.7%	1.1%	0.4%
	Alaska	7.6%	4.1%	1.8%	0.7%
100/20 Mbps	New England	7.5%	3.9%	1.5%	0.5%
	Middle Atlantic	8.5%	4.3%	1.7%	0.6%
	East North Central	7.8%	4.1%	1.7%	0.6%
	West North Central	5.6%	3.1%	1.3%	0.5%
	South Atlantic	8.0%	4.2%	1.8%	0.6%
	East South Central	9.5%	5.1%	2.0%	0.7%
	West South Central	8.2%	4.4%	1.8%	0.6%
	Mountain	4.7%	2.6%	1.1%	0.4%
	Pacific Except Alaska	6.4%	3.3%	1.3%	0.5%
	Alaska	10.8%	5.8%	2.6%	1.1%
940/500 Mbps	New England	20.5%	10.6%	4.1%	1.5%
	Middle Atlantic	14.0%	7.0%	2.7%	0.9%
	East North Central	19.8%	10.4%	4.4%	1.6%
	West North Central	8.9%	4.8%	2.1%	0.8%
	South Atlantic	19.0%	10.1%	4.2%	1.5%

³¹³ See Karen E. Hancock. “Can pay? Won’t pay?” or *Economic Principles of “Affordability,”* 30 *Urban Studies* 127 (1993).

³¹⁴ We use income deciles from the American Community Survey 1-Year 2022 Public Use Microdata Sample. United States Census Bureau, *Explore Data*, <https://data.census.gov/mdat/#/> (last visited Jan. 9, 2024). Income has been adjusted into 2023 dollars by the Chained Consumer Price Index For All Urban Consumers, using the inflation rate from December 2022 to December 2023. BLS, *BLS Data Viewer*, <https://beta.bls.gov/dataViewer/view/timeseries/SUUR0000SA0> (last visited Jan. 12, 2024).

Download/ Upload	Census Division/AK	Income Percentile			
		10 th	20 th	50 th	90 th
	East South Central	11.4%	6.1%	2.4%	0.9%
	West South Central	11.5%	6.2%	2.5%	0.9%
	Mountain	19.5%	10.9%	4.7%	1.8%
	Pacific Except Alaska	16.3%	8.5%	3.4%	1.2%
	Alaska	-	-	-	-

Source: FCC, Urban Rate Survey Data and Resources (Dec. 26, 2023), <https://www.fcc.gov/economics-analytics/industry-analysis-division/urban-rate-survey-data-resources>; United States Census Bureau, Explore Data, <https://data.census.gov/mdat/#/> (last visited Jan. 9, 2024); and BLS, *BLS Data Viewer*, <https://beta.bls.gov/dataViewer/view/timeseries/SUUR0000SA0> (last visited Jan. 12, 2024). We note that there is no 940/500 Mbps plan in Alaska.

102. Figure 20 shows the share of income that example households of varying size would have to spend for fixed, mobile, and both fixed and mobile broadband, assuming that fixed broadband is obtained for the entire household and that all individuals in the household have mobile broadband.³¹⁵ Income shares are calculated by census division—with Alaska separated as in the URS—for households at 200% of the 2023 federal poverty level, based on the U.S. Department of Health and Human Services 2023 poverty guidelines. Figure 20 shows wide regional variation in the share of income that households would have to spend on broadband. In addition, the income share varies with the size of the household. For example, one-member households require between approximately 3% and 6% of their income for both fixed and mobile broadband, while four-member households require between approximately 4% and 5% of their income for both fixed and mobile broadband.

103. During the pandemic, Congress acted to help close the broadband affordability gap, establishing the \$3.2 billion Emergency Broadband Benefit Program as part of the Consolidated Appropriations Act, 2021, under which eligible low-income households could receive a discount off the cost of broadband service and certain connected devices during an emergency period relating to the COVID-19 pandemic, and participating providers could receive a reimbursement for such discounts.³¹⁶ The Infrastructure Act³¹⁷ then extended the program beyond the emergency period, changed the name to the ACP, and appropriated an additional \$14.2 billion for the ACP, which changed the monthly support amount but maintains a monthly discount and the one-time connected device reimbursement.³¹⁸ However, due to the projected depletion of funding for the ACP in April 2024, the Commission has begun the process of winding down the program, absent further congressional funding to continue this unprecedentedly successful program.³¹⁹ The wind-down process includes an enrollment freeze, which

³¹⁵ The weighted median monthly price of fixed broadband is for service at advertised speeds of at least 25/3 Mbps but not greater than 100/20 Mbps, as shown in Figure 17. The median monthly price of wireless is derived from the data collection conducted by FCC staff in December 2023 and January 2024 as shown in Figure 18.

³¹⁶ Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, div. N, tit. IX, § 904(i), 134 Stat. 1182, 2130, 2135 (2020); *Emergency Broadband Benefit Program*, WC Docket No. 20-445, Report and Order, 36 FCC Rcd 4612 (2021).

³¹⁷ Infrastructure Act, div. F, tit. V, § 60502(a), 135 Stat. at 1238; *id.*, div. J, tit. IV, 135 Stat. at 1382 (appropriating \$14.2 billion to the Commission for the ACP).

³¹⁸ The ACP launched on December 31, 2021, and the Emergency Broadband Benefit Program ceased accepting new enrollments on December 30, 2021. *Emergency Broadband Benefit Program*, WC Docket Nos. 20-445, 21-450, Order, 36 FCC Rcd 16484 (WCB 2021); Press Release, FCC, FCC Launches Affordable Connectivity Program, (Dec. 31, 2021), <https://docs.fcc.gov/public/attachments/DOC-378908A1.pdf>. The Commission adopted final ACP rules in January 2022. *Affordable Connectivity Program, Emergency Broadband Benefit Program*, WC Docket Nos. 21-450, 20-445, Report and Order and Further Notice of Proposed Rulemaking, 37 FCC Rcd 484 (2022) (*ACP Report and Order and Further Notice*).

³¹⁹ See *Affordable Connectivity Program*, WC Docket No. 21-450, Order, DA 24-23 (WCB Jan. 11, 2024) (setting out requirements and procedures for ending the ACP due to lack of funding) (*ACP Wind-Down Order*). See also

(continued....)

went into effect on February 8, 2024.³²⁰ At the time ACP enrollments stopped, there were over 23 million households benefiting from the ACP.³²¹ In Figure 20, we consider the effect of ACP and Lifeline subsidies on the share of income spent on broadband for example households of varying size with an income of 200% of the federal poverty level.³²² Taking ACP and Lifeline subsidies into account, a one-member household required between approximately 2% and 5% of their income for both fixed and mobile broadband, while four-member households required between approximately 3% and 4% of their income for both fixed and mobile broadband.

Fig. 20
Estimated Expense of Fixed and Mobile Broadband as a Share of Household Income (at 200% Federal Poverty Level), by Census Division and Household Size

Division	Household Size	Median Monthly Price of Fixed	Median Monthly Price of Mobile	Monthly Household Income at 200% of FPL	Income Share Spent on Fixed	Income Share Spent on Mobile	Income Share Spent on Both	Income Share Spent on Both, Minus ACP	Income Share Spent on Both, Minus ACP and Lifeline
New England	1	\$87.00	\$50.00	\$2,430	3.6%	2.1%	5.6%	4.4%	4.0%
	2	\$87.00	\$80.00	\$3,287	2.6%	2.4%	5.1%	4.2%	3.9%
	3	\$87.00	\$117.50	\$4,143	2.1%	2.8%	4.9%	4.2%	4.0%
	4	\$87.00	\$152.08	\$5,000	1.7%	3.0%	4.8%	4.2%	4.0%
Middle Atlantic	1	\$87.00	\$50.00	\$2,430	3.6%	2.1%	5.6%	4.4%	4.0%
	2	\$87.00	\$80.00	\$3,287	2.6%	2.4%	5.1%	4.2%	3.9%
	3	\$87.00	\$117.50	\$4,143	2.1%	2.8%	4.9%	4.2%	4.0%
	4	\$87.00	\$152.08	\$5,000	1.7%	3.0%	4.8%	4.2%	4.0%
East North Central	1	\$79.99	\$50.00	\$2,430	3.3%	2.1%	5.3%	4.1%	3.7%
	2	\$79.99	\$80.00	\$3,287	2.4%	2.4%	4.9%	4.0%	3.7%
	3	\$79.99	\$117.50	\$4,143	1.9%	2.8%	4.8%	4.0%	3.8%
	4	\$79.99	\$152.08	\$5,000	1.6%	3.0%	4.6%	4.0%	3.9%
West North Central	1	\$30.00	\$50.00	\$2,430	1.2%	2.1%	3.3%	2.1%	1.7%
	2	\$30.00	\$80.00	\$3,287	0.9%	2.4%	3.3%	2.4%	2.2%
	3	\$30.00	\$117.50	\$4,143	0.7%	2.8%	3.6%	2.8%	2.6%
	4	\$30.00	\$152.08	\$5,000	0.6%	3.0%	3.6%	3.0%	2.9%
South Atlantic	1	\$79.99	\$50.00	\$2,430	3.3%	2.1%	5.3%	4.1%	3.7%
	2	\$79.99	\$80.00	\$3,287	2.4%	2.4%	4.9%	4.0%	3.7%
	3	\$79.99	\$117.50	\$4,143	1.9%	2.8%	4.8%	4.0%	3.8%
	4	\$79.99	\$152.08	\$5,000	1.6%	3.0%	4.6%	4.0%	3.9%
East South Central	1	\$79.99	\$50.00	\$2,430	3.3%	2.1%	5.3%	4.1%	3.7%
	2	\$79.99	\$80.00	\$3,287	2.4%	2.4%	4.9%	4.0%	3.7%
	3	\$79.99	\$117.50	\$4,143	1.9%	2.8%	4.8%	4.0%	3.8%
	4	\$79.99	\$152.08	\$5,000	1.6%	3.0%	4.6%	4.0%	3.9%
West South	1	\$80.41	\$50.00	\$2,430	3.3%	2.1%	5.4%	4.1%	3.8%
	2	\$80.41	\$80.00	\$3,287	2.4%	2.4%	4.9%	4.0%	3.7%

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Wireline Competition Bureau Announces the Final Month of the Affordable Connectivity Program, WC Docket No. 21-450, Public Notice, DA 24-195 (WCB Mar. 4, 2024) (*ACP Final Month Public Notice*).

³²⁰ *ACP Wind-Down Order*, DA 24-23, at 8, para. 21. See also *Wireline Competition Bureau Reminder of February 8, 2024 Enrollment Freeze for the Affordable Connectivity Program*, WC Docket No. 21-450, Public Notice, DA 24-103, (Feb. 6, 2024).

³²¹ Universal Service Administrative Service Company, *ACP Enrollment and Claims Tracker* (Feb. 13, 2024), <https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/#total-enrolled> (Total Households at Enrollment Freeze).

³²² The Lifeline program, the Emergency Broadband Benefit (EBB) during the COVID-19 pandemic, and the ACP are discount programs designed to make broadband subscriptions more affordable. The ACP subsidy is up to \$30 per household, per month (up to \$75 per month for households on qualifying Tribal lands), and the Lifeline subsidy is up to \$9.25 per household, per month (up to \$34.25 per month for eligible subscribers on Tribal lands). 47 U.S.C. § 1752(a)(7)(A) (establishing benefit amount for ACP); and FCC, *Lifeline Support for Affordable Communications* (Sept. 19, 2023), <https://www.fcc.gov/lifeline-consumers>.

Division	Household Size	Median Monthly Price of Fixed	Median Monthly Price of Mobile	Monthly Household Income at 200% of FPL	Income Share Spent on Fixed	Income Share Spent on Mobile	Income Share Spent on Both	Income Share Spent on Both, Minus ACP	Income Share Spent on Both, Minus ACP and Lifeline
Central	3	\$80.41	\$117.50	\$4,143	1.9%	2.8%	4.8%	4.1%	3.8%
	4	\$80.41	\$152.08	\$5,000	1.6%	3.0%	4.6%	4.0%	3.9%
Mountain	1	\$55.00	\$50.00	\$2,430	2.3%	2.1%	4.3%	3.1%	2.7%
	2	\$55.00	\$80.00	\$3,287	1.7%	2.4%	4.1%	3.2%	2.9%
	3	\$55.00	\$117.50	\$4,143	1.3%	2.8%	4.2%	3.4%	3.2%
	4	\$55.00	\$152.08	\$5,000	1.1%	3.0%	4.1%	3.5%	3.4%
Pacific Except Alaska	1	\$79.99	\$50.00	\$2,430	3.3%	2.1%	5.3%	4.1%	3.7%
	2	\$79.99	\$80.00	\$3,287	2.4%	2.4%	4.9%	4.0%	3.7%
	3	\$79.99	\$117.50	\$4,143	1.9%	2.8%	4.8%	4.0%	3.8%
	4	\$79.99	\$152.08	\$5,000	1.6%	3.0%	4.6%	4.0%	3.9%
Alaska	1	\$129.99	\$50.00	\$3,035	4.3%	1.6%	5.9%	4.9%	4.6%
	2	\$129.99	\$80.00	\$4,107	3.2%	1.9%	5.1%	4.4%	4.2%
	3	\$129.99	\$117.50	\$5,178	2.5%	2.3%	4.8%	4.2%	4.0%
	4	\$129.99	\$152.08	\$6,250	2.1%	2.4%	4.5%	4.0%	3.9%

Source: The column “Income Share Spent on Both, Minus ACP” is based on \$30 of support. The column “Income Share Spent on Both, Minus ACP and Lifeline” is based on \$30 ACP support and \$9.25 Lifeline support. United States Department of Health and Human Services, Annual Update of the HHS Poverty Guidelines, 88 Fed. Reg. 3424 (January 19, 2023); FCC, Urban Rate Survey Data and Resources (Dec. 26, 2023), <https://www.fcc.gov/economics-analytics/industry-analysis-division/urban-rate-survey-data-resources>; and FCC staff mobile pricing data collection from Dec. 19, 2023 and Jan. 12, 2024.

104. Given the overall lack of data and information in the record, as noted above, we necessarily limit ourselves to an initial analysis of some of the factors that affect affordability. We do not have sufficient data, however, to draw any conclusions as to the general affordability of broadband service or its affordability for particular types of households. We believe that more comprehensive data are necessary for us to make any definitive conclusions about the number of households for which broadband remains unaffordable. We nevertheless find available affordability data to be instructive and intend to use these data to inform development of Commission policy. We plan to revisit affordability in future section 706 inquiries.

C. Adoption

105. In this section, we examine the universal service goal of broadband adoption. As a general matter, we consider our goal of universal adoption to be a universal lack of barriers to adoption other than service availability and service affordability – not 100% adoption. Such barriers most notably include the affordability of devices used to access broadband services (including those used by people with disabilities), the lack of information about programs that make broadband services more affordable, such as the ACP, and digital literacy.

106. Our previous section discussing affordability suggested that broadband remains unaffordable for far too many Americans. Adoption, however, is not the same as affordability. Some households that have the income to afford broadband may choose not to subscribe due to a lack of information, lack of digital literacy, or because they cannot afford to purchase a device to access broadband service.³²³

107. For purposes of this inquiry, we consider access to devices used to connect to broadband to be an adoption-related matter. Even if broadband service is affordable, consumers may not find it

³²³ We agree with NCTA that many issues can affect broadband adoption and discuss two of the issues that USTelecom raises (lack of access to devices and lack of digital skills) in our discussion of Adoption. See USTelecom Comments at 7. Further, as stated above, we also acknowledge the third example given by USTelecom (“relevance”) in explaining how our evaluation of adoption is not necessarily premised on a goal of 100% adoption. See *id.*

useful to adopt it if the devices used to connect to it are too expensive for potential subscribers. For example, 37% of non-broadband users in a Pew Research Center survey stated that the cost of a computer is a reason that they do not subscribe.³²⁴ The ACP's up-to-\$100 device subsidy, available in certain circumstances,³²⁵ can certainly play a role in reducing this barrier to adoption,³²⁶ but it is unclear the extent to which it fully and universally solves the problem. Further, programs such as the ACP are only effective if potential subscribers know about them. Congress recognized this issue in 2021 when authorizing the Commission to provide grants to ACP outreach partners,³²⁷ a program that the Commission continued to implement until the enrollment freeze on February 8, 2024 stopped grant-funded outreach activities consistent with wind-down procedures.³²⁸ As we discuss in detail below, during the duration of the ACP, the Commission has conducted its own significant ACP awareness programs, both directly and through partners.³²⁹

108. Lack of digital literacy can also be a barrier to adoption.³³⁰ The National Digital Inclusion Alliance has stated that digital literacy and cost are the greatest barriers to broadband adoption.³³¹ We note that the Digital Equity Act, enacted as part of the Infrastructure Act, provides for State Digital Equity Capacity Grants that are to include State Digital Equity Plans in their applications with measurable objectives for promoting, among other things, digital literacy,³³² a grant program that we will follow with interest.

109. Against this background, we analyze the Commission's broadband adoption data, recognizing that each of these factors plays a role in why someone with theoretically affordable broadband physically deployed to them might not subscribe. Due to our current lack of data regarding these barriers to adoption, we analyze these data primarily as an indicator of potential barriers to adoption.

³²⁴ Andrew Perrin, Pew Research Center, *Mobile Technology and Home Broadband 2021* (June 3, 2021), <https://www.pewresearch.org/internet/2021/06/03/mobile-technology-and-home-broadband-2021/>.

³²⁵ See 47 CFR § 54.1803(b).

³²⁶ The ACP provides a one-time discount of up to \$100 for a laptop, desktop, or tablet per household, provided that the household contributes more than \$10 but less than \$50 toward the cost of the device. 47 U.S.C. § 1752(b)(5); *ACP Report and Order and Further Notice* at 65, para. 136.

³²⁷ See 47 U.S.C. § 1752(b)(10)(C)(ii)(IV).

³²⁸ See, e.g., *Affordable Connectivity Program*, WC Docket No. 21-450, Second Report and Order, 37 FCC Rcd 9928 (2022) (*ACP Second Report and Order*); *Affordable Connectivity Program*, WC Docket No. 21-450, Third Report and Order, 37 FCC Rcd 9989 (2022) (*ACP Third Report and Order*). WCB announced in its wind-down order dated January 11, 2024, that grant-funded outreach will cease concurrent with a freeze in ACP enrollments. *ACP Wind-Down Order*, DA 24-23, at 10-11, para. 27.

³²⁹ See Section IV.D, *infra*.

³³⁰ In addition to USTelecom, Next Century Cities also observes that lack of digital literacy can prevent broadband adoption. Next Century Cities Comments at 7. See also Kevin Schwartzbach, Rockefeller Institute of Government, *Addressing Digital Literacy and Other Reasons for Non-Adoption of Broadband* (July 8, 2022), <https://rockinst.org/blog/addressing-digital-literacy-and-other-reasons-for-non-adoption-of-broadband/>; Congressional Research Service, *State Broadband Initiatives: Selected State and Local Approaches as Potential Models for Federal Initiatives to Address the Digital Divide*, ii (Apr. 6, 2020), <https://crsreports.congress.gov/product/pdf/R/R46307>.

³³¹ *Empowering and Connection Communities Through Digital Equity and Internet Adoption: Hearing Before the Subcomm. on Commc'ns and Tech, 116th Cong. 2 (2020)* (Written Testimony of Angela Siefer, Executive Director, National Digital Inclusion Alliance), <https://docs.house.gov/meetings/IF/IF16/20200129/110416/HHRG-116-IF16-Wstate-SieferA-20200129.pdf>.

³³² See Infrastructure Act, div. F, tit. III, § 60304(c)(1)(B)(iii), 135 Stat. at 1214.

110. Our assessment of adoption of fixed terrestrial broadband services in the United States from 2018 to 2021 is based upon FCC Form 477 subscriber/connection data collected at the census tract level, and FCC Form 477 deployment data collected at the census block level. The assessment of adoption of broadband services in 2022 is based upon the same tract-level FCC Form 477 connection data, and FCC BDC service availability data that are collected at a location-by-location level based on the Broadband Serviceable Locations identified in the December 2022 Fabric. For this analysis, we aggregate data up to the geographic level reported in each figure; for example, the United States, Tribal Areas, and Urban and Non-Urban Core Areas located therein. We evaluate the adoption of fixed terrestrial services at speeds of our fixed speed benchmark of 100/20 Mbps, an approximation of our long-term goal using 940/500 Mbps, and the former fixed speed benchmark of 25/3 Mbps, both with and without fixed wireless.³³³

111. For the years 2018 through 2021, the reported adoption rates are the number of residential fixed terrestrial connections divided by the number of households located in the census blocks in which the FCC Form 477 deployment data indicate that fixed terrestrial services are deployed and meet the reported speed threshold. Similarly, for the year 2022, the reported adoption rate is the number of fixed terrestrial connections divided by the number of households in which the BDC service availability data indicate fixed terrestrial services are deployed and meet the reported speed threshold. A census tract is designated as “Urban Core” if it has a land area less than three square miles and a population density of at least 1,000 people per square mile. A census tract is designated as “Non-Urban Core” if it has not been designated as Urban Core. We define a census tract as a Tribal Area if more than 50% of the land area in the census tract is designated as Tribal lands.³³⁴ In addition to the Figures presented here, we present the mobile broadband penetration rate by state in Appendix B-20. To estimate the adoption of mobile broadband we present the penetration rate, or number of mobile wireless devices per capita, by state.³³⁵ As seen in Appendix B-20, the penetration rate exceeds 100% in every state.³³⁶ This indicates that the average subscriber has more than one connected device.

³³³ See *infra* Appx. B-1 (presenting service availability for fixed terrestrial services at our speed benchmark of 100/20 Mbps by state, the District of Columbia, and U.S. Territory).

³³⁴ Because our subscriber data are submitted at the census tract level, some census tracts will contain a mixture of census blocks on Tribal lands and census blocks that are not on Tribal lands. For example, for 2022, the Tribal lands area category in the figures below contain 93% of households and 85% of the land area of census blocks that are designated as Tribal lands, and 7% of households and 15% of the land area of census blocks that are not designated as Tribal lands. Moreover, because connections data are collected at the census tract level, we have no ability to determine whether the residential connections are for households located on census blocks designated as urban, non-urban (rural), or Tribal lands.

³³⁵ We use Numbering Resource Utilization/Forecast (NRUF) data to estimate state-level penetration rates (the number of mobile wireless connections per 100 people). NRUF data track how many phone numbers have been assigned to mobile wireless devices. Note that NRUF-based penetration rates can exceed 100% because NRUF identifies the number of connected devices that have associated telephone numbers, and a single subscriber may have multiple connected devices.

³³⁶ CTIA estimates that, as of 2022, there were approximately 1.6 wireless connections for every person in the U.S. CTIA, *2023 Annual Survey Highlights* at 5 (2023), <https://api.ctia.org/wp-content/uploads/2023/11/2023-Annual-Survey-Highlights.pdf>.

112. Figure 21 reports adoption rates based on year-end data from 2018 to 2022 for the United States, Urban Core and Non-Urban Core Areas, and Tribal Areas. The data shows that as of year-end 2022, approximately 42% of households subscribe to broadband at our fixed speed benchmark of 100/20 Mbps when it is available. Under 20% of households subscribe to broadband at our long-term goal speed approximate of 940/500 Mbps when it is available. Adoption rates for the United States as a whole are higher in Urban areas at speeds of 25/3 Mbps and 100/20 Mbps, while Non-Urban areas have slightly higher adoption rates at speeds of 940/500 Mbps. For Tribal Areas, adoption rates for the 25/3 Mbps speed tier are higher in Urban Areas, while adoption rates for the faster speed tiers are higher in Non-Urban Areas.

Fig. 21
Overall Adoption Rate for Fixed Terrestrial Services at Different Speed Tiers

	2018	2019	2020	2021	2022
25/3 Mbps					
United States	65.1%	69.4%	76.0%	80.0%	78.7%
Non-Urban Core Areas	59.9%	64.6%	70.1%	73.1%	75.3%
Urban Core Areas	69.2%	73.3%	81.0%	84.9%	80.9%
Tribal Areas	44.0%	46.5%	52.3%	59.3%	58.5%
Non-Urban Core Areas	38.7%	40.6%	46.3%	52.0%	53.6%
Urban Core Areas	56.1%	61.8%	70.0%	77.7%	71.1%
25/3 Mbps - Excluding Fixed Wireless					
United States	66.3%	71.1%	78.3%	81.3%	79.7%
Non-Urban Core Areas	62.4%	67.9%	74.6%	76.4%	79.4%
Urban Core Areas	69.3%	73.4%	81.1%	84.5%	79.8%
Tribal Areas	47.2%	51.1%	59.0%	63.3%	64.5%
Non-Urban Core Areas	42.7%	46.1%	54.2%	57.0%	61.7%
Urban Core Areas	56.6%	62.2%	70.5%	77.0%	70.1%
100/20 Mbps					
United States	15.7%	21.1%	27.6%	32.8%	41.7%
Non-Urban Core Areas	13.1%	18.6%	25.4%	29.9%	41.2%
Urban Core Areas	17.5%	22.9%	29.3%	34.7%	42.1%
Tribal Areas	9.9%	15.8%	23.3%	24.6%	31.8%
Non-Urban Core Areas	10.2%	16.3%	24.9%	26.6%	34.5%
Urban Core Areas	9.4%	14.8%	19.9%	20.6%	26.3%
100/20 Mbps - Excluding Fixed Wireless					
United States	15.7%	21.2%	27.9%	33.1%	42.2%
Non-Urban Core Areas	13.2%	18.8%	26.0%	30.7%	43.1%
Urban Core Areas	17.4%	22.9%	29.3%	34.5%	41.6%
Tribal Areas	10.1%	16.4%	24.2%	25.2%	34.7%
Non-Urban Core Areas	10.5%	17.2%	26.4%	27.5%	39.2%
Urban Core Areas	9.4%	14.8%	19.9%	20.6%	26.4%
940/500 Mbps					
United States	7.5%	9.4%	16.2%	16.0%	19.9%
Non-Urban Core Areas	8.1%	9.7%	16.6%	16.2%	20.3%
Urban Core Areas	7.2%	9.3%	16.0%	16.0%	19.6%
Tribal Areas	7.7%	7.9%	14.6%	14.9%	20.7%
Non-Urban Core Areas	12.0%	11.3%	15.7%	15.9%	22.6%
Urban Core Areas	2.7%	2.8%	12.4%	12.9%	15.8%
940/500 Mbps - Excluding Fixed Wireless					
United States	7.6%	9.6%	16.6%	16.2%	20.2%

	2018	2019	2020	2021	2022
Non-Urban Core Areas	8.2%	9.8%	17.1%	16.4%	20.8%
Urban Core Areas	7.4%	9.5%	16.4%	16.2%	19.8%
Tribal Areas	7.7%	7.9%	14.7%	14.8%	20.9%
Non-Urban Core Areas	12.0%	11.3%	15.8%	15.8%	22.8%
Urban Core Areas	2.7%	2.8%	12.4%	12.9%	15.8%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

113. Figure 22 reports average county-level adoption rates for fixed terrestrial services by quartile ranking for median household income, population density, household poverty rate and the proportion of the population that resides in a rural area.³³⁷ The data are further disaggregated by speed tier.³³⁸ In general, these data suggest that the average household adoption rate in a county increases with median household income and population density, and decreases with increases in the poverty rate and rural population rate.³³⁹ We note that these trends are not as clear for the 940/500 Mbps tier.

Fig. 22
Average County Overall Adoption Rate for Fixed Terrestrial Services by County Level
Demographic Variable (December 31, 2022)

	25/3 Mbps	100/20 Mbps	940/500 Mbps
Median Household Income			
First Quartile (Lowest Median Household Income)	51.1%	28.4%	12.2%
Second Quartile	59.4%	32.1%	13.7%
Third Quartile	62.7%	32.4%	11.2%
Fourth Quartile (Highest Median Household Income)	74.5%	41.7%	17.3%
Median Household Income - Excluding Fixed Wireless			
First Quartile (Lowest Median Household Income)	54.5%	30.3%	12.7%
Second Quartile	63.3%	34.2%	13.7%

³³⁷ This demographic analysis is based upon county-level adoption rates and the most recently available ACS Data; that is, ACS Five-Year Estimates for 2018-2022 for county-level data for the 50 states and the District of Columbia. Median household income is based on 2022 data and is measured in 2022 Inflation-Adjusted Dollars. The household poverty rate is defined as the number of households living below the federal poverty rate divided by the total number of households ACS includes in the poverty calculation. Population density is defined as the total estimated population residing in the county as of 2022 divided by the square miles of land in the county, where the estimate of land area is based upon the 2020 Census. We designate a 2020 census block as urban or rural based on the designation of the 2020 Census. The rural population rate is defined as the total estimated population residing in the county residing in the “rural” census blocks as categorized for this *Report* divided by the total estimated population in the county.

³³⁸ We note that this analysis is based upon the best data currently available and may not accurately reflect how adoption may be associated with the subscriber’s demographic data. Our connections data are based upon the data submitted by the providers, and we do not know the demographics of the providers’ customers.

³³⁹ The adoption of fixed terrestrial broadband varies across demographic groups and households with less income are less likely to subscribe to a fixed broadband service for their home. See Pew Research Center, *Internet/Broadband Fact Sheet* (Jan. 31, 2024), <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/>. Incomes tend to be lower in rural areas, and subscription to home broadband services is generally lower in rural areas. Counties with a higher proportion of rural population will tend to have lower population density because fewer people live in these counties than in counties with more urban areas. In Fig. 22, the quartile with the lowest population density will likely correspond to the quartile with the highest rural population rate. Thus, the observation that the average overall adoption rate for fixed terrestrial services increases with population density is akin to the observation that the average overall adoption rate for fixed terrestrial services decreases as the rural population rate increases.

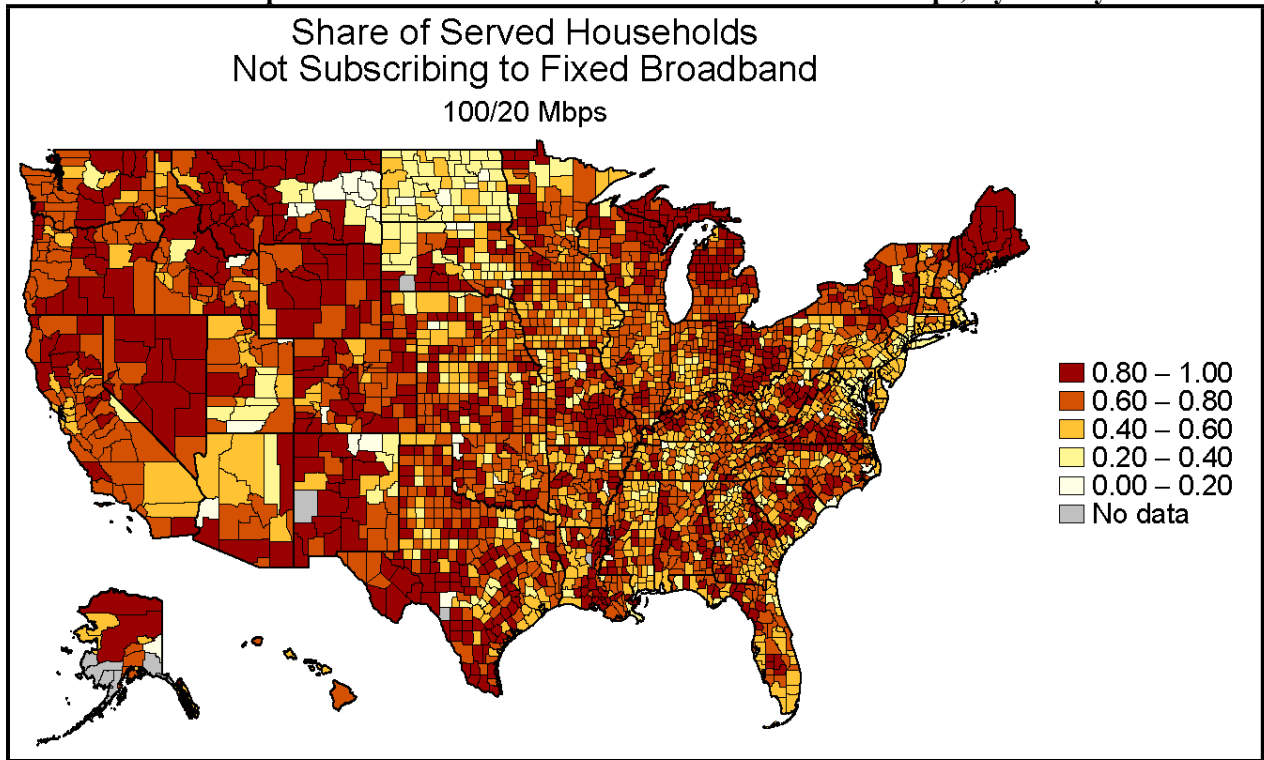
	25/3 Mbps	100/20 Mbps	940/500 Mbps
Third Quartile	66.9%	35.3%	11.4%
Fourth Quartile (Highest Median Household Income)	76.9%	43.5%	17.3%
Population Density			
First Quartile (Lowest Population Density)	53.5%	30.5%	8.8%
Second Quartile	51.4%	30.1%	11.4%
Third Quartile	63.7%	32.7%	14.4%
Fourth Quartile (Highest Population Density)	79.1%	41.4%	18.9%
Population Density - Excluding Fixed Wireless			
First Quartile (Lowest Population Density)	57.1%	33.5%	8.9%
Second Quartile	56.0%	33.4%	11.8%
Third Quartile	68.2%	34.5%	14.6%
Fourth Quartile (Highest Population Density)	80.0%	41.9%	18.8%
Household Poverty Rate			
First Quartile (Lowest Household Poverty Rate)	70.2%	40.1%	15.3%
Second Quartile	64.0%	32.6%	12.1%
Third Quartile	60.9%	32.7%	15.1%
Fourth Quartile (Highest Household Poverty Rate)	52.6%	29.3%	12.0%
Household Poverty Rate - Excluding Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	73.4%	42.6%	15.4%
Second Quartile	67.8%	34.9%	12.0%
Third Quartile	64.7%	34.6%	15.6%
Fourth Quartile (Highest Household Poverty Rate)	55.7%	31.2%	12.2%
Rural Population Rate			
First Quartile (Lowest Rural Population Rate)	76.6%	40.6%	17.2%
Second Quartile	63.0%	32.5%	13.6%
Third Quartile	59.1%	29.7%	14.1%
Fourth Quartile (Highest Rural Population Rate)	51.9%	31.3%	10.5%
Rural Population Rate - Excluding Fixed Wireless			
First Quartile (Lowest Rural Population Rate)	77.3%	41.3%	17.2%
Second Quartile	66.9%	34.5%	13.7%
Third Quartile	64.4%	32.1%	14.8%
Fourth Quartile (Highest Rural Population Rate)	56.1%	34.4%	10.6%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022.

114. Based on December 2022 BDC data, we also analyze the non-adoption rate of fixed broadband at speeds of 100/20 Mbps or higher across counties in the United States. We measure the adoption gap as the number of households in a county for which 100/20 Mbps or higher broadband is available minus the number of households in a county subscribing to 100/20 Mbps or higher service. Then, we divide the adoption gap by the number of households in a county for which 100/20 Mbps or higher broadband is available. Households that are counted as non-adopters include those subscribed to satellite plans or fixed broadband at lower speeds, as well as those who are not subscribed to fixed broadband at all—this includes households for whom broadband is not affordable but also others who opt not to subscribe, even though they could afford it. There is a great deal of heterogeneity in non-adoption, as seen in Figure 23. For example, counties in North Dakota have quite low non-adoption rates, while counties in Maine and Nevada have very high non-adoption rates. Even more states have a great deal of variation in non-adoption on a county-by-county basis, such as Arkansas and Utah. As explained above, multiple interrelated factors influence the adoption gap. Further work is needed to explore the patterns of

non-adoption of fixed broadband.

Fig. 23
Non-Adoption Rate of Fixed Terrestrial Services at 100/20 Mbps, By County



Source: Staff analysis based on Dec. 2022 FCC BDC data.

Fig. 23 depicts the ratio of households in a county that do not subscribe to 100/20 Mbps service even though the service is available at the location. It includes terrestrial fixed service (fixed wireline and wireless) but does not include satellite or mobile broadband. As seen in Fig. 22, above, many households continue to subscribe to slower speed tiers, even when 100/20 Mbps service is available. Several reasons can explain this such as: the needs of a household may be served at lower access speeds, a household may not be aware of the availability of service, or the service may not be affordable.

D. Availability

115. Although the Commission’s universal service goals all inform the availability of advanced telecommunications capability,³⁴⁰ the Commission in the *Future of USF Report* also adopts a goal of availability that is distinct from physical deployment, affordability, adoption, and equitable access.³⁴¹ We posited in the *Notice* that availability should refer to consumers’ ability to purchase broadband service in areas where service is physically deployed,³⁴² noting the example that broadband service may be physically deployed to a location, but the wiring of a building does not support the capability for all of its tenants to receive service.³⁴³ We sought examples and also asked whether this goal should be understood to encompass the quality of broadband service, including for example the frequency of service outages.³⁴⁴ In addition, we asked in the *Notice* whether there is quantitative or qualitative data

³⁴⁰ See Section II, *supra*.

³⁴¹ We again note that the universal service goal of availability is distinguished from the concept of “service ability,” which for the purposes of this Report we consider to be central to the evaluation of the physical deployment universal service goal.

³⁴² *Notice of Inquiry*, FCC 23-89, at 26, para. 62 (citing *Future of USF Report*, 37 FCC Rcd at 10046-47, para. 12).

³⁴³ *Id.*.

³⁴⁴ *Id.*

on which the Commission can rely to analyze service availability for this purpose.³⁴⁵ For the reasons discussed below, we do not establish a standard for our universal service goal of availability at this time, although we discuss potential measures and available data.

116. We find that for purposes of our discussion of the Commission’s universal service goals in this inquiry, all aspects of service quality should be evaluated in the context of availability. We conclude that if a “service” does not have the characteristics reasonably expected of that service when a consumer wants to use it based on measurable statistical standards, that service is not “available.” Actual (as opposed to advertised) speed received, consistency of speed, and data allowances are also important.³⁴⁶ While we evaluate service quality in the context of availability, we acknowledge that many aspects of service quality could also be viewed in the context of evaluating whether the service has been “deployed.” In other words, if the service “deployed” does not, in fact, have the characteristics reasonably expected of such service (such as sufficiently low latency and sufficiently high consistency of service), that “service” could be said to have not been truly deployed to a location.

117. Service quality is important—it has a real and significant effect on consumers’ ability to use critical web-based applications, including those that facilitate telehealth, telework, and virtual learning.³⁴⁷ Many commenters support including service quality—particularly latency—as part of our inquiry,³⁴⁸ some of which noted that high latency can adversely affect an application’s quality of service.³⁴⁹ Some commenters also argue that measuring actual speeds received, rather than advertised speeds, is more useful in determining the quality of the service provided.³⁵⁰ We disagree with USTelecom, which does not support including service quality metrics by arguing that service quality is beyond the scope of section 706,³⁵¹ as well as parties arguing that our efforts would be duplicative of Commission programs and requirements.³⁵² These parties fail to articulate how service can be considered available when it is of less than reasonably expected quality. Indeed, we note that section 706(d)(1) includes the adjective “high-quality” in its definition of advanced telecommunications capability.³⁵³

118. *Latency.* Latency, which is the measure of the time it takes a packet of data to travel from one point in the network to another, and which is typically measured by round-trip time in milliseconds (ms), is an important and often-measured aspect of service quality.³⁵⁴ As a measurement of

³⁴⁵ *Id.*

³⁴⁶ Certain metrics may be combined. For example, we could measure the minimum speed that a consumer actually receives 99.999% of the time.

³⁴⁷ In fact, one commenter suggests that the Commission “balance its near-term efforts on achieving internet resilience and minimizing latency, instead of only increasing ‘speed’ or ‘bandwidth’.” Taht/Bufferbloat Comments at 1.

³⁴⁸ See ADTRAN Comments at 15-17; ASSIA Comments at 2-4; Taht/Bufferbloat Comments at 3; WISPA Comments at 5-6; Hawkins Comments at 1.

³⁴⁹ ADTRAN Comments at 15-17; ASSIA Comments at 2-4; Hawkins Comments at 1; Taht/Bufferbloat Comments at 3. Mr. Taht notes that even with increased speed, reducing latency is the only way to improve responsiveness. Taht/Bufferbloat Comments at 3. Mr. Taht also provides two charts demonstrating that low latency is important, but does not specify a standard that the Commission should use when evaluating latency in the context of measuring advanced telecommunications capability. Taht/Bufferbloat Comments at 4-5.

³⁵⁰ ADTRAN Comments at 17; ASSIA Comments at 4.

³⁵¹ USTelecom Comments at 4; WISPA Reply at 7-8.

³⁵² USTelecom Comments at 4.

³⁵³ 47 U.S.C. § 1302(d)(1).

³⁵⁴ *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*, GN Docket No. 15-191,

(continued....)

advanced telecommunications capability, latency can be critical because it affects a consumer's ability to use real-time applications, including voice over Internet Protocol (VoIP), video calling, distance learning applications, and online gaming.³⁵⁵ For more than a decade, the Commission has required its broadband supported with USF high-cost funding to have latency sufficiently low for real-time applications, such as VoIP.³⁵⁶ We note that there are many different standards for latency.³⁵⁷ For example, based on a detailed analysis of International Telecommunications Union design objectives, the Commission has operationalized this standard for performance measurement purposes to mean that 95% or more of all peak period measurements (also referred to as observations) of network round trip latency are at or below 100 milliseconds (ms).³⁵⁸ The Department of Commerce requires BEAD funding recipients to meet the same standard, and requires broadband service with a maximum round trip latency of 100 ms at a location (among other requirements) for that location to be served.³⁵⁹

119. In the *Notice*, we observed that it may be appropriate to analyze latency metrics from Report to Report, and inquired whether latency metrics should be incorporated into our evaluation of advanced telecommunications capability.³⁶⁰ Certain commenters encourage the Commission to consider performance metrics such as latency.³⁶¹ Some commenters contend that latency should be included in the definition of advanced telecommunications capability,³⁶² and describe how common use cases such as videoconferencing or gaming are dependent on latency.³⁶³ Other commenters state that a consideration of service quality factors such as latency would expand the Commission's Section 706 inquiry beyond its intended purpose.³⁶⁴ If we do present information on latency, commenters indicate that the Commission should maintain consistency with its high-cost USF programs by applying a standard of a roundtrip of

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Eleventh Broadband Progress Notice of Inquiry, 30 FCC Rcd 8823, 8835, para. 32 (2015) (*Eleventh Notice of Inquiry*).

³⁵⁵*Id.* 8835, para. 32 n.69. High latencies may affect the perceived quality of some interactive services such as phone calls over the Internet, video chat and video conferencing, or online multiplayer games. FCC, Measuring Broadband America Fixed Broadband Report at 1.C (2023), [https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-fixed-broadband-twelfth-report#:~:text=The%20Twelfth%20Measuring%20Broadband%20America,Broadband%20America%20\(MBA\)%20\(Twelfth%20Measuring%20Broadband%20America%20Report\)](https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-fixed-broadband-twelfth-report#:~:text=The%20Twelfth%20Measuring%20Broadband%20America,Broadband%20America%20(MBA)%20(Twelfth%20Measuring%20Broadband%20America%20Report).). By consistency of speed, we refer to the extent to which the speed received by a consumer fluctuates over a period of time. See *Twelfth Measuring Broadband America Report* at 2.C.

³⁵⁶ See, e.g., *Connect America Fund et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17698, para. 96 (2011); 47 CFR § 54.805(a); 47 CFR § 54.1507(a).

³⁵⁷ For a wide-ranging discussion of various potential measures of latency, see generally Taht/Bufferbloat Comments.

³⁵⁸ See, e.g., *Connect America Fund*, WC Docket No. 10-90, Order, 33 FCC Rcd 6509, 6510-11, para. 4 (WCB/WTB/OET 2018) (*First Performance Measures Order*); 47 CFR § 54.805(b)(4)(i); 47 CFR § 54.1507(c)(1).

³⁵⁹ NTIA BEAD NOFO at 64-65. The NTIA BEAD NOFO also specifies that locations are considered "underserved" if they do not meet download/upload speeds of at least 100/20 and have a latency above 100 milliseconds. *Id.* at 16.

³⁶⁰ *Notice*, at 12-13,15, paras. 27-28, 35.

³⁶¹ ASSIA Comments at 4, 5; Dave Taht Comments at 3-5; ADTRAN Comments at Introduction, Hawkins Comments at 1-2; ASSIA Comments at 3; ADTRAN Comments at 16,17; Miss. Center for Justice Reply at 4.

³⁶² Benton Institute Comments at 2-3; Hawkins Comments at 1.

³⁶³ Dave Taht Comments at 10.

³⁶⁴ USTelecom Comments at 4, 5; WISPA Reply at 7-8.

100 milliseconds or less during at least 95% of tested measurements;³⁶⁵ or that the analysis should be consistent with language in the Infrastructure Act.³⁶⁶

120. Fixed broadband providers are required to include a latency flag in their BDC submissions, indicating whether the offered service is low latency, defined as having a round-trip latency of less than or equal to 100 milliseconds.³⁶⁷ Figure 24 shows the overall service availability of fixed terrestrial services, further broken down into households with access to low latency services and those without access to these services, as of December 2022. As seen in Figure 24, almost all households with access to fixed terrestrial broadband services had access to low latency services.

Fig. 24

Service Availability (Millions) of Fixed Terrestrial Services by Speed and Latency (December 2022)

	25/3 Mbps		100/20 Mbps		940/500 Mbps	
	Pop.	%	Pop.	%	Pop.	%
Overall	318.921	95.7%	309.107	92.7%	134.617	40.4%
Low Latency Service Available	318.786	95.6%	309.019	92.7%	134.447	40.3%
Low Latency Service Not Available	0.135	0.0%	0.088	0.0%	0.170	0.1%
Excluding Fixed Wireless						
Overall	305.478	91.7%	301.531	90.5%	132.059	39.6%
Low Latency Service Available	305.441	91.6%	301.486	90.5%	131.972	39.6%
Low Latency Service Not Available	0.037	0.0%	0.046	0.0%	0.086	0.0%
Pop. Evaluated	333.288	100.0%	333.288	100.0%	333.288	100.0%

Source: FCC BDC data; Staff Block Estimates.

121. Although we find the data described above instructive, it is not comprehensive. We intend to revisit this issue in future inquiries as we learn more about, and potentially develop access to, additional data.

122. *Consistency of Service.* Both the Commission, with respect to high-cost USF recipients, and NTIA, with respect to BEAD recipients, also impose standards for consistency of service.³⁶⁸ This service quality metric concerns the percentage of performance test measurements, conducted under defined conditions, that demonstrate both download and upload speeds are being provided at a particular percentage of the “required” speed a particular percentage of the time.³⁶⁹ In the case of the Commission’s performance requirements for USF high-cost recipients and NTIA’s performance requirements for BEAD recipients, this threshold is 80% of measurements in each direction reflecting at least 80% of the “required” speed, otherwise known as “80/80.”³⁷⁰ It may be possible to operationalize this consistency measurement by, for instance, not considering service to be “available” pursuant to the distinct availability goal unless it meets this 80/80 standard – which, in the case of 100/20 Mbps would be 80/16 Mbps at least 80% of the time. Measuring Broadband America (MBA) tests broadband service speeds at

³⁶⁵ WISPA Comments at 5-6.

³⁶⁶ *Id.*

³⁶⁷ FCC, *Broadband Data Collection: Data Specifications for Biannual Submission of Subscription, Availability, and Supporting Data* (March 4, 2022), <https://www.fcc.gov/sites/default/files/bdc-availability-data-specifications-03042022.pdf>. More specifically, for purposes of the BDC, low latency services are defined as having a round-trip latency of less than or equal to 100 milliseconds based on the 95th percentile of measurements.

³⁶⁸ See *First Performance Measures Order*, 33 FCC Rcd at 6529-30, para. 51; BEAD NOFO at 64-65 & n.80.

³⁶⁹ *First Performance Measures Order*, 33 FCC Rcd at 6529-30, para. 51.

³⁷⁰ *Id.*; BEAD NOFO at 64-65 & n.80.

both 80/80 and 90/90 consistency standards.³⁷¹ We acknowledge, however, that at present, MBA is not a comprehensive source of data and we are not currently aware of a more comprehensive data source.³⁷² We intend to revisit this issue in future inquiries.

123. *Other Aspects of Availability.* We acknowledge there are additional areas and measurements other than latency and consistency of service that are likely relevant to the universal service goal of availability. These include other metrics such as service outages and access to inside wiring. At present, we do not have comprehensive sources of data, but intend to revisit this issue in future inquiries.

E. Equitable Access

124. In the *Future of USF Report*, the Commission stated it could “measure progress” of the universal service goal of equitable access to broadband through its implementation of the Infrastructure Act’s directive to take action to prevent and identify necessary steps to eliminate digital discrimination of access.³⁷³ However, we have only just begun the process of implementing our digital discrimination of access rules, and the standards and metrics for determining compliance with those rules will be highly context specific. In light of these considerations, with regard to equitable access, we limit our discussion of equitable access in this Report solely to presenting, for informational purposes, the demographic analysis required by section 706(c).³⁷⁴

125. As we compile a list of geographical areas that are not served by any provider of advanced telecommunications capability and, to the extent that data from the Census Bureau are available, we determine, for each unserved area, the population, the population density, and the average per capita income.³⁷⁵ We include a demographic data analysis below,³⁷⁶ and show the service availability of advanced telecommunications capability on a county-by-county basis with demographic information in Appendix B-12. Our analysis considers options to consumers for fixed terrestrial services meeting the fixed speed benchmark of 100/20 Mbps—and using the Census data and ACS demographic data,³⁷⁷ we also analyze the demographics of areas where consumers have access to multiple broadband providers.³⁷⁸

³⁷¹ FCC, *Measuring Broadband America Fixed Broadband Report at 2.C* (2023), <https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-fixed-broadband-twelfth-report> (*Twelfth Measuring Broadband America Report*).

³⁷² *Twelfth Measuring Broadband America Report*. The participants for the most recent report were Altice Optimum, CenturyLink, Charter, Cincinnati Bell, Comcast, Cox, Frontier, Mediacom, Verizon (fiber), and Windstream. *Id.* at 2.A. AT&T no longer participates in the program. *Id.*

³⁷³ *Future of USF Report*, 37 FCC Rcd at 10049-50, para. 20.

³⁷⁴ 47 U.S.C. § 1302(c).

³⁷⁵ *Id.*

³⁷⁶ ADTRAN argues that it is unclear the extent to which the Commission can reliably draw conclusions from demographic data as the number of providers could be the result of the local government encouraging (or discouraging) additional entry through policies such as easing (or tightening) the permitting process, rather than reflecting the effect of demographics. ADTRAN, Inc. Comments at 18-19. OTI suggests comparing and contrasting data revealed in the National Broadband Map with other federal data, including maps of high-income and low-income areas, to see whether there are differences in adoption for higher speed services between higher income and lower income areas. OTI also suggests comparing collected data to demographic data, making it public, and asking providers to explain discrepancies in deployment based on this information. OTI Comments at 10. We need not address these concerns because our discussion is based on straightforward data analysis and examination of trends, although we will take these suggestions under advisement in future inquiries.

³⁷⁷ For this analysis, we examine population density, the number of households, and median household income. We rely upon the 2018-2022 ACS 5-Year Estimates for median household income (in 2022 inflation-adjusted dollars) reported at the census block group level. *See* U.S. Census Bureau, 2022 Data Release New and Notable, <https://www.census.gov/programs-surveys/acs/news/data-releases/2022/release.html> (last visited Jan. 2, 2024).

126. Figure 25 presents a demographic analysis of the average percentage of households with coverage by zero, one, two, and three or more providers at the speed benchmark of 100/20 Mbps,³⁷⁹ broken out by population density quartile, median household income quartile, and household count quartile.³⁸⁰ We observe that the number of provider options increases with the number of housing units in the census block group, population density, and median household income. In general, the census block groups in rural areas will tend to have the lowest population density and the lowest number of households and are likely to have the largest percentage of the households with zero provider options, that is, no service availability of the reported service.

Fig. 25
Average Percentage of Households with Zero, One, Two, or at Least Three Provider Options for 100/20 Mbps Fixed Terrestrial Services by Census Block Group (December 31, 2022)

	Zero	One	Two	At Least Three
Population Density				
First Quartile (Lowest Population Density)	27.7%	47.8%	19.5%	4.9%
Second Quartile	3.6%	41.8%	39.6%	15.0%
Third Quartile	1.7%	33.5%	43.4%	21.4%
Fourth Quartile (Highest Population Density)	1.5%	26.2%	43.3%	29.0%
Population Density - Excluding Fixed Wireless				
First Quartile (Lowest Population Density)	35.2%	51.4%	12.6%	0.8%
Second Quartile	4.7%	56.0%	35.6%	3.6%
Third Quartile	2.2%	47.7%	43.4%	6.6%
Fourth Quartile (Highest Population Density)	2.1%	41.5%	47.6%	8.8%
Median Household Income				
First Quartile (Lowest Median H/hold Income)	10.5%	42.0%	32.9%	14.6%
Second Quartile	11.2%	39.8%	33.7%	15.3%
Third Quartile	8.2%	37.0%	36.8%	18.0%
Fourth Quartile (Highest Median H/hold Income)	3.5%	30.7%	43.2%	22.6%

(Continued from previous page) _____

³⁷⁸ As noted above, if a provider indicates in the FCC Form 477 data that it provides service in a census block, this does not mean that the provider can provision services to all locations in the census block or that it can provide the speed to all locations in the census block. Accordingly, for the years 2018 to 2021, the number of providers does not necessarily reflect the number of choices available to a particular household and does not purport to measure actual head-to-head competition. This caveat does not apply to the BDC data used for the 2022 analysis.

³⁷⁹ Appx. B-21 and Appx. B-22 show corresponding tables using 25/3 Mbps and 940/500 Mbps.

³⁸⁰ We include only the areas for which we have complete data. We aggregate households within a census block group by provider count category; that is, we group households within a census block group by the number of providers and then sum the households by provider count category. The households within a census block group are aggregated by the number of competing providers offering a particular category of service (zero, one, two, and at least three). The census block group is the smallest geographic area for which income data are available. We use the 2018-2022 ACS 5-Year Estimates for income measures for census block groups. Median household income is based on 2022 data and is measured in 2022 inflation-adjusted dollars. Population density is the total population residing in the census block group as of 2022 divided by the square miles of land in the census block group, with the estimate of land area based on the 2020 Census. Household count is the number of households in the census block group.

	Zero	One	Two	At Least Three
Median Household Income - Excluding Fixed Wireless				
First Quartile (Lowest Median H/hold Income)	12.6%	55.7%	28.4%	3.3%
Second Quartile	14.3%	51.2%	30.5%	4.1%
Third Quartile	11.3%	48.1%	35.4%	5.2%
Fourth Quartile (Highest Median H/hold Income)	5.0%	42.0%	45.8%	7.2%
Household Count				
First Quartile (Lowest H/hold Count)	9.9%	36.1%	37.0%	17.0%
Second Quartile	9.3%	37.2%	36.3%	17.1%
Third Quartile	8.7%	38.3%	35.8%	17.1%
Fourth Quartile (Highest H/hold Count)	6.4%	37.7%	36.7%	19.1%
Household Count - Excluding Fixed Wireless				
First Quartile (Lowest H/hold Count)	12.6%	46.6%	36.0%	4.8%
Second Quartile	11.9%	48.3%	35.1%	4.7%
Third Quartile	11.2%	50.4%	33.7%	4.7%
Fourth Quartile (Highest H/hold Count)	8.6%	51.4%	34.5%	5.5%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022.

127. In Figure 26, we present demographic data with our service availability analysis. Figure 26 depicts how the average proportion of the population with coverage by fixed terrestrial services by speed tier varies with median household income, population density, and household poverty rate at the census block group level. On average, service availability is highest in census blocks with the highest median household incomes, the highest population densities, and the lowest household poverty rates.

Fig. 26
Average Percentage of Population With Fixed Terrestrial Services at Different Speed Tiers by Census Block Group (December 31, 2022)

	25/3 Mbps	100/20 Mbps	940/500 Mbps
Median Household Income			
First Quartile (Lowest Median H/hold Income)	93.4%	89.7%	31.9%
Second Quartile	93.4%	89.0%	35.5%
Third Quartile	95.5%	92.0%	39.8%
Fourth Quartile (Highest Median H/hold Income)	98.2%	96.7%	50.1%
Population Density			
First Quartile (Lowest Population Density)	82.9%	72.4%	23.8%
Second Quartile	98.3%	96.7%	37.4%
Third Quartile	99.2%	98.6%	45.7%
Fourth Quartile (Highest Population Density)	99.2%	98.6%	49.4%
Household Poverty Rate			
First Quartile (Lowest H/hold Poverty Rate)	96.1%	93.5%	44.6%
Second Quartile	95.4%	91.9%	40.1%
Third Quartile	93.9%	90.0%	37.2%
Fourth Quartile (Highest H/hold Poverty Rate)	94.2%	90.9%	34.4%
Median Household Income - Excluding Fixed Wireless			

	25/3 Mbps	100/20 Mbps	940/500 Mbps
First Quartile (Lowest Median H/hold Income)	89.1%	87.6%	30.6%
Second Quartile	87.7%	86.0%	34.7%
Third Quartile	90.2%	88.9%	39.2%
Fourth Quartile (Highest Median H/hold Income)	95.9%	95.2%	49.7%
Population Density - Excluding Fixed Wireless			
First Quartile (Lowest Population Density)	68.8%	64.9%	23.0%
Second Quartile	96.5%	95.6%	36.6%
Third Quartile	98.4%	98.1%	44.9%
Fourth Quartile (Highest Population Density)	98.2%	98.0%	48.7%
Household Poverty Rate - Excluding Fixed Wireless			
First Quartile (Lowest H/hold Poverty Rate)	92.3%	91.3%	44.0%
Second Quartile	90.5%	89.1%	39.4%
Third Quartile	88.9%	87.3%	36.5%
Fourth Quartile (Highest H/hold Poverty Rate)	90.2%	88.8%	33.3%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022.

128. Figure 27 presents a demographic analysis of the percentage of the population served by fixed terrestrial services with speeds of at least 100/20 Mbps and 5G-NR broadband with a minimum speed of 35/3 Mbps; broken out by population density quartile, median household income quartile, and household count quartile.³⁸¹ We observe that, on average, the percentage of population served increases as population density and median income increases. On average, as the poverty rate increases, fixed terrestrial service adoption declines, but mobile 5G-NR adoption decreases from first quartile to the third quartile before increasing in the highest quartile.

Fig. 27

Average Percentage of Population with Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps by Census Block Group (December 31, 2022)

	Fixed Terrestrial 100/20 Mbps	Mobile 5G-NR 35/3 Mbps	Both Fixed and Mobile 5G-NR 35/3 Mbps
Median Household Income			
First Quartile (Lowest Median Household Income)	89.7%	88.6%	82.9%
Second Quartile	89.0%	85.4%	79.7%
Third Quartile	92.0%	89.1%	84.4%
Fourth Quartile (Highest Median Household Income)	96.7%	94.5%	92.1%
Population Density			
First Quartile (Lowest Population Density)	72.4%	64.6%	50.8%

³⁸¹ Appx. B-23 and Appx. B-24 show corresponding tables using fixed terrestrial services with speeds of at least 100/20 Mbps and mobile speeds at a minimum of 5G-NR 7/1 Mbps and 4G LTE 5/1 Mbps, respectively. Appx. B-25, Appx. B-26, and Appx. B-27 show corresponding tables using in-vehicle mobile speeds at a minimum of 5G-NR 35/3 Mbps and 7/1 Mbps as well as 4G LTE 5/1 Mbps.

	Fixed Terrestrial 100/20 Mbps	Mobile 5G-NR 35/3 Mbps	Both Fixed and Mobile 5G-NR 35/3 Mbps
Second Quartile	96.7%	95.2%	92.2%
Third Quartile	98.6%	98.8%	97.4%
Fourth Quartile (Highest Population Density)	98.6%	99.7%	98.3%
Household Poverty Rate			
First Quartile (Lowest Household Poverty Rate)	93.5%	92.2%	87.8%
Second Quartile	92.0%	88.4%	84.0%
Third Quartile	90.0%	87.1%	81.8%
Fourth Quartile (Highest Household Poverty Rate)	90.8%	90.4%	85.1%
Median Household Income - Excluding Fixed Wireless			
First Quartile (Lowest Median Household Income)	87.6%	88.6%	81.3%
Second Quartile	86.0%	85.4%	77.7%
Third Quartile	88.9%	89.1%	82.2%
Fourth Quartile (Highest Median Household Income)	95.2%	94.5%	90.8%
Population Density - Excluding Fixed Wireless			
First Quartile (Lowest Population Density)	64.9%	64.6%	45.9%
Second Quartile	95.6%	95.2%	91.2%
Third Quartile	98.1%	98.8%	96.9%
Fourth Quartile (Highest Population Density)	98.0%	99.7%	97.7%
Household Poverty Rate - Excluding Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	91.3%	92.2%	86.1%
Second Quartile	89.2%	88.4%	82.1%
Third Quartile	87.4%	87.1%	79.9%
Fourth Quartile (Highest Household Poverty Rate)	88.8%	90.4%	83.5%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022.

129. Figure 28 shows the demographic characteristics of areas that are served and unserved for fixed terrestrial services with speeds of at least 100/20 Mbps and 5G-NR broadband with a minimum speed of 35/3 Mbps.³⁸² On average, served areas have higher population densities, per capita incomes, and median household incomes.

³⁸² To present demographic data and compare the demographic data between areas where services are and are not deployed, we aggregate the service availability data up to the census block group level, the lowest aggregation level for which demographic information is available. This unavoidable aggregation leads to areas with differing characteristics being grouped together. In the case of differing levels of deployment, we designate a census block group as without deployment if more than 5% of the population in the census block group is without services, regardless of the level of deployment in any particular census block in the group. We use the most recently available Census Bureau's ACS Five-Year Estimates 2018-2022 for income and poverty measures. Per capita income and median household income are based on 2022 data and are measured in 2022 inflation-adjusted dollars. Appx. B-28 and Appx. B-29 show corresponding tables using fixed terrestrial services with speeds of at least 100/20 Mbps and mobile speeds at a minimum of 5G-NR 7/1 Mbps and 4G LTE 5/1 Mbps. Appx. B-30, Appx. B-31, and Appx. B-32 show corresponding tables using in-vehicle mobile speeds at a minimum of 5G-NR 35/3 Mbps and 7/1 Mbps as well as 4G LTE 5/1 Mbps.

Fig. 28
Comparison of Demographic Data Between Areas With and Without
Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a
Minimum Speed of 35/3 Mbps (December 31, 2022)³⁸³

	Population	Population Density	Per Capita Income	Median Household Income	Household Poverty Rate
United States - Including Fixed Wireless					
Served	1,434.6***	8,654.5***	\$42,618.35***	\$87,884.47***	13.2%***
Unserved	1,325.9	1,649.7	\$38,888.83	\$78,041.37	12.9%
Rural Areas - Including Fixed Wireless					
Served	1,284.5***	666.6***	\$36,404.44	\$77,294.00***	12.2%
Unserved	1,235.7	142.9	\$36,068.45	\$73,387.11	12.3%
Urban Areas - Including Fixed Wireless					
Served	1,439.5**	8,915.1***	\$42,820.18	\$88,232.20***	13.2%***
Unserved	1,451.9	3,753.9	\$42,881.83	\$84,777.72	13.7%
Tribal Areas - Including Fixed Wireless					
Served	1,278.8***	2,525.0***	\$33,414.49***	\$66,259.87***	16.1%***
Unserved	1,207.6	309.8	\$30,023.03	\$60,101.33	18.1%
Tribal Rural Areas - Including Fixed Wireless					
Served	1,148.8	485.5***	\$28,628.78	\$58,997.52	17.2%
Unserved	1,185.1	123.5	\$29,458.85	\$59,602.46	18.2%
Tribal Urban Areas - Including Fixed Wireless					
Served	1,303.7	2,915.9***	\$34,323.78	\$67,607.25	15.9%
Unserved	1,315.2	1,203.5	\$32,726.49	\$62,499.12	17.8%
United States - Excluding Fixed Wireless					
Served	1,434.6***	8,654.5***	\$42,618.35***	\$87,884.47***	13.2%***
Unserved	1,325.9	1,649.7	\$38,888.83	\$78,041.37	12.9%
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Urban Areas - Excluding Fixed Wireless					
Served	1,439.5**	8,915.1***	\$42,820.18	\$88,232.20***	13.2%***
Unserved	1,451.9	3,753.9	\$42,881.83	\$84,777.72	13.7%
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Served	1,278.8***	2,525.0***	\$33,414.49***	\$66,259.87***	16.1%***
Unserved	1,207.6	309.8	\$30,023.03	\$60,101.33	18.1%
Tribal Rural Areas - Excluding Fixed Wireless					
Served	1,148.8	485.5***	\$28,628.78	\$58,997.52	17.2%
Unserved	1,185.1	123.5	\$29,458.85	\$59,602.46	18.2%
Tribal Urban Areas - Excluding Fixed Wireless					

³⁸³ Appx. B-33 shows the demographic characteristics of areas that are served and unserved for fixed terrestrial services with speeds of at least 100/20 Mbps and 5G-NR broadband with a median speed of 35/3 Mbps based on Ookla Speedtest data. It shows the same results: on average, served areas have higher population densities, per capita incomes, and median household incomes. Appx. B-34 and Appx. B-35 also show corresponding tables using fixed terrestrial services with speeds of at least 100/20 Mbps and mobile broadband with a median speed of 7/1 Mbps and 10/3 Mbps based on Ookla Speedtest data.

	Population	Population Density	Per Capita Income	Median Household Income	Household Poverty Rate
Served	1,303.7	2,915.9***	\$34,323.78	\$67,607.25	15.9%
Unserved	1,315.2	1,203.5	\$32,726.49	\$62,499.12	17.8%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022.

Note: We test for a statistical difference in the reported means between areas with and without deployment of these services. The level of statistical significance is indicated by the number of stars. The absence of a star indicates no statistical difference between the reported figures. * signifies statistical significance at a 90% level of confidence, ** signifies statistical significance at a 95% level of confidence, and *** signifies statistical significance at a 99% level of confidence.

F. School and Classroom Access

130. As part of its inquiry under section 706, the Commission is also required to assess the deployment and service availability of advanced telecommunications capability to “elementary and secondary schools and classrooms.”³⁸⁴ During the course of the global COVID-19 pandemic, access to broadband became even more critical in ensuring that American schoolchildren do not fall behind. Especially during the first year of the pandemic, many students were forced to stay at home, which further exposed the gaps in connectivity as some students lacking access to fixed broadband service were prevented from keeping pace with students who have access to such service.³⁸⁵ Accordingly, teachers and administrators were forced to take extraordinary measures—including purchasing cellular data for students with phones or tablets, and setting up hotspots and outdoor work areas on school grounds so students could download lesson materials and upload homework assignments—to ensure that students were able to participate in remote instruction.³⁸⁶ Even though in-person schooling has resumed, many students still lack connections at home, making it difficult to complete homework.³⁸⁷ It is imperative that schools have the speed and bandwidth required to adequately educate America’s children both in schools and at home.

131. We conclude that it is time for the Commission to update the benchmarks set in 2015 that have been used to measure deployment to schools. Since 2015, the Commission has used the following benchmarks for deployment to schools: (1) a short-term speed benchmark of 100 Mbps per 1,000 students and staff, and (2) a long-term speed benchmark of 1 Gbps per 1,000 students and staff.³⁸⁸ The short-term goal was met within a few years of its adoption, as evidenced by the *2019 State of the States*

³⁸⁴ 47 U.S.C. § 1302(b).

³⁸⁵ See Monica Chin, *America’s Internet Wasn’t Prepared For Online School: Distance learning shows how badly rural America needs broadband*, The Verge (Oct. 7, 2020), <https://www.theverge.com/21504476/online-school-covid-pandemic-rural-low-income-internet-broadband>; *What COVID-19 Underscores About How Broadband Connectivity Affects Educational Attainment: Johannes Bauer of the Quello Center for Media & Information Policy discusses what leaders can do to prepare for long-term remote learning*, The Pew Charitable Trusts (Dec. 7, 2020), <https://www.pewtrusts.org/en/research-and-analysis/articles/2020/12/08/what-covid-19-underscores-about-how-broadband-connectivity-affects-educational-attainment>.

³⁸⁶ See Alice Opalka et al., *Rural school districts can be creative in solving the internet connectivity gap—but they need support*, Brookings (Aug. 10, 2020), <https://www.brookings.edu/blog/brown-center-chalkboard/2020/08/10/rural-school-districts-can-be-creative-in-solving-the-internet-connectivity-gap-but-they-need-support/> (noting that, in order to help students participate in remote instruction, some rural school districts have been forced to map locations in the community that offer free Internet access, purchase cellular data for students who have phones or tablets, connect families with companies that offer free or low-cost Internet, and set up hotspots and outdoor work areas on school grounds so students can download materials and upload assignments).

³⁸⁷ See, e.g., FCC, Homework Gap and Connectivity Divide, <https://www.fcc.gov/about-fcc/fcc-initiatives/homework-gap-and-connectivity-divide> (last visited Feb. 14, 2024).

³⁸⁸ See *2015 Report*, 30 FCC Rcd at 1410, para. 62.

Report, finding 99% of school districts had met the 100 Mbps goal.³⁸⁹ In fact, the successor report to the State of the States Report, the Connect K-12 Report, does not even present data on the 100 Mbps per 1,000 students and staff goal.³⁹⁰

132. We adopt our previous long-term goal of 1 Gbps per 1,000 students and staff as our new short-term speed benchmark.³⁹¹ We believe that using an already well-understood benchmark for our short-term goal is administratively efficient and note that, as discussed below, the nation is already well on its way to meeting this new short-term goal. No party opposed increasing this benchmark and the only party suggesting an alternative, the Mississippi Center for Justice, suggests that this bandwidth to student/staff ratio be stated with respect to every 500 rather than 1,000 students/staff (which would be 500 Mbps per 500 students/staff) to better reflect the size of rural schools.³⁹² While we are sensitive to this concern, we believe that stating the bandwidth to student/staff ratio with respect to 1,000 students/staff allows for and easier comparison to past data as well as uniformity with past reporting.

133. According to the *2023 Connect K-12 Report*, the most recent comprehensive data available, 74% of school districts currently meet our new short-term goal.³⁹³ This is over a 57% increase since 2020.³⁹⁴ Further, more than 80% of school districts in 15 states met this goal in 2023, compared to 9 states in 2020.³⁹⁵

134. We recognize that increasing our short-term goal in this manner invites the possibility of establishing a new long-term goal. The Mississippi Center for Justice proposed that rather than adopt a speed goal, we establish a goal of fiber-based service to every school.³⁹⁶ We find this to be a worthy suggestion, but note that our traditional source of data about schools connectivity, Connected Nation, currently does not publish statistics in this regard.³⁹⁷ Similarly, Connected Nation does not publish statistics regarding connection speeds greater than 1 Gbps per 1000 students/staff. In light of this lack of data, at present, we do not establish a new long-term goal. We intend to work with potential sources of

³⁸⁹ See EducationSuperHighway, 2019 State of the States Report, at 7-8 (2019), <https://s3-us-west-1.amazonaws.com/esh-sots-pdfs/2019%20State%20of%20the%20States.pdf> (2019 State of the States Report). EducationSuperHighway reports the Commission's short-term goal in terms of 100 kbps per user, rather than 100 Mbps per 1,000 users, and reports the long-term goal in terms of 1 Mbps per user, rather than 1 Gbps per 1,000 users. See *id.* at 7, 13; *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 8870, 8885, para. 34 (2014) (2014 First E-rate Order).

³⁹⁰ With respect to the relationship between the State of the States and Connect K-12 Reports, see Connected Nation, Report on School Connectivity for Funding Year 2021 at 13 (2022) (*Connect K-12 Funding Year 2021 Report*), https://www.fundsforlearning.com/wp-content/uploads/2022/01/Connect_K12_Connectivity_Report_2021.pdf; 2021 Report, 36 FCC Rcd at 853-54, para. 31). With respect to the lack of reporting on the previous short-term goal, see, e.g. generally *Connect K-12 Funding Year 2021 Report*; Connected Nation, 2023 Report on School Connectivity at 14 (2023) (*2023 Connect K-12 Report*), https://connectk12.org/static/media/Connect_K12_Connectivity_Report_2023_FINAL.dfc96770.pdf.

³⁹¹ See Notice, FCC 23-89, at 21, para. 50.

³⁹² Miss. Center for Justice Reply at 4. NTCA supported increasing the short-term goal as proposed in the *Notice of Inquiry*. NTCA Comments at 11.

³⁹³ *2023 Connect K-12 Report* at 3.

³⁹⁴ *Id.*

³⁹⁵ *Id.*

³⁹⁶ Miss. Center for Justice Reply at 4-6.

³⁹⁷ See generally *2023 Connect K-12 Report*. We note that the BDC currently does not collect information about broadband service available to schools.

data to determine what can be realistically measured and to determine whether a new long-term goal can be established for our next report.

135. We agree with the Mississippi Center for Justice that ensuring students' access to broadband at home is an important goal.³⁹⁸ We acknowledged the importance of such connectivity and students' ability to access the Internet outside of school in the *Notice*,³⁹⁹ a matter that the Commission more recently discussed at greater length in the *Homework Gap Notice*.⁴⁰⁰ In recent years, the demand for connectivity beyond school and library buildings became a crisis when the COVID-19 pandemic disrupted operations and caused schools and libraries across the country to temporarily close their doors.⁴⁰¹ Millions of students caught in the "Homework Gap"—that is, students unable to *fully* participate in educational opportunities because they lack broadband connectivity in their homes—suddenly found themselves unable to participate in education *at all*.⁴⁰² Library patrons who relied on their local libraries for remote learning opportunities and Internet access suddenly experienced a loss of these critical services when most, if not all, library buildings closed their doors by the summer of 2020.⁴⁰³ However, even before the COVID-19 pandemic, the Homework Gap affected somewhere between 8.5 to 16 million K-12 students, leaving 15% of U.S. households with children ages six to seventeen lacking a high-speed Internet connection at home and approximately one in four households without high-speed Internet access.⁴⁰⁴ To address this longstanding critical need, Congress created the Emergency Connectivity Fund (ECF), which allowed the Commission to create the nation's first ever federal program designed to address the Homework Gap by providing funding for connected devices, Wi-Fi hotspot devices,

³⁹⁸ Miss. Center for Justice Reply at 6.

³⁹⁹ *Notice*, FCC 23-89, at 20, para. 49.

⁴⁰⁰ *Addressing the Homework Gap through the E-Rate Program*, WC Docket No. 21-31, Notice of Proposed Rulemaking, FCC 23-91 (Nov. 8, 2023).

⁴⁰¹ Colleen McClain et al., *Parents, their children and school during the pandemic* (Sept. 1, 2021), <https://www.pewresearch.org/internet/2021/09/01/parents-their-children-and-school-during-the-pandemic/> (finding that 93% of families with children in grades K-12 reported shifting to online learning during the pandemic).

⁴⁰² See Common Sense Media, *Closing the K-12 Digital Divide in the Age of Distance Learning* (2020), https://www.common Sense Media.org/sites/default/files/featured-content/files/common_sense_media_report_final_7_1_3pm_web.pdf (*Common Sense 2020 Report*) (highlighting that before the pandemic, there were approximately 16 million students nationwide that lived in homes without a broadband connection).

⁴⁰³ See, e.g., Lisa Guernsey, Sabia Prescott, & Claire Park, *Public Libraries and the Pandemic* (Feb. 25, 2021), <https://www.newamerica.org/education-policy/reports/public-libraries-and-the-pandemic/> (describing how the closure of public library buildings by the summer of 2020 hastened the transition to virtual library services for most public libraries); Gretchen Corsillo, *COVID-19: The Impact On Public Libraries* (Mar. 30, 2020), <https://publiclibrariesonline.org/2020/03/covid-19-its-impact-on-public-libraries/> (explaining that "[b]ecause libraries play such a vital role in keeping their patrons educated, connected, and entertained, librarians nationwide have been working around the clock to find ways to keep services going despite being closed to the public"); Frank Catalano, *How Library Closures Hurt Adult Learners as Kids Doubled Down on Digital Reading* (Mar. 8, 2021), <https://www.edsurge.com/news/2021-03-08-how-library-closures-hurt-adult-learners-as-kids-doubled-down-on-digital-reading> (reporting that "15 percent of U.S. adults lost their main source of internet access as libraries started to shut down in March 2020").

⁴⁰⁴ See Catherine McNally, *Nearly 1 in 4 Households Don't Have Internet—and a Quarter Millions Still Use Dial-up* (Aug. 17, 2021), <https://www.reviews.org/internet-service/how-many-us-households-are-without-internet-connection/>; Amanda Litvinov, *Coronavirus Brings 'Homework Gap' to the Forefront* (May 4, 2020), <https://www.nea.org/advocating-for-change/new-from-nea/coronavirus-brings-homework-gap-forefront> (providing data from research conducted in 2017 and 2018); Pew Research Center, *Nearly One-In-Five Teens Can't Always Finish Homework Because of the Digital Divide at 2* (2018), https://internet.psych.wisc.edu/wp-content/uploads/532-Master/532-UnitPages/Unit-11/Anderson_Pew_2018.pdf (providing an analysis based on 2015 U.S. Census Bureau data); *Common Sense 2020 Report*.

broadband connections, and other eligible equipment and services for students, school staff, and library patrons in need for use at locations that included locations outside of their school or library.⁴⁰⁵ We are currently considering our proposal to modify the E-Rate program to better meet the needs of off-premises students, school staff, and library patrons.

IV. COMMISSION ACTIONS ALREADY TAKEN TO PROMOTE UNIVERSAL SERVICE GOALS FOR ADVANCED TELECOMMUNICATIONS CAPABILITY

A. Measuring Broadband Deployment and Policy Development and Coordination

136. *Broadband Data Collection and National Broadband Map.* The Commission has continued to make extensive progress in implementing the requirements of the Broadband DATA Act by establishing the iterative data collection and challenge processes envisioned by the Broadband DATA Act through the Broadband Data Collection. In January 2021, the Commission released the *BDC Third Report and Order*, which specified which fixed and mobile broadband Internet access service providers are required to report broadband service availability data and expanded the reporting and certification requirements for certain fixed and mobile broadband filers in order to ensure that Commission staff have the necessary tools to assess the quality and accuracy of the Commission's broadband coverage maps.⁴⁰⁶ The Commission also adopted in the *BDC Third Report and Order* standards for verifying mobile data and collecting verified broadband data from state, local, and Tribal entities and certain third parties and adopted processes for submitting challenges to fixed and mobile service availability data along with processes for providers to respond to such challenges.⁴⁰⁷ Further, the Commission also established a process for stakeholders to submit challenges to the location data in the Fabric.

137. Since the *BDC Third Report and Order*, the Commission has continued to develop and refine the BDC and provide guidance regarding the collection requirements, including through the release of a number of items that furthered the Commission's ongoing effort to improve broadband service availability data. In February 2021, the Broadband Data Task Force (Task Force) was formed to coordinate the Commission's broadband mapping and data collection efforts across the agency expert teams including staff from several of the Bureaus and Offices. Each of these teams contributes an essential part of the effort to ensure the Commission, state and local governments, Tribal entities, and consumers have access to granular nationwide information on the service availability and quality of broadband services.⁴⁰⁸

138. In March 2022, the Task Force, together with the Wireless Telecommunications Bureau (WTB), the Office of Economics and Analytics (OEA), and Office of Engineering and Technology (OET), released an Order adopting technical requirements to implement the BDC mobile challenge,

⁴⁰⁵ See American Rescue Plan Act, 2021, Pub. L. No. 117-2, tit. VII, § 7402(a), (c), 135 Stat. 4, 109 (2021), available at <https://www.congress.gov/117/plaws/publ2/PLAW-117publ2.pdf>.

⁴⁰⁶ *BDC Third Report and Order*.

⁴⁰⁷ *Id.* at 1127, para. 2.

⁴⁰⁸ Commission staff have held numerous briefing sessions with interested stakeholders from federal and state legislators, state, local, and Tribal governments, other federal and state agencies, consumers, and industry to seek input and address concerns and interests, and to keep all stakeholders informed of the Commission's plans and progress. Moreover, to support stakeholder participation in the BDC, the Commission launched an online help center (help.bdc.fcc.gov) and other new resources including video tutorials, knowledge base articles, and an option to request additional technical assistance. The FCC continues to regularly update the online help center with additional resources, including information for challengers, consumers, and other stakeholders. The BDC Help Center offers both Tier 1 and Tier 2 support to entities seeking to file availability data or challenges including GIS support. Over 8,000 technical assistance requests from internet providers and challengers have been processed to date. In addition, we maintain an on-demand library of video tutorials at <https://www.fcc.gov/BroadbandData/resources>.

verification, and crowdsourcing processes.⁴⁰⁹ The *Mobile Technical Requirements Order* adopted processes and methodologies for collecting mobile challenge data and determining when a mobile service availability challenge is “cognizable,” as well as processes for mobile providers to respond to challenges.⁴¹⁰ The *Mobile Technical Requirements Order* also adopted processes for determining when the Commission staff would initiate a verification inquiry for a service provider’s reported data and requirements for governmental entities and other third parties submitting verified mobile broadband service availability data.⁴¹¹

139. In September 2022, the Task Force, together with WTB, OET, and OEA, released a Public Notice establishing procedures for mobile wireless broadband service providers, governmental entities, and other third parties that use their own hardware and software to submit on-the-ground speed test data as part of the mobile challenge and verification processes as part of the BDC.⁴¹² The Commission has also contracted for the development of additional functionality for the FCC Speed Test application to be used for the mobile challenge and crowdsource processes to enable broad public participation in the BDC.⁴¹³ The Task Force has released extensive additional guidance for mobile and terrestrial fixed wireless providers to enable them to efficiently collect and submit their service availability data into the BDC.⁴¹⁴ The Task Force has provided similar guidance to other stakeholders.⁴¹⁵

140. The Commission released a pre-production draft of the FCC National Broadband Map in November 2022, showing broadband service availability based on provider reported data as-of June 30, 2022, and opened the fixed and mobile service availability challenge processes, as well as the Fabric location challenge process.⁴¹⁶ In May 2023, the Commission released the second iteration of the FCC

⁴⁰⁹ *Establishing the Digital Opportunity Data Collection*, WC Docket No. 19-195, Order, 37 FCC Rcd 3007, 3008, para. 1 (WTB/OEA/OEA 2022).

⁴¹⁰ *Id.* at 3008, para. 2.

⁴¹¹ *Id.*

⁴¹² *Broadband Data Task Force Establishes Process for Entities to Use Their Own Software and Hardware to Collect On-The-Ground Mobile Speed Test Data as Part of the Broadband Data Collection*, WC Docket No. 19-195, Public Notice, 37 FCC Rcd 10628 (WTB/OEA/OET 2022). This Public Notice followed-on from an earlier Public Notice in which the Task Force and OET announced procedures for third-party mobile speed test applications to seek approval for use in the BDC mobile challenge and verification processes. *See Broadband Data Task Force and Office of Engineering and Technology Announce Procedures for Third-Party Mobile Speed test Applications Seeking Approval for Use in the FCC’s Broadband Data Collection*, WC Docket No. 19-195; ET Docket No. 22-152, Public Notice, 37 FCC Rcd 5004 (2022).

⁴¹³ *See e.g.*, Press Release, FCC, FCC Encourages Public to Use its Speed Test App to Measure their Broadband Speeds (Apr. 12, 2021).

⁴¹⁴ *See e.g.*, Broadband Data Collection, Data Specifications for Provider Infrastructure Data in the Challenge, Verification, and Audit Processes, November 30, 2023, <https://us-fcc.app.box.com/v/bdc-infrastructure-spec> (last visited Jan. 9, 2024) (BDC Infrastructure Data Specifications). The BDC Infrastructure Data Specifications also contain clarifications of the supporting data specifications for mobile service providers that were previously published.

⁴¹⁵ As one example, the Task Force issued a detailed Public Notice explaining how state, local, and Tribal governmental entities primarily responsible for mapping or tracking broadband Internet access service coverage in their jurisdictions can submit verified broadband availability data as part of the BDC. *See Broadband Data Task Force Issues Guidance to State, Local, and Tribal Governmental Entities for Filing Verified Broadband Availability Data as Part of the Broadband Data Collection*, WC Docket Nos. 19-195 & 11-10, Public Notice, 37 FCC Rcd 5080 (2022).

⁴¹⁶ *Broadband Data Task Force Releases Pre-Production Draft of the National Broadband Map; Announces the Start of the Broadband Availability Challenge Processes*, WC Docket Nos. 11-10, 19-195, Public Notice, 37 FCC Rcd 13348 (WCB/WTB/OEA 2022). The launch of the pre-production draft of the National Broadband Map marked the start of the broadband availability challenge processes, as well as the ability for consumers to submit

(continued....)

National Broadband Map based on data as-of December 31, 2022.⁴¹⁷ In November 2023, the third iteration of the Commission's National Broadband Map was publicly released.⁴¹⁸

141. *Interagency Information Sharing and Coordination.* In early 2021, the Commission, NTIA and USDA/RUS began regular meetings to facilitate coordination as they implemented the existing broadband funding programs, as well as new funding programs established by Congress in the Consolidated Appropriation Act, 2021.⁴¹⁹ The Consolidated Appropriations Act, 2021 included the Broadband Interagency Coordination Act of 2020, which required the Commission, USDA, and NTIA to enter into an interagency agreement to coordinate for the distribution of funds for broadband deployment and to share information about existing or planned projects receiving funding in their respective programs.⁴²⁰ In June 2021, the Commission entered into the required agreement with USDA and NTIA to share information about, and coordinate the distribution of, federal broadband deployment funds (Interagency Agreement).⁴²¹ Specifically, under the agreement, the agencies will consult with one another and share information about the distribution of new funds from the Commission's high-cost programs that support broadband buildout in rural areas, the RUS grant and loan programs, and programs administered or coordinated by NTIA. Recognizing the importance of a comprehensive approach to federal broadband funding, in May 2022, the Commission, USDA, and NTIA entered into a Memorandum of Understanding with the U.S. Department of Treasury (Treasury) to share information about, and collaborate regarding, the collections and reporting of certain data and metrics relating to broadband deployment, including deployment funded by Treasury-administered programs.⁴²² This Memorandum of Understanding provides that the agencies will consult with one another and share information on data collected from programs administered by the Commission and the USDA's Rural Utilities Service, programs administered or coordinated by NTIA, and Treasury's Coronavirus Capital Projects Fund and the

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individual challenges to the location data in the Fabric. *Id.* The process for entities to submit bulk challenges to the Fabric began earlier, on September 12, 2022. *Broadband Data Task Force, Wireline Competition Bureau, and Office of Economics and Analytics Announce Start of Fabric Bulk Challenge Process*, WC Docket Nos. 19-195, 11-10, Public Notice, 37 FCC Rcd 10140 (BDTF/WCB/OEA 2022). Shortly after the first iteration of the map was released, the Commission sunset the collection of broadband deployment data through the FCC Form 477. *2022 Form 477 Order*. The Commission clarified that it will continue to collect broadband and voice subscription data using the FCC Form 477, but filers will submit their data through the BDC system. *Id.* 37 FCC at 14957, para. 1.

⁴¹⁷ See Chairwoman Rosenworcel Note, *National Broadband Map: It Keeps Getting Better*, <https://www.fcc.gov/national-broadband-map-it-keeps-getting-better> (May 30, 2023).

⁴¹⁸ See Chairwoman Rosenworcel Note, *National Broadband Map 3.0: Thankful for Continued Improvements*, <https://www.fcc.gov/news-events/notes/2023/11/17/national-broadband-map-30-thankful-continued-improvements> (Nov. 17, 2023).

⁴¹⁹ See, e.g., Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, div. N, tit. IX, § 905(c) (establishing the Tribal Broadband Connectivity Program) and § 905(d) (establishing the Broadband Infrastructure Program), 134 Stat. 1182, 2138, 2139 (2020)). The Commission and the U.S. Department of Agriculture's (USDA) Rural Utilities Service (RUS) began coordinating on broadband funding as early as 2014, when the agencies entered into a Memorandum of Understanding that governs sharing information on their respective funding programs. Pursuant to the 2014 Memorandum of Understanding, the Commission and RUS have maintained an ongoing dialogue at the staff- and leadership levels to avoid duplication and coordinate their broadband funding efforts.

⁴²⁰ *Id.*, 134 Stat. at 3214, div. FF, tit. IX, § 904.

⁴²¹ Interagency Agreement Between the Federal Communications Commission, U.S. Department of Agriculture, and the National Telecommunications and Information Administration of the U.S. Department of Congress (June 25, 2021), <https://www.fcc.gov/document/fcc-ntia-usda-sign-interagency-pact-broadband-funding-deployment>.

⁴²² Memorandum of Understanding Regarding Information Sharing, dated as of May 9, 2022, between the Federal Communications Commission, U.S. Department of Agriculture, the National Telecommunications and Information Administration of the U.S. Department of Commerce, and the U.S. Department of the Treasury (May 11, 2022), <https://docs.fcc.gov/public/attachments/DOC-383278A1.pdf>.

Coronavirus State and Local Fiscal Recovery Funds.

142. In February 2023, after soliciting and reviewing public comment, the Commission sent a report to Congress assessing the effectiveness of the Interagency Agreement, as required by the Consolidated Appropriations Act.⁴²³ The report concluded that the Interagency Agreement has been effective in facilitating the exchange of information and prevention of, or limiting, overlap and duplication among the signatory agencies' broadband deployment funding.⁴²⁴ The report also acknowledged that while certain challenges remain, such as statutorily prescribed differences in programs, the Interagency Agreement has enabled the agencies to avoid, limit, or unwind duplication to a significant degree.⁴²⁵ Where it has not been possible to do so, the data sharing and dialogues fostered by the Interagency Agreement have given the agencies the resources to make informed funding decisions, and the agencies continue to develop and refine a common process that respects each agency's resources, statutory obligations, and leadership preferences.⁴²⁶

143. On May 15, 2023, the Commission released the Broadband Funding Map, pursuant to section 60105 of the Infrastructure Act,⁴²⁷ containing data received from the USDA, NTIA, and the Department of Treasury, as well as the Commission's own data.⁴²⁸ Funding data that are submitted to the Commission by other federal agencies in the future will be added to the map as part of regular updates the Commission will make to the map in accordance with the Infrastructure Act.

144. The Broadband Funding Map allows users to identify, search, and filter federal funding programs by the Internet Service Provider receiving funding, the duration timeline, the number of locations included in the project, and the download and upload speeds. In addition to depicting where broadband funding exists, the Broadband Funding Map contains broadband service availability data from the National Broadband Map. As the Commission releases more recent service availability data on the National Broadband Map, the Broadband Funding Map is also updated.

145. The Commission has also engaged in interagency coordination relating to spectrum. In November 2022, the Commission and the Departments of the Interior and Commerce entered into a Memorandum of Understanding to advance electromagnetic spectrum access opportunities and the deployment of broadband and other wireless services on Tribal lands.⁴²⁹

146. *Future of the USF Report.* As directed by Congress in Section 60104(c) of the Infrastructure Act, the Commission released a report on August 15, 2022 evaluating the implications of federal investments in broadband in the Infrastructure Act and other recent legislation on how the

⁴²³ 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> (*FCC BICA Report*); Consolidated Appropriations Act, 2021, div. FF, tit. IX, § 904(b)(4), 134 Stat. at 3214.

⁴²⁴ *FCC BICA Report* at 4-7.

⁴²⁵ *Id.* at 7.

⁴²⁶ *Id.*

⁴²⁷ Infrastructure Act, div. F, tit. I, § 60105 (requiring the Commission “to establish an online mapping tool to provide a locations overview of the overall geographic footprint of each broadband infrastructure deployment project funded by the Federal Government.”).

⁴²⁸ The Broadband Funding Map can be found at <https://fundingmap.fcc.gov/home>.

⁴²⁹ Memorandum of Understanding to Advance Electromagnetic Spectrum Access Opportunities and the Deployment of Broadband and Other Wireless Services on Tribal Lands, Among the U.S. Department of the Interior and the Federal Communications Commission and the U.S. Department of Commerce, National Telecommunications and Information Administration (effective November 23, 2022), https://www.bia.gov/sites/default/files/dup/inline-files/mou_esb46-009818_doi-fcc-ntia_electromagnetic_spectrum_on_tribal_lands_2022-11-23_final_fcc_ntia_doi_signed_508.pdf.

Commission should achieve its universal service goals for broadband.⁴³⁰ In the *Future of the USF Report*, the Commission established the goals of universal deployment, affordability, adoption, availability, and equitable access to broadband throughout the United States.⁴³¹ The Commission also made recommendations for further actions by the Commission and Congress to improve the ability of the Commission to achieve its universal service goals⁴³² and addressed arguments concerning the lawfulness of the USF.⁴³³

147. *Precision Agriculture Connectivity Task Force*. The Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States (Precision Agriculture Connectivity Task Force) continued its work since January 2021 by providing advice and recommendations for the FCC on how to assess and advance deployment of broadband Internet access service on unserved agriculture land to promote precision agriculture for both cropping and husbandry.⁴³⁴ The Precision Agriculture Connectivity Task Force met six times in 2021.⁴³⁵ In November 2021, the Precision Agriculture Connectivity Task Force submitted a report to the Commission including recommendations that the Commission and USDA: (1) improve federal broadband maps and consistently validate user experiences through crowd sourcing, on-the-ground testing, and independent data verification; (2) increase incentives and subsidies through federal broadband programs to increase

⁴³⁰ *Future of the USF Report*.

⁴³¹ *Id.*, 37 FCC Rcd at 10046-48, paras. 11-16.

⁴³² *Id.* at 10042-94, paras. 27-111. Specifically in regard to its goal of affordability, the Commission made recommendations for further actions by the Commission and Congress related to the Lifeline program and the Affordable Connectivity Program. *Id.* at 10069-80, paras. 55-74.

⁴³³ *Id.* at 10094-98, paras. 112-19.

⁴³⁴ See *FCC Announces the Establishment of the Task Force for Reviewing Connectivity and Technology Needs of Precision Agriculture in the United States and Seeks Nominations for Membership*, Public Notice, 34 FCC Rcd 5057 (WCB 2019) (announcing the 2019-20 charter); *FCC Announces the Membership and First Meeting of the Re-chartered Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States*, GN Docket No. 19-329, Public Notice, 36 FCC Rcd 16828 (WCB Dec. 9, 2021) (<https://docs.fcc.gov/public/attachments/DA-21-1532A1.pdf>) (2021-22 Precision Agriculture Connectivity Task Force Re-Charter Public Notice); *FCC Announces the Membership and First Meeting of the Re-Chartered Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States*, GN Docket No. 19-329, Public Notice, DA 24-53 (WCB Jan. 17, 2024) (2023-25 Precision Agriculture Connectivity Task Force Re-Charter Public Notice); see also Agriculture Improvement Act of 2018, Pub. L. No. 115-334, 132 Stat. 4490, § 12511(b)(2) (2018 Farm Bill) (establishing the Task Force and setting forth its duties and obligations). The Precision Agriculture Connectivity Task Force will perform duties and submit reports consistent with section 12511 of the 2018 Farm Bill and in consultation with the Department of Agriculture in successive terms until the Task Force ends on January 1, 2025. *Id.* § 12511(b)(3), (6).

⁴³⁵ See *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on March 21, 2021*, GN Docket No. 19-329, Public Notice, 36 FCC Rcd 4165 (WCB 2021); *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on July 8, 2021*, GN Docket No. 19-329, Public Notice, 36 FCC Rcd 9440 (WCB 2021); *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on August 19, 2021*, GN Docket No. 19-329, Public Notice, 36 FCC Rcd 11399 (WCB 2021); *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on September 14, 2021*, GN Docket No. 19-329, Public Notice, 36 FCC Rcd 12777 (WCB 2021); *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on October 14, 2021*, GN Docket No. 19-329, Public Notice, 36 FCC Rcd 13875 (WCB 2021); *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on November 10, 2021*, GN Docket No. 19-329, Public Notice, 36 FCC Rcd 12777 (WCB Oct. 20, 2021), <https://docs.fcc.gov/public/attachments/DA-21-1314A1.pdf>.

adoption of precision agriculture and build out a robust infrastructure that will support precision agriculture networks and operations; (3) enhance high-speed standards to meet technology needs in agriculture; (4) improve collaboration between federal agencies and remove regulatory impediments; and (5) increase digital access to education and training for individuals engaged in farming.⁴³⁶

148. In December 2021, the Commission re-chartered the Precision Agriculture Connectivity Task Force for a second two-year term.⁴³⁷ The Precision Agriculture Connectivity Task Force met five times in 2022⁴³⁸ and adopted interim reports submitted by each of its four working groups in December 2022.⁴³⁹ In 2023, the Precision Agriculture Connectivity Task Force met three times⁴⁴⁰ and adopted a final report at its November 6, 2023 meeting.⁴⁴¹ The report made various recommendations in the following four categories: (1) mapping and analyzing connectivity on agricultural lands, where Precision Agriculture Connectivity Task Force recommendations include improving the National Broadband Map by improving the usability for precision agriculture;⁴⁴² (2) examining current and future connectivity demand, where Precision Agriculture Connectivity Task Force recommendations include prioritizing deployment of broadband infrastructure to agricultural lands, raising the current standard for upload and download speeds, making sufficient spectrum available, and addressing certain technology limitations;⁴⁴³

⁴³⁶ Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States, Report adopted as of November 10, 2021 at 4 (2021), <https://www.fcc.gov/sites/default/files/precision-ag-report-11102021.pdf>.

⁴³⁷ Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States Charter (filed Dec. 2, 2021), <https://www.fcc.gov/sites/default/files/precision-ag-task-force-charter-12022021.pdf>; see also *2021-22 Precision Agriculture Connectivity Task Force Re-Charter Public Notice*.

⁴³⁸ *2021-22 Precision Agriculture Connectivity Task Force Re-Charter Public Notice* (setting Jan. 13, 2022 as the date of the second term's first meeting); *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on March 21, 2022*, GN Docket No. 19-329, Public Notice, 37 FCC Rcd 2828 (WCB Mar. 3, 2022); *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on July 21, 2022*, GN Docket No. 19-329, Public Notice, 37 FCC Rcd 7526 (WCB June 23, 2022); *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on October 5, 2022*, GN Docket No. 19-329, Public Notice, 37 FCC Rcd 10663 (WCB Sept. 16, 2022); *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on December 2, 2022*, GN Docket No. 19-329, Public Notice, 37 FCC Rcd 13152 (WCB Nov. 8, 2022).

⁴³⁹ See FCC, *Precision Ag Connectivity Task Force Meeting – December 2022*, <https://www.fcc.gov/news-events/events/2022/12/precision-ag-connectivity-task-force-meeting-december-2022> (last visited Jan. 14, 2024). As in the first two terms, four working groups are assisting the Task Force in carrying out its work: (1) Mapping and Analyzing Connectivity on Agricultural Lands; (2) Examining Current and Future Connectivity Demand for Precision Agriculture; (3) Encouraging Adoption of Precision Agriculture and Availability of High-Quality Jobs on Connected Farms; and (4) Accelerating Broadband Deployment on Unserved Agricultural Lands.

⁴⁴⁰ *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on March 28, 2023*, GN Docket No. 19-329, Public Notice, 38 FCC Rcd 1626 (WCB Mar. 7, 2023); *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on July 11, 2023*, GN Docket No. 19-329, Public Notice, DA 23-516 (WCB June 15, 2023); *FCC Announces Next Meeting of the Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States on November 6, 2023*, GN Docket No. 19-329, Public Notice, DA 23-923 (WCB Oct. 3, 2023).

⁴⁴¹ Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States, Report adopted as of November 6, 2023 (2023), <https://www.fcc.gov/sites/default/files/2024-Report-PrecisionAg-Task-Force-without-Signatures.pdf>.

⁴⁴² *Id.* at 3-4, 12-17.

⁴⁴³ *Id.* at 4-6, 18-31.

(3) accelerating broadband deployment on unserved agricultural lands, where Precision Agriculture Connectivity Task Force recommendations include harmonizing the definition and standards of broadband used by all federal agencies for funding decisions,⁴⁴⁴ prioritizing grant applications that include wide-area coverage to agricultural acreage, incentivizing connectivity to rural agricultural land headquarters, dedicating low-cost terrestrial spectrum for precision agriculture, and providing funding for build-out and operation of last-acre networks;⁴⁴⁵ and (4) encouraging adoption and availability of high-quality jobs, where Precision Agriculture Connectivity Task Force recommendations include considering precision agriculture connectivity as a critical component of our Nation's food and homeland security, pivoting USDA's ReConnect program to prioritizing on-farm connectivity, and making FCC, NTIA, and USDA reporting metrics and survey requirements consistent to identify broadband development and precision agriculture adoption.⁴⁴⁶ On November 29, 2023, the Commission re-chartered the Precision Agriculture Connectivity Task Force for its third term that will end January 1, 2025, consistent with section 12511(b)(6) of the 2018 Farm Bill.⁴⁴⁷ The Precision Agriculture Connectivity Task Force held its first meeting of the new term on January 31, 2024⁴⁴⁸ and is expected to adopt its final report for the third and concluding term by January 1, 2025.

149. *Native Nations Communications Task Force.* The Native Nations Communications Task Force continued its work in 2022 and 2023. In February of 2022, eight new Tribal members were appointed to the Native Nations Communications Task Force.⁴⁴⁹ In June of the same year, the Native Nations Communications Task Force posted a Handbook in Infrastructure Deployment on Tribal Lands that was adopted by the Tribal members of the Task Force.⁴⁵⁰ This Handbook is intended to bring awareness of the various steps involved in broadband deployment, including developing networks, forming partnerships, establishing sound regulatory policies and practices, and creating sustainable business models.⁴⁵¹ The Handbook also provides guidance related to assessing current and future needs and designing systems to meet those needs either through a third party or by directly by a Tribe.⁴⁵² Most recently, the Commission sought nominations and recommitment letters for membership on a renewed Native Nations Communications Task Force for 2024.⁴⁵³

150. *Connect2Health^{FCC} Task Force.* The Connect2Health^{FCC} Task Force,⁴⁵⁴ charged with exploring the intersection of and relationship between broadband, advanced technology, and health,

⁴⁴⁴ We note that Commission does not have a definition of broadband, but rather various benchmarks and standards used for various purposes, such as those discussed in this Report.

⁴⁴⁵ *Id.* at 7-8, 32-41.

⁴⁴⁶ *Id.* at 8-11, 42-55.

⁴⁴⁷ Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States Charter (filed Nov. 29, 2023), <https://www.fcc.gov/sites/default/files/precision-ag-task-force-charter-11292023.pdf>.

⁴⁴⁸ *2023-25 Precision Agriculture Connectivity Task Force Re-Charter Public Notice*, DA 24-53, at 1.

⁴⁴⁹ *Chairwoman Rosenworcel Announces New Appointments to the Native Nations Communications Task Force*, Public Notice, 37 FCC Rcd 1069 (2022).

⁴⁵⁰ Native Nations Communication Task Force, Handbook on Infrastructure Deployment on Tribal Lands 1 (2022), https://www.fcc.gov/sites/default/files/nctf_infrastructure_handbook_adopted_05.16.22.pdf.

⁴⁵¹ *Id.*

⁴⁵² *Id.*

⁴⁵³ *FCC Extends Current Native Nations Communications Task Force and Seeks Nominations for Tribal Government Representatives to Serve on Renewed Task Force Beginning in 2024*, Public Notice, DA 23-982 (Oct. 16, 2023); *FCC Extends Deadline to December 29, 2023, to Submit Nominations and Recommitment Letters for Membership on the Native Nations Communications Task Force*, Public Notice, DA 23-1124 (Nov. 30, 2023).

⁴⁵⁴ Recognizing that technology innovations in clinical practice and care delivery are poised to fundamentally change the face of health care, in 2014 the Commission created the Connect2Health^{FCC} Task Force—a senior-level, (continued....)

continued its work in 2023, reflecting the Commission’s commitment to leveraging broadband connectivity to improve health and healthcare for all Americans. The Task Force updated the *Mapping Broadband Health in America* platform—a data visualization tool that intersects broadband and health data and allows users to generate customizable maps to assess areas where the lack of broadband access and Internet adoption could impact health and health outcomes or exacerbate the broadband health gap. Specifically, in response to the *Data Mapping to Save Moms’ Lives Act*,⁴⁵⁵ the Commission, in consultation with the Centers for Disease Control and Prevention,⁴⁵⁶ released a maternal health module in June 2023 that allows policymakers, state, local, and tribal governments, advocacy organizations, and service providers to identify and prioritize the communities with lower connectivity resources and higher maternal health need.⁴⁵⁷ In October 2023, the Commission initiated a proceeding on future refinements and improvements to the mapping platform and sought to understand the current landscape and barriers to widespread use of broadband-enabled health solutions and services.⁴⁵⁸ Most recently, in November 2023, the Commission, in partnership with the U.S. Department of Health and Human Services, convened policymakers, grassroots organizations, telecommunications and public health experts, researchers, and clinicians to explore how advancing digital equity—including increased access to reliable, high-speed broadband and broadband-enabled health technologies—improves maternal health equity.⁴⁵⁹

B. Removing Barriers to and Encouraging Broadband Investment

151. *Multiple Tenant Environments.* Millions of people work and live in multiple tenant environments (MTEs), with a third of Americans residing in apartments, condominiums, or other multiunit buildings. A disproportionate number of residents in these MTEs are lower-income and

(Continued from previous page) _____

multi-disciplinary internal team, housed in the Office of General Counsel—to help the agency move the needle on broadband and advanced health care technologies. See FCC, Connect2Health^{FCC}, <https://www.fcc.gov/about-fcc/fcc-initiatives/connect2healthfcc> (last accessed Feb. 27, 2024). On behalf of the agency, the Task Force charts the broadband future of health and care through its various projects and initiatives and advises and provides recommendations to the Commission on matters concerning broadband and health.

⁴⁵⁵ *Data Mapping to Save Moms’ Lives Act*, Pub. L. No. 117-247, 136 Stat. 2347 (2022). In adopting the Act, Congress determined that “[b]roadband mapping could lead to better maternal health outcomes,” S. Rep. No. 117-65, at 2 (2022), and identified the Commission’s *Mapping Broadband Health in America* platform as the tool to chart which areas of the country are most in need of critical broadband-enabled health resources.

⁴⁵⁶ See Letter from Jessica Rosenworcel, Chairwoman, FCC, to Dr. Rochelle P. Walensky, Director, CDC (Apr. 11, 2023), <https://www.fcc.gov/document/chairwoman-letter-cdc-director-maternal-health-collaboration>.

⁴⁵⁷ See Press Release, FCC, FCC Explores Role of Broadband Connectivity in Maternal Health Outcomes (June 20, 2023), <https://www.fcc.gov/document/fcc-explores-broadband-connectivity-role-maternal-health-outcomes>. Planned future work—including the integration of additional broadband and health data—will allow users to visualize patterns, possible disparities, and areas where broadband deployment and Internet adoption could create the greatest impact in health.

⁴⁵⁸ *Broadband Connectivity and Maternal Health—Implementation of the Data Mapping to Save Moms’ Lives Act*, GN Docket No. 23-309, Notice of Inquiry, FCC 23-85 (Oct. 20, 2023). Commenters generally agreed that access to affordable high-speed broadband remains one of the primary barriers to universal adoption of broadband-enabled health solutions, and one commenter emphasized that broadband speeds of 25/3 Mbps are insufficient for connected health technologies. See Next Century Cities Comments, GN Docket No. 23-309, at 7-8 (rec. Nov. 20, 2023).

⁴⁵⁹ *Federal Communications Commission and U.S. Department of Health and Human Services Announce Agenda for Maternal Health and Broadband Roundtable on November 17, 2023*, GN Docket No. 23-309, Public Notice, DA 23-1083 (OGC Nov. 15, 2023). The Roundtable engaged a wide cross-section of thought leaders, advocacy groups, entrepreneurs, and policymakers to explore the intersection of broadband connectivity and maternal health, the role of broadband as a social determinant of health, and the implications of that framework for improving maternal health outcomes and informing broadband and health policies. A full recording of the Roundtable is available at <https://www.fcc.gov/news-events/events/2023/11/maternal-health-roundtable>.

associated with marginalized communities.⁴⁶⁰ To ensure competitive choice of communications services for those living and working in MTEs, and to address practices that undermine longstanding rules promoting competition in MTEs, on February 15, 2022, the Commission took three specific actions.⁴⁶¹ First, the Commission adopted new rules prohibiting providers from entering into certain types of revenue sharing agreements that are used to evade the Commission’s existing rules.⁴⁶² Second, the Commission adopted new rules requiring providers to disclose the existence of exclusive marketing arrangements in simple, easy-to-understand language.⁴⁶³ Third, the Commission clarified that existing Commission rules regarding cable inside wiring prohibit so-called “sale-and-leaseback” arrangements, which effectively deny access to alternative providers.⁴⁶⁴ In taking these actions, the Commission sought to promote tenant choice and competition in the provision of communications services to the benefit of those who live and work in MTEs.⁴⁶⁵

152. *Pole Attachments.* On December 15, 2023, the Commission released a Fourth Report and Order, Declaratory Ruling, and Third Further Notice of Proposed Rulemaking to further the Commission’s efforts to reform its pole attachment rules and policies to promote faster and more cost effective broadband deployment.⁴⁶⁶ These reforms will speed the pole attachment dispute resolution process by establishing a new intra-agency rapid response team – the Rapid Broadband Assessment Team (RBAT) – to provide coordinated review and assessment of pole attachment disputes and recommend effective dispute resolution procedures, adopting specific criteria for the RBAT to use when considering whether a complaint (or portion thereof) should be included on the Commission’s Accelerated Docket. The new rules will also increase transparency for new broadband buildouts by amending the Commission’s pole attachment make-ready rules to require utilities to provide to potential attachers, upon request, the information contained in the utilities’ most recent cyclical pole inspection reports, or any intervening, periodic reports created before the next cyclical inspection, for the poles covered by a submitted attachment application.⁴⁶⁷ In the Declaratory Ruling, the Commission clarified that for purposes of the Commission’s pole replacement policies, a “red tagged” pole is one that the utility has identified as needing replacement for any reason other than the pole’s lack of capacity to accommodate a new attachment, provided additional examples for when a pole replacement is not “necessitated solely” as a result of a third party’s attachment or modification request when a pole already requires replacement at the time that the new attacher’s request is made, clarified attachers’ right to access documentation regarding utility easements, and clarified that the first 3,000 poles in an attachment application are subject to the pre-existing processing timeline in the Commission’s rules.⁴⁶⁸ In the Further Notice, the Commission seeks comment on whether the Commission should take further action to facilitate the processing of pole attachment applications that are submitted in large numbers, whether the Commission should modify its self-help rules to enable prospective attachers to access poles more quickly, and the effect of contractor availability when attachers seek to use their own contractors when conducting self-

⁴⁶⁰ *Id.*

⁴⁶¹ *Improving Competitive Broadband Access to Multiple Tenant Environments*, GN Docket 17-142, Report and Order and Declaratory Ruling, 37 FCC Rcd 2448 (2022).

⁴⁶² *Id.* at 2456-61, paras. 16-26.

⁴⁶³ *Id.* at 2464-69, paras. 33-42.

⁴⁶⁴ *Id.* at 2471-76, paras. 47-60.

⁴⁶⁵ *Id.* at 2450, para. 2.

⁴⁶⁶ *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket No. 17-84, Fourth Report and Order, Declaratory Ruling, And Third Further Notice of Proposed Rulemaking, FCC 23-109, 4-5, para. 7 (Dec. 15, 2023) (*2023 Wireline Infrastructure Order*).

⁴⁶⁷ *Id.* at 5-12, paras. 8-22.

⁴⁶⁸ *Id.* at 24-30, paras. 39-47; 47 CFR § 1.1411(g)(3).

help or one-touch make-ready for surveys and make-ready work.⁴⁶⁹

153. *Open Radio Access Networks*. In March 2021, the Commission adopted a Notice of Inquiry which sought comment on the potential of open and virtualized Radio Access Networks (Open RANs) in securing America's wireless networks and communications supply chain, and in driving 5G innovation.⁴⁷⁰ The Commission sought comment on the current status of Open RAN development, the role of established manufacturers and of new entrants in setting standards for this new network architecture, challenges or other considerations related to the testing, deployment, and integration of Open RAN systems, the costs and benefits associated with Open RAN development and deployment, and what steps, if any, the Commission should take to accelerate the development and deployment of Open RAN.⁴⁷¹

C. Improving Access to Spectrum

154. *Terrestrial Wireless Service*. The Commission has continued its efforts to expand access to spectrum to support 5G and other advanced wireless services. Spectrum is an important component of all wireless services, and making additional spectrum available ensures that wireless providers are able to deploy 5G networks expeditiously. The Commission has pursued a comprehensive strategy to make additional high-band, mid-band, and low-band spectrum available through initial licensing and also through other innovative means, including secondary market transactions. However, until Congress reauthorizes the Commission's spectrum auction authority, which expired for the first time in agency history in March 2023, the Commission is unable to make new spectrum available through its auction process.

155. Recognizing that mid-band spectrum is particularly well suited for 5G deployment because of its favorable characteristics, the Commission has continued to work towards making more mid-band spectrum available. In 2015, the Commission established the Citizens Broadband Radio Service, making 150 megahertz of mid-band spectrum available for shared commercial use in the 3550-3700 MHz band (3.5 GHz band).⁴⁷² The Citizens Broadband Radio Service includes two tiers of commercial service: Priority Access and General Authorized Access (GAA).⁴⁷³ Starting in March 2021, the Wireless Telecommunications Bureau began granting Priority Access Licenses (PALs) in the 3.5 GHz band in the wake of the successful Auction 105, which concluded in August 2020. Auction 105 was the first 5G mid-band spectrum auction. It raised a total of \$4.5 billion dollars and made available the

⁴⁶⁹ *2023 Wireline Infrastructure Order*, FCC 23-109, 31-33, paras. 49, 51-54.

⁴⁷⁰ *Promoting the Deployment of 5G Open Radio Access Networks*, GN Docket No. 21-63, Notice of Inquiry, 36 FCC Rcd 5947 (2021).

⁴⁷¹ *Id.*; see also Press Release, FCC, FCC Seeks Comment on Open Radio Access Networks (March 17, 2021), <https://www.fcc.gov/document/fcc-seeks-comment-open-radio-access-networks>; see also *5G Fund FNPRM*, FCC 23-74 at 28-30, paras. 53-54 (seeking comment on whether and how the 5G Fund proceeding should promote the continued deployment of Open RAN technologies).

⁴⁷² See *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, GN Docket No. 12-354, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 3959, 3961-62, paras. 1-4 (2015) (*3.5 GHz Order/Second FNPRM*); see also *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, GN Docket No. 12-354, Order on Reconsideration and Second Report and Order, 31 FCC Rcd 5011 (2016); *Promoting Investment in the 3550-2700 MHz Band*, GN Docket No. 17-258, Report and Order, 33 FCC Rcd 10598 (2018).

⁴⁷³ See *3.5 GHz Order/Second FNPRM*, 30 FCC Rcd at 3962, para. 4. Access and operations within the band are managed by automated frequency coordinators known as Spectrum Access Systems. 47 CFR § 96.63; *3.5 GHz Order/Second FNPRM*, 30 FCC Rcd at 3985-87, paras. 80-86. The GAA tier is licensed-by-rule to permit open, flexible access to the band for the widest possible group of potential users. 47 CFR §§ 96.33, 96.35; *3.5 GHz Order/Second FNPRM*, 30 FCC Rcd at 3962, para. 4. GAA users must not cause harmful interference to, and must accept harmful interference from, higher tier users. 47 CFR §§ 96.33, 96.35; *3.5 GHz Order/Second FNPRM*, 30 FCC Rcd at 3962, para. 4.

greatest number of spectrum licenses ever in a single FCC auction.⁴⁷⁴ To date, WTB has granted more than 20,500 PALs to nearly 230 entities.⁴⁷⁵

156. Auction 107, the record-breaking auction for new flexible-use overlay licenses in the 3.7-3.98 GHz band, was completed in February 2021, with net winning bids exceeding \$81.1 billion, and 21 bidders winning all of the available 5,684 licenses.⁴⁷⁶ Through the repacking of existing satellite operations into the upper 200 megahertz of the C-band, the Commission made a significant amount of spectrum available for flexible terrestrial use throughout the contiguous United States in a manner that ensures continuous and uninterrupted delivery of the incumbent services offered in the band.⁴⁷⁷ WTB granted 3.7 GHz licenses in July 2021 and April 2022.⁴⁷⁸

157. In March 2021, the Commission adopted an order that advanced the Commission's goals of making more mid-band spectrum available for 5G.⁴⁷⁹ The order adopted a framework that will enable full-power commercial use of the 3.45 GHz band and require that future licensees deploy their networks quickly.⁴⁸⁰ In January 2022, bidding in Auction 110 concluded.⁴⁸¹ The net proceeds of Auction 110 exceeded \$22.4 billion, with 23 bidders winning a total of 4,041 licenses.⁴⁸² WTB has now granted all

⁴⁷⁴ See Press Release, FCC, *FCC Concludes First 5G Mid-Band Spectrum Auction*, Aug. 25, 2020.

⁴⁷⁵ See *Wireless Telecommunications Bureau Grants Auction 105 Priority Access Licenses*, Auction No. 105, Public Notice, 36 FCC Rcd 4926 (WTB 2021); *Wireless Telecommunications Bureau Grants Additional Auction 105 Priority Access Licenses*, Auction No. 105, Public Notice, 36 FCC Rcd 7633 (WTB 2021); *Wireless Telecommunications Bureau Grants Additional Auction 105 Priority Access Licenses*, Auction No. 105, Public Notice, 36 FCC Rcd 10886 (WTB 2021); *Wireless Telecommunications Bureau Grants Additional Auction 105 Priority Access Licenses*, Auction No. 105, Public Notice, 36 FCC Rcd 16811 (WTB 2021); *Wireless Telecommunications Bureau Grants Additional Auction 105 Priority Access Licenses*, Auction No. 105, Public Notice, 37 FCC Rcd 8709 (WTB 2022); *Wireless Telecommunications Bureau Grants Additional Auction 105 Priority Access Licenses*, Auction No. 105, Public Notice, 37 FCC Rcd 11387 (WTB 2022).

⁴⁷⁶ *Auction of Flexible-use Service Licenses in the 3.7-3.98 GHz Band Closes; Winning Bidders Announced for Auction 107*, AU Docket No. 20-25, Public Notice, 36 FCC Rcd 4318, 4318, para. 1 (OEA/WTB 2021); FCC, Press Release, First Phase of Record-Breaking 5G Spectrum Auction Concludes (Jan. 15, 2021), <https://docs.fcc.gov/public/attachments/DOC-369265A1.pdf>.

⁴⁷⁷ *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, GN Docket No. 18-122, Report and Order and Order of Proposed Modification, 35 FCC Rcd 2343, 2345, para. 4 (2020).

⁴⁷⁸ *Wireless Telecommunications Bureau Grants Auction 107 Licenses*, Auction No. 107, Public Notice, DA 21-839 (WTB July 23, 2021); *Wireless Telecommunications Bureau Grants Additional Auction 107 Licenses*, Auction No. 107, Public Notice, 37 FCC Rcd 4505 (WTB 2022).

⁴⁷⁹ *Facilitating Shared Use in the 3100-3550 MHz Band*, WT Docket No. 19-348, Second Report and Order, Order on Reconsideration, and Order of Proposed Modification, 36 FCC Rcd 5987 (2021). The order continued the implementation of the Beat China by Harnessing Important, National Airwaves for 5G Act of 2020, Pub. L. 116-260, Division FF, Title IX, Sec. 905, which required the Commission to commence an auction to grant new initial licenses subject to flexible use in the 3450-3550 MHz (3.45 GHz) band by the close of 2021.

⁴⁸⁰ *Facilitating Shared Use in the 3100-3550 MHz Band*, WT Docket No. 19-348, Second Report and Order, Order on Reconsideration, and Order of Proposed Modification, 36 FCC Rcd 5988, 5988, para. 1 (2021) (*3.45 GHz Second Report and Order*).

⁴⁸¹ *Auction of Flexible-Use Service Licenses in the 3.45-3.55 GHz Band Closes; Winning Bidders Announced for Auction 110*, AU Docket No. 21-62, Public Notice, 37 FCC Rcd 308 (OEA/WTB 2022) (*Auction 110 Closing Public Notice*).

⁴⁸² *Auction 110 Closing Public Notice*, 37 FCC Rcd 308, 308, para. 1.

3.45 GHz licenses.⁴⁸³ Collectively, the 3.45 GHz band and the neighboring 3.5 GHz and 3.7 GHz bands will offer 530 megahertz of contiguous mid-band spectrum for 5G services.⁴⁸⁴

158. WTB and the Public Safety and Homeland Security Bureau (PSHSB) released a Public Notice in August 2021 providing guidance regarding the adoption of new rules for the 5.850-5.925 GHz (5.9 GHz) band.⁴⁸⁵ In particular, WTB and PSHSB provided guidance to intelligent transportation system (ITS) licensees seeking waivers of the Commission's rules to operate roadside units with cellular vehicle-to-everything (C-V2X)-based technology in the upper 30 megahertz (5.895-5.925) portion of the 5.9 GHz band, prior to adoption of final rules providing for such use, as well as guidance for waivers associated with equipment certifications and on-board units.⁴⁸⁶ In April 2023, PSHSB, OET, and WTB granted a joint request filed by a group of automakers, state departments of transportation, and equipment manufacturers requesting waiver of the Commission's rules applicable to ITS operations to allow deployment of C-V2X technology in the upper 30 megahertz portion of the 5.9 GHz band.⁴⁸⁷ In August and October 2023, PSHSB, OET, and WTB issued additional waiver orders granting similar requests from public and private stakeholders seeking to deploy C-V2X technology in the band.⁴⁸⁸

159. Auction 108, the auction of flexible-use overlay licenses in the 2.5 GHz band, was completed in August 2022, with 63 bidders winning 7,872 licenses, and gross bids totaling \$427,789,670.⁴⁸⁹ This auction offered county-sized licenses for the remaining spectrum in this band, making more valuable mid-band spectrum available for advanced wireless services, including 5G, particularly in rural areas.⁴⁹⁰ As of March 8, 2024, WTB granted all of the 2.5 GHz band licenses from Auction 108, in addition to 336 licenses granted thus far to Tribal Nations and Tribal entities in connection with the 2.5 GHz Rural Tribal Priority Window which preceded Auction 108.⁴⁹¹

⁴⁸³ *Wireless Telecommunications Bureau Grants Auction 110 Licenses*, Auction No. 110, Public Notice, 37 FCC Rcd 551 (WTB 2022).

⁴⁸⁴ *3.45 GHz Second Report and Order*, 36 FCC Rcd at 5988, para. 1

⁴⁸⁵ *Wireless Telecommunications Bureau and Public Safety and Homeland Security Bureau Provide Guidance for Waiver Process to Permit Intelligent Transportation System Licensees to Use C-V2X Technology in the 5.895-5.925 GHz Band*, ET Docket No. 19-138, Public Notice, 36 FCC Rcd 12406 (WTB/PSHSB 2021) (*5.9 GHz Waiver Public Notice*).

⁴⁸⁶ *Id.*, 36 FCC Rcd at 12406-08.

⁴⁸⁷ *Request for Waiver of 5.9 GHz Band Rules to Permit Initial Deployment of Cellular Vehicle-to-Everything Technology*, Order, ET Docket No. 19-138, DA 23-343 (PSHSB/OET/WTB Apr. 24, 2023). The Bureaus conditioned the waiver grant on certain technical and operational parameters, and further modified those conditions by a waiver modification order in July 2023. *See Request to Modify April 24, 2023 Waiver Order of 5.9 GHz Band Rules to Permit Initial Deployment of Cellular Vehicle-to-Everything Technology*, Order, ET Docket No. 19-138, DA 23-586 (PSHSB/OET/WTB Jul. 5, 2023).

⁴⁸⁸ *Requests for Waiver of 5.9 GHz Band Rules to Permit Initial Deployment of Cellular Vehicle-to-Everything Technology*, Letter Order, ET Docket No. 19-138 (Aug. 16, 2023); *Requests for Waiver of 5.9 GHz Band Rules to Permit Initial Deployment of Cellular Vehicle-to-Everything Technology*, Letter Order, ET Docket No. 19-138, DA 23-1048 (PSHSB/OET/WTB Oct. 31, 2023).

⁴⁸⁹ *Auction of Flexible-Use Licenses in the 2.5 GHz Band Closes; Winning Bidders Announced for Auction 108*, AU Docket No. 20-429, Public Notice, 37 FCC Rcd 10117, 10117, para. 1 (2022); *see also Transforming the 2.5 GHz Band*, WT Docket No. 18-120, Report and Order, 34 FCC Rcd 5446, 5450, 5463-69, paras. 13, 46-65 (2019) (modified by Erratum, 34 FCC Rcd 10386 (WTB 2019)) (*2.5 GHz Report and Order*) (establishing a pre-auction priority window for Tribal Nations to apply to obtain the unassigned spectrum on rural Tribal lands to address the needs of their communities).

⁴⁹⁰ *2.5 GHz Report and Order*, 34 FCC Rcd at 5450, para. 13.

⁴⁹¹ *Wireless Telecommunications Bureau Grants Auction 108 Licenses*, Auction No. 108, Public Notice, 37 FCC Rcd 14020 (WTB 2022); *Wireless Telecommunications Bureau Grants Auction 108 Licenses*, Auction No. 108,

(continued....)

160. In 2002, the Commission allocated 50 megahertz of spectrum in the 4940-4990 MHz band (4.9 GHz band) for fixed and mobile services, except aeronautical mobile service, and designated this band for use in support of public safety.⁴⁹² The Commission has reexamined the rules governing the 4.9 GHz band several times in the intervening years, and in January 2023, adopted a Seventh Report and Order and Ninth Further Notice of Proposed Rulemaking whereby it established a new framework for the 4.9 GHz band, under which a nationwide Band manager would be responsible both for overseeing public safety operations in the band and for authorizing secondary non-public safety operations.⁴⁹³ The Commission in the *Ninth FNPRM* sought comment on a number of implementation issues related to the Band Manager framework.⁴⁹⁴

161. In March 2023, the Commission adopted a Notice of Proposed Rulemaking to facilitate the integration of satellite and terrestrial networks by proposing a new regulatory framework for Supplemental Coverage from Space (SCS).⁴⁹⁵ The Commission proposed a novel framework that would allow satellite operators collaborating with terrestrial service providers to obtain Commission authorization to operate space stations on currently licensed, flexible-use spectrum allocated to terrestrial services. If the Commission were to act on this proposal, SCS would enable expanded coverage for the terrestrial licensee's subscribers, especially in remote, unserved, and underserved areas, and would support the availability of emergency communications.⁴⁹⁶

162. In May 2023, the Commission released a combined item which took a holistic approach to expanding use of over 1 gigahertz of prime mid-band spectrum in the 12 GHz band, from 12.2 to 13.25 GHz, by ensuring stable spectrum access for current and next-generation satellite broadband operations while also empowering advance terrestrial wireless services such as 6G.⁴⁹⁷ The Commission is thus on a path to expand the beneficial use of up to 1,050 megahertz of mid-band spectrum by a diverse set of terrestrial and satellite communications systems.⁴⁹⁸ The Commission took steps to ensure current and future satellite services are preserved and protected in the 12.2-12.7 GHz band (12.2 GHz band) while continuing to develop a pipeline of mid-band spectrum for mobile broadband or other expanded uses essential for connecting everyone, everywhere in the 12.7-13.25 GHz band (12.7 GHz band).⁴⁹⁹

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Public Notice, 38 FCC Rcd 41 (WTB 2023); *Wireless Telecommunications Bureau Grants Auction 108 Licenses*, Auction No. 108, Public Notice, 38 FCC Rcd 1327 (WTB 2023); *Wireless Telecommunications Bureau Grants Auction 108 Licenses*, Auction No. 108, Public Notice, DA 24-89 (WTB Feb. 1, 2024); *Wireless Telecommunications Bureau Grants Auction 108 Licenses*, Auction No. 108, Public Notice, DA 24-183 (WTB Feb. 29, 2024). See FCC, *Rural Tribal Window Updates*, <https://www.fcc.gov/25-ghz-rural-tribal-application-details>.

⁴⁹² See *The 4.9 GHz Band Transferred from Federal Government Use*, WT Docket No. 00-32, Second Report and Order and Further Notice of Proposed Rulemaking, 17 FCC Rcd 3955 (2002).

⁴⁹³ *Amendment of Part 90 of the Commission's Rules*, WP Docket No. 07-100, Seventh Report and Order and Ninth Further Notice of Proposed Rulemaking, 38 FCC Rcd 704 (2023) (*Seventh Report and Order and Ninth FNPRM*).

⁴⁹⁴ See, e.g., *id.*, 38 FCC Rcd at 733, paras. 71-72.

⁴⁹⁵ *Single Network Future: Supplemental Coverage from Space; Space Innovation*, GN Docket No. 23-65 et al., Notice of Proposed Rulemaking, 38 FCC Rcd 2790 (2023).

⁴⁹⁶ See Public Release, *Single Network Future: Supplemental Coverage from Space; Space Innovation*; GN Docket No. 23-65, IB Docket No. 22-271, Report and Order and Further Notice of Proposed Rulemaking, FCC 24-XX (rel. Feb. 22, 2024).

⁴⁹⁷ *Expanding Flexible Use of the 12.2-12.7 GHz Band*, WT Docket No. 20-443 et al., Report and Order and Further Notice of Proposed Rulemaking and Notice of Proposed Rulemaking and Order, FCC 23-36 (May 19, 2023) (*12 GHz Order*); Press Release, FCC, *FCC Moves Forward on 12 GHz Proceeding* (May 18, 2023), <https://docs.fcc.gov/public/attachments/DOC-393504A1.pdf>.

⁴⁹⁸ *12 GHz Order* at 2, para. 1.

⁴⁹⁹ *Id.*

163. In October 2023, the Commission adopted rules to support new Wi-Fi applications and services using spectrum in the 6 GHz band.⁵⁰⁰ The new rules authorize very low power operations in the U-NII-5 and U-NII-7 portions of the 6 GHz band totaling 850 megahertz of spectrum. Operations at power levels significantly lower than other unlicensed 6 GHz devices can occur anywhere, indoors or outdoors, without requiring a frequency coordination system.⁵⁰¹ The mix of capacity and wide channels offers the unique potential for augmented and virtual reality applications.

164. The Commission has made efforts to enable innovative commercial uses of the 71-76 GHz, 81-86 GHz, 92-24 GHz, and 94.1-95 GHz bands (collectively, the 70/80/90 GHz bands), including provision of wireless backhaul for 5G and delivery of broadband connectivity to ships and aircraft. In June 2020, the Commission began a proceeding to consider potential changes to the rules governing the 70/80/90 GHz bands.⁵⁰² In October 2021 and October 2023, WTB released Public Notices seeking additional comment on the potential new uses of the 70/80/90 GHz bands.⁵⁰³ In January 2024, the Commission adopted a *Report and Order and Further Notice of Proposed Rulemaking* authorizing certain point-to-point links to endpoints in motion in the 70 GHz and 80 GHz bands for aeronautical and maritime use; providing for smaller, lower-cost antennas to facilitate backhaul service in those bands; and adopting changes to the link registration process. The item also sought comment on the potential inclusion of ship-to-aerostat operations as part of maritime operations, and adding Fixed Satellite Service earth stations in the light-licensing regime for the 70 GHz and 80 GHz bands.⁵⁰⁴

165. The Commission also furthered the efficient use of available spectrum. In July 2022, the Commission adopted a Report and Order establishing the Enhanced Competition Incentive Program (ECIP) to provide incentives for wireless licensees to make underutilized spectrum available to small carriers, Tribal Nations, and entities serving rural areas.⁵⁰⁵ The *ECIP Report and Order* was intended to build upon the goals expressed by Congress in the Making Opportunities for Broadband Investment and Limiting Excessive and Needless Obstacles to Wireless Act (MOBILE NOW Act) by considering steps to “increase the diversity of spectrum access” and the “availability of advanced telecommunications services

⁵⁰⁰ *Unlicensed Use of the 6 GHz Band*, ET Docket No. 18-295, et al., Second Report and Order, Second Further Notice of Proposed Rulemaking, and Memorandum Opinion and Order on Remand, FCC 23-86 (Nov. 1, 2023); Press Release, FCC, FCC Permits Very Low Power Device Operations in 6 GHz Band (Oct. 19, 2023) (6 GHz Press Release). See also *Unlicensed Use of the 6 GHz Band; Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 23 GHz*, ET Docket No. 18-295, GN Docket No. 17-183, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd 3852, 3853, para. 1 (2020) (In April 2020, the Commission opened up the entire 6 GHz band (5.925-7.125 GHz) for unlicensed indoor lower power access points. The Commission determined these access points to be ideal for connecting devices, in homes and businesses, such as smartphones, tablet devices, laptops, and Internet-of-Things devices, to the Internet.).

⁵⁰¹ 6 GHz Press Release at 1.

⁵⁰² *Modernizing and Expanding Access to the 70/80/90 GHz Bands, et al.*, WT Docket No. 20-133, et al., Notice of Proposed Rulemaking and Order, 35 FCC Rcd 6039 (2020).

⁵⁰³ *Wireless Telecommunications Bureau Seeks to Supplement the Record on 70/80/90 GHz Notice of Proposed Rulemaking*, WT Docket No. 20-133, Public Notice, 36 FCC Rcd 14375 (WTB 2021); *Wireless Telecommunications Bureau Seeks to Refresh the Record in 70/80/90 GHz Bands Proceeding*, WT Docket No. 20-133, Public Notice, DA 23-988 (WTB Oct. 18, 2023).

⁵⁰⁴ *Modernizing and Expanding Access to the 70/80/90 GHz Bands*, WT Docket No. 20-133, Report and Order and Further Notice of Proposed Rulemaking, DA 24-16 (WTB Jan. 26, 2024).

⁵⁰⁵ *Partitioning, Disaggregation, and Leasing of Spectrum*, WT Docket No. 19-38, Report and Order and Second Further Notice of Proposed Rulemaking, 37 FCC Rcd 8825 (2022) (*ECIP Report and Order*); see also Press Release, FCC, FCC Establishes Enhanced Competition Incentive Program for Wireless Radio Services: Expanding Opportunities for Small Carriers, Tribal Nations, and Rural Wireless Entities (July 14, 2022) (*ECIP Press Release*).

in rural areas” and to facilitate transactions that will benefit the public interest.⁵⁰⁶ Under ECIP, any covered geographic licensee may offer spectrum to an unaffiliated eligible entity through partition and/or disaggregation, and any covered geographic licensee eligible to lease in an included service may offer spectrum to an unaffiliated eligible entity through a long-term leasing arrangement.⁵⁰⁷ ECIP encourages licensees to partition, disaggregate, or lease spectrum to better align available spectrum resources with entities seeking to provide services to underserved communities.⁵⁰⁸ Independent of the ECIP, the Report and Order reduces regulatory burdens by allowing reaggregation of geographic licenses.⁵⁰⁹ The *Second Further Notice* sought comment on whether to expand ECIP eligibility to allow non-common carriers serving non-rural areas to be eligible to participate in the program, and whether to adopt alternative construction requirements for wireless radio licensees generally, including a safe harbor.⁵¹⁰ In February 2024, the Wireless Telecommunications Bureau launched ECIP by beginning to accept assignment and lease applications to participate in the program.⁵¹¹

166. In August 2023, the Commission released a Notice of Inquiry exploring potential avenues to advance understanding of non-Federal spectrum usage through new data sources, technologies, and methods.⁵¹² Leveraging today’s tools to understand tomorrow’s commercial spectrum usage can help identify new opportunities to facilitate more efficient spectrum use, including new spectrum sharing techniques and approaches to enable co-existence among users and services. The *Spectrum Usage NOI* undertook a technical inquiry on how to obtain more sophisticated knowledge of non-Federal spectrum usage, and how the Commission could take advantage of modern capabilities for doing so in a cost-effective, accurate, scalable, and actionable manner.

167. The Commission continues to work to ensure that its policies and rules facilitate access to spectrum. In September 2023, WTB and OEA released a Public Notice that sought comment on the petition for rulemaking filed by AT&T in 2021 seeking Commission action on such matters as the proposed establishment of a mid-band spectrum screen and other changes to its mobile spectrum holdings policies and rules.⁵¹³

168. The Commission has also continued to take steps to foster growth of the white space ecosystem promoting innovative and efficient uses of spectrum. In January 2022, the Commission adopted two orders that resolved pending issues associated with white space devices and the white spaces

⁵⁰⁶ *ECIP Report and Order*, 37 FCC Rcd at 8826, para. 1; Consolidated Appropriations Act, Pub. L. No. 115-141, Division P (RAY BAUM’S Act of 2018), Title VI (MOBILE NOW Act), § 601 et seq. (2018) (codified at 47 U.S.C. §§ 1501-1512).

⁵⁰⁷ *ECIP Report and Order*, 37 FCC Rcd at 8830-31, para. 18; *ECIP Press Release* at 1.

⁵⁰⁸ *ECIP Report and Order*, 37 FCC Rcd at 8826, para. 2. *ECIP Press Release* at 1.

⁵⁰⁹ *ECIP Report and Order*, 37 FCC Rcd at 8826, para. 3.

⁵¹⁰ *Id.* at 8826, para. 3.

⁵¹¹ *WTB Launches Enhanced Competition Incentive Program Beginning February 15, 2024*, WT Docket No. 19-38, Public Notice, DA 24-141 (WTB Feb. 15, 2024); *see also* Press Release, FCC, FCC Launches Enhanced Competition Incentive Program for Wireless Radio Services: Expands Spectrum Opportunities for Small Carriers, Tribal Nations, and Rural Wireless Entities (Feb. 15, 2024).

⁵¹² *Advancing Understanding of Non-Federal Spectrum Usage*, WT Docket No. 23-232, Notice of Inquiry, FCC 23-63 (Aug. 4, 2023) (*Spectrum Usage NOI*).

⁵¹³ *Wireless Telecommunications Bureau and Office of Economics and Analytics Seek Comment on AT&T Petition for Rulemaking and Mobile Spectrum Holdings Policies*, WT Docket No. 23-319, Public Notice, DA 23-891 (WTB/OEA Sept. 22, 2023); *AT&T Petition for a Rulemaking to Establish a Mid-Band Spectrum Screen* (filed Sept. 1, 2021).

databases.⁵¹⁴ These Commission actions will provide white space device users, manufacturers, and database administrators with additional certainty and enable unlicensed white space devices to operate efficiently and protect other spectrum users.⁵¹⁵

169. *Satellite Service.* Since 2021, the Commission has taken numerous actions to implement a Space Innovation agenda. Specifically, the agency has established a new Space Bureau, increased the number of staff working on satellite and earth station applications, created new opportunities for competition in the delivery of satellite broadband services, and modernized spectrum policy to better meet the needs of the next generation Space Age. As the agency promotes Space Innovation, it also has taken action to advance space safety and responsibility, including the adoption of new rules for deorbiting satellites to mitigate orbital debris risks. These actions foster a regulatory environment that enables the deployment of high-speed, high-bandwidth broadband services to hard-to-reach remote areas of the country.

170. On August 3, 2022, the Commission adopted new rules permitting use of the 17.3-17.7 GHz band for geostationary satellite (GSO) fixed satellite service (FSS) downlinks on a co-primary basis with incumbent services and use of the 17.7-17.8 GHz band for GSO FSS downlinks on a unprotected basis with respect to fixed service operations, thereby creating a contiguous band for fixed-satellite downlink operations, and enabling greater flexibility and efficiency.⁵¹⁶ The Commission also defined an extended Ka-band, thus streamlining the licensing of FSS earth stations in a harmonized regulatory framework for similar FSS transmissions in the conventional and extended Ka-bands.⁵¹⁷ In addition, the Commission sought comment on whether to allow operations of non-geostationary orbit (NGSO) systems in the FSS (space-to-Earth) in the 17.3-17.8 GHz band and the appropriate technical rules and standards.⁵¹⁸

171. On August 5, 2022, in an effort to promote United States leadership in the emerging space economy, the Commission voted to open a proceeding on the economic potential and policy questions related to servicing, assembly, and manufacturing (ISAM) taking place beyond the earth's atmosphere.⁵¹⁹ The Commission examined the opportunities and challenges of space missions like

⁵¹⁴ *Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37, et al.*, ET Docket No. 14-165, et al., Second Order of Reconsideration, Further Notice of Proposed Rulemaking, and Order, 37 FCC Rcd 1384, 1385, para. 1 (2022) (*White Space Devices Order*); see also *Unlicensed White Space Device Operations in the Television Bands*, ET Docket No. 20-36, Report and Order, 35 FCC Rcd 12603 (2020) (revising rules to facilitate the development of new and innovative narrowband Internet of Things devices in TV white spaces and expand the ability of unlicensed white space devices to deliver wireless broadband services in rural areas and areas where fewer broadcast stations are on the air).

⁵¹⁵ *White Space Devices Order*, 37 FCC Rcd at 1385, para. 1.

⁵¹⁶ *Amendment of Parts 2 and 25 of the Commission's Rules to Enable GSO Fixed-Satellite Service (Space-to-Earth) Operations in the 17.3-17.8 GHz Band, to Modernize Certain Rules Applicable to 17/24 GHz BSS Space Stations, and to Establish Off-Axis Uplink Power Limits for Extended Ka-Band FSS Operations; Amendment of Parts 2 and 25 of the Commission's Rules to Enable NGSO Fixed-Satellite Service (Space-to-Earth) Operations in the 17.3-17.8 GHz Band*, IB Docket Nos. 20-330 and 22-273, Report and Order and Notice of Proposed Rulemaking, FCC 22-63 (Aug. 3, 2022).

⁵¹⁷ *Id.* at 2, para. 2.

⁵¹⁸ *Id.* at 2, para. 3.

⁵¹⁹ *Space Innovation; Facilitating Capabilities for In-space Servicing, Assembly, and Manufacturing*, Notice of Inquiry, 37 FCC Rcd 10022 (2022). ISAM refers to a set of capabilities used on-orbit, on the surface of space objects and celestial bodies, and in transit. The "servicing" aspect of ISAM includes activities such as the in-space inspection, life extension, repair, refueling, or alteration of a spacecraft after its initial launch. The term "servicing" is also used to describe transport of a spacecraft from one orbit to another, as well as debris collection and removal.

(continued...)

satellite refueling, inspecting and repairing in-orbit spacecraft, capturing and removing debris, and transforming materials through manufacturing while in space.⁵²⁰

172. On September 30, 2022, the Commission shortened the 25-year benchmark for post-mission disposal of NGSO space stations to five years for space stations in low Earth orbit.⁵²¹ Growth in space activity has heightened concerns about the risks of orbital debris, and post-mission disposal of spacecraft is a necessary part in the mitigation of orbital debris, with orbital lifetime a crucial element affecting collision risk.⁵²² Post-mission disposal and orbital lifetime are crucial factors in the mitigation of orbital debris, as they not only affect the collision risk of a space station or system, but also affect spacecraft that are unable to complete post-mission disposal, particularly when left at higher altitudes where they may persist indefinitely, will contribute to the growing congestion in the space environment over the long-term, and increase risks to space operations.⁵²³

173. On December 22, 2022, the Commission issued a Notice of Proposed Rulemaking that sought comment broadly on changes to the Commission's rules, policies, or practices to facilitate the acceptance for filing of space and earth station applications under Part 25.⁵²⁴ In particular, the Commission proposed to remove a procedural rule that formally prevents consideration of waiver requests for operations not in conformance with the International Table of Frequency Allocations.⁵²⁵ The Commission also sought comment on whether the limits on applications for NGSO systems and unbuilt NGSO systems should be amended, and whether the Commission should provide greater transparency or certainty with respect to its expected application processing timelines.⁵²⁶

174. On April 11, 2023, the Commission created a new Space Bureau.⁵²⁷ In making this structural change to create a Bureau specifically focused on satellite and space policy, the Commission seeks to keep pace with the needs of space innovation, including the deployment of broadband to hard-to-reach remote locations. The Space Bureau's mission is to promote a competitive and innovative global communications marketplace by leading policy and licensing matters related to satellite and space-based communications and activities. Among its responsibilities, the Space Bureau leads complex policy

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“Assembly” refers to the construction of a space system using pre-manufactured components, and “manufacturing” is the transformation of raw or recycled materials into components, products, or infrastructure in space.

⁵²⁰ *Id.*

⁵²¹ *Space Innovation: Mitigation of Orbital Debris in the New Space Age*, Second Report and Order, 37 FCC Rcd 11818 (2022).

⁵²² Previously, on April 24, 2020, the Commission comprehensively updated the Commission's rules regarding orbital debris mitigation. *Orbital Debris in the New Space Age*, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd 4156 (2020). The updated regulations were designed to ensure that the Commission's actions concerning radio communications, including licensing U.S. spacecraft and granting access to the U.S. market for non-U.S. spacecraft, mitigate the growth of orbital debris, while at the same time not creating undue regulatory obstacles to new satellite ventures. *Id.* at 4157, para. 2.

⁵²³ *Id.*

⁵²⁴ *Expediting Initial Processing of Satellite and Earth Station Applications*, *Space Innovation*, IB Docket Nos. 22-411 & 22-271, Notice of Proposed Rulemaking, 37 FCC Rcd 15167, 15167, para. 1 (2022).

⁵²⁵ See 47 CFR § 2.106(a), (b).

⁵²⁶ On September 21, 2023, the Commission issued a Report and Order (discussed below) adopting many of these proposals. See *Expediting Initial Processing of Satellite and Earth Station Applications*; *Space Innovation*, IB Docket Nos. 22-411, 22-271, Report and Order and Notice of Proposed Rulemaking, FCC 23-73 (Sept. 22, 2023).

⁵²⁷ See *Establishment of the Space Bureau and the Office of International Affairs and Reorganization of the Consumer and Governmental Affairs Bureau and the Office of the Managing Director*, MD Docket No. 23-12, Order, FCC 23-1, para. 4 (Jan. 9, 2023); *FCC Space Bureau & Office of International Affairs to Launch Next Week*, Press Release (Apr. 7, 2023).

analysis and rulemakings; authorizes satellite and earth station systems used for space-based services; streamlines regulatory processes to provide maximum flexibility for operators to meet customer needs; and fosters the efficient use of scarce spectrum and orbital resources. The Space Bureau also serves as the Commission's focal point for coordination with other U.S. government agencies on matters of space policy and governance, and collaborate with the Office of International Affairs for consultations with other countries, international and multilateral organizations, and foreign government officials that involve satellite and space policy matters.

175. On April 20, 2023, the Commission granted in part SpaceX's Petition for Rulemaking seeking to update the spectrum sharing rules among how NGSO FSS licensees, focusing on spectrum sharing among systems approved in *different* processing rounds.⁵²⁸ The new rules set forth important reforms that will govern how NGSO FSS systems will function in a shared spectrum environment.⁵²⁹ These new rules provide clarity regarding spectrum sharing between systems licensed in different processing rounds, granting primary spectrum access to systems approved earlier, while enabling new entrants to participate in an established, cooperative spectrum sharing structure.⁵³⁰ This action continues the Commission's recent efforts to update and refine its rules governing NGSO FSS systems.⁵³¹ Constellations of NGSO FSS satellites traveling in low- and medium-Earth orbit may provide broadband services to industry, enterprise, and residential customers with lower latency and wider coverage than has previously been available via satellite.⁵³² The number of applications filed in recent years for NGSO FSS system authorizations, and the number of satellites launched, are unprecedented.⁵³³ These updates will provide certainty for operators and facilitate innovation in system design, which will ultimately benefit broadband users.

176. On September 21, 2023, as part of a Report and Order and Further Notice of Proposed Rulemaking, the Commission adopted new rules that take concrete steps to expedite the initial processing of applications for authority to operate space and earth stations under part 25 of the Commission's rules.⁵³⁴ In the Report and Order, the Commission established timeframes for placing space and earth station applications on notice for public comment, permits applicants to apply for authority to operate in frequencies in bands where there is not already an international allocation for the satellite services to be provided, provides flexibility for NGSO licensees to have more than one unbuilt system without facing potential dismissal of their applications, and streamlines processing of earth station requests to add space

⁵²⁸ *Revising Spectrum Sharing Rules for Non-Geostationary Orbit, Fixed-Satellite Service Systems*, IB Docket No. 21-456, Report and Order and Notice of Proposed Rulemaking, FCC 23-29 (Apr. 21, 2023).

⁵²⁹ *Id.* at 4-19, paras. 9-37.

⁵³⁰ *Id.*

⁵³¹ *Revising Spectrum Sharing Rules for Non-Geostationary Orbit, Fixed-Satellite Service Systems*, IB Docket Nos. 21-456 and 22-271, Order and Further Notice Of Proposed Rulemaking, 36 FCC Rcd 17871 (2021); *see also Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, IB Docket No. 16-408, Report and Order, 32 FCC Rcd 7809 (2017), *pets. for recon. pending*.

⁵³² *See generally, e.g., 2022 Communications Marketplace Report*, 37 FCC Rcd at 15517, para. 6 (approximately 98% of all satellite launches in 2021 were deployed into low-Earth orbit to provide internet connectivity).

⁵³³ *See generally, Mitigation of Orbital Debris in the New Space Age*, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd 4156, 4158, para. 3 (2020); *see also, e.g., 2022 Communications Marketplace Report*, 37 FCC Rcd at 15517, para. 6 (noting SpaceX (Starlink) had launched more than 3,350 of its satellites); Letter from Blake Wiles, Market Access Manager, North America, OneWeb, to Marlene H. Dortch, Secretary, FCC, IBFS File No. SAT-MPL-20200526-00062 (filed Jan. 20, 2023) (noting OneWeb had launched 544 of its satellites).

⁵³⁴ *Expediting Initial Processing of Satellite and Earth Station Applications; Space Innovation*, IB Docket Nos. 22-411, 22-271, Report and Order and Further Notice of Proposed Rulemaking, FCC 23-73 (Sept. 22, 2023).

stations as points of communication.⁵³⁵ The Commission also announced the Space Bureau’s new Transparency Initiative, which is providing information and guidance, in a variety of forms, to potential applicants in order to prepare them to successfully obtain authorizations for space and earth stations—that is, satellites and the ground-based transmitters communicating with them.⁵³⁶ This initiative will reduce administrative burdens on both applicants and Commission staff and further expedite the processing of applications.⁵³⁷

177. The Commission in the Further Notice of Proposed Rulemaking proposed to eliminate the procedural burden of printing and maintaining a paper copy of a license, and change the default status of space and earth station proceedings to permit-but-disclose.⁵³⁸ The Commission also asked whether a process can be implemented for operators of non-U.S. licensed space stations that is similar to current special temporary authority (STA) application process.⁵³⁹ In addition, the Commission also sought comment in the Further Notice on other updates to our processes for STA applications, whether to consider a “Permitted List” type of process for NGSO operators, and whether to expand the window for operators to file renewal applications for existing licenses.⁵⁴⁰ Further, the Commission sought additional comment on establishing timeframes or shot clocks for action on the merits of applications.⁵⁴¹ Finally, the Commission sought comment on updating processes to avoid potentially duplicative coordination procedures, and whether the Commission can expand the new auto-granted process for adding satellite points of communication to earth station licenses.⁵⁴²

178. On January 25, 2024, the Commission adopted an Order on Reconsideration which provides greater clarity and guidance to the space industry actors regarding on compliance with the Commission’s orbital debris mitigation rules.⁵⁴³ One of the biggest threats to new spaced-based innovation and services is the presence of orbital debris that can collide with the satellites on which we rely for critical service. The clarifications provided by the Commission related to satellite maneuverability disclosure requirements regarding satellite maneuverability, and the use of “free-flying” deployment devices. Additionally, the Commission provided additional guidance for satellite operators on methods for conducting a re-contact risk analysis. The Commission also clarified the applicability of the 0.99 disposal reliability goal for large satellite systems. The Commission further specified requirements for assessing and limiting the release of persistent liquids in space, and how the Commission’s orbital debris rules apply to non-U.S.-licensed space stations.

179. On February 16, 2024, the Commission proposed a framework for licensing ISAM activities under its part 25 rules.⁵⁴⁴ ISAM activities are an area of rapidly accelerating innovation and economic activity. Space capabilities are expanding, opening economic and scientific opportunities, and providing new tools for the sustainable use of space, including by large satellite broadband constellations. Effective and efficient use of radiofrequency communications will enable these new capabilities. As the

⁵³⁵ *Id.* at 7-39, paras. 16-87.

⁵³⁶ *Id.* at 5-7, paras. 10-14.

⁵³⁷ *Id.*

⁵³⁸ *Id.* at 49-50, paras. 112-13.

⁵³⁹ *Id.* at 42-43, para. 95.

⁵⁴⁰ *Id.* at 45, para. 101.

⁵⁴¹ *Id.* at 43-44, paras. 98-99.

⁵⁴² *Id.* at 47, paras. 107-108.

⁵⁴³ *Mitigation of Orbital Debris in the New Space Age*, IB Docket No. 18-313, Order on Reconsideration, FCC 24-6 (Jan. 26, 2024).

⁵⁴⁴ *Space Innovation; Facilitating Capabilities for In-space Servicing, Assembly, and Manufacturing*, IB Docket Nos. 22-271, 22-272, Notice of Proposed Rulemaking, FCC 24-21 (Feb. 16, 2024).

ISAM industry continues to develop, the Commission envisions taking additional steps as needed to foster innovation and growth in this field.

D. Supporting Affordability, Adoption, and Reasonable Access

180. *Affordable Connectivity Program (ACP) and Emergency Broadband Benefit (EBB) Program.* At Congress's direction, the Commission established programs designed to offer discounted broadband service and connected devices to help low-income households get connected and stay connected to work, school, healthcare, family, and social services. The ACP, which was launched two years ago, delivers discounted Internet service to approximately 23 million low-income households, benefiting both rural and urban households.⁵⁴⁵ However, due to the projected depletion of funding for the ACP anticipated in April 2024, the Commission has begun the process of winding down the program, absent further congressional funding to continue this program.⁵⁴⁶

181. At the end of 2020 and during the COVID-19 pandemic, Congress charged the Commission with building a new initiative, the EBB Program, to provide discounted Internet service and connected devices to low-income households.⁵⁴⁷ The Commission adopted the rules and policies creating and governing the EBB Program on February 25, 2021.⁵⁴⁸ On May 12, 2021, the Commission launched the EBB Program,⁵⁴⁹ with a \$3.2 billion appropriation through the Consolidated Appropriations Act, 2021.⁵⁵⁰

182. Through the EBB Program, participating broadband providers offered eligible households a monthly discount of up to \$50 off the standard rate of broadband service, or up to \$75 on Tribal lands.⁵⁵¹ Participating providers could also offer an eligible household a connected device (a laptop, desktop computer, or tablet) at a discounted price and receive a reimbursement of up to \$100, provided that the eligible household was charged a co-payment of more than \$10 but less than \$50 toward the purchase of the device.⁵⁵²

183. Just six months after the launch of the EBB Program, Congress created the ACP as part of its investment in broadband affordability, deployment, and access in the November 2021 Infrastructure Act.⁵⁵³ In establishing the ACP, Congress made several changes to the EBB Program to transform it from an emergency program designed to respond to a public health crisis to a longer-term broadband

⁵⁴⁵ See Universal Service Administrative Service Company, *ACP Enrollment and Claims Tracker* (Feb. 13, 2024), <https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/#total-enrolled> (Total Households at Enrollment Freeze); *More Than 20 Million Households Enroll in Nation's Largest Broadband Affordability Program*, Fact Sheet (Aug. 14, 2023), <https://docs.fcc.gov/public/attachments/DOC-396000A1.pdf>.

⁵⁴⁶ See generally *ACP Wind-Down Order*.

⁵⁴⁷ Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, div. N, tit. IX, § 904(i), 134 Stat. 1182, 2135 (2020); *Emergency Broadband Benefit Program*, WC Docket No. 20-445, Report and Order, 36 FCC Rcd 4612, 4613, para. 1 (2021) (*EBB Program Report and Order*); see also Pew Pandemic Research Report at 5-6.

⁵⁴⁸ *EBB Program Report and Order*.

⁵⁴⁹ *Wireline Competition Bureau Announces Emergency Broadband Benefit Program Launch Date*, WC Docket. No. 20-445, Public Notice, 36 FCC Rcd 7614 (WCB 2021) (*EBB Launch Date Public Notice*). The Commission established the EBB Program rules in the *EBB Program Report and Order*.

⁵⁵⁰ Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, div. N, tit. IX, § 904(i)(2), 134 Stat. 1182, 2135 (2020), <https://www.congress.gov/bill/116th-congress/house-bill/133/text> (Consolidated Appropriations Act).

⁵⁵¹ *EBB Program Report and Order*, 36 FCC Rcd at 4614, para. 4.

⁵⁵² *Id.* at 4614, para. 5.

⁵⁵³ Infrastructure Act, div. F, tit. V, § 60502, 135 Stat. at 1238; *Affordable Connectivity Program; Emergency Broadband Benefit Program*, WC Docket Nos. 21-450, 20-445, Report and Order and Further Notice of Proposed Rulemaking, 37 FCC Rcd 484, 486, para. 2 (2022) (*ACP Report and Order and Further Notice*).

affordability program, and appropriated to the Commission an additional \$14.2 billion for the ACP.⁵⁵⁴ Under the ACP, eligible households can receive a discount of up to \$30 per month off the price of broadband service, with an enhanced benefit of up to a \$75 monthly discount available for eligible consumers on qualifying Tribal lands. Like the EBB Program, the ACP provides a one-time discount of up to \$100 for a laptop, desktop, or tablet per household, provided that the household contributes more than \$10 but less than \$50 toward the cost of the device.⁵⁵⁵ As with the EBB Program, a household qualifies for the ACP if a member of the household (1) qualifies for Lifeline (household income is at or below 135% of the federal poverty guidelines or a household member participated in the Supplemental Nutrition Assistance Program, Medicaid, Supplemental Security Income, Federal Public Housing Assistance, Veterans Pension/Survivors Benefit, or certain Tribal assistance programs); (2) had applied for and been approved to receive benefits under the free and reduced price lunch program or the school breakfast program; (3) had received a Federal Pell Grant in the current award year; or (4) meets the eligibility criteria for a participating provider's existing low-income program, subject to approval by the Commission.⁵⁵⁶ The Infrastructure Act further expanded eligibility to those households with a member that receives assistance through the Special Supplemental Nutritional Program for Woman, Infants, and Children (WIC) and those households with an income below 200% of the Federal Poverty Guidelines.⁵⁵⁷

184. Since launching the ACP, the Commission has undertaken a number of initiatives to promote awareness and increase enrollment in the program among eligible households.⁵⁵⁸ Recognizing the importance of effective outreach to eligible households from trusted messengers to historically underserved communities, Congress authorized the Commission to provide grants to outreach partners.⁵⁵⁹ Pursuant to that authority, the Commission established the Affordable Connectivity Outreach Grant Program, composed of four complementary sub-programs: the National Competitive Outreach Grant Program (NCOP), the Tribal Competitive Outreach Program (TCOP), the Your Home, Your Internet Outreach Grants (YHYI Outreach Grants), and the ACP Navigator Pilot Program Outreach Grants (NPP Outreach Grants). The BHYI Outreach Grants and the NPP Outreach Grants support the work of the Your Home, Your Internet Pilot Program and the ACP Navigator Pilot Program, respectively, which are one-year pilot programs designed to increase awareness of and facilitate enrollment in the Affordable Connectivity Program and to provide assistance with ACP applications. On August 5, 2022, the Commission adopted rules establishing the Affordable Connectivity Outreach Grant Program and the Your Home, Your Internet Pilot Program, both of which are designed to increase awareness of the ACP, specifically among recipients of federal housing assistance.⁵⁶⁰

185. As directed by Congress in section 60502(c) of the Infrastructure Act,⁵⁶¹ the Commission adopted the *ACP Fourth Report and Order* on November 15, 2022 establishing rules for the ACP Transparency Data Collection, which requires all participating providers to annually submit data on the

⁵⁵⁴ *ACP Report and Order and Further Notice* at 485-86, para. 1.

⁵⁵⁵ 47 U.S.C. § 1752(b)(5); *ACP Report and Order and Further Notice* at 548, para. 136.

⁵⁵⁶ *ACP Report and Order and Further Notice* at 26, para. 49.

⁵⁵⁷ *Id.*

⁵⁵⁸ In addition to the actions to promote and increase enrollment in the ACP, as a response to catastrophic weather events, the Commission temporarily waived certain deadlines and rules for ACP participants in affected areas to ensure that they did not lose access to vital services when they needed them the most. *See, e.g., Affordable Connectivity Program et al.*, WC Docket No. 21-450 et al., Order, DA 23-805 (WCB Sept. 1, 2023); *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6 et al., Order, 37 FCC Rcd 11310 (WCB 2022).

⁵⁵⁹ *See* 47 U.S.C. § 1752(b)(10)(C)(ii)(IV).

⁵⁶⁰ *ACP Second Report and Order*; *ACP Third Report and Order*.

⁵⁶¹ Infrastructure Act, div. F, tit. V, § 60502(c), 135 Stat. at 1243.

price and subscription rates of Internet service offerings received by households enrolled in the ACP.⁵⁶² Participating providers were required to submit data for the collection by November 30, 2023, based on a reference or snapshot date of August 1, 2023.⁵⁶³ In 2024, the Commission will evaluate the submissions and make certain information publicly available, as set forth in the *ACP Fourth Report and Order*.⁵⁶⁴

186. On March 10, 2023, the Commission announced target funding allocations for NCOP and TCOP.⁵⁶⁵ The Commission selected 197 applicants representing 50 states and territories to pursue a broad range of outreach projects for a combined targeted funding allocation of \$66 million.⁵⁶⁶ On March 15, 2023, the Commission announced target funding allocations for the Your Home, Your Internet Outreach Grants and the ACP Navigator Outreach Grants, selecting 31 pilot participants for a combined target funding allocation totaling approximately \$7.4 million.⁵⁶⁷ On March 13, 2023, the Commission adopted a Report and Order securing additional funding of up to \$10 million for the National Competitive Outreach Grant Program and the Tribal Competitive Outreach Grant Program.⁵⁶⁸ This funding comes from a combination of: (a) previously allocated unspent funding and (2) funding that had not yet been allocated to specific outreach efforts.⁵⁶⁹ On August 17, 2023, and September 6, 2023, the Commission announced it had selected 17 applicants for this second round of grant funding, with target funding allocations totaling over \$5.5 million.⁵⁷⁰

187. On August 4, 2023, the Commission released a Report and Order establishing a mechanism by which a participating provider in the ACP can apply to offer an enhanced monthly discount of up to \$75 for broadband services to ACP-enrolled households in a high-cost area, upon the provider's showing of a particularized economic hardship.⁵⁷¹ The Commission's Wireline Competition Bureau (WCB) provided additional information on the application process for this high-cost area benefit on November 1, 2023.⁵⁷²

⁵⁶² *Affordable Connectivity Program*, WC Docket No. 21-450, Fourth Report and Order and Further Notice of Proposed Rulemaking, 37 FCC Rcd 13773 (2022) (*ACP Fourth Report and Order*).

⁵⁶³ *Wireline Competition Bureau Announced Completion of OMB Review and Key Dates for Affordable Connectivity Program Transparency Data Collection*, WC Docket No. 21-450, Public Notice, DA 23-683 (WCB Aug. 11, 2023); *Affordable Connectivity Program Transparency Data Collection Deadline Extended to November 30, 2023*, WC Docket No. 21-450, Public Notice, DA 23-1066 (WCB Nov. 9, 2023).

⁵⁶⁴ *ACP Fourth Report and Order*, 37 FCC Rcd at 13805-16, paras. 67-92.

⁵⁶⁵ *Consumer and Governmental Affairs Bureau Announces ACP Outreach Grant Program Target Funding*, WC Docket No. 21-450, Public Notice, DA 23-194 (CGB Mar. 10, 2023).

⁵⁶⁶ Press Release, FCC, *FCC Announces \$66 Million in Outreach Grants to Fund Projects to Expand Participation in Affordable Connectivity Program* (Mar. 10, 2023), <https://docs.fcc.gov/public/attachments/DOC-391570A1.pdf>.

⁵⁶⁷ *Consumer and Governmental Affairs Bureau and Wireline Competition Bureau Announce ACP Pilot Program Grants Target Funding*, WC Docket No. 21-450, Public Notice, 38 FCC Rcd 1938 (CGB/WCB 2023).

⁵⁶⁸ *Affordable Connectivity Program*, WC Docket No. 21-450, Fifth Report and Order, 38 FCC Rcd 2546 (2023) (*ACP Fifth Report and Order*).

⁵⁶⁹ *Id.* at 2546, para. 1.

⁵⁷⁰ *Consumer and Governmental Affairs Bureau Announces Second Round of ACP Outreach Grant Program Awards*, WC Docket No. 21-450, Public Notice, DA 23-7171 (Aug. 17, 2023); *Consumer and Governmental Affairs Bureau Announces Second Round of ACP Tribal Outreach Grant Program Awards*, WC Docket No. 21-450, Public Notice, DA 23-815 (Sept. 6, 2023).

⁵⁷¹ *Affordable Connectivity Program*, WC Docket No. 21-450, Sixth Report and Order, FCC 23-62 (Aug. 4, 2023).

⁵⁷² *Wireline Competition Bureau Announces Affordable Connectivity Program High-Cost Area Benefit Application Submission Timing and Processes*, WC Docket No. 21-450, Public Notice, DA 23-1034 (WCB Nov. 1, 2023). On January 11, 2024, due to the depletion in funding and enrollment freeze, the Bureau announced that USAC would no longer begin accepting provider applications to offer the high-cost area benefit. The Wireline Competition Bureau

(continued...)

188. The Commission also used multiple media outlets to promote the ACP.⁵⁷³ Paid media consultants targeted certain locations with large low-income populations, certain demographics, and specific cities and counties (including both rural and urban areas) throughout the United States to increase awareness of the ACP through print and radio campaigns. The campaign included print media, earned media (radio and satellite radio tours), mobile display banners, paid search tactics, local newspaper, out-of-home placements (at grocery stores, gas stations, pharmacies, etc.), mailers, and digital video ads. Paid media outreach was conducted in English and Spanish, with application support made available in over 10 languages. This campaign launched in Spring 2023 and continued throughout that year.

189. The Commission also deployed multiple enhancements throughout 2023 to simplify the application and enrollment process for eligible households.⁵⁷⁴ This work responded in part to a January 2023 GAO report regarding the ACP, which included nine recommendations, including: (1) establishing quantifiable and measurable program performance goals; (2) improving program outreach by addressing outreach translation issues and developing an educational plan consistent with leading practices; and (3) taking steps to improve program integrity efforts. The Commission was able to address all of the GAO recommendations and submitted documents to GAO to close-out all nine recommendations by the end of 2023.⁵⁷⁵ As of December 31, 2023, the FCC had submitted proposals to close-out all nine recommendations to GAO. As of the publication of this document, the GAO has officially closed out six recommendations and is actively working with the FCC to close out the final three recommendations.⁵⁷⁶

190. As described above, the Commission began taking steps to wind down the ACP, which included the need to stop accepting new enrollments and announcing that the final month of the program will be April 2024.⁵⁷⁷ At the time the Commission stopped accepting new enrollments in the ACP, there were over 23 million households enrolled in the program.⁵⁷⁸ The Commission is dedicated to providing ACP households an orderly transition out of the program and to keeping as many ACP households as

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will re-evaluate the status of the ACP high-cost area benefit provider applications if the ACP receives additional funding. *ACP Wind-Down Order*, DA 24-23, at 13, para 33.

⁵⁷³ The Infrastructure Act expressly authorized the Commission to use ACP funds to conduct outreach to encourage households to enroll in the ACP by engaging in paid media campaigns. *ACP Fifth Report and Order*, 38 FCC Rcd at 1940, para. 6 (citing 47 U.S.C. § 1752(b)(10)(C)(ii)(I)-(IV)). Accordingly, the Commission set aside funding for its own ACP outreach efforts. *Id.* at 1941, n.30.

⁵⁷⁴ USAC, ACP National Verifier Enhancements, <https://www.usac.org/wp-content/uploads/about/documents/acp/bulletins/ACP-National-Verifier-Enhancements.pdf> (Feb. 14, 2024). See generally USAC, ACP Bulletins (<https://www.usac.org/about/affordable-connectivity-program/affordable-connectivity-program-learn/acp-bulletins>) (last visited Jan. 29, 2024).

⁵⁷⁵ FCC Could Improve Performance Goals and Measures, Consumer Outreach, and Fraud Risk Management (2023), <https://www.gao.gov/assets/d23105399.pdf>.

⁵⁷⁶ *Affordable Broadband: FCC Could Improve Performance Goals and Measures, Consumer Outreach, and Fraud Risk Management*, <https://www.gao.gov/products/gao-23-105399>, (last visited Feb. 19, 2024) (The status of the recommendations is updated periodically at the bottom of this page.). In addition to the actions described above, as a response to catastrophic weather events, the Commission temporarily waived certain deadlines and rules for ACP participants in affected areas to ensure that they did not lose access to vital services when they needed them the most. See, e.g., *Affordable Connectivity Program et al.*, WC Docket No. 21-450 et al., Order, DA 23-805 (WCB Sept. 1, 2023); *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6 et al., Order, 37 FCC Rcd 11310 (WCB 2022).

⁵⁷⁷ See *ACP Wind-Down Order*, DA 24-23, at 8, para. 21; see generally *ACP Final Month Public Notice*.

⁵⁷⁸ Universal Service Administrative Service Company, *ACP Enrollment and Claims Tracker* (Feb. 13, 2024), <https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/#total-enrolled> (Total Households at Enrollment Freeze).

possible connected to broadband service after the end of the program.⁵⁷⁹

191. *Lifeline*. In addition to emergency support regulatory flexibility that the Commission has provided for the Lifeline program and the affordability aspects of our implementation of the Safe Connections Act discussed below, we have taken actions to ensure the Lifeline program remains responsive to low-income consumers' needs. For instance, on July 7, 2023, WCB adopted an order continuing the pause of the scheduled increase in the mobile broadband data capacity minimum service standard.⁵⁸⁰ These actions ensure that mobile data Lifeline subscribers have access to plans that are sufficiently robust without being forced to pay for expensive and excessive capacity.⁵⁸¹ Collectively, these actions reflect the Commission's commitment to ensuring that low-income consumers receive necessary support from the Lifeline program and that the support offered is adequate for changing consumer needs.⁵⁸²

192. *Supporting Survivors of Domestic Violence*. In July 2022, the Commission opened an inquiry to evaluate how the FCC's low-income programs might help survivors of domestic violence and other harmful abuse get access to connectivity services.⁵⁸³ Following passage of the Safe Connections Act of 2022, the Commission adopted a Notice of Proposed Rulemaking relating to the legislation and, later, in November 2023, the *Safe Connections Report and Order*.⁵⁸⁴ The rules adopted in the *Safe Connections Report and Order*, among other things, implement the requirement that mobile service providers separate the line of a survivor of domestic violence (and other related crimes and abuse), and any individuals in the care of the survivor, from a mobile service contract shared with an abuser within two business days after receiving a request from the survivor.⁵⁸⁵ The rules largely track the statutory language, with key additions and clarifications to address privacy, account security, fraud detection, and operational or technical infeasibility.⁵⁸⁶ Among other things, the Commission established requirements

⁵⁷⁹ *ACP Wind-Down Order*, DA 24-23, at 8, para. 20.

⁵⁸⁰ *Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42, Order, DA 23-589 (WCB July 7, 2023).

⁵⁸¹ *Id.* at 4-5, paras. 12, 15.

⁵⁸² In addition, the Commission took action in response to catastrophic weather events to temporarily waive certain deadlines and rules for Lifeline participants in affected areas to ensure access to vital services. *See, e.g., Affordable Connectivity Program et al.*, WC Docket No. 21-450 et al., Order, DA 23-805 (WCB Sept. 1, 2023); *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6 et al., Order, 37 FCC Rcd 11310 (WCB 2022); *Schools and Libraries Universal Support Mechanism*, CC Docket No. 02-6 et al., Order, 36 FCC Rcd 13405 (WCB 2021). Furthermore, the Commission continued its response to the COVID pandemic, extending previous waivers of certain Lifeline program rules, notably recertification and reverification rules, to minimize de-enrollment during this period of high reliance on remote connectivity. *See Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42, Order, 36 FCC Rcd 4448 (WCB 2021); *Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42, Order, 36 FCC Rcd 10079 (WCB 2021); *Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42, Order, 36 FCC Rcd 13855 (WCB 2021); *Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42, Order, 36 FCC Rcd 18225 (WCB 2021); *Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42, Order, 37 FCC Rcd 4086 (WCB 2022); *Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42, Order, 37 FCC Rcd 7615 (WCB 2022); *Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42, Order, 37 FCC Rcd 11223 (WCB 2022);); *Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42, Order, 38 FCC Rcd 1001 (WCB 2023).

⁵⁸³ *Lifeline and Link Up Reform and Modernization et al.*, WC Docket No. 11-42, Notice of Inquiry, 37 FCC Rcd 8964 (2022).

⁵⁸⁴ *Supporting Survivors of Domestic and Sexual Violence et al.*, WC Docket Nos. 22-238 et al., Notice of Proposed Rulemaking, 38 FCC Rcd 1768 (2023); *Supporting Survivors of Domestic and Sexual Violence et al.*, WC Docket Nos. 22-238 et al., Report and Order, FCC 23-96 (Nov. 16, 2023) (*Safe Connections Act Report and Order*).

⁵⁸⁵ Safe Connections Act of 2022, Pub. L. No. 117-223, 116 Stat. 2280, § 4 (adding section 345 to the Communications Act, 47 U.S.C. § 345).

⁵⁸⁶ *Safe Connections Act Report and Order*, FCC 23-96, at 4-59, paras. 6-104.

regarding the information that survivors must submit to request a line separation and the options providers must offer to survivors making a line separation request.⁵⁸⁷ The Commission also adopted requirements regarding communications with consumers and survivors and restrictions on various practices in connection with line separation requests.⁵⁸⁸ In addition, the Commission required covered providers to train employees who may interact with survivors on how to assist them or direct them to other employees who have received such training.⁵⁸⁹ The Commission also delineated the financial responsibilities for monthly service costs and mobile device following a line separation, and established a compliance date of July 14, 2024, six months after the effective date of the *Report and Order*.⁵⁹⁰ Further, the Commission designated the Lifeline program to support emergency communications service for survivors that have pursued the line separation process and are suffering a financial hardship.⁵⁹¹ The Commission directed USAC to develop processes to allow survivors experiencing financial hardship to apply for and enroll in the Lifeline program, and to transition survivors from emergency communications support at the end of the six-month emergency support period mandated by the Safe Connections Act.⁵⁹²

193. *SIM Swap Fraud.* In a *Report and Order* released November 16, 2023, the Commission adopted rules aimed at foreclosing the opportunistic ways in which bad actors take over customers' cell phone accounts.⁵⁹³ Specifically, the Commission revised its Customer Proprietary Network Information (CPNI) and Local Number Portability (LNP) rules to require wireless providers to adopt secure methods of authenticating a customer before redirecting a customer's phone number to a new device or provider.⁵⁹⁴ These rule revisions also require wireless providers to immediately notify customers whenever a SIM change or port-out request is made on customers' accounts, and take additional steps to protect customers from SIM swap and port-out fraud.⁵⁹⁵ In the accompanying Further Notice of Proposed Rulemaking, the Commission sought comment on whether to harmonize the existing requirements governing customer access to CPNI with the newly-adopted SIM change authentication and protection measures. The Commission also sought comment on what steps the Commission can take to harmonize government efforts to address SIM swap and port-out fraud.⁵⁹⁶

194. *Broadband Consumer Labels.* Consumer access to clear, easy-to-understand, and accurate information is central to a well-functioning marketplace that encourages competition, innovation, low prices, and high-quality services. Such access empowers consumers to choose services that best meet their needs and budgets and helps to ensure that consumers are not surprised by charges or service quality

⁵⁸⁷ *Id.* at 13-20, paras. 26-36.

⁵⁸⁸ *Id.* at 20-24, paras. 37-44.

⁵⁸⁹ *Id.* at 45-46, para. 79.

⁵⁹⁰ *Id.* at 50-53, paras. 89-95 and 102-104.

⁵⁹¹ *Id.* at 56-59, paras. 150-66.

⁵⁹² *Id.* at 85-88, paras. 167-73. In addition to these provisions, the Commission also considered matters relating to protecting the privacy of calls and text messages to domestic violence hotlines. In the *Safe Connections Report and Order*, the Commission required covered providers and wireline, fixed wireless, and fixed satellite providers of voice service to: (1) omit from consumer-facing logs of calls and text messages any records of calls or text messages to covered hotlines in the central database established by the Commission; and (2) maintain internal records of calls and text messages excluded from consumer-facing logs of calls and text messages. *Id.* at 59-76, paras. 105-49. Providers were generally given 12 months to comply with these requirements, except that small service providers were given 18 months. *Id.* at 70-74, paras. 137-44.

⁵⁹³ *Protecting Consumers from SIM Swap and Port-Out Fraud*, WC Docket No. 21-341, Report and Order and Further Notice of Proposed Rulemaking, FCC 23-95 (Nov. 16, 2023).

⁵⁹⁴ *Id.* at 2, para. 2.

⁵⁹⁵ *Id.*

⁵⁹⁶ *Id.* at 55-59, paras. 98-108.

that falls short of their expectations. In November 2022, as directed by the Infrastructure Act,⁵⁹⁷ the Commission adopted a Report and Order that requires ISPs to display certain information at the point of sale.⁵⁹⁸ Specifically, ISPs must display at the point of sale a label that discloses certain information about broadband prices, introductory rates, data allowances, and broadband speeds, and to include links to information about their network management practices, privacy policies, and the Commission's ACP.⁵⁹⁹ The Commission also adopted requirements for label format and display location to ensure that consumers can easily compare a provider's services and services among different providers.⁶⁰⁰ Modeled on labels the Commission approved for voluntary display several years ago, the Commission concluded that the label contains the key information consumers need to make smart choices without overwhelming them with information or unnecessarily burdening providers.⁶⁰¹ In an accompanying Further Notice of Proposed Rulemaking, the Commission sought comment on further steps it could take to ensure that consumers have the information they need to make informed broadband service purchasing decisions such as more comprehensive pricing information, bundled plans, label accessibility, performance characteristics, service reliability, cybersecurity, network management and privacy issues, the availability of labels in multiple languages, and whether the labels should be interactive or otherwise formatted differently so the information contained in them is clearer and conveyed more effectively.⁶⁰²

195. *Preventing Digital Discrimination.* One of the Commission's foremost goals is to ensure that every person in the United States has equal access to high-quality, affordable broadband Internet access service.⁶⁰³ Among many steps towards achieving that goal, in February 2022 Chairwoman Rosenworcel established the cross-agency Task Force to Prevent Digital Discrimination.⁶⁰⁴ On March 17, 2022, the Commission commenced a proceeding "to ensure that all people of the United States benefit from equal access to broadband internet access service," with the intention of preventing and identifying steps the Commission should take to eliminate "digital discrimination of access based on income level, race, ethnicity, color, religion, or national origin," pursuant to Congress's directive in section 60506 of the Infrastructure Act.⁶⁰⁵ Following a Notice of Inquiry and a later Notice of Proposed Rulemaking, the Commission adopted a Report and Order in November 2023 establishing a framework to facilitate equal access to broadband Internet access service as directed by Congress⁶⁰⁶ In the Report and Order, the Commission adopted a definition of "digital discrimination of access," as that term is used in section 60506 of the Infrastructure Act, that encompasses both intentionally discriminatory conduct as well as

⁵⁹⁷ Infrastructure Act, Pub. L. No. 117-58, § 60504(a), 135 Stat. at 1244.

⁵⁹⁸ *Empowering Broadband Consumers Through Transparency*, CG Docket No. 22-2, Report and Order and Further Notice of Proposed Rulemaking, 37 FCC Rcd 13686 (2022).

⁵⁹⁹ *Id.* at 13689-706, paras. 12-63. Due to the depletion of funding the Commission will no longer require ISPs to display information about the ACP. *ACP Final Month Public Notice*, 24-195, at 5.

⁶⁰⁰ *Id.* at 13706-18, paras. 64-99.

⁶⁰¹ *See id.* at 13689-706, paras. 12-63.

⁶⁰² *Id.* at 13728-33, paras. 131-52.

⁶⁰³ *Implementing the Infrastructure Investment and Jobs Act: Prevention and Elimination of Digital Discrimination*, GN Docket No. 22-69, Notice of Inquiry, 37 FCC Rcd 4198, para. 1 (2022) (*Digital Discrimination NOI*).

⁶⁰⁴ FCC, Press Release, Chairwoman Rosenworcel Announces Cross-Agency Task Force to Prevent Digital Discrimination (Feb. 8, 2022), <https://docs.fcc.gov/public/attachments/DOC-380060A1.pdf>.

⁶⁰⁵ *Digital Discrimination NOI*, 37 FCC Rcd at 4198-99, para. 2 (quoting the Infrastructure Act, Pub. L. No. 117-58, § 60506(b)(1), 135 Stat. 429, 1246 (2021)). Section 60506 of the Infrastructure Act is codified at 47 U.S.C. § 1754, Digital Discrimination.

⁶⁰⁶ *Digital Discrimination NOI; Implementing the Infrastructure Investment and Jobs Act: Prevention and Elimination of Digital Discrimination*, GN Docket No. 22-69, Notice of Proposed Rulemaking, 37 FCC Rcd 15274 (2022) (*Preventing Digital Discrimination NPRM*); *Preventing Digital Discrimination Report and Order*.

conduct that produces discriminatory effects; adopted and identified the contours of a specific carve out from that definition for policies and practices that are justified by genuine issues of technical and economic feasibility; adopted rules that prohibit digital discrimination of access as so defined; amended the Commission's enforcement rules so they specifically encompass investigations regarding digital discrimination of access; revised the Commission's informal consumer complaint process to, among other changes, provide a designated pathway for accepting complaints of digital discrimination of access; and adopted model policies and best practices for states, local and Tribal governments to support their efforts in preventing digital discrimination of access.⁶⁰⁷ In an accompanying Further Notice of Proposed Rulemaking, the Commission proposed that each ISP be required to submit annually a publicly available supplement to the BDC that describes, on a state-by-state or territory-by-territory basis, all major deployment, upgrade, and maintenance projects completed or substantially completed in the preceding calendar year; and proposed that each provider be required to establish and maintain a mandatory internal compliance program to ensure that the provider regularly assesses whether and how its policies and practices advance or impede equal access to broadband Internet service in its service areas.⁶⁰⁸ The Commission sought comment on these proposed measures as well as the merits of establishing an Office of Civil Rights within the Commission and the responsibilities that such an office might be assigned.⁶⁰⁹

196. *Open Internet.* On October 20, 2023, the Commission adopted a *Notice of Proposed Rulemaking* proposing to reestablish the Commission's authority over broadband Internet access service by classifying it as a telecommunications service under Title II of the Communications Act and providing the Commission with the authority necessary to safeguard the open Internet, advance national security, and protect public safety.⁶¹⁰ In that Notice of Proposed Rulemaking, the Commission tentatively concluded that reclassifying BIAS as a telecommunications service will help support the Commission's goals to facilitate broadband deployment, including by granting section 224 pole attachment rights to broadband-only providers.⁶¹¹ The NPRM also proposes to reestablish conduct rules for Internet service providers that would provide a national approach for safeguarding Internet openness, which ensures that consumers can obtain and use the content, applications and devices they want.⁶¹² The Commission's proposals to safeguard and secure the open Internet build on several other actions the Commission has taken since the onset of the COVID-19 pandemic to ensure that the public has access to broadband.⁶¹³

⁶⁰⁷ *Preventing Digital Discrimination Report and Order*, FCC 23-100, at 15-89, paras. 27-178.

⁶⁰⁸ *Id.* at 89-99, paras. 179-214.

⁶⁰⁹ *Id.* at 99, para. 215.

⁶¹⁰ *2023 Open Internet NPRM*.

⁶¹¹ *Id.* at 3, 13-15, paras. 4, 21-24. In 2015, the Commission noted that access to pole and conduit directly enables new entrants to deploy broadband facilities. *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601, 5617, para. 56 (2015).

⁶¹² *2023 Open Internet NPRM*, FCC 23-83, 3, 13-15, paras. 4, 21-24.

⁶¹³ See, e.g., *Affordable Connectivity Program Emergency; Broadband Benefit Program*, WC Docket Nos. 21-450 and 20-445, Report and Order and Further Notice of Proposed Rulemaking, 37 FCC Rcd 484 (2022) (taking steps to ensure broadband connections were affordable through the Emergency Broadband Benefit Program and successor Affordable Connectivity Program, as directed by Congress); *Establishing Emergency Connectivity Fund to Close the Homework Gap*, Report and Order, 36 FCC Rcd 8696 (2021) (extending the benefits of broadband connections available to schools and libraries to students and patrons who needed connections at home through the Emergency Connectivity Fund); *Promoting Telehealth for Low-Income Consumers; COVID-19 Telehealth Program*, WC Docket Nos. 18-213 and 20-89, Report and Order, 35 FCC Rcd 3366 (2020) (*COVID-19 Telehealth Program Order*) (establishing the COVID-19 Telehealth Program to help health care providers provide connected care services to patients at their homes or mobile locations in response to the pandemic); *Improving Competitive Broadband Access to Multiple Tenant Environments*, WC Docket No. 17-142, Report and Order and Declaratory Ruling, 37 FCC Rcd 2448 (2022) (taking steps to ensure that consumers in multi-tenant environments can obtain

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E. Providing High Cost Universal Service Support

197. *Rural Digital Opportunity Fund*. The Rural Digital Opportunity Fund (RDOF) auction, a program aimed at expanding broadband in unserved rural areas, concluded on November 25, 2020.⁶¹⁴ The Commission started authorizing funding for winning bidders with approved long-form applications on September 15, 2021, and more than \$6.062 billion in RDOF auction support was authorized to be distributed for more than 3,458,000 estimated locations nationwide. RDOF is a 10-year support program, with support distributed in 120 monthly disbursements.⁶¹⁵ Authorized RDOF auction winners have committed to providing 1 Gbps/500 Mbps service to roughly 98% of locations being funded.⁶¹⁶

198. *Connect America Fund Phase II Auction*. In 2018, the Connect America Fund Phase II auction awarded \$1.488 billion over 10 years to 103 winning bidders to serve more than 713,000 rural homes and businesses.⁶¹⁷ The Commission began authorizing Phase II Auction funding in May 2019,⁶¹⁸ authorizing a total of 17 waves of support which concluded on November 17, 2022.⁶¹⁹ The Commission authorized a total of nearly \$1.5 billion in Phase II auction funding, which is expanding connectivity to over 708,000 homes and small businesses nationwide.⁶²⁰

199. *Bringing Puerto Rico Together and Connect USVI Funds*. In June 2021, the Commission authorized funding for the winning proposals from the Stage 2 of the Bringing Puerto Rico Together Fund and Connect USVI Fund competitive proposal processes—\$127.1 million and \$84.5 million, respectively.⁶²¹ This funding will provide support over a 10-year period for deployment of fixed voice

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broadband service offerings from competing providers); *Preventing Digital Discrimination NPRM* (exploring how to address digital discrimination to ensure every person has equal access to critical broadband connections).

⁶¹⁴ *Rural Digital Opportunity Fund Phase I Auction (Auction 904) Closes*, AU Docket No. 20-34, WC Docket Nos. 19-126 and 10-90, Public Notice, 35 FCC Rcd 13888, para. 1 (OEA/WCB 2020) (*Auction 904 Closing Public Notice*).

⁶¹⁵ *Rural Digital Opportunity Fund Support Authorized for 466 Winning Bids*, AU Docket No. 20-34, WC Docket Nos. 19-126 and 10-90, Public Notice, 36 FCC Rcd 13574 (OEA/WCB 2021); FCC, Auction 904: *Rural Digital Opportunity Fund*, <https://www.fcc.gov/auction/904/round-results> (Results Tab, “Authorized Auction 904 Long-Form Applicants (updated 1/13/2023)”) (last visited Jan. 3, 2024).

⁶¹⁶ See *id.*, Performance Tier and Latency tab.

⁶¹⁷ *Connect America Fund Phase II Auction Scheduled for July 24, 2018 Notice and Filing Requirements and Other Procedures for Auction 903*, AU Docket No. 17-182, WC Docket No. 10-90, Public Notice, 33 FCC Rcd 1428 (2018); *220 Applicants Qualified to Bid in the Connect America Fund Phase II Auction (Auction 903); Bidding to Begin on July 24, 2018*, AU Docket No. 17-182, WC Docket No. 10-90, Public Notice, 33 FCC Rcd 6171 (2018) (announcing the qualified bidders for the auction and confirming timing); *Connect America Fund Phase II Auction (Auction 903) Closes; Winning Bidders Announced*, AU Docket No. 17-182, WC Docket No. 10-90, Public Notice, 33 FCC Rcd 8257 (2018).

⁶¹⁸ Press Release, FCC, FCC Authorizes First Wave of Funding for Rural Broadband from Connect America Fund Auction (May 14, 2019), <https://docs.fcc.gov/public/attachments/DOC-357434A1.pdf>.

⁶¹⁹ *Connect America Fund Phase II Auction Support Authorized for 1 Winning Bid*, AU Docket No. 17-182, WC Docket No. 10-90, Public Notice (WCB Nov. 17, 2022); FCC, *Connect America Fund Phase II Auction (Auction 903)*, <https://www.fcc.gov/auction/903> (Data Tab, Authorized Auction 903 Long-Form Applicants (updated 4/4/2023)) (last visited Feb. 14, 2024).

⁶²⁰ *Id.*

⁶²¹ *Wireline Competition Bureau Authorizes Stage 2 Support for Puerto Rico Telephone Company and Liberty Communications of Puerto Rico*, WC Docket Nos. 18-143 and 10-90, Public Notice, 36 FCC Rcd 9914 (WCB, 2021) (*Bringing Puerto Rico Together Winning Applicant Announcement*); *Connect USVI Fund Stage 2 Support Authorized for Broadband VI*, WC Docket Nos. 18-143 and 10-90, Public Notice, 36 FCC Rcd 9405 (WCB 2021) (*USVI Fund Winning Applicant Announcement*).

and broadband services. Bringing Puerto Rico Together Stage 2 funding will support fixed deployment of service at a minimum speed of 100/20 Mbps, with service obligations at many funded locations of at least 1 Gbps/500 Mbps.⁶²² In the U.S. Virgin Islands, the Connect USVI Stage 2 support will result in fixed deployment of 1 Gbps/500 Mbps service to all funded locations.⁶²³ In July 2022, in consultation with WTB, WCB adopted a Declaratory Ruling clarifying that mobile high-cost Stage 2 funds may be used for deploying indoor distributed antenna systems (DAS) to public or publicly accessible facilities that aid disaster response where the market would not otherwise support DAS deployment.⁶²⁴

200. In April 2023, the Commission continued its efforts to bolster mobile and fixed voice and broadband services throughout Puerto Rico and the U.S. Virgin Islands. The Commission adopted an Order that provides transitional support for up to 24 months so that mobile carriers may continue to harden their networks while a long-term support mechanism is being considered for the territories,⁶²⁵

⁶²² See *Bringing Puerto Rico Together Winning Applicant Announcement*, 36 FCC Rcd at 9914, para. 1 (identifying Puerto Rico Telephone Co., Inc. (PRTC) and Liberty Communications of Puerto Rico (Liberty) as the winning applicants); PRTC Uniendo a Puerto Rico Fund Stage 2 Fixed Support Application Form, WC Docket Nos. 18-143 and 10-90, Initial Overview at 1 (filed June 22, 2021) (*PRTC Network Description*); Liberty Uniendo a Puerto Rico Fund Stage 2 Fixed Support Application Form, WC Docket Nos. 18-143 and 10-90, Initial Overview at 4 (filed June 22, 2021) (*Liberty Network Description*). We refer to the *Bringing Puerto Rico Together Winning Applicant Announcement*, *PRTC Network Description*, and *Liberty Network Description* together as the *Bringing Puerto Rico Together Broadband Speed Requirements*.

⁶²³ See *USVI Fund Winning Applicant Announcement*, 36 FCC Rcd at 9405, para. 1 (identifying Broadband VI as the winning applicant); Broadband VI Uniendo a Puerto Rico Fund Connect USVI Fund Stage 2 Fixed Support Application Form, WC Dockets Nos. 18-143 and WC 10-90, Initial Overview at 1 (filed June 11, 2021) (together with the *USVI Fund Winning Applicant Announcement*, the *USVI Fund Broadband Speed Requirements*). In June 2020, the Commission similarly authorized a total of \$258.8 million in funding to wireless carriers participating in Stage 2 of the Bringing Puerto Rico Together Fund and the Connect USVI Fund to facilitate the restoration, hardening, and expansion of mobile networks capable of providing 4G LTE and 5G-NR services over a three-year term. *Wireline Competition Bureau Authorizes Stage 2 Mobile Support for Certain Providers Participating in the Uniendo a Puerto Rico Fund and the Connect USVI Fund*, WC Docket Nos. 18-143 and 10-90, Public Notice, 35 FCC Rcd 6321, 6324, Attach. A (WCB 2020) (authorizing support for AT&T Mobility, PRTC, and T-Mobile in Puerto Rico, and AT&T Mobility in the U.S. Virgin Islands); *Wireline Competition Bureau Authorizes Stage 2 Mobile Support for T-Mobile in Puerto Rico*, WC Docket Nos. 18-143 and 10-90, Public Notice, 35 FCC Rcd 10303, 10305, Attach. A (WCB 2020) (authorizing additional mobile support in September 2020 for T-Mobile based on its acquisition of PR Wireless, LLC); *Wireline Competition Bureau Authorizes Stage 2 Mobile Support for Viya in the U.S. Virgin Islands*, WC Docket Nos. 18-143 and 10-90, Public Notice, 35 FCC Rcd 11555, 11557, Attach. A (WCB 2020) (authorizing support to Virgin Islands Telephone Corp. d/b/a Viya). Carriers must restore network coverage in the territories to at least pre-hurricane levels by the conclusion of the support period, providing outdoor transmission rates of at least 10 Mbps download and 1 Mbps upload speeds for 4G LTE and 35/3 Mbps for 5G-NR service. 47 CFR §§ 54.1509(c), 54.1514(b)(1). On October 28, 2022, in light of damage caused by hurricanes in the fall of 2022, the Commission released a Further Notice of Proposed Rulemaking proposing to extend by 24 months (until December 2025) the phase-down of frozen support for incumbent fixed providers in Puerto Rico and the U.S. Virgin Islands for the areas in which they were not awarded long-term support for broadband services, as well as the end of mobile support in Puerto Rico and the U.S. Virgin Islands. *The Uniendo a Puerto Rico Fund and the Connect USVI Fund; Connect America Fund*, WC Docket Nos. 18-143 and 10-90, Further Notice of Proposed Rulemaking, 37 FCC Rcd 13411 (2022).

⁶²⁴ *Uniendo a Puerto Rico Fund and the Connect USVI Fund; Connect America Fund*, WC Docket Nos. 18-143 and 10-90, Declaratory Ruling, 37 FCC Rcd 7779, 7781 & n. 12 (WCB 2022); see also Petition of T-Mobile USA, Inc. for Declaratory Ruling, WC Docket No. 18-143, at 1, 7 (filed Apr. 7, 2022) (seeking to have the Commission declare that Stage 2 funds could be used for DAS, which would provide mobile services solely within buildings).

⁶²⁵ *The Uniendo a Puerto Rico Fund and the Connect USVI Fund et al.*, WC Docket No. 18-143 et al., Report and Order and Order on Review, FCC 23-32, at 6-11, paras. 15-32 (Apr. 2023) (*PR-USVI Transitional Support Order*) (providing 50% of a carrier's Stage 2 monthly support amount during the first 12 months and 25% of the Stage 2 monthly support amount for months 13-24).

which may include transitioning the Territories to the Commission's 5G Fund.⁶²⁶ The Commission also extended the duration of phase-down frozen support until December 31, 2025, to allow incumbent fixed providers to continue hardening their networks and ensure continuous service as new, storm-hardened networks are deployed from Stage 2 of the Bringing Puerto Rico Together and the Connect USVI Funds.⁶²⁷

201. *Rural Broadband Accountability Plan.* The Rural Broadband Accountability Plan (RBAP) is an effort to monitor and ensure compliance for universal service high-cost programs, including the Rural Digital Opportunity Fund and Connect America Fund Phase II Auction.⁶²⁸ RBAP makes several changes and enhancements to existing audit and verification procedures, including significantly increasing the number of audits and verifications initiating verifications earlier in the deployment process, and conducting on-site engineering audits.⁶²⁹ The largest dollar recipients will be subject to an on-site audit in at least one state, and higher-risk recipients will be subject to additional audits and verifications.⁶³⁰ Results of verifications, audits, and speed and latency performance testing are publicly available.⁶³¹ The Commission established the RBAP as part of an ongoing effort to increase accountability and to build upon existing audit and verification processes performed by USAC.⁶³²

202. *Administrative Improvements to High-Cost Programs.* In October 2023, the Commission made certain administrative modifications to, and clarifications of, Commission rules to improve the administration of the high-cost program, including the reduction in duplicative filing requirements and the elimination of unnecessary optional filings, the modification of certain reporting deadlines, grace periods and associated support reductions to align the requirements more closely with the high-cost program, and the expansion of certain reporting requirements as necessary to improve Commission oversight.⁶³³ These changes do not alter providers' existing obligations.⁶³⁴

203. *Enhanced Alternative Connect America Cost Model Support.* In July 2023, the Commission adopted the Enhanced Alternative Connect America Cost Model (A-CAM) program as a voluntary path for supporting the widespread deployment of 100/20 Mbps broadband service throughout the rural areas served by carriers currently receiving A-CAM support and in areas served by legacy rate-of-return support recipients.⁶³⁵ In adopting this program, the Commission furthered the Commission's long-standing goals by promoting the universal availability of voice and broadband networks, while also

⁶²⁶ *Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, Further Notice of Proposed Rulemaking, FCC 23-74, at 17-20, paras. 24-32 (Sept. 22, 2023).

⁶²⁷ *PR-USVI Transitional Support Order*, FCC 23-32, at 13-18, paras. 37-50.

⁶²⁸ FCC, *Rural Broadband Accountability Plan*, <https://www.fcc.gov/rbap> (last visited Feb. 14, 2024).

⁶²⁹ FCC, *FACT SHEET: Rural Broadband Accountability Plan*, <https://docs.fcc.gov/public/attachments/DOC-379729A1.pdf> (last visited Feb. 14, 2024).

⁶³⁰ *Id.*

⁶³¹ *Id.*

⁶³² *Id.*

⁶³³ *Connect America Fund – Alaska Plan et al.*, WC Docket No. 16-271 et al., Notice of Proposed Rulemaking and Report and Order, FCC 23-87, at 62-85, paras. 131-185 (Oct. 19, 2023).

⁶³⁴ As a response to catastrophic weather events, the Commission temporarily waived certain deadlines and rules for service provider high-cost USF program recipients, as well as service provider contributors, in affected areas. *See, e.g., Affordable Connectivity Program et al.*, WC Docket No. 21-450 et al., Order, DA 23-805 (WCB Sept. 1, 2023); *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6 et al., Order, 37 FCC Rcd 11310 (WCB 2022); *Schools and Libraries Universal Support Mechanism*, CC Docket No. 02-6 et al., Order, 36 FCC Rcd 13405 (WCB 2021).

⁶³⁵ *Connect America Fund, et al.*, WC Docket No. 10-90 et al., Report and Order, Notice of Proposed Rulemaking, and Notice of Inquiry, FCC 23-60, at paras. 37-114 (July 24, 2023) (*Enhanced A-CAM Order*).

taking measures to minimize the burden on the nation's ratepayers.⁶³⁶ The Commission also adopted requirements for the Enhanced A-CAM program to complement existing federal, state, and local funding programs, so that broadband funding can be used efficiently to maximize the deployment of high-quality broadband service across the United States.⁶³⁷ On August 30, 2023, WCB announced carrier-specific offers of Enhanced A-CAM support based on a revised version of the A-CAM to existing A-CAM carriers and carriers that are still receiving legacy support to fund the deployment of voice and broadband-capable networks in their service territories.⁶³⁸ On October 30, 2023, WCB announced that 368 rate-of-return companies had elected such offers, representing commitments to deploy at least 100/20 Mbps service to over 700,000 unserved locations and maintain or improve existing 100/20 Mbps service to approximately 2 million locations.⁶³⁹

204. *Legacy Rate-of-Return High-Cost Funding.* In a July 2023 Notice of Proposed Rulemaking, the Commission sought comment on how to address the immediate needs of legacy rate-of-return support mechanisms, while balancing the Commission's objectives of maintaining its commitment to supporting broadband at evolving levels of service and also avoiding unnecessary duplication of support in light of other available funding programs.⁶⁴⁰ The Commission released an order in December 2023 deferring the commencement of the next five-year deployment obligation term for legacy rate-of-return carriers receiving CAF Broadband Loop Support (BLS) in 2024 until January 1, 2025, while the Commission considers general program reforms in the ongoing Notice of Proposed Rulemaking proceeding.⁶⁴¹ Legacy carriers will remain subject to the Commission's rules, requiring the offering of broadband service at actual speeds of at least 25/3 Mbps to the previously determined number of unserved locations under the current five-year term that ends on December 31, 2023.⁶⁴² Additionally, on May 23, 2023, the Commission temporarily waived the application of the budget control mechanism for rate-of-return carriers that receive high-cost universal service support from legacy mechanisms.⁶⁴³ Instead, the Commission adopted a budget constraint of 0%, that is, a full waiver of the budget constraint, for the July 2023 to June 2024 tariff year.⁶⁴⁴ Absent a waiver, the projected budget control factor would exceed 18%, resulting in a substantial reduction in support for most legacy rate-of-return carriers at a time when they continue to face cash flow issues and increased expenses as they emerge from the pandemic.⁶⁴⁵

205. In July 2023, the Commission released a Notice of Inquiry seeking to build a record to help it explore methods for new USF high-cost support mechanism(s) to promote affordable and available broadband services in the years to come for fully deployed networks.⁶⁴⁶

⁶³⁶ *Id.*

⁶³⁷ *Id.*

⁶³⁸ *Wireline Competition Bureau Announces Enhanced Alternative Connect America Cost Model Support Amounts Offered to Rate-Of-Return Carriers to Expand Rural Broadband*, WC Docket No. 10-90, Public Notice, DA 23-779 (WCB Aug. 30, 2023).

⁶³⁹ *Wireline Competition Bureau Authorizes 368 Companies in 44 States to Receive Enhanced Alternative Connect America Cost Model Support to Expand Rural Broadband*, WC Docket No. 10-90, Public Notice, DA 23-1025 (WCB Oct. 30, 2023).

⁶⁴⁰ *Enhanced A-CAM Order*, FCC 23-60, at paras. 115-53.

⁶⁴¹ *Connect America Fund: A National Broadband Plan for our Future High-Cost Universal Service Support*, Second Report and Order, WC Docket No. 10-90, FCC 23-118 (Dec. 27, 2023).

⁶⁴² *Id.* at 3-4, para. 8.

⁶⁴³ *Connect America Fund*, WC Docket No. 10-90, Order, FCC 23-40, at 1, para. 1 (May 23, 2023).

⁶⁴⁴ *Id.*

⁶⁴⁵ *Id.* at 3, para. 8.

⁶⁴⁶ *Enhanced A-CAM Order*, FCC 23-60, at paras. 154-83.

206. *Alaska Plan*. The Commission has also continued its work to ensure that fixed and mobile providers meet their commitments to serve remote Alaska in exchange for receiving high-cost support under the Alaska Plan. Due to the unique challenges of providing communications services in remote Alaska, the Commission adopted the *Alaska Plan Report and Order* in 2016, as a ten-year plan to ensure eligible remote areas were able to receive advanced communications services.⁶⁴⁷ This order required fixed and mobile service provider participants to submit performance plans committing to cover a specific number of Alaskans by specified last-mile technology subject to the middle-mile technology available.⁶⁴⁸ The *Alaska Plan Report and Order* also required each service provider participant to certify that it met the obligations contained in its performance plan by the end of year five (ending December 31, 2021) and the end of year ten (ending December 31, 2026).⁶⁴⁹

207. *Alaska Connect Fund*. On October 19, 2023, the Commission adopted a Notice of Proposed Rulemaking and Report and Order addressing continued high-cost Universal Service support for Alaska.⁶⁵⁰ Through the Notice of Proposed Rulemaking, the Commission sought comment on how to determine the most effective and efficient future use of universal service funding for fixed and mobile service in Alaska, including the development, scope, and implementation of an Alaska Connect Fund (the next phase of the Alaska Plan)⁶⁵¹ to provide future support to fixed and mobile carriers in the provision of voice and broadband services in high-cost areas of Alaska.⁶⁵² This includes seeking comment on what changes the Commission should make to the performance plan requirements in light of the BDC specifications and reporting requirements superseding the previous FCC Form 477 reporting requirements nationwide as well as other federal programs supporting broadband deployment.⁶⁵³

208. *5G Fund for Rural America*. With new mobile coverage data acquired through the BDC and reflected in the National Broadband Map, the Commission continues to work towards the implementation of the 5G Fund for Rural America to ensure the deployment of high-speed, 5G mobile services in parts of the country where, without subsidies, it would continue to be lacking.⁶⁵⁴ In September 2023, the Commission released a narrowly tailored Further Notice of Proposed Rulemaking to seek comment on a limited set of issues critical to the success of the 5G Fund.⁶⁵⁵

209. *Other Federal Programs*. As discussed in a variety of contexts in this Report, the Commission's efforts to provide high-cost USF support for broadband deployment are part of, and conducted in concert (and coordination) with, a variety of other federal programs that provide financial

⁶⁴⁷ *Connect America Fund et al.*, WC Docket No. 16-271, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 10139, 10140, para. 1 (2016) (*Alaska Plan Report and Order and Further Notice*).

⁶⁴⁸ *Alaska Plan Report and Order and Further Notice*, 31 FCC Rcd at 10166, 10172-73, paras. 85, 102.

⁶⁴⁹ *Id.* at 10166-67, 10173, paras. 85, 103; *see also* 47 CFR § 54.321; *Connect America Fund—Alaska Plan*, WC Docket No. 16-271, Order and Request for Comment, 37 FCC Rcd 5882, 5884, 6, paras. 4, 9 (WTB 2022).

⁶⁵⁰ *Connect America Fund—Alaska Plan et al.*, WC Docket Nos. 16-271, 23-328 et al., Notice of Proposed Rulemaking and Report and Order, FCC 23-87 (Oct. 19, 2023).

⁶⁵¹ All references to the next phase or version of the Alaska Plan in the Notice of Proposed Rulemaking and Report and Order are references to Alaska Connect Fund or ACF. *Connect America Fund—Alaska Plan et al.*, WC Docket Nos. 16-271, 23-328 et al., Notice of Proposed Rulemaking and Report and Order, FCC 23-87, at 2, para. 1 n.1 (Oct. 19, 2023).

⁶⁵² *Connect America Fund—Alaska Plan et al.*, WC Docket Nos. 16-271, 23-328 et al., Notice of Proposed Rulemaking and Report and Order, FCC 23-87, at 31-60, paras. 63-127 (Oct. 19, 2023).

⁶⁵³ *Id.* at 52, para. 109 (Oct. 19, 2023).

⁶⁵⁴ *See generally 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*).

⁶⁵⁵ *5G Fund FNPRM*, FCC 23-74 at 1-2, para. 1.

support for broadband deployment. The largest of these programs is NTIA's BEAD Program, for which Congress allocated \$42.45 billion in the Infrastructure Act to states for grants "to bridge the digital divide."⁶⁵⁶ NTIA approved the first state proposal to access BEAD funds near the end of last year.⁶⁵⁷ Once deployment goals are met, any remaining funding can be used on high-speed Internet adoption, training, and workforce development efforts, among other eligible uses.⁶⁵⁸ NTIA also administers the \$1 billion Enabling Middle Mile Broadband Infrastructure Program, also created by the Infrastructure Act, which funds middle mile infrastructure used to connect local, regional, and national networks, as well as anchor institutions such as schools, libraries, medical and healthcare providers, and various institutions of higher education.⁶⁵⁹ Further, NTIA administers the Tribal Broadband Connectivity Program, a program used for broadband deployment on tribal lands, as well as for telehealth, distance learning, broadband affordability, and digital inclusion recently funded through \$1 billion and \$2 billion appropriations in the Consolidated Appropriations Act, 2021, and Infrastructure Act, respectively.⁶⁶⁰

210. In addition to programs administered by NTIA, the U.S. Department of Treasury administers billion broadband infrastructure funding program,⁶⁶¹ which requires recipients to invest in projects designed to provide service to households and businesses with an identified need for additional broadband investment, including increasing access to high-speed broadband, increasing the affordability of broadband services, and improving the reliability of broadband service.⁶⁶² In addition to its historic grant and loan programs,⁶⁶³ the RUS administers the ReConnect Program, reauthorized by the Infrastructure Act,⁶⁶⁴ which provides loans, grants, and loan-grant combinations to bring high-speed internet to rural areas that lack sufficient access to broadband. ReConnect Program funds can be used to

⁶⁵⁶ Infrastructure Act, div. F, tit. I, § 60102(b)(1), 135 Stat. at 1184. On June 26, 2023, the BEAD Program allocations for all 50 states and the U.S. Territories were announced. National Telecommunications and Information Administration, U.S. Department of Commerce, *Biden-Harris Administration Announces State Allocations for \$42.45 Billion High-Speed Internet Grant Program as Part of Investing in America Agenda* (June 26, 2023), <https://www.ntia.gov/press-release/2023/biden-harris-administration-announces-state-allocations-4245-billion-high-speed>.

⁶⁵⁷ National Telecommunications and Information Administration, U.S. Department of Commerce, *Biden-Harris Administration Approves Louisiana's "Internet for All" Initial Proposal* (Dec. 15, 2023), <https://www.ntia.gov/press-release/2023/biden-harris-administration-approves-louisiana-s-internet-all-initial-proposal>.

⁶⁵⁸ *Id.*

⁶⁵⁹ See Infrastructure Act, div. F, tit. I, § 60401. For award routes and project information, see National Telecommunications and Information Administration, U.S. Department of Commerce, *Funding Recipients*, <https://broadbandusa.ntia.doc.gov/funding-programs/enabling-middle-mile-broadband-infrastructure-program/funding-recipients> (last visited Feb. 14, 2024).

⁶⁶⁰ See National Telecommunications and Information Administration, U.S. Department of Commerce, *Tribal Broadband Connectivity Program*, <https://broadbandusa.ntia.doc.gov/funding-programs/tribal-broadband-connectivity> (last visited Feb. 14, 2024); Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, div. N, tit. IX, § 905, 134 Stat. 1182, 2130, 2136; Infrastructure Act, div. F, tit. II, § 60201, 135 Stat. at 1208-09.

⁶⁶¹ See ARPA, tit. IX, § 9901(c)(1)(D) (codified at 42 U.S.C. § 802(c)(1)(D)), 135 Stat. at 226; 42 U.S.C. § 804(e) (funding level).

⁶⁶² See Coronavirus State and Local Fiscal Recovery Funds, Final Rule, 87 Fed. Reg. 4338, 4443 (Jan. 22, 2022), available at <https://www.govinfo.gov/content/pkg/FR-2022-01-27/pdf/2022-00292.pdf>.

⁶⁶³ See USDA, Rural Development, *Telecom Programs*, <https://www.rd.usda.gov/programs-services/telecommunications-programs> (last visited Feb. 14, 2024).

⁶⁶⁴ Infrastructure Act, div. J, tit. I, 135 Stat. at 1351.

fund the costs of construction, improvement, or acquisition of facilities and equipment needed to provide broadband service.⁶⁶⁵

F. Facilitating Access For Schools, Libraries, and Health Care

211. *E-Rate*. For over two decades, schools and libraries have relied on the Commission's E-Rate program to secure affordable telecommunications and broadband services to provide connectivity for schools and libraries.⁶⁶⁶ At the same time, the Commission has been mindful of the need to protect limited E-Rate funds by requiring them to be used for eligible services and equipment provided to eligible entities, for eligible purposes, and in accordance with program rules.⁶⁶⁷ On December 16, 2021, the Commission proposed changes to the E-Rate program targeted at several goals: streamlining program requirements for applicants and service providers, strengthening program integrity, preventing improper payments, and decreasing the risk of fraud, waste, and abuse.⁶⁶⁸ Specifically, the Commission sought comment on a proposal to implement a central document repository through which service providers would be required to submit bids to the E-Rate program administrator, USAC, instead of directly to applicants.⁶⁶⁹

212. For far too long, Tribal libraries have been unable to participate fully in the E-Rate program.⁶⁷⁰ This situation has exacerbated enduring inequities, as Tribal libraries often serve as a critical source of Internet access in underserved areas across the nation.⁶⁷¹ In 2018, Congress acted to address this gap through passage of the Museum and Library Services Act of 2018, which amended the Library Services and Construction Act to explicitly include Tribal libraries in the definition of libraries.⁶⁷² Consistent with this legislation, on January 28, 2022, the Commission modified the definition of "library" in its E-Rate program rules to include Tribal libraries and clarify Tribal libraries are eligible to participate in the E-Rate program.⁶⁷³ The Commission also waived the E-Rate FCC Form 471 application filing deadline for new Tribal libraries applying for E-Rate support in funding year 2022 recognizing that special circumstances warranted additional flexibility for these applicants to complete their competitive

⁶⁶⁵ USDA, Rural Development, *ReConnect Loan and Grant Program*, <https://www.usda.gov/reconnect> (last visited Feb. 14, 2024).

⁶⁶⁶ See e.g., *Promoting Fair and Open Competitive Bidding in the E-Rate Program*, WC Docket No. 21-455, Notice of Proposed Rulemaking, 36 FCC Rcd 17892, at 17892, para. 1 (2021). In addition, the Commission took action in response to catastrophic weather events to temporarily waive certain deadlines and rules for E-Rate participants in affected areas. See, e.g., *Affordable Connectivity Program et al.*, WC Docket No. 21-450 *et al.*, Order, DA 23-805 (WCB Sept. 1, 2023); *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6 *et al.*, Order, 37 FCC Rcd 11310 (WCB 2022); *Schools and Libraries Universal Support Mechanism*, CC Docket No. 02-6 *et al.*, Order, 36 FCC Rcd 13405 (WCB 2021). Furthermore, the Commission continued its response to the COVID pandemic by continuing the waiver of the E-Rate gift rule and allow service providers to offer, and E-Rate Program participants to solicit and accept, improved broadband connections or equipment for remote learning during the pandemic. *Rural Health Care Universal Service Support Mechanism; Schools and Libraries Universal Service Support Mechanism*, WC Docket No. 02-60, Order, 36 FCC Rcd 14349 (WCB 2021).

⁶⁶⁷ See, e.g., *Promoting Fair and Open Competitive Bidding in the E-Rate Program*, WC Docket No. 21-455, Notice of Proposed Rulemaking, 36 FCC Rcd 17892, 17892-93, para. 2.

⁶⁶⁸ *Id.* at 17893, para. 3.

⁶⁶⁹ *Id.* at 17897905, paras. 11-36.

⁶⁷⁰ *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, Report and Order, 37 FCC Rcd 1458, 1458, para. 1 (2022).

⁶⁷¹ *Id.* at 1458, para. 1.

⁶⁷² *Id.* at 1459-60, para. 5.

⁶⁷³ *Id.* at 1460-63, paras. 7-13.

bid processes and submit their applications.⁶⁷⁴ In furtherance of the E-Rate program and other broadband affordability initiatives, on June 24, 2022, the Commission also executed a Memorandum of Understanding (MOU) with the Institute of Museum and Library Services to jointly promote public awareness and facilitate the availability of federal funding opportunities for broadband.⁶⁷⁵ The partnership is focused on efforts to promote the availability of affordable broadband programs, in recognition of the significant role that libraries and other community anchor institutions play in promoting digital access and inclusion.⁶⁷⁶ The Commission's and Institute of Museum and Library Services's coordination will also focus on communities where broadband access has been especially challenging such as rural and Tribal areas.⁶⁷⁷

213. In July 2023, the Commission adopted a Report and Order providing Tribal libraries enhanced access to E-Rate funding, improved and simplified program rules.⁶⁷⁸ Among other things, the Commission updated its E-Rate program rules to allow Tribal college and university libraries that also serve as public libraries in their communities to apply for and receive E-Rate support; created an exemption to the competitive bidding requirements for all libraries seeking E-Rate support for category two services that total a pre-discount price of \$3,600 or less per library per funding year; and increased the maximum category two discount rate to 90% and the category two funding floor to \$55,000 for Tribal libraries.⁶⁷⁹ The Commission also amended the E-Rate program rules to add a Tribal community representative to the USAC Board of Directors and directed USAC to provide increased outreach and training to Tribal applicants.⁶⁸⁰ In an accompanying Notice of Proposed Rulemaking, the Commission sought comment on ways to further simplify the E-Rate program for all applicants.⁶⁸¹

214. In the fall of 2023, the Commission took two actions regarding the use of E-Rate funding to support Wi-Fi technologies on school buses and Wi-Fi hotspots so that schools and libraries can check them out to students and library patrons in need. Chairwoman Rosenworcel included these two actions as part of her "Learn Without Limits" initiative announced on June 26, 2023.⁶⁸² On October 19, 2023, the Commission clarified that the use of Wi-Fi, or other similar access point technologies, on school buses is an educational purpose, and the provision of such service, including the equipment needed to provide such service, is eligible for E-Rate funding, consistent with the Commission's past determinations regarding other eligible off-campus uses of E-Rate-supported services.⁶⁸³ The Commission directed WCB to seek comment on the specific services and equipment that would be eligible as part of the Funding

⁶⁷⁴ See *Request for Waiver by Alaska Federation of Natives*, CC Docket No. 02-6, Order, 37 FCC Rcd 289, 291-92, para. 8 (WCB 2022), (directing USAC to treat as timely filed all applications with a new Tribal library as a recipient of service that are filed within 65 days of the application filing window deadline, or by May 26, 2022).

⁶⁷⁵ FCC, Press Release, FCC and Institute of Museum and Library Services Sign Agreement to Promote Broadband Access (June 24, 2022), <https://docs.fcc.gov/public/attachments/DOC-384621A1.pdf>.

⁶⁷⁶ *Id.*; Infrastructure Act, § 60104(c).

⁶⁷⁷ FCC, Press Release, FCC and Institute of Museum and Library Services Sign Agreement to Promote Broadband Access (June 24, 2022), <https://docs.fcc.gov/public/attachments/DOC-384621A1.pdf>; Infrastructure Act, § 60104(c).

⁶⁷⁸ *Schools and Libraries Universal Service Support Mechanism et al.*, CC Docket No. 02-6 et al., Report and Order and Further Notice of Proposed Rulemaking, FCC 23-56 (July 21, 2023).

⁶⁷⁹ *Id.* at 6-16, paras. 11-30.

⁶⁸⁰ *Id.* at 16-20, paras. 31-39.

⁶⁸¹ *Id.* at 20-39, paras. 40-81.

⁶⁸² FCC, Press Release, Chairwoman Rosenworcel Announces 'Learn without Limits' Initiative (June 26, 2023), <https://docs.fcc.gov/public/attachments/DOC-394625A1.docx>.

⁶⁸³ *Modernizing the E-Rate Program for Schools and Libraries*, WC Docket No. 13-184, Declaratory Ruling, FCC 23-84 (Oct. 25, 2023).

Year 2024 Eligible Services List proceeding.⁶⁸⁴ On October 25, 2023, WCB issued a supplemental Public Notice seeking additional comment for example, on the following questions: (1) what equipment is needed to provide Wi-Fi on school buses and whether the equipment should be eligible as a Category One or Category two service; (2) how to ensure the use of Wi-Fi equipment and services on school buses is consistent with E-Rate program rules and limitations; (3) how to ensure support is only provided for educational purposes consistent with E-Rate rules; and (4) what are the estimated costs for providing Wi-Fi on school buses.⁶⁸⁵ On December 15, 2023, WCB issued an order approving the Funding Year 2024 Eligible Services List and making the services and equipment necessary to provide Wi-Fi on school buses eligible for E-Rate support.⁶⁸⁶

215. On November 1, 2023, the Commission also adopted a Notice of Proposed Rulemaking initiating a proceeding to address the ongoing remote learning needs of today's students, school staff, and library patrons through the E-Rate program and to ensure the millions who have benefitted from ECF program support do not fall back onto the wrong side of the digital divide once the program ends.⁶⁸⁷ Specifically, the Commission proposed to permit eligible schools and libraries to receive E-Rate support for Wi-Fi hotspots and wireless Internet services that can be used off-premises, proposing to find that the off-premises use of Wi-Fi hotspots and Internet services by students, school staff, and library patrons for remote learning and the provision of virtual library services constitutes an educational purpose as defined by the Commission and enhances access to advanced telecommunications and information services for schools and libraries.⁶⁸⁸ The Commission also sought comment on how to adapt the E-Rate program to reflect the virtual nature of today's modern educational environment.⁶⁸⁹ Additionally, the Commission sought comment on the applicability of the Children's Internet Protection Act (CIPA) requirements to the off-premises use of E-Rate-supported hotspots and services.⁶⁹⁰

216. *Emergency Connectivity Fund (ECF)*. Pursuant to the American Rescue Plan Act of 2021, the Commission established the ECF program on May 10, 2021 to distribute up to \$7.171 billion to eligible schools and libraries for the purchases of Wi-Fi hotspot devices, modems, routers, devices that combine a modem and router, connected devices and broadband connections for use by students, school staff, and library patrons at locations that include locations other than the schools and libraries.⁶⁹¹ The ECF program reimburses 100% of the reasonable costs associated with the eligible broadband Internet services and equipment, and sets a maximum support cap of \$400 for connected devices (laptop and tablet computers) and a \$250 support cap for Wi-Fi hotspots provided to an individual student, school staff, or library patron.⁶⁹² This program allows students, school staff, and library patrons who do not have an Internet connecting device or service at home to be connected and gain educational resources online. USAC and the Commission have opened and closed three application filing windows, with the requests received totaling more than \$9.2 billion.⁶⁹³ As of December 14, 2023, total funding committed is nearly

⁶⁸⁴ See *id.* at 1, 8-9, paras. 2, 13.

⁶⁸⁵ *Wireline Competition Bureau Seeks Additional Comment on Adding Wi-Fi on School Buses to Proposed Eligible Services List for the E-Rate Program*, WC Docket 13-184, Public Notice, DA 23-1101 (WCB Oct. 25, 2023).

⁶⁸⁶ *Modernizing the E-Rate Program for Schools and Libraries*, WC Docket 13-184, Order, DA 23-1171 (WCB Dec. 15, 2023).

⁶⁸⁷ *Addressing the Homework Gap through the E-Rate Program*, WC Docket No. 21-31, Notice of Proposed Rulemaking, FCC 23-91 (Nov. 8, 2023).

⁶⁸⁸ See *id.* at 12, 24-27, paras. 18, 45-50.

⁶⁸⁹ See *id.* at 27-28, paras. 51-52.

⁶⁹⁰ See *id.* at 28-31, paras. 53-58.

⁶⁹¹ *Establishing Emergency Connectivity Fund to Close the Homework Gap*, WC Docket No. 21-93, Report and Order, 36 FCC Rcd 8696, 8697-98, paras. 1, 3-4 (2021).

⁶⁹² *Id.* at 8730-31, 8734, paras. 69, 71, 78.

\$7.1 billion, and applications are continuing to be reviewed.⁶⁹⁴ On May 12, 2023, consistent with the intended emergency nature of the program and expiration of the public health emergency on May 11, 2023, WCB and the Office of the Managing Director announced the ECF program will sunset on June 30, 2024.⁶⁹⁵

217. *Rural Health Care Program.* On February 22, 2022, the Commission proposed and sought comment on several revisions to the Commission's Rural Health Care (RHC) Program rules designed to ensure that rural healthcare providers receive funding necessary for broadband and telecommunications services to provide vital healthcare services, while limiting costly inefficiencies and the potential for waste, fraud, and abuse.⁶⁹⁶ The RHC Program provides vital support to assist rural health care providers with the costs of broadband and other communications services.⁶⁹⁷ The Commission took this action in an effort to improve the accuracy and fairness of RHC Program support and increase the efficiency of program administration.⁶⁹⁸ In addition, WCB waived the mechanism for funding that was planned to go into effect out of concerns that the mechanism provided insufficient support.⁶⁹⁹

218. On January 27, 2023, the Commission released an Order on Reconsideration, Second Report and Order, Order, and Second Further Notice of Proposed Rulemaking that makes it easier for health care providers to receive support, reduce delays in funding commitments, and improve the overall

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⁶⁹³ See FCC, Press Release, FCC Announces Over \$5 Billion in Funding Requests Received in the Emergency Connectivity Fund Program (Aug. 25, 2021), <https://www.fcc.gov/document/fcc-announces-over-5-billion-emergency-connectivity-fund-requests>; FCC, Press Release, FCC Announces Nearly \$1.3 Billion in Funding Requests Received in Emergency Connectivity Fund Program Second Application Filing Window (Oct. 25, 2021), <https://docs.fcc.gov/public/attachments/DOC-376868A1.pdf>; FCC, Press Release, FCC Announces Over \$2.8 Billion in Funding Requests for Final Window in Ongoing Work to Close the Homework Gap (May 25, 2022), <https://docs.fcc.gov/public/attachments/DOC-383685A1.pdf>. In addition, as a response to catastrophic weather events, the Commission temporarily waived certain deadlines and rules for ECF participants in affected areas. See, e.g., *Affordable Connectivity Program et al.*, WC Docket No. 21-450 *et al.*, Order, DA 23-805 (WCB Sept. 1, 2023); *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6 *et al.*, Order, 37 FCC Rcd 11310 (WCB 2022); *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6 *et al.*, Order, 36 FCC Rcd 13405 (WCB 2021).

⁶⁹⁴ FCC, Press Release, FCC Announces Over \$450,000 in Emergency Connectivity Funding for Schools (Dec. 14, 2023), <https://docs.fcc.gov/public/attachments/DOC-399143A1.pdf>.

⁶⁹⁵ *Wireline Competition Bureau and Office of the Managing Director Provide Guidance on Emergency Connectivity Fund Program Upon Termination of the Emergency Period*, WC Docket 21-93, Public Notice, DA 23-406 (WCB May 12, 2023).

⁶⁹⁶ *Promoting Telehealth in Rural America*, WC Docket No. 17-310, Order on Reconsideration, Second Report and Order, Order, and Second Further Notice of Proposed Rulemaking, 37 FCC Rcd 2527 (2023).

⁶⁹⁷ *Id.* at 2527, para. 1.

⁶⁹⁸ *Id.* at 2528, para. 1.

⁶⁹⁹ *Promoting Telehealth in Rural America*, WC Docket No. 17-310, Order, 36 FCC Rcd 791 (WCB 2021) (waiver for funding years 2021 and 2022 for Alaska participants); *Promoting Telehealth in Rural America Order*, 36 FCC Rcd 7051; *Promoting Telehealth in Rural America*, WC Docket No. 17-310, Order, 36 FCC Rcd 7061 (WCB 2021) (nationwide waiver for funding years 2021 and 2022); *Promoting Telehealth in Rural America*, WC Docket No. 17-310, Order, 37 FCC Rcd 4891 (WCB 2022) (waiver for funding year 2023 for Alaska participants); *Promoting Telehealth in Rural America*, WC Docket No. 17-310, Order, 37 FCC Rcd 6457 (WCB 2022) (nationwide waiver for funding year 2023). In addition, the Commission continued its practice of extending filing windows for the RHC in response to the COVID pandemic. *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Order, 36 FCC Rcd 1604 (WCB 2021); *Promoting Telehealth in Rural America*, WC Docket No. 17-310, Order, 36 FCC Rcd 7051 (WCB 2021); *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Order, 37 FCC Rcd 2834 (WCB 2022); *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Order, 38 FCC Rcd 1644 (WCB 2023).

efficiency of the RHC program.⁷⁰⁰ The Commission eliminated the mechanism for funding that may have resulted in insufficient support and streamlined the invoicing process.⁷⁰¹ It also proposed or sought comment on, among other things, simplifying the urban rate rule, permitting conditional eligibility for health care providers, and moving back the Service Provider Identification Number (SPIN) change deadline.⁷⁰²

219. On December 14, 2023, the Commission released a Report and Order that improves the RHC Program administration and facilitates participation in the program by allowing health care providers that expected to become eligible to complete the processes required to request funding, aligning program deadlines, simplifying rules for calculating urban rates, streamlining administrative processes, and freeing up unused funding for other purposes.⁷⁰³ Specifically, the Commission revised the RHC Program rules to permit conditional eligibility for health care providers and eliminated the seldom-used “standard urban distance” component of the urban rate calculation rules.⁷⁰⁴ The Commission also made two changes relating to the RHC Program administrative deadlines by aligning the SPIN change deadline with the existing invoice deadline and permitting healthcare providers to request a change to evergreen contract dates, as well as amended rules to shift to the use of the same form when determining RHC Telecommunications and Healthcare Connect Fund Program eligibility.⁷⁰⁵ Finally, the Commission established a deadline by which invoices must be submitted for undisbursed funding commitments from before 2020.⁷⁰⁶

220. *COVID-19 Telehealth Program.* The Commission established the COVID-19 Telehealth Program in 2020 pursuant to the Coronavirus Aid, Relief, and Economic Security (CARES) Act, which was signed into law on March 27, 2020.⁷⁰⁷ The COVID-19 Telehealth Program distributed funding appropriated by Congress to help health care providers furnish telehealth services to patients at their homes or mobile locations in response to the COVID-19 pandemic.⁷⁰⁸ Between April 16, 2020 and July 8, 2020, the Commission approved 539 funding applications in 47 states plus the District of Columbia and Guam for a total of \$200 million in funding.⁷⁰⁹ In December 2020, Congress appropriated another

⁷⁰⁰ *Promoting Telehealth in Rural America*, WC Docket No. 17-310, Order on Reconsideration, Second Report and Order, Order, and Second Further Notice of Proposed Rulemaking, 38 FCC Rcd 827 (2023).

⁷⁰¹ *Id.* at 831-37, 850-52, paras. 9-25, 55-59.

⁷⁰² *Id.* at 862-64, 866-68, paras. 87-91, 97-103.

⁷⁰³ *Promoting Telehealth in Rural America*, WC Docket No. 17-310, Third Report and Order, FCC 23-110, at 2-3, 6, 8-10, 12-15, paras. 2-3, 7, 13, 17-21, 28-36 (Dec. 14, 2023).

⁷⁰⁴ *Id.* at 3, para. 7.

⁷⁰⁵ *Id.*

⁷⁰⁶ *Id.* In addition to the actions described above, as a response to catastrophic weather events, the Commission temporarily waived certain deadlines and rules for RHC participants in affected areas. *See, e.g., Affordable Connectivity Program et al.*, WC Docket No. 21-450 et al., Order, DA 23-805 (WCB Sept. 1, 2023); *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6 et al., Order, 37 FCC Rcd 11310 (WCB 2022); *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6 et al., Order, 36 FCC Rcd 13405 (WCB 2021).

⁷⁰⁷ *COVID-19 Telehealth Program, Promoting Telehealth for Low-Income Consumers*, WC Docket Nos. 20-89, 18-213, Report and Order, 35 FCC Rcd 3366 (2020).

⁷⁰⁸ *Wireline Competition Bureau Announces Covid-19 Telehealth Program Application Portal Will Open Monday*, WC Docket No. 20-89, Public Notice, 35 FCC Rcd 3076 (WCB 2020).

⁷⁰⁹ *Communications Marketplace Report*, GN Docket No. 20-60, Report, 36 FCC Rcd 2945, 3166, para. 426 (2020).

\$249.95 million for a second round of funding to be distributed by the Commission.⁷¹⁰ On March 29, 2021, the Commission adopted a new order to establish a second round of the COVID-19 Telehealth Program to fund telehealth and connected care services as required by Congress in the Consolidated Appropriations Act, 2021.⁷¹¹ During this second round of the program, the Commission approved applications by 446 health care providers and awarded more than \$256 million in funding.⁷¹² Over the course of the two funding rounds, the COVID-19 Telehealth Program approved 985 awards to health care providers in each state, territory, and the District of Columbia.⁷¹³ On April 12, 2023, WCB and the Office of the Managing Director released a Public Notice announcing that the pandemic emergency period for the COVID-19 Telehealth Program ended on April 10, 2023 due to the enactment of House Joint Resolution 7, which ended the COVID-19 national emergency.⁷¹⁴ Pursuant to the CARES Act, eligible telehealth expenses must have been paid for and received on or between March 13, 2020, through April 10, 2023, the end of the emergency period. The deadline for submission of all invoices and requests for reimbursement was October 31, 2023.⁷¹⁵

221. *Connected Care Pilot Program.* The Connected Care Pilot Program was established to provide up to \$100 million in USF over three years support to help eligible health care providers defray the costs of providing connected care services to their patients and study how the USF can help support the continuing trend toward connected care services, with an emphasis on providing connected care services to low-income and veteran patients.⁷¹⁶ On June 21, 2021, the Commission released an Order providing further guidance on the administration of the Pilot Program, including guidance on eligible services, competitive bidding, invoicing, and data reporting for selected participants.⁷¹⁷ From January 2021 to March 2022, the Commission selected 107 projects to receive funding through the program.⁷¹⁸ The projects selected by the Commission represent a broad array of geographic areas and a diversity of provider types, involve patients in underserved communities, and will address a range of health conditions.⁷¹⁹ Connected Care Pilot Program projects are ongoing.

⁷¹⁰ *COVID-19 Telehealth Program, Promoting Telehealth for Low Income Consumers*, WC Docket Nos. 20-89, 18-213, Report and Order and Order on Reconsideration, 36 FCC Rcd 7141, 7142-43, paras. 2-3 (2021) (*COVID-19 Telehealth Round Two Order*).

⁷¹¹ *COVID-19 Telehealth Round Two Order*, 36 FCC Rcd at 7141-42, para. 1.

⁷¹² See FCC, *COVID-19 Telehealth Program (Invoices & Reimbursements)*, Final List of COVID-19 Telehealth Program Round 2 Awardees (June 30, 2022), <https://www.fcc.gov/covid-19-telehealth-program-invoices-reimbursements>.

⁷¹³ *Id.*

⁷¹⁴ *Wireline Competition Bureau and Office of the Managing Director Announce Update on Wind Down of COVID-19 Telehealth Program*, WC Docket No. 20-89, Public Notice, DA 23-316 (WCB Apr. 12, 2023) (*Wind Down of COVID-19 Telehealth Program*).

⁷¹⁵ *Wireline Competition Bureau Extends Deadlines for the COVID-19 Telehealth Program Round 2*, WC Docket No. 20-89, Public Notice, 37 FCC Rcd 8820, 8820, para. 1 (WCB 2022).

⁷¹⁶ *Federal Communications Commission Announces Final Set of Projects Selected for the Connected Care Program*, WC Docket No. 18-213, Public Notice, 37 FCC Rcd 4358, 4358, para. 1 (WCB 2022) (*Final Set of Projects for Connected Care Program Public Notice*).

⁷¹⁷ *Promoting Telehealth for Low Income Consumers*, WC Docket No. 18-213, Second Report and Order, 36 FCC Rcd 10642, 10643, para. 1 (2021).

⁷¹⁸ FCC, Press Release, FCC Announces Final Group of Approved Projects for Connected Care Pilot Program (Mar. 16, 2022), <https://www.fcc.gov/document/fcc-announces-final-group-connected-care-pilot-program-projects>.

⁷¹⁹ *Final Set of Projects for Connected Care Program Public Notice* at 1, para. 2.

V. SECTION 706 DETERMINATION

222. We find that advanced telecommunications capability is not being deployed to all Americans in a reasonable and timely fashion. As discussed in detail above, although deployment of advanced telecommunications capability continues to increase overall, these advancements are not occurring quickly enough to bring such capability to all Americans. Broadband has not been deployed to far too many Americans, particularly when evaluated under our long-overdue new benchmark of 100/20 Mbps. Overall, over 24 million Americans lack access to fixed advanced telecommunications capability.⁷²⁰ Rural areas are the farthest from universal deployment, accounting for nearly 80% of that total, or almost 19 million Americans lacking access.⁷²¹ And approximately 700,000 people living on Tribal lands do not have fixed advanced telecommunications capability physically deployed to their homes.⁷²² In our view, these facts alone justify a negative finding under section 706.⁷²³

223. We are particularly concerned that those living in rural areas are almost four times more likely than average Americans not to have access to advanced telecommunications capability and those living on Tribal lands are almost three times more likely than average Americans not to have access to advanced telecommunications capability.⁷²⁴ While these gaps have been contracting,⁷²⁵ they are still significant and we find that they are not rapid enough for the deployment to be considered reasonable and timely. People living in rural America and on Tribal lands are particularly in need of broadband to obtain access to the economic, educational, and health care resources that people in urban areas are largely able to take for granted.

224. We note that the statistics we discuss above do not take into account the fact that in our current digital age, people need access both to fixed and mobile broadband service to have access to advanced telecommunications capability. Taking any measure of mobile broadband service used in this

⁷²⁰ See Fig. 1, *supra*. We reject claims that we are unreasonably understating data because we are relying on December 2022 data. See *ACA Ex Parte* at 1-2; *NCTA Ex Parte* at 2. As an initial matter, we note that since the Commission began collecting its own deployment data, it has always based its section 706 evaluation on data of a vintage of similar age to that which we use in this inquiry. See, e.g., *2021 Report*, 36 FCC Rcd at 858, para. 38 (December 2019 data); *2018 Report*, 33 FCC Rcd at 1681, para. 50 (December 2016 data); *2016 Report*, 31 FCC Rcd at 737, para. 88 (December 2014 data). Further, we evaluate December 2022 data because, among other things, the verification process for the more recent data, from June 2023 and December 2023, has not been completed. We also reject NCTA's suggestion that our inquiry should account for locations that currently lack access to 100/20 Mbps service, but are scheduled to have such service made available through various ISP federal funding commitments. See *NCTA Ex Parte* at 2. Consistent with all of the Commission's previous Reports issued pursuant to section 706, we evaluate broadband deployment for the current period, not a future moment in time. To the extent federal funding commitments lead to additional buildout in currently unserved areas, future Commission inquiries will account for such buildout. Finally, we are not persuaded by NCTA's argument that satellite service should not be excluded from our deployment evaluation due to satellite service's importance in serving extremely high-cost areas. See *NCTA Ex Parte* at 2. We note that even if we were to currently include fixed satellite service, over 21 million Americans would still lack access to fixed advanced telecommunications capability. See Appendix B-2. The Commission will have the opportunity to further examine the role of satellite service in our section 706 evaluation in future inquiries. With regard to ACA Connects's argument that we should include fixed wireless broadband service in our measurements, *ACA Connects Ex Parte* at 3, we note that this statistic, as well as all others referenced in our section 706 determination, include fixed wireless broadband service.

⁷²¹ See Fig. 1, *supra*.

⁷²² See *id*.

⁷²³ We conclude above that access to fixed broadband is necessary, but not sufficient, condition for someone to have access to advanced telecommunications capability under section 706. See Section III.A. Thus, we need not analyze mobile broadband data to come to this conclusion.

⁷²⁴ See Fig. 1, *supra*.

⁷²⁵ See *id*.

Report, a larger number of Americans can be said not to have access to advanced telecommunications capability. If we were to use Mobile 5G-NR with a minimum speed of 35/3 Mbps as the mobile standard, approximately 45 million Americans lack access to both fixed and mobile broadband and, therefore, advanced telecommunications capability.⁷²⁶

225. These data solely concern physical deployment and do not touch on our other universal service goals. Although we have not yet established benchmarks or standards for these other goals and do not yet have comprehensive data, there are statistics indicating there is additional work to be done. The limited pricing data available to the Commission indicates that a fixed broadband connection at 100/20 Mbps costs, on average, approximately \$100 in the United States.⁷²⁷ Such a price is \$70 in excess of the \$30 monthly subsidy currently available through the Affordable Connectivity Program. Indeed, for Americans in the lower 10th percentile of income, to purchase a 100/20 Mbps fixed connection currently means having to spend between approximately 5 to 11% of their monthly household income on broadband service, depending on the area of the country where they are located.⁷²⁸ While these data points are not definitive evidence, they strongly suggest that affordability for fixed advanced telecommunications capability remains a challenge for too many people.⁷²⁹ In addition, the rate of ACP enrollment, which continued up until the enrollment freeze on February 8, 2024, indicates that there is still unmet demand by eligible consumers for affordable broadband service.⁷³⁰

226. As the pandemic made painfully clear, broadband is essential infrastructure for modern life. This is why our nation made its largest ever federal investment in high-speed broadband⁷³¹—in order to close the digital divide once and for all. Absent evidence of sufficiently rapid progress toward true universal broadband service for all Americans, we cannot conclude that “advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.”⁷³² Based on this determination, section 706 requires us to “take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market” as required by our section 706 mandate.⁷³³ We intend to do just that.⁷³⁴

⁷²⁶ Fig. 12, *supra*.

⁷²⁷ Fig. 17, *supra*.

⁷²⁸ Fig. 19, *supra*.

⁷²⁹ NCTA argues that our affordability analysis should account for support programs and other discounts. See NCTA Ex Parte at 2-3. As discussed in Section III.B above, our analysis of affordability of fixed broadband is necessarily limited to the available data, which does not currently include information regarding discounts, offered either through support programs or otherwise. See *supra* Section III.B. In any event, our ultimate determination under section 706 in this Report is not based on affordability data; as we make clear, the limited discussion of affordability here is meant to illustrate that broadband affordability remains a challenge for many Americans, a point that NCTA does not appear to dispute.

⁷³⁰ The ACP exceeded its enrollment targets with an average month-over-month increase in the participation rate of 3.9% for the life of the ACP to-date and 3.4% for each month in 2023. Letter to from Mark Stephens, Managing Director, FCC to Sharon R. Diskin, Acting Inspector General, FCC at 4 (Dec. 21, 2023), Appendix B to *Report on the Performance Audit of the Affordable Connectivity Program for the Federal Communications Commission*, Audit Report, 23-AUD-01-04, OIG, https://www.fcc.gov/sites/default/files/23-aud-01-04_acp_01222024.pdf (Jan. 22, 2024).

⁷³¹ Infrastructure Act, div. F, §§ 60101-604, 135 Stat. at 1182-251.

⁷³² 47 U.S.C. § 1302(b).

⁷³³ *Id.*

⁷³⁴ We will consider, among other things, the suggestions for “removing barriers to infrastructure investment and by promoting competition in the telecommunications market” from commenters in the record developed in this proceeding. See, e.g., Free State Foundation Comments at 23; INCOMPAS Comments at 10-16; Space Exploration

(continued...)

VI. ORDERING CLAUSE

227. Accordingly, IT IS ORDERED that, pursuant to section 706 of the Telecommunications Act of 1996, as amended, 47 U.S.C. § 1302, this Report IS ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

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Holdings, LLC (SpaceX) Comments at 4-7; WIA Comments at 5-7; WIA Reply Comments at 8-9; WTA Comments at 7-11, 17-18; NCTA *Ex Parte* at 3.

APPENDIX A

Population Allocation Methodology

1. Prior to 2022, the Commission had no information about fixed broadband service availability below the level of the census block, and therefore FCC staff block-level population estimates were used to estimate the population with access to advanced telecommunications capability. Beginning in 2022, the BDC produced sub-block, location-level data. The Fabric dataset, on which the BDC is based, contains the number of units in each Broadband Serviceable Location (BSL), but it does not contain information on the population of each BSL or unit(s) therein.¹ To estimate the population with access to advanced telecommunications capability for December 2022 and beyond, we use our established block-level population estimation methodology as an input to estimate the population of each BSL (i.e., we rely on block-level estimates of population, based on Census Bureau estimates of county-level values in years outside of the decennial census, as part of the calculation). Generally, we estimate the population of each BSL by iteratively assigning the estimated population of blocks to BSLs in turn based on a fixed probability, where that fixed probability is a decreasing function of the total number of BSL units in the block. The allocation process is applied in two ways.

2. *Populated blocks with BSLs.* Where a census block has both a positive population estimate and a positive number of BSLs, each person is assigned to a BSL unit with probability $1/(\# \text{ of units in block})$. For example, if a block has a population of 20 persons (based on staff estimates or Census counts, depending on the year of the data) and six units contained within three BSLs (based on the contemporaneous version of the Fabric), each person is essentially assigned to a unit in turn by rolling a six-sided die (because there are six units).² When all persons in the block have been assigned, the population of each BSL will be an integer (between 0 and 20, inclusive, in this example), and the populations of the three BSLs will not necessarily be equal (the populations will definitely not be equal in this example). Each BSL with a person assigned to any unit within it is considered a “populated BSL” for purposes of this analysis. In this way, the population of each census block will equal the sum of the population of all of the populated BSLs in the block, but each BSL within a block will generally not have the same population. We then estimate the number of households by counting the number of units within populated BSLs.

3. *Populated blocks with no BSLs.* A small fraction of populated blocks contain no BSLs.³ In these cases, the population of the BSL-free blocks will be randomly assigned to BSLs in the next-

¹ A broadband serviceable location (BSL) is “a business or residential location in the United States at which mass-market fixed broadband Internet access service is, or can be, installed.” Residential BSLs include all residential structures, including structures that are (or contain) housing units or group quarters (as those terms are defined by the United States Census Bureau). The Fabric is a dataset of structures, not addresses. Most BSLs have an address associated with them as one of their attributes. Further, in order for a new structure to be added to the Fabric, it generally must have an address. But an address by itself does not equate to a BSL, and not all buildings or parcels with an address are BSLs. For example, an unimproved parcel or lot may have an address, but unless a habitable structure exists on that a parcel and is associated with an address, it will not be considered a BSL. Moreover, a single structure could have several addresses associated with it, but it would be reflected in the Fabric as one single BSL. FCC, *About the Fabric: What a Broadband Serviceable Location (BSL) Is and Is Not*, <https://help.bdc.fcc.gov/hc/en-us/articles/16842264428059-About-the-Fabric-What-a-Broadband-Serviceable-Location-BSL-Is-and-Is-Not> (last visited Feb. 14, 2024).

² An equivalent way to think about the process is that the population of the block is assigned to BSLs randomly using the unit count of the BSL to weight the probability the BSL is populated. If, in our example, BSL1 contains one unit, BSL2 contains two units, and BSL3 contains three units, then the chance a person is assigned to each BSL is $1/6$, $1/3$ and $1/2$, respectively. If a BSL contains more than one unit, the units within a BSL are not distinct. Thus, while the process effectively assigns people to units, particular unit assignments are not tracked.

³ Version 2 of the Fabric—released in December of 2022—contained 277,910 populated blocks with no BSLs, which, since our estimates are that there were 6,103,370 populated blocks, is 4.6%. While it is counterintuitive that populated blocks might contain no BSLs, it occurs here for a number of reasons not the least of which is that we are

(continued....)

highest geography in the census hierarchy, the census block group, using a two-tiered approach that favors vacant BSLs within unpopulated blocks in the parent block group. For blocks in the parent block group with BSLs but no population, each person is assigned to a BSL with probability:

$$\frac{(\# \text{ of units in unpopulated blocks with BSLs}) + (\# \text{ of total units in higher level geography})}{2 \cdot (\# \text{ of units in unpopulated blocks with BSLs}) \cdot (\# \text{ of total units in higher level geography})}$$

In blocks with population and units in the parent block group, each person is assigned to a unit with probability:

$$\frac{1}{\# \text{ of total units in higher level geography}}$$

When the parent block group also has no BSLs, we examine all the BSLs within the grandparent tract. This continues up the census geographic hierarchy until a level is reached that contains BSLs.⁴ As above, we then estimate the number of households in the geographic area by counting the number of units within populated BSLs.

4. An example of how population is allocated is shown in the following graphic. The entire area represents a single Census tract, with block groups distinguished by color, and blocks outlined in black. The upper left block has a population of 20 but does not contain any BSLs, and this block is located within a block group that has no BSLs. This opens up all BSLs within the tract to be eligible to be assigned these 20 persons with a preference given to the two blocks in the tract that have BSLs and no population. The upper right block also has population that needs to be allocated to BSLs in other blocks. Since its parent block group does have BSLs, only those BSLs within the block group are eligible to be assigned these five persons. All probabilities are provided using the formulas described above.

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 joining datasets with different origins and purposes. Both datasets have imperfections. The Fabric is a relatively new dataset which is constantly improving through a robust challenge process (See <https://help.bdc.fcc.gov/hc/en-us/articles/8554187214107-Fabric-Challenge-Process> (last visited Feb. 20, 2024)). The block population counts are, for the intercensal years, staff estimates, and even decennial Census block population counts are not exact in every case (See e.g., <https://www.nytimes.com/2022/04/21/us/census-data-privacy-concerns.html> (last visited Feb. 20, 2024)).

⁴ Of the 241,571 total populated block groups, there are 465 with no BSLs. Of the 84,989 total populated census tracts, there are 101 with no BSLs. Of the 3,232 total populated counties, one contains no BSLs (Northern Islands Municipality, Commonwealth of the Northern Mariana Islands).

APPENDIX B**Supplemental Figures**

APPX. B-1: Service Availability (Millions) of Fixed Terrestrial Services at 100/20 Mbps; Mobile 5G-NR with a Minimum Speed of 35/3 Mbps; and Mobile 5G-NR with a Median Ookla Speed of 35/3 Mbps by State, District of Columbia, and U.S. Territory (December 31, 2022)

APPX. B-2: Service Availability (Millions) of Fixed Services (includes Satellite) at Different Speed Tiers in the United States

APPX. B-3: Service Availability (Millions) of Fixed Terrestrial Broadband and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps in U.S. Territories

APPX. B-4: Service Availability (Millions) of Mobile Services at Different Speed Tiers

APPX. B-5: Service Availability (Millions) of Mobile Services at Different Median Ookla Speed Tiers

APPX. B-6: Service Availability (Millions) of Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps; and Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Median Ookla Speed of 35/3 Mbps by State, District of Columbia, and U.S. Territory (December 31, 2022)

APPX. B-7: Adoption Rate for Fixed Terrestrial Services in the United States and U.S. Territories (December 31, 2022)

APPX. B-8: Service Availability (Millions) of Fixed 100/20 Mbps and Mobile Services at Different Speed Tiers Including U.S. Territories

APPX. B-9: Service Availability (Millions) of Fixed 100/20 Mbps and Mobile Services at Different Speed Tiers

APPX. B-10: Service Availability (Millions) on Tribal Lands of Mobile 5G-NR with a Minimum Speed of 35/3 Mbps

APPX. B-11: Service Availability (Millions) of Fixed 100/20 Mbps and Mobile Services at Different Median Ookla Speed Tiers

APPX. B-12: Service Availability (Millions) of Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps By State and County, including U.S. Territories (December 31, 2022)

APPX. B-13: Service Availability (Millions) of Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps By State and County Segmented by Urban and Rural Areas, Including U.S. Territories (December 31, 2022)

APPX. B-14: Service Availability (Millions) of Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps on Tribal Lands by State (December 31, 2022)

APPX. B-15: Service Availability (Millions) on Tribal Lands of Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps (In-Vehicle Mobile Services) (December 31, 2022)

APPX. B-16: Service Availability (Millions) on Tribal Lands of Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (Outdoor Stationary Services) (December 31, 2022)

APPX. B-17: Service Availability (Millions) on Tribal Lands of Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (In-Vehicle Mobile Services) (December 31, 2022)

APPX. B-18: Service Availability (Millions) on Tribal Lands of Fixed Terrestrial 100/20 Mbps and Mobile 4G LTE with a Minimum Speed of 5/1 Mbps (Outdoor Stationary Services) (December 31, 2022)

APPX. B-19: Service Availability (Millions) on Tribal Lands of Fixed Terrestrial 100/20 Mbps and Mobile 4G LTE with a Minimum Speed of 5/1 Mbps (In-Vehicle Mobile Services) (December 31, 2022)

APPX. B-20: Mobile Broadband Penetration Rate by State and U.S. Territory

APPX. B-21: Average Percentage of Households with Zero, One, Two, or at Least Three Provider Options for 25/3 Mbps Fixed Terrestrial Services by Census Block (December 31, 2022)

APPX. B-22: Average Percentage of Households with Zero, One, Two, or at Least Three Provider Options for 940/500 Mbps Fixed Terrestrial Services by Census Block Group (December 31, 2022)

APPX. B-23: Average Percentage of Population with Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (Outdoor Stationary Services) by Census Block Group (December 31, 2022)

APPX. B-24: Average Percentage of Population with Fixed Terrestrial Services at 100/20 Mbps and Mobile 4G LTE with a Minimum Speed of 5/1 Mbps (Outdoor Stationary Services) by Census Block Group (December 31, 2022)

APPX. B-25: Average Percentage of Population with Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps (In-Vehicle Mobile Services) by Census Block Group (December 31, 2022)

APPX. B-26: Average Percentage of Population with Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (In-Vehicle Mobile Services) by Census Block Group (December 31, 2022)

APPX. B-27: Average Percentage of Population with Fixed Terrestrial Services at 100/20 Mbps and Mobile 4G LTE with a Minimum Speed of 5/1 Mbps (In-Vehicle Mobile Services) by Census Block Group (December 31, 2022)

APPX. B-28: Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (Outdoor Stationary Services) (December 31, 2022)

APPX. B-29: Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile LTE with a Minimum Speed of 5/1 Mbps (Outdoor Stationary Services) (December 31, 2022)

APPX. B-30: Comparison of Demographic Data Between Areas With and Without Fixed

Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps (In-Vehicle Mobile Services) (December 31, 2022)

APPX. B-31: Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (In-Vehicle Mobile Services) (December 31, 2022)

APPX. B-32: Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile LTE with a Minimum Speed of 5/1 Mbps (In-Vehicle Mobile Services) (December 31, 2022)

APPX. B-33: Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Median Ookla Speed of 35/3 Mbps (December 31, 2022)

APPX. B-34: Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Median Ookla Speed of 7/1 Mbps (December 31, 2022)

APPX. B-35: Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile Broadband with a Median Ookla Speed of 10/3 Mbps (December 31, 2022)

APPX. B-1

Service Availability (Millions) of Fixed Terrestrial Services at 100/20 Mbps; Mobile 5G-NR with a Minimum Advertised Speed of 35/3 Mbps; and Mobile 5G-NR with a Median Ookla Speed of 35/3 Mbps by State, District of Columbia, and U.S. Territory (December 31, 2022)

	Fixed 100/20 Mbps Including Fixed Wireless		Fixed 100/20 Mbps Excluding Fixed Wireless		Mobile 5G-NR Minimum 35/3 Mbps		Mobile 5G-NR Median 35/3 Mbps			
	Pop. Evaluated	Pop.	%	Pop.	%	Pop.	%	Pop. Evaluated	Pop.	%
United States	336.881	312.509	92.8%	304.527	90.4%	306.658	91.0%	304.974	286.314	93.8%
Rural Areas	68.031	48.980	72.0%	43.215	63.5%	43.765	64.3%	46.883	33.282	70.9%
Urban Areas	268.850	263.529	98.0%	261.312	97.2%	262.893	97.8%	258.090	253.031	98.0%
Alabama	5.074	4.202	82.8%	4.170	82.2%	4.316	85.1%	4.241	3.874	91.3%
Rural Areas	2.155	1.399	64.9%	1.375	63.8%	1.461	67.8%	1.477	1.146	77.6%
Urban Areas	2.919	2.803	96.0%	2.795	95.7%	2.855	97.8%	2.763	2.727	98.7%
Alaska	0.734	0.577	78.7%	0.527	71.9%	0.464	63.2%	0.588	0.350	59.6%
Rural Areas	0.267	0.124	46.5%	0.089	33.2%	0.085	31.7%	0.156	0.058	37.7%
Urban Areas	0.466	0.453	97.1%	0.438	94.0%	0.379	81.3%	0.431	0.291	67.5%
American Samoa	0.045	0.010	22.1%	0.010	22.1%	0.000	0.0%	*	*	*
Rural Areas	0.011	0.001	5.9%	0.001	5.9%	0.000	0.0%	*	*	*
Urban Areas	0.034	0.009	27.3%	0.009	27.3%	0.000	0.0%	*	*	*
Arizona	7.359	6.841	93.0%	6.543	88.9%	7.103	96.5%	7.311	7.050	96.4%
Rural Areas	0.793	0.437	55.1%	0.267	33.7%	0.573	72.3%	0.763	0.537	70.3%
Urban Areas	6.566	6.404	97.5%	6.276	95.6%	6.530	99.4%	6.547	6.513	99.4%
Arkansas	3.046	2.470	81.1%	2.431	79.8%	2.491	81.8%	2.202	2.008	91.1%
Rural Areas	1.359	0.850	62.5%	0.817	60.1%	0.842	61.9%	0.735	0.556	75.6%
Urban Areas	1.686	1.620	96.1%	1.614	95.7%	1.650	97.8%	1.466	1.451	99.0%
California	39.029	37.571	96.3%	36.691	94.0%	38.236	98.0%	38.924	38.158	98.0%
Rural Areas	2.295	1.513	65.9%	0.950	41.4%	1.823	79.4%	2.214	1.768	79.8%
Urban Areas	36.735	36.058	98.2%	35.741	97.3%	36.413	99.1%	36.710	36.389	99.1%
Colorado	5.840	5.501	94.2%	5.299	90.7%	5.463	93.5%	5.475	5.252	95.9%
Rural Areas	0.825	0.521	63.1%	0.361	43.8%	0.518	62.9%	0.572	0.404	70.6%
Urban Areas	5.015	4.981	99.3%	4.938	98.4%	4.945	98.6%	4.902	4.848	98.8%
Connecticut	3.626	3.558	98.1%	3.552	97.9%	3.236	89.2%	3.626	3.236	89.2%
Rural Areas	0.507	0.488	96.3%	0.487	96.1%	0.322	63.6%	0.507	0.322	63.5%
Urban Areas	3.119	3.070	98.4%	3.065	98.3%	2.914	93.4%	3.119	2.913	93.4%
Delaware	1.018	0.981	96.3%	0.979	96.1%	0.964	94.7%	1.018	0.963	94.6%
Rural Areas	0.181	0.150	82.8%	0.148	81.8%	0.144	79.7%	0.181	0.144	79.6%
Urban Areas	0.837	0.831	99.3%	0.831	99.2%	0.820	97.9%	0.837	0.819	97.8%
District of Columbia	0.672	0.670	99.7%	0.670	99.7%	0.672	100.0%	0.671	0.671	99.9%
Urban Areas	0.672	0.670	99.7%	0.670	99.7%	0.672	100.0%	0.671	0.671	99.9%
Florida	22.245	21.008	94.4%	20.891	93.9%	21.212	95.4%	21.992	21.049	95.7%
Rural Areas	1.910	1.143	59.8%	1.073	56.2%	1.365	71.5%	1.687	1.229	72.8%
Urban Areas	20.335	19.865	97.7%	19.817	97.5%	19.847	97.6%	20.304	19.819	97.6%
Georgia	10.913	9.945	91.1%	9.873	90.5%	9.534	87.4%	9.169	8.525	92.9%
Rural Areas	2.880	2.048	71.1%	1.990	69.1%	1.760	61.1%	1.541	1.084	70.3%

	Pop. Evaluated	Fixed 100/20 Mbps Including Fixed Wireless		Fixed 100/20 Mbps Excluding Fixed Wireless		Mobile 5G-NR Minimum 35/3 Mbps		Pop. Evaluated	Mobile 5G- NR Median 35/3 Mbps	
		Pop.	%	Pop.	%	Pop.	%		Pop.	%
Urban Areas	8.033	7.897	98.3%	7.883	98.1%	7.774	96.8%	7.627	7.440	97.5%
Guam	0.169	0.145	85.9%	0.065	38.3%	0.076	45.1%	*	*	*
Rural Areas	0.020	0.006	30.9%	0.001	5.6%	0.001	7.1%	*	*	*
Urban Areas	0.149	0.139	93.4%	0.064	42.7%	0.075	50.2%	*	*	*
Hawaii	1.440	1.373	95.3%	1.366	94.8%	1.347	93.5%	1.440	1.346	93.5%
Rural Areas	0.210	0.178	84.6%	0.178	84.4%	0.148	70.5%	0.210	0.148	70.5%
Urban Areas	1.230	1.195	97.2%	1.188	96.6%	1.199	97.5%	1.229	1.198	97.4%
Idaho	1.939	1.716	88.5%	1.557	80.3%	1.691	87.2%	1.521	1.397	91.8%
Rural Areas	0.604	0.383	63.4%	0.228	37.7%	0.396	65.5%	0.311	0.213	68.4%
Urban Areas	1.335	1.333	99.8%	1.329	99.6%	1.295	97.0%	1.209	1.184	97.9%
Illinois	12.582	11.996	95.3%	11.787	93.7%	11.897	94.6%	11.566	11.274	97.4%
Rural Areas	1.669	1.155	69.2%	0.969	58.0%	1.088	65.2%	0.968	0.738	76.2%
Urban Areas	10.913	10.840	99.3%	10.819	99.1%	10.809	99.0%	10.597	10.535	99.4%
Indiana	6.833	6.180	90.4%	5.994	87.7%	6.060	88.7%	5.737	5.353	93.3%
Rural Areas	1.984	1.385	69.8%	1.214	61.2%	1.292	65.1%	1.211	0.887	73.2%
Urban Areas	4.849	4.795	98.9%	4.780	98.6%	4.768	98.3%	4.526	4.465	98.6%
Iowa	3.201	3.015	94.2%	2.848	89.0%	2.624	82.0%	2.119	1.948	91.9%
Rural Areas	1.183	1.008	85.3%	0.845	71.5%	0.688	58.2%	0.414	0.281	67.7%
Urban Areas	2.018	2.007	99.5%	2.003	99.2%	1.936	95.9%	1.704	1.667	97.8%
Kansas	2.937	2.697	91.8%	2.564	87.3%	2.600	88.5%	2.041	1.967	96.3%
Rural Areas	0.826	0.620	75.1%	0.494	59.8%	0.543	65.8%	0.271	0.217	79.9%
Urban Areas	2.112	2.076	98.3%	2.071	98.1%	2.057	97.4%	1.770	1.750	98.8%
Kentucky	4.512	3.846	85.2%	3.819	84.6%	3.397	75.3%	2.991	2.721	90.9%
Rural Areas	1.873	1.273	68.0%	1.258	67.2%	0.871	46.5%	0.627	0.414	66.0%
Urban Areas	2.639	2.573	97.5%	2.561	97.0%	2.525	95.7%	2.364	2.306	97.5%
Louisiana	4.590	3.827	83.4%	3.780	82.3%	4.008	87.3%	3.936	3.598	91.4%
Rural Areas	1.315	0.685	52.1%	0.664	50.5%	0.836	63.6%	0.842	0.587	69.7%
Urban Areas	3.275	3.142	95.9%	3.116	95.1%	3.172	96.9%	3.094	3.011	97.3%
Maine	1.385	1.222	88.2%	1.209	87.2%	0.896	64.7%	1.229	0.832	67.6%
Rural Areas	0.849	0.698	82.2%	0.693	81.6%	0.412	48.5%	0.700	0.353	50.4%
Urban Areas	0.536	0.524	97.7%	0.516	96.2%	0.484	90.3%	0.528	0.478	90.5%
Maryland	6.165	6.008	97.5%	5.984	97.1%	5.812	94.3%	6.054	5.725	94.5%
Rural Areas	0.911	0.782	85.8%	0.771	84.7%	0.695	76.3%	0.836	0.643	76.9%
Urban Areas	5.254	5.226	99.5%	5.213	99.2%	5.116	97.4%	5.218	5.081	97.3%
Massachusetts	6.982	6.892	98.7%	6.881	98.5%	6.431	92.1%	6.967	6.422	92.1%
Rural Areas	0.627	0.602	96.1%	0.602	96.0%	0.392	62.6%	0.624	0.391	62.7%
Urban Areas	6.355	6.290	99.0%	6.279	98.8%	6.039	95.0%	6.343	6.031	95.0%
Michigan	10.034	9.110	90.8%	8.820	87.9%	8.862	88.3%	9.215	8.452	91.7%
Rural Areas	2.712	1.914	70.6%	1.670	61.6%	1.733	63.9%	2.051	1.450	70.7%
Urban Areas	7.323	7.195	98.3%	7.151	97.7%	7.129	97.4%	7.164	7.001	97.7%
Minnesota	5.717	5.389	94.3%	5.171	90.4%	5.080	88.8%	4.777	4.496	94.1%

	Pop. Evaluated	Fixed 100/20 Mbps Including Fixed Wireless		Fixed 100/20 Mbps Excluding Fixed Wireless		Mobile 5G-NR Minimum 35/3 Mbps		Pop. Evaluated	Mobile 5G- NR Median 35/3 Mbps	
		Pop.	%	Pop.	%	Pop.	%		Pop.	%
Rural Areas	1.633	1.334	81.7%	1.125	68.9%	1.075	65.8%	0.996	0.748	75.0%
Urban Areas	4.084	4.054	99.3%	4.046	99.1%	4.005	98.1%	3.780	3.748	99.1%
Mississippi	2.940	2.321	78.9%	2.308	78.5%	2.066	70.3%	1.530	1.299	84.9%
Rural Areas	1.587	1.000	63.0%	0.990	62.4%	0.787	49.6%	0.493	0.301	61.0%
Urban Areas	1.354	1.321	97.6%	1.319	97.4%	1.279	94.5%	1.037	0.998	96.2%
Missouri	6.178	5.500	89.0%	5.027	81.4%	5.475	88.6%	5.234	4.869	93.0%
Rural Areas	1.918	1.315	68.6%	0.890	46.4%	1.267	66.1%	1.164	0.843	72.4%
Urban Areas	4.260	4.185	98.2%	4.137	97.1%	4.208	98.8%	4.070	4.025	98.9%
Montana	1.123	0.844	75.2%	0.791	70.5%	0.921	82.0%	0.733	0.652	88.9%
Rural Areas	0.527	0.279	52.9%	0.230	43.6%	0.353	67.0%	0.238	0.180	75.4%
Urban Areas	0.596	0.565	94.9%	0.561	94.2%	0.568	95.3%	0.494	0.472	95.5%
N. Mariana Isl.	0.051	0.016	31.9%	0.000	0.0%	0.000	0.2%	*	*	*
Rural Areas	0.013	0.004	31.0%	0.000	0.0%	0.000	0.2%	*	*	*
Urban Areas	0.038	0.012	32.2%	0.000	0.0%	0.000	0.3%	*	*	*
Nebraska	1.968	1.858	94.4%	1.746	88.7%	1.439	73.1%	1.169	1.149	98.2%
Rural Areas	0.532	0.426	80.1%	0.317	59.5%	0.176	33.1%	0.065	0.050	77.8%
Urban Areas	1.436	1.432	99.7%	1.429	99.5%	1.263	87.9%	1.104	1.098	99.5%
Nevada	3.178	3.106	97.7%	3.010	94.7%	3.128	98.4%	3.097	2.958	95.4%
Rural Areas	0.189	0.141	74.4%	0.086	45.5%	0.147	78.0%	0.141	0.102	71.9%
Urban Areas	2.989	2.965	99.2%	2.924	97.8%	2.981	99.7%	2.955	2.856	96.6%
New Hampshire	1.395	1.327	95.1%	1.324	94.9%	0.927	66.5%	1.319	0.889	67.3%
Rural Areas	0.589	0.529	89.7%	0.526	89.2%	0.258	43.8%	0.533	0.237	44.5%
Urban Areas	0.806	0.798	99.1%	0.798	99.0%	0.669	83.0%	0.785	0.651	82.8%
New Jersey	9.262	8.936	96.5%	8.883	95.9%	8.976	96.9%	9.261	8.975	96.9%
Rural Areas	0.594	0.540	90.9%	0.537	90.5%	0.431	72.5%	0.593	0.430	72.5%
Urban Areas	8.668	8.396	96.9%	8.346	96.3%	8.545	98.6%	8.667	8.545	98.5%
New Mexico	2.113	1.765	83.5%	1.703	80.6%	1.880	89.0%	1.914	1.522	79.4%
Rural Areas	0.532	0.238	44.8%	0.200	37.6%	0.351	66.0%	0.436	0.234	53.7%
Urban Areas	1.581	1.527	96.6%	1.503	95.0%	1.529	96.7%	1.478	1.287	87.0%
New York	19.677	18.910	96.1%	18.693	95.0%	18.456	93.8%	19.281	18.259	94.7%
Rural Areas	2.563	2.261	88.2%	2.250	87.8%	1.598	62.3%	2.248	1.471	65.4%
Urban Areas	17.114	16.649	97.3%	16.444	96.1%	16.859	98.5%	17.033	16.788	98.5%
North Carolina	10.699	9.529	89.1%	9.445	88.3%	9.222	86.2%	9.498	8.499	89.4%
Rural Areas	3.589	2.653	73.9%	2.614	72.8%	2.359	65.7%	2.632	1.857	70.5%
Urban Areas	7.110	6.876	96.7%	6.830	96.1%	6.863	96.5%	6.866	6.641	96.7%
North Dakota	0.779	0.765	98.2%	0.754	96.8%	0.617	79.2%	0.364	0.330	90.5%
Rural Areas	0.302	0.290	95.9%	0.280	92.5%	0.169	55.8%	0.056	0.029	52.2%
Urban Areas	0.477	0.475	99.6%	0.474	99.5%	0.448	94.0%	0.307	0.300	97.6%
Ohio	11.756	10.819	92.0%	10.585	90.0%	10.792	91.8%	11.131	10.416	93.5%
Rural Areas	2.812	2.058	73.2%	1.875	66.7%	1.971	70.1%	2.374	1.760	74.1%
Urban Areas	8.944	8.761	97.9%	8.710	97.4%	8.821	98.6%	8.756	8.656	98.8%

	Pop. Evaluated	Fixed 100/20 Mbps Including Fixed Wireless		Fixed 100/20 Mbps Excluding Fixed Wireless		Mobile 5G-NR Minimum 35/3 Mbps		Pop. Evaluated	Mobile 5G- NR Median 35/3 Mbps	
		Pop.	%	Pop.	%	Pop.	%		Pop.	%
Oklahoma	4.020	3.574	88.9%	3.350	83.3%	3.611	89.8%	3.574	3.281	91.7%
Rural Areas	1.432	1.028	71.8%	0.823	57.5%	1.037	72.4%	1.078	0.809	75.0%
Urban Areas	2.588	2.546	98.4%	2.527	97.6%	2.574	99.5%	2.496	2.472	99.0%
Oregon	4.240	3.889	91.7%	3.819	90.1%	3.836	90.5%	4.021	3.686	91.6%
Rural Areas	0.843	0.527	62.6%	0.469	55.7%	0.523	62.0%	0.730	0.466	63.9%
Urban Areas	3.397	3.362	99.0%	3.350	98.6%	3.314	97.5%	3.291	3.219	97.8%
Pennsylvania	12.972	12.338	95.1%	12.262	94.5%	11.913	91.8%	12.517	11.639	92.9%
Rural Areas	3.085	2.511	81.4%	2.449	79.4%	2.199	71.3%	2.739	2.025	73.9%
Urban Areas	9.887	9.827	99.4%	9.813	99.3%	9.714	98.3%	9.778	9.614	98.3%
Puerto Rico	3.222	3.125	97.0%	2.817	87.4%	3.156	98.0%	*	*	*
Rural Areas	0.255	0.197	77.1%	0.103	40.5%	0.221	86.4%	*	*	*
Urban Areas	2.966	2.929	98.7%	2.713	91.5%	2.936	99.0%	*	*	*
Rhode Island	1.094	1.088	99.5%	1.088	99.5%	1.002	91.6%	1.093	1.001	91.5%
Rural Areas	0.101	0.098	96.7%	0.098	96.6%	0.067	66.7%	0.100	0.067	66.6%
Urban Areas	0.993	0.991	99.8%	0.991	99.8%	0.935	94.1%	0.992	0.934	94.1%
South Carolina	5.283	4.775	90.4%	4.737	89.7%	4.611	87.3%	4.708	4.290	91.1%
Rural Areas	1.694	1.289	76.1%	1.269	74.9%	1.130	66.7%	1.244	0.918	73.7%
Urban Areas	3.589	3.486	97.1%	3.468	96.6%	3.481	97.0%	3.463	3.371	97.3%
South Dakota	0.910	0.842	92.6%	0.827	90.8%	0.771	84.7%	0.389	0.374	96.2%
Rural Areas	0.393	0.328	83.4%	0.313	79.7%	0.267	68.0%	0.070	0.057	81.2%
Urban Areas	0.517	0.515	99.5%	0.514	99.3%	0.503	97.4%	0.318	0.317	99.5%
Tennessee	7.051	6.499	92.2%	6.475	91.8%	5.967	84.6%	5.695	5.211	91.5%
Rural Areas	2.407	1.911	79.4%	1.897	78.8%	1.446	60.1%	1.364	0.958	70.3%
Urban Areas	4.644	4.588	98.8%	4.579	98.6%	4.521	97.3%	4.331	4.252	98.1%
Texas	30.030	27.861	92.8%	26.203	87.3%	28.561	95.1%	28.610	27.595	96.4%
Rural Areas	5.029	3.646	72.5%	2.431	48.3%	3.745	74.5%	4.026	3.152	78.2%
Urban Areas	25.001	24.214	96.9%	23.772	95.1%	24.816	99.3%	24.583	24.443	99.4%
U.S. Virgin Isl.	0.105	0.105	99.4%	0.104	98.7%	0.095	89.9%	*	*	*
Rural Areas	0.006	0.006	96.1%	0.006	90.0%	0.003	54.8%	*	*	*
Urban Areas	0.099	0.099	99.6%	0.098	99.3%	0.091	92.1%	*	*	*
Utah	3.381	3.284	97.1%	3.179	94.0%	3.329	98.5%	3.237	3.213	99.2%
Rural Areas	0.362	0.295	81.5%	0.227	62.7%	0.318	87.7%	0.254	0.232	91.5%
Urban Areas	3.018	2.989	99.0%	2.952	97.8%	3.011	99.8%	2.982	2.981	99.9%
Vermont	0.647	0.532	82.3%	0.530	81.9%	0.343	53.0%	0.169	0.115	68.2%
Rural Areas	0.419	0.308	73.5%	0.305	72.9%	0.162	38.7%	0.044	0.017	38.3%
Urban Areas	0.228	0.225	98.4%	0.225	98.4%	0.181	79.3%	0.124	0.098	79.0%
Virginia	8.684	8.019	92.3%	7.767	89.4%	7.471	86.0%	7.338	6.622	90.2%
Rural Areas	2.158	1.590	73.7%	1.364	63.2%	1.156	53.6%	1.238	0.729	58.8%
Urban Areas	6.526	6.429	98.5%	6.403	98.1%	6.315	96.8%	6.099	5.893	96.6%
Washington	7.786	7.123	91.5%	7.011	90.0%	7.142	91.7%	7.683	7.070	92.0%
Rural Areas	1.331	0.758	56.9%	0.668	50.2%	0.888	66.8%	1.253	0.841	67.1%

	Fixed 100/20 Mbps Including Fixed Wireless		Fixed 100/20 Mbps Excluding Fixed Wireless		Mobile 5G-NR Minimum 35/3 Mbps		Mobile 5G-NR Median 35/3 Mbps			
	Pop. Evaluated	Pop.	%	Pop.	%	Pop.	%	Pop. Evaluated	Pop.	%
Urban Areas	6.455	6.365	98.6%	6.343	98.3%	6.254	96.9%	6.429	6.228	96.8%
West Virginia	1.775	1.252	70.5%	1.238	69.8%	1.179	66.4%	1.261	0.956	75.7%
Rural Areas	0.980	0.516	52.7%	0.505	51.6%	0.443	45.3%	0.556	0.296	53.2%
Urban Areas	0.795	0.736	92.5%	0.733	92.2%	0.736	92.5%	0.704	0.659	93.6%
Wisconsin	5.893	5.249	89.1%	4.941	83.9%	4.891	83.0%	5.026	4.507	89.6%
Rural Areas	1.966	1.383	70.3%	1.134	57.7%	1.115	56.7%	1.229	0.837	68.1%
Urban Areas	3.927	3.866	98.5%	3.807	97.0%	3.777	96.2%	3.797	3.670	96.6%
Wyoming	0.581	0.510	87.7%	0.430	73.9%	0.409	70.3%	0.288	0.244	84.7%
Rural Areas	0.226	0.159	70.4%	0.091	40.2%	0.115	50.9%	0.067	0.043	64.3%
Urban Areas	0.356	0.351	98.6%	0.339	95.3%	0.294	82.6%	0.221	0.201	90.9%

Source: FCC BDC data; Ookla Speedtest data; Staff Block Estimates.

Note: U.S. territories do not have a sufficient number of samples, thus, we do not provide Ookla analysis in these areas. In addition, all Ookla analyses in this Report reflect the percentage of the population living in counties with a sufficient number of Ookla speed tests such that we can evaluate the actual speeds of 35/3 Mbps. Further, the population within eligible counties is overlaid with coverage data from the FCC Form 477 and the FCC BDC data such that only the population living in areas where providers claim 5G-NR coverage with a minimum expected speed of 35/3 Mbps is counted towards the covered population figure.

Note: Unless it is specified that we have used in-vehicle BDC data, outdoor stationary BDC data are used in the analysis in this report.

APPX. B-2
Service Availability (Millions) of Fixed Services (includes Satellite)
at Different Speed Tiers in the United States

	2018		2019		2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%
25/3 Mbps										
United States	327.087	100.0%	328.131	100.0%	329.415	100.0%	331.894	100.0%	333.287	100.0%
Rural Areas	64.434	99.9%	65.015	99.9%	65.743	99.9%	67.111	100.0%	67.725	100.0%
Urban Areas	262.653	100.0%	263.116	100.0%	263.672	100.0%	264.783	100.0%	265.562	100.0%
Tribal Areas	3.980	98.5%	3.994	98.6%	4.025	98.6%	4.051	100.0%	4.043	100.0%
100/20 Mbps										
United States	289.752	88.6%	294.124	89.6%	301.756	91.6%	312.934	94.3%	311.961	93.6%
Rural Areas	37.561	58.2%	40.377	62.0%	44.771	68.0%	52.012	77.5%	50.738	74.9%
Urban Areas	252.191	96.0%	253.747	96.4%	256.985	97.5%	260.923	98.5%	261.222	98.4%
Tribal Areas	1.999	49.5%	2.221	54.8%	2.490	61.0%	3.063	75.6%	3.413	84.4%
940/500 Mbps										
United States	91.352	27.9%	106.014	32.3%	119.083	36.1%	148.069	44.6%	134.617	40.4%
Rural Areas	6.830	10.6%	9.038	13.9%	11.960	18.2%	16.084	24.0%	16.204	23.9%
Urban Areas	84.522	32.2%	96.976	36.9%	107.123	40.6%	131.985	49.8%	118.413	44.6%
Tribal Areas	0.453	11.2%	0.587	14.5%	0.820	20.1%	1.096	27.1%	1.117	27.6%

	2018		2019		2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%
Pop. Evaluated	327.167	100.0%	328.210	100.0%	329.491	100.0%	331.894	100.0%	333.288	100.0%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

APPX. B-3

**Service Availability (Millions) of Fixed Terrestrial Broadband and Mobile 5G-NR
with a Minimum Speed of 35/3 Mbps in U.S. Territories**

	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
Mobile 5G-NR - 35/3 Mbps						
U.S. Territories	0.011	0.3%	3.359	92.4%	3.328	92.6%
Rural Areas	0.000	0.0%	0.261	82.2%	0.226	73.7%
Urban Areas	0.011	0.3%	3.098	93.4%	3.102	94.4%
Fixed 25/3 Mbps (Including Fixed Wireless)						
U.S. Territories	3.471	98.4%	3.629	99.8%	3.565	99.2%
Rural Areas	0.227	96.4%	0.312	98.2%	0.286	93.5%
Urban Areas	3.243	98.6%	3.317	100.0%	3.279	99.8%
Fixed 25/3 Mbps (Including Fixed Wireless) and Mobile 5G-NR - 35/3 Mbps						
U.S. Territories	0.010	0.3%	3.359	92.4%	3.309	92.1%
Rural Areas	0.000	0.0%	0.261	82.2%	0.214	70.0%
Urban Areas	0.010	0.3%	3.098	93.4%	3.095	94.1%
Fixed 25/3 Mbps (Excluding Fixed Wireless)						
U.S. Territories	3.093	87.7%	3.248	89.3%	3.205	89.2%
Rural Areas	0.159	67.5%	0.200	62.8%	0.157	51.4%
Urban Areas	2.933	89.1%	3.049	91.9%	3.048	92.7%
Fixed 25/3 Mbps (Excluding Fixed Wireless) and Mobile 5G-NR - 35/3 Mbps						
U.S. Territories	0.010	0.3%	2.993	82.3%	2.976	82.8%
Rural Areas	0.000	0.0%	0.156	49.1%	0.105	34.4%
Urban Areas	0.010	0.3%	2.836	85.5%	2.871	87.3%
Fixed 100/20 Mbps (Including Fixed Wireless)						
U.S. Territories	3.255	92.3%	3.589	98.7%	3.402	94.7%
Rural Areas	0.185	78.4%	0.298	93.6%	0.214	69.9%
Urban Areas	3.070	93.3%	3.291	99.2%	3.188	97.0%
Fixed 100/20 Mbps (Including Fixed Wireless) and Mobile 5G-NR - 35/3 Mbps						
U.S. Territories	0.005	0.1%	3.339	91.8%	3.243	90.3%
Rural Areas	0.000	0.0%	0.259	81.3%	0.180	58.9%
Urban Areas	0.005	0.1%	3.080	92.8%	3.063	93.2%
Fixed 100/20 Mbps (Excluding Fixed Wireless)						
U.S. Territories	2.735	77.5%	3.005	82.6%	2.996	83.4%
Rural Areas	0.074	31.3%	0.164	51.5%	0.111	36.3%
Urban Areas	2.661	80.9%	2.841	85.6%	2.885	87.8%
Fixed 100/20 Mbps (Excluding Fixed Wireless) and Mobile 5G-NR - 35/3 Mbps						
U.S. Territories	0.005	0.1%	2.901	79.8%	2.914	81.1%
Rural Areas	0.000	0.0%	0.139	43.7%	0.099	32.3%
Urban Areas	0.005	0.1%	2.762	83.2%	2.815	85.6%
Fixed 940/500 Mbps (Including Fixed Wireless)						
U.S. Territories	0.494	14.0%	1.582	43.5%	1.530	42.6%
Rural Areas	0.011	4.7%	0.069	21.7%	0.055	17.9%
Urban Areas	0.483	14.7%	1.512	45.6%	1.475	44.9%
Fixed 940/500 Mbps (Including Fixed Wireless) and Mobile 5G-NR - 35/3 Mbps						
U.S. Territories	0.005	0.1%	1.577	43.4%	1.514	42.1%
Rural Areas	0.000	0.0%	0.067	21.1%	0.051	16.8%

	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
Urban Areas	0.005	0.1%	1.510	45.5%	1.462	44.5%
Fixed 940/500 Mbps (Excluding Fixed Wireless)						
U.S. Territories	0.494	14.0%	1.582	43.5%	1.529	42.5%
Rural Areas	0.011	4.7%	0.069	21.7%	0.055	17.9%
Urban Areas	0.483	14.7%	1.512	45.6%	1.474	44.8%
Fixed 940/500 Mbps (Excluding Fixed Wireless) and Mobile 5G-NR - 35/3 Mbps						
U.S. Territories	0.005	0.1%	1.577	43.4%	1.513	42.1%
Rural Areas	0.000	0.0%	0.067	21.1%	0.051	16.7%
Urban Areas	0.005	0.1%	1.510	45.5%	1.461	44.5%
Pop. Evaluated	3.527	100.0%	3.636	100.0%	3.593	100.0%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

APPX. B-4

Service Availability (Millions) of Mobile Services at Different Speed Tiers

	2018		2019		2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%
5G-NR - 35/3 Mbps (Outdoor Stationary Service)										
United States					237.475	72.1%	321.790	97.0%	303.330	91.0%
Rural Areas					28.467	43.3%	58.748	87.5%	43.540	64.3%
Urban Areas					209.008	79.3%	263.041	99.3%	259.791	97.8%
Tribal Areas					2.308	56.5%	3.603	88.9%	3.145	77.8%
5G-NR - 35/3 Mbps (In-Vehicle Mobile Service)										
United States									242.722	72.8%
Rural Areas									25.855	38.2%
Urban Areas									216.867	81.7%
Tribal Areas									2.559	63.3%
5G-NR - 7/1 Mbps (Outdoor Stationary Service)										
United States					307.561	93.3%	324.174	97.7%	323.537	97.1%
Rural Areas					52.012	79.0%	60.155	89.6%	58.901	87.0%
Urban Areas					255.549	96.9%	264.019	99.7%	264.637	99.7%
Tribal Areas					3.358	82.3%	3.648	90.0%	3.642	90.1%
5G-NR - 7/1 Mbps (In-Vehicle Mobile Service)										
United States									304.527	91.4%
Rural Areas									46.279	68.3%
Urban Areas									258.248	97.2%
Tribal Areas									3.326	82.3%
4G LTE - 5/1 Mbps (Outdoor Stationary Service)										
United States	326.727	99.9%	327.817	99.9%	329.181	99.9%	330.664	99.6%	331.673	99.5%
Rural Areas	64.097	99.4%	64.722	99.4%	65.513	99.5%	65.904	98.2%	66.408	98.1%
Urban Areas	262.630	100.0%	263.095	100.0%	263.668	100.0%	264.760	100.0%	265.265	99.9%
Tribal Areas	3.937	97.5%	3.959	97.7%	4.009	98.2%	3.952	97.5%	3.978	98.4%
4G LTE - 5/1 Mbps (In-Vehicle Mobile Service)										
United States									323.767	97.1%
Rural Areas									59.434	87.8%
Urban Areas									264.333	99.5%
Tribal Areas									3.833	94.8%

	2018		2019		2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%
Pop. Evaluated	327.167	100.0%	328.210	100.0%	329.491	100.0%	331.894	100.0%	333.288	100.0%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

Note: For the purposes of this report, we assume that all mobile broadband deployment data collected through Form 477 was modeled using an outdoor stationary environment. The Commission did not collect in-vehicle mobile data prior to 2022.

APPX. B-5

Service Availability (Millions) of Mobile Services at Different Median Ookla Speed Tiers

	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
5G-NR with a Median Speed of 7/1 Mbps						
United States	256.139	96.8%	290.599	99.2%	300.636	98.6%
Rural Areas	24.729	87.7%	37.676	95.0%	43.125	92.0%
Urban Areas	231.410	97.9%	252.923	99.9%	257.512	99.8%
Pop. Evaluated	264.520	80.3%	292.861	88.2%	304.974	91.5%
Mobile Broadband with a Median Speed of 10/3 Mbps						
United States	310.203	95.9%	311.625	95.7%	315.570	96.5%
Rural Areas	51.541	84.4%	50.935	82.4%	53.328	85.6%
Urban Areas	258.662	98.6%	260.690	98.8%	262.242	99.1%
Pop. Evaluated	323.358	98.1%	325.755	98.2%	327.008	98.1%

Source: FCC Form 477 data; FCC BDC data; Ookla Speedtest data; Staff Block Estimates.

APPX. B-6

Service Availability (Millions) of Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Minimum Advertised Speed of 35/3 Mbps; and Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Median Ookla Speed of 35/3 Mbps by State, District of Columbia, and U.S. Territory (December 31, 2022)

	Pop. Evaluated	Fixed 100/20 Mbps and Mobile 5G-NR Minimum 35/3 Mbps		Pop. Evaluated	Fixed 100/20 Mbps and Mobile 5G-NR Median 35/3 Mbps	
		Pop.	%		Pop.	%
Including Fixed Wireless						
United States	336.881	291.746	86.6%	304.974	274.424	90.0%
Rural Areas	68.031	33.916	49.9%	46.884	26.163	55.8%
Urban Areas	268.850	257.830	95.9%	258.090	248.261	96.2%
Alabama	5.074	3.804	75.0%	4.241	3.472	81.9%
Rural Areas	2.155	1.060	49.2%	1.478	0.845	57.2%
Urban Areas	2.919	2.743	94.0%	2.764	2.627	95.1%
Alaska	0.734	0.433	59.0%	0.588	0.328	55.8%
Rural Areas	0.267	0.060	22.5%	0.156	0.041	26.3%
Urban Areas	0.466	0.373	79.9%	0.432	0.287	66.4%
American Samoa	0.045	0.000	0.0%	*	*	*
Rural Areas	0.011	0.000	0.0%	*	*	*
Urban Areas	0.034	0.000	0.0%	*	*	*
Arizona	7.359	6.755	91.8%	7.311	6.730	92.1%
Rural Areas	0.793	0.380	48.0%	0.763	0.364	47.7%

	Fixed 100/20 Mbps and Mobile 5G-NR Minimum 35/3 Mbps			Fixed 100/20 Mbps and Mobile 5G-NR Median 35/3 Mbps		
	Pop. Evaluated	Pop.	%	Pop. Evaluated	Pop.	%
Urban Areas	6.566	6.375	97.1%	6.548	6.366	97.2%
Arkansas	3.046	2.156	70.8%	2.202	1.784	81.0%
Rural Areas	1.359	0.571	42.0%	0.736	0.386	52.5%
Urban Areas	1.686	1.585	94.0%	1.466	1.398	95.3%
California	39.029	37.023	94.9%	38.924	36.967	95.0%
Rural Areas	2.295	1.273	55.5%	2.214	1.240	56.0%
Urban Areas	36.735	35.750	97.3%	36.710	35.728	97.3%
Colorado	5.840	5.284	90.5%	5.476	5.106	93.3%
Rural Areas	0.825	0.373	45.3%	0.573	0.290	50.6%
Urban Areas	5.015	4.911	97.9%	4.903	4.817	98.2%
Connecticut	3.626	3.180	87.7%	3.626	3.180	87.7%
Rural Areas	0.507	0.312	61.5%	0.507	0.312	61.5%
Urban Areas	3.119	2.868	92.0%	3.119	2.868	92.0%
Delaware	1.018	0.936	91.9%	1.018	0.936	91.9%
Rural Areas	0.181	0.122	67.4%	0.181	0.122	67.4%
Urban Areas	0.837	0.814	97.2%	0.837	0.814	97.2%
District of Columbia	0.672	0.670	99.7%	0.672	0.670	99.7%
Urban Areas	0.672	0.670	99.7%	0.672	0.670	99.7%
Florida	22.245	20.284	91.2%	21.993	20.192	91.8%
Rural Areas	1.910	0.894	46.8%	1.688	0.828	49.1%
Urban Areas	20.335	19.390	95.4%	20.305	19.364	95.4%
Georgia	10.913	9.013	82.6%	9.170	8.208	89.5%
Rural Areas	2.880	1.365	47.4%	1.542	0.884	57.3%
Urban Areas	8.033	7.648	95.2%	7.628	7.324	96.0%
Guam	0.169	0.072	42.4%	*	*	*
Rural Areas	0.020	0.001	5.4%	*	*	*
Urban Areas	0.149	0.071	47.4%	*	*	*
Hawaii	1.440	1.295	89.9%	1.440	1.295	89.9%
Rural Areas	0.210	0.130	62.0%	0.210	0.130	62.0%
Urban Areas	1.230	1.164	94.7%	1.230	1.164	94.7%
Idaho	1.939	1.584	81.7%	1.521	1.344	88.4%
Rural Areas	0.604	0.291	48.2%	0.312	0.161	51.7%
Urban Areas	1.335	1.293	96.9%	1.210	1.183	97.8%
Illinois	12.582	11.550	91.8%	11.566	11.020	95.3%
Rural Areas	1.669	0.813	48.7%	0.969	0.551	56.9%
Urban Areas	10.913	10.737	98.4%	10.597	10.469	98.8%
Indiana	6.833	5.689	83.3%	5.738	5.110	89.1%
Rural Areas	1.984	0.975	49.1%	1.211	0.695	57.4%
Urban Areas	4.849	4.714	97.2%	4.526	4.415	97.5%
Iowa	3.201	2.526	78.9%	2.119	1.891	89.2%
Rural Areas	1.183	0.601	50.8%	0.415	0.234	56.4%
Urban Areas	2.018	1.925	95.4%	1.704	1.657	97.2%
Kansas	2.937	2.460	83.8%	2.042	1.890	92.6%

	Fixed 100/20 Mbps and Mobile 5G-NR Minimum 35/3 Mbps			Fixed 100/20 Mbps and Mobile 5G-NR Median 35/3 Mbps		
	Pop. Evaluated	Pop.	%	Pop. Evaluated	Pop.	%
Rural Areas	0.826	0.435	52.7%	0.271	0.168	61.7%
Urban Areas	2.112	2.025	95.9%	1.770	1.722	97.3%
Kentucky	4.512	3.103	68.8%	2.991	2.566	85.8%
Rural Areas	1.873	0.638	34.1%	0.627	0.311	49.6%
Urban Areas	2.639	2.465	93.4%	2.364	2.255	95.4%
Louisiana	4.590	3.568	77.7%	3.937	3.338	84.8%
Rural Areas	1.315	0.515	39.2%	0.842	0.411	48.7%
Urban Areas	3.275	3.053	93.2%	3.094	2.928	94.6%
Maine	1.385	0.834	60.2%	1.230	0.782	63.6%
Rural Areas	0.849	0.360	42.4%	0.701	0.314	44.8%
Urban Areas	0.536	0.473	88.3%	0.529	0.468	88.5%
Maryland	6.165	5.702	92.5%	6.055	5.628	92.9%
Rural Areas	0.911	0.612	67.2%	0.836	0.573	68.5%
Urban Areas	5.254	5.090	96.9%	5.218	5.055	96.9%
Massachusetts	6.982	6.357	91.0%	6.968	6.348	91.1%
Rural Areas	0.627	0.379	60.5%	0.625	0.379	60.6%
Urban Areas	6.355	5.977	94.1%	6.343	5.970	94.1%
Michigan	10.034	8.315	82.9%	9.215	7.990	86.7%
Rural Areas	2.712	1.306	48.2%	2.051	1.101	53.7%
Urban Areas	7.323	7.010	95.7%	7.164	6.889	96.2%
Minnesota	5.717	4.883	85.4%	4.777	4.325	90.5%
Rural Areas	1.633	0.907	55.6%	0.997	0.605	60.7%
Urban Areas	4.084	3.976	97.4%	3.781	3.720	98.4%
Mississippi	2.940	1.806	61.4%	1.531	1.223	79.9%
Rural Areas	1.587	0.552	34.8%	0.494	0.234	47.3%
Urban Areas	1.354	1.254	92.6%	1.037	0.989	95.4%
Missouri	6.178	5.064	82.0%	5.235	4.564	87.2%
Rural Areas	1.918	0.928	48.4%	1.164	0.608	52.2%
Urban Areas	4.260	4.136	97.1%	4.070	3.957	97.2%
Montana	1.123	0.746	66.4%	0.734	0.561	76.5%
Rural Areas	0.527	0.207	39.3%	0.239	0.110	45.9%
Urban Areas	0.596	0.539	90.4%	0.495	0.452	91.3%
N. Mariana Isl.	0.051	0.000	0.2%	*	*	*
Rural Areas	0.013	0.000	0.2%	*	*	*
Urban Areas	0.038	0.000	0.2%	*	*	*
Nebraska	1.968	1.408	71.5%	1.170	1.141	97.6%
Rural Areas	0.532	0.148	27.8%	0.065	0.044	67.2%
Urban Areas	1.436	1.260	87.7%	1.104	1.097	99.4%
Nevada	3.178	3.076	96.8%	3.098	2.933	94.7%
Rural Areas	0.189	0.119	63.1%	0.142	0.090	63.8%
Urban Areas	2.989	2.957	98.9%	2.956	2.842	96.1%
New Hampshire	1.395	0.903	64.7%	1.320	0.868	65.8%
Rural Areas	0.589	0.240	40.7%	0.534	0.223	41.8%

		Fixed 100/20 Mbps and Mobile 5G-NR Minimum 35/3 Mbps		Fixed 100/20 Mbps and Mobile 5G-NR Median 35/3 Mbps		
	Pop. Evaluated	Pop.	%	Pop. Evaluated	Pop.	%
Urban Areas	0.806	0.663	82.3%	0.786	0.645	82.1%
New Jersey	9.262	8.676	93.7%	9.262	8.676	93.7%
Rural Areas	0.594	0.400	67.4%	0.594	0.400	67.4%
Urban Areas	8.668	8.276	95.5%	8.668	8.276	95.5%
New Mexico	2.113	1.662	78.6%	1.915	1.398	73.0%
Rural Areas	0.532	0.181	34.1%	0.436	0.130	29.9%
Urban Areas	1.581	1.481	93.6%	1.478	1.268	85.8%
New York	19.677	17.853	90.7%	19.281	17.679	91.7%
Rural Areas	2.563	1.446	56.4%	2.248	1.336	59.4%
Urban Areas	17.114	16.407	95.9%	17.033	16.343	95.9%
North Carolina	10.699	8.516	79.6%	9.498	7.948	83.7%
Rural Areas	3.589	1.879	52.4%	2.632	1.520	57.7%
Urban Areas	7.110	6.637	93.3%	6.866	6.428	93.6%
North Dakota	0.779	0.610	78.3%	0.364	0.329	90.2%
Rural Areas	0.302	0.164	54.1%	0.057	0.029	51.5%
Urban Areas	0.477	0.447	93.7%	0.308	0.300	97.4%
Ohio	11.756	10.190	86.7%	11.131	9.887	88.8%
Rural Areas	2.812	1.549	55.1%	2.375	1.406	59.2%
Urban Areas	8.944	8.641	96.6%	8.757	8.481	96.9%
Oklahoma	4.020	3.327	82.8%	3.575	3.044	85.1%
Rural Areas	1.432	0.794	55.4%	1.078	0.613	56.8%
Urban Areas	2.588	2.533	97.9%	2.497	2.431	97.4%
Oregon	4.240	3.643	85.9%	4.022	3.518	87.5%
Rural Areas	0.843	0.363	43.1%	0.730	0.331	45.3%
Urban Areas	3.397	3.280	96.5%	3.292	3.187	96.8%
Pennsylvania	12.972	11.557	89.1%	12.517	11.317	90.4%
Rural Areas	3.085	1.900	61.6%	2.739	1.759	64.2%
Urban Areas	9.887	9.657	97.7%	9.778	9.558	97.7%
Puerto Rico	3.222	3.077	95.5%	*	*	*
Rural Areas	0.255	0.176	68.8%	*	*	*
Urban Areas	2.966	2.901	97.8%	*	*	*
Rhode Island	1.094	0.998	91.2%	1.094	0.998	91.2%
Rural Areas	0.101	0.065	64.7%	0.101	0.065	64.7%
Urban Areas	0.993	0.932	93.9%	0.993	0.932	93.9%
South Carolina	5.283	4.282	81.1%	4.708	4.017	85.3%
Rural Areas	1.694	0.901	53.2%	1.245	0.737	59.2%
Urban Areas	3.589	3.382	94.2%	3.463	3.280	94.7%
South Dakota	0.910	0.735	80.7%	0.389	0.363	93.3%
Rural Areas	0.393	0.233	59.4%	0.071	0.048	67.9%
Urban Areas	0.517	0.501	96.9%	0.319	0.315	99.0%
Tennessee	7.051	5.695	80.8%	5.695	5.020	88.1%
Rural Areas	2.407	1.228	51.0%	1.364	0.813	59.6%
Urban Areas	4.644	4.467	96.2%	4.331	4.207	97.1%

	Fixed 100/20 Mbps and Mobile 5G-NR Minimum 35/3 Mbps			Fixed 100/20 Mbps and Mobile 5G-NR Median 35/3 Mbps		
	Pop. Evaluated	Pop.	%	Pop. Evaluated	Pop.	%
Texas	30.030	26.950	89.7%	28.611	26.140	91.4%
Rural Areas	5.029	2.908	57.8%	4.027	2.458	61.0%
Urban Areas	25.001	24.042	96.2%	24.584	23.682	96.3%
U.S. Virgin Isl.	0.105	0.094	89.5%	*	*	*
Rural Areas	0.006	0.003	52.4%	*	*	*
Urban Areas	0.099	0.091	91.8%	*	*	*
Utah	3.381	3.254	96.2%	3.237	3.152	97.4%
Rural Areas	0.362	0.272	75.1%	0.254	0.200	78.9%
Urban Areas	3.018	2.982	98.8%	2.983	2.952	99.0%
Vermont	0.647	0.311	48.0%	0.169	0.112	65.9%
Rural Areas	0.419	0.133	31.8%	0.045	0.015	34.1%
Urban Areas	0.228	0.178	77.8%	0.124	0.096	77.4%
Virginia	8.684	7.131	82.1%	7.338	6.380	86.9%
Rural Areas	2.158	0.909	42.1%	1.238	0.575	46.4%
Urban Areas	6.526	6.221	95.3%	6.100	5.806	95.2%
Washington	7.786	6.732	86.5%	7.683	6.686	87.0%
Rural Areas	1.331	0.559	42.0%	1.254	0.537	42.8%
Urban Areas	6.455	6.173	95.6%	6.429	6.149	95.6%
West Virginia	1.775	0.973	54.8%	1.262	0.812	64.4%
Rural Areas	0.980	0.288	29.4%	0.557	0.197	35.3%
Urban Areas	0.795	0.685	86.1%	0.705	0.616	87.3%
Wisconsin	5.893	4.618	78.4%	5.026	4.316	85.9%
Rural Areas	1.966	0.898	45.7%	1.229	0.699	56.9%
Urban Areas	3.927	3.719	94.7%	3.797	3.617	95.2%
Wyoming	0.581	0.385	66.2%	0.289	0.239	82.8%
Rural Areas	0.226	0.095	41.9%	0.067	0.040	59.4%
Urban Areas	0.356	0.290	81.6%	0.221	0.199	89.9%
Excluding Fixed Wireless						
United States	336.881	285.699	84.8%	304.974	269.607	88.4%
Rural Areas	68.031	29.995	44.1%	46.884	23.124	49.3%
Urban Areas	268.850	255.704	95.1%	258.090	246.483	95.5%
Alabama	5.074	3.775	74.4%	4.241	3.454	81.4%
Rural Areas	2.155	1.039	48.2%	1.478	0.835	56.5%
Urban Areas	2.919	2.736	93.7%	2.764	2.620	94.8%
Alaska	0.734	0.407	55.4%	0.588	0.314	53.5%
Rural Areas	0.267	0.045	16.7%	0.156	0.030	19.5%
Urban Areas	0.466	0.362	77.6%	0.432	0.284	65.7%
American Samoa	0.045	0.000	0.0%	*	*	*
Rural Areas	0.011	0.000	0.0%	*	*	*
Urban Areas	0.034	0.000	0.0%	*	*	*
Arizona	7.359	6.473	88.0%	7.311	6.450	88.2%
Rural Areas	0.793	0.226	28.5%	0.763	0.211	27.7%
Urban Areas	6.566	6.247	95.1%	6.548	6.239	95.3%

	Fixed 100/20 Mbps and Mobile 5G-NR Minimum 35/3 Mbps			Fixed 100/20 Mbps and Mobile 5G-NR Median 35/3 Mbps		
	Pop. Evaluated	Pop.	%	Pop. Evaluated	Pop.	%
Arkansas	3.046	2.123	69.7%	2.202	1.763	80.1%
Rural Areas	1.359	0.544	40.0%	0.736	0.371	50.4%
Urban Areas	1.686	1.579	93.7%	1.466	1.392	95.0%
California	39.029	36.240	92.9%	38.924	36.203	93.0%
Rural Areas	2.295	0.801	34.9%	2.214	0.785	35.5%
Urban Areas	36.735	35.440	96.5%	36.710	35.417	96.5%
Colorado	5.840	5.137	88.0%	5.476	4.974	90.8%
Rural Areas	0.825	0.267	32.4%	0.573	0.197	34.3%
Urban Areas	5.015	4.870	97.1%	4.903	4.777	97.4%
Connecticut	3.626	3.173	87.5%	3.626	3.173	87.5%
Rural Areas	0.507	0.311	61.3%	0.507	0.311	61.3%
Urban Areas	3.119	2.863	91.8%	3.119	2.863	91.8%
Delaware	1.018	0.934	91.7%	1.018	0.934	91.7%
Rural Areas	0.181	0.120	66.4%	0.181	0.120	66.4%
Urban Areas	0.837	0.813	97.1%	0.837	0.813	97.1%
District of Columbia	0.672	0.670	99.7%	0.672	0.670	99.7%
Urban Areas	0.672	0.670	99.7%	0.672	0.670	99.7%
Florida	22.245	20.183	90.7%	21.993	20.096	91.4%
Rural Areas	1.910	0.840	44.0%	1.688	0.779	46.1%
Urban Areas	20.335	19.343	95.1%	20.305	19.317	95.1%
Georgia	10.913	8.951	82.0%	9.170	8.168	89.1%
Rural Areas	2.880	1.317	45.7%	1.542	0.858	55.7%
Urban Areas	8.033	7.633	95.0%	7.628	7.310	95.8%
Guam	0.169	0.033	19.8%	*	*	*
Rural Areas	0.020	0.000	0.8%	*	*	*
Urban Areas	0.149	0.033	22.3%	*	*	*
Hawaii	1.440	1.288	89.4%	1.440	1.288	89.4%
Rural Areas	0.210	0.130	61.8%	0.210	0.130	61.8%
Urban Areas	1.230	1.158	94.1%	1.230	1.158	94.1%
Idaho	1.939	1.468	75.7%	1.521	1.277	84.0%
Rural Areas	0.604	0.178	29.4%	0.312	0.097	31.0%
Urban Areas	1.335	1.290	96.6%	1.210	1.181	97.6%
Illinois	12.582	11.420	90.8%	11.566	10.924	94.5%
Rural Areas	1.669	0.704	42.2%	0.969	0.474	48.9%
Urban Areas	10.913	10.716	98.2%	10.597	10.450	98.6%
Indiana	6.833	5.563	81.4%	5.738	4.991	87.0%
Rural Areas	1.984	0.863	43.5%	1.211	0.590	48.7%
Urban Areas	4.849	4.700	96.9%	4.526	4.401	97.2%
Iowa	3.201	2.450	76.5%	2.119	1.860	87.8%
Rural Areas	1.183	0.529	44.7%	0.415	0.206	49.6%
Urban Areas	2.018	1.921	95.2%	1.704	1.654	97.1%
Kansas	2.937	2.364	80.5%	2.042	1.835	89.9%
Rural Areas	0.826	0.345	41.8%	0.271	0.117	43.2%

		Fixed 100/20 Mbps and Mobile 5G-NR Minimum 35/3 Mbps		Fixed 100/20 Mbps and Mobile 5G-NR Median 35/3 Mbps		
	Pop. Evaluated	Pop.	%	Pop. Evaluated	Pop.	%
Urban Areas	2.112	2.019	95.6%	1.770	1.717	97.0%
Kentucky	4.512	3.081	68.3%	2.991	2.552	85.3%
Rural Areas	1.873	0.627	33.5%	0.627	0.304	48.5%
Urban Areas	2.639	2.454	93.0%	2.364	2.248	95.1%
Louisiana	4.590	3.524	76.8%	3.937	3.306	84.0%
Rural Areas	1.315	0.497	37.8%	0.842	0.400	47.4%
Urban Areas	3.275	3.027	92.4%	3.094	2.906	93.9%
Maine	1.385	0.823	59.4%	1.230	0.771	62.7%
Rural Areas	0.849	0.357	42.0%	0.701	0.311	44.4%
Urban Areas	0.536	0.466	86.8%	0.529	0.460	87.0%
Maryland	6.165	5.679	92.1%	6.055	5.605	92.6%
Rural Areas	0.911	0.602	66.1%	0.836	0.564	67.4%
Urban Areas	5.254	5.077	96.6%	5.218	5.042	96.6%
Massachusetts	6.982	6.345	90.9%	6.968	6.337	90.9%
Rural Areas	0.627	0.379	60.4%	0.625	0.378	60.5%
Urban Areas	6.355	5.966	93.9%	6.343	5.959	93.9%
Michigan	10.034	8.125	81.0%	9.215	7.821	84.9%
Rural Areas	2.712	1.158	42.7%	2.051	0.973	47.4%
Urban Areas	7.323	6.967	95.1%	7.164	6.848	95.6%
Minnesota	5.717	4.753	83.1%	4.777	4.240	88.7%
Rural Areas	1.633	0.785	48.1%	0.997	0.527	52.8%
Urban Areas	4.084	3.968	97.2%	3.781	3.713	98.2%
Mississippi	2.940	1.794	61.0%	1.531	1.218	79.5%
Rural Areas	1.587	0.542	34.2%	0.494	0.231	46.7%
Urban Areas	1.354	1.251	92.5%	1.037	0.987	95.2%
Missouri	6.178	4.765	77.1%	5.235	4.351	83.1%
Rural Areas	1.918	0.677	35.3%	1.164	0.437	37.5%
Urban Areas	4.260	4.088	96.0%	4.070	3.914	96.2%
Montana	1.123	0.704	62.7%	0.734	0.526	71.8%
Rural Areas	0.527	0.169	32.1%	0.239	0.079	33.0%
Urban Areas	0.596	0.535	89.7%	0.495	0.448	90.5%
N. Mariana Isl.	0.051	0.000	0.0%	*	*	*
Rural Areas	0.013	0.000	0.0%	*	*	*
Urban Areas	0.038	0.000	0.0%	*	*	*
Nebraska	1.968	1.376	69.9%	1.170	1.126	96.3%
Rural Areas	0.532	0.119	22.3%	0.065	0.031	47.3%
Urban Areas	1.436	1.257	87.5%	1.104	1.095	99.2%
Nevada	3.178	2.992	94.2%	3.098	2.886	93.2%
Rural Areas	0.189	0.076	40.0%	0.142	0.062	44.0%
Urban Areas	2.989	2.916	97.6%	2.956	2.823	95.5%
New Hampshire	1.395	0.900	64.5%	1.320	0.866	65.6%
Rural Areas	0.589	0.238	40.4%	0.534	0.221	41.5%
Urban Areas	0.806	0.662	82.2%	0.786	0.645	82.0%

	Fixed 100/20 Mbps and Mobile 5G-NR Minimum 35/3 Mbps			Fixed 100/20 Mbps and Mobile 5G-NR Median 35/3 Mbps		
	Pop. Evaluated	Pop.	%	Pop. Evaluated	Pop.	%
New Jersey	9.262	8.624	93.1%	9.262	8.624	93.1%
Rural Areas	0.594	0.397	66.9%	0.594	0.397	66.9%
Urban Areas	8.668	8.226	94.9%	8.668	8.226	94.9%
New Mexico	2.113	1.610	76.2%	1.915	1.351	70.6%
Rural Areas	0.532	0.153	28.8%	0.436	0.107	24.5%
Urban Areas	1.581	1.457	92.1%	1.478	1.244	84.2%
New York	19.677	17.638	89.6%	19.281	17.465	90.6%
Rural Areas	2.563	1.436	56.0%	2.248	1.327	59.0%
Urban Areas	17.114	16.202	94.7%	17.033	16.138	94.7%
North Carolina	10.699	8.435	78.8%	9.498	7.876	82.9%
Rural Areas	3.589	1.843	51.4%	2.632	1.492	56.7%
Urban Areas	7.110	6.592	92.7%	6.866	6.384	93.0%
North Dakota	0.779	0.602	77.3%	0.364	0.323	88.7%
Rural Areas	0.302	0.157	51.8%	0.057	0.024	42.8%
Urban Areas	0.477	0.446	93.5%	0.308	0.299	97.1%
Ohio	11.756	10.052	85.5%	11.131	9.772	87.8%
Rural Areas	2.812	1.461	52.0%	2.375	1.338	56.3%
Urban Areas	8.944	8.591	96.0%	8.757	8.434	96.3%
Oklahoma	4.020	3.173	78.9%	3.575	2.944	82.3%
Rural Areas	1.432	0.659	46.0%	1.078	0.527	48.9%
Urban Areas	2.588	2.514	97.1%	2.497	2.417	96.8%
Oregon	4.240	3.590	84.7%	4.022	3.467	86.2%
Rural Areas	0.843	0.322	38.3%	0.730	0.292	39.9%
Urban Areas	3.397	3.268	96.2%	3.292	3.175	96.5%
Pennsylvania	12.972	11.500	88.7%	12.517	11.272	90.0%
Rural Areas	3.085	1.857	60.2%	2.739	1.725	63.0%
Urban Areas	9.887	9.643	97.5%	9.778	9.546	97.6%
Puerto Rico	3.222	2.786	86.5%	*	*	*
Rural Areas	0.255	0.096	37.5%	*	*	*
Urban Areas	2.966	2.691	90.7%	*	*	*
Rhode Island	1.094	0.998	91.2%	1.094	0.998	91.2%
Rural Areas	0.101	0.065	64.7%	0.101	0.065	64.7%
Urban Areas	0.993	0.932	93.9%	0.993	0.932	93.9%
South Carolina	5.283	4.245	80.3%	4.708	3.984	84.6%
Rural Areas	1.694	0.880	52.0%	1.245	0.721	57.9%
Urban Areas	3.589	3.364	93.7%	3.463	3.264	94.2%
South Dakota	0.910	0.724	79.5%	0.389	0.362	92.9%
Rural Areas	0.393	0.223	56.9%	0.071	0.047	66.1%
Urban Areas	0.517	0.500	96.7%	0.319	0.315	98.9%
Tennessee	7.051	5.672	80.4%	5.695	5.001	87.8%
Rural Areas	2.407	1.215	50.5%	1.364	0.803	58.9%
Urban Areas	4.644	4.458	96.0%	4.331	4.198	96.9%
Texas	30.030	25.639	85.4%	28.611	24.975	87.3%

	Fixed 100/20 Mbps and Mobile 5G-NR Minimum 35/3 Mbps			Fixed 100/20 Mbps and Mobile 5G-NR Median 35/3 Mbps		
	Pop. Evaluated	Pop.	%	Pop. Evaluated	Pop.	%
Rural Areas	5.029	2.033	40.4%	4.027	1.707	42.4%
Urban Areas	25.001	23.606	94.4%	24.584	23.268	94.6%
U.S. Virgin Isl.	0.105	0.094	88.9%	*	*	*
Rural Areas	0.006	0.003	48.0%	*	*	*
Urban Areas	0.099	0.091	91.5%	*	*	*
Utah	3.381	3.153	93.3%	3.237	3.065	94.7%
Rural Areas	0.362	0.208	57.4%	0.254	0.150	59.0%
Urban Areas	3.018	2.945	97.6%	2.983	2.915	97.7%
Vermont	0.647	0.309	47.7%	0.169	0.111	65.8%
Rural Areas	0.419	0.131	31.4%	0.045	0.015	33.7%
Urban Areas	0.228	0.178	77.8%	0.124	0.096	77.4%
Virginia	8.684	7.014	80.8%	7.338	6.305	85.9%
Rural Areas	2.158	0.817	37.9%	1.238	0.521	42.1%
Urban Areas	6.526	6.197	95.0%	6.100	5.784	94.8%
Washington	7.786	6.634	85.2%	7.683	6.593	85.8%
Rural Areas	1.331	0.482	36.2%	1.254	0.466	37.2%
Urban Areas	6.455	6.152	95.3%	6.429	6.127	95.3%
West Virginia	1.775	0.964	54.3%	1.262	0.807	63.9%
Rural Areas	0.980	0.282	28.8%	0.557	0.193	34.7%
Urban Areas	0.795	0.682	85.8%	0.705	0.613	87.0%
Wisconsin	5.893	4.388	74.5%	5.026	4.115	81.9%
Rural Areas	1.966	0.726	36.9%	1.229	0.555	45.2%
Urban Areas	3.927	3.662	93.3%	3.797	3.560	93.7%
Wyoming	0.581	0.343	59.0%	0.289	0.215	74.6%
Rural Areas	0.226	0.062	27.3%	0.067	0.022	33.4%
Urban Areas	0.356	0.281	79.1%	0.221	0.193	87.1%

Source: FCC BDC data; Ookla Speedtest data; Staff Block Estimates.

Note: U.S. territories do not have a sufficient number of samples, thus, we do not provide Ookla analysis in these areas.

APPX. B-7

Adoption Rate for Fixed Terrestrial Services in the United States and U.S. Territories (December 31, 2022)

	Including Fixed Wireless			Excluding Fixed Wireless		
	25/3 Mbps	100/20 Mbps	940/500 Mbps	25/3 Mbps	100/20 Mbps	940/500 Mbps
United States	78.2%	41.3%	19.6%	79.3%	41.8%	19.9%
Alabama	71.5%	37.8%	22.0%	71.1%	37.7%	22.0%
Alaska	65.0%	*	8.0%	70.2%	*	*
American Samoa	*	0.0%	NA	*	0.0%	NA
Arizona	79.6%	27.2%	9.9%	78.8%	26.3%	20.2%
Arkansas	63.2%	36.0%	15.5%	63.6%	36.1%	15.5%
California	82.7%	36.7%	16.6%	83.2%	36.5%	16.2%
Colorado	83.4%	34.6%	18.4%	85.0%	35.0%	18.1%

	Including Fixed Wireless			Excluding Fixed Wireless		
	25/3 Mbps	100/20 Mbps	940/500 Mbps	25/3 Mbps	100/20 Mbps	940/500 Mbps
Connecticut	78.5%	47.0%	7.2%	77.8%	46.9%	7.2%
Delaware	73.6%	47.7%	*	74.3%	47.7%	*
District of Columbia	77.7%	51.3%	*	74.1%	49.4%	*
Florida	85.9%	43.6%	18.0%	85.5%	43.3%	17.9%
Georgia	79.7%	46.5%	27.0%	79.4%	46.7%	27.0%
Guam	*	*	0.0%	*	*	0.0%
Hawaii	*	*	*	*	*	*
Idaho	61.6%	43.8%	11.0%	65.3%	47.9%	11.9%
Illinois	72.8%	37.2%	12.5%	71.7%	36.2%	11.3%
Indiana	72.9%	39.8%	16.7%	75.1%	39.9%	16.7%
Iowa	66.1%	48.0%	10.7%	67.0%	50.7%	10.7%
Kansas	70.6%	38.6%	26.7%	73.6%	40.4%	26.7%
Kentucky	74.6%	40.3%	13.1%	75.7%	40.4%	13.1%
Louisiana	68.8%	31.7%	20.2%	69.8%	31.9%	20.2%
Maine	74.6%	19.5%	1.3%	78.4%	19.7%	1.3%
Maryland	87.3%	60.2%	*	87.0%	60.2%	*
Massachusetts	85.2%	49.7%	26.6%	84.0%	49.2%	26.7%
Michigan	76.1%	31.2%	11.2%	77.9%	31.5%	11.2%
Minnesota	76.5%	32.1%	8.3%	76.1%	32.3%	8.3%
Mississippi	62.3%	44.5%	27.8%	62.4%	44.8%	27.8%
Missouri	68.1%	40.4%	18.9%	74.0%	43.8%	23.2%
Montana	69.0%	21.2%	10.6%	76.7%	22.5%	10.8%
N. Mariana Isl.	*	0.0%	NA	*	NA	NA
Nebraska	75.1%	34.6%	8.8%	77.8%	36.3%	8.8%
Nevada	80.5%	27.0%	15.8%	78.6%	26.1%	17.2%
New Hampshire	82.4%	48.3%	1.8%	82.7%	48.4%	1.8%
New Jersey	82.4%	62.2%	*	82.6%	62.4%	*
New Mexico	66.1%	22.3%	19.1%	68.7%	22.9%	19.1%
New York	79.8%	49.3%	20.2%	80.3%	49.6%	20.2%
North Carolina	84.9%	42.6%	24.3%	86.1%	42.8%	24.3%
North Dakota	73.4%	67.8%	5.1%	73.3%	68.1%	5.1%
Ohio	77.1%	34.3%	11.0%	78.0%	34.4%	11.0%
Oklahoma	63.6%	33.8%	22.4%	66.9%	35.9%	22.4%
Oregon	81.7%	31.8%	10.5%	82.4%	31.9%	10.5%
Pennsylvania	81.1%	51.3%	21.2%	80.3%	51.3%	21.2%
Puerto Rico	38.2%	11.8%	1.3%	41.0%	12.8%	1.3%
Rhode Island	82.7%	43.9%	*	81.8%	43.8%	*
South Carolina	80.4%	44.1%	15.8%	79.9%	44.1%	15.8%
South Dakota	76.1%	60.4%	8.1%	76.8%	61.3%	8.3%
Tennessee	79.3%	46.0%	23.9%	78.5%	45.7%	23.9%
Texas	78.0%	46.7%	25.4%	82.5%	49.8%	26.5%
U.S. Virgin Isl.	*	*	NA	*	*	NA
Utah	81.2%	40.3%	23.1%	78.8%	40.0%	23.2%
Vermont	79.3%	43.1%	13.6%	84.6%	43.3%	13.6%
Virginia	80.5%	47.6%	35.9%	82.5%	48.9%	35.9%

	Including Fixed Wireless			Excluding Fixed Wireless		
	25/3 Mbps	100/20 Mbps	940/500 Mbps	25/3 Mbps	100/20 Mbps	940/500 Mbps
Washington	85.7%	33.3%	12.8%	86.3%	33.2%	12.5%
West Virginia	66.5%	42.5%	11.2%	69.8%	43.0%	11.2%
Wisconsin	72.0%	25.8%	8.3%	77.0%	27.3%	8.3%
Wyoming	72.8%	21.3%	7.7%	74.5%	23.4%	9.6%

Source: FCC BDC data; Staff Block Estimates.

NA: Service is not available in this area; * Data not included to maintain confidentiality.

APPX. B-8

Service Availability (Millions) of Fixed 100/20 Mbps and Mobile Services at Different Speed Tiers Including U.S. Territories

	2018		2019		2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%
Fixed 100/20 Mbps (Including Fixed Wireless) and Mobile 5G-NR - 35/3 Mbps (In-Vehicle Mobile Service)										
United States									236.149	70.0%
Rural Areas									20.594	30.2%
Urban Areas									215.555	80.1%
Tribal Areas									2.242	55.4%
Fixed 100/20 Mbps (Excluding Fixed Wireless) and Mobile 5G-NR - 35/3 Mbps (In-Vehicle Mobile Service)										
United States									231.605	68.7%
Rural Areas									17.958	26.3%
Urban Areas									213.647	79.4%
Tribal Areas									2.113	52.2%
Fixed 100/20 Mbps (Incl. Fixed Wireless) and Mobile 5G-NR - 7/1 Mbps (Outdoor Stationary Service)										
United States					288.749	86.7%	310.723	92.6%	306.525	90.9%
Rural Areas					36.504	55.2%	47.466	70.3%	43.970	64.6%
Urban Areas					252.245	94.4%	263.256	98.1%	262.555	97.6%
Tribal Areas					2.227	54.5%	2.864	70.7%	2.948	72.9%
Fixed 100/20 Mbps (Excl. Fixed Wireless) and Mobile 5G-NR - 7/1 Mbps (Outdoor Stationary Service)										
United States					285.009	85.5%	305.974	91.1%	299.085	88.7%
Rural Areas					34.306	51.9%	44.071	65.3%	38.701	56.8%
Urban Areas					250.703	93.9%	261.903	97.6%	260.384	96.8%
Tribal Areas					2.128	52.1%	2.789	68.8%	2.697	66.7%
Fixed 100/20 Mbps (Including Fixed Wireless) and Mobile 5G-NR - 7/1 Mbps (In-Vehicle Mobile Service)										
United States									291.541	86.5%
Rural Areas									35.314	51.9%
Urban Areas									256.227	95.3%
Tribal Areas									2.762	68.3%
Fixed 100/20 Mbps (Excluding Fixed Wireless) and Mobile 5G-NR - 7/1 Mbps (In-Vehicle Mobile Service)										
United States									284.906	84.5%
Rural Areas									30.800	45.2%
Urban Areas									254.106	94.5%
Tribal Areas									2.542	62.8%

	2018		2019		2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%
Fixed 100/20 Mbps (Including Fixed Wireless) and Mobile 4G LTE (Outdoor Stationary Service)										
United States	291.811	88.2%	297.069	89.5%	304.753	91.5%	315.365	93.9%	311.636	92.5%
Rural Areas	37.515	57.9%	40.407	61.8%	44.780	67.8%	51.240	75.9%	48.398	71.1%
Urban Areas	254.295	95.6%	256.662	96.3%	259.973	97.3%	264.125	98.5%	263.237	97.9%
Tribal Areas	1.995	49.4%	2.218	54.7%	2.484	60.8%	2.988	73.7%	3.076	76.0%
Fixed 100/20 Mbps (Excluding Fixed Wireless) and Mobile 4G LTE (Outdoor Stationary Service)										
United States	287.884	87.0%	294.107	88.6%	300.434	90.2%	310.161	92.4%	303.696	90.1%
Rural Areas	36.228	55.9%	38.752	59.3%	42.088	63.7%	47.533	70.4%	42.673	62.7%
Urban Areas	251.657	94.6%	255.354	95.8%	258.347	96.7%	262.628	97.9%	261.022	97.0%
Tribal Areas	1.946	48.1%	2.130	52.5%	2.353	57.6%	2.896	71.4%	2.800	69.2%
Fixed 100/20 Mbps (Including Fixed Wireless) and Mobile 4G LTE (In-Vehicle Mobile Service)										
United States									306.639	91.0%
Rural Areas									44.317	65.1%
Urban Areas									262.321	97.5%
Tribal Areas									3.005	74.3%
Fixed 100/20 Mbps (Excluding Fixed Wireless) and Mobile 4G LTE (In-Vehicle Mobile Service)										
United States									299.058	88.7%
Rural Areas									38.948	57.2%
Urban Areas									260.111	96.7%
Tribal Areas									2.741	67.8%
Pop. Evaluated	330.740	100.0%	331.777	100.0%	333.018	100.0%	335.530	100.0%	336.881	100.0%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

Note: For the purposes of this report, we assume that all mobile broadband deployment data collected through Form 477 was modeled using an outdoor stationary environment. The Commission did not collect in-vehicle mobile data prior to 2022.

APPX. B-9

Service Availability (Millions) of Fixed 100/20 Mbps and Mobile Services at Different Speed Tiers

	2018		2019		2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%
Fixed 100/20 Mbps (Including Fixed Wireless) and Mobile 5G-NR - 35/3 Mbps (In-Vehicle Mobile Service)										
United States									233.126	69.9%
Rural Areas									20.448	30.1%
Urban Areas									212.677	80.0%
Tribal Areas									2.242	55.4%
Fixed 100/20 Mbps (Excluding Fixed Wireless) and Mobile 5G-NR - 35/3 Mbps (In-Vehicle Mobile Service)										
United States									228.868	68.6%
Rural Areas									17.876	26.3%
Urban Areas									210.992	79.4%
Tribal Areas									2.113	52.2%
Fixed 100/20 Mbps (Incl. Fixed Wireless) and Mobile 5G-NR - 7/1 Mbps (Outdoor Stationary Service)										
United States					285.644	86.6%	307.384	92.6%	303.242	90.9%
Rural Areas					36.353	55.2%	47.208	70.3%	43.783	64.6%
Urban Areas					249.291	94.5%	260.176	98.2%	259.459	97.7%

	2018		2019		2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%
Tribal Areas					2.227	54.5%	2.864	70.7%	2.948	72.9%
Fixed 100/20 Mbps (Excl. Fixed Wireless) and Mobile 5G-NR - 7/1 Mbps (Outdoor Stationary Service)										
United States					282.393	85.7%	303.073	91.3%	296.148	88.8%
Rural Areas					34.249	52.0%	43.932	65.4%	38.599	56.9%
Urban Areas					248.144	94.1%	259.141	97.8%	257.549	96.9%
Tribal Areas					2.128	52.1%	2.789	68.8%	2.697	66.7%
Fixed 100/20 Mbps (Including Fixed Wireless) and Mobile 5G-NR - 7/1 Mbps (In-Vehicle Mobile Service)										
United States									288.431	86.5%
Rural Areas									35.160	51.9%
Urban Areas									253.271	95.3%
Tribal Areas									2.762	68.3%
Fixed 100/20 Mbps (Excluding Fixed Wireless) and Mobile 5G-NR - 7/1 Mbps (In-Vehicle Mobile Service)										
United States									282.098	84.6%
Rural Areas									30.713	45.3%
Urban Areas									251.385	94.6%
Tribal Areas									2.542	62.8%
Fixed 100/20 Mbps (Including Fixed Wireless) and Mobile 4G LTE (Outdoor Stationary Service)										
United States	289.620	88.5%	294.013	89.5%	301.583	91.5%	311.839	93.9%	308.240	92.4%
Rural Areas	37.451	58.0%	40.287	61.9%	44.614	67.7%	50.965	75.9%	48.186	71.1%
Urban Areas	252.169	96.0%	253.726	96.4%	256.970	97.4%	260.874	98.5%	260.054	97.9%
Tribal Areas	1.995	49.4%	2.218	54.7%	2.484	60.8%	2.988	73.7%	3.076	76.0%
Fixed 100/20 Mbps (Excluding Fixed Wireless) and Mobile 4G LTE (Outdoor Stationary Service)										
United States	287.658	87.9%	291.237	88.7%	297.771	90.3%	307.209	92.5%	300.705	90.2%
Rural Areas	36.221	56.1%	38.663	59.4%	42.026	63.8%	47.384	70.6%	42.563	62.8%
Urban Areas	251.437	95.7%	252.574	95.9%	255.744	96.9%	259.825	98.1%	258.142	97.2%
Tribal Areas	1.946	48.1%	2.130	52.5%	2.353	57.6%	2.896	71.4%	2.800	69.2%
Fixed 100/20 Mbps (Including Fixed Wireless) and Mobile 4G LTE (In-Vehicle Mobile Service)										
United States									303.263	90.9%
Rural Areas									44.114	65.1%
Urban Areas									259.149	97.5%
Tribal Areas									3.005	74.3%
Fixed 100/20 Mbps (Excluding Fixed Wireless) and Mobile 4G LTE (In-Vehicle Mobile Service)										
United States									296.080	88.8%
Rural Areas									38.840	57.3%
Urban Areas									257.239	96.8%
Tribal Areas									2.741	67.8%
Pop. Evaluated	327.167	100.0%	328.210	100.0%	329.491	100.0%	331.894	100.0%	333.288	100.0%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

Note: For the purposes of this report, we assume that all mobile broadband deployment data collected through Form 477 was modeled using an outdoor stationary environment. The Commission did not collect in-vehicle mobile data prior to 2022.

APPX. B-10
Service Availability (Millions) on Tribal Lands of Mobile 5G-NR
with a Minimum Speed of 35/3 Mbps

Area	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
Tribal Lands	2.308	56.5%	3.603	88.9%	3.145	77.8%
Rural Areas	0.928	43.2%	1.832	81.7%	1.371	61.8%
Urban Areas	1.380	71.3%	1.771	97.9%	1.774	97.3%
Alaska Native Village Statistical Areas	0.110	40.9%	0.147	54.0%	0.118	43.6%
Rural Areas	0.050	29.0%	0.075	42.1%	0.050	28.2%
Urban Areas	0.060	62.7%	0.072	76.8%	0.068	72.4%
Federal Reservations	0.407	37.1%	0.850	78.1%	0.689	65.1%
Rural Areas	0.219	28.6%	0.583	71.8%	0.419	53.8%
Urban Areas	0.188	56.5%	0.267	96.6%	0.269	97.2%
Hawaiian Home Lands	0.010	29.3%	0.031	89.0%	0.032	94.0%
Rural Areas	0.001	22.0%	0.006	74.8%	0.006	78.0%
Urban Areas	0.009	30.9%	0.024	93.6%	0.026	99.1%
Tribal Statistical Areas	1.781	66.4%	2.576	96.9%	2.307	86.0%
Rural Areas	0.657	54.7%	1.168	93.8%	0.896	71.4%
Urban Areas	1.124	76.0%	1.408	99.7%	1.411	98.9%
Pop. Evaluated	4.083	100.0%	4.051	100.0%	4.043	100.0%

Source: FCC Form 477 data; FCC BDC data; Staff Block Estimates.

APPX. B-11
Service Availability (Millions) of Fixed 100/20 Mbps
and Mobile Services at Different Median Ookla Speed Tiers

	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
Fixed 100/20 Mbps (Including Fixed Wireless) and Mobile 5G-NR with a Median Speed of 7/1 Mbps						
United States	246.221	93.1%	280.513	95.8%	285.381	93.6%
Rural Areas	18.915	67.0%	30.975	78.1%	32.802	70.0%
Urban Areas	227.306	96.2%	249.538	98.6%	252.579	97.9%
Fixed 100/20 Mbps (Excluding Fixed Wireless) and Mobile 5G-NR with a Median Speed of 7/1 Mbps						
United States	244.317	92.4%	277.438	94.7%	279.616	91.7%
Rural Areas	17.893	63.4%	28.855	72.7%	28.871	61.6%
Urban Areas	226.425	95.8%	248.583	98.2%	250.744	97.2%
Pop. Evaluated	264.520	80.3%	292.861	88.2%	304.974	91.5%
Fixed 100/20 Mbps (Incl. Fixed Wireless) and Mobile Broadband with a Median Speed of 10/3 Mbps						
United States	289.341	89.5%	298.023	91.5%	297.051	90.8%
Rural Areas	36.667	60.1%	40.910	66.2%	39.876	64.0%
Urban Areas	252.673	96.3%	257.112	97.4%	257.176	97.2%
Fixed 100/20 Mbps (Excl. Fixed Wireless) and Mobile Broadband with a Median Speed of 10/3 Mbps						
United States	286.149	88.5%	294.186	90.3%	290.501	88.8%
Rural Areas	34.622	56.7%	38.056	61.5%	35.191	56.5%
Urban Areas	251.527	95.9%	256.130	97.1%	255.310	96.5%

	2020		2021		2022	
	Pop.	%	Pop.	%	Pop.	%
Pop. Evaluated	323.358	98.1%	325.755	98.2%	327.008	98.1%

Source: FCC Form 477 data; FCC BDC data; Ookla Speedtest data; Staff Block Estimates.

APPX. B-12

Service Availability (Millions) of Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps By State and County, including U.S. Territories (December 31, 2022)

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Alabama	5,074,296	82.8%	85.1%	75.0%	100.2	\$33,344
Autauga County	59,759	94.9%	90.9%	86.8%	100.5	\$35,332
Baldwin County	246,435	72.1%	91.4%	68.0%	155.0	\$38,907
Barbour County	24,706	61.3%	57.3%	42.6%	27.9	\$23,378
Bibb County	22,005	14.9%	49.9%	11.4%	35.4	\$24,966
Blount County	59,512	34.7%	69.0%	27.2%	92.3	\$29,053
Bullock County	10,202	85.0%	5.2%	3.4%	16.4	\$22,115
Butler County	18,650	62.8%	55.8%	42.7%	24.0	\$26,334
Calhoun County	115,788	92.1%	95.2%	89.8%	191.1	\$28,227
Chambers County	34,088	81.5%	76.6%	70.9%	57.1	\$27,006
Cherokee County	25,302	31.8%	49.4%	26.2%	45.7	\$28,422
Chilton County	45,884	48.2%	47.3%	16.7%	66.2	\$28,497
Choctaw County	12,439	21.6%	32.0%	7.6%	13.6	\$26,343
Clarke County	22,515	41.0%	55.3%	34.3%	18.2	\$29,310
Clay County	14,198	30.1%	39.1%	20.8%	23.5	\$27,991
Cleburne County	15,346	13.7%	33.0%	4.7%	27.4	\$28,598
Coffee County	54,805	81.7%	52.8%	45.5%	80.7	\$31,227
Colbert County	58,033	78.9%	82.9%	71.2%	97.9	\$30,724
Conecuh County	11,206	34.0%	44.5%	25.6%	13.2	\$24,426
Coosa County	10,166	73.8%	41.1%	35.9%	15.6	\$28,998
Covington County	37,602	90.1%	61.7%	59.9%	36.5	\$28,528
Crenshaw County	13,025	53.7%	51.8%	32.0%	21.4	\$32,396
Cullman County	90,665	75.1%	67.2%	53.6%	123.4	\$29,788
Dale County	49,544	66.1%	63.5%	46.4%	88.3	\$28,312
Dallas County	36,767	72.3%	51.8%	43.9%	37.6	\$22,798
DeKalb County	71,998	84.9%	63.9%	56.0%	92.7	\$24,915
Elmore County	89,563	86.6%	86.7%	75.6%	144.8	\$34,152
Escambia County	36,666	57.3%	65.2%	46.9%	38.8	\$21,758
Etowah County	103,088	88.6%	86.5%	80.5%	192.6	\$28,479
Fayette County	16,118	50.1%	46.0%	27.8%	25.7	\$27,053
Franklin County	31,932	57.9%	71.0%	50.5%	50.4	\$24,874
Geneva County	26,783	58.9%	53.6%	40.2%	46.6	\$25,644
Greene County	7,422	21.1%	57.5%	21.1%	11.5	\$20,862
Hale County	14,595	47.0%	54.7%	36.7%	22.7	\$23,690
Henry County	17,655	47.5%	55.0%	40.7%	31.4	\$30,273
Houston County	108,079	86.3%	85.2%	78.6%	186.4	\$32,126

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Jackson County	52,891	91.3%	48.1%	44.4%	49.1	\$27,695
Jefferson County	665,409	94.7%	98.1%	93.3%	598.6	\$38,224
Lamar County	13,705	96.5%	44.5%	42.8%	22.7	\$24,794
Lauderdale County	95,878	81.5%	89.2%	76.3%	143.5	\$32,678
Lawrence County	33,214	92.3%	63.5%	58.5%	48.1	\$29,486
Lee County	180,773	94.3%	88.9%	85.1%	297.5	\$33,083
Limestone County	110,900	86.8%	97.5%	86.0%	198.0	\$37,504
Lowndes County	9,777	26.7%	19.6%	8.6%	13.7	\$23,415
Macon County	18,516	64.3%	52.1%	42.6%	30.4	\$22,449
Madison County	403,565	98.3%	98.5%	97.0%	503.4	\$44,720
Marengo County	18,745	70.1%	65.2%	52.5%	19.2	\$27,210
Marion County	29,156	99.7%	65.4%	65.2%	39.3	\$25,205
Marshall County	99,423	92.9%	91.4%	86.3%	175.7	\$29,509
Mobile County	411,411	90.1%	95.1%	87.2%	334.7	\$30,482
Monroe County	19,404	53.1%	44.2%	31.0%	18.9	\$23,090
Montgomery County	226,361	92.0%	96.9%	89.8%	288.2	\$32,769
Morgan County	124,211	85.3%	84.8%	76.0%	214.3	\$33,223
Perry County	8,035	21.4%	35.8%	20.2%	11.2	\$16,581
Pickens County	18,697	48.7%	59.5%	40.8%	21.2	\$26,912
Pike County	33,014	56.6%	70.1%	41.7%	49.1	\$26,685
Randolph County	22,479	33.9%	47.1%	25.3%	38.7	\$27,558
Russell County	58,555	85.5%	94.8%	83.9%	91.3	\$25,855
Shelby County	230,115	87.9%	97.7%	86.8%	293.0	\$45,701
St. Clair County	93,932	85.7%	93.4%	82.0%	148.7	\$33,571
Sumter County	11,853	43.2%	62.2%	39.2%	13.1	\$19,720
Talladega County	80,704	79.5%	94.6%	76.4%	109.5	\$29,236
Tallapoosa County	40,977	82.9%	50.6%	45.6%	57.2	\$29,682
Tuscaloosa County	236,780	89.4%	95.6%	87.7%	179.3	\$32,141
Walker County	64,339	64.2%	90.5%	61.5%	81.3	\$28,204
Washington County	15,122	19.6%	28.2%	11.4%	14.0	\$29,210
Wilcox County	10,059	34.7%	18.6%	9.2%	11.3	\$20,442
Winston County	23,755	45.9%	51.2%	30.5%	38.8	\$26,933
Alaska	733,599	78.7%	63.2%	59.0%	1.3	\$42,828
Aleutians East Borough	3,398	0.0%	0.0%	0.0%	0.5	\$42,165
Aleutians West Census Area	5,122	3.5%	0.0%	0.0%	1.2	\$47,339
Anchorage Municipality	287,145	97.0%	84.3%	83.3%	168.2	\$46,554
Bethel Census Area	18,257	0.0%	0.0%	0.0%	0.4	\$25,859
Bristol Bay Borough	865	0.0%	0.0%	0.0%	1.8	\$45,499
Chugach Census Area	6,874	49.2%	42.1%	38.4%	0.7	\$44,700
Copper River Census Area	2,589	69.3%	0.0%	0.0%	0.1	\$37,887
Denali Borough	1,585	2.6%	13.9%	0.2%	0.1	\$73,692
Dillingham Census Area	4,723	0.0%	0.0%	0.0%	0.3	\$31,948
Fairbanks North Star Borough	95,356	89.0%	69.5%	64.4%	13.0	\$42,744

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Haines Borough	2,056	39.0%	0.3%	0.1%	0.9	\$33,585
Hoonah-Angoon Census Area	2,287	39.0%	18.1%	17.6%	0.3	\$39,257
Juneau City and Borough	31,685	98.1%	76.3%	75.9%	11.7	\$49,207
Kenai Peninsula Borough	60,690	80.0%	51.2%	45.0%	3.8	\$40,720
Ketchikan Gateway Borough	13,741	98.4%	57.0%	56.5%	2.8	\$44,368
Kodiak Island Borough	12,720	82.6%	63.5%	59.2%	1.9	\$39,563
Kusilvak Census Area	8,278	0.0%	0.0%	0.0%	0.5	\$17,166
Lake and Peninsula Borough	1,381	0.0%	0.0%	0.0%	0.1	\$39,409
Matanuska-Susitna Borough	113,325	67.3%	68.6%	54.5%	4.6	\$39,201
Nome Census Area	9,835	40.0%	0.0%	0.0%	0.4	\$28,678
North Slope Borough	10,805	52.8%	0.0%	0.0%	0.1	\$61,841
Northwest Arctic Borough	7,423	39.6%	0.0%	0.0%	0.2	\$32,133
Petersburg Borough	3,360	93.0%	0.0%	0.0%	1.2	\$37,856
Prince of Wales-Hyder Census Area	5,666	3.9%	0.2%	0.0%	0.9	\$34,433
Sitka City and Borough	8,382	97.0%	0.0%	0.0%	2.9	\$43,964
Skagway Municipality	1,081	55.7%	84.6%	54.6%	2.5	\$46,771
Southeast Fairbanks Census Area	7,021	5.4%	21.7%	4.3%	0.3	\$33,809
Wrangell City and Borough	2,070	85.7%	0.0%	0.0%	0.8	\$35,421
Yakutat City and Borough	700	0.0%	0.0%	0.0%	0.1	\$45,578
Yukon-Koyukuk Census Area	5,179	0.1%	8.9%	0.0%	0.0	\$29,382
American Samoa	45,443	22.1%	0.0%	0.0%	595.2	NA
Eastern District	15,034	28.7%	0.0%	0.0%	597.9	NA
Manu'a District	777	0.0%	0.0%	0.0%	34.9	NA
Western District	29,632	19.3%	0.0%	0.0%	1,058.6	NA
Arizona	7,359,197	93.0%	96.5%	91.8%	64.8	\$38,334
Apache County	65,432	2.5%	17.5%	0.9%	5.8	\$18,930
Cochise County	125,663	42.0%	88.5%	37.4%	20.2	\$31,423
Coconino County	144,060	70.0%	87.4%	68.6%	7.7	\$32,592
Gila County	53,922	54.4%	91.0%	53.2%	11.3	\$29,945
Graham County	38,779	85.0%	54.6%	47.8%	8.4	\$24,052
Greenlee County	9,302	68.6%	85.0%	57.8%	5.0	\$29,394
La Paz County	16,506	1.0%	72.0%	1.0%	3.7	\$30,399
Maricopa County	4,551,524	98.8%	99.8%	98.6%	494.6	\$41,533
Mohave County	220,816	79.1%	95.5%	79.1%	16.6	\$32,835

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Navajo County	108,650	50.8%	47.7%	40.5%	10.9	\$22,826
Pima County	1,057,597	99.2%	98.9%	98.4%	115.1	\$36,494
Pinal County	464,154	91.7%	96.7%	89.8%	86.5	\$33,158
Santa Cruz County	48,759	95.3%	78.6%	76.5%	39.4	\$25,619
Yavapai County	246,191	71.1%	90.1%	65.9%	30.3	\$37,666
Yuma County	207,842	93.1%	99.5%	93.0%	37.7	\$27,516
Arkansas	3,045,637	81.1%	81.8%	70.8%	58.6	\$31,868
Arkansas County	16,512	43.5%	77.7%	43.5%	16.6	\$28,759
Ashley County	18,354	63.0%	34.4%	24.2%	19.8	\$25,568
Baxter County	42,435	97.9%	71.5%	70.0%	76.6	\$30,264
Benton County	302,863	88.6%	95.2%	87.4%	357.3	\$43,359
Boone County	38,284	63.1%	74.8%	52.6%	64.9	\$28,886
Bradley County	10,135	78.0%	48.0%	43.4%	15.6	\$23,830
Calhoun County	4,695	84.6%	18.2%	14.4%	7.5	\$24,047
Carroll County	28,742	55.2%	74.0%	50.2%	45.6	\$29,123
Chicot County	9,873	70.8%	67.4%	56.7%	15.5	\$24,156
Clark County	21,250	90.7%	66.8%	60.9%	24.5	\$24,532
Clay County	14,265	86.9%	37.0%	34.9%	22.3	\$26,554
Cleburne County	25,284	47.7%	64.0%	38.7%	45.6	\$31,041
Cleveland County	7,467	0.4%	30.9%	0.1%	12.5	\$26,479
Columbia County	22,216	64.0%	62.1%	43.7%	29.0	\$27,243
Conway County	21,046	63.1%	73.7%	49.5%	38.1	\$28,694
Craighead County	113,017	93.1%	85.1%	78.6%	159.8	\$31,298
Crawford County	61,075	97.9%	86.7%	85.2%	102.6	\$28,920
Crittenden County	47,061	91.6%	93.0%	87.8%	76.8	\$27,834
Cross County	16,601	73.8%	60.3%	53.9%	26.9	\$27,776
Dallas County	6,191	60.8%	66.4%	50.8%	9.3	\$26,378
Desha County	10,771	88.8%	75.2%	72.1%	14.5	\$21,588
Drew County	16,911	69.3%	44.6%	38.0%	20.4	\$27,349
Faulkner County	127,665	80.1%	94.5%	77.9%	197.2	\$31,301
Franklin County	17,271	57.5%	62.0%	35.1%	28.4	\$25,517
Fulton County	12,382	98.2%	45.3%	44.6%	20.0	\$22,895
Garland County	100,089	86.2%	86.1%	78.3%	147.7	\$31,854
Grant County	18,160	68.4%	47.8%	35.2%	28.7	\$35,170
Greene County	46,448	99.9%	75.6%	75.5%	80.5	\$26,941
Hempstead County	19,453	72.1%	64.7%	59.6%	26.8	\$25,577
Hot Spring County	33,203	64.4%	48.5%	38.2%	54.0	\$25,486
Howard County	12,557	71.3%	59.0%	47.2%	21.4	\$25,458
Independence County	37,945	55.6%	72.9%	49.4%	49.7	\$27,867
Izard County	14,048	87.5%	32.9%	31.4%	24.2	\$25,331
Jackson County	16,624	61.4%	66.9%	53.2%	26.2	\$23,048
Jefferson County	64,246	62.4%	92.6%	62.0%	73.6	\$24,571
Johnson County	26,001	88.7%	72.8%	67.1%	39.3	\$22,457
Lafayette County	6,101	40.7%	33.3%	20.8%	11.5	\$23,699
Lawrence County	16,205	91.7%	62.1%	56.1%	27.6	\$25,301

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Lee County	8,364	43.2%	50.7%	39.8%	13.9	\$20,338
Lincoln County	12,916	36.8%	27.4%	16.1%	23.1	\$18,191
Little River County	11,821	57.2%	53.0%	37.3%	22.3	\$28,764
Logan County	21,253	27.7%	62.8%	21.6%	30.0	\$28,495
Lonoke County	75,225	60.5%	97.3%	58.8%	97.5	\$32,720
Madison County	17,486	83.2%	42.1%	37.5%	21.0	\$27,709
Marion County	17,254	46.1%	56.3%	30.9%	28.9	\$25,315
Miller County	42,552	98.0%	81.0%	79.8%	68.2	\$26,572
Mississippi County	38,896	89.3%	73.7%	66.0%	43.1	\$27,863
Monroe County	6,564	0.2%	33.6%	0.2%	10.8	\$24,117
Montgomery County	8,556	33.1%	41.7%	22.0%	11.0	\$26,815
Nevada County	8,181	65.2%	36.0%	28.1%	13.2	\$22,041
Newton County	7,078	2.5%	40.5%	0.4%	8.6	\$26,544
Ouachita County	22,049	81.0%	76.1%	69.0%	30.1	\$25,289
Perry County	10,063	91.1%	61.0%	57.2%	18.3	\$26,967
Phillips County	15,304	71.2%	79.8%	64.4%	22.2	\$22,644
Pike County	10,179	97.1%	42.5%	41.7%	17.0	\$28,392
Poinsett County	22,495	85.2%	64.0%	52.5%	29.7	\$24,807
Polk County	19,337	52.1%	39.5%	25.2%	22.6	\$30,395
Pope County	64,065	73.2%	85.8%	65.8%	79.0	\$28,018
Prairie County	8,069	71.4%	76.8%	58.1%	12.5	\$29,018
Pulaski County	399,145	94.9%	99.2%	94.6%	526.4	\$39,146
Randolph County	18,837	88.2%	51.9%	48.5%	28.9	\$25,528
Saline County	127,357	92.3%	95.9%	89.4%	176.0	\$36,151
Scott County	9,805	29.1%	60.4%	26.8%	11.0	\$23,086
Searcy County	7,918	23.8%	54.5%	21.0%	11.9	\$22,384
Sebastian County	129,059	98.0%	95.4%	93.8%	243.0	\$32,577
Sevier County	15,686	76.1%	54.9%	49.4%	27.8	\$26,369
Sharp County	17,810	83.0%	32.1%	26.4%	29.5	\$25,283
St. Francis County	22,451	50.8%	55.8%	41.0%	35.4	\$20,991
Stone County	12,575	12.7%	39.3%	3.3%	20.7	\$21,640
Union County	37,752	65.3%	66.2%	50.2%	36.3	\$29,252
Van Buren County	16,102	58.3%	48.3%	28.1%	22.7	\$26,183
Washington County	256,054	99.9%	94.2%	94.1%	272.0	\$34,531
White County	77,755	44.4%	83.4%	39.8%	75.2	\$27,364
Woodruff County	6,049	53.1%	85.2%	52.4%	10.3	\$29,216
Yell County	20,129	63.0%	62.3%	42.1%	21.6	\$26,044
California	39,029,342	96.3%	98.0%	94.9%	250.4	\$45,591
Alameda County	1,628,997	99.7%	99.4%	99.1%	2,208.9	\$60,193
Alpine County	1,190	10.2%	41.1%	10.1%	1.6	\$55,425
Amador County	41,412	50.4%	62.5%	42.4%	69.6	\$40,379
Butte County	207,303	94.8%	93.3%	91.0%	126.7	\$36,374
Calaveras County	46,563	80.0%	52.6%	45.3%	45.6	\$37,935
Colusa County	21,914	96.4%	89.1%	86.8%	19.0	\$31,915
Contra Costa County	1,156,966	99.2%	99.0%	98.3%	1,613.8	\$59,083

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Del Norte County	27,082	81.5%	84.7%	71.8%	26.9	\$28,396
El Dorado County	192,646	85.7%	92.5%	81.5%	112.8	\$55,455
Fresno County	1,015,190	94.7%	99.2%	94.5%	170.4	\$30,130
Glenn County	28,339	96.8%	95.2%	93.9%	21.6	\$28,106
Humboldt County	135,010	94.8%	84.9%	81.8%	37.8	\$33,988
Imperial County	178,713	87.3%	95.0%	85.0%	42.8	\$21,216
Inyo County	18,718	23.2%	80.8%	21.0%	1.8	\$36,673
Kern County	916,108	93.1%	97.4%	91.5%	112.6	\$27,976
Kings County	152,981	84.8%	98.5%	84.8%	110.0	\$26,193
Lake County	68,191	87.0%	70.9%	64.4%	54.3	\$34,020
Lassen County	29,904	79.1%	90.4%	76.9%	6.6	\$23,646
Los Angeles County	9,721,138	96.8%	99.3%	96.2%	2,394.8	\$41,847
Madera County	160,256	77.8%	95.1%	75.2%	75.0	\$28,158
Marin County	256,018	97.6%	85.4%	84.0%	491.9	\$87,300
Mariposa County	17,020	2.1%	50.2%	1.9%	11.7	\$36,106
Mendocino County	89,783	82.0%	62.3%	56.3%	25.6	\$34,977
Merced County	290,014	96.8%	99.4%	96.4%	149.6	\$26,869
Modoc County	8,511	41.2%	54.9%	31.3%	2.2	\$28,860
Mono County	12,978	68.6%	82.5%	62.3%	4.3	\$43,315
Monterey County	432,858	98.9%	94.0%	93.4%	131.9	\$37,741
Napa County	134,300	96.5%	96.0%	93.2%	179.5	\$54,306
Nevada County	102,293	78.4%	76.2%	64.6%	106.8	\$46,706
Orange County	3,151,184	97.8%	99.6%	97.5%	3,974.5	\$50,683
Placer County	417,772	92.5%	96.8%	90.4%	296.9	\$54,004
Plumas County	19,351	53.7%	77.1%	49.4%	7.6	\$41,701
Riverside County	2,473,902	95.3%	99.0%	94.7%	343.2	\$35,356
Sacramento County	1,584,169	98.5%	99.8%	98.4%	1,641.2	\$39,763
San Benito County	67,579	98.7%	87.8%	87.4%	48.7	\$40,799
San Bernardino County	2,193,656	93.6%	99.2%	93.1%	109.3	\$31,348
San Diego County	3,276,208	98.4%	98.2%	97.0%	778.2	\$46,957
San Francisco County	808,437	99.5%	99.9%	99.4%	17,232.3	\$86,186
San Joaquin County	793,229	98.3%	99.6%	97.9%	569.7	\$33,870
San Luis Obispo County	282,013	96.1%	93.4%	91.0%	85.4	\$47,390
San Mateo County	729,181	99.1%	98.5%	97.9%	1,625.4	\$77,741
Santa Barbara County	443,837	95.0%	95.6%	92.4%	162.3	\$44,635
Santa Clara County	1,870,945	99.8%	99.5%	99.4%	1,449.1	\$73,017
Santa Cruz County	264,370	98.3%	82.4%	81.7%	593.9	\$52,887
Shasta County	180,930	75.7%	83.0%	69.4%	47.9	\$36,458
Sierra County	3,217	29.8%	35.0%	16.2%	3.4	\$37,692
Siskiyou County	43,660	72.4%	79.8%	62.1%	7.0	\$33,650
Solano County	448,747	99.0%	98.9%	97.9%	546.0	\$42,886
Sonoma County	482,650	95.0%	95.5%	91.8%	306.3	\$52,523
Stanislaus County	551,275	99.2%	99.8%	99.1%	368.5	\$32,044
Sutter County	98,503	99.7%	97.6%	97.3%	163.4	\$34,039

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Tehama County	65,245	82.5%	79.4%	68.2%	22.1	\$33,800
Trinity County	15,781	6.1%	39.6%	0.4%	5.0	\$32,856
Tulare County	477,544	90.0%	98.7%	89.5%	99.0	\$26,282
Tuolumne County	54,531	71.9%	75.7%	58.5%	24.6	\$40,095
Ventura County	832,605	96.3%	98.2%	94.7%	452.3	\$45,846
Yolo County	222,115	96.7%	99.5%	96.5%	218.9	\$41,703
Yuba County	84,310	94.4%	94.6%	92.4%	133.4	\$30,036
Colorado	5,839,926	94.2%	93.5%	90.5%	56.3	\$47,346
Adams County	527,575	98.0%	98.8%	97.1%	452.2	\$37,550
Alamosa County	16,592	85.5%	75.0%	71.1%	23.0	\$28,945
Arapahoe County	655,808	99.2%	99.2%	98.6%	822.0	\$49,530
Archuleta County	14,003	80.9%	65.0%	61.4%	10.4	\$39,155
Baca County	3,432	29.7%	51.8%	27.0%	1.3	\$28,115
Bent County	5,399	66.3%	6.1%	0.0%	3.6	\$19,041
Boulder County	327,468	96.5%	94.9%	93.7%	450.8	\$57,339
Broomfield County	76,121	99.3%	99.9%	99.2%	2,308.9	\$60,862
Chaffee County	20,223	65.2%	78.1%	59.9%	20.0	\$38,167
Cheyenne County	1,732	18.2%	33.4%	13.1%	1.0	\$38,791
Clear Creek County	9,355	49.3%	61.4%	38.3%	23.7	\$59,550
Conejos County	7,579	69.3%	43.7%	32.4%	5.9	\$25,240
Costilla County	3,603	64.2%	39.7%	36.2%	2.9	\$24,318
Crowley County	5,614	4.2%	27.1%	3.2%	7.1	\$20,909
Custer County	5,335	0.5%	39.2%	0.2%	7.2	\$37,232
Delta County	31,602	84.1%	83.1%	73.9%	27.7	\$33,055
Denver County	713,252	99.9%	99.2%	99.1%	4,659.5	\$56,381
Dolores County	2,455	4.6%	51.1%	0.0%	2.3	\$38,098
Douglas County	375,988	98.3%	95.4%	94.3%	447.5	\$63,186
Eagle County	55,285	93.2%	92.1%	89.4%	32.8	\$55,007
El Paso County	740,567	96.4%	97.6%	95.1%	348.3	\$41,444
Elbert County	27,799	71.2%	30.0%	23.4%	15.0	\$55,535
Fremont County	49,621	66.2%	86.1%	62.8%	32.4	\$28,224
Garfield County	62,271	83.4%	87.2%	77.2%	21.1	\$39,024
Gilpin County	5,891	47.2%	79.6%	45.2%	39.3	\$57,593
Grand County	15,769	76.8%	60.0%	51.8%	8.5	\$43,553
Gunnison County	17,267	87.3%	59.3%	58.1%	5.3	\$44,167
Hinsdale County	775	0.3%	0.0%	0.0%	0.7	\$46,944
Huerfano County	7,082	53.7%	54.7%	44.0%	4.5	\$29,508
Jackson County	1,302	82.1%	65.1%	63.3%	0.8	\$29,657
Jefferson County	576,143	95.8%	97.0%	94.5%	753.7	\$54,571
Kiowa County	1,424	57.2%	0.6%	0.0%	0.8	\$27,957
Kit Carson County	6,961	73.5%	60.0%	54.3%	3.2	\$36,039
La Plata County	56,607	81.5%	73.6%	64.8%	33.5	\$44,614
Lake County	7,327	80.7%	90.1%	75.7%	19.4	\$44,794
Larimer County	366,778	96.4%	94.5%	93.1%	141.3	\$46,676
Las Animas County	14,327	64.1%	78.6%	61.2%	3.0	\$29,432

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Lincoln County	5,510	36.6%	43.7%	31.4%	2.1	\$27,610
Logan County	20,823	91.3%	0.6%	0.4%	11.3	\$29,440
Mesa County	158,636	88.9%	97.1%	88.2%	47.7	\$36,303
Mineral County	931	51.1%	1.6%	0.5%	1.1	\$37,647
Moffat County	13,177	90.6%	62.1%	60.2%	2.8	\$33,019
Montezuma County	26,468	71.6%	71.4%	58.6%	13.0	\$31,044
Montrose County	43,811	82.4%	90.8%	79.5%	19.6	\$35,755
Morgan County	29,239	95.2%	82.7%	81.8%	22.8	\$30,422
Otero County	18,303	80.2%	77.9%	67.0%	14.5	\$25,789
Ouray County	5,100	52.0%	32.5%	21.4%	9.4	\$47,768
Park County	17,939	39.6%	40.0%	20.1%	8.2	\$48,221
Phillips County	4,449	90.0%	5.3%	4.9%	6.5	\$37,996
Pitkin County	16,876	86.2%	86.6%	82.3%	17.4	\$87,561
Prowers County	11,854	69.1%	84.7%	68.8%	7.2	\$29,026
Pueblo County	169,544	94.6%	94.3%	90.1%	71.0	\$31,513
Rio Blanco County	6,569	66.3%	37.6%	32.9%	2.0	\$30,140
Rio Grande County	11,325	65.6%	64.6%	51.1%	12.4	\$34,328
Routt County	25,007	90.7%	73.8%	73.1%	10.6	\$58,304
Saguache County	6,623	57.7%	20.7%	7.9%	2.1	\$34,311
San Juan County	803	82.1%	87.5%	81.6%	2.1	\$42,678
San Miguel County	8,003	56.0%	72.8%	50.5%	6.2	\$55,184
Sedgwick County	2,295	76.7%	65.0%	62.2%	4.2	\$32,776
Summit County	30,565	93.2%	97.6%	91.9%	50.2	\$54,935
Teller County	24,857	56.6%	67.4%	54.1%	44.6	\$41,836
Washington County	4,812	78.1%	12.0%	11.9%	1.9	\$33,374
Weld County	350,176	94.2%	95.4%	90.4%	87.9	\$39,480
Yuma County	9,899	90.3%	55.6%	55.5%	4.2	\$32,575
Connecticut	3,626,205	98.1%	89.2%	87.7%	748.8	\$52,034
Capitol Planning Region	974,517	99.4%	95.8%	95.3%	948.6	\$47,802
Greater Bridgeport Planning Region	328,984	95.7%	95.2%	91.0%	2,346.8	\$48,201
Lower Connecticut River Valley Planning Region	178,603	99.1%	87.2%	86.6%	421.1	\$54,712
Naugatuck Valley Planning Region	457,179	99.4%	91.0%	90.5%	1,107.7	\$44,275
Northeastern Connecticut Planning Region	96,123	92.3%	61.6%	57.0%	173.5	\$40,723
Northwest Hills Planning Region	114,747	93.6%	66.3%	62.5%	145.9	\$52,279
South Central Connecticut Planning Region	572,282	99.5%	93.6%	93.1%	1,558.5	\$46,781

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Southeastern Connecticut Planning Region	283,944	98.0%	82.7%	81.1%	474.7	\$43,292
Western Connecticut Planning Region	619,826	96.7%	82.6%	79.7%	1,164.8	\$76,090
Delaware	1,018,396	96.3%	94.7%	91.9%	522.6	\$42,180
Kent County	186,946	92.9%	95.0%	89.1%	319.0	\$33,191
New Castle County	575,494	99.0%	97.7%	96.8%	1,349.9	\$44,725
Sussex County	255,956	92.9%	87.6%	82.9%	273.4	\$42,958
District of Columbia	671,803	99.7%	100.0%	99.7%	10,990.4	\$71,297
District of Columbia	671,803	99.7%	100.0%	99.7%	10,990.4	\$71,297
Florida	22,244,826	94.4%	95.4%	91.2%	410.5	\$38,850
Alachua County	284,030	88.0%	91.0%	81.7%	324.4	\$35,684
Baker County	27,803	74.2%	56.9%	48.4%	47.5	\$28,612
Bay County	185,134	95.2%	92.9%	89.1%	244.0	\$36,868
Bradford County	27,313	39.9%	92.4%	38.5%	92.9	\$25,276
Brevard County	630,693	96.3%	99.4%	95.8%	621.4	\$40,111
Broward County	1,947,026	97.9%	99.0%	96.9%	1,618.8	\$39,753
Calhoun County	13,464	30.5%	40.6%	24.9%	23.7	\$21,324
Charlotte County	202,661	92.0%	90.3%	83.2%	297.5	\$38,466
Citrus County	162,529	89.3%	84.3%	76.0%	279.3	\$33,514
Clay County	226,589	90.9%	93.6%	86.8%	374.8	\$37,334
Collier County	397,994	98.2%	92.7%	91.2%	199.3	\$56,666
Columbia County	71,908	61.0%	63.8%	44.6%	90.2	\$28,317
DeSoto County	35,312	36.7%	87.5%	32.3%	55.5	\$21,726
Dixie County	17,124	1.7%	44.3%	1.0%	24.3	\$20,508
Duval County	1,016,536	98.7%	97.6%	96.4%	1,332.9	\$37,376
Escambia County	324,878	97.5%	96.3%	94.6%	494.5	\$33,656
Flagler County	126,705	96.4%	89.0%	86.0%	260.6	\$40,463
Franklin County	12,498	86.7%	67.3%	62.6%	22.9	\$31,433
Gadsden County	43,403	72.0%	60.7%	51.3%	84.1	\$23,898
Gilchrist County	18,992	14.3%	68.6%	11.9%	54.3	\$31,477
Glades County	12,454	43.1%	76.6%	39.7%	15.4	\$23,296
Gulf County	15,314	70.7%	59.6%	52.9%	27.7	\$30,011
Hamilton County	13,217	30.4%	51.6%	16.5%	25.7	\$17,331
Hardee County	25,645	66.4%	88.8%	65.2%	40.2	\$23,380
Hendry County	41,339	72.8%	86.7%	68.9%	35.8	\$24,825
Hernando County	206,896	95.7%	95.8%	91.8%	437.4	\$31,516
Highlands County	105,618	85.2%	84.1%	74.3%	103.8	\$31,864
Hillsborough County	1,513,301	95.8%	99.0%	95.0%	1,480.9	\$39,509
Holmes County	19,651	20.2%	48.6%	19.9%	41.0	\$22,860
Indian River County	167,352	97.6%	91.8%	89.6%	332.8	\$44,102
Jackson County	48,211	45.3%	55.0%	33.8%	52.5	\$23,210
Jefferson County	15,042	4.1%	53.8%	3.9%	25.2	\$29,189
Lafayette County	7,786	27.8%	72.8%	24.0%	14.3	\$20,073

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Lake County	410,139	88.5%	95.0%	85.8%	431.0	\$35,150
Lee County	822,453	94.4%	97.1%	92.3%	1,053.1	\$41,332
Leon County	297,369	95.7%	95.0%	92.5%	444.9	\$36,823
Levy County	45,260	15.2%	63.7%	11.2%	40.5	\$29,042
Liberty County	7,603	28.7%	33.5%	21.8%	9.1	\$24,080
Madison County	18,198	40.2%	58.6%	33.7%	26.1	\$22,760
Manatee County	429,125	96.9%	97.0%	94.0%	577.7	\$41,760
Marion County	396,415	83.2%	89.4%	76.8%	249.6	\$31,086
Martin County	162,006	97.2%	94.2%	91.9%	297.9	\$50,748
Miami-Dade County	2,673,837	98.8%	98.1%	97.1%	1,407.4	\$35,563
Monroe County	81,711	99.1%	81.9%	81.4%	53.8	\$54,630
Nassau County	97,899	89.5%	77.0%	71.7%	150.9	\$44,483
Okaloosa County	216,482	93.0%	85.2%	81.1%	232.7	\$40,002
Okeechobee County	40,412	73.6%	81.5%	68.7%	52.5	\$26,904
Orange County	1,452,726	96.6%	99.7%	96.3%	1,610.5	\$37,330
Osceola County	422,545	96.4%	98.1%	94.6%	318.3	\$28,690
Palm Beach County	1,518,477	99.0%	97.8%	96.9%	773.0	\$48,121
Pasco County	608,794	94.4%	93.9%	88.8%	815.4	\$35,201
Pinellas County	961,739	96.9%	96.8%	93.7%	3,513.8	\$44,020
Polk County	787,404	93.8%	95.0%	89.9%	438.0	\$30,262
Putnam County	74,731	67.3%	75.0%	56.5%	102.6	\$25,966
Santa Rosa County	198,268	89.6%	89.8%	83.4%	195.8	\$39,143
Sarasota County	462,286	98.8%	96.3%	95.2%	831.4	\$53,149
Seminole County	478,772	96.5%	98.8%	95.4%	1,547.5	\$42,281
St. Johns County	306,841	97.1%	94.6%	92.8%	510.9	\$52,096
St. Lucie County	358,704	97.7%	97.7%	95.6%	627.5	\$33,847
Sumter County	144,970	85.2%	96.7%	83.2%	260.2	\$44,431
Suwannee County	45,411	37.3%	51.3%	24.2%	65.9	\$24,991
Taylor County	21,283	63.3%	65.4%	49.1%	20.4	\$26,859
Union County	15,460	42.4%	72.1%	29.1%	63.5	\$24,293
Volusia County	579,192	94.5%	97.8%	92.9%	525.9	\$35,364
Wakulla County	35,178	70.5%	71.9%	58.4%	58.0	\$31,683
Walton County	83,304	93.0%	62.9%	60.0%	80.2	\$45,348
Washington County	25,414	64.5%	50.6%	36.6%	43.5	\$23,984
Georgia	10,912,876	91.1%	87.4%	82.6%	189.1	\$37,836
Appling County	18,428	76.8%	51.0%	44.9%	36.3	\$23,940
Atkinson County	8,183	97.7%	60.7%	59.4%	23.9	\$23,066
Bacon County	11,191	86.6%	41.9%	40.6%	39.4	\$24,654
Baker County	2,788	3.6%	27.6%	3.6%	8.2	\$23,731
Baldwin County	43,635	89.5%	69.0%	65.4%	168.7	\$31,681
Banks County	19,328	37.4%	42.8%	19.2%	83.1	\$30,024
Barrow County	89,299	94.5%	89.9%	85.1%	554.5	\$30,899
Bartow County	112,816	89.3%	84.7%	79.6%	245.8	\$32,102
Ben Hill County	17,069	80.4%	60.3%	53.9%	68.2	\$22,625
Berrien County	18,214	57.8%	58.2%	43.5%	40.2	\$25,100

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Bibb County	156,197	99.3%	98.9%	98.2%	626.3	\$30,115
Bleckley County	12,257	77.9%	62.2%	50.7%	56.8	\$28,207
Brantley County	18,183	99.4%	41.9%	41.6%	41.0	\$22,767
Brooks County	16,253	59.1%	55.7%	41.2%	33.0	\$28,004
Bryan County	48,225	94.8%	59.2%	56.6%	110.2	\$39,829
Bulloch County	83,059	100.0%	64.8%	64.8%	122.9	\$28,484
Burke County	24,388	60.6%	58.9%	41.5%	29.5	\$29,735
Butts County	26,649	82.3%	86.3%	70.6%	145.1	\$27,875
Calhoun County	5,469	16.7%	70.6%	14.2%	19.5	\$18,074
Camden County	57,013	91.4%	69.5%	66.6%	90.4	\$32,712
Candler County	11,000	99.8%	52.5%	52.5%	45.3	\$24,477
Carroll County	124,592	82.2%	74.2%	63.8%	249.6	\$30,827
Catoosa County	68,826	95.3%	91.6%	88.6%	424.4	\$33,515
Charlton County	12,781	68.9%	45.4%	39.2%	16.4	\$22,742
Chatham County	301,107	97.1%	92.1%	89.5%	695.2	\$37,637
Chattahoochee County	8,819	0.0%	69.6%	0.0%	35.5	\$23,574
Chattooga County	24,936	74.4%	61.2%	55.1%	79.6	\$21,576
Cherokee County	281,278	96.7%	95.4%	93.2%	668.0	\$45,334
Clarke County	129,875	93.7%	94.6%	88.8%	1,089.3	\$30,138
Clay County	2,845	26.3%	28.8%	5.7%	14.6	\$22,191
Clayton County	296,564	99.3%	99.2%	98.5%	2,093.6	\$25,549
Clinch County	6,662	31.0%	66.1%	26.3%	8.2	\$20,294
Cobb County	771,952	99.1%	99.0%	98.1%	2,271.9	\$48,510
Coffee County	43,172	78.3%	69.6%	60.5%	72.9	\$23,839
Colquitt County	45,762	69.0%	53.5%	40.4%	83.7	\$25,766
Columbia County	162,419	98.2%	98.3%	96.6%	559.7	\$40,677
Cook County	17,404	68.7%	48.6%	38.3%	76.2	\$24,060
Coweta County	152,882	92.2%	85.6%	80.3%	346.6	\$41,373
Crawford County	12,140	88.7%	56.4%	51.5%	37.4	\$31,240
Crisp County	19,708	75.6%	75.0%	64.7%	72.3	\$28,063
Dade County	16,081	95.6%	81.8%	78.0%	92.4	\$30,078
Dawson County	30,138	73.3%	70.1%	60.6%	143.0	\$41,096
DeKalb County	762,820	99.1%	98.5%	97.6%	2,849.1	\$43,958
Decatur County	28,982	57.9%	53.5%	38.0%	48.5	\$24,974
Dodge County	19,802	63.5%	71.2%	53.9%	39.9	\$23,137
Dooly County	10,572	90.7%	73.4%	70.8%	26.9	\$27,232
Dougherty County	82,966	96.3%	84.1%	81.9%	252.4	\$26,563
Douglas County	147,316	96.6%	97.2%	94.1%	736.1	\$34,010
Early County	10,574	13.8%	57.0%	10.5%	20.6	\$25,929
Echols County	3,686	0.2%	44.5%	0.1%	8.8	\$24,751
Effingham County	69,041	90.0%	41.0%	39.7%	144.2	\$36,506
Elbert County	19,814	94.1%	62.5%	60.6%	56.4	\$27,848
Emanuel County	22,929	99.0%	55.9%	55.7%	33.7	\$24,696
Evans County	10,695	83.9%	63.5%	59.0%	58.5	\$25,580
Fannin County	25,737	65.5%	35.4%	28.7%	66.5	\$36,058

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Fayette County	122,030	96.6%	97.8%	94.6%	627.2	\$51,004
Floyd County	99,443	87.8%	87.6%	82.0%	195.1	\$30,523
Forsyth County	267,237	97.7%	98.1%	95.9%	1,189.7	\$54,002
Franklin County	24,128	62.2%	51.7%	34.2%	92.3	\$27,671
Fulton County	1,074,634	98.0%	99.1%	97.1%	2,040.3	\$58,314
Gilmer County	32,407	80.9%	40.5%	37.5%	76.0	\$34,412
GlascocK County	2,939	10.3%	33.9%	6.6%	20.4	\$28,733
Glynn County	85,079	98.2%	80.1%	79.2%	202.7	\$39,221
Gordon County	58,954	75.6%	64.3%	54.8%	165.4	\$29,787
Grady County	26,008	58.4%	55.5%	41.7%	57.2	\$26,887
Greene County	20,139	69.0%	48.7%	37.2%	52.0	\$51,577
Gwinnett County	975,353	98.4%	98.9%	97.4%	2,264.3	\$36,778
Habersham County	47,475	91.4%	67.2%	63.5%	171.5	\$29,069
Hall County	212,692	93.2%	93.0%	87.6%	541.2	\$35,624
Hancock County	8,387	13.4%	32.9%	9.7%	17.8	\$19,730
Haralson County	31,337	67.0%	46.0%	31.9%	111.1	\$31,342
Harris County	36,276	76.9%	51.9%	39.7%	78.2	\$39,851
Hart County	26,909	89.4%	52.4%	48.3%	115.8	\$30,636
Heard County	11,725	54.9%	16.9%	12.1%	39.6	\$32,386
Henry County	248,364	96.9%	98.4%	95.4%	779.3	\$35,065
Houston County	169,631	97.9%	98.5%	96.8%	451.1	\$35,223
Irwin County	9,126	75.9%	24.3%	19.2%	25.8	\$23,794
Jackson County	83,936	74.2%	87.2%	66.6%	247.1	\$34,703
Jasper County	15,951	31.7%	52.4%	20.1%	43.3	\$31,026
Jeff Davis County	14,889	87.5%	62.8%	55.5%	45.0	\$22,065
Jefferson County	15,314	67.5%	72.0%	52.3%	29.1	\$25,820
Jenkins County	8,689	52.2%	51.2%	41.5%	25.0	\$19,360
Johnson County	9,242	62.2%	46.7%	29.7%	30.5	\$23,878
Jones County	28,472	90.7%	83.7%	75.9%	72.3	\$31,934
Lamar County	19,467	79.5%	52.9%	46.7%	106.1	\$30,978
Lanier County	10,171	67.9%	20.8%	14.8%	51.8	\$22,128
Laurens County	49,660	79.8%	64.5%	54.8%	61.5	\$27,565
Lee County	33,642	79.9%	73.2%	63.1%	94.5	\$34,074
Liberty County	68,030	92.7%	80.1%	76.1%	131.7	\$26,121
Lincoln County	7,841	99.9%	55.9%	55.9%	37.3	\$28,414
Long County	18,348	75.5%	50.0%	41.0%	45.8	\$26,995
Lowndes County	119,739	77.9%	91.0%	74.1%	240.8	\$27,553
Lumpkin County	34,796	64.3%	63.7%	46.9%	123.0	\$33,322
Macon County	11,765	50.8%	65.6%	35.0%	29.4	\$22,681
Madison County	31,473	55.6%	59.1%	40.0%	111.5	\$27,769
Marion County	7,449	47.7%	10.1%	7.2%	20.4	\$24,727
McDuffie County	21,713	70.6%	85.8%	69.3%	84.4	\$28,259
McIntosh County	11,180	100.0%	46.8%	46.8%	25.9	\$28,773
Meriwether County	20,845	41.7%	40.2%	23.6%	41.6	\$25,784
Miller County	5,807	40.0%	42.4%	33.6%	20.6	\$29,135

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Mitchell County	21,116	50.6%	45.1%	32.2%	41.2	\$24,705
Monroe County	29,427	97.3%	51.5%	50.2%	74.3	\$40,063
Montgomery County	8,655	45.2%	62.8%	35.7%	35.9	\$27,994
Morgan County	21,031	57.4%	47.1%	29.5%	60.5	\$38,932
Murray County	40,472	86.8%	69.2%	62.0%	117.5	\$27,383
Muscogee County	202,616	96.1%	99.0%	95.2%	935.9	\$30,980
Newton County	117,621	92.4%	95.3%	88.1%	429.6	\$30,101
Oconee County	43,588	80.4%	73.6%	63.6%	236.5	\$53,848
Oglethorpe County	15,469	43.5%	37.1%	21.6%	35.2	\$30,225
Paulding County	178,421	94.2%	95.7%	90.8%	571.2	\$35,242
Peach County	28,562	83.5%	97.4%	82.3%	190.1	\$31,349
Pickens County	34,826	79.2%	51.7%	45.2%	150.1	\$37,686
Pierce County	20,168	75.0%	52.4%	43.8%	59.2	\$26,392
Pike County	19,990	43.0%	45.1%	18.8%	92.5	\$35,993
Polk County	43,709	82.9%	72.4%	64.5%	140.8	\$26,843
Pulaski County	9,984	85.3%	79.2%	74.2%	40.1	\$23,007
Putnam County	22,984	77.3%	52.3%	43.8%	66.7	\$42,468
Quitman County	2,249	38.6%	34.5%	12.0%	14.9	\$22,189
Rabun County	17,206	62.7%	50.1%	35.4%	46.5	\$35,889
Randolph County	6,116	71.5%	41.7%	36.9%	14.3	\$18,208
Richmond County	206,640	99.0%	98.5%	97.6%	637.1	\$28,480
Rockdale County	94,984	98.4%	98.3%	96.7%	731.7	\$33,481
Schley County	4,496	47.4%	51.3%	37.0%	26.9	\$24,255
Screven County	13,977	86.4%	46.5%	40.4%	21.6	\$28,356
Seminole County	9,127	49.2%	43.4%	29.5%	38.4	\$36,184
Spalding County	68,919	89.8%	91.5%	82.6%	351.7	\$35,823
Stephens County	26,767	81.6%	72.4%	61.4%	149.7	\$26,620
Stewart County	4,648	10.0%	81.6%	10.0%	10.1	\$21,096
Sumter County	28,877	72.2%	75.7%	61.9%	59.8	\$23,891
Talbot County	5,747	53.4%	41.3%	29.8%	14.7	\$28,528
Taliaferro County	1,600	98.7%	28.8%	28.8%	8.2	\$24,766
Tattnall County	24,064	71.5%	47.7%	38.5%	50.0	\$21,842
Taylor County	7,737	77.5%	39.8%	34.7%	20.5	\$24,453
Telfair County	12,354	50.9%	75.6%	46.7%	28.3	\$17,162
Terrell County	8,754	63.5%	68.2%	56.2%	26.1	\$24,200
Thomas County	45,561	75.1%	72.1%	60.3%	83.7	\$32,414
Tift County	41,412	83.8%	67.7%	59.9%	158.7	\$27,987
Toombs County	26,837	66.1%	61.7%	49.9%	73.7	\$27,912
Towns County	12,972	87.0%	62.2%	57.6%	77.9	\$33,443
Treutlen County	6,365	67.4%	67.9%	37.5%	31.9	\$27,309
Troup County	70,191	86.6%	76.8%	67.5%	169.5	\$29,562
Turner County	8,842	66.6%	62.8%	50.6%	31.0	\$21,771
Twiggs County	7,680	39.6%	91.4%	34.7%	21.4	\$32,105
Union County	26,388	67.3%	42.4%	32.2%	81.9	\$37,709
Upson County	28,086	87.1%	58.5%	56.1%	86.8	\$27,906

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Walker County	68,915	90.3%	88.7%	83.2%	154.4	\$28,554
Walton County	103,065	83.2%	94.9%	80.0%	315.4	\$34,295
Ware County	35,614	80.9%	83.2%	70.5%	39.6	\$23,319
Warren County	5,155	0.7%	6.7%	0.7%	18.1	\$24,249
Washington County	19,738	80.1%	53.3%	49.5%	29.1	\$23,687
Wayne County	30,896	71.8%	69.3%	57.8%	48.1	\$24,838
Webster County	2,328	24.9%	59.5%	22.1%	11.1	\$22,246
Wheeler County	7,314	31.8%	50.8%	26.0%	24.8	\$17,980
White County	28,806	90.8%	67.3%	62.2%	119.7	\$32,311
Whitfield County	103,132	94.6%	84.4%	81.7%	355.1	\$28,594
Wilcox County	8,761	43.6%	66.6%	38.2%	23.2	\$19,237
Wilkes County	9,599	99.8%	52.1%	52.1%	20.4	\$29,042
Wilkinson County	8,681	62.0%	58.4%	41.2%	19.3	\$24,070
Worth County	20,424	72.7%	59.4%	49.6%	35.8	\$28,119
Guam	169,086	85.9%	45.1%	42.4%	805.7	NA
Guam	169,086	85.9%	45.1%	42.4%	805.7	NA
Hawaii	1,440,196	95.3%	93.5%	89.9%	224.2	\$42,683
Hawaii County	206,315	88.7%	75.0%	68.7%	51.2	\$37,236
Honolulu County	995,638	96.7%	98.3%	95.1%	1,657.7	\$44,026
Kalawao County	82	76.8%	0.0%	0.0%	6.8	\$54,390
Kauai County	73,810	96.4%	88.0%	85.1%	119.1	\$39,372
Maui County	164,351	95.1%	90.2%	87.3%	141.5	\$42,607
Idaho	1,939,033	88.5%	87.2%	81.7%	23.5	\$34,919
Ada County	518,907	99.3%	99.7%	99.0%	493.3	\$44,645
Adams County	4,817	21.8%	63.3%	17.6%	3.5	\$35,844
Bannock County	89,517	95.5%	98.1%	95.0%	80.5	\$30,257
Bear Lake County	6,722	67.3%	80.7%	61.2%	6.9	\$30,266
Benewah County	10,370	9.5%	49.9%	7.9%	13.3	\$28,420
Bingham County	49,923	91.9%	77.4%	72.5%	23.8	\$29,421
Blaine County	24,866	91.1%	88.8%	86.4%	9.4	\$47,151
Boise County	8,333	18.9%	42.9%	16.5%	4.4	\$36,518
Bonner County	51,414	39.3%	57.3%	33.9%	29.7	\$35,275
Bonneville County	129,496	98.5%	97.2%	96.3%	69.4	\$33,008
Boundary County	13,345	26.7%	75.8%	26.1%	10.5	\$27,287
Butte County	2,684	45.7%	63.3%	31.1%	1.2	\$26,987
Camas County	1,153	5.7%	19.9%	0.0%	1.1	\$34,790
Canyon County	251,065	94.8%	98.0%	93.8%	427.7	\$28,569
Caribou County	7,190	15.3%	55.4%	10.8%	4.1	\$29,819
Cassia County	25,655	97.8%	69.4%	68.9%	10.0	\$28,986
Clark County	806	59.6%	64.5%	57.7%	0.5	\$24,370
Clearwater County	9,015	49.8%	43.4%	28.8%	3.7	\$29,925
Custer County	4,506	59.5%	65.4%	50.6%	0.9	\$28,913
Elmore County	29,403	90.3%	95.1%	88.3%	9.6	\$28,599
Franklin County	15,189	88.9%	71.9%	68.3%	22.9	\$27,316
Fremont County	13,978	70.7%	92.0%	66.5%	7.5	\$27,427

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Gem County	20,418	92.6%	88.1%	83.1%	36.5	\$33,032
Gooding County	15,715	99.3%	79.1%	78.8%	21.5	\$29,147
Idaho County	17,593	9.7%	45.1%	7.5%	2.1	\$29,657
Jefferson County	33,428	93.9%	78.7%	76.1%	30.6	\$29,028
Jerome County	25,311	98.6%	64.1%	63.2%	42.4	\$28,266
Kootenai County	183,578	82.9%	76.6%	70.7%	148.3	\$36,718
Latah County	40,978	78.3%	68.7%	58.2%	38.1	\$33,342
Lemhi County	8,240	44.5%	67.3%	41.5%	1.8	\$32,446
Lewis County	3,763	0.1%	62.6%	0.0%	7.9	\$27,519
Lincoln County	5,329	64.3%	52.4%	44.1%	4.4	\$27,335
Madison County	54,976	97.8%	98.9%	96.9%	117.2	\$21,394
Minidoka County	22,194	99.7%	73.0%	73.0%	29.3	\$29,561
Nez Perce County	43,004	89.2%	89.9%	85.8%	50.7	\$35,387
Oneida County	4,712	94.5%	51.7%	47.7%	3.9	\$28,592
Owyhee County	12,613	53.5%	62.1%	41.7%	1.6	\$25,106
Payette County	26,956	99.4%	88.5%	88.3%	66.2	\$30,102
Power County	8,068	87.6%	85.7%	80.9%	5.7	\$24,069
Shoshone County	14,012	35.1%	46.6%	29.4%	5.3	\$26,176
Teton County	12,544	71.2%	72.0%	50.4%	27.9	\$43,396
Twin Falls County	93,696	99.6%	76.2%	75.9%	48.8	\$32,393
Valley County	12,464	52.8%	54.0%	42.9%	3.4	\$34,544
Washington County	11,087	61.5%	80.6%	57.9%	7.6	\$26,213
Illinois	12,582,032	95.3%	94.6%	91.8%	226.6	\$43,198
Adams County	64,725	92.1%	79.5%	77.0%	75.7	\$34,934
Alexander County	4,858	44.2%	76.6%	43.8%	20.6	\$21,922
Bond County	16,566	60.0%	77.3%	50.8%	43.6	\$29,944
Boone County	53,154	93.5%	99.1%	93.1%	189.3	\$37,055
Brown County	6,330	72.5%	67.4%	54.7%	20.7	\$25,951
Bureau County	32,828	82.4%	58.4%	54.9%	37.8	\$34,873
Calhoun County	4,360	38.4%	41.6%	16.8%	17.2	\$33,062
Carroll County	15,529	66.9%	41.8%	29.8%	34.9	\$31,882
Cass County	12,657	83.9%	38.9%	32.2%	33.7	\$29,842
Champaign County	206,542	92.0%	96.7%	89.5%	207.3	\$35,810
Christian County	33,436	78.7%	73.8%	66.0%	47.1	\$29,960
Clark County	15,229	56.6%	57.6%	42.3%	30.4	\$33,341
Clay County	13,047	96.8%	60.7%	60.6%	27.9	\$32,495
Clinton County	36,909	72.6%	94.4%	71.9%	77.9	\$39,409
Coles County	46,334	81.2%	85.2%	77.4%	91.2	\$32,395
Cook County	5,109,292	99.6%	99.9%	99.5%	5,407.1	\$45,646
Crawford County	18,536	70.6%	68.7%	59.4%	41.8	\$32,786
Cumberland County	10,324	49.4%	48.8%	33.4%	29.8	\$34,338
De Witt County	15,310	78.6%	83.4%	70.1%	38.5	\$35,630
DeKalb County	100,232	96.4%	97.7%	94.7%	158.8	\$34,196
Douglas County	19,755	78.4%	62.0%	54.2%	47.4	\$32,351
DuPage County	920,901	99.6%	100.0%	99.6%	2,809.3	\$55,107

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Edgar County	16,433	64.0%	37.1%	31.9%	26.4	\$31,634
Edwards County	6,071	98.0%	66.5%	66.1%	27.3	\$31,081
Effingham County	34,325	91.1%	69.6%	65.8%	71.7	\$37,844
Fayette County	21,305	74.3%	65.8%	60.5%	29.7	\$28,392
Ford County	13,249	76.7%	68.8%	61.1%	27.3	\$31,754
Franklin County	37,242	83.0%	85.2%	75.2%	91.1	\$28,310
Fulton County	33,021	87.3%	57.9%	50.6%	38.1	\$32,378
Gallatin County	4,855	86.2%	51.9%	48.3%	15.0	\$36,928
Greene County	11,651	89.2%	60.0%	57.6%	21.5	\$31,536
Grundy County	53,041	86.9%	95.3%	84.7%	126.9	\$42,192
Hamilton County	7,984	65.1%	56.1%	45.8%	18.4	\$29,785
Hancock County	17,244	76.8%	45.2%	40.5%	21.7	\$35,154
Hardin County	3,597	75.3%	16.1%	13.2%	20.3	\$31,928
Henderson County	6,151	67.6%	38.2%	29.5%	16.2	\$34,734
Henry County	48,419	97.3%	79.4%	78.5%	58.8	\$37,212
Iroquois County	26,473	60.7%	53.6%	35.8%	23.7	\$33,347
Jackson County	52,617	89.6%	91.2%	84.2%	90.2	\$29,687
Jasper County	9,212	57.1%	55.1%	39.9%	18.6	\$33,353
Jefferson County	36,400	80.4%	78.8%	68.5%	63.7	\$30,167
Jersey County	21,246	84.1%	75.9%	67.6%	57.5	\$37,352
Jo Daviess County	21,758	71.3%	54.4%	43.5%	36.2	\$39,477
Johnson County	13,381	69.8%	70.9%	56.6%	38.9	\$27,096
Kane County	514,182	98.1%	100.0%	98.1%	990.0	\$44,523
Kankakee County	106,074	89.9%	95.8%	88.3%	156.8	\$32,941
Kendall County	137,254	97.3%	99.6%	97.0%	428.6	\$40,761
Knox County	48,640	95.5%	68.6%	67.3%	67.9	\$28,840
LaSalle County	108,078	84.5%	87.9%	78.2%	95.2	\$36,060
Lake County	709,150	98.9%	99.8%	98.7%	1,598.6	\$53,677
Lawrence County	14,914	98.1%	43.4%	42.8%	40.1	\$30,393
Lee County	33,848	71.6%	45.5%	36.8%	46.7	\$33,491
Livingston County	35,521	73.0%	74.5%	59.7%	34.0	\$34,996
Logan County	27,591	93.0%	77.5%	74.7%	44.6	\$33,280
Macon County	101,483	94.2%	83.0%	80.4%	174.8	\$34,644
Macoupin County	44,245	79.2%	70.5%	62.2%	51.3	\$33,665
Madison County	263,864	95.1%	97.9%	93.4%	368.8	\$38,828
Marion County	36,914	77.0%	80.8%	69.6%	64.5	\$30,360
Marshall County	11,678	81.4%	41.8%	36.8%	30.2	\$34,369
Mason County	12,748	76.5%	66.9%	59.9%	23.6	\$34,223
Massac County	13,896	59.1%	82.7%	57.9%	58.6	\$28,817
McDonough County	26,861	94.7%	59.3%	58.1%	45.6	\$29,658
McHenry County	311,747	96.2%	99.5%	95.9%	516.7	\$46,322
McLean County	171,141	93.2%	92.7%	88.7%	144.6	\$40,252
Menard County	12,121	70.6%	62.8%	52.6%	38.6	\$41,497
Mercer County	15,504	91.9%	51.4%	49.1%	27.6	\$34,455
Monroe County	35,033	75.1%	92.2%	73.8%	90.9	\$47,248

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Montgomery County	28,020	69.3%	67.3%	56.8%	39.8	\$30,918
Morgan County	32,209	85.5%	77.3%	72.3%	56.6	\$34,098
Moultrie County	14,323	69.4%	50.2%	42.2%	42.6	\$34,849
Ogle County	51,351	74.6%	80.4%	62.6%	67.7	\$36,436
Peoria County	178,383	97.6%	82.9%	81.6%	288.3	\$38,581
Perry County	20,588	74.0%	87.9%	71.1%	46.6	\$27,880
Piatt County	16,723	84.5%	65.3%	59.3%	38.1	\$41,429
Pike County	14,484	59.4%	56.7%	45.3%	17.4	\$28,895
Pope County	3,770	48.2%	35.0%	23.8%	10.2	\$26,251
Pulaski County	4,991	61.2%	74.4%	47.9%	25.0	\$22,947
Putnam County	5,572	51.4%	38.6%	28.8%	34.8	\$37,218
Randolph County	30,068	61.1%	84.4%	55.9%	52.3	\$29,832
Richland County	15,435	98.0%	71.5%	71.3%	42.9	\$30,975
Rock Island County	141,527	98.5%	96.3%	95.1%	331.1	\$34,233
Saline County	23,087	85.0%	47.8%	44.3%	60.8	\$34,340
Sangamon County	194,534	94.6%	96.4%	92.3%	224.1	\$41,387
Schuyler County	6,746	63.8%	61.0%	52.3%	15.4	\$31,679
Scott County	4,790	87.7%	52.0%	50.7%	19.1	\$32,891
Shelby County	20,761	51.9%	54.2%	41.3%	27.4	\$32,085
St. Clair County	252,671	91.9%	99.8%	91.9%	384.2	\$36,010
Stark County	5,345	96.4%	9.1%	9.1%	18.6	\$32,618
Stephenson County	43,627	78.7%	71.5%	64.5%	77.3	\$32,900
Tazewell County	129,911	92.7%	84.6%	81.0%	201.0	\$38,573
Union County	16,767	72.4%	79.8%	65.3%	40.6	\$30,171
Vermilion County	72,337	81.5%	81.4%	70.7%	80.5	\$28,933
Wabash County	11,087	79.5%	13.8%	10.2%	49.6	\$33,137
Warren County	16,354	92.5%	57.9%	56.7%	30.2	\$32,304
Washington County	13,643	56.7%	80.5%	48.7%	24.3	\$38,112
Wayne County	15,872	93.4%	50.5%	48.0%	22.2	\$29,124
White County	13,614	94.0%	49.8%	48.5%	27.5	\$29,977
Whiteside County	54,658	86.1%	79.7%	74.1%	79.9	\$35,366
Will County	696,757	98.3%	99.9%	98.3%	833.6	\$44,356
Williamson County	66,695	86.3%	90.6%	83.1%	158.7	\$34,810
Winnebago County	282,188	96.5%	99.4%	96.1%	550.0	\$33,474
Woodford County	38,128	82.3%	70.9%	62.2%	72.3	\$41,400
Indiana	6,833,037	90.4%	88.7%	83.3%	190.7	\$35,578
Adams County	36,068	69.4%	82.2%	61.9%	106.4	\$26,489
Allen County	391,449	98.3%	99.1%	97.4%	595.5	\$35,389
Bartholomew County	83,540	91.5%	88.2%	83.1%	205.3	\$38,950
Benton County	8,719	67.4%	39.6%	28.4%	21.5	\$30,372
Blackford County	11,919	56.6%	90.3%	54.6%	72.2	\$29,751
Boone County	74,164	82.3%	98.0%	82.2%	175.4	\$54,866
Brown County	15,570	88.5%	44.8%	40.6%	49.9	\$40,792
Carroll County	20,555	56.0%	63.4%	41.6%	55.2	\$33,222
Cass County	37,540	74.1%	81.9%	70.6%	91.1	\$28,391

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Clark County	124,237	90.9%	95.5%	88.9%	333.2	\$34,946
Clay County	26,379	69.1%	73.0%	56.8%	73.8	\$33,430
Clinton County	32,843	74.1%	83.5%	69.1%	81.1	\$28,063
Crawford County	10,536	28.9%	35.5%	16.0%	34.5	\$29,114
Daviess County	33,418	67.0%	64.2%	51.8%	77.8	\$28,886
DeKalb County	43,731	99.2%	88.6%	88.1%	120.5	\$33,164
Dearborn County	51,138	92.7%	72.9%	68.7%	167.6	\$36,005
Decatur County	26,416	60.6%	80.5%	57.6%	70.9	\$34,430
Delaware County	112,031	90.2%	98.6%	89.8%	285.7	\$28,874
Dubois County	43,632	85.5%	56.1%	52.8%	102.1	\$35,226
Elkhart County	206,890	97.4%	88.1%	86.0%	446.7	\$30,708
Fayette County	23,349	75.2%	72.3%	64.6%	108.6	\$27,435
Floyd County	80,714	95.9%	98.7%	94.8%	543.6	\$38,949
Fountain County	16,574	74.6%	71.1%	56.6%	41.9	\$30,562
Franklin County	23,028	40.5%	43.1%	26.2%	59.9	\$36,246
Fulton County	20,327	68.1%	68.1%	55.5%	55.2	\$32,479
Gibson County	32,993	70.7%	77.8%	62.8%	67.7	\$31,602
Grant County	66,022	81.3%	93.1%	78.1%	159.4	\$27,725
Greene County	31,006	61.7%	61.1%	50.0%	57.2	\$31,155
Hamilton County	364,921	97.4%	99.9%	97.4%	925.3	\$56,943
Hancock County	83,070	97.6%	97.4%	95.4%	271.5	\$42,666
Harrison County	39,851	77.4%	48.6%	40.3%	82.3	\$33,773
Hendricks County	182,534	95.3%	99.7%	95.1%	448.6	\$43,651
Henry County	48,915	81.1%	69.6%	60.8%	124.8	\$29,421
Howard County	83,574	91.1%	94.6%	87.7%	285.2	\$33,391
Huntington County	36,834	92.3%	84.5%	80.7%	96.3	\$32,046
Jackson County	46,300	97.0%	76.2%	74.6%	90.8	\$31,743
Jasper County	33,281	63.8%	60.7%	49.0%	59.5	\$35,793
Jay County	20,198	60.2%	71.2%	48.7%	52.6	\$27,794
Jefferson County	32,946	74.4%	63.8%	55.2%	91.4	\$30,450
Jennings County	27,536	84.3%	58.7%	53.5%	73.1	\$30,254
Johnson County	165,782	97.8%	98.9%	97.1%	517.4	\$40,055
Knox County	35,789	84.8%	74.4%	66.5%	69.4	\$33,052
Kosciusko County	80,826	95.4%	70.0%	67.7%	152.1	\$35,297
LaGrange County	40,866	85.7%	53.7%	47.3%	107.6	\$31,404
LaPorte County	111,675	85.0%	89.7%	76.7%	186.7	\$33,048
Lake County	499,689	98.0%	99.7%	97.9%	1,001.9	\$34,458
Lawrence County	45,222	84.7%	67.0%	62.5%	100.7	\$32,149
Madison County	131,744	88.6%	99.4%	88.5%	291.5	\$31,556
Marion County	969,466	99.1%	100.0%	99.1%	2,444.4	\$34,796
Marshall County	46,332	77.9%	67.4%	59.1%	104.4	\$32,218
Martin County	9,803	61.5%	59.0%	48.0%	29.2	\$31,921
Miami County	35,674	66.3%	70.8%	54.2%	95.4	\$28,221
Monroe County	139,745	96.2%	88.4%	86.2%	354.2	\$34,750
Montgomery County	38,273	72.0%	68.2%	58.0%	75.8	\$32,975

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Morgan County	72,236	89.0%	87.8%	77.6%	178.9	\$37,861
Newton County	13,823	72.2%	46.5%	35.2%	34.4	\$30,168
Noble County	47,367	97.5%	65.5%	65.0%	115.3	\$31,953
Ohio County	6,114	58.0%	50.1%	44.8%	71.0	\$35,310
Orange County	19,623	98.5%	56.1%	55.7%	49.3	\$30,435
Owen County	21,482	62.9%	32.5%	24.8%	55.8	\$31,541
Parke County	16,369	51.3%	46.2%	28.5%	36.8	\$29,961
Perry County	19,183	90.6%	54.9%	52.9%	50.3	\$29,144
Pike County	12,168	49.6%	42.8%	29.8%	36.4	\$31,321
Porter County	174,791	95.0%	98.9%	94.4%	418.1	\$40,792
Posey County	25,063	65.4%	82.0%	55.5%	61.2	\$37,102
Pulaski County	12,485	44.6%	39.8%	24.7%	28.8	\$30,068
Putnam County	37,301	70.0%	57.7%	44.2%	77.6	\$31,015
Randolph County	24,437	62.2%	67.4%	53.4%	54.0	\$30,253
Ripley County	29,087	81.9%	62.1%	54.8%	65.2	\$34,578
Rush County	16,673	54.0%	65.0%	45.6%	40.9	\$29,735
Scott County	24,588	86.5%	50.4%	43.0%	129.1	\$26,506
Shelby County	44,991	89.1%	81.3%	74.6%	109.4	\$33,909
Spencer County	19,967	84.0%	49.7%	41.8%	50.3	\$34,874
St. Joseph County	272,234	96.1%	96.9%	93.9%	594.7	\$34,266
Starke County	23,258	50.4%	48.8%	31.4%	75.2	\$28,788
Steuben County	34,725	98.6%	67.2%	66.6%	112.5	\$36,648
Sullivan County	20,670	54.5%	65.7%	42.0%	46.2	\$27,792
Switzerland County	10,006	50.2%	41.0%	25.0%	45.3	\$29,202
Tippecanoe County	188,717	95.4%	94.6%	91.5%	378.3	\$30,608
Tipton County	15,361	67.1%	89.4%	61.7%	59.0	\$34,595
Union County	6,952	14.4%	57.2%	11.0%	43.1	\$33,377
Vanderburgh County	179,744	98.1%	97.8%	96.0%	770.1	\$33,614
Vermillion County	15,451	73.3%	52.6%	43.8%	60.2	\$30,071
Vigo County	106,006	87.4%	90.4%	82.2%	262.6	\$30,240
Wabash County	30,828	74.2%	75.4%	64.0%	74.7	\$32,763
Warren County	8,461	24.7%	48.6%	22.5%	23.2	\$38,792
Warrick County	65,185	85.6%	91.6%	82.2%	169.4	\$46,734
Washington County	28,224	92.6%	50.8%	47.0%	54.9	\$28,963
Wayne County	66,273	81.5%	71.3%	63.4%	165.0	\$29,848
Wells County	28,335	89.1%	81.7%	74.2%	77.0	\$33,020
White County	24,598	83.7%	71.9%	64.0%	48.7	\$32,001
Whitley County	34,627	90.0%	83.3%	76.9%	103.2	\$36,515
Iowa	3,200,517	94.2%	82.0%	78.9%	57.3	\$37,949
Adair County	7,494	94.3%	57.0%	56.7%	13.2	\$36,118
Adams County	3,611	63.4%	8.6%	4.4%	8.5	\$39,402
Allamakee County	13,960	88.0%	48.4%	47.7%	21.8	\$33,214
Appanoose County	12,094	81.7%	79.1%	71.4%	24.3	\$28,109
Audubon County	5,598	96.3%	32.0%	31.7%	12.6	\$33,125
Benton County	25,711	87.4%	72.3%	67.3%	35.9	\$37,926

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Black Hawk County	130,274	98.6%	90.7%	89.9%	230.3	\$35,400
Boone County	26,609	85.7%	80.8%	71.8%	46.6	\$38,479
Bremer County	25,259	96.0%	69.9%	68.7%	58.0	\$40,912
Buchanan County	20,714	91.8%	72.2%	68.8%	36.3	\$34,579
Buena Vista County	20,600	99.6%	70.7%	70.7%	35.8	\$31,985
Butler County	14,269	91.7%	50.8%	47.4%	24.6	\$33,943
Calhoun County	9,725	94.8%	41.6%	40.2%	17.1	\$34,490
Carroll County	20,567	94.8%	54.9%	54.5%	36.1	\$36,599
Cass County	13,104	98.0%	38.2%	38.0%	23.2	\$36,219
Cedar County	18,399	88.5%	79.7%	73.7%	31.8	\$36,808
Cerro Gordo County	42,409	98.5%	71.0%	70.8%	74.6	\$38,377
Cherokee County	11,491	90.6%	46.7%	45.3%	19.9	\$35,939
Chickasaw County	11,716	96.9%	60.9%	59.4%	23.2	\$35,432
Clarke County	9,692	76.6%	82.4%	67.5%	22.5	\$32,003
Clay County	16,475	99.1%	73.6%	73.5%	29.0	\$35,787
Clayton County	17,027	89.0%	51.0%	49.2%	21.9	\$34,394
Clinton County	46,344	98.2%	82.6%	81.7%	66.7	\$33,979
Crawford County	16,123	93.2%	36.0%	35.3%	22.6	\$30,781
Dallas County	108,016	94.1%	97.2%	92.1%	183.6	\$51,347
Davis County	9,130	96.8%	50.2%	49.8%	18.2	\$32,889
Decatur County	7,683	97.4%	67.5%	66.7%	14.4	\$26,334
Delaware County	17,568	96.7%	66.8%	64.9%	30.4	\$40,709
Des Moines County	38,293	95.0%	83.5%	80.5%	92.0	\$35,689
Dickinson County	18,028	98.6%	67.7%	66.7%	47.4	\$45,523
Dubuque County	98,677	98.6%	83.1%	82.5%	162.2	\$38,705
Emmet County	9,176	99.6%	76.0%	75.9%	23.2	\$34,657
Fayette County	19,294	93.2%	63.6%	63.0%	26.4	\$31,566
Floyd County	15,337	92.7%	55.8%	53.8%	30.6	\$34,900
Franklin County	9,916	88.2%	57.6%	54.5%	17.0	\$30,733
Fremont County	6,464	93.0%	16.9%	13.5%	12.6	\$37,236
Greene County	8,741	88.3%	68.9%	63.2%	15.3	\$32,340
Grundy County	12,356	94.0%	43.7%	41.5%	24.6	\$38,265
Guthrie County	10,647	93.7%	53.3%	50.9%	18.0	\$39,571
Hamilton County	14,820	90.2%	74.5%	69.5%	25.7	\$35,822
Hancock County	10,685	96.8%	66.4%	65.5%	18.7	\$35,033
Hardin County	16,567	97.4%	71.7%	70.6%	29.1	\$32,181
Harrison County	14,658	88.0%	56.5%	50.9%	21.0	\$36,998
Henry County	20,196	94.0%	82.2%	80.9%	46.5	\$30,151
Howard County	9,533	92.9%	61.1%	59.7%	20.1	\$32,033
Humboldt County	9,572	98.1%	81.1%	80.9%	22.0	\$35,837
Ida County	6,888	65.4%	37.2%	26.5%	16.0	\$35,708
Iowa County	16,475	83.8%	76.4%	67.3%	28.1	\$40,182
Jackson County	19,324	95.5%	62.9%	60.6%	30.4	\$34,739
Jasper County	37,938	91.2%	80.5%	74.4%	51.9	\$35,346
Jefferson County	15,698	74.4%	81.7%	69.0%	36.0	\$36,111

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Johnson County	156,420	96.8%	92.5%	90.3%	255.2	\$42,175
Jones County	20,848	98.5%	64.9%	64.3%	36.2	\$33,996
Keokuk County	9,904	98.3%	61.5%	61.2%	17.1	\$32,747
Kossuth County	14,475	90.4%	54.1%	50.0%	14.9	\$34,723
Lee County	32,840	76.0%	67.0%	59.1%	63.5	\$32,465
Linn County	229,033	96.7%	95.2%	93.0%	319.4	\$41,446
Louisa County	10,677	80.5%	77.9%	68.2%	26.6	\$33,296
Lucas County	8,689	70.4%	76.4%	64.5%	20.2	\$32,575
Lyon County	12,179	97.6%	54.5%	53.5%	20.7	\$33,428
Madison County	17,036	66.0%	79.2%	57.7%	30.4	\$39,442
Mahaska County	21,946	88.8%	68.0%	63.8%	38.4	\$33,812
Marion County	33,642	91.0%	77.1%	73.3%	60.7	\$38,168
Marshall County	39,879	97.7%	86.1%	85.0%	69.7	\$31,486
Mills County	14,553	80.7%	44.0%	34.0%	33.3	\$40,709
Mitchell County	10,532	90.9%	58.2%	57.5%	22.4	\$36,006
Monona County	8,486	75.6%	42.1%	30.6%	12.2	\$33,080
Monroe County	7,550	72.6%	52.6%	42.9%	17.4	\$35,392
Montgomery County	10,205	100.0%	42.9%	42.9%	24.1	\$36,122
Muscatine County	42,377	91.6%	84.9%	80.5%	96.9	\$34,055
O'Brien County	14,060	89.2%	55.6%	53.6%	24.5	\$32,460
Osceola County	6,036	85.4%	68.7%	62.7%	15.1	\$35,657
Page County	15,143	99.4%	61.6%	61.6%	28.3	\$32,886
Palo Alto County	8,764	84.9%	66.8%	59.5%	15.5	\$33,517
Plymouth County	25,681	87.0%	74.1%	70.2%	29.8	\$40,150
Pocahontas County	7,053	97.5%	32.5%	32.5%	12.2	\$33,918
Polk County	501,089	97.7%	99.5%	97.4%	875.7	\$41,894
Pottawattamie County	93,173	99.1%	89.2%	88.7%	97.9	\$34,701
Poweshiek County	18,467	82.0%	86.6%	74.1%	31.6	\$37,527
Ringgold County	4,670	97.0%	37.8%	37.5%	8.7	\$34,138
Sac County	9,673	85.1%	36.7%	33.4%	16.8	\$38,596
Scott County	173,924	98.1%	97.1%	95.7%	379.7	\$40,926
Shelby County	11,645	95.4%	1.4%	1.4%	19.7	\$38,664
Sioux County	36,050	94.1%	68.5%	63.7%	46.9	\$34,914
Story County	99,673	93.4%	83.9%	79.9%	174.1	\$35,704
Tama County	16,903	93.7%	67.1%	65.9%	23.4	\$33,046
Taylor County	5,858	90.8%	21.5%	20.2%	11.0	\$33,092
Union County	11,887	91.1%	87.0%	81.1%	28.1	\$30,966
Van Buren County	7,256	80.7%	53.9%	42.2%	15.0	\$32,188
Wapello County	35,043	89.1%	89.5%	83.2%	81.1	\$30,025
Warren County	54,327	78.5%	91.6%	75.4%	95.3	\$41,279
Washington County	22,571	97.5%	78.4%	77.1%	39.7	\$35,451
Wayne County	6,467	80.5%	39.8%	35.5%	12.3	\$32,524
Webster County	36,626	93.1%	84.3%	78.3%	51.2	\$33,836
Winnebago County	10,617	99.9%	70.9%	70.9%	26.5	\$34,966
Winneshiek County	19,974	92.8%	37.0%	35.9%	29.0	\$37,561

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Woodbury County	105,671	96.6%	89.6%	87.9%	121.1	\$33,080
Worth County	7,319	99.6%	68.5%	68.4%	18.3	\$36,585
Wright County	12,681	96.7%	73.5%	71.6%	21.8	\$33,964
Kansas	2,937,150	91.8%	88.5%	83.8%	35.9	\$38,108
Allen County	12,579	80.0%	88.2%	74.4%	25.1	\$27,155
Anderson County	7,776	56.7%	63.9%	48.1%	13.4	\$29,665
Atchison County	16,108	95.2%	85.1%	83.2%	37.4	\$27,644
Barber County	4,122	92.4%	73.8%	72.8%	3.6	\$32,879
Barton County	25,080	99.6%	62.5%	62.5%	28.0	\$31,516
Bourbon County	14,493	72.1%	79.9%	68.6%	22.8	\$29,328
Brown County	9,364	90.4%	79.9%	75.7%	16.4	\$29,646
Butler County	68,240	91.1%	95.8%	89.2%	47.7	\$35,209
Chase County	2,548	59.2%	13.0%	7.5%	3.3	\$32,022
Chautauqua County	3,415	17.0%	61.3%	13.5%	5.3	\$28,267
Cherokee County	19,088	70.9%	70.6%	59.2%	32.5	\$26,832
Cheyenne County	2,583	53.8%	0.0%	0.0%	2.5	\$34,829
Clark County	1,933	92.3%	84.7%	82.2%	2.0	\$30,253
Clay County	8,043	89.1%	71.7%	67.7%	12.5	\$32,628
Cloud County	8,946	96.4%	74.9%	72.8%	12.5	\$28,318
Coffey County	8,280	70.0%	64.8%	54.5%	13.2	\$35,984
Comanche County	1,681	71.9%	47.8%	39.7%	2.1	\$30,989
Cowley County	34,453	96.5%	70.8%	69.9%	30.6	\$29,977
Crawford County	39,078	96.5%	85.6%	84.9%	66.3	\$28,530
Decatur County	2,689	79.5%	8.5%	6.6%	3.0	\$33,767
Dickinson County	18,430	85.8%	80.1%	68.8%	21.8	\$35,615
Doniphan County	7,440	87.8%	83.7%	76.9%	18.9	\$31,314
Douglas County	119,964	94.3%	93.7%	89.2%	263.2	\$37,261
Edwards County	2,739	78.6%	27.5%	20.5%	4.4	\$31,368
Elk County	2,441	60.3%	27.4%	24.8%	3.8	\$28,159
Ellis County	28,941	99.8%	83.3%	83.3%	32.2	\$37,217
Ellsworth County	6,355	89.7%	84.4%	78.7%	8.9	\$29,968
Finney County	37,650	92.4%	95.6%	89.4%	28.9	\$29,805
Ford County	33,848	91.3%	93.7%	87.5%	30.8	\$28,502
Franklin County	25,992	68.1%	74.9%	61.4%	45.5	\$32,997
Geary County	35,691	78.9%	73.5%	62.7%	92.8	\$27,030
Gove County	2,717	78.3%	15.8%	13.5%	2.5	\$33,295
Graham County	2,411	99.9%	53.5%	53.5%	2.7	\$30,222
Grant County	7,197	86.2%	29.3%	27.2%	12.5	\$36,280
Gray County	5,729	98.7%	48.9%	48.6%	6.6	\$34,339
Greeley County	1,223	68.5%	90.7%	68.5%	1.6	\$36,078
Greenwood County	5,939	22.7%	60.4%	17.6%	5.2	\$34,862
Hamilton County	2,430	78.4%	88.1%	78.4%	2.4	\$28,145
Harper County	5,323	97.4%	70.5%	70.3%	6.6	\$26,970
Harvey County	33,801	97.3%	80.8%	79.4%	62.6	\$33,965
Haskell County	3,576	76.2%	47.9%	39.1%	6.2	\$32,908

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Hodgeman County	1,755	68.9%	50.6%	46.0%	2.0	\$33,911
Jackson County	13,286	79.3%	69.4%	59.8%	20.2	\$32,499
Jefferson County	18,344	82.4%	75.9%	64.6%	34.4	\$38,535
Jewell County	2,898	93.7%	6.9%	6.4%	3.2	\$32,759
Johnson County	619,195	97.3%	99.9%	97.2%	1,307.3	\$56,364
Kearny County	3,855	61.8%	80.3%	54.9%	4.4	\$29,465
Kingman County	7,193	93.1%	69.4%	67.6%	8.3	\$33,453
Kiowa County	2,404	66.9%	19.5%	10.4%	3.3	\$35,199
Labette County	19,757	68.9%	78.7%	57.9%	30.6	\$29,585
Lane County	1,556	95.3%	92.2%	89.8%	2.2	\$35,779
Leavenworth County	82,892	88.3%	96.4%	85.4%	178.9	\$37,482
Lincoln County	2,899	77.1%	7.5%	3.8%	4.0	\$31,383
Linn County	9,796	61.3%	50.7%	41.7%	16.5	\$34,053
Logan County	2,705	86.8%	11.6%	10.9%	2.5	\$38,363
Lyon County	31,898	91.9%	84.4%	83.1%	37.6	\$29,425
Marion County	11,868	69.3%	67.7%	55.4%	12.6	\$33,087
Marshall County	9,982	72.9%	55.1%	43.3%	11.1	\$36,854
McPherson County	30,012	92.3%	69.4%	64.4%	33.4	\$34,116
Meade County	3,897	78.8%	67.8%	62.3%	4.0	\$47,644
Miami County	34,867	30.8%	88.2%	30.1%	60.5	\$40,169
Mitchell County	5,738	95.4%	69.3%	68.8%	8.2	\$35,258
Montgomery County	30,996	78.2%	59.5%	51.4%	48.2	\$28,270
Morris County	5,349	96.9%	66.9%	64.9%	7.7	\$32,462
Morton County	2,599	76.2%	91.5%	73.6%	3.6	\$27,423
Nemaha County	10,115	77.2%	59.5%	51.9%	14.1	\$36,959
Neosho County	15,606	75.3%	67.2%	57.6%	27.3	\$29,850
Ness County	2,645	95.3%	75.5%	72.9%	2.5	\$39,978
Norton County	5,301	83.2%	63.2%	59.1%	6.0	\$28,514
Osage County	15,654	64.3%	78.1%	56.1%	22.2	\$32,120
Osborne County	3,490	99.9%	61.1%	61.1%	3.9	\$34,669
Ottawa County	5,795	84.7%	69.7%	61.3%	8.0	\$34,893
Pawnee County	6,179	96.6%	17.9%	17.8%	8.2	\$32,542
Phillips County	4,809	81.3%	56.2%	51.7%	5.4	\$34,396
Pottawatomie County	26,273	95.2%	70.9%	66.8%	31.2	\$35,715
Pratt County	9,067	94.3%	82.3%	81.3%	12.3	\$31,949
Rawlins County	2,528	54.0%	8.1%	3.5%	2.4	\$33,003
Reno County	61,516	89.3%	65.0%	61.9%	49.0	\$31,695
Republic County	4,642	81.2%	69.9%	60.9%	6.5	\$31,626
Rice County	9,407	88.9%	46.7%	43.1%	13.0	\$32,074
Riley County	71,108	97.3%	90.6%	89.3%	116.6	\$33,147
Rooks County	4,813	88.4%	78.7%	72.5%	5.4	\$33,751
Rush County	2,927	90.5%	8.1%	7.7%	4.1	\$37,166
Russell County	6,639	99.9%	50.1%	50.0%	7.5	\$30,680
Saline County	53,596	99.6%	93.3%	93.2%	74.4	\$32,504
Scott County	5,014	80.2%	94.8%	80.2%	7.0	\$29,999

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Sedgwick County	525,525	99.2%	99.6%	98.8%	527.1	\$35,338
Seward County	21,358	93.0%	96.4%	91.6%	33.4	\$25,391
Shawnee County	177,480	98.5%	96.9%	95.6%	326.2	\$36,011
Sheridan County	2,425	79.6%	57.7%	55.1%	2.7	\$41,462
Sherman County	5,830	85.2%	87.1%	82.9%	5.5	\$37,930
Smith County	3,533	93.1%	57.5%	53.4%	3.9	\$33,881
Stafford County	3,993	94.6%	7.5%	7.2%	5.0	\$32,921
Stanton County	1,963	76.5%	28.7%	24.7%	2.9	\$39,063
Stevens County	5,175	72.6%	84.5%	72.6%	7.1	\$25,674
Sumner County	22,473	49.6%	49.3%	24.4%	19.0	\$31,072
Thomas County	7,893	89.7%	78.5%	74.4%	7.3	\$37,610
Trego County	2,752	99.5%	30.5%	30.5%	3.1	\$42,029
Wabaunsee County	7,019	89.3%	64.5%	59.9%	8.8	\$34,243
Wallace County	1,488	51.2%	5.4%	0.0%	1.6	\$34,406
Washington County	5,501	39.9%	43.4%	14.7%	6.1	\$32,781
Wichita County	2,064	72.9%	10.8%	6.5%	2.9	\$36,589
Wilson County	8,622	60.9%	67.8%	55.5%	15.1	\$32,008
Woodson County	3,109	43.2%	57.1%	43.2%	6.2	\$28,380
Wyandotte County	165,746	96.8%	99.6%	96.4%	1,093.0	\$27,534
Kentucky	4,512,310	85.2%	75.3%	68.8%	114.3	\$33,515
Adair County	19,067	55.4%	48.7%	41.1%	47.0	\$26,098
Allen County	21,275	98.8%	48.1%	47.8%	61.8	\$28,307
Anderson County	24,224	71.0%	78.5%	66.0%	119.8	\$33,513
Ballard County	7,650	100.0%	38.4%	38.4%	31.0	\$31,315
Barren County	44,854	83.3%	49.8%	42.6%	92.0	\$27,732
Bath County	12,829	68.0%	49.8%	39.2%	46.0	\$27,018
Bell County	23,568	90.6%	64.6%	60.7%	65.6	\$19,262
Boone County	139,093	98.3%	95.7%	94.2%	564.8	\$41,281
Bourbon County	20,093	68.8%	88.9%	67.4%	69.3	\$30,123
Boyd County	48,110	93.4%	67.8%	66.0%	300.9	\$30,993
Boyle County	30,904	75.3%	74.7%	63.9%	171.4	\$29,955
Bracken County	8,452	44.1%	73.7%	41.4%	41.7	\$29,164
Breathitt County	13,351	65.9%	29.6%	28.4%	27.1	\$21,985
Breckinridge County	20,943	53.3%	53.1%	26.2%	36.8	\$27,733
Bullitt County	83,836	92.9%	94.4%	89.0%	282.2	\$34,362
Butler County	12,295	37.0%	48.0%	27.5%	28.9	\$23,862
Caldwell County	12,570	65.2%	63.8%	54.0%	36.5	\$31,255
Calloway County	37,685	85.9%	65.1%	57.6%	97.9	\$27,850
Campbell County	93,300	98.9%	95.0%	94.0%	616.5	\$42,846
Carlisle County	4,720	70.3%	18.8%	10.7%	24.9	\$31,403
Carroll County	10,938	68.8%	83.7%	65.1%	85.0	\$27,858
Carter County	26,395	59.1%	55.7%	42.5%	64.5	\$24,949
Casey County	15,920	50.3%	23.8%	19.4%	35.8	\$22,970
Christian County	73,037	86.7%	87.7%	79.4%	101.8	\$25,973
Clark County	37,061	79.9%	88.7%	75.0%	146.8	\$36,028

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Clay County	19,913	85.8%	21.8%	21.0%	42.4	\$19,579
Clinton County	9,123	62.3%	51.6%	37.4%	46.3	\$23,905
Crittenden County	8,981	41.9%	49.7%	37.2%	24.9	\$28,035
Cumberland County	5,946	44.2%	42.1%	31.2%	19.5	\$22,668
Daviess County	103,222	86.4%	87.1%	78.7%	225.2	\$33,599
Edmonson County	12,269	48.7%	28.6%	14.9%	40.5	\$26,781
Elliott County	7,293	100.0%	0.1%	0.1%	31.1	\$17,242
Estill County	14,044	76.4%	33.6%	29.9%	55.5	\$21,880
Fayette County	320,347	98.2%	99.9%	98.2%	1,129.4	\$40,953
Fleming County	15,288	55.7%	53.2%	37.0%	43.9	\$26,230
Floyd County	34,978	90.2%	11.8%	10.3%	88.9	\$22,179
Franklin County	51,607	57.9%	88.1%	54.2%	248.3	\$38,104
Fulton County	6,382	73.7%	68.4%	59.0%	31.0	\$19,960
Gallatin County	8,763	81.4%	91.3%	75.9%	89.1	\$27,398
Garrard County	17,589	58.6%	58.3%	42.7%	76.4	\$30,728
Grant County	25,502	90.9%	78.8%	73.1%	98.9	\$29,113
Graves County	36,412	93.3%	56.8%	54.2%	66.0	\$28,978
Grayson County	26,631	80.8%	35.2%	29.9%	53.3	\$25,565
Green County	11,365	39.5%	27.1%	17.4%	39.7	\$24,090
Greenup County	35,403	82.9%	73.3%	68.5%	102.8	\$32,070
Hancock County	9,021	21.0%	31.0%	8.2%	48.1	\$30,579
Hardin County	111,862	89.8%	88.1%	82.0%	179.4	\$35,226
Harlan County	25,662	69.3%	27.6%	20.3%	55.1	\$20,511
Harrison County	19,103	43.1%	72.6%	40.8%	62.3	\$29,748
Hart County	19,600	67.8%	24.2%	20.2%	47.5	\$23,837
Henderson County	44,046	78.8%	83.6%	69.0%	100.9	\$30,949
Henry County	15,771	55.0%	73.6%	46.9%	55.1	\$28,842
Hickman County	4,422	42.8%	57.6%	34.4%	18.3	\$38,895
Hopkins County	44,812	76.2%	78.3%	64.3%	82.7	\$27,878
Jackson County	12,973	100.0%	2.3%	2.3%	37.6	\$21,876
Jefferson County	773,399	97.9%	99.9%	97.8%	2,031.0	\$39,994
Jessamine County	54,254	91.5%	96.6%	90.3%	315.1	\$37,703
Johnson County	22,244	97.1%	23.6%	23.4%	84.9	\$22,931
Kenton County	170,313	99.2%	96.9%	96.2%	1,062.5	\$40,780
Knott County	13,874	99.3%	9.3%	9.2%	39.5	\$20,536
Knox County	29,791	85.9%	39.1%	36.6%	77.1	\$20,658
Larue County	15,163	65.5%	44.7%	36.6%	58.0	\$28,038
Laurel County	62,885	90.0%	44.8%	42.9%	144.9	\$26,829
Lawrence County	16,109	99.8%	34.0%	33.8%	38.8	\$21,163
Lee County	7,261	52.9%	23.5%	13.6%	34.8	\$18,651
Leslie County	10,093	40.9%	4.8%	2.1%	25.2	\$18,739
Letcher County	20,893	97.0%	17.6%	17.5%	61.8	\$23,522
Lewis County	12,954	53.0%	56.7%	41.4%	26.8	\$20,579
Lincoln County	24,360	50.5%	54.2%	33.1%	73.2	\$25,972
Livingston County	8,963	45.9%	42.9%	24.4%	28.6	\$31,024

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Logan County	27,877	73.5%	54.6%	47.0%	50.5	\$27,741
Lyon County	9,101	43.6%	47.1%	20.6%	42.6	\$30,441
Madison County	95,187	91.5%	83.3%	79.4%	217.6	\$31,290
Magoffin County	11,357	100.0%	17.7%	17.7%	36.8	\$19,582
Marion County	19,775	70.6%	50.8%	44.0%	57.6	\$25,133
Marshall County	31,777	84.0%	51.4%	44.8%	105.1	\$32,853
Martin County	11,095	36.1%	7.1%	3.3%	48.3	\$21,276
Mason County	16,930	73.4%	84.7%	68.8%	70.5	\$33,842
McCracken County	67,490	96.6%	81.9%	80.0%	271.3	\$36,401
McCreary County	16,701	99.9%	39.1%	39.1%	39.1	\$17,450
McLean County	9,105	38.0%	47.1%	23.8%	36.1	\$32,382
Meade County	30,001	98.5%	49.2%	48.5%	98.2	\$34,781
Menifee County	6,250	100.0%	32.9%	32.9%	30.7	\$22,682
Mercer County	22,902	66.7%	69.4%	53.6%	92.0	\$30,424
Metcalf County	10,370	53.3%	21.3%	15.2%	35.8	\$23,380
Monroe County	11,355	52.7%	10.8%	8.5%	34.5	\$26,549
Montgomery County	28,367	77.6%	72.6%	61.6%	143.7	\$26,423
Morgan County	14,120	100.0%	12.0%	12.0%	37.0	\$23,257
Muhlenberg County	30,455	70.6%	49.2%	37.6%	65.2	\$31,621
Nelson County	47,392	93.1%	74.8%	72.3%	113.5	\$33,585
Nicholas County	7,805	33.9%	66.0%	33.6%	40.0	\$24,714
Ohio County	23,527	43.4%	53.8%	32.8%	40.1	\$26,712
Oldham County	69,431	89.6%	97.2%	87.8%	370.8	\$50,534
Owen County	11,290	47.6%	68.7%	41.2%	32.2	\$28,446
Owsley County	3,929	99.5%	31.7%	31.7%	19.9	\$19,405
Pendleton County	14,676	82.6%	59.4%	52.5%	53.0	\$28,919
Perry County	27,361	89.0%	18.2%	17.8%	80.5	\$27,913
Pike County	56,286	67.9%	13.4%	8.2%	71.5	\$25,153
Powell County	13,083	47.8%	61.8%	36.4%	73.1	\$23,336
Pulaski County	65,795	80.5%	66.6%	60.8%	99.9	\$29,215
Robertson County	2,229	8.6%	29.4%	4.4%	22.3	\$24,146
Rockcastle County	16,242	55.1%	54.6%	39.1%	51.3	\$26,640
Rowan County	24,388	88.6%	60.9%	58.7%	87.1	\$28,578
Russell County	18,178	94.7%	32.9%	32.2%	71.7	\$25,790
Scott County	59,099	79.7%	93.7%	78.7%	209.7	\$38,391
Shelby County	48,886	71.8%	88.3%	68.9%	128.7	\$37,918
Simpson County	19,949	96.3%	80.5%	79.0%	85.2	\$27,951
Spencer County	20,204	63.1%	50.7%	35.6%	108.2	\$39,997
Taylor County	26,407	75.5%	52.2%	48.8%	99.1	\$29,899
Todd County	12,404	44.3%	51.3%	28.8%	33.1	\$30,252
Trigg County	14,332	53.0%	49.5%	34.9%	32.5	\$30,172
Trimble County	8,539	62.9%	53.4%	33.1%	56.3	\$28,958
Union County	12,961	70.6%	64.2%	53.6%	37.8	\$28,196
Warren County	139,843	92.4%	87.3%	81.4%	258.1	\$34,201
Washington County	12,061	52.2%	64.3%	38.0%	40.6	\$30,217

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Wayne County	19,681	72.9%	47.2%	42.3%	43.0	\$27,016
Webster County	12,726	53.4%	52.3%	31.9%	38.3	\$25,177
Whitley County	36,873	75.9%	34.9%	28.2%	84.2	\$22,310
Wolfe County	6,400	100.0%	28.1%	28.1%	28.8	\$14,727
Woodford County	27,062	82.2%	92.4%	80.3%	142.3	\$38,567
Louisiana	4,590,241	83.4%	87.3%	77.7%	106.2	\$32,981
Acadia Parish	56,744	71.4%	74.8%	60.7%	86.6	\$25,731
Allen Parish	22,320	19.3%	73.6%	17.1%	29.3	\$23,971
Ascension Parish	130,458	99.7%	98.6%	98.4%	449.9	\$41,355
Assumption Parish	20,604	95.4%	74.9%	71.5%	59.9	\$28,758
Avoyelles Parish	38,751	0.6%	73.1%	0.6%	46.6	\$23,597
Beauregard Parish	36,570	29.6%	56.0%	22.9%	31.6	\$33,582
Bienville Parish	12,641	16.0%	44.6%	15.3%	15.6	\$22,269
Bossier Parish	129,276	80.1%	82.0%	70.8%	154.0	\$33,873
Caddo Parish	229,025	95.3%	81.3%	79.3%	260.4	\$31,612
Calcasieu Parish	202,418	82.3%	92.8%	78.5%	190.2	\$33,486
Caldwell Parish	9,554	42.5%	65.3%	38.5%	18.0	\$28,491
Cameron Parish	4,902	66.3%	58.0%	37.5%	3.8	\$33,858
Catahoula Parish	8,566	5.1%	58.4%	5.1%	12.1	\$24,910
Claiborne Parish	13,744	44.0%	42.3%	33.7%	18.2	\$18,721
Concordia Parish	18,116	25.5%	87.6%	24.4%	26.0	\$21,941
De Soto Parish	26,853	64.6%	59.1%	49.4%	30.6	\$28,772
East Baton Rouge Parish	450,544	100.0%	99.0%	99.0%	989.1	\$37,540
East Carroll Parish	6,990	64.7%	86.7%	63.6%	16.6	\$19,646
East Feliciana Parish	19,135	10.8%	60.7%	9.5%	42.2	\$32,720
Evangeline Parish	31,986	34.8%	59.3%	22.5%	48.3	\$21,877
Franklin Parish	19,308	50.4%	60.5%	37.1%	30.9	\$23,658
Grant Parish	22,000	23.9%	37.4%	15.8%	34.2	\$25,077
Iberia Parish	68,327	71.6%	87.5%	68.7%	119.1	\$28,315
Iberville Parish	29,506	90.2%	86.6%	77.9%	47.7	\$28,538
Jackson Parish	14,839	2.6%	50.7%	2.3%	26.1	\$22,804
Jefferson Davis Parish	32,026	63.2%	71.7%	49.4%	49.2	\$30,081
Jefferson Parish	425,884	99.9%	100.0%	99.9%	1,415.1	\$35,720
LaSalle Parish	14,729	0.0%	53.1%	0.0%	23.6	\$29,769
Lafayette Parish	247,866	98.3%	96.8%	95.8%	922.0	\$38,161
Lafourche Parish	95,870	72.5%	88.9%	65.7%	89.8	\$32,716
Lincoln Parish	48,129	61.9%	71.1%	50.5%	102.0	\$24,411
Livingston Parish	148,425	97.1%	90.2%	88.1%	229.0	\$34,237
Madison Parish	9,478	74.2%	84.3%	72.6%	15.2	\$18,314
Morehouse Parish	24,446	86.2%	65.6%	57.9%	30.8	\$22,534
Natchitoches Parish	36,663	60.0%	49.1%	39.4%	29.3	\$25,302
Orleans Parish	369,749	99.9%	100.0%	99.9%	2,181.5	\$37,013
Ouachita Parish	157,702	91.8%	86.0%	83.0%	258.4	\$29,670
Plaquemines Parish	22,516	61.9%	96.8%	61.9%	28.9	\$35,413

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Pointe Coupee Parish	20,151	85.5%	70.0%	62.2%	36.2	\$31,595
Rapides Parish	127,189	69.9%	72.5%	55.2%	96.3	\$31,010
Red River Parish	7,420	21.8%	16.1%	1.7%	19.1	\$23,162
Richland Parish	19,826	49.5%	76.9%	47.1%	35.7	\$25,285
Sabine Parish	21,985	6.2%	16.3%	2.6%	25.4	\$24,911
St. Bernard Parish	44,479	99.9%	100.0%	99.8%	117.8	\$28,451
St. Charles Parish	50,998	99.5%	96.9%	96.3%	183.6	\$38,220
St. Helena Parish	10,822	32.2%	35.3%	11.0%	26.5	\$24,660
St. James Parish	19,423	84.3%	97.6%	82.4%	81.7	\$33,616
St. John the Baptist Parish	39,864	98.2%	99.5%	98.2%	185.9	\$30,643
St. Landry Parish	81,773	76.3%	78.1%	62.9%	88.5	\$24,413
St. Martin Parish	51,236	82.9%	81.5%	70.0%	69.5	\$28,679
St. Mary Parish	47,789	91.9%	94.2%	87.8%	86.0	\$26,949
St. Tammany Parish	273,263	93.6%	95.3%	89.9%	323.3	\$40,393
Tangipahoa Parish	137,048	88.4%	90.3%	81.8%	173.2	\$29,192
Tensas Parish	3,846	14.1%	17.7%	1.6%	6.4	\$21,019
Terrebonne Parish	104,786	98.6%	90.8%	89.7%	85.2	\$32,143
Union Parish	20,721	24.8%	39.2%	16.6%	23.6	\$28,575
Vermilion Parish	56,952	71.3%	77.9%	61.1%	48.5	\$29,293
Vernon Parish	47,247	33.5%	71.3%	30.6%	35.6	\$28,797
Washington Parish	45,025	15.0%	77.9%	14.8%	67.2	\$24,287
Webster Parish	35,643	50.9%	59.6%	35.6%	60.1	\$22,706
West Baton Rouge Parish	28,034	100.0%	93.0%	92.9%	145.7	\$33,445
West Carroll Parish	9,475	29.8%	53.1%	21.4%	26.3	\$25,949
West Feliciana Parish	15,381	13.4%	68.6%	10.3%	38.1	\$30,055
Winn Parish	13,205	23.2%	56.9%	23.0%	13.9	\$25,617
Maine	1,385,340	88.2%	64.7%	60.2%	44.9	\$39,718
Androscoggin County	113,023	96.9%	75.9%	74.0%	241.5	\$34,273
Aroostook County	67,255	71.4%	57.8%	48.0%	10.1	\$31,001
Cumberland County	307,451	97.6%	72.4%	71.1%	367.7	\$51,405
Franklin County	30,474	80.6%	58.9%	54.7%	18.0	\$33,161
Hancock County	56,701	77.5%	47.4%	39.4%	35.7	\$38,785
Kennebec County	125,540	92.5%	72.1%	67.4%	144.7	\$36,009
Knox County	41,164	86.5%	54.9%	48.4%	112.7	\$39,379
Lincoln County	36,215	86.3%	31.1%	28.1%	79.4	\$43,436
Oxford County	59,495	75.9%	62.2%	51.6%	28.6	\$30,884
Penobscot County	153,704	84.9%	65.3%	60.0%	45.2	\$34,423
Piscataquis County	17,417	65.2%	37.9%	27.7%	4.4	\$32,843
Sagadahoc County	37,393	94.0%	64.8%	63.2%	147.2	\$40,950
Somerset County	51,098	74.5%	60.7%	52.0%	13.0	\$31,348
Waldo County	40,241	54.0%	43.6%	27.6%	55.1	\$35,677
Washington County	31,437	68.4%	34.1%	28.1%	12.3	\$30,731
York County	216,732	96.4%	70.2%	68.0%	218.7	\$42,053

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Maryland	6,164,660	97.5%	94.3%	92.5%	634.8	\$49,865
Allegany County	67,267	91.3%	87.4%	81.8%	159.3	\$29,343
Anne Arundel County	593,286	99.7%	96.3%	96.0%	1,430.3	\$56,187
Baltimore County	846,161	99.0%	98.3%	97.4%	1,414.1	\$46,603
Baltimore city	569,931	99.7%	99.8%	99.5%	7,040.9	\$37,845
Calvert County	94,573	98.0%	83.7%	82.1%	443.6	\$54,038
Caroline County	33,433	77.1%	85.2%	67.9%	104.7	\$34,655
Carroll County	175,305	90.6%	92.2%	84.2%	391.6	\$49,434
Cecil County	104,942	94.0%	87.3%	83.1%	303.0	\$40,520
Charles County	170,102	95.7%	87.7%	85.1%	371.5	\$47,977
Dorchester County	32,726	80.8%	85.4%	75.4%	60.5	\$33,950
Frederick County	287,079	95.1%	89.1%	86.0%	434.6	\$51,169
Garrett County	28,579	68.3%	65.8%	49.5%	44.0	\$41,130
Harford County	263,867	97.8%	94.5%	92.6%	603.6	\$48,615
Howard County	335,411	99.4%	97.8%	97.4%	1,336.6	\$63,441
Kent County	19,320	89.4%	62.9%	58.8%	69.7	\$44,283
Montgomery County	1,052,521	99.7%	94.2%	94.0%	2,134.5	\$64,126
Prince George's County	946,971	99.6%	96.5%	96.2%	1,962.0	\$43,833
Queen Anne's County	51,711	90.0%	78.7%	71.2%	139.1	\$52,652
Somerset County	24,546	78.1%	73.0%	61.6%	76.8	\$24,176
St. Mary's County	114,877	91.9%	83.3%	77.9%	320.3	\$49,755
Talbot County	37,932	89.2%	72.1%	68.6%	141.2	\$52,555
Washington County	155,590	90.3%	95.2%	86.9%	339.9	\$36,528
Wicomico County	104,664	93.5%	94.1%	89.6%	279.5	\$35,658
Worcester County	53,866	87.3%	84.5%	77.6%	115.0	\$48,769
Massachusetts	6,981,974	98.7%	92.1%	91.0%	895.0	\$53,513
Barnstable County	232,457	99.5%	85.8%	85.4%	589.7	\$55,940
Berkshire County	127,859	92.0%	74.3%	68.8%	137.9	\$45,300
Bristol County	580,068	99.6%	93.5%	93.1%	1,048.7	\$42,006
Dukes County	20,868	97.7%	63.0%	61.8%	202.2	\$60,845
Essex County	806,765	99.8%	94.5%	94.3%	1,638.0	\$50,932
Franklin County	70,894	95.2%	64.8%	62.9%	101.4	\$40,282
Hampden County	461,041	98.7%	93.2%	92.1%	747.2	\$35,884
Hampshire County	162,588	97.8%	89.2%	87.3%	308.4	\$43,639
Middlesex County	1,617,105	99.7%	94.8%	94.6%	1,977.2	\$64,197
Nantucket County	14,421	99.4%	57.7%	57.6%	312.2	\$62,153
Norfolk County	725,531	99.4%	94.6%	94.0%	1,831.7	\$66,685
Plymouth County	533,069	99.5%	87.8%	87.4%	809.5	\$53,423
Suffolk County	766,381	99.9%	99.1%	99.0%	13,155.9	\$53,173
Worcester County	862,927	94.4%	86.0%	81.2%	571.2	\$45,433
Michigan	10,034,113	90.8%	88.3%	82.9%	177.3	\$37,929
Alcona County	10,417	46.5%	22.7%	9.2%	15.4	\$31,167
Alger County	8,807	57.7%	39.6%	30.2%	9.6	\$25,099
Allegan County	121,210	65.4%	72.6%	52.1%	146.9	\$35,220
Alpena County	28,847	99.6%	65.5%	65.2%	50.4	\$30,893

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Antrim County	24,249	72.4%	51.8%	40.7%	51.0	\$39,166
Arenac County	15,089	53.0%	38.2%	19.8%	41.5	\$29,246
Baraga County	8,277	72.1%	34.2%	24.3%	9.2	\$28,665
Barry County	63,554	62.4%	58.0%	38.9%	114.9	\$38,843
Bay County	102,821	84.3%	96.8%	83.5%	232.4	\$33,331
Benzie County	18,297	67.0%	50.8%	37.9%	57.2	\$38,875
Berrien County	152,900	95.5%	83.2%	80.4%	269.3	\$36,764
Branch County	44,531	71.8%	58.1%	50.0%	87.9	\$29,824
Calhoun County	133,289	86.9%	80.8%	74.8%	188.7	\$32,047
Cass County	51,403	89.0%	54.6%	48.7%	104.9	\$36,851
Charlevoix County	26,293	89.5%	57.4%	52.3%	63.2	\$43,782
Cheboygan County	25,940	62.9%	52.3%	37.9%	36.3	\$32,679
Chippewa County	36,293	56.0%	58.7%	41.4%	23.3	\$31,167
Clare County	31,352	72.4%	52.0%	42.9%	55.6	\$27,147
Clinton County	79,748	84.8%	90.5%	77.4%	140.8	\$41,790
Crawford County	13,491	52.5%	48.9%	33.1%	24.2	\$30,379
Delta County	36,741	79.1%	62.6%	55.7%	31.4	\$32,311
Dickinson County	25,874	78.0%	73.9%	65.3%	34.0	\$35,722
Eaton County	108,992	84.1%	90.4%	79.1%	189.5	\$39,207
Emmet County	34,163	87.7%	54.5%	47.3%	73.1	\$42,373
Genesee County	401,983	96.1%	99.1%	95.5%	631.1	\$33,562
Gladwin County	25,728	71.7%	42.2%	35.9%	51.3	\$30,893
Gogebic County	14,319	72.5%	75.3%	62.4%	13.0	\$33,516
Grand Traverse County	96,464	85.9%	57.2%	50.5%	207.7	\$40,644
Gratiot County	41,100	98.4%	71.3%	70.9%	72.3	\$28,123
Hillsdale County	45,762	88.2%	60.0%	56.0%	76.5	\$30,409
Houghton County	37,035	78.1%	72.2%	63.5%	36.7	\$29,173
Huron County	31,248	59.6%	40.1%	26.8%	37.4	\$32,069
Ingham County	284,108	93.2%	97.5%	91.9%	510.9	\$36,077
Ionia County	66,809	89.1%	86.2%	77.3%	116.9	\$29,736
Iosco County	25,521	74.5%	55.2%	45.6%	46.5	\$28,301
Iron County	11,622	53.5%	52.9%	43.0%	10.0	\$31,990
Isabella County	64,447	94.3%	72.5%	70.4%	112.5	\$28,809
Jackson County	160,066	81.3%	87.1%	72.6%	228.0	\$33,065
Kalamazoo County	261,173	96.1%	84.0%	81.1%	464.8	\$37,852
Kalkaska County	18,182	47.3%	42.8%	23.9%	32.5	\$31,074
Kent County	659,083	95.6%	96.6%	92.9%	776.4	\$39,342
Keweenaw County	2,180	47.1%	40.3%	34.7%	4.0	\$41,795
Lake County	12,594	32.5%	43.9%	16.8%	22.2	\$25,695
Lapeer County	88,780	61.3%	83.4%	54.0%	137.2	\$37,419
Leelanau County	22,870	69.4%	35.9%	25.1%	65.9	\$48,491
Lenawee County	98,567	97.1%	72.4%	71.2%	131.5	\$32,976
Livingston County	196,161	89.9%	91.6%	83.2%	347.0	\$47,253
Luce County	5,330	53.3%	24.8%	17.6%	5.9	\$23,599
Mackinac County	10,941	55.1%	44.7%	31.4%	10.7	\$35,512

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Macomb County	874,195	99.0%	99.5%	98.6%	1,823.7	\$38,015
Manistee County	25,287	56.0%	48.6%	32.9%	46.6	\$33,818
Marquette County	66,661	79.7%	67.2%	60.8%	36.8	\$32,711
Mason County	29,409	59.8%	66.0%	46.2%	59.4	\$34,386
Mecosta County	40,720	93.2%	54.1%	52.4%	73.3	\$27,692
Menominee County	23,266	54.4%	56.7%	43.9%	22.3	\$31,313
Midland County	83,674	80.4%	93.0%	77.4%	161.7	\$41,594
Missaukee County	15,213	33.3%	44.5%	16.8%	26.9	\$29,386
Monroe County	155,609	91.9%	93.3%	86.3%	283.3	\$37,704
Montcalm County	67,433	97.2%	72.2%	70.8%	95.6	\$28,370
Montmorency County	9,569	57.2%	28.0%	17.7%	17.5	\$28,394
Muskegon County	176,565	90.3%	73.3%	67.7%	350.4	\$30,812
Newaygo County	50,886	65.1%	46.4%	32.9%	60.7	\$29,687
Oakland County	1,269,431	98.9%	99.2%	98.1%	1,463.7	\$53,157
Oceana County	26,973	76.6%	54.1%	43.6%	50.1	\$28,786
Ogemaw County	20,970	63.5%	43.8%	30.9%	37.2	\$28,837
Ontonagon County	5,863	58.6%	39.9%	29.2%	4.5	\$30,182
Osceola County	23,274	72.2%	66.7%	52.5%	41.1	\$27,211
Oscoda County	8,404	60.3%	32.5%	26.0%	14.9	\$26,129
Otsego County	25,644	68.4%	56.2%	44.7%	49.8	\$34,190
Ottawa County	300,873	92.4%	90.0%	83.5%	533.9	\$39,116
Presque Isle County	13,361	57.5%	40.1%	29.1%	20.3	\$34,698
Roscommon County	23,708	85.0%	56.7%	47.5%	45.6	\$34,587
Saginaw County	188,330	87.8%	96.6%	85.7%	235.2	\$32,839
Sanilac County	40,657	50.3%	27.7%	17.0%	42.2	\$30,904
Schoolcraft County	8,188	51.1%	42.9%	30.7%	7.0	\$33,805
Shiawassee County	68,022	69.9%	95.0%	67.8%	128.1	\$33,328
St. Clair County	160,151	79.7%	90.8%	73.9%	222.0	\$35,483
St. Joseph County	60,874	95.0%	68.1%	64.8%	121.6	\$30,171
Tuscola County	52,945	66.4%	39.4%	28.6%	65.8	\$30,698
Van Buren County	75,692	69.8%	57.6%	42.4%	124.5	\$32,361
Washtenaw County	366,376	93.6%	98.4%	92.6%	518.9	\$49,568
Wayne County	1,757,043	99.4%	99.6%	99.1%	2,871.7	\$32,643
Wexford County	34,196	62.0%	61.8%	44.3%	60.5	\$29,617
Minnesota	5,717,184	94.3%	88.8%	85.4%	71.8	\$44,947
Aitkin County	16,126	69.5%	48.5%	38.5%	8.9	\$32,980
Anoka County	368,864	97.5%	97.0%	94.8%	874.2	\$43,106
Becker County	35,371	81.0%	49.9%	44.2%	26.9	\$38,444
Beltrami County	46,799	99.2%	54.5%	54.4%	18.7	\$32,055
Benton County	41,463	88.4%	94.1%	83.1%	101.6	\$35,885
Big Stone County	5,144	98.9%	24.3%	24.0%	10.3	\$35,797
Blue Earth County	69,631	97.0%	82.9%	80.4%	93.1	\$35,182
Brown County	25,723	94.5%	72.6%	70.9%	42.1	\$35,340
Carlton County	36,708	60.6%	58.8%	41.7%	42.6	\$35,642
Carver County	110,034	98.9%	99.0%	98.0%	310.8	\$55,216

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Cass County	31,274	63.7%	55.3%	39.9%	15.5	\$34,505
Chippewa County	12,284	99.1%	66.4%	65.9%	21.1	\$32,772
Chisago County	57,988	76.2%	92.4%	72.4%	139.8	\$41,814
Clay County	65,929	99.3%	90.1%	89.9%	63.1	\$36,586
Clearwater County	8,649	99.2%	53.3%	53.0%	8.7	\$31,879
Cook County	5,708	95.2%	54.0%	53.3%	3.9	\$44,316
Cottonwood County	11,356	88.7%	76.6%	71.1%	17.7	\$32,818
Crow Wing County	67,948	88.2%	71.0%	65.6%	68.1	\$36,878
Dakota County	443,341	99.2%	99.3%	98.6%	788.1	\$48,894
Dodge County	20,981	99.9%	72.1%	72.1%	47.8	\$42,838
Douglas County	39,668	84.6%	56.2%	51.2%	62.3	\$41,889
Faribault County	13,926	86.2%	49.2%	43.2%	19.5	\$35,307
Fillmore County	21,414	86.0%	63.4%	58.6%	24.9	\$35,645
Freeborn County	30,718	99.4%	70.6%	70.2%	43.4	\$36,751
Goodhue County	48,013	94.0%	73.5%	71.7%	63.5	\$40,087
Grant County	6,136	82.2%	39.1%	36.7%	11.2	\$36,750
Hennepin County	1,260,121	99.3%	99.8%	99.1%	2,274.4	\$55,199
Houston County	18,800	84.5%	49.1%	46.9%	34.1	\$39,340
Hubbard County	21,960	92.3%	56.2%	52.7%	23.7	\$36,944
Isanti County	42,727	59.7%	83.9%	56.8%	98.1	\$38,609
Itasca County	45,205	92.8%	62.3%	59.4%	16.9	\$34,528
Jackson County	9,893	95.5%	56.6%	54.1%	14.1	\$37,818
Kanabec County	16,463	27.4%	59.8%	25.1%	31.6	\$33,805
Kandiyohi County	43,839	95.7%	85.8%	82.5%	55.0	\$35,814
Kittson County	4,059	95.2%	34.0%	33.9%	3.7	\$35,565
Koochiching County	11,844	83.1%	52.0%	49.2%	3.8	\$36,515
Lac qui Parle County	6,689	100.0%	43.7%	43.7%	8.7	\$37,520
Lake County	10,939	90.6%	75.2%	71.5%	5.2	\$39,930
Lake of the Woods County	3,871	80.9%	57.6%	53.3%	3.0	\$35,308
Le Sueur County	29,153	98.5%	78.0%	77.3%	65.0	\$41,400
Lincoln County	5,580	99.1%	41.6%	41.1%	10.4	\$35,638
Lyon County	25,262	99.9%	78.0%	77.9%	35.4	\$35,256
Mahnomen County	5,328	71.3%	38.0%	32.8%	9.6	\$24,710
Marshall County	8,861	94.6%	45.3%	44.7%	5.0	\$35,920
Martin County	19,650	98.6%	62.1%	61.9%	27.6	\$35,152
McLeod County	36,714	97.5%	97.2%	95.0%	74.7	\$39,361
Meeker County	23,496	92.9%	80.5%	75.5%	38.6	\$37,233
Mille Lacs County	27,280	81.7%	76.8%	65.9%	47.7	\$33,933
Morrison County	34,246	82.0%	63.8%	54.0%	30.4	\$34,269
Mower County	40,140	98.7%	75.6%	75.4%	56.4	\$33,921
Murray County	8,060	98.8%	61.3%	60.8%	11.4	\$38,783
Nicollet County	34,441	93.0%	83.4%	79.2%	76.8	\$41,658
Nobles County	21,947	96.0%	79.7%	77.3%	30.7	\$29,786
Norman County	6,377	87.7%	50.2%	46.9%	7.3	\$36,245

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Olmsted County	164,020	99.1%	97.5%	96.9%	251.0	\$49,799
Otter Tail County	60,519	75.9%	49.4%	41.8%	30.7	\$37,202
Pennington County	13,845	98.7%	75.0%	74.4%	22.5	\$37,342
Pine County	29,446	48.8%	57.7%	37.6%	20.9	\$32,335
Pipestone County	9,355	99.0%	59.8%	59.5%	20.1	\$34,973
Polk County	30,731	99.0%	66.9%	66.7%	15.6	\$34,273
Pope County	11,431	91.6%	35.0%	32.7%	17.1	\$38,905
Ramsey County	536,413	99.6%	99.9%	99.5%	3,523.3	\$43,203
Red Lake County	3,874	94.7%	62.2%	61.7%	9.0	\$35,198
Redwood County	15,361	80.5%	54.7%	49.8%	17.5	\$33,175
Renville County	14,525	97.9%	61.4%	60.7%	14.8	\$34,554
Rice County	67,693	96.4%	93.5%	90.5%	136.5	\$37,050
Rock County	9,537	97.7%	22.9%	21.9%	19.8	\$38,472
Roseau County	15,292	94.8%	61.3%	58.8%	9.1	\$36,125
Scott County	154,520	98.9%	99.2%	98.2%	433.7	\$51,259
Sherburne County	100,824	89.1%	95.7%	85.9%	232.9	\$41,412
Sibley County	14,955	94.6%	73.1%	71.3%	25.4	\$37,919
St. Louis County	199,532	79.2%	86.3%	74.0%	31.9	\$37,850
Stearns County	160,405	92.5%	95.3%	88.7%	119.5	\$36,087
Steele County	37,398	100.0%	68.8%	68.8%	87.0	\$40,146
Stevens County	9,637	98.2%	24.3%	24.2%	17.1	\$38,425
Swift County	9,755	99.2%	27.4%	27.2%	13.1	\$35,595
Todd County	25,538	63.9%	52.8%	39.9%	27.0	\$30,812
Traverse County	3,275	82.3%	45.5%	43.3%	5.7	\$36,023
Wabasha County	21,658	93.7%	57.9%	57.3%	41.4	\$40,471
Wadena County	14,307	99.3%	36.9%	36.8%	26.7	\$28,011
Waseca County	18,893	100.0%	77.5%	77.5%	44.6	\$35,814
Washington County	275,912	94.8%	97.7%	93.2%	717.2	\$54,418
Watonwan County	11,075	100.0%	76.0%	76.0%	25.5	\$34,363
Wilkin County	6,350	84.5%	63.6%	58.8%	8.5	\$38,317
Winona County	49,478	97.1%	51.7%	51.1%	79.0	\$34,889
Wright County	148,003	86.9%	98.8%	86.5%	223.9	\$43,067
Yellow Medicine County	9,486	99.5%	56.3%	56.0%	12.5	\$36,737
Mississippi	2,940,057	78.9%	70.3%	61.4%	62.7	\$29,209
Adams County	28,408	77.7%	72.2%	64.2%	61.4	\$22,924
Alcorn County	34,204	99.9%	63.2%	63.1%	85.5	\$27,320
Amite County	12,619	0.6%	30.3%	0.6%	17.3	\$24,135
Attala County	17,509	55.4%	57.2%	43.3%	23.8	\$27,625
Benton County	7,550	37.9%	35.9%	12.6%	18.6	\$24,690
Bolivar County	29,370	79.8%	53.4%	48.6%	33.5	\$25,440
Calhoun County	12,781	83.7%	55.6%	52.9%	21.8	\$24,192
Carroll County	9,731	86.0%	34.8%	28.8%	15.5	\$29,588
Chickasaw County	16,812	85.5%	51.7%	45.4%	33.5	\$21,968
Choctaw County	8,037	57.3%	17.8%	10.6%	19.2	\$27,628

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Claiborne County	8,805	5.3%	56.7%	1.7%	18.1	\$17,250
Clarke County	15,271	71.1%	49.9%	40.9%	22.1	\$26,435
Clay County	18,380	92.4%	61.9%	60.4%	44.8	\$24,702
Coahoma County	20,197	75.5%	80.1%	71.4%	36.5	\$22,701
Copiah County	27,719	28.3%	61.0%	24.3%	35.7	\$28,072
Covington County	18,098	11.1%	44.1%	6.3%	43.7	\$24,147
DeSoto County	191,723	94.2%	93.6%	89.6%	402.5	\$34,989
Forrest County	78,110	90.7%	86.1%	80.8%	167.6	\$28,197
Franklin County	7,642	35.4%	42.6%	25.1%	13.6	\$26,844
George County	25,206	48.4%	35.6%	18.1%	52.7	\$24,756
Greene County	13,552	4.2%	37.6%	1.1%	19.0	\$18,257
Grenada County	21,088	80.7%	55.7%	49.5%	50.0	\$27,128
Hancock County	46,094	98.8%	64.9%	64.0%	97.3	\$36,883
Harrison County	211,044	96.8%	90.4%	89.4%	367.9	\$30,120
Hinds County	217,730	89.3%	96.2%	88.9%	250.3	\$27,943
Holmes County	16,121	66.1%	63.7%	50.5%	21.3	\$20,132
Humphreys County	7,333	73.1%	62.4%	52.6%	17.5	\$24,506
Issaquena County	1,273	0.0%	27.3%	0.0%	3.1	\$13,539
Itawamba County	23,903	92.0%	50.8%	48.1%	44.9	\$33,243
Jackson County	144,975	92.6%	86.6%	82.2%	200.6	\$31,509
Jasper County	16,167	43.8%	30.5%	17.0%	23.9	\$24,068
Jefferson County	7,087	0.1%	23.4%	0.0%	13.6	\$19,366
Jefferson Davis County	11,088	23.2%	37.3%	8.3%	27.1	\$22,693
Jones County	66,569	91.0%	49.2%	46.3%	95.8	\$26,063
Kemper County	8,654	72.1%	45.0%	34.1%	11.3	\$22,046
Lafayette County	57,615	93.9%	76.7%	71.5%	91.2	\$32,536
Lamar County	65,783	70.2%	76.7%	65.8%	132.5	\$37,681
Lauderdale County	70,904	96.3%	77.4%	75.2%	100.8	\$26,590
Lawrence County	11,713	2.3%	41.8%	1.8%	27.2	\$24,809
Leake County	21,135	27.8%	62.0%	26.6%	36.3	\$25,662
Lee County	82,959	97.9%	56.2%	55.4%	184.4	\$33,209
Leflore County	26,570	80.6%	78.9%	68.4%	44.7	\$23,281
Lincoln County	34,717	41.3%	40.2%	26.9%	59.2	\$25,775
Lowndes County	57,603	99.3%	72.2%	72.0%	114.0	\$29,750
Madison County	111,113	88.6%	93.0%	86.2%	155.5	\$46,538
Marion County	24,050	51.4%	22.2%	7.6%	44.3	\$23,055
Marshall County	34,110	60.8%	61.2%	42.1%	48.3	\$27,680
Monroe County	33,577	86.6%	54.0%	47.1%	43.9	\$27,619
Montgomery County	9,530	81.5%	58.3%	50.2%	23.4	\$24,126
Neshoba County	28,673	41.1%	52.4%	29.4%	50.3	\$23,538
Newton County	21,029	38.9%	57.7%	30.4%	36.4	\$28,364
Noxubee County	9,990	32.0%	61.4%	13.9%	14.4	\$19,804
Oktibbeha County	51,427	93.4%	72.2%	67.4%	112.2	\$28,221
Panola County	32,661	89.6%	52.0%	48.5%	47.7	\$25,822
Pearl River County	57,261	85.7%	45.3%	36.2%	70.6	\$27,549

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Perry County	11,368	67.0%	20.3%	16.9%	17.6	\$24,935
Pike County	39,644	64.6%	56.2%	46.5%	96.9	\$23,013
Pontotoc County	31,389	76.8%	59.8%	47.1%	63.1	\$26,359
Prentiss County	24,792	98.4%	48.3%	48.3%	59.7	\$27,979
Quitman County	5,701	74.3%	69.0%	63.1%	14.1	\$18,546
Rankin County	158,979	88.4%	93.0%	85.3%	205.0	\$36,605
Scott County	27,707	46.3%	63.2%	39.9%	45.5	\$23,043
Sharkey County	3,488	62.6%	55.7%	50.8%	8.1	\$22,203
Simpson County	25,587	8.3%	60.7%	6.7%	43.4	\$27,920
Smith County	14,092	34.5%	40.8%	17.5%	22.1	\$25,394
Stone County	18,669	43.7%	48.2%	28.4%	41.9	\$25,768
Sunflower County	24,811	67.7%	51.3%	44.4%	35.6	\$18,851
Tallahatchie County	12,035	57.0%	65.3%	45.3%	18.7	\$20,348
Tate County	28,296	73.5%	59.3%	50.4%	69.9	\$28,306
Tippah County	21,431	96.2%	45.8%	44.2%	46.8	\$27,762
Tishomingo County	18,619	99.4%	57.5%	57.1%	43.9	\$26,896
Tunica County	9,458	57.7%	54.1%	42.8%	20.8	\$20,086
Union County	28,125	77.0%	57.0%	47.5%	67.7	\$27,373
Walthall County	13,761	0.5%	28.6%	0.3%	34.1	\$25,673
Warren County	42,649	80.8%	73.5%	65.0%	72.5	\$31,701
Washington County	42,514	80.4%	69.8%	59.9%	58.7	\$23,190
Wayne County	19,681	91.1%	44.2%	42.4%	24.3	\$24,479
Webster County	9,993	91.6%	46.8%	44.8%	23.7	\$27,836
Wilkinson County	8,143	0.9%	27.6%	0.9%	12.0	\$22,479
Winston County	17,543	62.5%	42.5%	34.9%	28.9	\$27,743
Yalobusha County	12,364	54.9%	48.8%	37.5%	26.5	\$24,719
Yazoo County	25,948	47.7%	48.9%	36.7%	28.1	\$19,836
Missouri	6,177,957	89.0%	88.6%	82.0%	89.9	\$36,754
Adair County	25,165	89.4%	79.8%	75.9%	44.4	\$28,976
Andrew County	18,003	88.9%	76.1%	68.6%	41.6	\$33,722
Atchison County	5,182	46.7%	9.0%	2.5%	9.5	\$32,549
Audrain County	24,434	68.5%	74.7%	61.1%	35.3	\$27,133
Barry County	34,926	68.7%	70.7%	49.2%	44.9	\$30,932
Barton County	11,694	32.9%	66.3%	21.0%	19.8	\$25,637
Bates County	16,177	58.3%	74.0%	52.0%	19.3	\$27,333
Benton County	20,224	35.6%	56.6%	18.5%	28.7	\$31,484
Bollinger County	10,518	5.2%	50.3%	2.6%	17.0	\$24,647
Boone County	187,690	91.4%	81.4%	77.9%	273.8	\$37,393
Buchanan County	82,911	98.0%	95.7%	94.1%	203.1	\$31,886
Butler County	42,179	71.4%	76.1%	62.4%	60.7	\$25,242
Caldwell County	8,933	44.2%	77.0%	39.1%	21.0	\$29,673
Callaway County	44,762	97.9%	72.9%	71.0%	53.6	\$31,874
Camden County	43,768	100.0%	75.3%	75.3%	66.7	\$35,927
Cape Girardeau County	82,899	85.3%	88.5%	79.7%	143.3	\$32,619
Carroll County	8,423	67.7%	70.5%	53.6%	12.1	\$30,403

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Carter County	5,268	8.0%	56.4%	6.7%	10.4	\$27,150
Cass County	110,394	91.3%	97.5%	90.0%	158.5	\$38,766
Cedar County	14,601	74.2%	47.0%	39.4%	30.8	\$27,243
Chariton County	7,386	66.7%	74.2%	54.7%	9.8	\$28,616
Christian County	93,114	79.3%	95.1%	78.1%	165.5	\$35,587
Clark County	6,723	50.0%	59.2%	33.3%	13.3	\$26,417
Clay County	257,033	97.5%	99.4%	97.0%	646.4	\$40,278
Clinton County	21,328	84.9%	84.4%	76.3%	50.9	\$31,924
Cole County	76,969	100.0%	85.6%	85.6%	196.6	\$35,519
Cooper County	16,772	81.5%	63.4%	56.2%	29.7	\$27,471
Crawford County	22,659	100.0%	56.7%	56.7%	30.5	\$29,581
Dade County	7,660	51.7%	47.4%	33.6%	15.6	\$28,731
Dallas County	17,626	46.6%	58.2%	36.0%	32.6	\$24,646
Daviess County	8,435	63.0%	62.7%	42.6%	15.0	\$29,497
DeKalb County	11,336	88.6%	75.3%	68.8%	26.9	\$25,591
Dent County	14,467	100.0%	46.2%	46.2%	19.2	\$27,342
Douglas County	11,975	38.0%	29.3%	17.2%	14.7	\$27,762
Dunklin County	27,406	91.5%	82.4%	78.1%	50.6	\$26,123
Franklin County	105,879	100.0%	89.9%	89.9%	114.8	\$35,679
Gasconade County	14,768	100.0%	65.7%	65.7%	28.5	\$34,414
Gentry County	6,253	92.1%	70.2%	67.4%	12.7	\$28,968
Greene County	303,293	96.3%	97.8%	94.7%	449.1	\$33,275
Grundy County	9,838	83.8%	71.6%	63.8%	22.6	\$27,809
Harrison County	8,199	74.3%	62.3%	52.0%	11.3	\$24,530
Henry County	22,438	40.9%	85.7%	40.9%	32.2	\$31,801
Hickory County	8,630	19.7%	53.1%	13.5%	21.6	\$21,476
Holt County	4,262	29.2%	40.2%	24.7%	9.2	\$33,121
Howard County	10,168	75.7%	47.3%	41.1%	21.9	\$27,474
Howell County	40,631	69.9%	64.4%	53.6%	43.8	\$24,389
Iron County	9,414	100.0%	51.9%	51.9%	17.1	\$26,798
Jackson County	716,531	97.2%	99.8%	97.1%	1,185.3	\$36,890
Jasper County	124,075	86.0%	92.9%	82.0%	194.3	\$28,371
Jefferson County	229,336	88.9%	96.9%	87.4%	349.4	\$36,184
Johnson County	54,368	74.4%	79.3%	64.2%	65.6	\$30,639
Knox County	3,776	29.4%	10.3%	1.6%	7.5	\$22,902
Laclede County	36,313	100.0%	43.4%	43.4%	47.5	\$27,790
Lafayette County	32,961	63.4%	88.3%	59.9%	52.5	\$34,166
Lawrence County	38,683	62.3%	81.1%	55.0%	63.2	\$26,407
Lewis County	9,891	52.0%	69.8%	44.3%	19.6	\$24,407
Lincoln County	63,155	79.5%	89.3%	74.5%	100.8	\$33,925
Linn County	11,820	86.2%	78.4%	70.4%	19.2	\$32,065
Livingston County	14,402	77.9%	77.2%	67.2%	27.1	\$31,495
Macon County	15,049	73.1%	62.4%	51.8%	18.8	\$27,227
Madison County	12,753	67.1%	69.5%	59.3%	25.8	\$31,299
Maries County	8,431	100.0%	39.4%	39.4%	16.0	\$30,095

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Marion County	28,438	83.1%	89.8%	78.8%	65.1	\$30,455
McDonald County	23,588	26.1%	65.0%	21.7%	43.7	\$23,210
Mercer County	3,437	92.3%	49.8%	47.9%	7.6	\$26,850
Miller County	25,403	100.0%	69.5%	69.5%	42.9	\$29,347
Mississippi County	11,688	90.7%	86.5%	78.2%	28.4	\$21,070
Moniteau County	15,220	88.2%	69.3%	61.5%	36.7	\$28,546
Monroe County	8,652	54.2%	67.4%	48.8%	13.4	\$28,787
Montgomery County	11,470	65.0%	63.8%	45.5%	21.4	\$29,570
Morgan County	21,785	100.0%	57.8%	57.8%	36.5	\$27,836
New Madrid County	15,695	95.6%	79.0%	75.9%	23.3	\$26,357
Newton County	60,011	70.6%	86.3%	65.3%	96.1	\$32,893
Nodaway County	20,670	93.4%	57.8%	56.0%	23.6	\$28,136
Oregon County	8,732	41.6%	47.4%	31.4%	11.1	\$21,405
Osage County	13,399	100.0%	55.1%	55.1%	22.1	\$38,553
Ozark County	8,940	3.6%	36.8%	1.0%	12.0	\$26,638
Pemiscot County	14,841	97.5%	69.5%	67.7%	30.1	\$24,295
Perry County	18,858	70.9%	69.3%	59.2%	39.8	\$30,731
Pettis County	43,353	78.4%	87.2%	74.4%	63.5	\$30,991
Phelps County	45,313	100.0%	70.6%	70.6%	67.5	\$28,335
Pike County	17,664	75.8%	64.7%	58.5%	26.3	\$26,206
Platte County	110,534	95.0%	97.1%	92.7%	263.3	\$47,440
Polk County	32,693	72.7%	68.0%	58.7%	51.4	\$26,804
Pulaski County	53,941	100.0%	67.4%	67.4%	98.6	\$27,098
Putnam County	4,666	97.7%	64.3%	64.2%	9.0	\$33,176
Ralls County	10,420	95.9%	63.4%	61.3%	22.2	\$29,625
Randolph County	24,622	72.7%	76.5%	61.9%	51.0	\$25,496
Ray County	23,107	66.8%	87.5%	63.3%	40.6	\$35,601
Reynolds County	6,006	100.0%	25.1%	25.1%	7.4	\$25,204
Ripley County	10,703	30.1%	42.7%	17.8%	17.0	\$22,076
Saline County	23,007	81.4%	85.8%	77.0%	30.5	\$26,704
Schuyler County	4,002	72.2%	54.4%	31.4%	13.0	\$22,625
Scotland County	4,643	93.2%	47.3%	47.3%	10.6	\$27,808
Scott County	37,840	96.1%	85.2%	81.9%	90.1	\$29,687
Shannon County	7,193	100.0%	51.5%	51.5%	7.2	\$23,661
Shelby County	5,982	44.8%	70.2%	38.9%	11.9	\$27,547
St. Charles County	413,803	95.6%	99.4%	95.3%	738.3	\$47,746
St. Clair County	9,576	29.3%	38.6%	11.9%	14.2	\$24,845
St. Francois County	66,969	85.7%	87.5%	80.0%	148.2	\$25,304
St. Louis County	990,414	97.9%	99.7%	97.8%	1,950.1	\$49,009
St. Louis city	286,578	97.4%	100.0%	97.4%	4,642.0	\$36,722
Ste. Genevieve County	18,644	69.4%	69.8%	55.4%	37.4	\$33,060
Stoddard County	28,377	81.3%	78.0%	66.5%	34.5	\$26,614
Stone County	32,136	24.9%	66.5%	21.9%	69.3	\$31,865
Sullivan County	5,840	81.0%	59.0%	52.1%	9.0	\$25,882
Taney County	56,821	82.9%	76.9%	67.4%	89.9	\$28,267

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Texas County	25,336	100.0%	44.2%	44.2%	21.5	\$23,621
Vernon County	19,651	73.8%	71.6%	60.6%	23.8	\$26,515
Warren County	37,260	59.9%	82.4%	56.4%	86.9	\$34,909
Washington County	23,441	100.0%	63.1%	63.1%	30.8	\$28,191
Wayne County	10,792	25.4%	30.1%	17.0%	14.2	\$23,041
Webster County	40,335	53.5%	63.5%	46.6%	68.1	\$27,611
Worth County	1,955	74.3%	56.8%	47.1%	7.3	\$30,800
Wright County	19,156	100.0%	52.2%	52.2%	28.1	\$22,602
Montana	1,122,867	75.2%	82.0%	66.4%	7.7	\$37,837
Beaverhead County	9,719	69.6%	68.1%	50.5%	1.8	\$34,640
Big Horn County	12,851	55.5%	69.8%	44.9%	2.6	\$21,849
Blaine County	6,936	76.4%	48.1%	32.2%	1.6	\$24,353
Broadwater County	7,793	29.2%	56.4%	20.8%	6.5	\$34,956
Carbon County	11,179	31.9%	75.8%	29.3%	5.5	\$40,838
Carter County	1,382	42.9%	1.9%	0.4%	0.4	\$28,824
Cascade County	84,864	83.5%	82.8%	71.7%	31.5	\$34,481
Chouteau County	5,898	87.4%	39.7%	39.0%	1.5	\$28,980
Custer County	12,032	73.6%	91.6%	70.8%	3.2	\$34,830
Daniels County	1,628	93.0%	0.0%	0.0%	1.1	\$33,757
Dawson County	8,830	71.7%	39.5%	29.7%	3.7	\$37,705
Deer Lodge County	9,510	81.4%	91.2%	77.8%	12.9	\$30,185
Fallon County	3,011	68.5%	26.6%	19.1%	1.9	\$42,516
Fergus County	11,663	71.3%	76.3%	56.8%	2.7	\$34,932
Flathead County	111,814	66.4%	85.6%	59.8%	22.0	\$37,984
Gallatin County	124,857	91.1%	94.2%	88.2%	47.9	\$47,269
Garfield County	1,218	45.3%	46.4%	38.7%	0.3	\$33,745
Glacier County	13,681	32.0%	58.2%	28.6%	4.6	\$21,438
Golden Valley County	835	74.3%	36.2%	30.9%	0.7	\$31,204
Granite County	3,502	5.8%	69.2%	4.2%	2.0	\$33,776
Hill County	16,068	90.3%	74.7%	71.4%	5.5	\$27,996
Jefferson County	12,826	37.6%	75.3%	29.7%	7.7	\$39,963
Judith Basin County	2,105	88.0%	48.2%	44.1%	1.1	\$36,713
Lake County	32,853	61.4%	69.9%	50.7%	22.0	\$31,177
Lewis and Clark County	73,832	79.1%	92.6%	76.0%	21.3	\$41,274
Liberty County	1,972	76.4%	41.5%	38.5%	1.4	\$34,682
Lincoln County	21,525	57.7%	64.6%	47.9%	6.0	\$29,387
Madison County	9,265	74.7%	71.5%	56.4%	2.6	\$40,358
McCone County	1,709	48.8%	46.5%	37.2%	0.6	\$39,284
Meagher County	2,013	84.6%	74.8%	70.9%	0.8	\$37,498
Mineral County	5,058	10.6%	78.8%	10.6%	4.1	\$32,940
Missoula County	121,041	83.8%	86.9%	75.4%	46.7	\$40,311
Musselshell County	5,197	55.1%	23.8%	16.2%	2.8	\$32,506
Park County	17,790	61.5%	81.7%	59.9%	6.3	\$44,273
Petroleum County	524	45.8%	44.5%	36.1%	0.3	\$32,590

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Phillips County	4,240	81.6%	63.2%	61.7%	0.8	\$32,450
Pondera County	6,078	37.8%	53.4%	23.4%	3.7	\$30,424
Powder River County	1,725	17.1%	7.8%	1.8%	0.5	\$38,588
Powell County	7,051	45.2%	85.9%	44.9%	3.0	\$29,675
Prairie County	1,107	27.1%	22.6%	12.1%	0.6	\$28,287
Ravalli County	47,298	90.4%	74.6%	70.0%	19.8	\$38,555
Richland County	11,237	64.2%	61.5%	45.1%	5.4	\$34,169
Roosevelt County	10,572	64.4%	71.7%	58.8%	4.5	\$20,564
Rosebud County	8,088	11.3%	63.3%	8.4%	1.6	\$27,655
Sanders County	13,442	47.4%	63.4%	36.0%	4.9	\$29,707
Sheridan County	3,564	76.7%	59.5%	51.8%	2.1	\$42,653
Silver Bow County	36,068	84.4%	97.0%	84.0%	50.2	\$35,047
Stillwater County	9,177	45.2%	67.0%	35.9%	5.1	\$45,245
Sweet Grass County	3,715	80.1%	74.1%	69.0%	2.0	\$35,495
Teton County	6,368	89.4%	66.2%	61.0%	2.8	\$30,874
Toole County	5,082	2.4%	74.3%	0.6%	2.7	\$28,621
Treasure County	758	9.4%	46.6%	6.2%	0.8	\$37,349
Valley County	7,513	57.3%	46.1%	39.1%	1.5	\$30,941
Wheatland County	2,032	94.3%	72.5%	71.3%	1.4	\$28,410
Wibaux County	919	11.2%	68.7%	2.2%	1.0	\$31,089
Yellowstone County	169,852	87.4%	94.4%	84.2%	64.5	\$40,978
N. Mariana Isl.	51,475	31.9%	0.2%	0.2%	282.3	NA
Rota Municipality	2,194	100.0%	0.0%	0.0%	66.8	NA
Saipan Municipality	46,769	27.3%	0.3%	0.2%	1,018.8	NA
Tinian Municipality	2,512	57.9%	0.0%	0.0%	60.1	NA
Nebraska	1,967,923	94.4%	73.1%	71.5%	25.6	\$38,585
Adams County	30,970	99.7%	72.5%	72.5%	55.0	\$34,688
Antelope County	6,293	88.0%	8.8%	7.9%	7.3	\$32,172
Arthur County	433	44.8%	0.0%	0.0%	0.6	\$31,210
Banner County	660	66.5%	0.3%	0.2%	0.9	\$38,474
Blaine County	453	43.0%	0.0%	0.0%	0.6	\$40,093
Boone County	5,385	68.6%	0.0%	0.0%	7.8	\$36,583
Box Butte County	10,672	96.3%	0.4%	0.4%	9.9	\$32,141
Boyd County	1,741	99.9%	7.4%	7.4%	3.2	\$35,198
Brown County	2,872	83.0%	2.1%	2.1%	2.4	\$31,772
Buffalo County	50,586	91.3%	79.5%	74.7%	52.2	\$36,327
Burt County	6,755	95.6%	42.2%	41.3%	13.7	\$33,457
Butler County	8,427	96.7%	0.2%	0.2%	14.4	\$39,639
Cass County	27,122	87.9%	46.9%	42.7%	48.7	\$40,941
Cedar County	8,371	79.3%	23.2%	18.7%	11.3	\$35,820
Chase County	3,772	88.0%	50.8%	50.6%	4.2	\$34,477
Cherry County	5,464	68.5%	52.4%	45.4%	0.9	\$31,424
Cheyenne County	9,511	87.0%	69.1%	67.8%	8.0	\$30,467
Clay County	6,049	97.6%	5.9%	5.6%	10.6	\$36,425
Colfax County	10,444	92.8%	16.7%	16.0%	25.4	\$29,436

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Cuming County	8,929	99.1%	13.8%	13.8%	15.7	\$34,825
Custer County	10,476	58.2%	67.0%	47.8%	4.1	\$35,562
Dakota County	21,042	95.7%	91.2%	88.8%	79.6	\$29,584
Dawes County	8,241	72.7%	3.9%	2.8%	5.9	\$27,256
Dawson County	23,884	86.9%	82.4%	77.5%	23.6	\$34,648
Deuel County	1,902	73.7%	52.8%	50.0%	4.3	\$38,667
Dixon County	5,464	95.3%	25.9%	24.0%	11.5	\$36,911
Dodge County	36,997	96.2%	84.1%	82.1%	69.9	\$33,674
Douglas County	586,327	99.6%	99.9%	99.5%	1,796.3	\$42,802
Dundy County	1,590	95.0%	0.0%	0.0%	1.7	\$36,436
Fillmore County	5,553	95.1%	0.0%	0.0%	9.7	\$41,909
Franklin County	2,873	67.1%	0.4%	0.0%	5.0	\$34,650
Frontier County	2,633	58.8%	0.0%	0.0%	2.7	\$30,189
Furnas County	4,575	79.1%	0.0%	0.0%	6.4	\$32,494
Gage County	21,583	93.1%	6.5%	6.4%	25.3	\$33,435
Garden County	1,837	55.7%	0.0%	0.0%	1.1	\$28,787
Garfield County	1,801	68.1%	0.0%	0.0%	3.2	\$31,710
Gosper County	1,808	56.9%	0.1%	0.0%	3.9	\$38,057
Grant County	576	13.9%	0.0%	0.0%	0.7	\$32,905
Greeley County	2,227	48.6%	47.0%	38.1%	3.9	\$28,736
Hall County	62,097	96.5%	84.4%	82.8%	113.6	\$32,671
Hamilton County	9,429	98.9%	10.7%	10.2%	17.4	\$34,813
Harlan County	3,054	71.4%	0.3%	0.0%	5.5	\$38,129
Hayes County	849	27.0%	0.0%	0.0%	1.2	\$35,135
Hitchcock County	2,598	26.9%	0.0%	0.0%	3.7	\$30,595
Holt County	10,043	72.1%	76.3%	59.6%	4.2	\$34,952
Hooker County	686	14.1%	0.0%	0.0%	1.0	\$29,390
Howard County	6,515	57.3%	56.3%	35.5%	11.4	\$33,509
Jefferson County	7,154	87.0%	0.1%	0.0%	12.5	\$30,363
Johnson County	5,287	95.6%	38.7%	37.8%	14.1	\$28,046
Kearney County	6,690	75.2%	84.5%	68.5%	13.0	\$37,233
Keith County	8,269	87.5%	61.6%	59.9%	7.8	\$34,905
Keya Paha County	787	94.2%	8.5%	8.5%	1.0	\$33,995
Kimball County	3,315	88.3%	4.9%	4.3%	3.5	\$31,290
Knox County	8,336	53.3%	37.3%	20.7%	7.5	\$31,269
Lancaster County	324,756	98.8%	97.7%	96.8%	387.7	\$38,509
Lincoln County	33,685	88.8%	6.0%	5.9%	13.1	\$33,437
Logan County	675	38.1%	0.6%	0.4%	1.2	\$35,645
Loup County	599	46.2%	0.0%	0.0%	1.1	\$28,251
Madison County	35,368	95.6%	8.4%	7.9%	61.8	\$34,690
McPherson County	372	19.6%	30.6%	1.1%	0.4	\$32,675
Merrick County	7,721	83.4%	51.8%	48.2%	15.8	\$31,349
Morrill County	4,527	84.9%	0.0%	0.0%	3.2	\$29,741
Nance County	3,326	75.3%	38.8%	32.9%	7.5	\$32,568
Nemaha County	7,035	96.0%	50.8%	50.8%	17.3	\$36,367

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Nuckolls County	4,041	86.2%	0.0%	0.0%	7.0	\$39,201
Otoe County	16,198	95.7%	61.9%	61.1%	26.3	\$36,817
Pawnee County	2,528	94.4%	42.1%	42.1%	5.9	\$29,091
Perkins County	2,829	75.8%	47.5%	45.8%	3.2	\$34,696
Phelps County	8,988	83.1%	75.4%	67.3%	16.7	\$38,930
Pierce County	7,332	90.3%	54.2%	52.7%	12.8	\$33,513
Platte County	34,296	94.4%	4.2%	3.8%	50.9	\$35,991
Polk County	5,166	91.1%	0.0%	0.0%	11.8	\$34,344
Red Willow County	10,573	79.4%	0.3%	0.1%	14.7	\$34,401
Richardson County	7,705	94.5%	13.0%	12.9%	14.0	\$32,336
Rock County	1,245	4.7%	0.0%	0.0%	1.2	\$34,660
Saline County	14,116	88.8%	0.6%	0.3%	24.6	\$32,563
Sarpy County	196,553	98.4%	98.9%	97.5%	825.5	\$43,845
Saunders County	23,118	89.9%	24.1%	23.1%	30.9	\$41,364
Scotts Bluff County	35,603	99.6%	11.3%	11.3%	48.1	\$33,158
Seward County	17,692	92.1%	7.9%	5.9%	31.0	\$36,054
Sheridan County	4,996	50.1%	4.5%	2.0%	2.0	\$31,699
Sherman County	2,980	57.7%	49.1%	42.2%	5.3	\$31,023
Sioux County	1,127	63.6%	5.1%	4.9%	0.5	\$26,748
Stanton County	5,717	95.4%	4.7%	4.0%	13.4	\$36,737
Thayer County	4,885	80.1%	6.6%	4.6%	8.5	\$32,028
Thomas County	671	39.6%	0.3%	0.3%	0.9	\$42,187
Thurston County	6,507	44.9%	38.3%	6.2%	16.5	\$23,785
Valley County	4,073	59.7%	60.2%	49.5%	7.2	\$34,637
Washington County	21,167	85.5%	42.4%	36.5%	54.3	\$44,206
Wayne County	9,871	98.5%	64.1%	64.1%	22.3	\$29,985
Webster County	3,336	86.5%	29.9%	28.0%	5.8	\$34,652
Wheeler County	785	56.1%	1.5%	0.0%	1.4	\$35,158
York County	14,354	99.6%	56.4%	56.3%	25.1	\$39,507
Nevada	3,177,772	97.7%	98.4%	96.8%	28.9	\$37,945
Carson City	58,130	99.9%	99.7%	99.7%	402.2	\$37,677
Churchill County	25,843	87.4%	89.7%	81.9%	5.2	\$35,869
Clark County	2,322,985	98.8%	99.7%	98.8%	294.4	\$36,615
Douglas County	49,628	98.8%	90.3%	89.1%	69.9	\$49,115
Elko County	54,046	94.4%	88.8%	86.3%	3.1	\$39,001
Esmeralda County	744	0.1%	62.0%	0.1%	0.2	\$31,776
Eureka County	1,863	83.3%	85.8%	72.6%	0.4	\$32,187
Humboldt County	17,272	88.3%	72.0%	67.6%	1.8	\$35,979
Lander County	5,766	93.8%	55.7%	52.7%	1.0	\$41,561
Lincoln County	4,482	39.6%	22.0%	7.4%	0.4	\$32,459
Lyon County	61,585	99.4%	95.1%	94.6%	30.7	\$36,330
Mineral County	4,525	69.0%	77.0%	69.0%	1.2	\$26,662
Nye County	54,738	74.9%	94.4%	74.7%	3.0	\$30,751
Pershing County	6,462	19.6%	72.2%	13.1%	1.1	\$25,896
Storey County	4,170	97.5%	78.0%	76.0%	15.8	\$44,539

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Washoe County	496,745	99.5%	98.8%	98.4%	78.7	\$44,448
White Pine County	8,788	0.1%	81.7%	0.0%	1.0	\$30,668
New Hampshire	1,395,231	95.1%	66.5%	64.7%	155.8	\$48,250
Belknap County	64,781	91.0%	64.2%	60.4%	161.2	\$43,670
Carroll County	52,199	88.3%	45.7%	41.3%	56.0	\$48,199
Cheshire County	77,350	88.8%	54.3%	49.4%	109.5	\$40,196
Coos County	31,504	66.7%	45.5%	38.2%	17.6	\$32,570
Grafton County	91,126	84.9%	53.4%	49.1%	53.3	\$47,080
Hillsborough County	426,594	98.8%	77.3%	76.6%	486.7	\$49,675
Merrimack County	156,020	95.6%	44.1%	42.8%	167.2	\$44,391
Rockingham County	319,424	99.0%	73.1%	72.5%	459.3	\$56,321
Strafford County	132,275	96.9%	76.3%	75.0%	360.0	\$43,338
Sullivan County	43,958	90.4%	54.2%	51.5%	81.7	\$39,087
New Jersey	9,261,699	96.5%	96.9%	93.7%	1,259.3	\$50,995
Atlantic County	275,638	98.9%	94.3%	93.6%	496.2	\$39,699
Bergen County	952,997	97.4%	99.2%	96.6%	4,093.8	\$60,222
Burlington County	466,103	98.1%	95.0%	94.2%	583.1	\$51,549
Camden County	524,907	99.7%	99.0%	98.7%	2,371.3	\$42,398
Cape May County	95,634	98.6%	93.7%	92.7%	380.2	\$51,344
Cumberland County	151,356	94.3%	86.8%	84.5%	313.1	\$32,551
Essex County	849,477	93.8%	99.8%	93.6%	6,737.4	\$45,946
Gloucester County	306,601	99.4%	95.6%	95.1%	952.2	\$45,933
Hudson County	703,366	99.4%	99.9%	99.2%	15,226.5	\$51,277
Hunterdon County	129,777	96.7%	72.5%	70.6%	303.3	\$68,112
Mercer County	380,688	98.7%	98.6%	97.3%	1,696.2	\$50,053
Middlesex County	861,418	95.5%	99.0%	94.5%	2,785.8	\$47,196
Monmouth County	644,098	97.9%	96.2%	94.2%	1,375.7	\$62,998
Morris County	511,151	96.1%	93.4%	89.8%	1,108.9	\$67,555
Ocean County	655,735	97.8%	98.5%	96.3%	1,043.7	\$42,497
Passaic County	513,936	88.4%	98.5%	87.0%	2,762.9	\$38,932
Salem County	65,117	94.3%	84.7%	80.7%	196.2	\$37,904
Somerset County	346,875	97.6%	95.9%	93.6%	1,149.1	\$67,554
Sussex County	146,084	86.2%	80.8%	70.9%	281.7	\$54,124
Union County	569,815	96.0%	99.5%	95.5%	5,544.8	\$49,666
Warren County	110,926	91.6%	90.6%	84.3%	311.1	\$45,517
New Mexico	2,113,344	83.5%	89.0%	78.6%	17.4	\$32,667
Bernalillo County	672,508	97.3%	98.3%	96.7%	579.1	\$36,996
Catron County	3,827	0.0%	14.2%	0.0%	0.6	\$26,678
Chaves County	63,894	88.5%	75.4%	69.4%	10.5	\$26,568
Cibola County	26,950	57.3%	76.8%	51.5%	5.9	\$22,394
Colfax County	12,246	21.3%	81.5%	16.0%	3.3	\$28,275
Curry County	47,532	94.1%	94.6%	90.1%	33.8	\$28,045
De Baca County	1,693	86.6%	43.1%	40.1%	0.7	\$27,710
Doña Ana County	223,337	85.4%	90.2%	80.2%	58.6	\$26,900
Eddy County	60,400	89.3%	87.4%	81.7%	14.5	\$36,274

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Grant County	27,686	70.9%	89.0%	68.9%	7.0	\$29,123
Guadalupe County	4,310	84.1%	84.6%	71.6%	1.4	\$27,526
Harding County	628	71.8%	47.6%	38.2%	0.3	\$68,690
Hidalgo County	4,003	4.0%	68.0%	0.3%	1.2	\$25,476
Lea County	72,452	97.5%	82.6%	81.7%	16.5	\$29,635
Lincoln County	20,411	82.4%	74.5%	68.6%	4.2	\$31,332
Los Alamos County	19,187	98.4%	98.0%	96.4%	175.8	\$71,527
Luna County	25,749	0.4%	80.3%	0.2%	8.7	\$20,799
McKinley County	69,830	37.6%	69.3%	37.3%	12.8	\$19,188
Mora County	4,169	76.7%	34.8%	29.7%	2.2	\$28,356
Otero County	68,823	71.3%	67.6%	46.5%	10.4	\$26,319
Quay County	8,546	86.0%	87.2%	76.4%	3.0	\$25,348
Rio Arriba County	40,048	57.7%	76.5%	49.6%	6.8	\$27,878
Roosevelt County	18,934	85.3%	86.7%	77.1%	7.7	\$24,954
San Juan County	120,418	86.9%	92.0%	82.2%	21.8	\$25,008
San Miguel County	26,953	74.5%	79.4%	67.3%	5.7	\$26,314
Sandoval County	153,501	87.4%	93.3%	85.8%	41.4	\$36,603
Santa Fe County	155,664	89.4%	91.2%	84.8%	81.5	\$45,402
Sierra County	11,436	72.5%	86.6%	70.3%	2.7	\$26,396
Socorro County	16,115	55.1%	71.9%	54.8%	2.4	\$21,792
Taos County	34,580	26.0%	45.6%	13.1%	15.7	\$36,361
Torrance County	15,454	25.3%	69.8%	21.3%	4.6	\$24,657
Union County	3,980	69.3%	76.8%	60.5%	1.0	\$20,779
Valencia County	78,080	76.0%	95.0%	73.8%	73.2	\$28,817
New York	19,677,151	96.1%	93.8%	90.7%	417.6	\$47,173
Albany County	315,811	97.0%	95.4%	93.1%	604.0	\$44,101
Allegany County	46,694	88.6%	60.4%	54.4%	45.4	\$28,506
Bronx County	1,379,946	97.0%	100.0%	97.0%	32,722.0	\$25,845
Broome County	197,117	96.8%	90.3%	87.9%	279.3	\$33,674
Cattaraugus County	76,439	82.1%	65.0%	57.3%	58.4	\$30,286
Cayuga County	74,998	92.8%	76.5%	72.6%	108.4	\$35,579
Chautauqua County	126,027	89.5%	76.9%	71.4%	118.8	\$30,718
Chemung County	81,426	94.0%	86.1%	81.1%	199.9	\$34,304
Chenango County	46,458	80.5%	57.0%	48.7%	52.0	\$32,708
Clinton County	78,753	92.8%	44.8%	42.2%	75.9	\$34,834
Columbia County	61,286	91.4%	61.4%	56.7%	96.6	\$49,093
Cortland County	46,126	91.6%	79.8%	73.9%	92.5	\$31,594
Delaware County	44,740	92.9%	51.5%	48.5%	31.0	\$33,332
Dutchess County	297,545	93.0%	81.9%	76.8%	374.0	\$49,379
Erie County	950,312	96.9%	97.4%	94.8%	911.4	\$39,703
Essex County	36,910	83.7%	27.1%	24.2%	20.6	\$39,049
Franklin County	46,373	74.8%	36.8%	28.3%	28.5	\$30,411
Fulton County	52,669	88.8%	78.1%	71.9%	106.3	\$33,282
Genesee County	57,535	91.9%	82.2%	76.2%	116.7	\$35,053
Greene County	48,061	93.0%	56.8%	53.4%	74.3	\$38,587

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Hamilton County	5,118	67.3%	32.8%	26.2%	3.0	\$37,326
Herkimer County	59,822	90.1%	80.9%	74.7%	42.4	\$34,394
Jefferson County	116,637	92.5%	80.6%	75.4%	91.9	\$32,775
Kings County	2,590,516	97.9%	100.0%	97.9%	37,339.9	\$43,165
Lewis County	26,699	78.4%	38.0%	32.3%	20.9	\$31,127
Livingston County	61,516	81.2%	72.6%	63.6%	97.4	\$35,673
Madison County	67,097	90.7%	83.0%	77.2%	102.5	\$37,666
Monroe County	752,035	97.2%	98.6%	95.8%	1,144.7	\$40,937
Montgomery County	49,623	83.9%	80.7%	70.8%	123.1	\$29,961
Nassau County	1,383,726	98.2%	99.3%	97.5%	4,863.0	\$60,456
New York County	1,596,273	99.4%	100.0%	99.4%	70,456.1	\$89,702
Niagara County	210,880	95.0%	95.3%	90.5%	403.7	\$36,556
Oneida County	228,846	92.4%	90.1%	84.3%	188.8	\$35,284
Onondaga County	468,249	97.7%	98.8%	96.6%	601.6	\$39,371
Ontario County	112,707	95.3%	89.5%	85.9%	175.0	\$43,046
Orange County	405,941	88.6%	84.1%	73.9%	499.7	\$40,410
Orleans County	39,318	91.4%	76.0%	69.6%	100.5	\$33,054
Oswego County	118,287	94.2%	81.0%	77.4%	124.3	\$33,904
Otsego County	60,636	82.8%	66.8%	58.0%	60.5	\$34,573
Putnam County	98,045	97.7%	89.7%	87.8%	425.9	\$53,105
Queens County	2,278,029	99.2%	100.0%	99.1%	20,952.4	\$39,201
Rensselaer County	159,853	96.6%	88.9%	86.2%	245.0	\$42,728
Richmond County	491,133	99.3%	98.1%	97.4%	8,538.1	\$43,199
Rockland County	339,022	95.9%	97.1%	93.0%	1,954.6	\$44,212
Saratoga County	238,797	96.1%	89.3%	86.1%	294.8	\$51,931
Schenectady County	160,093	97.3%	95.2%	92.7%	782.5	\$39,791
Schoharie County	30,063	90.6%	51.7%	45.7%	48.3	\$37,280
Schuyler County	17,650	89.5%	62.2%	58.4%	53.8	\$35,062
Seneca County	32,882	94.2%	77.9%	75.7%	101.6	\$34,212
St. Lawrence County	107,733	86.2%	49.9%	45.3%	40.2	\$29,827
Steuben County	92,599	89.3%	66.1%	62.5%	66.6	\$35,282
Suffolk County	1,525,465	96.1%	95.5%	91.9%	1,674.2	\$54,127
Sullivan County	79,658	91.0%	62.9%	58.0%	82.3	\$37,854
Tioga County	47,772	91.2%	70.5%	66.0%	92.1	\$37,691
Tompkins County	104,777	91.2%	86.9%	79.7%	220.7	\$40,781
Ulster County	182,319	91.8%	67.1%	61.0%	162.2	\$43,168
Warren County	65,599	92.9%	73.8%	70.2%	75.6	\$44,183
Washington County	60,841	87.6%	65.9%	59.4%	73.2	\$34,233
Wayne County	91,125	92.1%	72.7%	67.8%	150.9	\$36,834
Westchester County	990,427	92.3%	95.9%	88.3%	2,299.5	\$67,776
Wyoming County	39,666	81.1%	57.2%	50.6%	66.9	\$35,228
Yates County	24,451	85.4%	72.7%	63.6%	72.3	\$32,291
North Carolina	10,698,973	89.1%	86.2%	79.6%	220.0	\$37,641
Alamance County	176,353	92.9%	95.7%	89.6%	416.5	\$32,105
Alexander County	36,512	66.2%	72.3%	54.0%	140.4	\$30,510

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Alleghany County	11,185	98.6%	17.5%	17.4%	47.6	\$32,330
Anson County	22,202	58.2%	55.2%	37.9%	41.8	\$22,854
Ashe County	27,110	99.5%	21.1%	20.9%	63.6	\$29,683
Avery County	17,571	70.1%	67.0%	53.6%	71.0	\$30,578
Beaufort County	44,272	56.0%	57.0%	40.0%	53.2	\$32,936
Bertie County	17,240	62.6%	45.2%	33.2%	24.7	\$27,311
Bladen County	29,446	66.1%	58.4%	42.5%	33.7	\$26,544
Brunswick County	153,064	98.6%	80.8%	80.0%	180.1	\$42,263
Buncombe County	273,589	93.4%	88.2%	83.3%	416.7	\$39,495
Burke County	87,881	79.6%	79.6%	65.4%	173.6	\$30,633
Cabarrus County	235,797	95.9%	98.4%	94.7%	652.8	\$38,690
Caldwell County	80,492	90.1%	82.0%	76.6%	170.6	\$29,125
Camden County	11,088	73.5%	43.1%	35.7%	46.1	\$34,117
Carteret County	69,380	95.3%	84.5%	80.6%	136.7	\$39,817
Caswell County	22,614	52.1%	32.3%	24.3%	53.2	\$27,503
Catawba County	163,462	91.5%	84.8%	78.1%	407.3	\$34,369
Chatham County	79,864	71.7%	63.0%	50.2%	117.2	\$53,291
Cherokee County	29,512	58.7%	33.2%	23.6%	64.8	\$28,752
Chowan County	13,940	63.6%	43.9%	31.0%	80.7	\$32,479
Clay County	11,614	59.0%	21.3%	15.7%	54.0	\$34,382
Cleveland County	100,670	85.2%	84.9%	75.9%	216.8	\$27,522
Columbus County	49,885	87.5%	44.1%	38.7%	53.2	\$24,236
Craven County	100,874	79.7%	86.5%	72.6%	142.8	\$33,963
Cumberland County	336,699	95.1%	96.8%	92.6%	516.0	\$29,681
Currituck County	31,015	87.7%	77.7%	68.6%	118.4	\$40,352
Dare County	37,956	96.3%	68.8%	66.1%	99.0	\$45,669
Davidson County	172,586	96.5%	94.1%	91.4%	312.0	\$31,024
Davie County	44,090	96.7%	90.2%	87.9%	167.2	\$36,570
Duplin County	48,990	53.3%	77.8%	45.3%	60.1	\$25,428
Durham County	332,680	94.2%	98.8%	93.5%	1,161.1	\$43,945
Edgecombe County	48,301	67.3%	77.7%	60.7%	95.6	\$25,813
Forsyth County	389,157	97.7%	99.4%	97.2%	954.2	\$35,600
Franklin County	74,539	73.5%	66.7%	54.5%	151.6	\$33,313
Gaston County	234,215	95.4%	98.7%	94.3%	658.4	\$33,806
Gates County	10,383	51.1%	32.7%	17.0%	30.5	\$28,091
Graham County	7,980	43.0%	28.1%	23.6%	27.3	\$25,835
Granville County	61,903	66.6%	65.7%	50.6%	116.4	\$31,604
Greene County	20,211	36.3%	80.8%	30.9%	75.8	\$21,972
Guilford County	546,101	96.2%	99.1%	95.5%	845.5	\$36,563
Halifax County	47,848	59.2%	71.3%	51.9%	66.1	\$25,504
Harnett County	138,832	82.2%	70.7%	60.6%	233.4	\$29,678
Haywood County	62,609	84.8%	71.3%	64.2%	113.1	\$34,609
Henderson County	118,106	80.5%	87.9%	75.0%	316.7	\$37,457
Hertford County	20,875	72.4%	68.7%	53.4%	59.1	\$25,313
Hoke County	53,787	82.0%	89.5%	78.4%	137.9	\$27,991

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Hyde County	4,576	1.3%	26.1%	0.0%	7.5	\$19,258
Iredell County	195,897	93.8%	94.3%	88.9%	341.0	\$40,959
Jackson County	42,955	35.2%	57.1%	25.3%	87.5	\$31,384
Johnston County	234,778	87.3%	73.8%	65.4%	296.4	\$35,078
Jones County	9,233	83.7%	57.8%	45.9%	19.6	\$28,373
Lee County	65,476	83.4%	63.9%	56.2%	256.7	\$30,083
Lenoir County	54,633	74.4%	84.6%	64.7%	136.9	\$26,697
Lincoln County	93,095	88.7%	78.6%	71.5%	314.7	\$40,574
Macon County	38,065	47.6%	36.6%	26.9%	73.8	\$32,623
Madison County	21,768	91.2%	37.3%	35.1%	48.4	\$33,821
Martin County	21,508	51.2%	51.3%	36.8%	47.1	\$25,769
McDowell County	44,753	62.6%	72.8%	50.3%	101.7	\$29,047
Mecklenburg County	1,145,392	97.9%	99.9%	97.8%	2,187.5	\$48,625
Mitchell County	15,094	91.9%	56.0%	52.6%	68.2	\$31,696
Montgomery County	25,894	50.9%	53.5%	34.3%	52.7	\$29,346
Moore County	105,531	78.7%	37.6%	32.3%	151.3	\$42,094
Nash County	95,789	69.0%	77.6%	57.6%	177.2	\$31,987
New Hanover County	234,921	97.0%	96.3%	93.3%	1,221.9	\$43,378
Northampton County	16,779	70.0%	37.4%	30.8%	31.3	\$29,047
Onslow County	207,298	91.5%	82.9%	75.8%	272.0	\$29,214
Orange County	150,477	84.3%	89.2%	78.4%	378.5	\$50,449
Pamlico County	12,381	68.7%	39.2%	29.1%	36.8	\$32,677
Pasquotank County	40,938	88.6%	76.1%	68.5%	180.4	\$31,762
Pender County	65,737	77.6%	77.6%	64.7%	75.4	\$36,352
Perquimans County	13,210	57.0%	36.5%	28.4%	53.4	\$31,919
Person County	39,386	71.1%	46.6%	38.8%	100.4	\$33,456
Pitt County	173,542	84.2%	90.4%	78.4%	266.0	\$32,224
Polk County	19,986	50.7%	55.7%	31.1%	84.1	\$35,916
Randolph County	146,043	90.2%	84.8%	76.9%	186.7	\$29,131
Richmond County	42,778	84.0%	48.2%	40.5%	90.3	\$24,416
Robeson County	116,663	82.0%	62.7%	52.7%	123.2	\$21,998
Rockingham County	91,957	84.1%	65.9%	58.6%	162.6	\$29,239
Rowan County	149,645	92.3%	95.2%	88.9%	292.5	\$31,108
Rutherford County	64,963	63.3%	80.8%	57.9%	114.9	\$28,873
Sampson County	59,120	69.2%	69.8%	50.2%	62.5	\$25,969
Scotland County	34,162	75.1%	79.1%	62.2%	107.0	\$24,464
Stanly County	64,153	82.5%	83.4%	70.9%	162.4	\$30,857
Stokes County	45,175	83.2%	79.4%	68.3%	100.5	\$32,601
Surry County	71,403	95.1%	68.4%	66.0%	134.1	\$30,274
Swain County	13,967	37.0%	46.0%	28.2%	26.5	\$28,624
Transylvania County	33,355	83.2%	41.1%	38.5%	88.2	\$36,660
Tyrrell County	3,365	33.9%	29.2%	20.0%	8.6	\$22,403
Union County	249,070	92.6%	95.8%	90.2%	393.6	\$43,957
Vance County	42,138	79.3%	68.1%	59.3%	167.0	\$26,771
Wake County	1,175,021	97.7%	99.6%	97.4%	1,407.9	\$50,188

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Warren County	18,713	31.7%	36.0%	14.4%	43.6	\$29,771
Washington County	10,828	67.6%	29.0%	24.3%	31.2	\$26,209
Watauga County	55,089	93.1%	69.5%	65.4%	176.3	\$30,807
Wayne County	117,286	87.9%	87.7%	78.1%	211.7	\$30,540
Wilkes County	65,784	95.1%	45.1%	43.0%	87.3	\$27,592
Wilson County	78,449	95.2%	86.2%	82.6%	213.4	\$28,715
Yadkin County	37,463	92.1%	83.4%	77.8%	111.8	\$32,680
Yancey County	18,811	94.5%	56.2%	54.2%	60.2	\$31,037
North Dakota	779,261	98.2%	79.2%	78.3%	11.3	\$40,748
Adams County	2,115	100.0%	7.2%	7.2%	2.1	\$35,830
Barnes County	10,758	97.6%	81.2%	79.9%	7.2	\$38,626
Benson County	5,770	75.6%	59.5%	44.3%	4.2	\$24,490
Billings County	1,018	49.3%	47.9%	27.5%	0.9	\$36,923
Bottineau County	6,376	98.2%	55.4%	55.1%	3.8	\$45,506
Bowman County	2,894	100.0%	63.2%	63.2%	2.5	\$38,585
Burke County	2,155	96.5%	56.7%	55.8%	2.0	\$50,714
Burleigh County	99,280	99.1%	76.2%	75.4%	60.8	\$43,615
Cass County	192,734	99.6%	96.9%	96.7%	109.2	\$43,474
Cavalier County	3,597	99.7%	72.5%	72.5%	2.4	\$44,346
Dickey County	4,923	99.4%	75.4%	74.8%	4.4	\$35,649
Divide County	2,187	95.4%	72.1%	70.9%	1.7	\$43,850
Dunn County	4,015	97.9%	45.6%	45.3%	2.0	\$50,132
Eddy County	2,314	90.6%	82.5%	76.7%	3.7	\$34,852
Emmons County	3,250	100.0%	55.9%	55.9%	2.2	\$38,027
Foster County	3,378	100.0%	67.3%	67.3%	5.3	\$41,796
Golden Valley County	1,744	81.3%	64.3%	56.0%	1.7	\$35,953
Grand Forks County	72,413	99.9%	93.3%	93.3%	50.4	\$37,159
Grant County	2,243	96.6%	51.1%	50.5%	1.4	\$37,252
Griggs County	2,252	99.7%	73.5%	73.4%	3.2	\$43,383
Hettinger County	2,406	100.0%	53.0%	53.0%	2.1	\$40,931
Kidder County	2,393	100.0%	58.3%	58.3%	1.8	\$32,974
LaMoure County	4,098	100.0%	55.6%	55.6%	3.6	\$37,453
Logan County	1,855	100.0%	37.7%	37.7%	1.9	\$33,240
McHenry County	5,189	95.2%	61.0%	59.1%	2.8	\$39,973
McIntosh County	2,475	100.0%	37.9%	37.9%	2.5	\$37,236
McKenzie County	13,908	89.8%	64.4%	62.0%	5.0	\$44,409
McLean County	9,824	95.5%	61.7%	60.4%	4.7	\$40,448
Mercer County	8,333	100.0%	68.2%	68.2%	8.0	\$39,783
Morton County	33,710	99.7%	69.9%	69.6%	17.5	\$42,603
Mountrail County	9,290	93.6%	79.8%	76.9%	5.1	\$39,603
Nelson County	2,995	86.9%	30.1%	25.7%	3.1	\$37,130
Oliver County	1,856	100.0%	39.9%	39.9%	2.6	\$36,532
Pembina County	6,763	100.0%	42.8%	42.8%	6.0	\$39,230
Pierce County	3,942	79.8%	74.8%	66.5%	3.9	\$35,931
Ramsey County	11,515	91.9%	85.5%	80.4%	9.7	\$35,624

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Ransom County	5,640	99.4%	59.8%	59.6%	6.5	\$36,706
Renville County	2,220	95.6%	57.9%	56.3%	2.5	\$37,370
Richland County	16,580	98.0%	70.0%	69.3%	11.5	\$38,265
Rolette County	11,933	99.6%	52.7%	52.5%	13.2	\$23,160
Sargent County	3,795	99.9%	35.1%	35.1%	4.4	\$42,970
Sheridan County	1,295	96.0%	57.8%	56.3%	1.3	\$40,365
Sioux County	3,711	98.1%	12.3%	12.1%	3.4	\$17,185
Slope County	672	99.7%	38.1%	38.1%	0.6	\$40,987
Stark County	32,803	98.9%	85.4%	84.9%	24.6	\$40,025
Steele County	1,788	100.0%	17.3%	17.3%	2.5	\$40,435
Stutsman County	21,487	100.0%	76.3%	76.3%	9.7	\$37,288
Towner County	2,064	94.8%	63.2%	61.4%	2.0	\$37,116
Traill County	7,958	98.9%	73.0%	72.7%	9.2	\$40,942
Walsh County	10,438	100.0%	82.5%	82.5%	8.1	\$37,344
Ward County	68,870	98.6%	82.0%	81.0%	34.2	\$40,896
Wells County	3,930	89.0%	32.3%	29.4%	3.1	\$41,957
Williams County	38,109	95.3%	67.1%	65.3%	18.3	\$44,076
Ohio	11,756,058	92.0%	91.8%	86.7%	287.7	\$37,729
Adams County	27,420	41.4%	47.2%	26.7%	47.0	\$25,428
Allen County	101,115	92.7%	70.3%	67.0%	251.2	\$31,523
Ashland County	52,181	83.9%	91.2%	78.4%	123.4	\$30,303
Ashtabula County	97,014	85.1%	79.7%	70.3%	138.2	\$29,586
Athens County	58,979	74.0%	71.5%	59.8%	117.1	\$27,366
Auglaize County	45,948	87.4%	50.6%	47.3%	114.5	\$36,849
Belmont County	65,509	76.3%	71.7%	60.6%	123.1	\$30,563
Brown County	43,680	65.5%	63.7%	46.6%	89.2	\$31,823
Butler County	388,420	97.6%	99.0%	96.7%	832.6	\$37,650
Carroll County	26,659	51.9%	67.4%	40.4%	67.6	\$33,798
Champaign County	38,709	81.7%	70.1%	60.6%	90.2	\$33,377
Clark County	134,831	95.6%	98.2%	94.1%	339.7	\$31,099
Clermont County	210,805	96.8%	95.7%	92.9%	465.8	\$41,566
Clinton County	41,964	76.5%	87.0%	68.7%	102.7	\$32,533
Columbiana County	100,511	76.7%	87.8%	71.7%	189.0	\$30,553
Coshocton County	36,571	59.0%	65.2%	50.2%	64.8	\$27,280
Crawford County	41,522	80.1%	72.5%	61.6%	103.3	\$29,566
Cuyahoga County	1,236,041	99.1%	99.8%	99.0%	2,703.4	\$39,807
Darke County	51,529	73.7%	56.4%	45.5%	86.2	\$32,732
Defiance County	38,187	98.5%	53.8%	53.4%	92.8	\$33,533
Delaware County	226,296	96.7%	99.4%	96.2%	510.7	\$56,963
Erie County	74,501	95.0%	93.1%	88.6%	296.5	\$38,158
Fairfield County	162,898	91.4%	94.7%	88.1%	323.0	\$38,783
Fayette County	28,839	74.1%	75.9%	60.6%	71.0	\$30,666
Franklin County	1,321,820	99.0%	100.0%	99.0%	2,482.7	\$41,148
Fulton County	42,171	99.7%	82.2%	82.0%	104.0	\$35,230
Gallia County	29,068	24.6%	58.8%	21.3%	62.3	\$28,943

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Geauga County	95,469	85.7%	97.7%	84.6%	238.5	\$48,582
Greene County	168,456	91.5%	98.1%	90.3%	407.3	\$42,862
Guernsey County	38,098	71.4%	57.4%	46.1%	72.9	\$29,642
Hamilton County	825,037	98.9%	99.0%	97.9%	2,035.1	\$42,555
Hancock County	74,861	99.7%	76.9%	76.7%	140.9	\$37,479
Hardin County	30,416	97.2%	65.2%	64.1%	64.7	\$27,566
Harrison County	14,378	50.9%	17.8%	12.7%	35.7	\$30,163
Henry County	27,512	99.5%	54.6%	54.4%	66.1	\$36,504
Highland County	43,391	58.3%	67.2%	47.9%	78.5	\$27,971
Hocking County	27,858	58.7%	49.6%	41.8%	66.1	\$29,490
Holmes County	44,390	34.5%	69.5%	25.7%	105.0	\$29,238
Huron County	58,218	80.4%	87.1%	74.3%	118.3	\$30,792
Jackson County	32,586	64.6%	61.5%	49.6%	77.5	\$28,570
Jefferson County	64,330	85.9%	70.3%	66.0%	157.6	\$30,501
Knox County	63,183	63.7%	89.8%	62.4%	120.2	\$32,543
Lake County	231,842	97.8%	99.7%	97.6%	1,011.2	\$41,195
Lawrence County	56,653	83.2%	70.9%	66.6%	125.0	\$29,226
Licking County	181,359	89.5%	92.9%	86.4%	265.8	\$39,760
Logan County	46,040	89.8%	59.5%	56.4%	100.4	\$36,215
Lorain County	316,268	93.5%	99.1%	92.7%	644.7	\$37,171
Lucas County	426,643	99.5%	97.8%	97.3%	1,256.1	\$34,399
Madison County	43,540	72.5%	98.0%	71.1%	93.5	\$33,512
Mahoning County	225,636	96.1%	99.4%	95.7%	548.3	\$32,591
Marion County	64,642	95.0%	77.6%	75.1%	160.1	\$29,257
Medina County	183,512	96.4%	99.8%	96.2%	435.4	\$45,038
Meigs County	21,969	39.3%	34.0%	16.2%	51.1	\$26,103
Mercer County	42,348	89.1%	48.4%	46.1%	91.6	\$33,892
Miami County	110,247	90.9%	97.6%	89.6%	271.2	\$37,701
Monroe County	13,234	21.3%	35.3%	7.1%	29.0	\$33,127
Montgomery County	533,892	96.8%	99.6%	96.7%	1,157.2	\$35,767
Morgan County	13,668	35.4%	29.8%	20.8%	32.8	\$25,973
Morrow County	35,339	80.7%	87.3%	71.5%	87.0	\$32,987
Muskingum County	86,113	80.8%	72.3%	63.8%	129.6	\$31,436
Noble County	14,335	36.0%	55.0%	26.1%	36.0	\$28,676
Ottawa County	39,978	83.2%	80.4%	68.6%	157.0	\$44,479
Paulding County	18,757	95.3%	41.7%	41.6%	45.0	\$34,050
Perry County	35,480	56.1%	57.1%	38.8%	87.0	\$29,675
Pickaway County	60,023	77.8%	87.9%	69.0%	119.8	\$32,689
Pike County	27,005	63.1%	46.0%	34.8%	61.3	\$29,273
Portage County	161,745	95.2%	98.2%	93.5%	331.8	\$37,771
Preble County	40,596	77.0%	80.4%	65.8%	95.7	\$33,627
Putnam County	34,334	98.3%	40.0%	39.7%	71.2	\$36,877
Richland County	125,319	88.5%	93.5%	83.2%	253.1	\$29,570
Ross County	76,606	77.4%	70.0%	58.0%	111.2	\$29,718
Sandusky County	58,667	86.0%	86.3%	75.2%	143.7	\$32,788

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Scioto County	72,194	80.0%	64.4%	56.0%	118.3	\$25,279
Seneca County	54,632	91.2%	70.6%	67.6%	99.1	\$31,770
Shelby County	47,671	79.5%	67.0%	59.6%	116.9	\$35,363
Stark County	372,657	90.0%	99.3%	89.5%	647.8	\$34,652
Summit County	535,882	98.5%	100.0%	98.5%	1,298.2	\$40,786
Trumbull County	200,643	91.4%	98.0%	90.9%	324.6	\$30,294
Tuscarawas County	91,937	79.2%	81.6%	70.7%	162.0	\$31,736
Union County	66,898	95.1%	84.2%	80.3%	154.9	\$48,025
Van Wert County	28,769	99.3%	63.0%	62.6%	70.3	\$31,831
Vinton County	12,565	32.4%	30.1%	20.8%	30.5	\$27,587
Warren County	249,778	95.2%	97.2%	92.6%	622.2	\$49,360
Washington County	58,901	67.9%	60.5%	49.3%	93.2	\$33,987
Wayne County	116,559	76.4%	94.4%	73.0%	210.1	\$32,908
Williams County	36,652	99.1%	42.3%	42.1%	87.1	\$31,189
Wood County	131,592	97.4%	87.9%	85.5%	213.2	\$39,771
Wyandot County	21,567	98.9%	62.5%	62.2%	53.0	\$33,994
Oklahoma	4,019,800	88.9%	89.8%	82.8%	58.6	\$33,630
Adair County	19,576	99.8%	56.6%	56.6%	34.1	\$20,710
Alfalfa County	5,637	55.1%	61.9%	27.7%	6.5	\$28,976
Atoka County	14,262	79.6%	63.9%	54.7%	14.6	\$25,353
Beaver County	5,016	88.1%	42.5%	41.4%	2.8	\$29,533
Beckham County	22,009	99.0%	88.1%	87.7%	24.4	\$26,231
Blaine County	8,409	88.3%	49.2%	46.8%	9.1	\$30,442
Bryan County	48,182	91.6%	73.1%	70.7%	53.3	\$29,516
Caddo County	26,198	71.1%	78.4%	55.9%	20.5	\$25,559
Canadian County	169,149	98.6%	98.2%	97.4%	188.7	\$36,884
Carter County	48,510	95.9%	77.9%	76.1%	59.0	\$31,036
Cherokee County	48,098	94.2%	72.9%	69.6%	64.2	\$28,178
Choctaw County	14,358	44.9%	38.1%	20.6%	18.6	\$25,283
Cimarron County	2,252	80.7%	61.1%	57.6%	1.2	\$33,925
Cleveland County	299,587	98.4%	98.1%	96.9%	555.9	\$36,913
Coal County	5,313	63.1%	63.6%	49.1%	10.3	\$26,899
Comanche County	123,046	96.2%	96.7%	93.4%	115.1	\$29,980
Cotton County	5,477	93.2%	84.3%	81.4%	8.7	\$31,989
Craig County	14,123	68.4%	72.3%	60.4%	18.6	\$24,199
Creek County	72,699	71.4%	84.5%	66.2%	76.5	\$31,222
Custer County	27,886	98.5%	85.6%	85.5%	28.2	\$30,880
Delaware County	41,413	73.2%	63.1%	52.4%	56.1	\$34,489
Dewey County	4,401	77.1%	65.0%	58.2%	4.4	\$31,951
Ellis County	3,657	25.1%	49.2%	14.6%	3.0	\$31,331
Garfield County	61,920	99.1%	89.5%	89.2%	58.5	\$32,579
Garvin County	25,713	56.7%	78.9%	49.1%	32.1	\$29,270
Grady County	56,658	77.7%	88.9%	69.0%	51.5	\$34,607
Grant County	4,124	75.9%	53.4%	46.9%	4.1	\$33,685
Greer County	5,547	91.7%	87.3%	86.1%	8.7	\$22,721

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Harmon County	2,428	1.2%	74.2%	1.2%	4.5	\$31,814
Harper County	3,129	52.0%	74.5%	38.8%	3.0	\$26,279
Haskell County	11,641	56.1%	54.3%	42.5%	20.2	\$25,234
Hughes County	13,407	34.5%	60.7%	22.3%	16.7	\$22,887
Jackson County	24,556	99.4%	80.2%	80.2%	30.6	\$31,421
Jefferson County	5,389	91.3%	70.8%	67.1%	7.1	\$30,099
Johnston County	10,406	60.0%	64.5%	46.6%	16.2	\$24,457
Kay County	43,668	98.5%	94.6%	94.3%	47.5	\$29,800
Kingfisher County	15,293	87.7%	80.7%	77.0%	17.0	\$35,098
Kiowa County	8,345	96.0%	80.0%	79.1%	8.2	\$23,548
Latimer County	9,630	42.6%	58.1%	35.8%	13.3	\$25,189
Le Flore County	48,907	51.8%	83.1%	48.5%	30.8	\$23,718
Lincoln County	34,188	66.2%	72.9%	50.2%	35.9	\$30,408
Logan County	51,933	84.9%	91.8%	78.5%	69.8	\$39,571
Love County	10,218	90.6%	76.6%	74.1%	19.9	\$28,560
Major County	7,502	89.7%	48.5%	45.7%	7.9	\$33,480
Marshall County	15,882	81.1%	70.4%	64.5%	42.8	\$27,997
Mayes County	39,589	73.0%	80.3%	64.0%	60.4	\$29,607
McClain County	45,306	86.8%	93.8%	84.3%	79.4	\$39,921
McCurtain County	30,931	79.7%	39.9%	38.3%	16.7	\$24,635
McIntosh County	19,451	83.3%	75.1%	63.0%	31.5	\$24,967
Murray County	13,672	90.3%	80.9%	77.6%	32.8	\$32,488
Muskogee County	66,354	78.3%	89.8%	70.5%	81.9	\$26,684
Noble County	10,896	97.0%	76.0%	74.8%	14.9	\$31,946
Nowata County	9,483	68.0%	61.6%	51.2%	16.8	\$29,851
Okfuskee County	11,134	54.7%	60.6%	37.9%	18.0	\$23,052
Oklahoma County	802,559	98.8%	99.8%	98.6%	1,132.1	\$36,987
Okmulgee County	36,990	78.9%	77.1%	58.8%	53.0	\$27,821
Osage County	45,839	43.7%	77.6%	39.3%	20.4	\$29,906
Ottawa County	30,338	86.3%	78.0%	68.5%	64.4	\$24,354
Pawnee County	15,757	58.2%	77.0%	48.6%	27.7	\$28,327
Payne County	82,794	83.8%	97.1%	82.1%	120.9	\$26,916
Pittsburg County	43,613	71.5%	78.9%	65.4%	33.4	\$28,257
Pontotoc County	38,141	76.3%	75.5%	64.2%	52.9	\$30,774
Pottawatomie County	73,533	87.4%	90.9%	82.5%	93.3	\$28,106
Pushmataha County	10,769	58.3%	39.9%	32.1%	7.7	\$23,393
Roger Mills County	3,320	36.4%	38.1%	4.7%	2.9	\$43,603
Rogers County	98,836	70.2%	91.6%	67.7%	146.3	\$36,885
Seminole County	23,351	47.1%	73.4%	43.8%	36.9	\$23,137
Sequoyah County	39,667	79.7%	67.7%	57.1%	58.9	\$24,708
Stephens County	43,710	74.0%	78.3%	69.4%	50.2	\$31,501
Texas County	20,495	96.9%	73.7%	73.1%	10.0	\$23,855
Tillman County	6,977	89.4%	73.1%	71.4%	8.0	\$23,729
Tulsa County	677,358	97.7%	99.3%	97.3%	1,187.9	\$38,496
Wagoner County	86,644	91.3%	92.5%	85.2%	154.2	\$35,675

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Washington County	53,242	82.9%	92.4%	81.3%	128.1	\$34,243
Washita County	10,732	94.6%	70.7%	67.5%	10.7	\$31,421
Woods County	8,587	83.0%	76.1%	63.1%	6.7	\$29,914
Woodward County	19,990	85.3%	70.6%	62.5%	16.1	\$31,995
Oregon	4,240,137	91.7%	90.5%	85.9%	44.2	\$41,805
Baker County	16,938	69.1%	56.3%	44.6%	5.5	\$32,672
Benton County	97,630	92.8%	88.2%	85.1%	144.6	\$39,940
Clackamas County	423,177	93.9%	95.4%	90.9%	226.2	\$49,340
Clatsop County	41,695	81.7%	68.1%	57.8%	50.3	\$37,166
Columbia County	53,588	77.0%	78.1%	68.8%	81.4	\$37,986
Coos County	64,990	84.8%	70.9%	66.6%	40.7	\$33,572
Crook County	26,375	62.4%	87.3%	58.2%	8.9	\$38,484
Curry County	23,598	89.7%	57.4%	56.8%	14.5	\$38,214
Deschutes County	206,549	92.2%	79.5%	75.9%	68.4	\$46,765
Douglas County	112,297	93.8%	76.2%	74.0%	22.3	\$31,241
Gilliam County	2,018	27.1%	78.3%	27.1%	1.7	\$34,042
Grant County	7,218	29.1%	0.0%	0.0%	1.6	\$33,409
Harney County	7,515	64.3%	72.1%	56.4%	0.7	\$26,910
Hood River County	24,048	72.8%	93.2%	69.5%	46.1	\$43,333
Jackson County	221,644	94.5%	88.7%	85.4%	79.6	\$36,538
Jefferson County	25,330	66.3%	87.4%	63.2%	14.2	\$30,917
Josephine County	87,730	69.2%	85.5%	66.1%	53.5	\$32,159
Klamath County	70,212	89.0%	86.5%	82.0%	11.8	\$31,260
Lake County	8,385	58.8%	67.7%	52.7%	1.0	\$29,400
Lane County	382,353	91.5%	86.3%	83.1%	84.0	\$36,776
Lincoln County	50,813	88.6%	75.2%	71.2%	51.8	\$35,295
Linn County	130,467	89.3%	86.3%	81.2%	57.0	\$32,501
Malheur County	31,879	83.0%	81.0%	74.9%	3.2	\$22,145
Marion County	346,703	94.9%	96.6%	92.6%	293.5	\$33,545
Morrow County	12,300	49.2%	59.1%	33.0%	6.1	\$29,975
Multnomah County	795,083	99.0%	99.4%	98.6%	1,844.1	\$49,713
Polk County	89,614	88.7%	93.0%	86.3%	120.9	\$38,920
Sherman County	1,955	60.3%	64.8%	40.8%	2.4	\$33,206
Tillamook County	27,574	86.6%	63.0%	58.4%	25.0	\$35,433
Umatilla County	80,215	82.3%	85.0%	70.5%	24.9	\$30,263
Union County	26,177	79.6%	76.4%	68.8%	12.9	\$31,640
Wallowa County	7,659	49.7%	16.3%	9.8%	2.4	\$37,378
Wasco County	26,561	74.9%	83.1%	70.5%	11.2	\$35,869
Washington County	600,176	96.8%	98.5%	96.4%	828.7	\$49,553
Wheeler County	1,445	44.4%	34.2%	28.5%	0.8	\$27,847
Yamhill County	108,226	82.9%	92.3%	82.0%	151.2	\$38,002
Pennsylvania	12,972,008	95.1%	91.8%	89.1%	289.9	\$41,234
Adams County	106,027	87.9%	94.3%	85.4%	204.4	\$37,349
Allegheny County	1,233,253	99.7%	97.1%	96.9%	1,689.5	\$45,939
Armstrong County	64,747	85.6%	66.0%	60.7%	99.1	\$33,390

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Beaver County	165,677	96.1%	92.8%	90.2%	381.1	\$37,649
Bedford County	47,418	73.4%	48.9%	43.2%	46.8	\$31,269
Berks County	430,449	100.0%	97.5%	97.5%	502.6	\$37,776
Blair County	121,032	95.4%	87.3%	85.7%	230.4	\$33,585
Bradford County	59,866	62.5%	51.7%	41.6%	52.2	\$32,440
Bucks County	645,054	99.2%	96.6%	95.9%	1,067.3	\$54,930
Butler County	197,300	96.5%	83.6%	81.8%	249.9	\$45,389
Cambria County	131,441	90.2%	81.2%	76.2%	191.2	\$31,532
Cameron County	4,418	88.2%	65.4%	63.3%	11.1	\$27,426
Carbon County	65,460	97.9%	76.8%	75.8%	171.7	\$34,375
Centre County	158,425	90.5%	91.6%	85.4%	142.9	\$37,262
Chester County	545,823	98.3%	93.2%	91.7%	727.2	\$60,599
Clarion County	37,346	70.2%	52.3%	43.4%	62.2	\$30,444
Clearfield County	77,904	79.0%	69.2%	59.7%	68.0	\$29,950
Clinton County	37,931	89.8%	66.4%	62.9%	42.7	\$30,723
Columbia County	64,926	79.5%	85.3%	73.3%	134.4	\$31,238
Crawford County	82,670	73.6%	69.2%	56.4%	81.7	\$30,989
Cumberland County	268,579	96.4%	98.1%	94.7%	492.4	\$43,535
Dauphin County	288,800	98.1%	98.5%	96.8%	550.2	\$39,709
Delaware County	575,182	99.9%	98.3%	98.2%	3,129.1	\$46,926
Elk County	30,477	89.2%	79.5%	75.0%	36.9	\$34,222
Erie County	267,689	92.8%	90.7%	85.2%	335.1	\$32,858
Fayette County	125,755	86.2%	74.3%	66.1%	159.0	\$31,498
Forest County	6,626	37.6%	64.4%	27.4%	15.5	\$18,857
Franklin County	156,902	91.1%	93.4%	86.4%	203.2	\$37,520
Fulton County	14,533	40.7%	64.0%	33.6%	33.2	\$33,601
Greene County	34,663	73.3%	47.4%	40.7%	60.2	\$32,272
Huntingdon County	43,281	80.4%	58.1%	54.0%	49.5	\$30,392
Indiana County	82,957	73.3%	68.9%	56.8%	100.3	\$30,494
Jefferson County	43,794	79.7%	67.6%	59.6%	67.1	\$30,280
Juniata County	23,339	56.3%	60.7%	42.3%	59.6	\$31,251
Lackawanna County	215,615	98.0%	96.1%	94.8%	469.7	\$35,296
Lancaster County	556,629	96.4%	98.2%	95.1%	589.7	\$39,872
Lawrence County	84,849	93.7%	90.0%	85.0%	237.4	\$32,319
Lebanon County	144,011	96.7%	99.0%	95.9%	398.0	\$35,604
Lehigh County	376,317	99.1%	99.2%	98.4%	1,089.7	\$39,856
Luzerne County	326,369	94.6%	93.8%	89.9%	366.8	\$33,535
Lycoming County	113,104	90.6%	85.3%	81.8%	92.0	\$32,968
McKean County	39,866	85.0%	66.2%	62.8%	40.7	\$30,278
Mercer County	109,220	85.3%	85.5%	75.6%	162.4	\$32,081
Mifflin County	45,988	87.1%	64.3%	60.3%	111.9	\$28,979
Monroe County	167,198	96.7%	79.1%	76.8%	274.8	\$36,277
Montgomery County	864,683	99.1%	98.1%	97.2%	1,790.3	\$57,945
Montour County	18,091	82.2%	92.6%	78.4%	138.9	\$43,700
Northampton County	318,526	99.4%	98.5%	98.0%	861.4	\$42,643

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Northumberland County	90,133	90.3%	86.5%	80.6%	196.9	\$31,240
Perry County	46,114	73.6%	74.0%	59.5%	83.6	\$37,018
Philadelphia County	1,567,258	99.7%	99.9%	99.6%	11,664.9	\$35,553
Pike County	60,558	95.1%	52.8%	50.7%	111.1	\$41,139
Potter County	16,220	93.6%	32.4%	31.3%	15.0	\$29,629
Schuylkill County	143,104	87.6%	82.6%	74.6%	183.8	\$32,316
Snyder County	39,652	76.5%	72.1%	62.0%	120.6	\$31,776
Somerset County	72,710	77.5%	64.3%	53.9%	67.6	\$31,627
Sullivan County	5,855	46.7%	20.9%	12.6%	13.0	\$35,618
Susquehanna County	38,074	67.5%	58.4%	42.9%	46.2	\$37,532
Tioga County	41,106	80.7%	38.3%	36.1%	36.3	\$31,131
Union County	42,744	84.8%	73.1%	65.6%	135.3	\$33,566
Venango County	49,777	80.8%	68.4%	61.8%	73.8	\$31,667
Warren County	37,808	69.8%	69.3%	58.5%	42.8	\$32,319
Washington County	210,383	92.2%	88.3%	83.8%	245.5	\$42,859
Wayne County	51,173	84.0%	54.5%	47.9%	70.5	\$32,207
Westmoreland County	352,057	96.8%	90.7%	88.4%	342.6	\$40,193
Wyoming County	26,014	74.1%	58.5%	47.5%	65.5	\$36,533
York County	461,058	95.0%	98.3%	93.9%	509.8	\$38,926
Puerto Rico	3,221,789	97.0%	98.0%	95.5%	940.9	\$15,637
Adjuntas Municipio	17,200	97.0%	92.4%	89.9%	257.9	\$8,705
Aguada Municipio	36,578	97.7%	89.2%	87.5%	1,185.3	\$11,364
Aguadilla Municipio	54,090	99.9%	99.6%	99.5%	1,480.6	\$12,887
Agua Buenas Municipio	23,092	92.5%	98.6%	91.3%	767.6	\$14,065
Aibonito Municipio	23,742	100.0%	96.2%	96.2%	758.3	\$13,395
Arecibo Municipio	85,840	94.7%	95.5%	92.5%	681.6	\$12,995
Arroyo Municipio	16,094	99.7%	97.6%	97.3%	1,072.3	\$12,921
Añasco Municipio	24,621	87.6%	97.2%	86.6%	626.7	\$12,593
Barceloneta Municipio	22,627	98.2%	96.6%	94.9%	1,210.3	\$13,368
Barranquitas Municipio	27,866	99.1%	96.2%	95.3%	813.5	\$11,396
Bayamón Municipio	181,072	99.9%	99.8%	99.7%	4,080.5	\$16,905
Cabo Rojo Municipio	47,458	97.9%	98.6%	96.5%	674.4	\$14,453
Caguas Municipio	123,859	99.4%	99.8%	99.2%	2,113.5	\$19,240
Camuy Municipio	31,732	87.4%	96.1%	86.5%	684.5	\$13,429
Canóvanas Municipio	41,323	99.9%	98.9%	98.8%	1,257.2	\$17,181
Carolina Municipio	153,140	99.7%	99.7%	99.5%	3,375.1	\$19,220
Cataño Municipio	22,319	100.0%	98.7%	98.7%	4,618.7	\$14,094
Cayey Municipio	40,933	100.0%	98.7%	98.7%	788.2	\$16,510
Ceiba Municipio	11,486	93.2%	99.6%	93.1%	395.6	\$14,198
Ciales Municipio	16,279	62.2%	97.3%	61.6%	244.7	\$9,386
Cidra Municipio	37,849	98.1%	99.4%	97.5%	1,050.7	\$14,451
Coamo Municipio	34,327	100.0%	96.5%	96.5%	440.0	\$12,371
Comerio Municipio	18,028	88.3%	98.3%	87.4%	634.8	\$9,825

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Corozal Municipio	32,550	93.4%	99.6%	93.1%	764.7	\$11,254
Culebra Municipio	1,858	95.9%	95.6%	92.4%	159.5	\$17,226
Dorado Municipio	35,126	98.7%	99.9%	98.6%	1,519.6	\$21,280
Fajardo Municipio	32,480	98.5%	99.5%	98.1%	1,086.2	\$15,367
Florida Municipio	11,444	88.5%	97.8%	86.5%	752.4	\$11,174
Guayama Municipio	36,986	98.9%	98.0%	96.9%	568.6	\$12,626
Guayanilla Municipio	17,323	92.8%	91.0%	87.2%	409.8	\$10,149
Guaynabo Municipio	89,274	99.8%	100.0%	99.8%	3,236.3	\$28,637
Gurabo Municipio	39,987	98.9%	99.8%	98.6%	1,434.0	\$25,112
Guánica Municipio	14,199	100.0%	93.9%	93.9%	383.2	\$8,318
Hatillo Municipio	36,802	99.1%	98.7%	97.9%	880.9	\$14,528
Hormigueros Municipio	15,326	98.8%	100.0%	98.8%	1,350.8	\$14,338
Humacao Municipio	50,411	99.6%	99.1%	98.7%	1,127.3	\$15,510
Isabela Municipio	42,240	97.8%	97.2%	95.4%	763.7	\$12,242
Jayuya Municipio	14,100	65.9%	71.4%	53.7%	316.6	\$8,747
Juana Díaz Municipio	45,867	100.0%	96.2%	96.2%	760.9	\$11,915
Juncos Municipio	36,513	97.4%	100.0%	97.4%	1,378.4	\$13,924
Lajas Municipio	22,750	100.0%	98.9%	98.9%	379.4	\$10,169
Lares Municipio	26,776	88.3%	94.6%	86.9%	435.7	\$10,348
Las Marías Municipio	8,451	55.3%	97.3%	55.2%	182.3	\$8,514
Las Piedras Municipio	34,084	97.3%	98.8%	96.2%	1,006.0	\$13,909
Loíza Municipio	23,351	95.4%	99.7%	95.3%	1,205.3	\$11,835
Luquillo Municipio	18,010	96.7%	97.4%	94.6%	697.8	\$13,578
Manatí Municipio	38,521	93.2%	97.6%	91.0%	853.4	\$13,136
Maricao Municipio	4,527	60.3%	87.5%	59.5%	123.6	\$9,522
Maunabo Municipio	10,425	99.7%	99.6%	99.4%	492.6	\$10,593
Mayagüez Municipio	72,462	94.6%	98.6%	93.3%	932.9	\$13,487
Moca Municipio	35,632	94.5%	97.2%	92.6%	707.8	\$14,052
Morovis Municipio	27,325	90.0%	97.3%	88.2%	703.0	\$12,329
Naguabo Municipio	23,121	90.4%	98.6%	89.0%	447.6	\$10,940
Naranjito Municipio	27,464	97.4%	99.5%	97.0%	1,002.3	\$11,370
Orocovis Municipio	20,385	86.8%	94.0%	82.4%	320.4	\$9,952
Patillas Municipio	15,638	99.6%	81.3%	81.2%	335.6	\$11,832
Peñuelas Municipio	19,967	99.8%	96.4%	96.2%	447.5	\$11,405
Ponce Municipio	137,799	99.5%	95.9%	95.7%	1,198.9	\$13,507
Quebradillas Municipio	22,682	94.6%	98.3%	93.2%	1,000.0	\$11,617
Rincón Municipio	14,967	96.5%	94.5%	91.6%	1,047.5	\$15,789
Río Grande Municipio	46,376	97.8%	99.6%	97.5%	765.0	\$14,161
Sabana Grande Municipio	22,103	95.9%	93.7%	90.4%	608.7	\$11,255
Salinas Municipio	26,299	99.9%	94.3%	94.2%	378.9	\$11,477
San Germán Municipio	30,813	92.4%	90.8%	86.9%	565.4	\$11,808
San Juan Municipio	343,264	100.0%	99.8%	99.8%	7,168.0	\$22,553
San Lorenzo Municipio	35,750	95.9%	99.9%	95.8%	673.2	\$12,220

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
San Sebastián Municipio	38,356	91.0%	99.1%	90.6%	544.7	\$11,370
Santa Isabel Municipio	20,247	100.0%	98.8%	98.8%	594.9	\$13,541
Toa Alta Municipio	64,871	99.3%	99.8%	99.2%	2,401.2	\$16,887
Toa Baja Municipio	72,940	99.9%	99.9%	99.8%	3,138.0	\$16,260
Trujillo Alto Municipio	66,027	99.6%	100.0%	99.6%	3,180.8	\$19,492
Utua Municipio	27,231	83.7%	88.4%	80.6%	239.9	\$10,708
Vega Alta Municipio	33,891	92.5%	99.3%	92.0%	1,222.2	\$16,582
Vega Baja Municipio	52,914	97.4%	99.5%	97.0%	1,154.1	\$14,818
Vieques Municipio	8,241	91.1%	91.6%	83.7%	162.3	\$9,193
Villalba Municipio	21,275	100.0%	97.5%	97.5%	597.0	\$12,133
Yabucoa Municipio	29,476	97.7%	98.1%	96.2%	533.8	\$11,720
Yauco Municipio	33,337	87.8%	96.1%	87.3%	492.3	\$11,934
Rhode Island	1,093,734	99.5%	91.6%	91.2%	1,057.9	\$43,324
Bristol County	50,360	99.9%	80.1%	80.0%	2,086.9	\$56,739
Kent County	171,275	99.9%	86.9%	86.9%	1,016.1	\$46,564
Newport County	84,481	99.3%	85.1%	84.7%	824.8	\$58,280
Providence County	657,288	99.6%	96.8%	96.5%	1,605.2	\$38,191
Washington County	130,330	98.5%	79.9%	78.8%	395.8	\$50,008
South Carolina	5,282,634	90.4%	87.3%	81.1%	175.7	\$36,072
Abbeville County	24,356	96.3%	51.4%	49.5%	49.6	\$31,443
Aiken County	174,150	90.5%	94.9%	87.4%	162.7	\$34,786
Allendale County	7,579	63.3%	69.3%	57.3%	18.6	\$19,654
Anderson County	209,581	91.8%	94.2%	86.9%	293.6	\$33,714
Bamberg County	12,908	70.8%	39.4%	30.3%	32.8	\$21,991
Barnwell County	20,414	61.6%	47.5%	32.7%	37.2	\$25,640
Beaufort County	196,371	99.0%	85.5%	85.1%	340.9	\$48,132
Berkeley County	245,117	81.4%	91.4%	77.5%	222.1	\$37,563
Calhoun County	14,179	89.2%	58.0%	53.6%	37.2	\$30,898
Charleston County	419,279	96.5%	95.8%	93.3%	456.7	\$51,480
Cherokee County	56,121	75.9%	80.5%	64.8%	142.8	\$26,706
Chester County	31,931	56.1%	52.7%	36.6%	55.0	\$26,349
Chesterfield County	43,683	76.9%	43.2%	35.8%	54.7	\$26,435
Clarendon County	30,913	78.4%	48.0%	39.7%	50.9	\$26,290
Colleton County	38,599	99.8%	58.1%	57.9%	36.5	\$26,253
Darlington County	62,398	81.8%	64.0%	57.2%	111.3	\$28,821
Dillon County	27,738	78.4%	58.4%	48.3%	68.5	\$21,736
Dorchester County	166,133	92.2%	95.9%	90.3%	292.2	\$36,543
Edgefield County	26,932	73.4%	62.5%	50.7%	53.8	\$31,232
Fairfield County	20,455	61.7%	50.1%	35.9%	29.8	\$29,269
Florence County	136,721	91.6%	83.3%	77.6%	170.8	\$30,733
Georgetown County	64,722	94.9%	74.7%	71.5%	79.5	\$39,403
Greenville County	547,950	93.6%	97.9%	92.5%	697.2	\$40,427
Greenwood County	69,267	88.7%	79.0%	75.0%	152.0	\$30,237
Hampton County	18,113	65.2%	32.9%	27.5%	32.3	\$22,727

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Horry County	383,101	96.1%	85.8%	82.6%	338.0	\$34,147
Jasper County	32,039	90.8%	76.3%	72.4%	48.9	\$31,228
Kershaw County	67,751	81.6%	75.0%	64.9%	93.2	\$30,310
Lancaster County	104,577	94.8%	75.0%	72.4%	190.5	\$39,172
Laurens County	67,965	86.4%	76.3%	67.7%	95.3	\$27,221
Lee County	16,153	50.2%	48.8%	31.1%	39.4	\$21,054
Lexington County	304,797	96.3%	97.3%	94.1%	436.0	\$37,209
Marion County	28,450	90.5%	63.2%	58.1%	58.1	\$21,952
Marlboro County	26,039	38.8%	51.6%	20.7%	54.3	\$20,703
McCormick County	9,764	87.7%	22.9%	22.5%	27.2	\$32,017
Newberry County	38,247	91.5%	70.2%	64.1%	60.7	\$32,251
Oconee County	80,180	68.2%	81.6%	61.6%	128.0	\$35,315
Orangeburg County	83,094	78.6%	68.0%	56.3%	75.1	\$23,636
Pickens County	133,462	91.9%	93.0%	86.9%	268.6	\$32,059
Richland County	421,566	95.2%	98.5%	93.8%	556.7	\$35,720
Saluda County	18,938	74.9%	58.0%	45.0%	41.8	\$27,912
Spartanburg County	345,831	87.6%	96.9%	86.5%	427.8	\$32,039
Sumter County	104,012	90.8%	89.0%	83.1%	156.4	\$28,319
Union County	26,752	70.2%	77.5%	63.3%	52.1	\$26,111
Williamsburg County	30,058	79.2%	58.9%	49.0%	32.2	\$22,946
York County	294,248	97.1%	87.0%	85.4%	432.1	\$41,486
South Dakota	909,824	92.6%	84.7%	80.7%	12.0	\$36,850
Aurora County	2,755	95.5%	54.3%	52.8%	3.9	\$40,299
Beadle County	19,376	99.2%	89.2%	88.9%	15.4	\$32,177
Bennett County	3,336	81.4%	51.9%	45.4%	2.8	\$22,068
Bon Homme County	7,062	89.5%	75.8%	65.7%	12.5	\$26,450
Brookings County	35,484	98.6%	89.4%	88.4%	44.8	\$32,778
Brown County	37,972	90.0%	73.8%	71.8%	22.2	\$38,035
Brule County	5,321	93.2%	73.1%	71.0%	6.5	\$34,629
Buffalo County	1,861	92.3%	71.4%	66.8%	3.9	\$13,731
Butte County	10,774	90.5%	82.7%	78.4%	4.8	\$34,218
Campbell County	1,349	60.7%	22.0%	12.7%	1.8	\$40,617
Charles Mix County	9,213	83.6%	66.5%	58.8%	8.4	\$27,034
Clark County	3,912	96.2%	67.4%	65.4%	4.1	\$35,573
Clay County	15,280	91.3%	89.5%	86.8%	37.1	\$30,033
Codington County	28,721	99.3%	89.7%	89.5%	41.8	\$36,016
Corson County	3,826	87.7%	49.0%	44.2%	1.5	\$18,757
Custer County	9,006	70.0%	63.5%	47.8%	5.8	\$43,745
Davison County	19,973	99.6%	93.0%	92.8%	45.8	\$33,282
Day County	5,479	91.3%	68.6%	66.5%	5.3	\$34,210
Deuel County	4,352	98.9%	61.7%	61.0%	7.0	\$35,754
Dewey County	5,140	88.8%	72.2%	66.7%	2.2	\$20,657
Douglas County	2,776	95.1%	57.5%	56.4%	6.4	\$37,235
Edmunds County	4,065	75.2%	34.2%	32.8%	3.6	\$40,159
Fall River County	7,370	78.9%	77.3%	69.3%	4.2	\$33,745

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Faulk County	2,126	97.4%	46.0%	46.0%	2.2	\$31,533
Grant County	7,463	98.1%	71.6%	70.5%	11.0	\$38,787
Gregory County	3,962	97.4%	50.2%	49.7%	3.9	\$31,505
Haakon County	1,826	96.8%	77.5%	76.4%	1.0	\$32,270
Hamlin County	6,352	98.7%	65.8%	65.1%	12.5	\$31,643
Hand County	3,140	99.5%	56.1%	56.1%	2.2	\$40,952
Hanson County	3,461	96.4%	55.2%	52.6%	8.0	\$33,489
Harding County	1,330	99.4%	31.1%	30.5%	0.5	\$44,603
Hughes County	17,692	96.8%	93.8%	90.6%	23.9	\$37,645
Hutchinson County	7,368	93.2%	80.9%	77.0%	9.1	\$35,631
Hyde County	1,184	100.0%	84.8%	84.8%	1.4	\$36,319
Jackson County	2,821	74.2%	47.9%	40.9%	1.5	\$15,792
Jerauld County	1,650	98.2%	82.8%	81.5%	3.1	\$47,964
Jones County	884	69.7%	62.4%	49.3%	0.9	\$30,962
Kingsbury County	5,294	93.3%	74.0%	71.1%	6.4	\$36,484
Lake County	10,972	94.2%	91.1%	86.3%	19.5	\$44,809
Lawrence County	27,214	84.5%	75.2%	69.5%	34.0	\$41,086
Lincoln County	70,987	94.1%	96.0%	91.5%	123.0	\$46,868
Lyman County	3,692	98.1%	60.6%	59.8%	2.2	\$25,997
Marshall County	4,374	99.2%	64.7%	64.7%	5.2	\$44,857
McCook County	5,778	86.4%	70.9%	61.5%	10.1	\$34,242
McPherson County	2,395	67.1%	23.6%	17.7%	2.1	\$41,144
Meade County	30,698	79.9%	69.6%	57.7%	8.8	\$33,857
Mellette County	1,892	60.0%	29.8%	17.3%	1.4	\$16,826
Miner County	2,304	94.4%	75.0%	71.4%	4.0	\$32,033
Minnehaha County	203,971	98.7%	98.2%	96.9%	252.8	\$39,289
Moody County	6,349	99.9%	77.7%	77.7%	12.2	\$35,419
Oglala Lakota County	13,519	70.0%	78.1%	61.9%	6.5	\$10,955
Pennington County	114,461	91.1%	92.8%	87.9%	41.2	\$38,951
Perkins County	2,804	97.2%	60.4%	60.2%	1.0	\$40,235
Potter County	2,438	100.0%	55.3%	55.3%	2.8	\$34,335
Roberts County	10,163	97.7%	56.7%	54.7%	9.2	\$28,613
Sanborn County	2,415	94.2%	71.2%	67.9%	4.2	\$35,468
Spink County	6,235	91.2%	12.3%	11.6%	4.1	\$37,138
Stanley County	2,999	85.8%	89.8%	79.3%	2.1	\$46,652
Sully County	1,471	100.0%	77.6%	77.6%	1.5	\$45,475
Todd County	9,220	44.2%	78.9%	41.3%	6.6	\$12,562
Tripp County	5,565	90.6%	71.6%	66.3%	3.5	\$29,463
Turner County	8,856	92.5%	74.7%	70.4%	14.4	\$36,103
Union County	17,063	96.5%	92.8%	90.0%	37.0	\$47,193
Walworth County	5,265	93.6%	85.1%	80.6%	7.4	\$35,602
Yankton County	23,373	87.8%	85.5%	78.0%	44.8	\$37,202
Ziebach County	2,395	94.0%	58.0%	55.7%	1.2	\$23,657
Tennessee	7,051,339	92.2%	84.6%	80.8%	171.0	\$36,040
Anderson County	78,913	94.9%	91.6%	88.2%	234.0	\$32,803

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Bedford County	51,950	76.6%	71.8%	60.4%	109.7	\$28,520
Benton County	16,002	55.8%	44.7%	32.2%	40.6	\$27,185
Bledsoe County	14,798	72.3%	41.5%	39.3%	36.4	\$24,241
Blount County	139,958	93.2%	92.3%	87.4%	250.5	\$36,376
Bradley County	110,616	90.2%	89.0%	83.2%	336.5	\$31,121
Campbell County	39,584	74.8%	69.8%	59.2%	82.4	\$26,791
Cannon County	14,788	66.6%	72.4%	52.6%	55.7	\$30,234
Carroll County	28,458	62.8%	59.9%	46.8%	47.6	\$26,818
Carter County	56,410	88.8%	75.2%	70.0%	165.3	\$28,321
Cheatham County	41,830	86.5%	78.6%	70.9%	138.3	\$35,852
Chester County	17,609	85.6%	56.7%	51.6%	61.6	\$24,788
Claiborne County	32,431	95.3%	63.8%	62.1%	74.6	\$25,408
Clay County	7,620	100.0%	37.8%	37.8%	32.2	\$22,931
Cocke County	36,879	63.5%	63.6%	51.0%	84.6	\$25,864
Coffee County	59,728	92.1%	55.8%	53.0%	139.2	\$29,277
Crockett County	13,888	100.0%	59.0%	59.0%	52.3	\$30,362
Cumberland County	63,522	73.7%	62.9%	50.8%	93.2	\$30,952
Davidson County	708,144	99.3%	99.5%	98.9%	1,405.9	\$45,951
DeKalb County	21,003	91.9%	57.5%	53.2%	69.0	\$27,684
Decatur County	11,564	46.4%	35.5%	25.5%	34.6	\$27,578
Dickson County	55,761	68.5%	82.1%	60.7%	113.8	\$33,582
Dyer County	36,410	99.5%	78.3%	78.0%	71.1	\$37,415
Fayette County	43,630	77.7%	65.0%	58.0%	61.9	\$40,613
Fentress County	19,332	100.0%	29.1%	29.1%	38.8	\$24,595
Franklin County	43,942	74.9%	53.4%	43.1%	79.2	\$31,395
Gibson County	50,837	93.8%	69.4%	66.0%	84.3	\$27,742
Giles County	30,554	48.5%	64.8%	43.3%	50.0	\$31,852
Grainger County	24,277	79.5%	49.4%	42.7%	86.5	\$26,545
Greene County	71,405	88.7%	63.6%	59.0%	114.8	\$28,237
Grundy County	13,783	90.7%	42.7%	40.0%	38.2	\$25,075
Hamblen County	65,168	98.4%	77.0%	76.3%	404.3	\$27,845
Hamilton County	374,682	99.6%	97.3%	97.1%	691.1	\$41,198
Hancock County	6,845	99.7%	1.6%	1.6%	30.8	\$24,120
Hardeman County	25,529	76.7%	53.8%	46.6%	38.2	\$22,098
Hardin County	27,077	60.0%	51.4%	36.6%	46.9	\$26,068
Hawkins County	58,043	97.2%	77.9%	75.9%	119.2	\$28,648
Haywood County	17,550	77.1%	69.7%	61.4%	32.9	\$26,031
Henderson County	27,929	59.1%	53.5%	38.1%	53.7	\$25,873
Henry County	32,379	83.0%	53.3%	45.8%	57.6	\$28,098
Hickman County	25,455	86.3%	29.7%	26.7%	41.6	\$27,764
Houston County	8,219	95.8%	24.4%	23.8%	41.0	\$27,053
Humphreys County	19,106	100.0%	45.0%	45.0%	36.0	\$29,561
Jackson County	11,989	99.8%	22.4%	22.4%	38.8	\$25,534
Jefferson County	56,727	85.6%	76.7%	67.0%	206.2	\$31,947
Johnson County	18,086	81.8%	41.9%	37.6%	60.6	\$26,627

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Knox County	494,574	98.5%	98.7%	97.3%	972.9	\$39,608
Lake County	6,507	100.0%	23.5%	23.5%	39.2	\$19,695
Lauderdale County	24,793	96.8%	50.7%	48.7%	52.5	\$24,358
Lawrence County	45,415	75.4%	64.6%	53.2%	73.6	\$26,865
Lewis County	12,957	97.9%	51.2%	50.7%	45.9	\$26,873
Lincoln County	36,004	72.4%	64.6%	51.4%	63.1	\$32,016
Loudon County	58,181	86.8%	90.8%	82.5%	253.8	\$40,425
Macon County	26,229	100.0%	18.4%	18.4%	85.4	\$24,979
Madison County	99,245	97.1%	84.8%	84.0%	178.1	\$31,380
Marion County	29,094	99.3%	65.7%	65.4%	58.4	\$29,314
Marshall County	35,878	77.4%	53.4%	45.2%	95.6	\$32,225
Maury County	108,159	87.1%	87.2%	80.5%	176.4	\$35,733
McMinn County	54,719	66.1%	55.5%	45.1%	127.2	\$30,334
McNairy County	25,988	47.3%	45.0%	27.1%	46.2	\$25,004
Meigs County	13,272	58.2%	47.6%	31.8%	68.0	\$26,843
Monroe County	47,740	63.8%	38.8%	30.4%	75.1	\$27,356
Montgomery County	235,201	98.2%	96.6%	95.1%	436.2	\$31,438
Moore County	6,742	47.0%	34.0%	17.4%	52.2	\$35,178
Morgan County	21,224	99.9%	42.7%	42.6%	40.6	\$27,320
Obion County	30,394	97.5%	70.8%	68.3%	55.8	\$28,782
Overton County	23,044	99.9%	53.6%	53.5%	53.2	\$29,556
Perry County	8,685	99.8%	35.6%	35.6%	20.9	\$30,870
Pickett County	5,107	99.9%	34.7%	34.7%	31.3	\$27,259
Polk County	17,863	70.0%	25.7%	19.9%	41.1	\$30,400
Putnam County	82,382	90.8%	82.7%	75.5%	205.4	\$29,419
Rhea County	33,730	82.1%	69.6%	62.7%	106.9	\$26,678
Roane County	55,082	86.0%	68.6%	64.6%	152.7	\$36,579
Robertson County	75,470	86.3%	92.3%	82.4%	158.4	\$35,093
Rutherford County	360,619	97.9%	98.6%	96.9%	582.3	\$35,135
Scott County	22,035	100.0%	61.2%	61.2%	41.4	\$22,273
Sequatchie County	16,909	87.1%	75.2%	68.1%	63.6	\$25,954
Sevier County	98,789	85.1%	87.9%	78.2%	166.7	\$31,603
Shelby County	916,371	98.2%	98.4%	97.1%	1,204.9	\$36,230
Smith County	20,489	96.5%	55.8%	53.2%	65.2	\$31,446
Stewart County	14,035	86.2%	36.5%	32.7%	30.5	\$28,362
Sullivan County	160,820	96.4%	90.8%	87.7%	389.0	\$33,934
Sumner County	203,858	96.7%	94.9%	92.5%	385.0	\$40,419
Tipton County	61,656	92.1%	51.0%	48.6%	135.3	\$31,909
Trousdale County	12,111	96.5%	32.0%	31.9%	105.9	\$26,522
Unicoi County	17,674	97.2%	77.6%	76.8%	95.0	\$27,930
Union County	20,452	70.9%	66.0%	49.6%	91.5	\$28,174
Van Buren County	6,429	78.5%	38.3%	33.3%	23.5	\$24,099
Warren County	42,026	87.5%	61.4%	54.3%	97.1	\$27,059
Washington County	136,172	94.2%	89.4%	85.0%	417.1	\$35,562
Wayne County	16,308	38.8%	36.0%	28.9%	22.2	\$26,538

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Weakley County	33,063	82.7%	61.8%	57.6%	57.0	\$26,820
White County	28,064	91.7%	67.2%	62.7%	74.5	\$26,213
Williamson County	260,815	95.0%	97.6%	93.5%	447.5	\$61,451
Wilson County	158,555	93.6%	94.8%	89.1%	277.7	\$42,978
Texas	30,029,572	92.8%	95.1%	89.7%	114.9	\$37,514
Anderson County	58,064	42.2%	33.8%	26.3%	54.6	\$23,548
Andrews County	18,334	95.5%	71.8%	71.4%	12.2	\$39,749
Angelina County	87,101	65.8%	73.2%	54.6%	109.2	\$27,460
Aransas County	24,944	99.7%	97.9%	97.7%	99.0	\$40,890
Archer County	8,835	88.8%	63.4%	57.6%	9.8	\$37,873
Armstrong County	1,850	99.0%	27.5%	27.3%	2.0	\$31,823
Atascosa County	50,864	55.0%	85.3%	52.8%	41.7	\$27,386
Austin County	31,097	94.5%	82.6%	79.5%	48.1	\$36,399
Bailey County	6,779	99.9%	81.9%	81.9%	8.2	\$29,674
Bandera County	22,115	89.8%	65.2%	59.8%	28.0	\$39,162
Bastrop County	106,188	76.8%	80.5%	65.8%	119.6	\$34,079
Baylor County	3,466	92.6%	72.2%	72.1%	4.0	\$31,392
Bee County	30,394	96.7%	71.2%	69.5%	34.5	\$22,347
Bell County	388,386	96.9%	95.4%	93.0%	368.5	\$31,822
Bexar County	2,059,530	94.5%	99.9%	94.5%	1,660.5	\$33,963
Blanco County	12,418	91.0%	77.6%	73.2%	17.5	\$46,356
Borden County	585	54.9%	37.6%	33.0%	0.7	\$39,276
Bosque County	18,697	61.8%	59.3%	37.5%	19.0	\$32,990
Bowie County	92,035	84.0%	81.8%	74.1%	104.0	\$30,103
Brazoria County	388,181	88.1%	98.3%	87.4%	284.7	\$39,891
Brazos County	242,014	96.3%	98.2%	95.2%	412.9	\$32,499
Brewster County	9,343	78.5%	84.1%	72.2%	1.5	\$35,516
Briscoe County	1,431	96.4%	81.8%	81.7%	1.6	\$29,721
Brooks County	6,906	93.4%	87.6%	85.8%	7.3	\$20,308
Brown County	38,373	99.0%	83.8%	83.6%	40.6	\$30,202
Burleson County	18,657	55.4%	69.1%	40.4%	28.3	\$38,918
Burnet County	52,502	87.2%	81.2%	74.7%	52.8	\$40,628
Caldwell County	47,848	83.4%	73.8%	64.7%	87.9	\$28,742
Calhoun County	19,706	87.7%	93.1%	83.7%	38.9	\$33,754
Callahan County	14,210	95.0%	67.9%	66.5%	15.8	\$31,856
Cameron County	425,208	97.4%	99.4%	97.0%	476.8	\$21,440
Camp County	12,716	94.1%	45.9%	45.7%	64.9	\$28,004
Carson County	5,784	83.1%	76.7%	67.6%	6.3	\$40,192
Cass County	28,539	41.2%	60.0%	36.9%	30.5	\$28,608
Castro County	7,298	82.8%	80.2%	71.3%	8.2	\$25,425
Chambers County	51,288	85.6%	95.9%	83.0%	85.9	\$42,628
Cherokee County	51,645	42.2%	55.0%	32.6%	49.0	\$26,790
Childress County	6,809	84.0%	69.8%	68.7%	9.8	\$27,466
Clay County	10,486	94.4%	61.2%	60.2%	9.6	\$35,847
Cochran County	2,526	83.4%	16.4%	9.0%	3.3	\$23,748

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Coke County	3,333	80.9%	71.3%	67.8%	3.7	\$28,397
Coleman County	7,850	90.6%	73.3%	72.8%	6.2	\$31,249
Collin County	1,158,696	96.1%	99.7%	95.8%	1,377.3	\$52,654
Collingsworth County	2,568	85.7%	78.0%	75.6%	2.8	\$33,436
Colorado County	20,754	70.5%	80.1%	65.3%	21.6	\$35,002
Comal County	184,642	94.0%	96.6%	90.8%	330.0	\$47,280
Comanche County	13,878	75.1%	74.0%	62.8%	14.8	\$31,171
Concho County	3,340	95.2%	58.2%	57.7%	3.4	\$24,207
Cooke County	43,050	89.3%	73.5%	69.5%	49.2	\$36,275
Coryell County	85,057	88.7%	91.8%	85.1%	80.8	\$26,699
Cottle County	1,307	96.5%	83.0%	82.5%	1.5	\$26,081
Crane County	4,546	18.9%	98.7%	18.9%	5.8	\$31,973
Crockett County	2,943	1.0%	89.1%	0.9%	1.0	\$35,942
Crosby County	4,998	96.5%	88.4%	86.4%	5.6	\$30,888
Culberson County	2,155	68.2%	94.9%	67.9%	0.6	\$29,295
Dallam County	7,241	96.2%	67.8%	66.4%	4.8	\$28,936
Dallas County	2,600,840	96.5%	100.0%	96.5%	2,979.0	\$39,172
Dawson County	12,130	99.1%	92.4%	91.9%	13.5	\$22,002
DeWitt County	19,772	51.1%	84.9%	49.9%	21.8	\$29,359
Deaf Smith County	18,377	98.4%	82.4%	81.7%	12.3	\$23,310
Delta County	5,406	93.6%	78.9%	76.3%	21.0	\$34,345
Denton County	977,281	95.8%	99.8%	95.5%	1,112.4	\$50,470
Dickens County	1,726	94.0%	81.8%	78.4%	1.9	\$28,798
Dimmit County	8,387	78.2%	81.6%	67.5%	6.3	\$19,505
Donley County	3,339	17.5%	84.2%	15.5%	3.6	\$25,682
Duval County	9,888	93.6%	90.8%	88.2%	5.5	\$21,606
Eastland County	17,944	89.6%	78.4%	73.9%	19.4	\$31,197
Ector County	160,869	98.1%	99.3%	97.6%	179.2	\$34,267
Edwards County	1,422	7.2%	78.3%	4.2%	0.7	\$25,218
El Paso County	868,763	99.4%	99.9%	99.3%	857.4	\$26,011
Ellis County	212,182	96.4%	97.9%	94.9%	226.8	\$38,628
Erath County	43,895	84.3%	74.6%	68.6%	40.5	\$32,181
Falls County	17,049	45.3%	63.8%	16.2%	22.3	\$29,183
Fannin County	37,125	77.9%	67.0%	56.5%	41.7	\$33,481
Fayette County	24,913	59.9%	80.8%	53.1%	26.2	\$37,849
Fisher County	3,622	81.6%	64.9%	60.8%	4.0	\$32,722
Floyd County	5,235	78.6%	73.5%	63.9%	5.3	\$28,755
Foard County	1,057	92.3%	75.6%	75.6%	1.5	\$27,262
Fort Bend County	889,146	97.1%	99.9%	97.0%	1,031.8	\$45,172
Franklin County	10,618	88.1%	67.3%	60.5%	37.3	\$39,246
Freestone County	19,950	87.1%	43.8%	41.5%	22.7	\$28,201
Frio County	17,815	76.0%	71.2%	59.1%	15.7	\$22,779
Gaines County	22,181	98.8%	76.4%	76.3%	14.8	\$28,701
Galveston County	357,117	96.6%	99.7%	96.3%	941.6	\$42,603
Garza County	6,262	86.6%	89.9%	81.8%	7.0	\$22,188

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Gillespie County	27,477	96.4%	70.9%	70.5%	26.0	\$42,067
Glasscock County	1,164	81.9%	33.6%	30.7%	1.3	\$50,449
Goliad County	7,131	63.8%	69.9%	50.9%	8.4	\$36,114
Gonzales County	19,832	53.6%	62.9%	30.7%	18.6	\$32,807
Gray County	21,015	98.9%	94.2%	93.8%	22.7	\$30,303
Grayson County	143,131	95.9%	90.1%	87.6%	153.4	\$34,643
Gregg County	125,443	93.7%	92.0%	88.3%	458.9	\$32,236
Grimes County	30,754	76.6%	75.8%	60.6%	39.1	\$28,792
Guadalupe County	182,760	93.0%	98.0%	91.6%	257.0	\$37,184
Hale County	31,827	92.6%	85.7%	84.6%	31.7	\$23,696
Hall County	2,810	87.2%	80.9%	72.8%	3.2	\$26,847
Hamilton County	8,298	79.5%	70.8%	67.2%	9.9	\$36,764
Hansford County	5,151	84.0%	58.1%	55.2%	5.6	\$27,585
Hardeman County	3,516	97.6%	90.3%	89.8%	5.1	\$29,783
Hardin County	57,811	81.4%	84.2%	72.9%	64.9	\$33,700
Harris County	4,780,913	96.4%	100.0%	96.4%	2,800.8	\$38,184
Harrison County	69,955	71.2%	67.8%	57.3%	77.7	\$30,613
Hartley County	5,208	84.6%	77.3%	71.9%	3.6	\$27,850
Haskell County	5,403	88.8%	70.7%	68.4%	6.0	\$37,600
Hays County	269,225	96.7%	98.4%	95.5%	397.8	\$38,909
Hemphill County	3,217	83.0%	39.0%	31.9%	3.5	\$40,940
Henderson County	84,511	60.5%	53.9%	39.9%	96.7	\$32,513
Hidalgo County	888,367	95.1%	99.9%	95.0%	565.5	\$20,844
Hill County	37,329	78.9%	54.6%	48.3%	38.9	\$30,730
Hockley County	21,161	96.4%	91.1%	89.8%	23.3	\$28,809
Hood County	66,373	90.4%	92.7%	85.6%	157.8	\$41,729
Hopkins County	37,804	95.5%	73.7%	72.3%	49.3	\$32,100
Houston County	21,950	43.3%	60.0%	40.1%	17.8	\$25,346
Howard County	33,672	96.7%	94.8%	92.6%	37.4	\$32,431
Hudspeth County	3,432	7.2%	82.7%	7.2%	0.8	\$16,368
Hunt County	108,282	95.0%	77.4%	75.0%	128.8	\$31,362
Hutchinson County	20,215	93.1%	91.0%	87.1%	22.8	\$30,038
Irion County	1,530	82.4%	74.5%	67.7%	1.5	\$29,664
Jack County	8,922	82.5%	25.2%	19.3%	9.8	\$28,626
Jackson County	15,142	87.7%	75.9%	70.1%	18.3	\$29,684
Jasper County	32,484	35.9%	73.9%	31.2%	34.6	\$31,251
Jeff Davis County	1,903	29.8%	52.0%	21.0%	0.8	\$38,603
Jefferson County	250,830	92.3%	98.4%	90.9%	286.1	\$30,770
Jim Hogg County	4,763	24.9%	97.8%	24.8%	4.2	\$18,366
Jim Wells County	38,826	97.8%	86.8%	85.4%	44.9	\$25,030
Johnson County	195,506	97.2%	97.2%	95.0%	269.7	\$32,728
Jones County	19,935	91.1%	60.0%	58.0%	21.5	\$21,173
Karnes County	14,836	52.1%	82.2%	47.8%	19.8	\$25,910
Kaufman County	172,366	97.5%	90.2%	87.8%	220.8	\$33,250
Kendall County	48,973	94.1%	82.6%	79.3%	73.9	\$56,063

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Kenedy County	358	22.9%	42.2%	10.9%	0.2	\$21,822
Kent County	740	92.7%	75.4%	73.6%	0.8	\$29,575
Kerr County	53,741	91.2%	73.9%	69.2%	48.7	\$38,003
Kimble County	4,422	63.3%	74.4%	57.8%	3.5	\$39,045
King County	233	84.5%	54.5%	53.6%	0.3	\$26,408
Kinney County	3,128	0.0%	95.4%	0.0%	2.3	\$29,833
Kleberg County	30,362	98.2%	97.5%	96.2%	34.5	\$25,876
Knox County	3,273	95.3%	0.3%	0.1%	3.8	\$24,892
La Salle County	6,604	67.5%	65.6%	51.6%	4.4	\$15,492
Lamar County	50,484	81.4%	76.0%	67.9%	55.6	\$29,888
Lamb County	12,724	94.7%	86.6%	84.8%	12.5	\$26,687
Lampasas County	22,785	93.2%	74.3%	70.6%	32.0	\$33,787
Lavaca County	20,589	58.2%	79.8%	53.9%	21.2	\$34,591
Lee County	17,954	72.1%	69.1%	57.5%	28.5	\$31,001
Leon County	16,209	35.4%	47.6%	24.4%	15.1	\$34,519
Liberty County	101,992	54.0%	86.0%	48.8%	88.0	\$25,667
Limestone County	22,253	90.4%	39.0%	36.9%	24.6	\$26,479
Lipscomb County	2,854	62.3%	1.8%	0.5%	3.1	\$33,236
Live Oak County	11,428	74.5%	62.3%	56.7%	11.0	\$27,951
Llano County	22,540	87.9%	78.1%	71.2%	24.1	\$48,116
Loving County	51	35.3%	64.7%	35.3%	0.1	\$44,821
Lubbock County	317,561	97.5%	97.7%	95.5%	354.6	\$33,700
Lynn County	5,724	94.9%	80.0%	76.1%	6.4	\$31,000
Madison County	13,661	74.3%	65.6%	60.6%	29.3	\$24,340
Marion County	9,560	29.1%	35.4%	25.5%	25.1	\$27,263
Martin County	5,217	93.8%	83.3%	80.0%	5.7	\$36,881
Mason County	3,982	82.4%	61.3%	57.5%	4.3	\$36,235
Matagorda County	36,125	85.4%	89.5%	78.5%	33.1	\$29,001
Maverick County	57,843	94.4%	95.8%	90.7%	45.2	\$21,405
McCulloch County	7,497	97.3%	83.5%	82.9%	7.0	\$29,514
McLennan County	266,836	94.0%	85.6%	81.9%	257.4	\$31,036
McMullen County	576	74.8%	50.5%	43.9%	0.5	\$27,029
Medina County	53,723	48.6%	80.2%	43.7%	40.5	\$31,516
Menard County	1,968	91.4%	74.2%	73.2%	2.2	\$31,983
Midland County	171,999	91.8%	97.6%	89.7%	191.0	\$46,914
Milam County	25,628	90.8%	65.8%	62.6%	25.2	\$31,984
Mills County	4,500	91.3%	68.0%	61.9%	6.0	\$37,010
Mitchell County	8,943	75.8%	81.1%	70.2%	9.8	\$24,591
Montague County	21,063	88.7%	71.8%	67.8%	22.6	\$31,125
Montgomery County	678,490	84.8%	99.7%	84.6%	651.0	\$48,161
Moore County	20,996	98.4%	95.1%	94.2%	23.3	\$26,321
Morris County	12,083	53.0%	31.2%	16.1%	48.0	\$26,199
Motley County	1,032	91.5%	84.9%	83.9%	1.0	\$29,788
Nacogdoches County	64,862	59.4%	72.6%	53.7%	68.5	\$27,584
Navarro County	54,636	95.3%	61.8%	60.9%	54.1	\$26,910

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Newton County	12,052	11.8%	47.8%	9.5%	12.9	\$23,995
Nolan County	14,473	83.4%	82.5%	77.5%	15.9	\$30,572
Nueces County	351,674	98.3%	99.2%	97.6%	419.1	\$32,284
Ochiltree County	9,606	87.2%	28.9%	27.0%	10.5	\$30,836
Oldham County	1,752	88.2%	69.3%	64.4%	1.2	\$27,710
Orange County	84,934	86.7%	93.8%	84.1%	254.5	\$35,301
Palo Pinto County	29,239	80.1%	77.5%	65.5%	30.7	\$31,890
Panola County	22,677	43.7%	44.8%	33.1%	27.9	\$32,024
Parker County	165,834	96.3%	91.6%	88.8%	183.5	\$43,434
Parmer County	9,620	86.6%	86.0%	73.2%	10.9	\$28,342
Pecos County	14,735	79.6%	82.8%	72.2%	3.1	\$28,217
Polk County	53,255	56.7%	64.8%	40.3%	50.4	\$27,922
Potter County	115,645	93.4%	94.6%	89.7%	127.3	\$26,406
Presidio County	5,939	70.5%	71.6%	60.2%	1.5	\$22,256
Rains County	12,823	99.6%	44.1%	44.1%	55.9	\$36,069
Randall County	146,140	94.7%	94.2%	89.8%	160.1	\$40,047
Reagan County	3,135	94.5%	96.3%	93.4%	2.7	\$28,765
Real County	2,840	54.0%	47.1%	37.0%	4.1	\$22,725
Red River County	11,542	49.6%	46.1%	35.2%	11.1	\$25,057
Reeves County	12,905	86.7%	89.5%	82.6%	4.9	\$26,180
Refugio County	6,632	87.2%	87.5%	77.5%	8.6	\$27,103
Roberts County	803	37.7%	8.7%	1.5%	0.9	\$32,250
Robertson County	17,153	86.6%	51.8%	48.0%	20.1	\$30,568
Rockwall County	123,208	99.5%	99.7%	99.2%	968.6	\$53,000
Runnels County	9,859	93.9%	69.4%	68.3%	9.4	\$29,784
Rusk County	53,333	57.0%	55.4%	40.9%	57.7	\$30,365
Sabine County	10,048	21.3%	25.6%	4.3%	20.4	\$33,953
San Augustine County	7,857	22.1%	46.3%	18.1%	14.8	\$24,673
San Jacinto County	28,348	37.0%	56.9%	21.8%	49.8	\$28,124
San Patricio County	69,954	99.6%	95.1%	94.8%	100.9	\$30,692
San Saba County	5,824	79.5%	74.5%	63.1%	5.1	\$26,377
Schleicher County	2,357	90.4%	85.4%	83.6%	1.8	\$28,084
Scurry County	16,686	85.4%	77.7%	73.9%	18.4	\$28,549
Shackelford County	3,186	89.7%	84.1%	83.6%	3.5	\$32,245
Shelby County	24,008	25.3%	46.9%	17.0%	30.2	\$26,642
Sherman County	2,799	94.5%	86.6%	84.1%	3.0	\$43,340
Smith County	241,922	65.2%	84.5%	60.4%	262.5	\$33,903
Somervell County	9,757	54.4%	68.3%	43.2%	52.4	\$39,037
Starr County	65,728	94.4%	94.9%	90.2%	53.7	\$16,934
Stephens County	9,390	94.2%	78.1%	77.6%	10.5	\$28,231
Sterling County	1,417	87.1%	2.7%	1.0%	1.5	\$31,039
Stonewall County	1,182	86.8%	83.7%	79.1%	1.3	\$26,733
Sutton County	3,217	86.2%	86.9%	83.8%	2.2	\$22,836
Swisher County	6,881	99.0%	82.3%	82.1%	7.7	\$21,371
Tarrant County	2,154,595	96.7%	100.0%	96.7%	2,490.0	\$39,407

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Taylor County	145,163	99.1%	88.6%	88.1%	158.6	\$31,492
Terrell County	693	88.9%	0.0%	0.0%	0.3	\$36,144
Terry County	11,567	98.5%	92.4%	91.5%	13.0	\$25,206
Throckmorton County	1,550	81.4%	48.2%	47.9%	1.7	\$30,381
Titus County	31,208	82.6%	76.0%	70.3%	76.9	\$25,058
Tom Green County	118,892	98.9%	93.3%	92.7%	78.1	\$33,861
Travis County	1,326,436	95.6%	98.0%	93.9%	1,334.4	\$54,870
Trinity County	13,996	18.5%	52.8%	13.0%	20.2	\$30,911
Tyler County	20,030	33.0%	64.9%	20.7%	21.7	\$29,594
Upshur County	42,488	62.5%	51.2%	34.0%	72.9	\$30,236
Upton County	3,152	4.6%	24.9%	0.0%	2.5	\$27,385
Uvalde County	24,940	84.2%	82.6%	74.3%	16.1	\$26,141
Val Verde County	47,606	90.6%	92.0%	86.5%	15.1	\$25,181
Van Zandt County	62,859	90.3%	52.5%	51.0%	74.6	\$33,092
Victoria County	91,065	91.9%	93.5%	87.8%	103.2	\$31,747
Walker County	78,870	60.0%	85.2%	52.3%	100.6	\$23,220
Waller County	61,894	85.6%	96.5%	83.0%	120.6	\$32,446
Ward County	10,964	96.4%	97.2%	94.1%	13.1	\$30,854
Washington County	36,159	98.0%	82.5%	81.7%	59.8	\$39,147
Webb County	267,780	95.3%	98.4%	93.8%	79.7	\$23,446
Wharton County	41,824	81.2%	88.4%	77.3%	38.5	\$29,061
Wheeler County	4,807	79.6%	42.9%	36.3%	5.3	\$30,454
Wichita County	129,978	91.0%	96.9%	88.5%	207.1	\$30,834
Wilbarger County	12,491	91.3%	20.8%	19.1%	12.9	\$24,291
Willacy County	20,143	80.7%	95.0%	76.2%	34.1	\$20,229
Williamson County	671,418	97.1%	96.5%	94.1%	601.7	\$47,574
Wilson County	52,735	65.9%	79.7%	55.4%	65.6	\$40,952
Winkler County	7,306	87.2%	87.4%	87.1%	8.7	\$32,325
Wise County	74,895	99.8%	82.0%	81.9%	82.8	\$36,614
Wood County	46,857	84.7%	51.8%	47.9%	72.6	\$34,541
Yoakum County	7,451	89.3%	92.1%	85.5%	9.3	\$34,168
Young County	17,962	95.4%	74.9%	74.8%	19.6	\$35,039
Zapata County	13,849	92.5%	76.3%	71.5%	13.9	\$19,139
Zavala County	9,377	78.9%	94.7%	78.5%	7.2	\$20,409
U.S. Virgin Isl.	105,413	99.4%	89.9%	89.5%	784.5	NA
St. Croix Island	51,166	99.8%	86.7%	86.5%	613.8	NA
St. John Island	5,051	98.9%	64.3%	64.0%	256.5	NA
St. Thomas Island	49,196	99.1%	95.8%	95.1%	1,570.9	NA
Utah	3,380,800	97.1%	98.5%	96.2%	41.0	\$37,023
Beaver County	7,327	94.2%	95.4%	91.0%	2.8	\$28,176
Box Elder County	61,498	90.5%	96.0%	87.1%	10.7	\$30,762
Cache County	140,173	98.6%	99.6%	98.4%	120.3	\$29,298
Carbon County	20,571	99.0%	92.2%	91.6%	13.9	\$26,450
Daggett County	1,014	42.6%	93.4%	42.6%	1.5	\$27,261
Davis County	369,948	99.5%	100.0%	99.5%	1,237.0	\$39,218

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Duchesne County	20,161	57.1%	77.9%	52.4%	6.2	\$28,650
Emery County	10,099	98.5%	93.9%	93.1%	2.3	\$27,771
Garfield County	5,281	72.3%	83.3%	65.7%	1.0	\$29,240
Grand County	9,769	98.3%	88.8%	88.2%	2.7	\$37,510
Iron County	62,429	98.2%	98.0%	97.0%	18.9	\$26,650
Juab County	12,567	88.4%	99.0%	87.6%	3.7	\$31,545
Kane County	8,227	70.2%	83.1%	64.0%	2.1	\$36,941
Millard County	13,330	78.4%	82.5%	70.5%	2.0	\$27,757
Morgan County	12,832	94.3%	90.0%	86.6%	21.1	\$40,485
Piute County	1,487	58.8%	90.8%	58.8%	2.0	\$19,919
Rich County	2,628	64.5%	62.0%	43.6%	2.6	\$26,796
Salt Lake County	1,186,257	98.7%	100.0%	98.7%	1,598.6	\$40,969
San Juan County	14,359	49.6%	42.5%	33.1%	1.8	\$25,591
Sanpete County	29,724	91.8%	88.4%	82.1%	18.7	\$25,257
Sevier County	22,069	95.7%	62.0%	59.5%	11.6	\$28,859
Summit County	43,036	89.1%	97.7%	88.4%	23.0	\$67,602
Tooele County	79,934	98.8%	99.8%	98.7%	11.5	\$34,733
Uintah County	37,141	78.9%	91.1%	76.6%	8.3	\$27,977
Utah County	702,434	97.5%	99.9%	97.5%	350.5	\$33,251
Wasatch County	36,619	92.3%	97.0%	90.8%	31.1	\$51,178
Washington County	197,680	99.0%	97.6%	96.9%	81.4	\$36,047
Wayne County	2,645	68.4%	88.8%	66.0%	1.1	\$32,605
Weber County	269,561	99.3%	99.9%	99.3%	467.8	\$34,778
Vermont	647,064	82.3%	53.0%	48.0%	70.2	\$41,680
Addison County	37,578	66.1%	49.7%	43.0%	49.1	\$42,271
Bennington County	37,392	88.6%	41.9%	39.2%	55.4	\$39,717
Caledonia County	30,579	63.1%	56.0%	43.8%	47.1	\$36,604
Chittenden County	169,301	95.0%	68.2%	65.9%	315.1	\$47,458
Essex County	5,994	40.0%	40.4%	26.0%	9.0	\$31,891
Franklin County	50,731	76.8%	41.4%	37.2%	80.4	\$35,531
Grand Isle County	7,489	59.7%	13.2%	10.6%	91.6	\$48,551
Lamoille County	26,090	65.1%	45.0%	37.4%	56.4	\$42,778
Orange County	29,846	76.0%	26.2%	19.5%	43.4	\$38,709
Orleans County	27,666	63.9%	30.8%	23.5%	39.8	\$34,365
Rutland County	60,366	91.9%	64.8%	62.8%	64.9	\$36,845
Washington County	60,048	71.0%	68.2%	53.5%	87.5	\$43,002
Windham County	45,842	81.0%	32.3%	29.9%	58.4	\$40,284
Windsor County	58,142	96.0%	49.1%	48.0%	60.0	\$43,180
Virginia	8,683,619	92.3%	86.0%	82.1%	219.9	\$47,210
Accomack County	33,191	80.6%	47.8%	41.2%	73.9	\$31,570
Albemarle County	114,534	96.8%	68.4%	67.7%	159.0	\$55,347
Alexandria city	155,525	99.8%	100.0%	99.8%	10,413.2	\$75,884
Alleghany County	14,835	79.8%	57.4%	53.7%	33.2	\$30,143
Amelia County	13,455	71.6%	28.4%	23.2%	37.9	\$34,122
Amherst County	31,589	98.6%	37.3%	37.3%	66.6	\$34,137

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Appomattox County	16,748	98.9%	31.1%	31.0%	50.1	\$31,654
Arlington County	234,000	100.0%	99.8%	99.7%	9,000.9	\$85,221
Augusta County	78,064	71.4%	73.5%	60.0%	80.7	\$35,582
Bath County	4,049	45.0%	12.4%	6.3%	7.7	\$33,856
Bedford County	80,848	98.8%	49.2%	49.1%	106.4	\$40,552
Bland County	6,148	49.1%	34.0%	21.6%	17.2	\$27,904
Botetourt County	34,135	81.2%	70.8%	59.1%	63.1	\$40,289
Bristol city	16,975	100.0%	97.4%	97.4%	1,318.8	\$30,419
Brunswick County	15,921	38.5%	32.6%	8.4%	28.1	\$26,491
Buchanan County	19,352	91.0%	1.8%	1.8%	38.5	\$24,126
Buckingham County	16,982	70.2%	22.7%	17.0%	29.3	\$27,139
Buena Vista city	6,591	98.4%	98.6%	97.5%	1,023.7	\$32,925
Campbell County	55,141	99.4%	65.9%	65.8%	109.6	\$31,877
Caroline County	31,957	53.4%	41.5%	22.1%	60.6	\$38,432
Carroll County	29,147	45.6%	33.3%	17.6%	61.4	\$27,972
Charles City County	6,605	66.9%	50.3%	33.9%	36.1	\$38,351
Charlotte County	11,475	83.6%	34.9%	30.0%	24.1	\$27,159
Charlottesville city	45,373	99.2%	97.8%	97.0%	4,428.8	\$45,625
Chesapeake city	252,488	97.9%	99.4%	97.5%	746.0	\$42,753
Chesterfield County	378,408	98.3%	98.1%	96.6%	893.5	\$45,041
Clarke County	15,266	57.3%	69.2%	43.0%	86.8	\$50,751
Colonial Heights city	18,294	99.8%	100.0%	99.8%	2,432.9	\$37,039
Covington city	5,679	98.1%	98.8%	97.0%	1,038.5	\$24,657
Craig County	4,847	24.2%	40.5%	21.7%	14.8	\$32,020
Culpeper County	54,381	85.5%	66.0%	60.0%	143.4	\$39,062
Cumberland County	9,746	89.1%	47.7%	45.4%	32.8	\$38,099
Danville city	42,229	98.7%	96.9%	95.7%	986.7	\$26,453
Dickenson County	13,725	71.7%	22.0%	20.8%	41.5	\$25,003
Dinwiddie County	28,161	50.4%	58.3%	43.6%	55.9	\$35,506
Emporia city	5,481	98.8%	90.1%	89.2%	793.9	\$24,915
Essex County	10,630	57.9%	53.9%	39.4%	41.3	\$29,021
Fairfax County	1,138,331	99.6%	95.7%	95.3%	2,911.2	\$67,598
Fairfax city	24,835	100.0%	99.0%	98.9%	3,979.7	\$59,688
Falls Church city	14,586	100.0%	100.0%	100.0%	7,127.5	\$83,001
Fauquier County	74,664	70.0%	63.9%	53.5%	115.2	\$54,878
Floyd County	15,619	63.9%	39.3%	28.1%	41.0	\$31,788
Fluvanna County	28,159	99.3%	53.5%	53.3%	98.1	\$48,426
Franklin County	55,074	94.2%	52.1%	51.3%	79.7	\$37,329
Franklin city	8,247	93.1%	99.9%	93.1%	996.3	\$29,683
Frederick County	95,051	80.3%	70.0%	59.8%	230.1	\$43,375
Fredericksburg city	28,757	99.1%	99.7%	98.9%	2,751.8	\$43,063
Galax city	6,730	96.5%	93.6%	90.4%	817.1	\$29,802
Giles County	16,453	73.5%	71.8%	58.1%	46.1	\$31,917
Gloucester County	39,493	84.3%	86.0%	76.2%	181.3	\$39,450
Goochland County	26,109	66.4%	62.5%	44.6%	92.6	\$63,645

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Grayson County	15,343	45.2%	34.3%	20.6%	34.7	\$26,270
Greene County	21,107	84.0%	49.5%	42.0%	135.3	\$39,180
Greensville County	11,226	33.7%	45.4%	11.3%	38.0	\$22,437
Halifax County	33,644	91.6%	50.1%	48.1%	41.1	\$26,440
Hampton city	138,037	98.5%	99.9%	98.4%	2,682.4	\$35,002
Hanover County	112,938	78.8%	93.2%	76.1%	241.5	\$49,110
Harrisonburg city	51,158	94.1%	97.2%	91.7%	2,950.4	\$25,881
Henrico County	333,962	99.0%	98.9%	98.1%	1,429.2	\$47,865
Henry County	49,906	89.7%	60.3%	56.7%	130.5	\$26,097
Highland County	2,301	71.3%	24.8%	22.7%	5.5	\$32,704
Hopewell city	22,962	99.7%	100.0%	99.7%	2,217.6	\$25,664
Isle of Wight County	40,151	77.4%	83.3%	68.9%	127.2	\$45,230
James City County	81,199	97.9%	97.4%	95.5%	570.6	\$50,984
King George County	27,856	69.2%	69.4%	53.1%	155.1	\$44,551
King William County	18,492	54.8%	52.7%	31.8%	67.5	\$36,145
King and Queen County	6,718	45.6%	46.2%	24.5%	21.3	\$38,904
Lancaster County	10,750	74.4%	19.1%	14.7%	80.6	\$46,405
Lee County	21,982	96.8%	48.4%	47.6%	50.5	\$23,257
Lexington city	7,457	99.5%	100.0%	99.5%	2,983.7	\$29,117
Loudoun County	432,085	90.7%	94.9%	86.9%	837.8	\$67,251
Louisa County	40,116	45.3%	41.4%	25.3%	81.0	\$40,803
Lunenburg County	12,031	60.9%	26.2%	22.3%	27.9	\$26,486
Lynchburg city	79,287	94.3%	81.8%	77.4%	1,618.9	\$28,478
Madison County	14,000	55.5%	50.7%	34.8%	43.7	\$35,772
Manassas Park city	16,703	99.9%	100.0%	99.9%	5,505.6	\$41,595
Manassas city	42,642	99.8%	100.0%	99.7%	4,332.2	\$42,958
Martinsville city	13,725	99.1%	86.2%	85.7%	1,252.8	\$27,052
Mathews County	8,490	80.0%	68.3%	55.2%	98.8	\$48,173
Mecklenburg County	30,508	55.8%	43.6%	32.9%	48.8	\$31,010
Middlesex County	10,943	65.2%	41.5%	24.3%	84.0	\$39,111
Montgomery County	98,915	92.2%	82.0%	79.1%	255.7	\$32,776
Nelson County	14,652	96.3%	33.4%	33.1%	31.1	\$42,837
New Kent County	24,986	69.6%	84.6%	64.5%	119.0	\$49,666
Newport News city	184,306	99.7%	99.8%	99.6%	2,671.5	\$36,135
Norfolk city	232,995	92.2%	99.8%	92.0%	4,373.4	\$35,761
Northampton County	11,900	80.2%	56.6%	49.2%	56.2	\$37,321
Northumberland County	12,302	70.4%	27.2%	18.9%	64.3	\$45,156
Norton city	3,609	100.0%	94.8%	94.8%	482.7	\$27,666
Nottoway County	15,559	78.8%	67.3%	57.0%	49.5	\$27,223
Orange County	37,991	91.1%	68.8%	64.6%	111.4	\$41,650
Page County	23,750	61.7%	67.7%	50.3%	76.6	\$30,146
Patrick County	17,643	25.9%	38.1%	15.0%	36.5	\$32,883
Petersburg city	33,394	96.4%	99.4%	95.8%	1,469.8	\$28,146
Pittsylvania County	59,952	96.9%	60.8%	59.9%	61.9	\$28,428

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Poquoson city	12,582	99.8%	99.8%	99.6%	819.3	\$47,329
Portsmouth city	97,029	98.4%	100.0%	98.4%	2,913.7	\$31,457
Powhatan County	31,489	90.5%	70.0%	63.7%	121.0	\$47,268
Prince Edward County	21,927	99.4%	52.0%	51.8%	62.7	\$25,205
Prince George County	43,134	92.7%	82.8%	76.9%	162.6	\$31,801
Prince William County	486,943	97.8%	95.1%	93.1%	1,452.4	\$48,958
Pulaski County	33,706	79.4%	71.1%	62.0%	105.4	\$34,870
Radford city	16,738	98.1%	90.0%	88.7%	1,729.8	\$24,835
Rappahannock County	7,502	43.8%	45.9%	33.9%	28.2	\$54,654
Richmond County	9,080	61.9%	34.2%	26.9%	47.4	\$27,620
Richmond city	229,395	99.6%	100.0%	99.6%	3,828.0	\$42,132
Roanoke County	96,914	98.3%	79.5%	79.2%	386.8	\$43,125
Roanoke city	97,847	99.6%	94.6%	94.3%	2,301.1	\$33,206
Rockbridge County	22,593	77.3%	52.8%	45.3%	37.9	\$37,087
Rockingham County	85,397	72.3%	80.1%	61.1%	100.5	\$37,180
Russell County	25,448	91.5%	62.0%	58.3%	53.7	\$25,939
Salem city	25,523	99.7%	95.6%	95.3%	1,758.4	\$37,991
Scott County	21,476	80.8%	54.9%	48.6%	40.1	\$26,681
Shenandoah County	44,968	77.9%	72.4%	63.1%	88.5	\$34,170
Smyth County	29,449	94.9%	50.2%	48.6%	65.2	\$26,660
Southampton County	17,932	41.9%	63.8%	31.7%	29.9	\$32,218
Spotsylvania County	146,688	91.8%	77.1%	74.4%	365.4	\$44,881
Stafford County	163,380	96.6%	88.9%	86.3%	606.9	\$48,971
Staunton city	25,904	98.1%	94.7%	92.7%	1,300.4	\$34,581
Suffolk city	98,537	88.6%	96.5%	86.9%	246.9	\$44,004
Surry County	6,527	92.7%	65.7%	61.8%	23.4	\$36,497
Sussex County	10,680	64.7%	48.7%	38.5%	21.8	\$28,788
Tazewell County	39,821	92.0%	60.9%	59.7%	76.8	\$27,327
Virginia Beach city	455,618	99.0%	99.6%	98.6%	1,861.8	\$45,320
Warren County	41,440	83.7%	53.1%	45.7%	193.1	\$37,706
Washington County	53,958	90.3%	63.9%	61.4%	96.1	\$33,900
Waynesboro city	22,808	98.4%	99.4%	97.8%	1,523.6	\$30,380
Westmoreland County	18,712	73.0%	52.8%	38.6%	81.6	\$35,850
Williamsburg city	15,909	98.7%	99.2%	98.0%	1,779.9	\$35,264
Winchester city	27,936	99.6%	98.5%	98.2%	3,038.9	\$36,012
Wise County	35,421	95.2%	54.4%	53.5%	87.8	\$23,702
Wythe County	28,111	60.2%	58.0%	42.6%	60.9	\$31,810
York County	71,341	98.6%	98.7%	97.4%	681.3	\$47,722
Washington	7,785,786	91.5%	91.7%	86.5%	117.2	\$48,685
Adams County	20,961	55.4%	82.0%	50.7%	10.9	\$24,609
Asotin County	22,508	95.0%	91.8%	90.9%	35.4	\$36,800
Benton County	212,791	97.6%	93.5%	91.6%	125.2	\$39,668
Chelan County	79,926	91.5%	87.5%	83.9%	27.4	\$39,746
Clallam County	77,805	66.1%	74.2%	55.8%	44.7	\$38,181
Clark County	516,779	90.8%	94.1%	89.8%	822.2	\$43,872

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Columbia County	4,026	66.2%	74.7%	65.8%	4.6	\$40,774
Cowlitz County	111,956	83.6%	76.2%	71.4%	98.1	\$35,526
Douglas County	44,192	92.9%	93.2%	88.6%	24.3	\$39,867
Ferry County	7,448	24.3%	40.3%	17.6%	3.4	\$31,355
Franklin County	98,678	88.4%	73.8%	64.0%	79.5	\$31,346
Garfield County	2,363	64.4%	63.9%	57.9%	3.3	\$31,187
Grant County	101,311	85.1%	85.3%	74.5%	37.8	\$29,655
Grays Harbor County	77,038	87.5%	78.9%	72.2%	40.5	\$31,703
Island County	86,625	85.2%	59.7%	51.7%	415.5	\$44,217
Jefferson County	33,589	72.4%	55.2%	43.7%	18.6	\$44,289
King County	2,266,789	98.4%	98.5%	97.2%	1,071.7	\$66,811
Kitsap County	277,673	93.5%	87.1%	82.6%	702.8	\$47,713
Kittitas County	45,189	97.2%	94.3%	92.8%	19.7	\$39,399
Klickitat County	23,271	41.6%	69.4%	39.3%	12.4	\$38,760
Lewis County	85,370	54.1%	79.7%	48.3%	35.5	\$32,800
Lincoln County	11,601	7.0%	65.8%	6.2%	5.0	\$36,741
Mason County	68,166	83.0%	44.0%	38.4%	71.0	\$37,088
Okanogan County	43,127	32.9%	66.7%	26.8%	8.2	\$29,777
Pacific County	24,113	79.9%	68.1%	57.0%	25.8	\$36,899
Pend Oreille County	14,179	53.5%	61.1%	31.9%	10.1	\$33,981
Pierce County	927,380	94.8%	95.6%	92.0%	556.0	\$43,575
San Juan County	18,662	69.8%	47.4%	39.3%	107.3	\$59,650
Skagit County	131,179	87.5%	83.7%	76.0%	75.8	\$41,191
Skamania County	12,460	33.7%	66.3%	30.9%	7.5	\$42,162
Snohomish County	840,079	93.9%	96.4%	91.9%	402.6	\$49,215
Spokane County	549,690	88.3%	97.7%	88.0%	311.6	\$38,052
Stevens County	48,229	34.7%	61.6%	31.1%	19.5	\$32,904
Thurston County	298,758	91.0%	86.1%	81.8%	413.5	\$42,306
Wahkiakum County	4,688	68.1%	56.5%	46.8%	17.8	\$31,643
Walla Walla County	61,890	88.6%	80.4%	73.4%	48.7	\$34,476
Whatcom County	230,677	88.9%	83.7%	77.4%	109.4	\$40,916
Whitman County	47,619	80.5%	79.3%	70.1%	22.1	\$30,287
Yakima County	257,001	94.9%	94.8%	90.9%	59.8	\$27,448
West Virginia	1,775,156	70.5%	66.4%	54.8%	73.8	\$31,462
Barbour County	15,414	7.8%	44.2%	4.4%	45.2	\$24,947
Berkeley County	129,490	88.5%	87.6%	80.7%	403.2	\$35,909
Boone County	20,968	68.5%	32.7%	22.2%	41.8	\$26,242
Braxton County	12,185	36.5%	43.4%	30.3%	23.9	\$21,948
Brooke County	21,733	89.2%	67.0%	63.5%	243.7	\$30,400
Cabell County	92,730	89.0%	88.6%	82.9%	330.0	\$30,068
Calhoun County	6,068	3.1%	13.1%	0.9%	21.7	\$22,982
Clay County	7,814	12.3%	14.4%	1.3%	22.9	\$23,264
Doddridge County	7,698	44.1%	33.0%	26.1%	24.1	\$29,652
Fayette County	39,487	55.6%	53.7%	34.1%	59.7	\$24,818
Gilmer County	7,325	29.9%	49.1%	23.9%	21.6	\$20,653

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Grant County	10,968	39.4%	43.1%	26.5%	23.0	\$28,274
Greenbrier County	32,435	41.3%	53.8%	26.5%	31.8	\$29,992
Hampshire County	23,468	24.1%	44.4%	17.1%	36.6	\$28,713
Hancock County	28,172	90.2%	86.2%	82.1%	341.0	\$34,257
Hardy County	14,192	82.7%	51.4%	45.9%	24.4	\$30,667
Harrison County	64,915	76.3%	75.8%	66.6%	156.0	\$32,658
Jackson County	27,716	53.1%	68.2%	46.7%	59.7	\$34,014
Jefferson County	58,979	90.7%	69.4%	64.0%	281.8	\$42,359
Kanawha County	175,515	75.9%	81.4%	66.3%	194.7	\$34,976
Lewis County	16,767	61.7%	52.8%	45.0%	43.3	\$31,444
Lincoln County	19,901	48.4%	23.7%	15.2%	45.5	\$26,713
Logan County	31,316	50.2%	24.0%	13.4%	69.0	\$26,111
Marion County	55,952	80.6%	79.5%	70.5%	181.2	\$31,740
Marshall County	29,752	76.2%	48.0%	42.3%	97.4	\$33,673
Mason County	25,000	44.5%	54.0%	32.9%	58.0	\$31,085
McDowell County	17,850	82.3%	16.7%	10.9%	33.5	\$15,353
Mercer County	58,700	74.2%	71.5%	58.0%	140.1	\$27,245
Mineral County	26,855	76.6%	74.4%	62.5%	81.9	\$33,580
Mingo County	22,573	60.9%	2.5%	2.1%	53.3	\$21,342
Monongalia County	106,869	91.8%	86.5%	82.8%	296.8	\$38,757
Monroe County	12,296	46.9%	20.1%	12.8%	26.0	\$26,120
Morgan County	17,430	46.6%	57.1%	34.3%	76.1	\$33,029
Nicholas County	24,335	44.2%	52.1%	27.2%	37.6	\$27,744
Ohio County	41,447	93.4%	88.0%	85.0%	391.6	\$36,191
Pendleton County	6,011	62.9%	28.6%	21.7%	8.6	\$27,513
Pleasants County	7,586	54.7%	46.6%	33.7%	58.3	\$39,138
Pocahontas County	7,819	17.8%	14.7%	0.7%	8.3	\$23,736
Preston County	34,172	66.3%	58.7%	45.5%	52.7	\$27,848
Putnam County	57,015	76.9%	74.0%	64.1%	164.9	\$38,589
Raleigh County	72,882	74.8%	71.7%	57.5%	120.4	\$27,724
Randolph County	27,600	37.4%	54.6%	26.1%	26.5	\$26,289
Ritchie County	8,207	82.6%	40.2%	37.8%	18.2	\$27,997
Roane County	13,834	26.3%	42.6%	22.8%	28.6	\$24,849
Summers County	11,762	27.3%	62.9%	23.5%	32.6	\$24,507
Taylor County	16,342	71.7%	73.1%	59.6%	94.6	\$30,095
Tucker County	6,568	63.7%	58.9%	52.6%	15.7	\$32,590
Tyler County	8,183	24.7%	49.2%	20.7%	31.9	\$29,891
Upshur County	23,712	43.3%	37.2%	23.5%	66.9	\$28,855
Wayne County	37,998	62.5%	61.6%	50.2%	75.1	\$29,774
Webster County	8,167	56.0%	51.5%	43.9%	14.8	\$23,494
Wetzel County	14,025	48.5%	43.2%	33.7%	39.2	\$27,174
Wirt County	5,091	25.6%	44.1%	13.5%	21.9	\$26,966
Wood County	83,340	84.5%	83.9%	75.6%	227.4	\$31,932
Wyoming County	20,527	85.1%	23.2%	21.7%	41.1	\$22,818
Wisconsin	5,892,539	89.1%	83.0%	78.4%	108.8	\$40,130

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Adams County	21,226	69.8%	29.8%	19.8%	32.9	\$32,223
Ashland County	16,039	69.3%	42.7%	35.8%	15.3	\$31,563
Barron County	46,843	78.7%	65.8%	57.2%	54.3	\$34,146
Bayfield County	16,608	85.2%	27.7%	23.7%	11.2	\$39,449
Brown County	270,036	99.0%	97.0%	96.2%	509.4	\$39,091
Buffalo County	13,391	79.8%	9.5%	8.3%	19.8	\$34,866
Burnett County	17,036	69.6%	37.2%	32.5%	20.7	\$36,322
Calumet County	52,718	99.7%	88.0%	87.7%	165.6	\$42,110
Chippewa County	66,807	81.6%	76.9%	65.5%	66.3	\$36,180
Clark County	34,691	37.0%	48.6%	28.6%	28.7	\$29,589
Columbia County	58,193	83.5%	70.6%	62.7%	76.0	\$40,144
Crawford County	16,007	60.8%	47.5%	43.7%	28.1	\$32,129
Dane County	568,203	94.5%	96.5%	92.2%	474.9	\$49,280
Dodge County	88,282	99.4%	78.8%	78.5%	100.8	\$35,949
Door County	30,526	64.2%	64.7%	45.9%	63.3	\$45,367
Douglas County	44,144	69.8%	77.7%	65.4%	33.8	\$35,646
Dunn County	45,651	78.4%	62.8%	53.6%	53.7	\$34,615
Eau Claire County	106,837	88.9%	90.2%	83.4%	167.5	\$38,529
Florence County	4,688	38.9%	29.6%	21.7%	9.6	\$36,746
Fond du Lac County	103,836	98.9%	97.4%	96.4%	144.3	\$36,824
Forest County	9,381	50.0%	15.1%	10.1%	9.2	\$30,310
Grant County	51,276	64.8%	42.4%	30.7%	44.7	\$32,097
Green County	36,816	58.8%	73.6%	55.6%	63.0	\$40,954
Green Lake County	19,220	68.7%	66.3%	49.5%	55.0	\$35,222
Iowa County	23,865	56.5%	41.9%	28.8%	31.3	\$39,330
Iron County	6,224	40.5%	36.2%	19.8%	8.2	\$34,669
Jackson County	20,836	41.4%	46.2%	30.4%	21.1	\$32,659
Jefferson County	85,784	98.3%	88.0%	87.0%	154.2	\$39,035
Juneau County	26,866	57.1%	52.6%	37.5%	35.0	\$31,211
Kenosha County	167,817	94.4%	94.4%	89.7%	617.3	\$38,720
Kewaunee County	20,623	91.5%	95.7%	88.0%	60.2	\$38,012
La Crosse County	120,294	91.5%	80.8%	76.7%	266.3	\$39,498
Lafayette County	16,877	43.6%	44.3%	22.6%	26.6	\$33,484
Langlade County	19,559	84.3%	48.9%	45.3%	22.5	\$32,989
Lincoln County	28,376	53.2%	39.9%	30.0%	32.3	\$35,558
Manitowoc County	81,172	97.3%	89.5%	88.2%	137.7	\$35,854
Marathon County	137,958	75.1%	55.8%	48.5%	89.3	\$38,886
Marinette County	41,988	60.6%	41.3%	34.1%	30.0	\$33,952
Marquette County	15,779	66.0%	41.0%	31.2%	34.6	\$33,291
Menominee County	4,197	90.8%	24.4%	23.0%	11.7	\$24,004
Milwaukee County	918,661	99.6%	99.5%	99.2%	3,804.3	\$35,039
Monroe County	46,109	60.5%	61.9%	46.4%	51.2	\$33,256
Oconto County	39,633	85.4%	49.0%	46.7%	39.7	\$37,124
Oneida County	38,212	63.6%	21.4%	18.4%	34.3	\$40,086
Outagamie County	192,127	97.8%	91.3%	89.8%	301.3	\$42,923

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Ozaukee County	93,009	98.3%	95.5%	94.0%	399.1	\$55,948
Pepin County	7,410	81.4%	40.2%	33.1%	31.9	\$38,730
Pierce County	42,532	87.9%	74.3%	69.5%	74.1	\$39,439
Polk County	45,709	72.9%	51.6%	40.0%	50.0	\$37,674
Portage County	70,718	92.3%	71.1%	67.7%	88.3	\$37,990
Price County	14,179	57.8%	25.6%	20.4%	11.3	\$33,468
Racine County	195,846	93.5%	92.4%	86.8%	588.8	\$38,288
Richland County	17,090	73.9%	33.8%	28.5%	29.2	\$33,382
Rock County	164,060	91.0%	92.1%	85.7%	228.4	\$35,594
Rusk County	14,186	53.5%	12.9%	9.1%	15.5	\$31,329
Sauk County	65,777	78.1%	55.4%	48.2%	79.1	\$37,431
Sawyer County	18,559	46.5%	34.1%	21.7%	14.8	\$36,167
Shawano County	40,886	89.2%	73.3%	70.4%	45.8	\$34,825
Sheboygan County	117,841	97.4%	89.2%	87.8%	230.4	\$37,454
St. Croix County	96,017	74.4%	93.4%	70.7%	133.0	\$45,810
Taylor County	19,975	32.2%	26.6%	22.9%	20.5	\$32,874
Trempealeau County	30,899	78.1%	27.1%	22.5%	42.2	\$34,694
Vernon County	31,060	93.4%	41.7%	39.2%	39.2	\$32,297
Vilas County	23,763	40.9%	14.1%	4.4%	27.7	\$40,136
Walworth County	105,380	87.4%	79.3%	70.5%	189.7	\$40,386
Washburn County	16,911	37.3%	42.8%	26.2%	21.2	\$34,396
Washington County	137,688	99.3%	94.0%	93.5%	319.7	\$45,821
Waukesha County	410,434	98.7%	95.6%	94.4%	746.6	\$55,573
Waupaca County	51,488	69.2%	70.8%	56.3%	68.9	\$39,147
Waushara County	24,999	43.7%	56.4%	27.8%	39.9	\$37,927
Winnebago County	170,718	96.4%	95.3%	93.5%	392.7	\$37,983
Wood County	73,993	82.2%	64.4%	58.3%	93.3	\$36,712
Wyoming	581,381	87.7%	70.3%	66.2%	6.0	\$39,547
Albany County	38,031	97.5%	45.1%	44.8%	8.9	\$34,969
Big Horn County	11,855	47.8%	60.4%	38.7%	3.8	\$29,746
Campbell County	47,058	91.7%	81.5%	79.1%	9.8	\$39,781
Carbon County	14,542	84.1%	68.0%	58.7%	1.8	\$33,905
Converse County	13,786	90.3%	66.1%	63.3%	3.2	\$37,976
Crook County	7,448	49.0%	50.4%	33.9%	2.6	\$33,386
Fremont County	39,472	88.4%	55.3%	53.6%	4.3	\$30,414
Goshen County	12,562	95.2%	65.2%	64.5%	5.6	\$32,693
Hot Springs County	4,588	75.0%	82.4%	72.2%	2.3	\$33,128
Johnson County	8,730	81.1%	32.8%	25.6%	2.1	\$37,691
Laramie County	100,723	95.3%	93.1%	90.3%	37.5	\$41,104
Lincoln County	20,660	72.0%	51.8%	39.7%	5.1	\$38,245
Natrona County	79,601	98.1%	96.3%	95.4%	14.9	\$40,346
Niobrara County	2,380	86.9%	72.5%	70.3%	0.9	\$29,442
Park County	30,518	63.0%	65.6%	52.4%	4.4	\$37,544
Platte County	8,645	92.7%	74.1%	72.2%	4.2	\$37,756
Sheridan County	32,096	94.3%	64.5%	62.9%	12.7	\$39,656

State, Territory, County or County Equivalent	Pop. Evaluated	% of Pop. With Fixed 100/20 Mbps	% of Pop. With Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Density	Per Capita Income
Sublette County	8,763	74.9%	51.9%	51.1%	1.8	\$54,704
Sweetwater County	41,345	93.4%	41.6%	38.6%	4.0	\$40,268
Teton County	23,287	89.2%	80.3%	76.7%	5.8	\$76,296
Uinta County	20,712	56.6%	27.3%	19.4%	9.9	\$32,955
Washakie County	7,719	81.4%	73.6%	67.3%	3.4	\$32,979
Weston County	6,860	82.7%	71.5%	67.7%	2.9	\$37,067

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022.

APPX. B-13

Service Availability (Millions) of Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps Services By State and County Segmented by Urban and Rural Areas, Including U.S. Territories (December 31, 2022)

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Alabama	2,919,221	96.0%	97.8%	93.9%	2,155,075	64.9%	67.7%	49.2%
Autauga County	35,416	97.3%	99.8%	97.2%	24,343	91.3%	77.9%	71.6%
Baldwin County	152,954	85.8%	96.1%	82.1%	93,481	49.5%	83.6%	44.7%
Barbour County	8,412	92.7%	82.4%	77.6%	16,294	45.0%	44.2%	24.5%
Bibb County					22,005	14.8%	49.8%	11.3%
Blount County	5,648	27.7%	97.5%	27.6%	53,864	35.4%	66.0%	27.1%
Bullock County					10,202	85.0%	5.1%	3.4%
Butler County	5,699	96.8%	93.6%	90.5%	12,951	47.8%	39.1%	21.6%
Calhoun County	72,872	99.9%	99.9%	99.9%	42,916	78.8%	86.9%	72.7%
Chambers County	16,688	97.2%	95.3%	92.7%	17,400	66.3%	58.7%	49.9%
Cherokee County					25,302	31.7%	49.3%	26.1%
Chilton County	6,719	17.8%	96.6%	17.8%	39,165	53.4%	38.8%	16.5%
Choctaw County					12,439	21.5%	32.0%	7.6%
Clarke County					22,515	40.9%	55.2%	34.3%
Clay County					14,198	30.1%	39.0%	20.8%
Cleburne County					15,346	13.7%	33.0%	4.7%
Coffee County	29,037	95.4%	64.8%	61.0%	25,768	66.2%	39.2%	27.9%
Colbert County	34,665	98.8%	98.9%	97.8%	23,368	49.2%	58.9%	31.6%
Conecuh County					11,206	33.9%	44.5%	25.6%
Coosa County					10,166	73.8%	41.0%	35.9%
Covington County	11,776	99.6%	94.1%	93.7%	25,826	85.7%	46.9%	44.4%
Crenshaw County					13,025	53.7%	51.7%	31.9%
Cullman County	21,983	94.7%	92.4%	87.3%	68,682	68.8%	59.0%	42.8%
Dale County	20,810	71.6%	74.9%	55.5%	28,734	62.1%	55.2%	39.7%
Dallas County	20,115	90.9%	74.8%	69.9%	16,652	49.7%	23.9%	12.4%
DeKalb County	7,813	98.3%	99.7%	98.0%	64,185	83.3%	59.5%	50.8%
Elmore County	25,144	95.7%	99.7%	95.5%	64,419	82.9%	81.5%	67.7%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Escambia County	12,886	99.8%	96.2%	96.2%	23,780	34.1%	48.3%	20.1%
Etowah County	59,102	99.1%	99.4%	98.6%	43,986	74.3%	69.0%	56.1%
Fayette County					16,118	50.1%	45.9%	27.8%
Franklin County	9,697	87.7%	95.2%	83.0%	22,235	44.9%	60.4%	36.3%
Geneva County	152	100.0%	100.0%	100.0%	26,631	58.6%	53.3%	39.8%
Greene County					7,422	21.1%	57.5%	21.1%
Hale County					14,595	47.0%	54.7%	36.7%
Henry County					17,655	47.4%	55.0%	40.7%
Houston County	70,573	99.1%	96.2%	95.5%	37,506	62.0%	64.4%	46.8%
Jackson County	13,013	98.2%	59.4%	59.0%	39,878	89.1%	44.3%	39.6%
Jefferson County	585,180	96.7%	99.2%	96.0%	80,229	79.4%	89.7%	72.9%
Lamar County					13,705	96.5%	44.4%	42.7%
Lauderdale County	45,274	99.2%	98.9%	98.2%	50,604	65.6%	80.5%	56.6%
Lawrence County	2	100.0%	100.0%	100.0%	33,212	92.3%	63.4%	58.4%
Lee County	129,792	97.7%	96.3%	94.1%	50,981	85.5%	69.9%	62.0%
Limestone County	54,344	96.3%	99.7%	96.1%	56,556	77.6%	95.3%	76.3%
Lowndes County					9,777	26.7%	19.5%	8.6%
Macon County	8,237	96.1%	80.3%	76.5%	10,279	38.7%	29.5%	15.3%
Madison County	333,497	99.3%	99.8%	99.1%	70,068	93.3%	92.1%	86.7%
Marengo County	5,907	97.9%	100.0%	97.9%	12,838	57.3%	49.1%	31.6%
Marion County					29,156	99.6%	65.3%	65.2%
Marshall County	46,056	98.7%	99.0%	97.7%	53,367	87.8%	84.9%	76.4%
Mobile County	318,856	98.6%	98.6%	97.3%	92,555	60.4%	82.7%	52.4%
Monroe County	4,105	96.7%	83.2%	80.1%	15,299	41.3%	33.6%	17.7%
Montgomery County	198,802	94.2%	99.9%	94.1%	27,559	76.0%	75.1%	58.1%
Morgan County	76,203	95.4%	96.9%	92.5%	48,008	69.2%	65.5%	49.6%
Perry County					8,035	21.4%	35.8%	20.2%
Pickens County					18,697	48.7%	59.4%	40.7%
Pike County	14,248	61.0%	96.2%	58.6%	18,766	53.2%	50.1%	28.9%
Randolph County					22,479	33.9%	47.1%	25.2%
Russell County	34,555	91.0%	100.0%	91.0%	24,000	77.5%	87.2%	73.4%
Shelby County	174,036	96.7%	99.6%	96.3%	56,079	60.5%	91.6%	57.0%
St. Clair County	31,014	98.1%	98.8%	97.1%	62,918	79.5%	90.7%	74.5%
Sumter County					11,853	43.2%	62.2%	39.1%
Talladega County	32,456	94.4%	99.2%	93.7%	48,248	69.4%	91.5%	64.7%
Tallapoosa County	8,616	93.7%	83.5%	78.8%	32,361	79.9%	41.8%	36.7%
Tuscaloosa County	163,766	97.6%	99.9%	97.5%	73,014	70.9%	85.8%	65.4%
Walker County	13,101	92.9%	99.8%	92.8%	51,238	56.8%	88.1%	53.4%
Washington County					15,122	19.6%	28.1%	11.3%
Wilcox County					10,059	34.7%	18.5%	9.1%
Winston County					23,755	45.8%	51.2%	30.5%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Alaska	466,216	97.1%	81.2%	79.9%	267,383	46.5%	31.7%	22.4%
Aleutians East Borough					3,398	0.0%	0.0%	0.0%
Aleutians West Census Area					5,122	3.5%	0.0%	0.0%
Anchorage Municipality	270,072	99.0%	86.5%	85.7%	17,073	64.4%	48.8%	43.8%
Bethel Census Area	5,318	0.0%	0.0%	0.0%	12,939	0.0%	0.0%	0.0%
Bristol Bay Borough					865	0.0%	0.0%	0.0%
Chugach Census Area					6,874	49.1%	42.0%	38.3%
Copper River Census Area					2,589	69.3%	0.0%	0.0%
Denali Borough					1,585	2.6%	13.9%	0.1%
Dillingham Census Area					4,723	0.0%	0.0%	0.0%
Fairbanks North Star Borough	69,275	97.2%	78.0%	76.3%	26,081	66.9%	46.6%	32.6%
Haines Borough					2,056	39.0%	0.2%	0.0%
Hoonah-Angoon Census Area					2,287	39.0%	18.1%	17.6%
Juneau City and Borough	24,275	99.7%	78.3%	78.0%	7,410	92.9%	69.5%	68.5%
Kenai Peninsula Borough	13,548	98.3%	65.9%	65.6%	47,142	74.6%	46.8%	39.0%
Ketchikan Gateway Borough	11,766	99.6%	60.4%	60.4%	1,975	91.3%	36.4%	33.1%
Kodiak Island Borough	9,539	99.7%	70.4%	70.2%	3,181	31.3%	42.8%	26.1%
Kusilvak Census Area					8,278	0.0%	0.0%	0.0%
Lake and Peninsula Borough					1,381	0.0%	0.0%	0.0%
Matanuska-Susitna Borough	54,824	94.0%	89.7%	84.7%	58,501	42.1%	48.7%	26.0%
Nome Census Area					9,835	40.0%	0.0%	0.0%
North Slope Borough					10,805	52.7%	0.0%	0.0%
Northwest Arctic Borough					7,423	39.5%	0.0%	0.0%
Petersburg Borough					3,360	93.0%	0.0%	0.0%
Prince of Wales-Hyder Census Area					5,666	3.9%	0.1%	0.0%
Sitka City and Borough	7,599	99.2%	0.0%	0.0%	783	75.2%	0.0%	0.0%
Skagway Municipality					1,081	55.6%	84.6%	54.5%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Southeast Fairbanks Census Area					7,021	5.4%	21.6%	4.3%
Wrangell City and Borough					2,070	85.7%	0.0%	0.0%
Yakutat City and Borough					700	0.0%	0.0%	0.0%
Yukon-Koyukuk Census Area					5,179	0.0%	8.8%	0.0%
American Samoa	34,472	27.2%	0.0%	0.0%	10,971	5.8%	0.0%	0.0%
Eastern District	8,551	44.5%	0.0%	0.0%	6,483	7.8%	0.0%	0.0%
Manu'a District					777	0.0%	0.0%	0.0%
Western District	25,921	21.5%	0.0%	0.0%	3,711	3.6%	0.0%	0.0%
Arizona	5,566,249	7.5%	9.4%	7.0%	92,948	5.0%	72.2%	47.9%
Apache County					65,432	2.4%	17.5%	0.9%
Cochise County	76,712	47.0%	99.7%	46.8%	48,951	34.0%	70.8%	22.6%
Coconino County	95,562	86.6%	99.8%	86.5%	48,498	37.2%	62.9%	33.0%
Gila County	29,922	74.7%	99.9%	74.7%	24,000	28.8%	79.9%	26.2%
Graham County	18,571	99.9%	47.0%	46.9%	20,208	71.1%	61.5%	48.5%
Greenlee County					9,302	68.5%	85.0%	57.8%
La Paz County	9,357	0.8%	80.3%	0.8%	7,149	1.2%	61.1%	1.2%
Maricopa County	4,447,844	99.1%	99.8%	99.0%	103,680	82.0%	94.3%	77.7%
Mohave County	167,967	93.6%	100.0%	93.6%	52,849	32.6%	81.0%	32.6%
Navajo County	42,170	89.6%	76.9%	76.8%	66,480	26.0%	29.1%	17.4%
Pima County	959,343	99.9%	99.7%	99.7%	98,254	91.7%	90.2%	84.9%
Pinal County	356,684	97.7%	99.3%	97.1%	107,470	71.5%	87.8%	65.4%
Santa Cruz County	19,193	99.0%	99.2%	98.3%	29,566	92.9%	65.0%	62.3%
Yavapai County	166,339	83.3%	97.1%	80.9%	79,852	45.5%	75.3%	34.5%
Yuma County	176,585	97.1%	99.9%	97.0%	31,257	70.2%	96.5%	69.7%
Arkansas	1,686,298	96.0%	97.8%	94.0%	1,359,339	62.4%	61.9%	42.0%
Arkansas County	7,791	89.7%	100.0%	89.7%	8,721	2.0%	57.7%	2.0%
Ashley County	7,101	95.6%	26.5%	22.7%	11,253	42.4%	39.3%	25.0%
Baxter County	18,030	97.7%	99.0%	96.8%	24,405	98.0%	51.1%	50.1%
Benton County	227,049	99.7%	99.3%	99.0%	75,814	55.1%	83.0%	52.6%
Boone County	14,081	99.6%	95.0%	94.6%	24,203	41.7%	63.0%	28.0%
Bradley County	5,129	99.1%	63.9%	63.8%	5,006	56.4%	31.7%	22.4%
Calhoun County					4,695	84.5%	18.2%	14.3%
Carroll County	5,142	99.0%	96.2%	95.3%	23,600	45.6%	69.1%	40.3%
Chicot County					9,873	70.7%	67.3%	56.7%
Clark County	9,725	92.0%	98.1%	90.2%	11,525	89.4%	40.2%	36.2%
Clay County					14,265	86.9%	37.0%	34.8%
Cleburne County	6,979	89.2%	98.1%	87.5%	18,305	31.8%	51.0%	20.0%
Cleveland County					7,467	0.4%	30.9%	0.1%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Columbia County	10,214	89.2%	77.7%	70.8%	12,002	42.4%	48.7%	20.4%
Conway County	6,491	87.4%	94.3%	82.8%	14,555	52.2%	64.4%	34.6%
Craighead County	74,487	92.0%	94.5%	86.8%	38,530	95.1%	66.6%	62.8%
Crawford County	31,132	99.9%	99.9%	99.9%	29,943	95.7%	72.9%	69.9%
Crittenden County	38,302	99.3%	97.9%	97.3%	8,759	57.7%	71.4%	46.2%
Cross County	7,595	100.0%	95.8%	95.8%	9,006	51.7%	30.3%	18.5%
Dallas County					6,191	60.7%	66.3%	50.7%
Desha County	4,082	99.8%	100.0%	99.8%	6,689	82.1%	60.0%	55.2%
Drew County	7,569	99.7%	71.6%	71.4%	9,342	44.6%	22.7%	10.9%
Faulkner County	67,612	98.8%	99.9%	98.8%	60,053	58.9%	88.3%	54.3%
Franklin County					17,271	57.5%	61.9%	35.0%
Fulton County					12,382	98.1%	45.2%	44.6%
Garland County	66,736	99.1%	93.6%	93.1%	33,353	60.0%	70.8%	48.7%
Grant County	4,825	87.8%	95.4%	83.6%	13,335	61.3%	30.5%	17.6%
Greene County	24,184	100.0%	96.5%	96.5%	22,264	99.7%	52.7%	52.6%
Hempstead County	8,743	99.9%	99.9%	99.8%	10,710	49.3%	36.0%	26.7%
Hot Spring County	8,866	94.1%	92.4%	87.1%	24,337	53.6%	32.4%	20.3%
Howard County					12,557	71.2%	58.9%	47.1%
Independence County	10,890	91.8%	98.0%	89.9%	27,055	40.9%	62.7%	33.0%
Izard County					14,048	87.5%	32.8%	31.3%
Jackson County	6,149	93.4%	100.0%	93.4%	10,475	42.6%	47.4%	29.5%
Jefferson County	44,166	84.8%	99.8%	84.7%	20,080	13.1%	76.6%	12.0%
Johnson County	7,840	99.4%	100.0%	99.4%	18,161	84.0%	61.0%	53.1%
Lafayette County					6,101	40.6%	33.3%	20.7%
Lawrence County	6,639	89.0%	94.9%	84.2%	9,566	93.6%	39.3%	36.5%
Lee County					8,364	43.2%	50.7%	39.8%
Lincoln County					12,916	36.7%	27.4%	16.0%
Little River County					11,821	57.2%	53.0%	37.3%
Logan County					21,253	27.7%	62.8%	21.6%
Lonoke County	35,760	55.3%	100.0%	55.3%	39,465	65.1%	94.7%	61.8%
Madison County					17,486	83.1%	42.1%	37.4%
Marion County					17,254	46.1%	56.3%	30.8%
Miller County	25,313	99.8%	98.1%	98.0%	17,239	95.3%	55.6%	53.0%
Mississippi County	21,139	92.2%	97.8%	90.1%	17,757	85.7%	44.9%	37.2%
Monroe County					6,564	0.2%	33.6%	0.2%
Montgomery County					8,556	33.0%	41.7%	21.9%
Nevada County					8,181	65.2%	35.9%	28.0%
Newton County					7,078	2.5%	40.4%	0.4%
Ouachita County	9,618	99.1%	99.7%	98.9%	12,431	66.8%	57.7%	45.7%
Perry County					10,063	91.0%	60.9%	57.2%
Phillips County	8,056	92.3%	97.6%	90.4%	7,248	47.7%	59.8%	35.4%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Pike County					10,179	97.0%	42.4%	41.6%
Poinsett County	7,657	100.0%	98.4%	98.4%	14,838	77.6%	46.1%	28.7%
Polk County	5,614	99.9%	58.0%	57.9%	13,723	32.5%	31.9%	11.8%
Pope County	27,276	94.8%	99.7%	94.5%	36,789	57.1%	75.4%	44.5%
Prairie County					8,069	71.3%	76.7%	58.0%
Pulaski County	353,301	98.9%	99.8%	98.7%	45,844	63.8%	93.5%	61.8%
Randolph County	7,360	94.4%	88.0%	82.7%	11,477	84.0%	28.7%	26.5%
Saline County	80,237	98.5%	99.5%	98.1%	47,120	81.6%	89.7%	74.4%
Scott County					9,805	29.0%	60.4%	26.7%
Searcy County					7,918	23.7%	54.4%	21.0%
Sebastian County	103,362	99.9%	99.8%	99.8%	25,697	90.1%	77.3%	69.4%
Sevier County	5,828	98.8%	92.9%	92.4%	9,858	62.6%	32.4%	23.8%
Sharp County					17,810	82.9%	32.0%	26.3%
St. Francis County	8,041	96.9%	82.0%	80.4%	14,410	25.0%	41.1%	18.9%
Stone County					12,575	12.7%	39.2%	3.3%
Union County	18,255	89.7%	91.1%	81.9%	19,497	42.3%	42.8%	20.5%
Van Buren County					16,102	58.2%	48.3%	28.0%
Washington County	194,804	99.9%	99.5%	99.5%	61,250	99.6%	77.0%	76.8%
White County	33,915	54.8%	99.3%	54.8%	43,840	36.2%	71.1%	28.1%
Woodruff County					6,049	53.1%	85.2%	52.3%
Yell County	3,213	86.0%	95.9%	83.0%	16,916	58.6%	55.8%	34.3%
California	6,734,588	98.1%	99.1%	97.3%	2,294,754	65.9%	79.4%	55.4%
Alameda County	1,621,032	99.8%	99.4%	99.2%	7,965	66.7%	82.0%	59.8%
Alpine County					1,190	10.1%	41.0%	10.0%
Amador County	12,652	97.6%	96.9%	94.8%	28,760	29.6%	47.2%	19.2%
Butte County	163,475	99.5%	98.6%	98.2%	43,828	76.7%	73.3%	63.8%
Calaveras County	8,308	99.1%	43.8%	43.6%	38,255	75.8%	54.5%	45.6%
Colusa County	12,522	99.3%	92.5%	91.9%	9,392	92.4%	84.5%	79.9%
Contra Costa County	1,145,356	99.6%	99.1%	98.7%	11,610	59.3%	84.7%	54.9%
Del Norte County	15,642	92.9%	94.8%	88.3%	11,440	65.9%	70.8%	49.2%
El Dorado County	120,859	97.1%	99.3%	96.5%	71,787	66.4%	80.8%	56.0%
Fresno County	901,646	99.5%	99.9%	99.5%	113,544	56.1%	92.9%	54.0%
Glenn County	16,412	99.7%	99.8%	99.6%	11,927	92.7%	88.8%	85.9%
Humboldt County	92,403	99.9%	95.4%	95.4%	42,607	83.4%	61.9%	52.1%
Imperial County	145,905	95.2%	99.6%	94.9%	32,808	51.7%	74.0%	40.6%
Inyo County	10,854	25.4%	97.6%	23.8%	7,864	20.0%	57.4%	16.9%
Kern County	797,010	98.1%	99.3%	97.5%	119,098	59.5%	83.8%	51.5%
Kings County	134,503	89.9%	98.3%	89.9%	18,478	47.1%	99.6%	47.1%
Lake County	40,648	98.7%	73.9%	73.0%	27,543	69.8%	66.4%	51.6%
Lassen County	8,655	100.0%	100.0%	100.0%	21,249	70.5%	86.4%	67.5%
Los Angeles County	9,632,013	97.0%	99.4%	96.5%	89,125	73.9%	81.3%	61.3%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Madera County	96,671	98.6%	99.7%	98.4%	63,585	46.1%	87.8%	40.0%
Marin County	240,778	98.9%	86.8%	86.0%	15,240	76.8%	62.4%	51.9%
Mariposa County					17,020	2.0%	50.2%	1.8%
Mendocino County	45,720	99.2%	84.6%	84.5%	44,063	63.9%	39.1%	27.1%
Merced County	240,725	98.9%	99.8%	98.8%	49,289	86.4%	96.8%	84.4%
Modoc County					8,511	41.2%	54.9%	31.3%
Mono County	7,147	93.0%	99.7%	92.8%	5,831	38.7%	61.2%	24.9%
Monterey County	367,045	99.8%	95.6%	95.5%	65,813	93.2%	84.4%	81.6%
Napa County	114,243	98.8%	99.4%	98.3%	20,057	82.7%	76.7%	63.7%
Nevada County	53,034	91.9%	94.5%	87.9%	49,259	63.9%	56.4%	39.5%
Orange County	3,142,650	97.8%	99.7%	97.5%	8,534	91.6%	59.8%	55.5%
Placer County	355,611	97.6%	99.1%	96.9%	62,161	62.8%	82.8%	53.0%
Plumas County					19,351	53.6%	77.0%	49.3%
Riverside County	2,338,131	97.2%	99.6%	96.9%	135,771	60.5%	88.1%	55.1%
Sacramento County	1,545,550	99.3%	99.9%	99.3%	38,619	63.4%	94.4%	60.0%
San Benito County	52,175	100.0%	88.9%	88.9%	15,404	94.0%	84.0%	82.3%
San Bernardino County	2,072,759	95.8%	99.5%	95.4%	120,897	55.1%	92.4%	51.8%
San Diego County	3,137,183	99.5%	98.8%	98.4%	139,025	74.0%	82.5%	65.9%
San Francisco County	808,436	99.5%	99.9%	99.4%	1	0.0%	100.0%	0.0%
San Joaquin County	731,129	99.6%	100.0%	99.6%	62,100	82.2%	94.5%	77.9%
San Luis Obispo County	225,244	99.4%	96.5%	96.0%	56,769	82.5%	80.8%	70.7%
San Mateo County	716,943	99.5%	99.1%	98.7%	12,238	73.7%	60.0%	51.9%
Santa Barbara County	418,183	98.3%	97.6%	96.1%	25,654	38.8%	62.0%	31.9%
Santa Clara County	1,845,662	99.8%	99.7%	99.6%	25,283	93.8%	85.3%	82.9%
Santa Cruz County	229,323	99.4%	87.8%	87.4%	35,047	90.4%	46.4%	44.1%
Shasta County	118,618	93.7%	94.5%	88.7%	62,312	41.2%	61.0%	32.6%
Sierra County	42	0.0%	100.0%	0.0%	3,175	30.2%	34.1%	16.3%
Siskiyou County	12,824	95.3%	98.2%	93.6%	30,836	62.8%	72.0%	48.9%
Solano County	427,929	99.4%	99.1%	98.6%	20,818	88.6%	94.1%	84.1%
Sonoma County	415,511	98.8%	98.6%	97.5%	67,139	71.3%	75.7%	56.2%
Stanislaus County	506,149	99.9%	100.0%	99.9%	45,126	91.6%	97.0%	90.3%
Sutter County	83,648	99.9%	99.3%	99.3%	14,855	98.2%	87.5%	86.0%
Tehama County	27,693	99.4%	96.1%	95.6%	37,552	69.9%	67.0%	47.9%
Trinity County					15,781	6.0%	39.5%	0.3%
Tulare County	382,341	98.9%	100.0%	98.9%	95,203	53.7%	93.3%	51.3%
Tuolumne County	29,115	95.9%	81.8%	79.2%	25,416	44.2%	68.6%	34.6%
Ventura County	804,660	97.4%	98.7%	96.2%	27,945	61.5%	80.0%	49.0%
Yolo County	202,970	99.5%	100.0%	99.5%	19,145	66.8%	93.6%	64.3%
Yuba County	58,851	99.8%	100.0%	99.8%	25,459	81.8%	82.0%	75.2%
Colorado	5,015,417	99.3%	98.5%	97.9%	824,509	63.1%	62.8%	45.2%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
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Adams County	504,822	99.3%	99.7%	99.0%	22,753	67.1%	77.3%	52.4%
Alamosa County	10,944	98.0%	98.0%	96.0%	5,648	61.3%	30.4%	22.6%
Arapahoe County	641,656	99.6%	99.5%	99.2%	14,152	79.4%	82.4%	67.3%
Archuleta County	5,871	99.8%	97.4%	97.3%	8,132	67.2%	41.6%	35.4%
Baca County					3,432	29.6%	51.8%	26.9%
Bent County					5,399	66.2%	6.1%	0.0%
Boulder County	295,105	99.9%	97.7%	97.6%	32,363	65.2%	69.2%	56.8%
Broomfield County	75,582	99.5%	99.8%	99.4%	539	57.6%	100.0%	57.6%
Chaffee County	11,035	95.8%	94.0%	90.3%	9,188	28.3%	58.9%	23.3%
Cheyenne County					1,732	18.1%	33.3%	13.1%
Clear Creek County					9,355	49.3%	61.4%	38.3%
Conejos County					7,579	69.2%	43.6%	32.3%
Costilla County					3,603	64.1%	39.6%	36.2%
Crowley County					5,614	4.1%	27.0%	3.1%
Custer County					5,335	0.5%	39.1%	0.2%
Delta County	8,242	99.8%	100.0%	99.8%	23,360	78.6%	77.1%	64.7%
Denver County	713,055	99.8%	99.1%	99.0%	197	73.0%	100.0%	73.0%
Dolores County					2,455	4.6%	51.0%	0.0%
Douglas County	340,255	99.6%	97.6%	97.3%	35,733	85.8%	73.9%	65.7%
Eagle County	45,639	98.2%	97.8%	96.6%	9,646	69.0%	64.7%	55.3%
El Paso County	670,270	99.2%	99.4%	98.7%	70,297	69.0%	79.9%	60.4%
Elbert County					27,799	71.2%	30.0%	23.3%
Fremont County	25,006	92.3%	96.9%	89.4%	24,615	39.6%	75.1%	35.6%
Garfield County	42,168	97.6%	99.6%	97.3%	20,103	53.3%	60.9%	35.0%
Gilpin County					5,891	47.2%	79.5%	45.2%
Grand County	5,205	95.0%	63.5%	63.4%	10,564	67.8%	58.2%	46.0%
Gunnison County	7,038	100.0%	100.0%	100.0%	10,229	78.5%	31.2%	29.3%
Hinsdale County					775	0.2%	0.0%	0.0%
Huerfano County					7,082	53.6%	54.7%	43.9%
Jackson County					1,302	82.1%	65.0%	63.2%
Jefferson County	533,642	99.3%	99.0%	98.4%	42,501	51.7%	70.3%	44.4%
Kiowa County					1,424	57.2%	0.6%	0.0%
Kit Carson County					6,961	73.5%	60.0%	54.2%
La Plata County	19,573	91.7%	96.0%	87.8%	37,034	76.1%	61.6%	52.6%
Lake County	4,472	94.7%	99.9%	94.7%	2,855	58.7%	74.7%	45.9%
Larimer County	328,007	99.9%	98.7%	98.7%	38,771	67.0%	58.6%	45.9%
Las Animas County	8,303	99.2%	95.0%	94.3%	6,024	15.7%	55.7%	15.5%
Lincoln County					5,510	36.5%	43.7%	31.4%
Logan County	12,112	100.0%	0.0%	0.0%	8,711	79.3%	1.3%	0.9%
Mesa County	138,280	96.5%	99.4%	96.0%	20,356	36.8%	80.9%	34.9%
Mineral County					931	51.1%	1.6%	0.5%

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Moffat County	9,552	100.0%	78.4%	78.4%	3,625	65.9%	19.1%	12.3%
Montezuma County	8,665	99.4%	94.7%	94.1%	17,803	57.9%	60.0%	41.2%
Montrose County	25,147	99.9%	99.9%	99.9%	18,664	58.7%	78.5%	51.9%
Morgan County	19,145	100.0%	98.5%	98.5%	10,094	86.2%	52.6%	50.1%
Otero County	7,571	97.1%	92.4%	89.8%	10,732	68.2%	67.6%	50.7%
Ouray County					5,100	51.9%	32.4%	21.3%
Park County					17,939	39.6%	40.0%	20.1%
Phillips County					4,449	90.0%	5.3%	4.8%
Pitkin County	11,310	98.7%	99.7%	98.4%	5,566	60.5%	59.9%	49.4%
Prowers County	7,408	96.0%	100.0%	96.0%	4,446	24.1%	59.2%	23.4%
Pueblo County	148,235	98.7%	97.4%	96.2%	21,309	66.0%	72.2%	47.5%
Rio Blanco County					6,569	66.2%	37.6%	32.8%
Rio Grande County					11,325	65.6%	64.5%	51.0%
Routt County	14,546	99.9%	99.8%	99.8%	10,461	77.7%	37.5%	35.9%
Saguache County					6,623	57.7%	20.7%	7.9%
San Juan County					803	82.0%	87.5%	81.5%
San Miguel County	4,496	70.7%	95.2%	66.8%	3,507	36.9%	43.9%	29.5%
Sedgwick County					2,295	76.6%	65.0%	62.1%
Summit County	25,696	97.9%	99.4%	97.4%	4,869	68.3%	87.5%	62.5%
Teller County	9,912	99.9%	99.9%	99.8%	14,945	27.8%	45.8%	23.8%
Washington County					4,812	78.0%	12.0%	11.8%
Weld County	277,452	99.0%	97.5%	96.6%	72,724	75.5%	87.0%	66.9%
Yuma County					9,899	90.3%	55.6%	55.5%
Connecticut	3,119,066	98.4%	93.4%	91.9%	507,139	96.2%	63.5%	61.4%
Capitol Planning Region	854,933	99.5%	97.9%	97.5%	119,584	98.6%	80.3%	79.1%
Greater Bridgeport Planning Region	319,513	95.7%	96.1%	91.8%	9,471	96.0%	64.6%	61.9%
Lower Connecticut River Valley Planning Region	122,458	99.6%	93.9%	93.6%	56,145	97.9%	72.5%	71.2%
Naugatuck Valley Planning Region	415,161	99.4%	93.2%	92.8%	42,018	98.2%	68.6%	67.6%
Northeastern Connecticut Planning Region	35,503	95.9%	80.3%	77.0%	60,620	90.1%	50.6%	45.2%
Northwest Hills Planning Region	45,539	94.4%	95.2%	90.0%	69,208	93.1%	47.2%	44.4%
South Central Connecticut Planning Region	550,627	99.5%	94.5%	94.1%	21,655	98.8%	69.4%	68.5%

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Southeastern Connecticut Planning Region	208,880	98.4%	91.8%	90.3%	75,064	96.6%	57.3%	55.4%
Western Connecticut Planning Region	566,452	96.6%	85.2%	82.2%	53,374	97.1%	54.5%	52.8%
Delaware	837,346	99.2%	97.8%	97.1%	181,050	82.8%	79.6%	67.3%
Kent County	136,064	97.4%	99.3%	96.8%	50,882	80.8%	83.6%	68.3%
New Castle County	539,860	99.6%	98.5%	98.2%	35,634	88.4%	83.8%	74.8%
Sussex County	161,422	99.4%	94.4%	93.8%	94,534	81.7%	75.9%	64.0%
District of Columbia	671,803	99.7%	99.9%	99.7%				
District of Columbia	671,803	99.7%	99.9%	99.7%				
Florida	0,334,773	97.6%	97.5%	95.3%	1,910,053	59.8%	71.4%	46.8%
Alachua County	213,788	98.6%	93.4%	92.0%	70,242	55.4%	83.4%	50.0%
Baker County	10,818	98.7%	84.4%	83.8%	16,985	58.5%	39.3%	25.8%
Bay County	159,249	99.7%	96.5%	96.3%	25,885	67.3%	70.0%	44.4%
Bradford County	7,956	91.5%	99.8%	91.5%	19,357	18.6%	89.3%	16.7%
Brevard County	605,650	96.5%	99.7%	96.2%	25,043	89.7%	92.1%	83.0%
Broward County	1,946,859	97.8%	99.0%	96.9%	167	76.0%	97.6%	74.8%
Calhoun County					13,464	30.5%	40.6%	24.9%
Charlotte County	189,361	94.6%	91.3%	86.1%	13,300	54.8%	75.2%	40.9%
Citrus County	121,600	97.1%	87.3%	84.7%	40,929	65.9%	74.9%	49.9%
Clay County	193,746	97.1%	97.2%	94.4%	32,843	54.1%	72.0%	41.4%
Collier County	352,027	98.9%	97.6%	96.6%	45,967	92.7%	54.9%	49.9%
Columbia County	26,132	97.0%	88.3%	85.6%	45,776	40.4%	49.8%	21.2%
DeSoto County	17,924	41.1%	98.5%	40.3%	17,388	32.2%	76.1%	23.9%
Dixie County					17,124	1.6%	44.3%	0.9%
Duval County	989,688	98.7%	98.2%	97.0%	26,848	97.1%	73.4%	71.3%
Escambia County	299,579	99.7%	98.6%	98.3%	25,299	71.6%	67.7%	49.8%
Flagler County	117,000	97.9%	90.7%	88.7%	9,705	77.1%	68.1%	52.1%
Franklin County					12,498	86.7%	67.2%	62.6%
Gadsden County	7,986	98.9%	93.2%	92.2%	35,417	65.9%	53.3%	42.0%
Gilchrist County					18,992	14.3%	68.5%	11.9%
Glades County	2,301	84.2%	96.0%	80.2%	10,153	33.8%	72.1%	30.5%
Gulf County					15,314	70.7%	59.5%	52.9%
Hamilton County					13,217	30.4%	51.5%	16.5%
Hardee County	10,046	98.9%	100.0%	98.9%	15,599	45.5%	81.6%	43.4%
Hendry County	26,227	95.8%	98.3%	94.2%	15,112	32.7%	66.3%	24.9%
Hernando County	165,413	97.3%	99.4%	96.7%	41,483	88.9%	81.2%	72.1%
Highlands County	84,508	93.3%	88.1%	83.0%	21,110	52.3%	68.0%	39.4%
Hillsborough County	1,456,868	96.3%	99.3%	95.7%	56,433	82.4%	90.4%	75.4%
Holmes County					19,651	20.1%	48.5%	19.9%
Indian River County	155,765	99.5%	91.6%	91.2%	11,587	71.1%	94.6%	68.6%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Jackson County	5,846	99.4%	100.0%	99.4%	42,365	37.7%	48.7%	24.7%
Jefferson County					15,042	4.1%	53.8%	3.9%
Lafayette County					7,786	27.7%	72.8%	23.9%
Lake County	336,788	96.3%	97.3%	93.7%	73,351	52.3%	83.9%	49.1%
Lee County	790,210	95.8%	97.5%	93.9%	32,243	57.8%	86.2%	51.7%
Leon County	257,531	99.1%	97.3%	96.5%	39,838	73.2%	79.8%	66.3%
Levy County					45,260	15.2%	63.6%	11.1%
Liberty County					7,603	28.7%	33.4%	21.8%
Madison County					18,198	40.2%	58.6%	33.7%
Manatee County	408,658	97.3%	98.1%	95.4%	20,467	88.3%	73.9%	65.2%
Marion County	280,613	95.3%	96.6%	92.2%	115,802	53.7%	71.8%	39.4%
Martin County	150,041	99.4%	95.1%	94.5%	11,965	69.9%	81.7%	58.3%
Miami-Dade County	2,650,240	99.1%	98.2%	97.5%	23,597	56.7%	76.2%	47.3%
Monroe County	70,605	99.7%	83.2%	83.1%	11,106	94.8%	73.1%	70.1%
Nassau County	55,340	99.5%	88.1%	87.8%	42,559	76.5%	62.4%	50.6%
Okaloosa County	193,366	98.0%	90.2%	88.4%	23,116	50.2%	43.1%	19.9%
Okeechobee County	26,561	98.1%	93.2%	91.5%	13,851	26.6%	58.9%	24.9%
Orange County	1,419,271	96.8%	99.8%	96.7%	33,455	82.6%	92.3%	76.7%
Osceola County	394,680	97.6%	98.9%	96.5%	27,865	78.5%	85.6%	66.9%
Palm Beach County	1,505,687	99.2%	97.8%	97.0%	12,790	76.1%	92.8%	72.2%
Pasco County	563,872	95.9%	94.8%	90.8%	44,922	74.9%	81.9%	62.7%
Pinellas County	959,921	96.8%	96.7%	93.6%	1,818	96.7%	92.4%	89.6%
Polk County	700,763	97.2%	96.5%	93.8%	86,641	66.0%	83.1%	58.1%
Putnam County	20,014	92.6%	90.5%	83.6%	54,717	58.0%	69.2%	46.5%
Santa Rosa County	158,410	98.3%	94.4%	92.8%	39,858	55.0%	70.9%	46.1%
Sarasota County	451,033	99.1%	97.1%	96.2%	11,253	83.0%	62.9%	50.7%
Seminole County	462,654	97.2%	99.2%	96.5%	16,118	74.6%	85.0%	63.5%
St. Johns County	260,302	99.6%	95.8%	95.4%	46,539	82.4%	88.0%	77.9%
St. Lucie County	345,512	98.9%	97.8%	96.8%	13,192	63.3%	94.9%	62.1%
Sumter County	114,497	94.9%	99.7%	94.6%	30,473	48.9%	85.2%	40.3%
Suwannee County	7,007	91.7%	83.1%	76.9%	38,404	27.3%	45.4%	14.5%
Taylor County	6,235	98.8%	94.3%	93.1%	15,048	48.5%	53.4%	30.7%
Union County					15,460	42.3%	72.1%	29.1%
Volusia County	529,584	96.4%	98.5%	95.1%	49,608	72.9%	89.1%	69.6%
Wakulla County	10,467	95.2%	91.4%	86.8%	24,711	60.0%	63.6%	46.3%
Walton County	38,574	99.6%	75.7%	75.4%	44,730	87.3%	51.7%	46.7%
Washington County					25,414	64.4%	50.6%	36.5%
Georgia	8,032,887	98.3%	96.7%	95.2%	2,879,989	71.0%	61.0%	47.3%
Appling County	5,443	99.3%	76.5%	75.9%	12,985	67.3%	40.3%	31.8%
Atkinson County					8,183	97.7%	60.6%	59.4%
Bacon County					11,191	86.6%	41.9%	40.5%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Baker County					2,788	3.5%	27.5%	3.5%
Baldwin County	21,390	94.9%	87.3%	85.1%	22,245	84.2%	51.4%	46.3%
Banks County	901	90.8%	61.3%	57.9%	18,427	34.7%	41.9%	17.2%
Barrow County	59,663	98.2%	91.4%	89.9%	29,636	86.9%	86.7%	75.4%
Bartow County	67,979	98.7%	96.1%	95.0%	44,837	74.9%	67.4%	56.1%
Ben Hill County	11,099	99.9%	73.1%	73.1%	5,970	44.1%	36.5%	18.2%
Berrien County	4,903	99.4%	96.7%	96.2%	13,311	42.4%	43.9%	24.0%
Bibb County	133,788	99.9%	99.6%	99.6%	22,409	95.3%	93.9%	89.7%
Bleckley County	5,935	100.0%	68.6%	68.6%	6,322	57.0%	56.0%	33.7%
Brantley County	120	88.3%	10.8%	10.8%	18,063	99.4%	42.1%	41.8%
Brooks County					16,253	59.0%	55.6%	41.2%
Bryan County	25,256	95.0%	75.3%	71.7%	22,969	94.4%	41.3%	39.9%
Bulloch County	41,964	100.0%	91.5%	91.5%	41,095	99.9%	37.4%	37.4%
Burke County	6,108	99.0%	94.5%	93.6%	18,280	47.8%	46.9%	24.0%
Butts County	5,934	95.8%	99.5%	95.4%	20,715	78.4%	82.5%	63.4%
Calhoun County					5,469	16.7%	70.6%	14.2%
Camden County	41,098	99.8%	80.4%	80.3%	15,915	69.6%	41.2%	31.3%
Candler County					11,000	99.7%	52.4%	52.4%
Carroll County	54,564	93.4%	90.3%	83.9%	70,028	73.4%	61.5%	48.0%
Catoosa County	52,361	98.5%	99.7%	98.2%	16,465	85.3%	65.4%	57.7%
Charlton County					12,781	68.9%	45.3%	39.1%
Chatham County	291,908	97.3%	93.0%	90.5%	9,199	91.1%	63.6%	57.3%
Chattahoochee County	2,298	0.0%	0.0%	0.0%	6,521	0.0%	94.1%	0.0%
Chattooga County	10,090	96.3%	96.0%	92.4%	14,846	59.5%	37.4%	29.7%
Cherokee County	229,485	99.1%	98.5%	97.6%	51,793	86.0%	81.4%	73.2%
Clarke County	121,600	94.9%	95.8%	90.8%	8,275	75.8%	75.6%	58.7%
Clay County					2,845	26.2%	28.8%	5.6%
Clayton County	294,969	99.3%	99.2%	98.6%	1,595	87.9%	93.4%	82.2%
Clinch County					6,662	30.9%	66.1%	26.3%
Cobb County	771,912	99.0%	98.9%	98.0%	40	62.5%	100.0%	62.5%
Coffee County	14,197	97.1%	93.6%	91.3%	28,975	69.1%	57.8%	45.4%
Colquitt County	19,062	98.0%	64.5%	62.9%	26,700	48.3%	45.6%	24.3%
Columbia County	138,185	99.5%	99.3%	98.9%	24,234	90.0%	91.8%	83.3%
Cook County	7,065	99.2%	47.9%	47.6%	10,339	47.7%	49.1%	31.8%
Coweta County	82,832	98.2%	96.3%	94.6%	70,050	84.9%	72.9%	63.3%
Crawford County					12,140	88.7%	56.4%	51.5%
Crisp County	10,679	98.2%	94.1%	92.4%	9,029	48.8%	52.3%	31.9%
Dade County	504	100.0%	100.0%	100.0%	15,577	95.4%	81.2%	77.3%
Dawson County	9,179	96.9%	93.3%	90.8%	20,959	63.0%	59.9%	47.4%
DeKalb County	761,590	99.1%	98.4%	97.6%	1,230	94.8%	95.5%	90.8%
Decatur County	13,535	98.4%	69.6%	68.3%	15,447	22.4%	39.3%	11.4%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
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Dodge County	6,267	99.2%	95.6%	94.9%	13,535	46.9%	59.9%	34.8%
Dooly County					10,572	90.7%	73.4%	70.8%
Dougherty County	70,562	98.3%	90.4%	88.8%	12,404	84.3%	47.9%	42.7%
Douglas County	124,308	99.1%	97.3%	96.6%	23,008	82.7%	96.1%	80.6%
Early County					10,574	13.8%	56.9%	10.5%
Echols County					3,686	0.1%	44.5%	0.1%
Effingham County	17,225	99.3%	67.4%	67.1%	51,816	86.9%	32.1%	30.5%
Elbert County	5,595	100.0%	94.8%	94.8%	14,219	91.8%	49.8%	47.1%
Emanuel County	7,241	99.9%	83.9%	83.9%	15,688	98.5%	42.9%	42.5%
Evans County					10,695	83.8%	63.4%	59.0%
Fannin County					25,737	65.4%	35.3%	28.6%
Fayette County	100,215	99.3%	98.1%	97.5%	21,815	84.1%	96.2%	80.9%
Floyd County	60,631	98.6%	99.0%	97.7%	38,812	70.8%	69.7%	57.4%
Forsyth County	246,721	98.2%	98.5%	96.7%	20,516	92.0%	93.0%	85.7%
Franklin County					24,128	62.2%	51.7%	34.1%
Fulton County	1,067,477	98.2%	99.1%	97.4%	7,157	61.1%	88.8%	58.5%
Gilmer County	6,891	88.6%	66.7%	63.9%	25,516	78.8%	33.3%	30.3%
Glascocock County					2,939	10.3%	33.9%	6.6%
Glynn County	69,055	99.4%	86.5%	86.0%	16,024	92.7%	52.3%	49.5%
Gordon County	23,549	97.8%	87.7%	85.7%	35,405	60.7%	48.6%	34.1%
Grady County	10,237	98.6%	76.3%	75.3%	15,771	32.2%	42.0%	19.9%
Greene County					20,139	69.0%	48.6%	37.1%
Gwinnett County	970,513	98.4%	99.0%	97.5%	4,840	87.9%	82.5%	72.8%
Habersham County	18,782	95.1%	67.0%	64.6%	28,693	89.0%	67.3%	62.7%
Hall County	156,327	97.2%	97.7%	95.0%	56,365	81.8%	79.9%	67.1%
Hancock County					8,387	13.4%	32.9%	9.7%
Haralson County	7,649	95.7%	37.3%	35.5%	23,688	57.7%	48.7%	30.6%
Harris County	1,033	99.5%	80.2%	80.2%	35,243	76.1%	51.0%	38.4%
Hart County	6,185	100.0%	84.5%	84.5%	20,724	86.2%	42.8%	37.4%
Heard County					11,725	54.8%	16.8%	12.0%
Henry County	201,266	98.1%	98.9%	97.1%	47,098	91.6%	95.9%	87.7%
Houston County	154,179	99.7%	99.6%	99.4%	15,452	78.6%	87.0%	70.4%
Irwin County					9,126	75.9%	24.3%	19.2%
Jackson County	31,057	93.8%	92.0%	86.5%	52,879	62.7%	84.4%	54.8%
Jasper County					15,951	31.6%	52.3%	20.1%
Jeff Davis County	5,039	99.5%	93.2%	92.8%	9,850	81.3%	47.1%	36.4%
Jefferson County					15,314	67.5%	72.0%	52.2%
Jenkins County					8,689	52.2%	51.1%	41.4%
Johnson County					9,242	62.1%	46.7%	29.6%
Jones County	4,740	99.8%	89.8%	89.7%	23,732	88.9%	82.4%	73.1%
Lamar County	6,933	95.0%	91.9%	87.6%	12,534	70.8%	31.2%	23.9%

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Lanier County					10,171	67.8%	20.7%	14.7%
Laurens County	20,628	92.9%	92.2%	85.6%	29,032	70.3%	44.7%	32.9%
Lee County	12,756	94.1%	76.8%	71.8%	20,886	71.2%	70.9%	57.7%
Liberty County	49,931	99.2%	89.0%	88.3%	18,099	74.5%	55.4%	42.3%
Lincoln County					7,841	99.8%	55.8%	55.8%
Long County	3,680	97.7%	51.1%	49.7%	14,668	69.8%	49.6%	38.7%
Lowndes County	77,178	97.3%	97.9%	95.4%	42,561	42.6%	78.4%	35.3%
Lumpkin County	4,872	94.0%	93.8%	88.2%	29,924	59.4%	58.7%	40.1%
Macon County					11,765	50.7%	65.6%	34.9%
Madison County	2,930	96.5%	87.4%	85.1%	28,543	51.3%	56.1%	35.4%
Marion County					7,449	47.6%	10.1%	7.1%
McDuffie County	8,646	98.2%	100.0%	98.2%	13,067	52.3%	76.4%	50.0%
McIntosh County					11,180	100.0%	46.7%	46.7%
Meriwether County					20,845	41.6%	40.1%	23.6%
Miller County					5,807	40.0%	42.4%	33.5%
Mitchell County	5,106	93.2%	65.6%	60.3%	16,010	36.9%	38.4%	23.2%
Monroe County	5,276	100.0%	89.2%	89.2%	24,151	96.7%	43.1%	41.7%
Montgomery County	103	100.0%	0.0%	0.0%	8,552	44.5%	63.5%	36.1%
Morgan County	4,792	91.1%	61.6%	55.9%	16,239	47.4%	42.8%	21.7%
Murray County	12,914	96.3%	96.5%	92.9%	27,558	82.3%	56.4%	47.4%
Muscogee County	189,766	98.6%	99.3%	98.0%	12,850	58.8%	93.0%	54.1%
Newton County	77,291	97.6%	99.6%	97.3%	40,330	82.1%	86.8%	70.4%
Oconee County	19,551	95.2%	92.5%	87.8%	24,037	68.3%	58.2%	43.9%
Oglethorpe County					15,469	43.4%	37.0%	21.6%
Paulding County	141,450	97.8%	97.4%	95.3%	36,971	80.0%	89.1%	73.3%
Peach County	17,028	99.4%	100.0%	99.4%	11,534	60.0%	93.6%	57.0%
Pickens County	6,527	99.9%	60.4%	60.4%	28,299	74.4%	49.6%	41.7%
Pierce County	250	100.0%	95.6%	95.6%	19,918	74.7%	51.8%	43.1%
Pike County	60	96.6%	100.0%	96.6%	19,930	42.8%	44.9%	18.5%
Polk County	20,861	93.9%	93.1%	87.1%	22,848	72.8%	53.5%	43.8%
Pulaski County					9,984	85.3%	79.2%	74.1%
Putnam County					22,984	77.3%	52.2%	43.8%
Quitman County	598	94.1%	34.9%	33.6%	1,651	18.4%	34.3%	4.1%
Rabun County					17,206	62.6%	50.0%	35.4%
Randolph County					6,116	71.4%	41.6%	36.9%
Richmond County	189,025	99.4%	99.8%	99.3%	17,615	94.5%	83.3%	79.0%
Rockdale County	81,883	99.1%	98.6%	97.7%	13,101	93.8%	96.0%	90.0%
Schley County					4,496	47.3%	51.3%	36.9%
Screven County					13,977	86.4%	46.4%	40.3%
Seminole County					9,127	49.1%	43.4%	29.5%
Spalding County	40,055	98.6%	98.9%	97.6%	28,864	77.3%	81.0%	61.7%

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Stephens County	11,541	94.1%	89.5%	84.8%	15,226	72.0%	59.3%	43.5%
Stewart County					4,648	9.9%	81.5%	9.9%
Sumter County	16,865	94.8%	93.2%	88.1%	12,012	40.3%	51.0%	24.9%
Talbot County					5,747	53.3%	41.2%	29.7%
Taliaferro County					1,600	98.6%	28.7%	28.7%
Tattnall County					24,064	71.4%	47.7%	38.5%
Taylor County					7,737	77.5%	39.8%	34.7%
Telfair County					12,354	50.9%	75.6%	46.7%
Terrell County					8,754	63.5%	68.1%	56.1%
Thomas County	24,929	96.6%	85.6%	82.7%	20,632	49.0%	55.6%	33.1%
Tift County	24,522	97.3%	75.5%	73.5%	16,890	63.9%	56.1%	40.1%
Toombs County	13,635	99.5%	79.1%	79.0%	13,202	31.4%	43.5%	19.8%
Towns County					12,972	86.9%	62.2%	57.5%
Treutlen County					6,365	67.3%	67.9%	37.5%
Troup County	38,005	94.5%	84.5%	80.0%	32,186	77.1%	67.5%	52.6%
Turner County	4,603	98.7%	76.2%	75.1%	4,239	31.7%	48.1%	24.0%
Twiggs County					7,680	39.5%	91.4%	34.7%
Union County					26,388	67.3%	42.4%	32.2%
Upson County	14,724	98.5%	87.3%	86.1%	13,362	74.4%	26.5%	22.9%
Walker County	33,646	99.4%	99.5%	99.0%	35,269	81.5%	78.2%	68.0%
Walton County	42,948	84.8%	98.0%	83.3%	60,117	82.0%	92.6%	77.5%
Ware County	24,192	93.2%	94.3%	87.7%	11,422	54.5%	59.5%	33.9%
Warren County					5,155	0.7%	6.6%	0.6%
Washington County	6,959	95.3%	84.2%	80.6%	12,779	71.8%	36.4%	32.5%
Wayne County	12,990	95.8%	86.1%	84.5%	17,906	54.3%	57.0%	38.3%
Webster County					2,328	24.8%	59.4%	22.1%
Wheeler County					7,314	31.8%	50.7%	26.0%
White County					28,806	90.7%	67.3%	62.2%
Whitfield County	66,976	99.6%	96.1%	95.8%	36,156	85.1%	62.4%	55.5%
Wilcox County					8,761	43.6%	66.6%	38.1%
Wilkes County					9,599	99.7%	52.0%	52.0%
Wilkinson County					8,681	62.0%	58.4%	41.2%
Worth County	5,922	99.2%	94.0%	93.5%	14,502	61.8%	45.2%	31.6%
Guam	148,844	93.3%	50.2%	47.4%	20,242	30.8%	7.1%	5.3%
Guam	148,844	93.3%	50.2%	47.4%	20,242	30.8%	7.1%	5.3%
Hawaii	1,229,914	97.1%	97.4%	94.6%	210,282	84.6%	70.4%	61.9%
Hawaii County	83,843	97.7%	89.8%	87.7%	122,472	82.5%	64.8%	55.6%
Honolulu County	974,503	96.9%	98.6%	95.6%	21,135	82.6%	83.9%	70.5%
Kalawao County					82	76.8%	0.0%	0.0%
Kauai County	42,419	97.8%	92.1%	90.0%	31,391	94.3%	82.4%	78.2%
Maui County	129,149	98.0%	95.3%	93.4%	35,202	84.1%	71.5%	64.5%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Idaho	1,335,245	99.8%	96.9%	96.8%	603,788	63.3%	65.5%	48.1%
Ada County	491,666	99.9%	99.9%	99.9%	27,241	87.3%	94.3%	82.3%
Adams County					4,817	21.7%	63.2%	17.6%
Bannock County	74,514	100.0%	100.0%	100.0%	15,003	73.3%	88.5%	70.0%
Bear Lake County					6,722	67.3%	80.6%	61.1%
Benewah County					10,370	9.5%	49.8%	7.8%
Bingham County	19,988	99.9%	97.5%	97.5%	29,935	86.4%	63.9%	55.8%
Blaine County	18,743	99.9%	97.5%	97.4%	6,123	63.9%	61.9%	52.4%
Boise County					8,333	18.9%	42.8%	16.5%
Bonner County	13,658	96.0%	91.2%	88.9%	37,756	18.8%	45.0%	14.0%
Bonneville County	109,372	99.9%	99.2%	99.1%	20,124	90.6%	86.5%	80.4%
Boundary County					13,345	26.6%	75.7%	26.1%
Butte County					2,684	45.7%	63.2%	31.1%
Camas County					1,153	5.7%	19.9%	0.0%
Canyon County	203,366	99.9%	99.9%	99.8%	47,699	73.0%	89.4%	67.6%
Caribou County					7,190	15.2%	55.3%	10.7%
Cassia County	12,704	100.0%	75.9%	75.9%	12,951	95.7%	62.8%	61.9%
Clark County					806	59.5%	64.5%	57.6%
Clearwater County					9,015	49.7%	43.3%	28.8%
Custer County					4,506	59.4%	65.3%	50.6%
Elmore County	18,176	100.0%	100.0%	100.0%	11,227	74.4%	87.1%	69.4%
Franklin County					15,189	88.8%	71.8%	68.3%
Fremont County					13,978	70.6%	92.0%	66.5%
Gem County	10,518	100.0%	92.6%	92.6%	9,900	84.7%	83.2%	72.9%
Gooding County					15,715	99.2%	79.1%	78.8%
Idaho County					17,593	9.6%	45.1%	7.4%
Jefferson County	10,988	100.0%	84.7%	84.7%	22,440	90.8%	75.6%	71.8%
Jerome County	12,592	100.0%	99.7%	99.7%	12,719	97.2%	28.7%	26.9%
Kootenai County	138,451	99.5%	87.5%	87.1%	45,127	31.5%	43.1%	19.9%
Latah County	26,252	98.2%	74.7%	73.0%	14,726	42.8%	58.0%	31.7%
Lemhi County					8,240	44.5%	67.2%	41.4%
Lewis County					3,763	0.0%	62.5%	0.0%
Lincoln County					5,329	64.3%	52.4%	44.1%
Madison County	41,006	100.0%	100.0%	100.0%	13,970	91.3%	95.7%	87.6%
Minidoka County	12,222	100.0%	85.8%	85.8%	9,972	99.2%	57.2%	57.2%
Nez Perce County	34,696	99.7%	99.9%	99.7%	8,308	44.8%	47.7%	27.7%
Oneida County					4,712	94.5%	51.6%	47.7%
Owyhee County					12,613	53.5%	62.1%	41.6%
Payette County	15,607	100.0%	96.9%	96.9%	11,349	98.5%	76.8%	76.2%
Power County					8,068	87.5%	85.6%	80.8%
Shoshone County					14,012	35.0%	46.5%	29.4%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Teton County					12,544	71.1%	72.0%	50.3%
Twin Falls County	60,983	100.0%	91.4%	91.4%	32,713	98.7%	47.7%	46.8%
Valley County	3,973	96.5%	96.7%	94.6%	8,491	32.3%	34.0%	18.7%
Washington County	5,770	98.9%	98.6%	97.6%	5,317	20.8%	61.0%	14.7%
Illinois	0,913,310	99.3%	99.0%	98.3%	1,668,722	69.2%	65.1%	48.7%
Adams County	42,627	99.8%	97.8%	97.7%	22,098	77.2%	44.1%	36.8%
Alexander County	154	2.5%	100.0%	2.5%	4,704	45.5%	75.8%	45.1%
Bond County	6,283	99.6%	100.0%	99.6%	10,283	35.8%	63.4%	20.9%
Boone County	37,221	99.9%	99.7%	99.6%	15,933	78.6%	97.6%	77.7%
Brown County					6,330	72.4%	67.3%	54.6%
Bureau County	14,919	99.7%	89.8%	89.7%	17,909	67.9%	32.1%	25.9%
Calhoun County					4,360	38.3%	41.6%	16.8%
Carroll County					15,529	66.9%	41.7%	29.8%
Cass County	6,023	100.0%	32.6%	32.6%	6,634	69.3%	44.5%	31.6%
Champaign County	171,628	96.6%	99.0%	95.6%	34,914	69.1%	85.0%	59.0%
Christian County	16,825	99.7%	91.5%	91.5%	16,611	57.3%	55.8%	40.2%
Clark County					15,229	56.5%	57.6%	42.3%
Clay County	4,761	100.0%	99.9%	99.9%	8,286	94.9%	38.1%	38.0%
Clinton County	7,623	96.8%	99.3%	96.2%	29,286	66.3%	93.1%	65.5%
Coles County	33,925	98.5%	99.0%	97.6%	12,409	33.6%	47.3%	22.0%
Cook County	5,106,440	99.6%	99.8%	99.5%	2,852	80.7%	94.1%	75.9%
Crawford County	6,102	99.7%	95.6%	95.3%	12,434	56.2%	55.4%	41.7%
Cumberland County					10,324	49.3%	48.7%	33.3%
De Witt County	7,192	98.8%	97.2%	96.1%	8,118	60.7%	71.0%	47.0%
DeKalb County	81,432	99.6%	99.6%	99.3%	18,800	82.2%	89.4%	74.9%
Douglas County	4,972	99.9%	100.0%	99.9%	14,783	71.0%	49.1%	38.8%
DuPage County	919,133	99.6%	100.0%	99.6%	1,768	76.9%	100.0%	76.9%
Edgar County	8,159	99.8%	51.5%	51.4%	8,274	28.5%	22.9%	12.5%
Edwards County					6,071	97.9%	66.5%	66.1%
Effingham County	13,673	99.5%	91.2%	90.8%	20,652	85.4%	55.2%	49.1%
Fayette County	7,798	99.9%	91.9%	91.9%	13,507	59.4%	50.7%	42.3%
Ford County	4,361	99.6%	92.8%	92.5%	8,888	65.4%	57.0%	45.6%
Franklin County	15,166	98.4%	94.7%	93.3%	22,076	72.4%	78.5%	62.8%
Fulton County	12,977	87.4%	84.0%	71.5%	20,044	87.1%	40.9%	37.0%
Gallatin County					4,855	86.1%	51.8%	48.2%
Greene County					11,651	89.1%	60.0%	57.6%
Grundy County	39,515	97.7%	98.2%	96.2%	13,526	54.9%	86.7%	50.7%
Hamilton County					7,984	65.0%	56.0%	45.7%
Hancock County	2,783	95.0%	95.5%	90.9%	14,461	73.2%	35.4%	30.8%
Hardin County					3,597	75.2%	16.1%	13.2%
Henderson County	29	0.0%	37.9%	0.0%	6,122	67.9%	38.1%	29.6%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Henry County	24,140	99.9%	99.2%	99.1%	24,279	94.7%	59.6%	58.0%
Iroquois County	4,459	99.4%	75.5%	75.3%	22,014	52.8%	49.1%	27.7%
Jackson County	30,173	98.2%	99.9%	98.2%	22,444	77.8%	79.4%	65.3%
Jasper County					9,212	57.1%	55.0%	39.9%
Jefferson County	15,218	98.9%	99.3%	98.2%	21,182	67.0%	64.1%	47.1%
Jersey County	8,603	99.9%	100.0%	99.9%	12,643	73.3%	59.5%	45.5%
Jo Daviess County	2,507	97.5%	31.9%	31.7%	19,251	67.8%	57.3%	44.9%
Johnson County					13,381	69.8%	70.9%	56.6%
Kane County	493,101	99.4%	99.9%	99.4%	21,081	66.0%	99.6%	65.9%
Kankakee County	75,409	99.3%	99.8%	99.2%	30,665	66.6%	85.9%	61.3%
Kendall County	121,340	99.6%	99.9%	99.6%	15,914	79.7%	96.9%	77.1%
Knox County	31,551	99.9%	87.8%	87.7%	17,089	87.1%	33.2%	29.4%
LaSalle County	73,968	99.7%	96.8%	96.6%	34,110	51.5%	68.2%	38.3%
Lake County	698,751	99.2%	99.8%	99.0%	10,399	75.5%	99.4%	75.0%
Lawrence County	4,472	100.0%	92.3%	92.3%	10,442	97.2%	22.4%	21.6%
Lee County	14,668	99.6%	54.4%	54.2%	19,180	50.1%	38.5%	23.4%
Livingston County	12,512	93.2%	86.9%	80.1%	23,009	61.9%	67.8%	48.4%
Logan County	13,949	100.0%	96.9%	96.9%	13,642	85.8%	57.4%	51.8%
Macon County	84,037	99.6%	89.6%	89.3%	17,446	67.8%	51.0%	37.3%
Macoupin County	15,347	99.5%	85.9%	85.4%	28,898	68.4%	62.3%	49.7%
Madison County	220,121	97.5%	99.9%	97.5%	43,743	82.6%	87.2%	72.4%
Marion County	19,212	99.6%	98.0%	97.8%	17,702	52.4%	62.0%	38.9%
Marshall County					11,678	81.3%	41.7%	36.7%
Mason County					12,748	76.5%	66.9%	59.9%
Massac County	6,537	99.2%	99.5%	98.8%	7,359	23.4%	67.6%	21.5%
McDonough County	14,613	99.8%	80.8%	80.7%	12,248	88.4%	33.6%	30.9%
McHenry County	267,102	99.6%	99.9%	99.6%	44,645	75.9%	96.7%	73.9%
McLean County	133,195	99.8%	97.9%	97.8%	37,946	70.0%	74.4%	56.6%
Menard County					12,121	70.6%	62.8%	52.6%
Mercer County					15,504	91.8%	51.4%	49.0%
Monroe County	20,288	98.9%	99.7%	98.7%	14,745	42.3%	81.8%	39.4%
Montgomery County	12,899	92.9%	89.8%	88.6%	15,121	49.0%	48.0%	29.5%
Morgan County	20,544	99.7%	92.5%	92.2%	11,665	60.4%	50.5%	37.0%
Moultrie County	4,320	99.5%	100.0%	99.5%	10,003	56.4%	28.6%	17.3%
Ogle County	16,677	98.9%	99.6%	98.6%	34,674	62.9%	71.1%	45.2%
Peoria County	147,087	98.8%	90.3%	89.2%	31,296	92.0%	47.6%	45.5%
Perry County	5,871	99.1%	100.0%	99.1%	14,717	63.9%	83.0%	59.8%
Piatt County	5,933	99.9%	100.0%	99.9%	10,790	76.0%	46.1%	36.9%
Pike County					14,484	59.4%	56.7%	45.2%
Pope County					3,770	48.1%	34.9%	23.7%
Pulaski County					4,991	61.1%	74.3%	47.9%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Putnam County					5,572	51.4%	38.5%	28.8%
Randolph County	6,002	66.8%	99.1%	66.1%	24,066	59.6%	80.6%	53.2%
Richland County	8,394	100.0%	100.0%	100.0%	7,041	95.6%	37.5%	37.1%
Rock Island County	125,220	99.8%	99.4%	99.2%	16,307	87.8%	72.0%	62.8%
Saline County	8,074	99.2%	85.3%	84.6%	15,013	77.2%	27.6%	22.6%
Sangamon County	157,623	99.6%	99.8%	99.5%	36,911	72.8%	81.4%	61.3%
Schuyler County					6,746	63.8%	61.0%	52.2%
Scott County					4,790	87.7%	52.0%	50.7%
Shelby County	4,842	99.2%	92.8%	92.2%	15,919	37.5%	42.4%	25.8%
St. Clair County	214,745	96.4%	99.9%	96.4%	37,926	66.0%	98.4%	65.8%
Stark County					5,345	96.3%	9.0%	9.0%
Stephenson County	23,445	99.7%	96.5%	96.3%	20,182	54.3%	42.3%	27.4%
Tazewell County	101,307	99.2%	94.8%	94.1%	28,604	69.2%	48.0%	34.2%
Union County	5,906	99.9%	99.9%	99.9%	10,861	57.4%	68.8%	46.5%
Vermilion County	43,260	97.1%	94.1%	91.3%	29,077	58.1%	62.5%	40.0%
Wabash County	6,764	97.0%	13.2%	11.9%	4,323	52.0%	14.7%	7.5%
Warren County	8,942	100.0%	94.2%	94.2%	7,412	83.4%	13.9%	11.5%
Washington County	96	98.9%	87.5%	86.4%	13,547	56.3%	80.4%	48.4%
Wayne County	4,661	100.0%	94.5%	94.5%	11,211	90.6%	32.1%	28.6%
White County	4,969	100.0%	71.5%	71.5%	8,645	90.5%	37.2%	35.1%
Whiteside County	30,888	99.9%	94.6%	94.6%	23,770	68.0%	60.2%	47.4%
Will County	662,766	99.2%	99.9%	99.1%	33,991	81.5%	98.7%	80.9%
Williamson County	39,139	99.4%	98.8%	98.2%	27,556	67.6%	78.8%	61.5%
Winnebago County	254,649	99.3%	99.7%	99.0%	27,539	70.6%	96.6%	68.6%
Woodford County	11,293	99.2%	74.2%	73.5%	26,835	75.2%	69.4%	57.4%
Indiana	4,849,117	98.8%	98.3%	97.2%	1,983,920	69.8%	65.1%	49.1%
Adams County	10,613	99.9%	99.9%	99.9%	25,455	56.6%	74.8%	46.0%
Allen County	340,436	99.0%	99.9%	99.0%	51,013	92.7%	93.2%	86.4%
Bartholomew County	57,332	99.3%	99.4%	98.7%	26,208	74.4%	63.6%	48.8%
Benton County					8,719	67.3%	39.6%	28.4%
Blackford County	5,961	99.7%	100.0%	99.7%	5,958	13.5%	80.6%	9.5%
Boone County	53,690	99.4%	100.0%	99.4%	20,474	37.2%	92.7%	37.0%
Brown County					15,570	88.4%	44.8%	40.6%
Carroll County	1,058	100.0%	31.7%	31.7%	19,497	53.6%	65.0%	42.0%
Cass County	20,020	99.2%	99.6%	98.8%	17,520	45.3%	61.6%	38.1%
Clark County	97,351	97.1%	100.0%	97.1%	26,886	68.0%	79.3%	59.0%
Clay County	10,512	99.4%	99.3%	98.8%	15,867	48.9%	55.4%	28.9%
Clinton County	16,410	99.5%	97.1%	96.7%	16,433	48.5%	70.0%	41.5%
Crawford County					10,536	28.8%	35.4%	16.0%
Daviess County	12,957	99.9%	97.5%	97.5%	20,461	46.0%	42.9%	22.8%
DeKalb County	20,559	100.0%	99.6%	99.6%	23,172	98.5%	78.7%	77.7%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Dearborn County	20,367	98.8%	90.3%	89.4%	30,771	88.5%	61.2%	54.9%
Decatur County	12,330	98.9%	99.8%	98.8%	14,086	26.9%	63.4%	21.5%
Delaware County	85,610	99.4%	99.9%	99.3%	26,421	60.2%	94.2%	58.7%
Dubois County	22,883	99.5%	82.6%	82.2%	20,749	69.8%	26.8%	20.2%
Elkhart County	158,198	98.5%	95.6%	94.2%	48,692	93.6%	63.4%	59.1%
Fayette County	14,331	99.1%	93.7%	92.8%	9,018	37.2%	38.1%	19.5%
Floyd County	52,977	97.2%	100.0%	97.2%	27,737	93.2%	96.1%	89.9%
Fountain County					16,574	74.5%	71.0%	56.5%
Franklin County	2,529	98.1%	76.0%	74.2%	20,499	33.3%	39.0%	20.2%
Fulton County	7,251	99.7%	99.7%	99.6%	13,076	50.5%	50.5%	31.0%
Gibson County	8,233	96.0%	91.6%	87.9%	24,760	62.2%	73.2%	54.4%
Grant County	40,371	96.2%	99.3%	95.6%	25,651	57.6%	83.1%	50.4%
Greene County	5,473	99.8%	100.0%	99.8%	25,533	53.4%	52.7%	39.2%
Hamilton County	343,370	99.6%	99.9%	99.6%	21,551	61.7%	99.0%	61.4%
Hancock County	59,725	99.6%	99.7%	99.4%	23,345	92.4%	91.5%	85.0%
Harrison County	5,598	91.7%	71.8%	66.1%	34,253	74.9%	44.8%	36.1%
Hendricks County	154,006	98.7%	100.0%	98.7%	28,528	76.7%	97.9%	75.4%
Henry County	18,499	99.8%	84.8%	84.7%	30,416	69.6%	60.3%	46.1%
Howard County	61,866	99.6%	98.7%	98.4%	21,708	66.4%	82.9%	57.0%
Huntington County	17,625	99.8%	96.1%	96.0%	19,209	85.3%	73.8%	66.5%
Jackson County	23,877	99.6%	94.4%	94.1%	22,423	94.0%	56.7%	53.8%
Jasper County	5,450	99.7%	77.6%	77.4%	27,831	56.7%	57.4%	43.4%
Jay County	6,309	99.6%	97.4%	97.1%	13,889	42.2%	59.2%	26.6%
Jefferson County	17,342	99.1%	85.5%	84.9%	15,604	47.0%	39.5%	22.0%
Jennings County	6,909	99.6%	85.8%	85.5%	20,627	79.1%	49.6%	42.8%
Johnson County	144,369	99.6%	100.0%	99.6%	21,413	85.6%	91.1%	79.8%
Knox County	19,261	100.0%	90.4%	90.4%	16,528	67.0%	55.7%	38.6%
Kosciusko County	41,315	99.8%	82.1%	82.0%	39,511	90.7%	57.2%	52.6%
LaGrange County					40,866	85.6%	53.6%	47.2%
LaPorte County	70,468	94.1%	93.4%	87.6%	41,207	69.3%	83.3%	57.8%
Lake County	477,024	99.4%	99.9%	99.4%	22,665	68.0%	95.4%	65.4%
Lawrence County	14,556	99.4%	95.8%	95.3%	30,666	77.6%	53.3%	46.9%
Madison County	98,482	98.1%	99.9%	98.0%	33,262	60.4%	97.9%	60.0%
Marion County	960,821	99.1%	100.0%	99.1%	8,645	94.9%	100.0%	94.9%
Marshall County	12,166	98.8%	92.4%	91.4%	34,166	70.4%	58.5%	47.5%
Martin County					9,803	61.5%	59.0%	47.9%
Miami County	18,005	95.7%	90.1%	85.9%	17,669	36.2%	51.0%	21.7%
Monroe County	109,245	99.1%	96.2%	95.3%	30,500	85.7%	60.2%	53.4%
Montgomery County	17,879	99.8%	95.7%	95.6%	20,394	47.5%	43.9%	24.9%
Morgan County	33,061	89.3%	99.9%	89.2%	39,175	88.7%	77.4%	67.7%
Newton County					13,823	72.1%	46.5%	35.1%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Noble County	10,400	99.9%	94.9%	94.8%	36,967	96.8%	57.1%	56.5%
Ohio County					6,114	57.9%	50.1%	44.8%
Orange County					19,623	98.5%	56.0%	55.6%
Owen County					21,482	62.8%	32.4%	24.7%
Parke County	110	100.0%	0.9%	0.9%	16,259	50.9%	46.5%	28.7%
Perry County	8,802	99.6%	74.1%	73.8%	10,381	82.9%	38.6%	35.1%
Pike County					12,168	49.5%	42.7%	29.7%
Porter County	132,955	99.3%	99.6%	99.0%	41,836	81.4%	96.5%	79.7%
Posey County	7,428	90.1%	99.9%	90.1%	17,635	54.9%	74.4%	40.8%
Pulaski County					12,485	44.6%	39.7%	24.6%
Putnam County	10,775	100.0%	69.3%	69.3%	26,526	57.8%	52.9%	34.0%
Randolph County	8,096	97.7%	96.5%	94.3%	16,341	44.5%	53.0%	33.0%
Ripley County	5,390	97.3%	100.0%	97.3%	23,697	78.3%	53.4%	45.1%
Rush County	6,402	98.8%	99.6%	98.5%	10,271	25.9%	43.3%	12.6%
Scott County	7,577	100.0%	73.1%	73.1%	17,011	80.5%	40.2%	29.6%
Shelby County	21,071	99.8%	90.1%	89.9%	23,920	79.5%	73.4%	61.1%
Spencer County					19,967	83.9%	49.7%	41.7%
St. Joseph County	244,642	98.4%	99.1%	97.5%	27,592	75.2%	76.5%	61.3%
Starke County					23,258	50.4%	48.7%	31.4%
Steuben County	12,016	99.8%	85.0%	85.0%	22,709	97.9%	57.7%	56.7%
Sullivan County	4,854	99.0%	100.0%	99.0%	15,816	40.8%	55.2%	24.4%
Switzerland County					10,006	50.1%	40.9%	25.0%
Tippecanoe County	157,861	98.7%	99.7%	98.5%	30,856	78.3%	68.0%	55.5%
Tipton County	5,829	99.2%	100.0%	99.2%	9,532	47.4%	82.9%	38.7%
Union County					6,952	14.4%	57.2%	11.0%
Vanderburgh County	164,669	99.4%	98.7%	98.1%	15,075	84.1%	87.1%	72.5%
Vermillion County	6,360	99.9%	83.4%	83.4%	9,091	54.6%	30.9%	16.1%
Vigo County	78,656	95.0%	98.3%	93.3%	27,350	65.6%	67.4%	50.2%
Wabash County	15,132	99.6%	99.2%	98.9%	15,696	49.5%	52.3%	30.2%
Warren County					8,461	24.7%	48.5%	22.4%
Warrick County	47,713	99.5%	97.7%	97.3%	17,472	47.7%	74.7%	41.0%
Washington County	6,632	95.4%	81.7%	77.6%	21,592	91.6%	41.3%	37.5%
Wayne County	41,014	99.4%	86.2%	85.8%	25,259	52.3%	46.8%	27.0%
Wells County	9,986	99.9%	99.2%	99.1%	18,349	83.2%	72.0%	60.6%
White County	9,528	99.6%	87.7%	87.4%	15,070	73.6%	61.9%	49.2%
Whitley County	10,539	99.8%	97.9%	97.8%	24,088	85.7%	76.8%	67.6%
Iowa	2,017,794	99.4%	95.9%	95.4%	1,182,723	85.2%	58.2%	50.8%
Adair County					7,494	94.2%	57.0%	56.7%
Adams County					3,611	63.4%	8.5%	4.4%
Allamakee County					13,960	88.0%	48.3%	47.6%
Appanoose County	5,161	99.9%	99.3%	99.3%	6,933	68.0%	64.0%	50.5%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Audubon County					5,598	96.3%	32.0%	31.6%
Benton County	4,768	100.0%	100.0%	100.0%	20,943	84.4%	65.9%	59.8%
Black Hawk County	113,294	99.8%	93.8%	93.7%	16,980	90.0%	69.7%	64.5%
Boone County	12,373	99.4%	90.3%	89.8%	14,236	73.7%	72.4%	56.1%
Bremer County	9,120	100.0%	99.8%	99.8%	16,139	93.6%	53.0%	51.0%
Buchanan County	6,824	100.0%	100.0%	100.0%	13,890	87.7%	58.5%	53.4%
Buena Vista County	11,590	100.0%	85.1%	85.1%	9,010	99.1%	52.2%	52.2%
Butler County					14,269	91.6%	50.7%	47.4%
Calhoun County					9,725	94.8%	41.6%	40.1%
Carroll County	10,073	99.7%	94.1%	93.8%	10,494	90.0%	17.2%	16.6%
Cass County	6,598	100.0%	57.3%	57.3%	6,506	95.9%	18.6%	18.3%
Cedar County					18,399	88.4%	79.7%	73.6%
Cerro Gordo County	33,697	99.9%	81.9%	81.8%	8,712	93.0%	29.0%	27.7%
Cherokee County	4,666	96.3%	66.9%	66.7%	6,825	86.5%	32.7%	30.6%
Chickasaw County					11,716	96.9%	60.8%	59.4%
Clarke County	5,259	98.8%	100.0%	98.8%	4,433	50.1%	61.4%	30.2%
Clay County	10,946	100.0%	99.2%	99.2%	5,529	97.2%	22.7%	22.4%
Clayton County	166	100.0%	74.0%	74.0%	16,861	88.8%	50.7%	49.0%
Clinton County	32,390	99.9%	98.2%	98.2%	13,954	93.9%	46.1%	43.3%
Crawford County	8,013	99.6%	62.2%	62.0%	8,110	86.7%	10.0%	8.7%
Dallas County	83,659	99.3%	100.0%	99.3%	24,357	76.3%	87.6%	67.1%
Davis County					9,130	96.8%	50.1%	49.7%
Decatur County					7,683	97.3%	67.4%	66.7%
Delaware County	4,906	100.0%	93.3%	93.3%	12,662	95.4%	56.4%	53.9%
Des Moines County	27,759	98.8%	92.5%	91.5%	10,534	84.9%	59.8%	51.2%
Dickinson County	13,158	99.7%	72.9%	72.7%	4,870	95.5%	53.4%	50.4%
Dubuque County	67,471	99.8%	94.1%	94.0%	31,206	95.9%	59.2%	57.5%
Emmet County	5,654	100.0%	99.0%	99.0%	3,522	98.9%	39.0%	38.7%
Fayette County	5,835	100.0%	100.0%	100.0%	13,459	90.2%	47.8%	46.8%
Floyd County	7,096	99.6%	86.2%	86.0%	8,241	86.7%	29.6%	26.1%
Franklin County					9,916	88.1%	57.5%	54.4%
Fremont County	14	100.0%	64.2%	64.2%	6,450	92.9%	16.8%	13.4%
Greene County					8,741	88.3%	68.9%	63.2%
Grundy County					12,356	94.0%	43.6%	41.4%
Guthrie County					10,647	93.6%	53.3%	50.9%
Hamilton County	7,501	99.9%	100.0%	99.9%	7,319	80.1%	48.3%	38.3%
Hancock County					10,685	96.8%	66.3%	65.4%
Hardin County	4,994	100.0%	100.0%	100.0%	11,573	96.2%	59.5%	57.8%
Harrison County					14,658	87.9%	56.5%	50.8%
Henry County	9,104	100.0%	99.9%	99.9%	11,092	89.1%	67.6%	65.2%
Howard County					9,533	92.9%	61.1%	59.6%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Humboldt County	5,336	100.0%	99.6%	99.6%	4,236	95.6%	57.8%	57.3%
Ida County					6,888	65.4%	37.1%	26.5%
Iowa County					16,475	83.8%	76.4%	67.2%
Jackson County	6,084	100.0%	99.0%	99.0%	13,240	93.4%	46.3%	42.8%
Jasper County	15,923	99.9%	95.8%	95.7%	22,015	84.9%	69.4%	59.0%
Jefferson County	9,106	98.4%	96.4%	94.9%	6,592	41.1%	61.2%	33.2%
Johnson County	129,440	99.0%	97.6%	96.6%	26,980	85.6%	67.7%	59.5%
Jones County	5,471	100.0%	99.9%	99.9%	15,377	97.9%	52.3%	51.6%
Keokuk County					9,904	98.3%	61.4%	61.2%
Kossuth County	5,289	99.6%	99.9%	99.6%	9,186	85.0%	27.6%	21.3%
Lee County	19,499	99.7%	79.6%	79.5%	13,341	41.1%	48.5%	29.2%
Linn County	196,627	99.5%	98.6%	98.2%	32,406	79.0%	74.0%	61.1%
Louisa County					10,677	80.5%	77.8%	68.1%
Lucas County					8,689	70.4%	76.4%	64.4%
Lyon County					12,179	97.5%	54.4%	53.4%
Madison County	5,204	99.9%	100.0%	99.9%	11,832	51.0%	70.0%	39.1%
Mahaska County	12,449	99.9%	81.0%	80.9%	9,497	74.1%	51.0%	41.3%
Marion County	17,747	100.0%	96.6%	96.6%	15,895	80.8%	55.3%	47.2%
Marshall County	27,210	99.9%	99.3%	99.2%	12,669	92.7%	57.7%	54.2%
Mills County	5,034	98.0%	57.0%	55.1%	9,519	71.5%	37.1%	22.8%
Mitchell County					10,532	90.9%	58.1%	57.4%
Monona County					8,486	75.6%	42.1%	30.6%
Monroe County					7,550	72.5%	52.6%	42.8%
Montgomery County	5,495	100.0%	70.3%	70.3%	4,710	100.0%	11.0%	11.0%
Muscatine County	24,604	97.3%	98.0%	95.4%	17,773	83.7%	66.6%	59.7%
O'Brien County	5,120	100.0%	79.4%	79.4%	8,940	83.0%	41.9%	38.7%
Osceola County					6,036	85.4%	68.7%	62.6%
Page County	9,097	100.0%	81.4%	81.4%	6,046	98.4%	31.6%	31.6%
Palo Alto County					8,764	84.8%	66.7%	59.5%
Plymouth County	9,871	99.9%	95.1%	95.0%	15,810	78.9%	60.9%	54.6%
Pocahontas County					7,053	97.5%	32.5%	32.4%
Polk County	478,262	99.3%	99.8%	99.1%	22,827	62.8%	91.9%	59.1%
Pottawattamie County	68,168	99.9%	99.8%	99.8%	25,005	96.7%	60.2%	58.4%
Poweshiek County	9,207	100.0%	99.6%	99.6%	9,260	64.2%	73.6%	48.6%
Ringgold County					4,670	97.0%	37.8%	37.5%
Sac County					9,673	85.0%	36.7%	33.4%
Scott County	150,733	99.8%	99.7%	99.6%	23,191	86.6%	80.0%	70.2%
Shelby County	4,717	100.0%	0.0%	0.0%	6,928	92.2%	2.2%	2.2%
Sioux County	15,605	99.8%	68.8%	68.7%	20,445	89.7%	68.3%	59.8%
Story County	71,024	98.4%	96.9%	95.3%	28,649	80.7%	51.5%	41.6%
Tama County	5,209	100.0%	81.9%	81.9%	11,694	90.8%	60.4%	58.7%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Taylor County					5,858	90.8%	21.4%	20.2%
Union County	7,366	99.9%	100.0%	99.9%	4,521	76.6%	65.8%	50.3%
Van Buren County					7,256	80.7%	53.9%	42.2%
Wapello County	24,691	99.1%	99.3%	98.5%	10,352	64.9%	66.1%	46.7%
Warren County	28,541	99.8%	99.7%	99.6%	25,786	54.8%	82.6%	48.5%
Washington County	6,868	100.0%	100.0%	100.0%	15,703	96.3%	68.9%	67.1%
Wayne County					6,467	80.5%	39.7%	35.4%
Webster County	24,517	92.9%	99.8%	92.7%	12,109	93.5%	52.7%	49.2%
Winnebago County					10,617	99.9%	70.8%	70.8%
Winneshiek County	7,549	99.7%	38.3%	38.0%	12,425	88.5%	36.2%	34.5%
Woodbury County	88,642	99.9%	93.2%	93.1%	17,029	79.5%	70.9%	60.5%
Worth County					7,319	99.6%	68.5%	68.3%
Wright County					12,681	96.6%	73.4%	71.6%
Kansas	2,111,557	98.3%	97.3%	95.8%	825,593	75.1%	65.8%	52.7%
Allen County	5,865	99.9%	100.0%	99.9%	6,714	62.6%	77.8%	52.0%
Anderson County					7,776	56.6%	63.8%	48.1%
Atchison County	10,687	100.0%	97.9%	97.9%	5,421	85.5%	59.8%	54.1%
Barber County					4,122	92.4%	73.7%	72.8%
Barton County	14,514	100.0%	84.2%	84.2%	10,566	99.1%	32.5%	32.5%
Bourbon County	7,673	100.0%	99.1%	99.1%	6,820	40.6%	58.2%	34.1%
Brown County					9,364	90.3%	79.9%	75.6%
Butler County	36,802	99.8%	100.0%	99.8%	31,438	80.8%	90.8%	76.7%
Chase County					2,548	59.2%	13.0%	7.4%
Chautauqua County					3,415	16.9%	61.3%	13.4%
Cherokee County					19,088	70.8%	70.6%	59.1%
Cheyenne County					2,583	53.8%	0.0%	0.0%
Clark County					1,933	92.3%	84.6%	82.1%
Clay County	4,071	100.0%	94.5%	94.5%	3,972	78.0%	48.2%	40.1%
Cloud County	4,967	100.0%	88.7%	88.7%	3,979	91.8%	57.7%	52.8%
Coffey County					8,280	70.0%	64.8%	54.4%
Comanche County					1,681	71.9%	47.8%	39.7%
Cowley County	23,210	100.0%	85.9%	85.9%	11,243	89.1%	39.5%	36.7%
Crawford County	23,126	100.0%	98.5%	98.5%	15,952	91.3%	66.8%	65.1%
Decatur County					2,689	79.5%	8.5%	6.6%
Dickinson County	6,670	99.3%	100.0%	99.3%	11,760	78.1%	68.8%	51.5%
Doniphan County	2,108	99.6%	95.2%	94.9%	5,332	83.1%	79.0%	69.7%
Douglas County	101,337	99.0%	97.8%	96.9%	18,627	68.4%	71.5%	47.0%
Edwards County					2,739	78.5%	27.4%	20.5%
Elk County					2,441	60.2%	27.4%	24.7%
Ellis County	21,623	100.0%	95.1%	95.1%	7,318	99.2%	48.1%	48.1%
Ellsworth County					6,355	89.7%	84.3%	78.7%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Finney County	30,109	99.7%	97.3%	97.0%	7,541	63.1%	88.5%	58.6%
Ford County	27,326	99.8%	97.1%	96.9%	6,522	55.6%	79.2%	48.0%
Franklin County	12,427	100.0%	100.0%	100.0%	13,565	38.9%	51.8%	26.0%
Geary County	26,054	99.8%	84.4%	84.3%	9,637	22.4%	43.9%	4.2%
Gove County					2,717	78.3%	15.8%	13.4%
Graham County					2,411	99.9%	53.5%	53.4%
Grant County	5,764	99.7%	31.6%	31.5%	1,433	31.4%	19.5%	9.4%
Gray County					5,729	98.7%	48.9%	48.5%
Greeley County					1,223	68.5%	90.6%	68.5%
Greenwood County					5,939	22.7%	60.3%	17.5%
Hamilton County					2,430	78.3%	88.1%	78.3%
Harper County					5,323	97.3%	70.5%	70.3%
Harvey County	20,268	99.9%	98.6%	98.6%	13,533	93.3%	53.9%	50.4%
Haskell County					3,576	76.1%	47.9%	39.1%
Hodgeman County					1,755	68.8%	50.5%	46.0%
Jackson County					13,286	79.2%	69.3%	59.7%
Jefferson County	155	100.0%	100.0%	100.0%	18,189	82.2%	75.7%	64.2%
Jewell County					2,898	93.6%	6.9%	6.4%
Johnson County	593,903	98.5%	99.9%	98.4%	25,292	68.6%	97.6%	67.6%
Kearny County					3,855	61.7%	80.3%	54.9%
Kingman County					7,193	93.0%	69.3%	67.5%
Kiowa County					2,404	66.8%	19.4%	10.4%
Labette County	9,289	99.9%	95.6%	95.5%	10,468	41.2%	63.5%	24.4%
Lane County					1,556	95.3%	92.2%	89.7%
Leavenworth County	50,302	91.5%	100.0%	91.5%	32,590	83.1%	90.9%	75.9%
Lincoln County					2,899	77.0%	7.4%	3.7%
Linn County					9,796	61.2%	50.6%	41.6%
Logan County					2,705	86.7%	11.6%	10.8%
Lyon County	23,726	100.0%	99.6%	99.6%	8,172	68.4%	40.3%	35.1%
Marion County					11,868	69.2%	67.6%	55.3%
Marshall County					9,982	72.9%	55.0%	43.2%
McPherson County	13,900	99.9%	82.0%	81.9%	16,112	85.6%	58.5%	49.3%
Meade County					3,897	78.8%	67.8%	62.2%
Miami County	8,435	8.0%	100.0%	8.0%	26,432	38.0%	84.4%	37.1%
Mitchell County					5,738	95.3%	69.3%	68.7%
Montgomery County	17,013	99.9%	62.0%	61.9%	13,983	51.6%	56.5%	38.6%
Morris County					5,349	96.8%	66.9%	64.8%
Morton County					2,599	76.1%	91.4%	73.6%
Nemaha County					10,115	77.1%	59.5%	51.9%
Neosho County	8,624	99.8%	93.3%	93.2%	6,982	45.0%	34.8%	13.5%
Ness County					2,645	95.2%	75.5%	72.8%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Norton County					5,301	83.2%	63.1%	59.0%
Osage County					15,654	64.2%	78.1%	56.0%
Osborne County					3,490	99.9%	61.1%	61.1%
Ottawa County					5,795	84.7%	69.7%	61.2%
Pawnee County	3,687	100.0%	22.0%	22.0%	2,492	91.6%	11.6%	11.5%
Phillips County					4,809	81.3%	56.2%	51.6%
Pottawatomie County	9,023	99.8%	69.0%	68.9%	17,250	92.8%	71.8%	65.7%
Pratt County	6,498	100.0%	99.5%	99.5%	2,569	79.7%	38.7%	35.2%
Rawlins County					2,528	54.0%	8.1%	3.4%
Reno County	41,943	97.9%	79.5%	77.7%	19,573	70.5%	33.6%	27.9%
Republic County					4,642	81.1%	69.9%	60.9%
Rice County					9,407	88.9%	46.7%	43.1%
Riley County	63,599	99.9%	92.9%	92.8%	7,509	74.5%	70.9%	58.5%
Rooks County					4,813	88.3%	78.7%	72.4%
Rush County					2,927	90.5%	8.1%	7.6%
Russell County	4,059	100.0%	60.3%	60.3%	2,580	99.7%	33.9%	33.8%
Saline County	45,890	99.9%	100.0%	99.9%	7,706	97.0%	53.5%	52.5%
Scott County					5,014	80.1%	94.7%	80.1%
Sedgwick County	485,427	99.8%	99.9%	99.8%	40,098	91.0%	94.8%	86.1%
Seward County	19,263	98.9%	99.0%	97.9%	2,095	38.5%	72.1%	33.2%
Shawnee County	147,314	99.8%	99.8%	99.7%	30,166	91.7%	82.4%	75.7%
Sheridan County					2,425	79.5%	57.7%	55.1%
Sherman County	4,347	100.0%	100.0%	100.0%	1,483	41.6%	49.3%	32.6%
Smith County					3,533	93.0%	57.4%	53.3%
Stafford County					3,993	94.6%	7.4%	7.1%
Stanton County					1,963	76.5%	28.6%	24.6%
Stevens County					5,175	72.5%	84.4%	72.5%
Sumner County	8,213	17.6%	61.7%	17.6%	14,260	67.9%	42.0%	28.2%
Thomas County	5,426	100.0%	93.5%	93.5%	2,467	67.0%	45.2%	32.1%
Trego County					2,752	99.4%	30.5%	30.5%
Wabaunsee County					7,019	89.2%	64.5%	59.8%
Wallace County					1,488	51.2%	5.3%	0.0%
Washington County					5,501	39.9%	43.3%	14.6%
Wichita County					2,064	72.9%	10.7%	6.5%
Wilson County					8,622	60.9%	67.8%	55.4%
Woodson County					3,109	43.1%	57.0%	43.1%
Wyandotte County	156,920	97.0%	99.8%	96.8%	8,826	92.4%	94.9%	87.7%
Kentucky	2,639,493	97.4%	95.6%	93.3%	1,872,817	67.9%	46.5%	34.0%
Adair County	5,133	99.9%	99.9%	99.8%	13,934	38.9%	29.8%	19.4%
Allen County	4,797	99.4%	84.9%	84.4%	16,478	98.6%	37.3%	37.0%
Anderson County	13,761	97.5%	97.1%	94.8%	10,463	36.0%	53.8%	28.0%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Ballard County					7,650	100.0%	38.3%	38.3%
Barren County	16,895	92.9%	80.7%	74.7%	27,959	77.3%	31.1%	23.2%
Bath County					12,829	67.9%	49.8%	39.1%
Bell County	10,373	94.9%	98.2%	93.1%	13,195	87.2%	38.1%	35.1%
Boone County	122,839	98.6%	98.0%	96.6%	16,254	95.5%	78.3%	75.2%
Bourbon County	11,196	97.7%	100.0%	97.7%	8,897	32.2%	74.9%	29.1%
Boyd County	36,575	99.2%	73.5%	73.0%	11,535	74.9%	49.7%	43.6%
Boyle County	20,059	95.9%	87.1%	83.3%	10,845	37.1%	51.8%	27.7%
Bracken County					8,452	44.1%	73.6%	41.4%
Breathitt County					13,351	65.9%	29.5%	28.3%
Breckinridge County					20,943	53.2%	53.1%	26.1%
Bullitt County	58,944	98.1%	99.9%	98.1%	24,892	80.5%	81.2%	67.4%
Butler County					12,295	36.9%	48.0%	27.5%
Caldwell County	6,030	99.6%	99.2%	98.8%	6,540	33.4%	31.1%	12.6%
Calloway County	19,247	93.8%	96.3%	90.3%	18,438	77.6%	32.4%	23.3%
Campbell County	77,289	99.3%	98.0%	97.4%	16,011	97.1%	80.0%	77.7%
Carlisle County					4,720	70.2%	18.8%	10.7%
Carroll County	5,530	92.5%	100.0%	92.5%	5,408	44.5%	66.9%	37.0%
Carter County	5,521	90.7%	96.8%	88.0%	20,874	50.7%	44.8%	30.4%
Casey County					15,920	50.2%	23.7%	19.4%
Christian County	48,685	96.8%	97.9%	94.7%	24,352	66.4%	67.2%	48.5%
Clark County	26,302	97.6%	95.8%	93.5%	10,759	36.4%	71.0%	29.6%
Clay County					19,913	85.8%	21.7%	21.0%
Clinton County					9,123	62.2%	51.6%	37.4%
Crittenden County					8,981	41.8%	49.6%	37.1%
Cumberland County					5,946	44.1%	42.1%	31.1%
Daviess County	78,142	97.2%	94.5%	92.1%	25,080	52.6%	63.6%	36.8%
Edmonson County					12,269	48.7%	28.6%	14.9%
Elliott County					7,293	100.0%	0.0%	0.0%
Estill County	3,996	98.6%	39.4%	38.7%	10,048	67.5%	31.3%	26.3%
Fayette County	310,737	99.2%	100.0%	99.2%	9,610	64.0%	95.1%	62.8%
Fleming County					15,288	55.6%	53.1%	37.0%
Floyd County	7,828	86.2%	26.0%	21.7%	27,150	91.2%	7.7%	6.9%
Franklin County	37,638	71.5%	95.8%	67.8%	13,969	20.9%	67.2%	17.4%
Fulton County	2,361	94.7%	82.8%	78.6%	4,021	61.3%	59.8%	47.5%
Gallatin County					8,763	81.4%	91.2%	75.8%
Garrard County					17,589	58.6%	58.3%	42.7%
Grant County					25,502	90.9%	78.8%	73.1%
Graves County	12,218	98.4%	81.1%	79.9%	24,194	90.6%	44.5%	41.1%
Grayson County	6,560	97.5%	46.8%	46.1%	20,071	75.2%	31.3%	24.5%
Green County					11,365	39.4%	27.0%	17.3%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
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Greenup County	20,393	99.3%	93.7%	93.1%	15,010	60.6%	45.4%	35.0%
Hancock County	779	86.6%	0.1%	0.1%	8,242	14.7%	33.8%	9.0%
Hardin County	70,020	99.8%	99.8%	99.6%	41,842	73.1%	68.5%	52.4%
Harlan County	5,920	82.1%	43.1%	35.7%	19,742	65.3%	22.9%	15.7%
Harrison County	6,601	97.9%	97.2%	95.1%	12,502	14.2%	59.5%	12.0%
Hart County	2,262	98.8%	47.5%	46.6%	17,338	63.7%	21.1%	16.7%
Henderson County	27,865	94.5%	97.8%	92.4%	16,181	51.5%	59.2%	28.5%
Henry County					15,771	54.9%	73.6%	46.8%
Hickman County					4,422	42.8%	57.6%	34.3%
Hopkins County	21,114	95.9%	92.2%	88.2%	23,698	58.5%	65.8%	42.8%
Jackson County					12,973	100.0%	2.2%	2.2%
Jefferson County	760,575	98.2%	99.9%	98.2%	12,824	72.8%	94.9%	70.4%
Jessamine County	40,812	99.9%	99.1%	99.1%	13,442	65.9%	88.7%	63.4%
Johnson County	5,934	99.9%	67.9%	67.8%	16,310	96.0%	7.4%	7.2%
Kenton County	158,473	99.4%	98.3%	97.7%	11,840	96.8%	78.3%	76.1%
Knott County					13,874	99.3%	9.2%	9.2%
Knox County	11,542	99.9%	58.7%	58.7%	18,249	76.9%	26.7%	22.6%
Larue County					15,163	65.5%	44.7%	36.6%
Laurel County	24,497	97.0%	66.5%	65.3%	38,388	85.4%	30.8%	28.5%
Lawrence County	3,905	99.6%	99.8%	99.4%	12,204	99.7%	12.9%	12.8%
Lee County					7,261	52.8%	23.5%	13.6%
Leslie County					10,093	40.8%	4.8%	2.1%
Letcher County					20,893	97.0%	17.6%	17.4%
Lewis County					12,954	53.0%	56.6%	41.4%
Lincoln County	22	100.0%	0.0%	0.0%	24,338	50.4%	54.2%	33.1%
Livingston County	375	98.4%	12.2%	12.2%	8,588	43.6%	44.2%	24.8%
Logan County	6,795	98.8%	94.8%	94.6%	21,082	65.2%	41.6%	31.6%
Lyon County					9,101	43.6%	47.1%	20.6%
Madison County	60,597	98.5%	97.7%	96.3%	34,590	79.1%	58.0%	49.6%
Magoffin County					11,357	100.0%	17.6%	17.6%
Marion County	6,320	95.0%	94.0%	89.2%	13,455	59.1%	30.4%	22.6%
Marshall County	4,771	94.3%	90.4%	84.7%	27,006	82.1%	44.5%	37.7%
Martin County					11,095	36.0%	7.0%	3.2%
Mason County	7,887	98.7%	98.7%	97.6%	9,043	51.3%	72.3%	43.6%
McCracken County	49,238	98.7%	88.7%	87.6%	18,252	90.6%	63.5%	59.3%
McCreary County					16,701	99.8%	39.0%	39.0%
McLean County					9,105	37.9%	47.0%	23.8%
Meade County	1,130	92.5%	100.0%	92.5%	28,871	98.7%	47.1%	46.7%
Menifee County					6,250	100.0%	32.9%	32.9%
Mercer County	9,908	96.5%	96.2%	93.0%	12,994	43.9%	48.9%	23.4%
Metcalfe County					10,370	53.3%	21.3%	15.1%

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Monroe County					11,355	52.6%	10.7%	8.5%
Montgomery County	14,087	95.7%	81.6%	78.0%	14,280	59.7%	63.5%	45.3%
Morgan County					14,120	100.0%	11.9%	11.9%
Muhlenberg County	11,077	90.3%	81.7%	72.5%	19,378	59.3%	30.5%	17.5%
Nelson County	17,847	100.0%	95.2%	95.2%	29,545	88.9%	62.4%	58.3%
Nicholas County					7,805	33.8%	66.0%	33.6%
Ohio County	6,148	93.1%	92.2%	86.1%	17,379	25.7%	40.1%	13.9%
Oldham County	51,962	96.4%	99.0%	95.5%	17,469	69.1%	91.8%	64.9%
Owen County					11,290	47.6%	68.7%	41.2%
Owsley County					3,929	99.5%	31.6%	31.6%
Pendleton County					14,676	82.6%	59.4%	52.5%
Perry County	7,863	98.5%	48.9%	48.5%	19,498	85.1%	5.8%	5.4%
Pike County	8,683	68.6%	45.7%	33.2%	47,603	67.7%	7.4%	3.6%
Powell County					13,083	47.7%	61.7%	36.3%
Pulaski County	31,109	98.5%	87.3%	86.0%	34,686	64.2%	47.9%	38.2%
Robertson County					2,229	8.5%	29.3%	4.3%
Rockcastle County					16,242	55.0%	54.5%	39.1%
Rowan County	8,436	99.2%	82.4%	81.8%	15,952	82.9%	49.4%	46.5%
Russell County					18,178	94.6%	32.9%	32.2%
Scott County	39,768	97.6%	100.0%	97.6%	19,331	42.5%	80.6%	39.4%
Shelby County	23,200	94.4%	99.6%	94.0%	25,686	51.3%	78.1%	46.2%
Simpson County	11,973	99.9%	96.4%	96.3%	7,976	90.8%	56.6%	52.9%
Spencer County					20,204	63.1%	50.6%	35.5%
Taylor County	13,097	99.1%	85.5%	84.8%	13,310	52.1%	19.3%	13.3%
Todd County					12,404	44.2%	51.3%	28.8%
Trigg County					14,332	52.9%	49.4%	34.8%
Trimble County					8,539	62.9%	53.4%	33.1%
Union County					12,961	70.6%	64.2%	53.5%
Warren County	100,744	93.2%	96.9%	90.3%	39,099	90.1%	62.2%	58.3%
Washington County					12,061	52.2%	64.2%	38.0%
Wayne County	6,735	93.4%	94.4%	88.0%	12,946	62.1%	22.5%	18.4%
Webster County					12,726	53.3%	52.3%	31.8%
Whitley County	13,375	92.9%	43.6%	42.9%	23,498	66.2%	29.9%	19.7%
Wolfe County					6,400	100.0%	28.1%	28.1%
Woodford County	16,998	99.8%	100.0%	99.8%	10,064	52.2%	79.6%	47.3%
Louisiana	3,275,134	95.9%	96.8%	93.2%	1,315,107	52.1%	63.5%	39.1%
Acadia Parish	21,957	99.5%	99.9%	99.4%	34,787	53.6%	58.9%	36.1%
Allen Parish	6,655	5.8%	99.9%	5.8%	15,665	25.0%	62.4%	21.9%
Ascension Parish	116,460	99.9%	99.3%	99.3%	13,998	97.8%	92.3%	90.7%
Assumption Parish	7,261	96.0%	92.5%	88.6%	13,343	95.1%	65.2%	62.1%
Avoyelles Parish	7,098	0.0%	77.7%	0.0%	31,653	0.6%	71.9%	0.6%

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Beauregard Parish	10,132	86.2%	81.3%	69.7%	26,438	7.9%	46.3%	4.9%
Bienville Parish					12,641	15.9%	44.5%	15.3%
Bossier Parish	94,277	92.3%	91.5%	84.3%	34,999	47.3%	56.4%	34.1%
Caddo Parish	192,575	98.8%	87.8%	86.7%	36,450	76.4%	46.5%	39.9%
Calcasieu Parish	151,496	91.8%	98.1%	90.1%	50,922	53.7%	76.8%	43.9%
Caldwell Parish					9,554	42.5%	65.3%	38.5%
Cameron Parish					4,902	66.2%	57.9%	37.5%
Catahoula Parish					8,566	5.0%	58.4%	5.0%
Claiborne Parish					13,744	43.9%	42.3%	33.6%
Concordia Parish	12,004	34.9%	98.8%	34.9%	6,112	7.0%	65.4%	3.6%
De Soto Parish	5,622	100.0%	100.0%	100.0%	21,231	55.2%	48.2%	35.9%
East Baton Rouge Parish	418,268	100.0%	99.9%	99.9%	32,276	100.0%	86.6%	86.6%
East Carroll Parish					6,990	64.6%	86.6%	63.5%
East Feliciana Parish					19,135	10.7%	60.7%	9.5%
Evangeline Parish	8,166	64.9%	69.0%	45.7%	23,820	24.4%	55.8%	14.5%
Franklin Parish	5,143	100.0%	91.2%	91.2%	14,165	32.3%	49.3%	17.4%
Grant Parish					22,000	23.8%	37.4%	15.8%
Iberia Parish	46,124	88.7%	95.1%	86.8%	22,203	35.8%	71.4%	31.0%
Iberville Parish	12,379	99.5%	97.5%	97.1%	17,127	83.4%	78.7%	64.0%
Jackson Parish	5,212	6.1%	96.8%	6.1%	9,627	0.6%	25.6%	0.2%
Jefferson Davis Parish	9,451	90.6%	81.6%	74.3%	22,575	51.6%	67.4%	39.0%
Jefferson Parish	419,008	99.9%	99.9%	99.9%	6,876	97.2%	99.1%	96.4%
LaSalle Parish					14,729	0.0%	53.0%	0.0%
Lafayette Parish	225,336	99.5%	99.5%	99.0%	22,530	86.1%	69.5%	62.8%
Lafourche Parish	73,273	72.5%	93.0%	69.7%	22,597	72.3%	75.5%	52.5%
Lincoln Parish	28,300	81.1%	88.0%	72.2%	19,829	34.3%	46.9%	19.4%
Livingston Parish	90,771	99.3%	95.1%	94.5%	57,654	93.5%	82.4%	77.8%
Madison Parish	6,915	97.3%	97.8%	95.1%	2,563	11.5%	47.6%	11.5%
Morehouse Parish	12,017	86.1%	82.3%	72.8%	12,429	86.3%	49.4%	43.3%
Natchitoches Parish	17,568	87.2%	75.8%	68.4%	19,095	34.9%	24.5%	12.7%
Orleans Parish	368,139	99.9%	100.0%	99.9%	1,610	91.1%	99.8%	91.1%
Ouachita Parish	118,154	99.4%	97.6%	97.0%	39,548	69.1%	51.2%	40.9%
Plaquemines Parish	14,400	92.2%	100.0%	92.2%	8,116	8.0%	91.2%	7.9%
Pointe Coupee Parish	6,683	99.3%	94.1%	93.4%	13,468	78.6%	58.0%	46.7%
Rapides Parish	77,738	87.7%	86.9%	76.8%	49,451	41.8%	49.7%	21.1%
Red River Parish					7,420	21.8%	16.1%	1.6%
Richland Parish					19,826	49.5%	76.9%	47.1%
Sabine Parish					21,985	6.2%	16.2%	2.5%
St. Bernard Parish	42,059	99.9%	100.0%	99.9%	2,420	98.2%	99.2%	97.4%
St. Charles Parish	42,007	99.8%	99.8%	99.7%	8,991	97.3%	82.8%	80.4%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
St. Helena Parish					10,822	32.1%	35.2%	10.9%
St. James Parish	9,850	85.8%	100.0%	85.8%	9,573	82.7%	95.2%	78.7%
St. John the Baptist Parish	35,273	99.0%	100.0%	99.0%	4,591	92.2%	95.5%	92.1%
St. Landry Parish	33,387	92.6%	97.0%	89.6%	48,386	65.0%	65.0%	44.3%
St. Martin Parish	24,462	96.4%	92.0%	88.9%	26,774	70.5%	71.9%	52.7%
St. Mary Parish	38,496	99.1%	95.9%	95.1%	9,293	61.9%	86.6%	57.5%
St. Tammany Parish	210,234	96.7%	98.3%	95.1%	63,029	83.0%	84.8%	72.4%
Tangipahoa Parish	74,093	97.3%	97.1%	94.4%	62,955	78.0%	82.1%	66.8%
Tensas Parish					3,846	14.0%	17.7%	1.6%
Terrebonne Parish	83,080	99.1%	92.5%	91.7%	21,706	96.4%	84.3%	81.7%
Union Parish					20,721	24.8%	39.1%	16.5%
Vermilion Parish	23,513	99.2%	92.1%	91.3%	33,439	51.6%	67.8%	39.7%
Vernon Parish	15,568	65.7%	99.0%	65.3%	31,679	17.5%	57.6%	13.5%
Washington Parish	11,218	47.7%	99.5%	47.6%	33,807	4.1%	70.6%	3.9%
Webster Parish	18,115	80.7%	79.1%	61.2%	17,528	19.9%	39.2%	8.9%
West Baton Rouge Parish	20,751	100.0%	99.9%	99.9%	7,283	99.8%	73.0%	72.8%
West Carroll Parish					9,475	29.7%	53.1%	21.4%
West Feliciana Parish					15,381	13.4%	68.5%	10.2%
Winn Parish	4,446	58.1%	99.6%	57.9%	8,759	5.4%	35.1%	5.2%
Maine	536,251	97.6%	90.3%	88.2%	849,089	82.1%	48.4%	42.4%
Androscoggin County	62,053	98.7%	96.1%	95.0%	50,970	94.6%	51.1%	48.3%
Aroostook County	9,816	97.6%	96.0%	93.7%	57,439	66.9%	51.2%	40.1%
Cumberland County	190,379	98.9%	88.5%	87.6%	117,072	95.5%	46.1%	44.1%
Franklin County					30,474	80.6%	58.9%	54.7%
Hancock County					56,701	77.5%	47.4%	39.3%
Kennebec County	47,592	94.8%	97.9%	92.9%	77,948	91.0%	56.3%	51.8%
Knox County	14,795	97.0%	87.2%	84.6%	26,369	80.5%	36.7%	28.1%
Lincoln County	3,464	96.6%	59.9%	58.5%	32,751	85.2%	28.0%	24.8%
Oxford County	10,209	94.0%	98.7%	92.8%	49,286	72.1%	54.5%	43.0%
Penobscot County	66,174	95.3%	92.3%	88.3%	87,530	76.9%	44.9%	38.6%
Piscataquis County					17,417	65.1%	37.8%	27.6%
Sagadahoc County	14,726	99.9%	93.6%	93.5%	22,667	90.2%	46.0%	43.3%
Somerset County	7,699	97.8%	95.2%	93.8%	43,399	70.3%	54.5%	44.6%
Waldo County	3,947	91.5%	89.3%	86.4%	36,294	49.8%	38.6%	21.2%
Washington County					31,437	68.4%	34.1%	28.0%
York County	105,397	97.8%	84.6%	82.8%	111,335	95.0%	56.4%	53.9%
Maryland	5,253,864	99.4%	97.3%	96.8%	910,796	85.8%	76.3%	67.1%
Allegany County	44,208	97.9%	96.7%	94.8%	23,059	78.5%	69.4%	56.9%
Anne Arundel County	547,472	99.8%	97.1%	97.0%	45,814	97.5%	85.7%	83.6%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Baltimore County	784,280	99.6%	99.1%	98.8%	61,881	89.9%	87.0%	79.5%
Baltimore city	569,931	99.6%	99.7%	99.4%				
Calvert County	35,871	99.6%	94.4%	94.1%	58,702	97.0%	77.0%	74.7%
Caroline County	5,000	99.1%	100.0%	99.1%	28,433	73.2%	82.5%	62.4%
Carroll County	101,349	97.8%	97.8%	95.6%	73,956	80.5%	84.4%	68.4%
Cecil County	53,984	97.2%	98.6%	96.0%	50,958	90.6%	75.2%	69.4%
Charles County	121,260	99.6%	95.8%	95.6%	48,842	85.9%	67.5%	58.8%
Dorchester County	14,979	99.1%	98.8%	98.0%	17,747	65.3%	74.1%	56.3%
Frederick County	207,400	98.8%	95.1%	93.9%	79,679	85.5%	73.4%	65.0%
Garrett County	4,416	98.9%	96.9%	95.8%	24,163	62.7%	60.1%	41.0%
Harford County	206,360	99.7%	97.2%	97.0%	57,507	90.7%	84.5%	76.6%
Howard County	293,702	99.8%	99.7%	99.6%	41,709	96.2%	84.5%	81.8%
Kent County	5,589	99.9%	98.8%	98.7%	13,731	85.1%	48.2%	42.4%
Montgomery County	1,023,429	99.8%	95.1%	94.9%	29,092	95.3%	63.1%	60.2%
Prince George's County	923,186	99.7%	96.9%	96.6%	23,785	95.2%	78.9%	75.7%
Queen Anne's County	21,109	98.9%	90.0%	89.1%	30,602	83.7%	70.7%	58.8%
Somerset County	10,083	98.5%	97.8%	96.4%	14,463	63.8%	55.6%	37.2%
St. Mary's County	48,848	97.1%	96.8%	95.3%	66,029	88.0%	73.2%	64.9%
Talbot County	18,211	100.0%	98.1%	98.1%	19,721	79.1%	48.1%	41.2%
Washington County	105,220	93.1%	99.9%	93.1%	50,370	84.2%	85.0%	73.7%
Wicomico County	75,800	99.2%	99.4%	98.7%	28,864	78.3%	79.9%	65.6%
Worcester County	32,177	99.5%	91.0%	90.7%	21,689	68.9%	74.8%	58.1%
Massachusetts	6,355,065	98.9%	95.0%	94.0%	626,909	96.0%	62.5%	60.5%
Barnstable County	226,371	99.6%	85.9%	85.7%	6,086	94.3%	77.2%	73.0%
Berkshire County	83,002	94.0%	86.7%	81.3%	44,857	88.2%	51.4%	45.6%
Bristol County	516,596	99.7%	95.7%	95.5%	63,472	98.6%	74.4%	73.6%
Dukes County	14,140	99.7%	73.9%	73.7%	6,728	93.4%	39.8%	36.6%
Essex County	764,734	99.8%	95.8%	95.6%	42,031	98.8%	70.8%	70.1%
Franklin County	31,689	99.1%	84.5%	83.7%	39,205	92.0%	48.9%	46.0%
Hampden County	416,511	98.8%	96.4%	95.3%	44,530	96.9%	63.3%	61.5%
Hampshire County	111,271	98.6%	97.0%	95.6%	51,317	95.8%	72.0%	69.2%
Middlesex County	1,558,677	99.7%	96.1%	95.8%	58,428	98.8%	60.5%	59.8%
Nantucket County	12,044	99.8%	62.2%	62.0%	2,377	97.6%	34.8%	34.6%
Norfolk County	710,431	99.4%	94.8%	94.2%	15,100	98.8%	81.1%	80.2%
Plymouth County	465,915	99.5%	90.4%	90.0%	67,154	98.5%	69.3%	68.4%
Suffolk County	766,380	99.8%	99.0%	98.9%	1	0.0%	100.0%	0.0%
Worcester County	677,304	94.1%	94.0%	88.5%	185,623	95.2%	56.8%	54.3%
Michigan	7,322,557	98.2%	97.3%	95.7%	2,711,556	70.5%	63.9%	48.1%
Alcona County	757	96.9%	31.4%	30.7%	9,660	42.5%	21.9%	7.5%
Alger County					8,807	57.6%	39.5%	30.2%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Allegan County	38,365	95.1%	89.3%	85.3%	82,845	51.5%	64.8%	36.6%
Alpena County	15,396	99.5%	91.6%	91.2%	13,451	99.5%	35.6%	35.4%
Antrim County					24,249	72.3%	51.8%	40.6%
Arenac County	2,066	92.1%	54.0%	48.0%	13,023	46.7%	35.6%	15.3%
Baraga County					8,277	72.1%	34.2%	24.3%
Barry County	8,042	86.5%	89.0%	82.9%	55,512	58.8%	53.5%	32.4%
Bay County	73,083	96.1%	99.7%	95.9%	29,738	55.1%	89.7%	53.0%
Benzie County	2,650	92.6%	70.2%	64.7%	15,647	62.6%	47.4%	33.3%
Berrien County	106,293	98.5%	90.4%	89.3%	46,607	88.3%	66.8%	59.9%
Branch County	13,504	97.7%	95.4%	93.3%	31,027	60.5%	41.9%	31.1%
Calhoun County	89,003	96.7%	93.7%	90.9%	44,286	67.1%	54.7%	42.4%
Cass County	13,137	97.9%	69.4%	67.5%	38,266	85.8%	49.4%	42.2%
Charlevoix County	7,905	92.6%	67.5%	62.0%	18,388	88.0%	53.0%	48.1%
Cheboygan County	5,325	90.8%	90.4%	82.8%	20,615	55.6%	42.4%	26.3%
Chippewa County	17,579	77.7%	90.7%	69.5%	18,714	35.4%	28.7%	14.9%
Clare County	3,912	91.0%	78.2%	69.5%	27,440	69.7%	48.2%	39.0%
Clinton County	37,467	93.9%	100.0%	93.9%	42,281	76.7%	82.1%	62.7%
Crawford County	45	91.1%	57.7%	48.8%	13,446	52.3%	48.8%	33.0%
Delta County	20,938	95.0%	84.9%	81.0%	15,803	57.9%	33.0%	22.1%
Dickinson County	16,654	93.9%	94.6%	88.8%	9,220	49.0%	36.3%	22.8%
Eaton County	66,246	97.5%	99.0%	96.5%	42,746	63.4%	76.9%	52.0%
Emmet County	12,482	85.8%	81.6%	69.5%	21,681	88.7%	38.8%	34.4%
Genesee County	328,049	98.7%	99.8%	98.6%	73,934	84.1%	95.9%	81.8%
Gladwin County					25,728	71.6%	42.2%	35.9%
Gogebic County	5,111	94.1%	88.0%	82.4%	9,208	60.4%	68.1%	51.2%
Grand Traverse County	54,575	93.3%	61.3%	56.8%	41,889	76.2%	51.7%	42.2%
Gratiot County	15,608	99.9%	90.2%	90.2%	25,492	97.4%	59.7%	59.0%
Hillsdale County	10,265	98.4%	90.1%	88.9%	35,497	85.2%	51.2%	46.5%
Houghton County	19,694	93.7%	93.3%	87.2%	17,341	60.2%	48.1%	36.4%
Huron County					31,248	59.5%	40.0%	26.8%
Ingham County	238,867	97.5%	100.0%	97.5%	45,241	70.2%	84.5%	62.1%
Ionia County	24,787	97.6%	99.6%	97.3%	42,022	84.0%	78.2%	65.4%
Iosco County	12,980	93.8%	74.0%	69.4%	12,541	54.3%	35.6%	20.9%
Iron County					11,622	53.4%	52.8%	43.0%
Isabella County	29,841	99.8%	99.2%	99.0%	34,606	89.5%	49.3%	45.7%
Jackson County	83,712	89.0%	99.9%	88.9%	76,354	72.8%	73.0%	54.7%
Kalamazoo County	203,038	97.1%	90.7%	88.0%	58,135	92.6%	60.3%	56.8%
Kalkaska County					18,182	47.2%	42.8%	23.8%
Kent County	551,643	98.2%	99.4%	97.7%	107,440	82.2%	81.5%	67.8%
Keweenaw County					2,180	47.0%	40.2%	34.6%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Lake County					12,594	32.4%	43.9%	16.7%
Lapeer County	13,209	86.9%	99.9%	86.8%	75,571	56.7%	80.5%	48.2%
Leelanau County	2,788	93.4%	18.7%	17.6%	20,082	66.0%	38.2%	26.0%
Lenawee County	41,160	99.6%	89.9%	89.6%	57,407	95.3%	59.8%	57.9%
Livingston County	118,590	98.1%	96.0%	94.3%	77,571	77.1%	84.7%	65.9%
Luce County					5,330	53.3%	24.7%	17.5%
Mackinac County	2,702	89.1%	81.5%	73.1%	8,239	43.9%	32.6%	17.6%
Macomb County	845,553	99.8%	99.7%	99.5%	28,642	75.2%	93.0%	71.3%
Manistee County	8,191	93.6%	73.7%	68.1%	17,096	38.0%	36.4%	15.9%
Marquette County	36,200	94.8%	86.9%	82.6%	30,461	61.6%	43.8%	34.7%
Mason County	11,802	90.3%	88.1%	80.5%	17,607	39.3%	51.0%	23.2%
Mecosta County	8,935	98.7%	94.2%	93.0%	31,785	91.6%	42.8%	40.9%
Menominee County	8,549	94.4%	93.8%	89.7%	14,717	31.1%	35.0%	17.2%
Midland County	46,886	95.2%	99.7%	94.9%	36,788	61.4%	84.4%	55.0%
Missaukee County					15,213	33.2%	44.4%	16.7%
Monroe County	96,257	98.7%	96.7%	95.5%	59,352	80.7%	87.7%	71.2%
Montcalm County	10,061	99.9%	100.0%	99.9%	57,372	96.6%	67.3%	65.6%
Montmorency County					9,569	57.2%	27.9%	17.6%
Muskegon County	130,331	97.9%	81.8%	80.0%	46,234	68.4%	49.2%	33.0%
Newaygo County	5,170	99.4%	94.5%	94.0%	45,716	61.2%	40.9%	25.9%
Oakland County	1,197,505	99.4%	99.4%	98.8%	71,926	90.4%	94.3%	85.8%
Oceana County					26,973	76.6%	54.0%	43.6%
Ogemaw County					20,970	63.4%	43.7%	30.9%
Ontonagon County					5,863	58.5%	39.8%	29.2%
Osceola County					23,274	72.2%	66.7%	52.4%
Oscoda County					8,404	60.2%	32.5%	26.0%
Otsego County	8,516	95.0%	80.0%	77.1%	17,128	55.1%	44.4%	28.5%
Ottawa County	237,228	97.3%	92.6%	90.2%	63,645	74.0%	80.0%	58.4%
Presque Isle County					13,361	57.4%	40.0%	29.1%
Roscommon County	13,368	95.6%	54.8%	51.8%	10,340	71.1%	59.0%	41.8%
Saginaw County	125,077	96.0%	100.0%	96.0%	63,253	71.6%	89.7%	65.3%
Sanilac County	2,717	88.1%	45.0%	34.5%	37,940	47.5%	26.4%	15.7%
Schoolcraft County					8,188	51.0%	42.8%	30.6%
Shiawassee County	27,211	95.3%	96.3%	92.2%	40,811	52.9%	94.1%	51.5%
St. Clair County	97,029	98.9%	94.8%	93.8%	63,122	50.0%	84.6%	43.3%
St. Joseph County	21,842	95.9%	95.7%	91.8%	39,032	94.4%	52.5%	49.7%
Tuscola County	5,365	91.9%	87.4%	80.3%	47,580	63.5%	34.0%	22.7%
Van Buren County	16,479	89.8%	85.0%	76.3%	59,213	64.2%	50.0%	32.9%
Washtenaw County	301,309	96.4%	99.9%	96.4%	65,067	80.4%	91.0%	74.5%
Wayne County	1,741,200	99.4%	99.7%	99.2%	15,843	94.1%	86.1%	82.2%
Wexford County	12,308	92.8%	82.4%	76.6%	21,888	44.6%	50.2%	26.1%

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Minnesota	4,083,777	99.2%	98.0%	97.3%	1,633,407	81.6%	65.7%	55.5%
Aitkin County					16,126	69.4%	48.5%	38.5%
Anoka County	309,652	99.5%	98.8%	98.4%	59,212	86.6%	87.2%	75.3%
Becker County	10,276	99.0%	75.9%	75.3%	25,095	73.6%	39.2%	31.4%
Beltrami County	15,223	100.0%	89.6%	89.6%	31,576	98.8%	37.4%	37.3%
Benton County	22,751	95.0%	100.0%	95.0%	18,712	80.2%	86.9%	68.5%
Big Stone County					5,144	98.9%	24.3%	24.0%
Blue Earth County	44,685	97.8%	95.3%	93.1%	24,946	95.3%	60.5%	57.6%
Brown County	13,431	99.9%	83.3%	83.3%	12,292	88.4%	60.7%	57.3%
Carlton County	13,055	99.1%	73.0%	72.5%	23,653	39.3%	50.8%	24.6%
Carver County	82,827	99.6%	99.8%	99.5%	27,207	96.6%	96.5%	93.4%
Cass County					31,274	63.7%	55.3%	39.9%
Chippewa County	5,248	100.0%	83.3%	83.3%	7,036	98.3%	53.7%	52.9%
Chisago County	19,811	97.0%	97.7%	94.8%	38,177	65.3%	89.5%	60.8%
Clay County	48,609	100.0%	99.2%	99.2%	17,320	97.3%	64.5%	63.6%
Clearwater County					8,649	99.1%	53.2%	52.9%
Cook County					5,708	95.2%	54.0%	53.2%
Cottonwood County					11,356	88.6%	76.5%	71.1%
Crow Wing County	20,717	99.6%	95.3%	94.9%	47,231	83.2%	60.2%	52.7%
Dakota County	420,676	99.4%	99.4%	98.8%	22,665	96.0%	96.6%	93.0%
Dodge County	7,697	100.0%	93.4%	93.4%	13,284	99.8%	59.6%	59.6%
Douglas County	19,301	96.4%	78.9%	76.2%	20,367	73.2%	34.5%	27.5%
Faribault County					13,926	86.2%	49.2%	43.1%
Fillmore County					21,414	85.9%	63.4%	58.6%
Freeborn County	17,814	99.6%	96.6%	96.3%	12,904	99.1%	34.4%	34.0%
Goodhue County	15,741	99.9%	83.8%	83.8%	32,272	91.1%	68.4%	65.7%
Grant County					6,136	82.2%	39.1%	36.6%
Hennepin County	1,229,360	99.6%	99.8%	99.4%	30,761	85.7%	99.1%	84.9%
Houston County	5,468	100.0%	80.5%	80.5%	13,332	78.1%	36.2%	33.1%
Hubbard County					21,960	92.2%	56.1%	52.7%
Isanti County	17,136	99.3%	99.7%	99.0%	25,591	33.1%	73.2%	28.4%
Itasca County	10,481	100.0%	90.8%	90.8%	34,724	90.6%	53.6%	49.9%
Jackson County					9,893	95.5%	56.6%	54.1%
Kanabec County					16,463	27.4%	59.8%	25.1%
Kandiyohi County	24,852	97.6%	98.3%	95.9%	18,987	93.2%	69.4%	64.9%
Kittson County					4,059	95.2%	33.9%	33.9%
Koochiching County	6,622	99.2%	76.0%	75.4%	5,222	62.5%	21.5%	15.9%
Lac qui Parle County					6,689	100.0%	43.6%	43.6%
Lake County					10,939	90.6%	75.1%	71.4%
Lake of the Woods County					3,871	80.9%	57.5%	53.2%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Le Sueur County	4,029	99.7%	97.6%	97.3%	25,124	98.2%	74.8%	74.0%
Lincoln County					5,580	99.0%	41.6%	41.0%
Lyon County	13,391	100.0%	98.3%	98.3%	11,871	99.7%	55.0%	54.9%
Mahnomen County					5,328	71.3%	38.0%	32.8%
Marshall County					8,861	94.5%	45.2%	44.7%
Martin County	8,106	100.0%	81.2%	81.2%	11,544	97.5%	48.5%	48.2%
McLeod County	20,281	99.4%	99.1%	98.5%	16,433	94.9%	94.7%	90.5%
Meeker County	6,652	100.0%	100.0%	100.0%	16,844	90.0%	72.8%	65.7%
Mille Lacs County	4,801	99.7%	100.0%	99.7%	22,479	77.8%	71.8%	58.6%
Morrison County	9,392	99.8%	91.4%	91.2%	24,854	75.3%	53.3%	39.9%
Mower County	25,313	100.0%	96.0%	96.0%	14,827	96.4%	40.7%	40.2%
Murray County					8,060	98.8%	61.2%	60.8%
Nicollet County	25,782	99.5%	95.1%	94.7%	8,659	73.6%	48.4%	32.9%
Nobles County	13,661	99.9%	100.0%	99.9%	8,286	89.4%	46.3%	40.0%
Norman County					6,377	87.6%	50.1%	46.8%
Olmsted County	135,150	99.5%	100.0%	99.5%	28,870	96.5%	85.7%	83.9%
Otter Tail County	13,183	96.5%	81.8%	78.6%	47,336	70.1%	40.3%	31.5%
Pennington County	8,772	100.0%	99.0%	99.0%	5,073	96.5%	33.3%	31.8%
Pine County					29,446	48.7%	57.6%	37.6%
Pipestone County					9,355	99.0%	59.8%	59.5%
Polk County	16,371	99.5%	98.2%	97.8%	14,360	98.2%	31.2%	31.1%
Pope County	4,262	96.0%	65.7%	61.7%	7,169	89.0%	16.7%	15.4%
Ramsey County	536,320	99.6%	99.8%	99.4%	93	81.7%	95.6%	77.4%
Red Lake County					3,874	94.7%	62.2%	61.7%
Redwood County	4,595	99.8%	99.4%	99.3%	10,766	72.1%	35.6%	28.6%
Renville County					14,525	97.8%	61.3%	60.6%
Rice County	45,157	98.6%	99.3%	98.0%	22,536	91.6%	81.7%	75.3%
Rock County	4,764	99.9%	9.0%	9.0%	4,773	95.3%	36.7%	34.7%
Roseau County					15,292	94.7%	61.3%	58.8%
Scott County	125,853	99.8%	99.7%	99.6%	28,667	94.4%	96.9%	91.8%
Sherburne County	49,029	97.4%	100.0%	97.4%	51,795	81.1%	91.6%	74.9%
Sibley County					14,955	94.6%	73.1%	71.2%
St. Louis County	121,161	96.4%	97.8%	94.3%	78,371	52.6%	68.4%	42.3%
Stearns County	97,952	97.0%	99.8%	96.9%	62,453	85.3%	88.1%	75.8%
Steele County	26,311	100.0%	77.3%	77.3%	11,087	99.9%	48.5%	48.4%
Stevens County	5,030	100.0%	31.9%	31.9%	4,607	96.1%	15.8%	15.6%
Swift County					9,755	99.2%	27.3%	27.2%
Todd County	157	100.0%	91.0%	91.0%	25,381	63.6%	52.5%	39.6%
Traverse County					3,275	82.2%	45.4%	43.2%
Wabasha County	3,814	100.0%	94.2%	94.2%	17,844	92.3%	50.1%	49.4%
Wadena County	4,010	99.9%	51.7%	51.6%	10,297	99.0%	31.1%	30.9%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Waseca County	9,034	100.0%	97.2%	97.2%	9,859	99.9%	59.4%	59.4%
Washington County	238,091	98.7%	99.3%	98.0%	37,821	70.3%	87.2%	62.3%
Watonwan County					11,075	99.9%	76.0%	76.0%
Wilkin County	3,205	99.9%	99.9%	99.9%	3,145	68.6%	26.4%	16.9%
Winona County	29,391	99.9%	54.4%	54.4%	20,087	92.8%	47.7%	46.1%
Wright County	89,324	98.5%	100.0%	98.5%	58,679	69.2%	96.8%	68.1%
Yellow Medicine County					9,486	99.5%	56.2%	56.0%
Mississippi	1,353,531	97.5%	94.5%	92.6%	1,586,526	63.0%	49.5%	34.8%
Adams County	18,027	99.6%	92.8%	92.8%	10,381	39.5%	36.3%	14.4%
Alcorn County	12,290	100.0%	91.6%	91.6%	21,914	99.8%	47.2%	47.1%
Amite County					12,619	0.5%	30.2%	0.5%
Attala County	6,589	97.0%	93.9%	91.1%	10,920	30.3%	35.0%	14.4%
Benton County					7,550	37.9%	35.9%	12.5%
Bolivar County	13,732	98.8%	68.7%	68.4%	15,638	62.9%	39.8%	31.1%
Calhoun County					12,781	83.7%	55.6%	52.8%
Carroll County					9,731	85.9%	34.7%	28.7%
Chickasaw County					16,812	85.4%	51.6%	45.4%
Choctaw County					8,037	57.3%	17.8%	10.5%
Claiborne County					8,805	5.3%	56.6%	1.7%
Clarke County					15,271	71.1%	49.9%	40.9%
Clay County	8,173	99.2%	99.6%	98.9%	10,207	86.8%	31.6%	29.5%
Coahoma County	13,573	99.7%	99.0%	98.8%	6,624	25.6%	41.1%	15.2%
Copiah County	4,873	87.3%	99.6%	87.0%	22,846	15.7%	52.7%	10.9%
Covington County					18,098	11.0%	44.1%	6.3%
DeSoto County	149,067	99.3%	98.2%	97.6%	42,656	76.2%	77.6%	61.7%
Forrest County	49,683	99.5%	99.4%	99.0%	28,427	75.0%	62.7%	48.9%
Franklin County					7,642	35.3%	42.6%	25.0%
George County					25,206	48.3%	35.6%	18.1%
Greene County					13,552	4.1%	37.5%	1.0%
Grenada County	10,036	99.8%	81.3%	81.2%	11,052	63.2%	32.4%	20.6%
Hancock County	28,468	99.7%	88.0%	87.7%	17,626	97.3%	27.4%	25.6%
Harrison County	169,328	99.9%	99.3%	99.2%	41,716	84.0%	53.8%	49.2%
Hinds County	180,011	99.2%	100.0%	99.2%	37,719	41.9%	78.0%	39.3%
Holmes County					16,121	66.1%	63.7%	50.5%
Humphreys County					7,333	73.1%	62.3%	52.5%
Issaquena County					1,273	0.0%	27.2%	0.0%
Itawamba County					23,903	91.9%	50.7%	48.0%
Jackson County	99,804	99.5%	98.1%	97.8%	45,171	77.3%	61.0%	47.6%
Jasper County					16,167	43.7%	30.5%	17.0%
Jefferson County					7,087	0.0%	23.4%	0.0%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
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Jefferson Davis County					11,088	23.2%	37.2%	8.3%
Jones County	24,911	99.1%	87.7%	87.2%	41,658	86.0%	26.2%	21.8%
Kemper County					8,654	72.1%	45.0%	34.0%
Lafayette County	34,292	91.5%	97.8%	89.6%	23,323	97.3%	45.6%	44.9%
Lamar County	29,931	99.3%	99.7%	99.1%	35,852	45.9%	57.3%	37.9%
Lauderdale County	32,419	99.2%	93.7%	93.0%	38,485	93.7%	63.6%	60.1%
Lawrence County					11,713	2.3%	41.7%	1.7%
Leake County					21,135	27.7%	61.9%	26.6%
Lee County	39,920	99.7%	62.6%	62.5%	43,039	96.1%	50.1%	48.6%
Leflore County	17,668	88.7%	89.8%	79.5%	8,902	64.4%	57.0%	46.3%
Lincoln County	10,120	99.1%	73.1%	72.8%	24,597	17.4%	26.6%	8.0%
Lowndes County	25,928	99.9%	94.7%	94.7%	31,675	98.7%	53.7%	53.3%
Madison County	82,479	98.7%	98.8%	97.6%	28,634	59.2%	76.2%	53.1%
Marion County	6,088	6.6%	52.0%	0.1%	17,962	66.5%	12.0%	10.1%
Marshall County	5,630	78.7%	100.0%	78.7%	28,480	57.2%	53.5%	34.8%
Monroe County	5,894	96.6%	95.0%	91.7%	27,683	84.4%	45.2%	37.6%
Montgomery County					9,530	81.5%	58.3%	50.2%
Neshoba County	7,124	88.5%	83.4%	74.3%	21,549	25.4%	42.1%	14.6%
Newton County					21,029	38.8%	57.7%	30.4%
Noxubee County					9,990	31.9%	61.3%	13.9%
Oktibbeha County	31,997	92.0%	91.3%	84.5%	19,430	95.7%	40.8%	39.2%
Panola County	6,272	100.0%	100.0%	100.0%	26,389	87.1%	40.6%	36.2%
Pearl River County	16,572	98.4%	69.9%	68.3%	40,689	80.5%	35.2%	23.0%
Perry County					11,368	66.9%	20.3%	16.8%
Pike County	14,614	100.0%	88.8%	88.8%	25,030	43.8%	37.0%	21.8%
Pontotoc County					31,389	76.7%	59.7%	47.1%
Prentiss County	5,974	100.0%	98.4%	98.4%	18,818	97.9%	32.4%	32.3%
Quitman County					5,701	74.2%	69.0%	63.1%
Rankin County	103,180	97.8%	99.5%	97.4%	55,799	70.8%	80.8%	62.8%
Scott County					27,707	46.3%	63.2%	39.9%
Sharkey County					3,488	62.6%	55.7%	50.8%
Simpson County					25,587	8.3%	60.6%	6.7%
Smith County					14,092	34.5%	40.8%	17.5%
Stone County					18,669	43.6%	48.2%	28.3%
Sunflower County	9,125	89.2%	90.1%	81.3%	15,686	55.2%	28.6%	22.9%
Tallahatchie County					12,035	56.9%	65.3%	45.3%
Tate County	6,659	98.9%	100.0%	98.9%	21,637	65.7%	46.8%	35.4%
Tippah County					21,431	96.2%	45.7%	44.1%
Tishomingo County					18,619	99.4%	57.5%	57.0%
Tunica County					9,458	57.7%	54.0%	42.8%

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Union County	6,908	95.1%	91.4%	86.6%	21,217	71.0%	45.8%	34.7%
Walthall County					13,761	0.5%	28.5%	0.3%
Warren County	24,336	98.2%	86.1%	85.2%	18,313	57.4%	56.6%	38.2%
Washington County	27,678	87.6%	81.8%	73.0%	14,836	66.9%	47.4%	35.2%
Wayne County					19,681	91.0%	44.1%	42.4%
Webster County					9,993	91.6%	46.7%	44.8%
Wilkinson County					8,143	0.8%	27.6%	0.8%
Winston County					17,543	62.4%	42.5%	34.9%
Yalobusha County					12,364	54.9%	48.7%	37.5%
Yazoo County	14,158	75.7%	70.8%	59.8%	11,790	14.0%	22.6%	8.7%
Missouri	4,260,047	98.2%	98.7%	97.0%	1,917,910	68.5%	66.0%	48.4%
Adair County	16,742	100.0%	100.0%	100.0%	8,423	68.2%	39.7%	27.8%
Andrew County	7,147	100.0%	90.4%	90.4%	10,856	81.6%	66.6%	54.2%
Atchison County					5,182	46.7%	9.0%	2.4%
Audrain County	11,303	96.2%	97.2%	93.5%	13,131	44.5%	55.2%	33.1%
Barry County	6,144	77.5%	98.8%	76.7%	28,782	66.8%	64.6%	43.3%
Barton County					11,694	32.8%	66.2%	21.0%
Bates County					16,177	58.3%	74.0%	52.0%
Benton County					20,224	35.6%	56.6%	18.4%
Bollinger County					10,518	5.1%	50.2%	2.6%
Boone County	144,213	99.7%	89.5%	89.3%	43,477	63.6%	54.3%	40.0%
Buchanan County	71,454	98.7%	99.8%	98.5%	11,457	93.4%	70.1%	65.9%
Butler County	20,443	98.7%	97.8%	96.6%	21,736	45.7%	55.6%	30.2%
Caldwell County					8,933	44.2%	77.0%	39.1%
Callaway County	17,106	96.4%	98.4%	94.9%	27,656	98.7%	57.0%	56.2%
Camden County	18,884	100.0%	96.3%	96.3%	24,884	99.9%	59.3%	59.3%
Cape Girardeau County	56,309	95.9%	98.9%	94.8%	26,590	62.7%	66.5%	47.5%
Carroll County					8,423	67.6%	70.4%	53.6%
Carter County					5,268	7.9%	56.4%	6.7%
Cass County	77,374	99.7%	99.8%	99.6%	33,020	71.4%	92.1%	67.4%
Cedar County					14,601	74.2%	47.0%	39.4%
Chariton County					7,386	66.6%	74.1%	54.6%
Christian County	53,685	93.9%	100.0%	93.9%	39,429	59.3%	88.3%	56.5%
Clark County					6,723	49.9%	59.1%	33.2%
Clay County	235,755	98.9%	99.8%	98.7%	21,278	81.7%	94.8%	77.7%
Clinton County	5,182	100.0%	100.0%	100.0%	16,146	80.0%	79.4%	68.6%
Cole County	50,634	100.0%	97.5%	97.5%	26,335	100.0%	62.6%	62.6%
Cooper County	7,878	86.5%	90.0%	80.4%	8,894	77.0%	39.8%	34.6%
Crawford County	1,569	100.0%	100.0%	100.0%	21,090	100.0%	53.4%	53.4%
Dade County					7,660	51.7%	47.4%	33.6%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Dallas County					17,626	46.5%	58.2%	36.0%
Daviess County					8,435	63.0%	62.7%	42.6%
DeKalb County	2,975	100.0%	100.0%	100.0%	8,361	84.4%	66.5%	57.7%
Dent County	4,714	100.0%	79.5%	79.5%	9,753	100.0%	30.0%	30.0%
Douglas County					11,975	38.0%	29.3%	17.2%
Dunklin County	10,238	99.9%	98.5%	98.4%	17,168	86.4%	72.8%	66.0%
Franklin County	47,692	100.0%	99.2%	99.2%	58,187	99.9%	82.2%	82.2%
Gasconade County					14,768	100.0%	65.7%	65.7%
Gentry County					6,253	92.1%	70.2%	67.4%
Greene County	259,025	99.3%	99.6%	98.9%	44,268	78.6%	87.1%	69.6%
Grundy County	5,434	91.3%	100.0%	91.3%	4,404	74.5%	36.6%	29.8%
Harrison County					8,199	74.3%	62.3%	51.9%
Henry County	8,953	93.3%	100.0%	93.3%	13,485	6.0%	76.2%	6.0%
Hickory County					8,630	19.7%	53.0%	13.4%
Holt County					4,262	29.1%	40.1%	24.7%
Howard County					10,168	75.6%	47.2%	41.1%
Howell County	11,856	99.8%	94.2%	94.1%	28,775	57.5%	52.0%	36.8%
Iron County					9,414	100.0%	51.9%	51.9%
Jackson County	685,810	98.9%	99.9%	98.8%	30,721	57.9%	96.2%	57.4%
Jasper County	94,624	95.7%	98.1%	93.9%	29,451	54.8%	75.9%	43.8%
Jefferson County	149,443	97.1%	99.5%	96.7%	79,893	73.3%	91.7%	69.9%
Johnson County	24,683	96.9%	94.7%	91.7%	29,685	55.6%	66.3%	41.2%
Knox County					3,776	29.4%	10.3%	1.5%
Laclede County	14,810	100.0%	57.8%	57.8%	21,503	99.9%	33.4%	33.4%
Lafayette County	9,985	99.4%	100.0%	99.4%	22,976	47.7%	83.1%	42.7%
Lawrence County	11,011	86.5%	98.3%	84.9%	27,672	52.6%	74.1%	43.0%
Lewis County					9,891	51.9%	69.7%	44.2%
Lincoln County	17,667	99.6%	100.0%	99.6%	45,488	71.6%	85.1%	64.7%
Linn County	3,867	96.6%	96.8%	93.5%	7,953	81.1%	69.4%	59.1%
Livingston County	8,951	91.4%	91.5%	91.4%	5,451	55.5%	53.6%	27.4%
Macon County	5,258	91.0%	97.8%	89.2%	9,791	63.5%	43.3%	31.7%
Madison County	5,034	99.3%	100.0%	99.3%	7,719	46.0%	49.6%	33.2%
Maries County					8,431	100.0%	39.3%	39.3%
Marion County	17,365	95.6%	99.2%	95.0%	11,073	63.2%	75.0%	53.2%
McDonald County	28	100.0%	82.1%	82.1%	23,560	26.0%	64.9%	21.6%
Mercer County					3,437	92.2%	49.7%	47.8%
Miller County	6,049	100.0%	99.2%	99.2%	19,354	100.0%	60.1%	60.1%
Mississippi County					11,688	90.7%	86.5%	78.2%
Moniteau County					15,220	88.1%	69.3%	61.4%
Monroe County					8,652	54.2%	67.4%	48.8%
Montgomery County					11,470	64.9%	63.7%	45.5%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Morgan County					21,785	100.0%	57.8%	57.8%
New Madrid County	1,914	96.7%	100.0%	96.7%	13,781	95.4%	76.0%	72.9%
Newton County	22,028	95.7%	99.3%	95.1%	37,983	56.0%	78.7%	47.9%
Nodaway County	10,962	100.0%	82.3%	82.3%	9,708	86.0%	30.0%	26.1%
Oregon County					8,732	41.5%	47.4%	31.4%
Osage County					13,399	100.0%	55.1%	55.1%
Ozark County					8,940	3.6%	36.7%	1.0%
Pemiscot County	4,957	99.8%	98.9%	98.8%	9,884	96.2%	54.6%	52.0%
Perry County	8,028	99.5%	94.4%	94.1%	10,830	49.7%	50.6%	33.2%
Pettis County	26,291	97.6%	99.5%	97.2%	17,062	48.7%	68.0%	39.2%
Phelps County	20,819	100.0%	98.9%	98.9%	24,494	100.0%	46.5%	46.5%
Pike County					17,664	75.7%	64.6%	58.5%
Platte County	95,084	98.4%	99.3%	97.7%	15,450	73.9%	83.2%	61.9%
Polk County	10,573	99.4%	99.6%	99.0%	22,120	59.9%	52.9%	39.3%
Pulaski County	21,392	100.0%	91.3%	91.3%	32,549	100.0%	51.7%	51.7%
Putnam County					4,666	97.7%	64.2%	64.1%
Ralls County	273	91.5%	100.0%	91.5%	10,147	96.0%	62.4%	60.4%
Randolph County	12,102	96.3%	98.9%	95.3%	12,520	49.8%	54.7%	29.5%
Ray County	5,966	99.9%	100.0%	99.9%	17,141	55.1%	83.1%	50.5%
Reynolds County					6,006	100.0%	25.0%	25.0%
Ripley County					10,703	30.0%	42.6%	17.8%
Saline County	13,097	100.0%	99.8%	99.8%	9,910	56.7%	67.2%	46.7%
Schuyler County					4,002	72.1%	54.4%	31.3%
Scotland County					4,643	93.2%	47.2%	47.2%
Scott County	20,445	96.5%	91.6%	88.4%	17,395	95.5%	77.6%	74.1%
Shannon County					7,193	100.0%	51.5%	51.5%
Shelby County					5,982	44.8%	70.1%	38.9%
St. Charles County	390,160	98.4%	99.8%	98.3%	23,643	48.9%	91.1%	46.0%
St. Clair County					9,576	29.3%	38.6%	11.8%
St. Francois County	39,037	96.5%	98.8%	95.3%	27,932	70.6%	71.7%	58.5%
St. Louis County	976,861	98.4%	99.9%	98.4%	13,553	57.8%	84.0%	54.2%
St. Louis city	286,578	97.4%	100.0%	97.4%				
Ste. Genevieve County	5,006	95.2%	98.5%	93.7%	13,638	59.9%	59.2%	41.2%
Stoddard County	9,466	99.6%	97.4%	97.0%	18,911	72.1%	68.3%	51.2%
Stone County	5,603	58.8%	79.8%	53.0%	26,533	17.7%	63.7%	15.3%
Sullivan County					5,840	80.9%	58.9%	52.1%
Taney County	35,431	94.9%	86.0%	81.7%	21,390	62.7%	61.6%	43.7%
Texas County	161	100.0%	100.0%	100.0%	25,175	99.9%	43.8%	43.8%
Vernon County	8,588	99.8%	92.7%	92.6%	11,063	53.5%	55.1%	35.7%
Warren County	9,801	99.6%	96.9%	96.7%	27,459	45.7%	77.2%	42.0%
Washington County					23,441	100.0%	63.1%	63.1%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Wayne County					10,792	25.4%	30.0%	16.9%
Webster County	7,809	99.7%	93.5%	93.3%	32,526	42.4%	56.2%	35.4%
Worth County					1,955	74.2%	56.8%	47.0%
Wright County	4,321	100.0%	95.9%	95.9%	14,835	99.9%	39.4%	39.4%
Montana	596,115	94.8%	95.2%	90.4%	526,752	52.8%	66.9%	39.2%
Beaverhead County	4,523	88.7%	95.6%	84.4%	5,196	52.8%	44.0%	20.9%
Big Horn County					12,851	55.5%	69.8%	44.9%
Blaine County					6,936	76.4%	48.1%	32.1%
Broadwater County					7,793	29.2%	56.4%	20.8%
Carbon County					11,179	31.9%	75.7%	29.2%
Carter County					1,382	42.9%	1.8%	0.3%
Cascade County	66,983	93.0%	90.9%	84.1%	17,881	47.6%	52.2%	25.1%
Chouteau County					5,898	87.4%	39.6%	39.0%
Custer County	9,376	79.7%	99.3%	79.2%	2,656	51.5%	64.0%	40.6%
Daniels County					1,628	92.9%	0.0%	0.0%
Dawson County	6,580	77.8%	37.5%	29.7%	2,250	53.8%	45.2%	29.6%
Deer Lodge County	6,753	96.2%	100.0%	96.2%	2,757	44.9%	69.7%	32.7%
Fallon County					3,011	68.4%	26.5%	19.1%
Fergus County	6,196	84.2%	100.0%	84.2%	5,467	56.6%	49.4%	25.6%
Flathead County	53,672	93.7%	92.2%	86.3%	58,142	41.2%	79.4%	35.3%
Gallatin County	80,473	99.3%	97.8%	97.2%	44,384	76.1%	87.7%	71.7%
Garfield County					1,218	45.3%	46.3%	38.6%
Glacier County					13,681	31.9%	58.1%	28.5%
Golden Valley County					835	74.2%	36.1%	30.8%
Granite County					3,502	5.8%	69.1%	4.1%
Hill County	10,114	97.1%	93.7%	91.0%	5,954	78.5%	42.3%	37.9%
Jefferson County					12,826	37.6%	75.2%	29.7%
Judith Basin County					2,105	88.0%	48.2%	44.0%
Lake County	6,016	99.0%	99.4%	98.4%	26,837	53.0%	63.2%	39.9%
Lewis and Clark County	54,220	94.5%	99.0%	93.7%	19,612	36.3%	74.8%	26.9%
Liberty County					1,972	76.4%	41.5%	38.4%
Lincoln County	4,743	100.0%	100.0%	100.0%	16,782	45.7%	54.5%	33.1%
Madison County					9,265	74.6%	71.5%	56.3%
McCone County					1,709	48.8%	46.4%	37.2%
Meagher County					2,013	84.5%	74.7%	70.9%
Mineral County					5,058	10.5%	78.7%	10.5%
Missoula County	90,195	96.1%	92.5%	88.8%	30,846	47.5%	70.2%	36.0%
Musselshell County					5,197	55.1%	23.8%	16.1%
Park County	9,551	91.9%	100.0%	91.9%	8,239	26.1%	60.5%	22.8%
Petroleum County					524	45.8%	44.4%	36.0%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Phillips County					4,240	81.5%	63.2%	61.6%
Pondera County					6,078	37.7%	53.4%	23.4%
Powder River County					1,725	17.1%	7.8%	1.7%
Powell County					7,051	45.2%	85.9%	44.8%
Prairie County					1,107	27.1%	22.5%	12.1%
Ravalli County	7,464	99.5%	100.0%	99.5%	39,834	88.6%	69.8%	64.4%
Richland County	6,311	76.8%	83.5%	65.4%	4,926	47.9%	33.3%	19.0%
Roosevelt County					10,572	64.4%	71.6%	58.8%
Rosebud County					8,088	11.2%	63.2%	8.3%
Sanders County					13,442	47.4%	63.4%	35.9%
Sheridan County					3,564	76.6%	59.5%	51.8%
Silver Bow County	31,174	95.1%	99.8%	94.9%	4,894	16.0%	79.2%	14.2%
Stillwater County					9,177	45.1%	67.0%	35.8%
Sweet Grass County					3,715	80.1%	74.1%	69.0%
Teton County					6,368	89.3%	66.2%	60.9%
Toole County					5,082	2.4%	74.3%	0.5%
Treasure County					758	9.3%	46.5%	6.2%
Valley County					7,513	57.2%	46.1%	39.1%
Wheatland County					2,032	94.3%	72.5%	71.3%
Wibaux County					919	11.2%	68.6%	2.1%
Yellowstone County	141,771	95.3%	97.9%	93.3%	28,081	47.1%	76.5%	38.0%
N. Mariana Isl.	38,402	32.1%	0.2%	0.2%	13,073	31.0%	0.1%	0.1%
Rota Municipality					2,194	100.0%	0.0%	0.0%
Saipan Municipality	38,402	32.1%	0.2%	0.2%	8,367	4.9%	0.2%	0.2%
Tinian Municipality					2,512	57.9%	0.0%	0.0%
Nebraska	1,435,718	99.7%	87.9%	87.7%	532,205	80.0%	33.0%	27.8%
Adams County	24,646	100.0%	87.3%	87.3%	6,324	98.3%	14.6%	14.6%
Antelope County					6,293	87.9%	8.7%	7.9%
Arthur County					433	44.8%	0.0%	0.0%
Banner County					660	66.5%	0.3%	0.1%
Blaine County					453	43.0%	0.0%	0.0%
Boone County					5,385	68.5%	0.0%	0.0%
Box Butte County	8,039	99.9%	0.0%	0.0%	2,633	85.0%	1.7%	1.7%
Boyd County					1,741	99.9%	7.3%	7.3%
Brown County					2,872	83.0%	2.0%	2.0%
Buffalo County	34,525	97.2%	99.7%	97.0%	16,061	78.5%	36.0%	26.5%
Burt County					6,755	95.6%	42.2%	41.3%
Butler County					8,427	96.6%	0.2%	0.2%
Cass County	6,976	99.4%	72.2%	71.8%	20,146	83.8%	38.1%	32.6%
Cedar County					8,371	79.2%	23.1%	18.7%
Chase County					3,772	88.0%	50.7%	50.5%

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Cherry County					5,464	68.5%	52.4%	45.3%
Cheyenne County	6,164	99.3%	99.6%	99.1%	3,347	64.3%	12.9%	10.0%
Clay County					6,049	97.5%	5.9%	5.6%
Colfax County	6,167	99.4%	3.6%	3.6%	4,277	83.1%	35.5%	33.8%
Cuming County					8,929	99.1%	13.7%	13.7%
Custer County					10,476	58.1%	66.9%	47.7%
Dakota County	16,603	99.7%	99.1%	98.9%	4,439	80.4%	61.7%	51.0%
Dawes County	4,638	99.4%	0.0%	0.0%	3,603	38.3%	8.9%	6.4%
Dawson County	10,337	98.2%	96.4%	94.7%	13,547	78.2%	71.6%	64.2%
Deuel County					1,902	73.7%	52.8%	50.0%
Dixon County					5,464	95.3%	25.9%	24.0%
Dodge County	27,800	99.0%	97.6%	97.5%	9,197	87.3%	43.2%	35.4%
Douglas County	571,741	99.9%	99.9%	99.9%	14,586	87.9%	95.2%	84.9%
Dundy County					1,590	94.9%	0.0%	0.0%
Fillmore County					5,553	95.1%	0.0%	0.0%
Franklin County					2,873	67.1%	0.3%	0.0%
Frontier County					2,633	58.8%	0.0%	0.0%
Furnas County					4,575	79.1%	0.0%	0.0%
Gage County	12,258	99.6%	2.4%	2.4%	9,325	84.4%	11.7%	11.5%
Garden County					1,837	55.6%	0.0%	0.0%
Garfield County					1,801	68.1%	0.0%	0.0%
Gosper County					1,808	56.8%	0.1%	0.0%
Grant County					576	13.8%	0.0%	0.0%
Greeley County					2,227	48.5%	46.9%	38.0%
Hall County	54,346	98.5%	91.7%	90.3%	7,751	82.1%	33.5%	30.0%
Hamilton County					9,429	98.8%	10.7%	10.2%
Harlan County					3,054	71.3%	0.2%	0.0%
Hayes County					849	26.9%	0.0%	0.0%
Hitchcock County					2,598	26.9%	0.0%	0.0%
Holt County					10,043	72.1%	76.2%	59.6%
Hooker County					686	14.1%	0.0%	0.0%
Howard County					6,515	57.2%	56.2%	35.4%
Jefferson County	3,973	99.8%	0.0%	0.0%	3,181	71.0%	0.1%	0.0%
Johnson County					5,287	95.5%	38.6%	37.8%
Kearney County					6,690	75.2%	84.4%	68.4%
Keith County	4,754	99.8%	98.6%	98.4%	3,515	70.9%	11.6%	7.7%
Keya Paha County					787	94.1%	8.5%	8.5%
Kimball County					3,315	88.2%	4.9%	4.3%
Knox County					8,336	53.2%	37.2%	20.6%
Lancaster County	292,325	99.9%	99.9%	99.9%	32,431	87.6%	77.1%	68.2%
Lincoln County	23,014	99.7%	8.5%	8.5%	10,671	65.0%	0.5%	0.2%

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Logan County					675	38.0%	0.5%	0.4%
Loup County					599	46.2%	0.0%	0.0%
Madison County	25,608	100.0%	0.0%	0.0%	9,760	83.9%	30.5%	28.8%
McPherson County					372	19.6%	30.6%	1.0%
Merrick County					7,721	83.4%	51.7%	48.1%
Morrill County					4,527	84.9%	0.0%	0.0%
Nance County					3,326	75.3%	38.7%	32.8%
Nemaha County					7,035	96.0%	50.8%	50.8%
Nuckolls County					4,041	86.2%	0.0%	0.0%
Otoe County	7,444	99.9%	97.9%	97.9%	8,754	92.1%	31.2%	29.8%
Pawnee County					2,528	94.4%	42.1%	42.1%
Perkins County					2,829	75.7%	47.5%	45.8%
Phelps County	5,587	97.1%	100.0%	97.1%	3,401	60.1%	35.0%	18.2%
Pierce County					7,332	90.3%	54.2%	52.7%
Platte County	24,569	100.0%	0.9%	0.9%	9,727	80.3%	12.3%	10.8%
Polk County					5,166	91.0%	0.0%	0.0%
Red Willow County	7,398	99.4%	0.0%	0.0%	3,175	32.7%	1.1%	0.2%
Richardson County	3,465	100.0%	16.9%	16.9%	4,240	90.0%	9.7%	9.6%
Rock County					1,245	4.7%	0.0%	0.0%
Saline County	6,723	98.8%	0.0%	0.0%	7,393	79.6%	1.0%	0.6%
Sarpy County	186,019	99.7%	99.5%	99.2%	10,534	74.1%	88.3%	66.5%
Saunders County	4,896	99.5%	0.0%	0.0%	18,222	87.3%	30.6%	29.3%
Scotts Bluff County	24,542	100.0%	14.4%	14.4%	11,061	98.7%	4.3%	4.3%
Seward County	7,447	99.7%	0.0%	0.0%	10,245	86.4%	13.6%	10.1%
Sheridan County					4,996	50.1%	4.5%	1.9%
Sherman County					2,980	57.7%	49.1%	42.2%
Sioux County					1,127	63.6%	5.0%	4.8%
Stanton County	1,591	100.0%	0.0%	0.0%	4,126	93.5%	6.5%	5.5%
Thayer County					4,885	80.1%	6.5%	4.5%
Thomas County					671	39.6%	0.2%	0.2%
Thurston County					6,507	44.8%	38.3%	6.2%
Valley County					4,073	59.7%	60.2%	49.5%
Washington County	8,102	99.9%	62.0%	61.9%	13,065	76.4%	30.2%	20.6%
Wayne County	6,052	100.0%	99.2%	99.2%	3,819	96.0%	8.3%	8.3%
Webster County					3,336	86.5%	29.8%	27.9%
Wheeler County					785	56.0%	1.5%	0.0%
York County	7,969	99.8%	93.3%	93.2%	6,385	99.2%	10.3%	10.3%
Nevada	2,988,756	99.2%	99.7%	98.9%	189,016	74.4%	78.0%	63.0%
Carson City	54,573	99.9%	99.8%	99.7%	3,557	99.6%	98.5%	98.3%
Churchill County	17,139	99.0%	98.1%	97.1%	8,704	64.4%	72.9%	51.6%
Clark County	2,291,900	99.4%	99.9%	99.4%	31,085	53.3%	80.6%	52.8%

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Douglas County	34,851	99.0%	94.8%	93.8%	14,777	98.1%	79.5%	77.8%
Elko County	25,965	99.9%	100.0%	99.9%	28,081	89.3%	78.4%	73.7%
Esmeralda County					744	0.1%	61.9%	0.1%
Eureka County					1,863	83.2%	85.7%	72.6%
Humboldt County	10,607	99.8%	83.8%	83.7%	6,665	69.7%	53.1%	41.8%
Lander County					5,766	93.8%	55.6%	52.6%
Lincoln County					4,482	39.5%	21.9%	7.4%
Lyon County	34,069	99.9%	97.6%	97.6%	27,516	98.6%	91.9%	90.8%
Mineral County					4,525	68.9%	76.9%	68.9%
Nye County	39,498	86.7%	100.0%	86.7%	15,240	44.1%	79.7%	43.3%
Pershing County					6,462	19.6%	72.2%	13.1%
Storey County	454	100.0%	100.0%	100.0%	3,716	97.1%	75.2%	73.1%
Washoe County	475,131	99.8%	99.5%	99.3%	21,614	92.9%	83.1%	77.7%
White Pine County	4,569	0.0%	100.0%	0.0%	4,219	0.2%	61.7%	0.0%
New Hampshire	805,748	99.0%	83.0%	82.2%	589,483	89.7%	43.8%	40.7%
Belknap County	29,234	98.0%	83.9%	82.4%	35,547	85.1%	47.9%	42.3%
Carroll County	5,107	91.8%	83.9%	76.9%	47,092	87.9%	41.5%	37.4%
Cheshire County	24,024	94.6%	87.3%	83.3%	53,326	86.2%	39.3%	34.0%
Coos County	10,255	96.4%	83.3%	80.8%	21,249	52.2%	27.2%	17.6%
Grafton County	28,952	97.8%	87.2%	85.2%	62,174	78.8%	37.5%	32.2%
Hillsborough County	321,876	99.3%	87.3%	86.8%	104,718	97.0%	46.2%	45.1%
Merrimack County	69,543	99.0%	53.2%	52.5%	86,477	92.8%	36.8%	34.9%
Rockingham County	226,186	99.3%	82.3%	81.8%	93,238	98.2%	50.8%	50.0%
Strafford County	81,041	99.6%	88.3%	87.9%	51,234	92.4%	57.2%	54.3%
Sullivan County	9,530	99.8%	97.7%	97.6%	34,428	87.7%	42.1%	38.7%
New Jersey	8,667,895	96.8%	98.5%	95.4%	593,804	90.9%	72.5%	67.3%
Atlantic County	235,020	99.6%	98.7%	98.4%	40,618	94.6%	68.4%	65.4%
Bergen County	950,345	97.4%	99.2%	96.6%	2,652	88.7%	74.1%	67.5%
Burlington County	414,308	99.4%	97.9%	97.4%	51,795	87.5%	71.0%	68.2%
Camden County	518,170	99.8%	99.2%	99.0%	6,737	89.6%	80.6%	71.1%
Cape May County	77,503	99.2%	96.5%	95.9%	18,131	95.7%	81.6%	78.5%
Cumberland County	114,979	97.8%	95.8%	93.6%	36,377	83.2%	58.3%	55.5%
Essex County	849,353	93.8%	99.7%	93.5%	124	98.3%	100.0%	98.3%
Gloucester County	272,085	99.7%	97.9%	97.6%	34,516	96.5%	77.1%	74.2%
Hudson County	703,366	99.3%	99.8%	99.2%				
Hunterdon County	53,252	99.5%	90.0%	89.6%	76,525	94.7%	60.3%	57.3%
Mercer County	360,795	98.8%	99.6%	98.4%	19,893	96.5%	80.5%	77.6%
Middlesex County	852,885	95.5%	99.0%	94.6%	8,533	96.5%	85.7%	82.6%
Monmouth County	611,213	98.1%	97.3%	95.5%	32,885	92.6%	75.2%	70.0%
Morris County	466,800	96.2%	95.5%	91.8%	44,351	94.9%	71.1%	67.7%
Ocean County	631,220	98.0%	98.7%	96.7%	24,515	93.7%	90.6%	85.1%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Passaic County	499,082	88.1%	99.0%	87.3%	14,854	96.3%	79.6%	76.8%
Salem County	30,569	99.8%	98.5%	98.3%	34,548	89.4%	72.5%	65.0%
Somerset County	320,185	97.6%	96.6%	94.3%	26,690	96.6%	86.8%	84.1%
Sussex County	74,468	89.7%	93.2%	84.2%	71,616	82.5%	67.8%	57.1%
Union County	569,815	96.0%	99.5%	95.5%				
Warren County	62,482	97.0%	98.2%	95.4%	48,444	84.5%	80.8%	69.9%
New Mexico	1,581,331	96.5%	96.7%	93.6%	532,013	44.7%	65.9%	34.1%
Bernalillo County	642,053	99.5%	99.9%	99.5%	30,455	48.2%	63.2%	35.1%
Catron County					3,827	0.0%	14.1%	0.0%
Chaves County	47,569	99.6%	78.8%	78.5%	16,325	55.9%	65.3%	42.7%
Cibola County	10,126	99.0%	93.8%	92.9%	16,824	32.1%	66.5%	26.6%
Colfax County	5,629	18.4%	99.7%	18.4%	6,617	23.7%	65.9%	13.9%
Curry County	38,457	97.5%	98.3%	96.0%	9,075	79.5%	78.5%	65.0%
De Baca County					1,693	86.5%	43.0%	40.1%
Doña Ana County	173,808	98.6%	93.6%	92.3%	49,529	38.9%	78.2%	37.2%
Eddy County	46,817	99.4%	94.4%	93.8%	13,583	54.5%	63.2%	39.7%
Grant County	16,522	95.0%	98.7%	93.7%	11,164	35.1%	74.6%	31.9%
Guadalupe County					4,310	84.0%	84.6%	71.6%
Harding County					628	71.8%	47.6%	38.2%
Hidalgo County					4,003	3.9%	67.9%	0.2%
Lea County	54,268	99.9%	88.4%	88.4%	18,184	90.1%	65.2%	61.7%
Lincoln County	11,313	99.6%	97.2%	97.0%	9,098	60.8%	46.2%	33.3%
Los Alamos County	18,151	99.3%	98.1%	97.5%	1,036	81.1%	95.9%	77.1%
Luna County	14,945	0.0%	92.5%	0.0%	10,804	1.0%	63.3%	0.5%
McKinley County	24,175	97.5%	100.0%	97.5%	45,655	5.9%	53.1%	5.4%
Mora County					4,169	76.7%	34.7%	29.7%
Otero County	32,856	99.0%	72.1%	71.6%	35,967	45.9%	63.4%	23.5%
Quay County	4,832	98.9%	100.0%	98.9%	3,714	69.1%	70.5%	47.1%
Rio Arriba County	17,249	80.1%	99.8%	80.1%	22,799	40.8%	58.8%	26.4%
Roosevelt County	11,782	95.9%	100.0%	95.9%	7,152	67.6%	64.7%	45.8%
San Juan County	84,762	98.1%	96.8%	95.0%	35,656	60.1%	80.5%	51.6%
San Miguel County	14,563	99.9%	99.9%	99.8%	12,390	44.6%	55.3%	28.9%
Sandoval County	125,106	98.7%	100.0%	98.7%	28,395	37.1%	64.0%	28.5%
Santa Fe County	99,970	97.8%	99.5%	97.6%	55,694	74.2%	76.2%	61.8%
Sierra County	7,702	99.0%	99.6%	98.7%	3,734	17.8%	59.4%	11.8%
Socorro County	8,197	99.1%	99.8%	99.0%	7,918	9.4%	42.8%	9.1%
Taos County	16,215	31.6%	66.0%	21.3%	18,365	20.9%	27.5%	5.7%
Torrance County					15,454	25.3%	69.7%	21.3%
Union County					3,980	69.2%	76.8%	60.4%
Valencia County	54,264	89.2%	98.0%	87.4%	23,816	45.9%	88.0%	42.6%
New York	7,114,427	97.2%	98.5%	95.8%	2,562,724	88.2%	62.3%	56.4%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Albany County	284,896	98.0%	97.7%	95.8%	30,915	86.7%	74.1%	68.4%
Allegany County	5,512	93.4%	99.4%	92.9%	41,182	87.9%	55.1%	49.1%
Bronx County	1,379,939	97.0%	99.9%	97.0%	7	100.0%	100.0%	100.0%
Broome County	142,079	97.8%	99.2%	97.0%	55,038	94.0%	67.2%	64.2%
Cattaraugus County	29,165	91.6%	97.0%	88.7%	47,274	76.2%	45.2%	37.8%
Cayuga County	30,911	99.5%	99.5%	99.0%	44,087	88.1%	60.4%	54.0%
Chautauqua County	70,513	97.6%	92.0%	89.8%	55,514	79.1%	57.6%	47.8%
Chemung County	60,374	95.1%	98.2%	93.4%	21,052	90.6%	51.1%	45.7%
Chenango County	7,803	91.0%	98.6%	89.7%	38,655	78.3%	48.5%	40.3%
Clinton County	27,269	95.5%	78.9%	74.9%	51,484	91.4%	26.7%	24.8%
Columbia County	10,397	99.1%	96.7%	95.8%	50,889	89.8%	54.1%	48.7%
Cortland County	24,312	94.9%	97.3%	92.4%	21,814	87.9%	60.3%	53.2%
Delaware County	4,182	89.9%	97.0%	87.0%	40,558	93.1%	46.8%	44.4%
Dutchess County	202,104	95.4%	87.3%	83.2%	95,441	87.8%	70.2%	63.0%
Erie County	850,999	97.4%	98.7%	96.4%	99,313	92.3%	85.6%	80.9%
Essex County	5,002	91.6%	98.5%	90.3%	31,908	82.4%	15.8%	13.8%
Franklin County	13,865	86.9%	81.2%	69.4%	32,508	69.5%	17.7%	10.8%
Fulton County	25,856	93.1%	97.8%	91.2%	26,813	84.6%	59.0%	53.1%
Genesee County	21,853	97.4%	99.8%	97.3%	35,682	88.5%	71.4%	63.3%
Greene County	12,414	95.5%	84.5%	80.4%	35,647	92.1%	47.0%	44.0%
Hamilton County					5,118	67.2%	32.7%	26.2%
Herkimer County	28,256	96.6%	100.0%	96.6%	31,566	84.2%	63.8%	55.1%
Jefferson County	51,854	95.7%	97.4%	93.4%	64,783	89.9%	67.2%	60.8%
Kings County	2,590,516	97.9%	99.9%	97.8%				
Lewis County					26,699	78.4%	37.9%	32.3%
Livingston County	17,413	80.7%	69.2%	66.8%	44,103	81.3%	73.9%	62.3%
Madison County	20,839	95.8%	98.4%	94.4%	46,258	88.3%	75.9%	69.4%
Monroe County	690,379	97.3%	99.2%	96.5%	61,656	95.3%	91.1%	86.9%
Montgomery County	27,071	95.2%	94.9%	90.3%	22,552	70.2%	63.4%	47.3%
Nassau County	1,377,449	98.2%	99.4%	97.6%	6,277	92.8%	71.7%	66.1%
New York County	1,596,273	99.3%	99.9%	99.3%				
Niagara County	147,321	95.3%	98.9%	94.4%	63,559	94.0%	86.7%	81.4%
Oneida County	149,985	95.1%	99.4%	94.5%	78,861	87.1%	72.4%	64.8%
Onondaga County	398,920	98.4%	99.9%	98.3%	69,329	93.2%	92.2%	86.2%
Ontario County	61,432	98.0%	97.9%	95.9%	51,275	92.1%	79.4%	73.8%
Orange County	290,865	87.8%	94.4%	82.4%	115,076	90.6%	58.0%	52.3%
Orleans County	13,011	93.3%	95.8%	89.3%	26,307	90.4%	66.2%	59.7%
Oswego County	41,796	97.7%	96.8%	94.5%	76,491	92.3%	72.3%	67.9%
Otsego County	16,229	89.1%	99.7%	88.8%	44,407	80.4%	54.7%	46.6%
Putnam County	63,802	98.5%	92.8%	91.4%	34,243	96.2%	83.9%	81.0%
Queens County	2,277,973	99.1%	99.9%	99.1%	56	76.7%	100.0%	76.7%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Rensselaer County	106,428	97.7%	97.6%	95.5%	53,425	94.2%	71.3%	67.6%
Richmond County	491,128	99.2%	98.1%	97.3%	5	0.0%	100.0%	0.0%
Rockland County	337,696	95.9%	97.0%	93.0%	1,326	84.4%	93.7%	81.3%
Saratoga County	170,582	97.2%	97.5%	94.8%	68,215	93.3%	68.4%	64.0%
Schenectady County	145,798	97.5%	97.3%	94.9%	14,295	94.7%	73.7%	69.7%
Schoharie County	4,911	79.5%	98.5%	78.2%	25,152	92.7%	42.6%	39.3%
Schuyler County					17,650	89.4%	62.1%	58.3%
Seneca County	13,877	99.0%	99.5%	98.6%	19,005	90.6%	62.0%	58.9%
St. Lawrence County	32,994	91.1%	88.5%	81.5%	74,739	83.9%	32.8%	29.3%
Steuben County	37,199	99.5%	97.0%	96.7%	55,400	82.3%	45.3%	39.5%
Suffolk County	1,494,620	96.4%	95.7%	92.4%	30,845	79.5%	83.0%	65.8%
Sullivan County	18,901	93.1%	95.5%	88.9%	60,757	90.2%	52.6%	48.3%
Tioga County	16,085	98.7%	98.3%	97.1%	31,687	87.3%	56.3%	50.1%
Tompkins County	55,854	91.1%	98.9%	90.1%	48,923	91.2%	73.1%	67.7%
Ulster County	79,485	94.1%	90.0%	84.4%	102,834	90.0%	49.3%	42.8%
Warren County	44,232	96.0%	91.0%	87.3%	21,367	86.4%	37.9%	34.5%
Washington County	14,810	97.4%	99.0%	96.5%	46,031	84.4%	55.2%	47.4%
Wayne County	22,758	96.6%	83.8%	81.3%	68,367	90.5%	69.0%	63.3%
Westchester County	944,629	92.1%	97.4%	89.6%	45,798	95.0%	64.0%	60.3%
Wyoming County	4,008	96.2%	55.2%	53.8%	35,658	79.3%	57.4%	50.2%
Yates County	7,603	99.2%	92.3%	91.7%	16,848	79.0%	63.8%	50.9%
North Carolina	7,110,087	96.7%	96.5%	93.3%	3,588,886	73.9%	65.7%	52.3%
Alamance County	128,183	96.7%	99.4%	96.2%	48,170	82.6%	85.5%	72.0%
Alexander County	3,992	97.5%	94.4%	92.5%	32,520	62.3%	69.6%	49.2%
Alleghany County					11,185	98.5%	17.4%	17.3%
Anson County	5,283	95.4%	89.7%	85.2%	16,919	46.5%	44.3%	23.1%
Ashe County					27,110	99.5%	21.1%	20.8%
Avery County					17,571	70.1%	66.9%	53.5%
Beaufort County	16,380	91.1%	85.1%	78.8%	27,892	35.3%	40.4%	17.2%
Bertie County					17,240	62.5%	45.2%	33.2%
Bladen County					29,446	66.1%	58.3%	42.5%
Brunswick County	98,643	99.4%	85.3%	84.8%	54,421	97.0%	72.4%	71.1%
Buncombe County	211,740	95.9%	95.9%	91.9%	61,849	84.5%	61.5%	53.6%
Burke County	47,490	82.7%	94.4%	77.6%	40,391	75.9%	62.1%	50.8%
Cabarrus County	194,672	98.9%	99.6%	98.6%	41,125	81.6%	92.1%	76.4%
Caldwell County	45,847	95.5%	96.1%	91.7%	34,645	82.8%	63.1%	56.4%
Camden County	518	99.2%	86.4%	85.7%	10,570	72.2%	40.9%	33.1%
Carteret County	48,006	96.5%	93.7%	90.5%	21,374	92.5%	63.7%	58.2%
Caswell County	43	100.0%	97.6%	97.6%	22,571	52.0%	32.1%	24.1%
Catawba County	105,065	95.0%	90.5%	85.7%	58,397	85.2%	74.3%	64.3%
Chatham County	28,215	96.9%	83.9%	81.5%	51,649	57.8%	51.5%	33.0%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Cherokee County					29,512	58.7%	33.2%	23.5%
Chowan County	4,342	99.5%	82.0%	81.8%	9,598	47.2%	26.6%	8.0%
Clay County					11,614	58.9%	21.3%	15.7%
Cleveland County	37,888	95.3%	98.0%	93.4%	62,782	79.0%	77.0%	65.2%
Columbus County	5,307	92.1%	38.5%	34.5%	44,578	86.9%	44.7%	39.2%
Craven County	65,535	87.9%	99.1%	87.1%	35,339	64.5%	63.1%	45.7%
Cumberland County	287,110	96.7%	99.3%	96.1%	49,589	85.4%	82.0%	72.4%
Currituck County	1,908	96.1%	95.2%	91.5%	29,107	87.1%	76.5%	67.0%
Dare County	29,475	97.2%	70.0%	67.6%	8,481	92.8%	64.5%	60.7%
Davidson County	89,915	97.6%	98.2%	95.9%	82,671	95.2%	89.5%	86.4%
Davie County	12,695	99.9%	99.8%	99.7%	31,395	95.4%	86.2%	83.0%
Duplin County					48,990	53.3%	77.7%	45.2%
Durham County	314,819	96.1%	99.5%	95.7%	17,861	59.6%	85.4%	55.5%
Edgecombe County	26,647	87.6%	98.6%	86.9%	21,654	42.1%	51.8%	28.4%
Forsyth County	359,038	97.9%	99.7%	97.6%	30,119	94.5%	95.9%	91.2%
Franklin County	15,729	96.6%	85.0%	82.0%	58,810	67.2%	61.7%	47.0%
Gaston County	189,534	97.0%	99.6%	96.7%	44,681	88.1%	94.6%	84.2%
Gates County					10,383	51.1%	32.7%	16.9%
Graham County					7,980	43.0%	28.0%	23.5%
Granville County	17,771	94.7%	78.5%	73.5%	44,132	55.2%	60.4%	41.3%
Greene County					20,211	36.2%	80.7%	30.8%
Guilford County	466,670	97.2%	99.6%	96.9%	79,431	90.2%	95.8%	87.3%
Halifax County	20,954	95.9%	97.5%	93.6%	26,894	30.5%	50.9%	19.3%
Harnett County	49,423	95.5%	87.5%	83.3%	89,409	74.7%	61.3%	48.0%
Haywood County	33,106	94.6%	89.6%	84.5%	29,503	73.7%	50.7%	41.4%
Henderson County	77,201	92.3%	96.7%	89.5%	40,905	58.2%	71.1%	47.4%
Hertford County	4,729	91.1%	93.7%	84.9%	16,146	66.8%	61.3%	44.2%
Hoke County	30,733	96.4%	99.1%	95.6%	23,054	62.8%	76.6%	55.3%
Hyde County					4,576	1.2%	26.0%	0.0%
Iredell County	132,821	98.2%	99.2%	97.5%	63,076	84.3%	83.6%	70.7%
Jackson County	13,010	54.7%	97.3%	53.7%	29,945	26.6%	39.5%	12.9%
Johnston County	109,577	96.5%	83.6%	80.4%	125,201	79.1%	65.0%	52.2%
Jones County					9,233	83.6%	57.7%	45.9%
Lee County	37,861	97.9%	69.6%	68.3%	27,615	63.5%	56.0%	39.5%
Lenoir County	20,832	91.2%	94.4%	86.2%	33,801	63.9%	78.4%	51.4%
Lincoln County	24,260	94.1%	87.0%	82.2%	68,835	86.8%	75.6%	67.6%
Macon County	9,531	88.7%	74.7%	67.1%	28,534	33.8%	23.7%	13.4%
Madison County					21,768	91.2%	37.3%	35.0%
Martin County	5,325	88.5%	95.1%	84.4%	16,183	38.9%	36.8%	21.1%
McDowell County	12,143	91.0%	91.1%	83.2%	32,610	51.9%	65.9%	37.9%
Mecklenburg County	1,134,449	98.0%	99.9%	97.9%	10,943	89.0%	97.5%	86.9%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Mitchell County					15,094	91.8%	56.0%	52.6%
Montgomery County					25,894	50.8%	53.4%	34.3%
Moore County	53,240	97.2%	46.8%	45.1%	52,291	59.7%	28.2%	19.1%
Nash County	48,205	87.9%	94.7%	83.9%	47,584	49.7%	60.1%	30.8%
New Hanover County	230,767	97.1%	96.4%	93.6%	4,154	87.9%	87.9%	76.4%
Northampton County	1,966	96.3%	73.9%	72.1%	14,813	66.5%	32.5%	25.3%
Onslow County	121,871	94.5%	86.8%	81.9%	85,427	87.0%	77.2%	67.1%
Orange County	102,990	95.7%	96.7%	92.5%	47,487	59.4%	72.9%	47.7%
Pamlico County					12,381	68.6%	39.2%	29.1%
Pasquotank County	22,301	93.9%	93.8%	88.0%	18,637	82.1%	54.9%	45.1%
Pender County	26,064	97.4%	77.9%	75.5%	39,673	64.5%	77.3%	57.6%
Perquimans County					13,210	56.9%	36.5%	28.3%
Person County	8,954	92.8%	79.9%	73.3%	30,432	64.6%	36.7%	28.6%
Pitt County	126,137	91.8%	97.9%	90.0%	47,405	63.8%	70.4%	47.3%
Polk County	1,748	98.7%	24.1%	24.1%	18,238	46.0%	58.7%	31.7%
Randolph County	57,458	94.5%	97.9%	92.5%	88,585	87.4%	76.2%	66.7%
Richmond County	23,721	95.4%	49.0%	46.3%	19,057	69.6%	47.2%	33.3%
Robeson County	26,002	95.2%	87.3%	83.4%	90,661	78.2%	55.5%	43.8%
Rockingham County	35,248	94.3%	85.7%	80.7%	56,709	77.7%	53.5%	44.9%
Rowan County	86,128	97.6%	98.5%	96.2%	63,517	85.1%	90.6%	78.9%
Rutherford County	20,925	97.5%	95.8%	93.4%	44,038	46.9%	73.6%	40.9%
Sampson County	8,962	99.9%	99.6%	99.6%	50,158	63.7%	64.5%	41.3%
Scotland County	16,189	96.2%	95.4%	91.7%	17,973	56.0%	64.2%	35.5%
Stanly County	17,319	99.3%	97.8%	97.2%	46,834	76.3%	78.0%	61.1%
Stokes County	8,780	98.6%	99.7%	98.4%	36,395	79.4%	74.5%	61.0%
Surry County	17,442	98.3%	90.2%	88.8%	53,961	94.0%	61.3%	58.6%
Swain County					13,967	36.9%	45.9%	28.2%
Transylvania County	13,107	98.8%	71.5%	71.1%	20,248	73.0%	21.3%	17.4%
Tyrrell County					3,365	33.9%	29.1%	19.9%
Union County	179,205	98.0%	99.8%	97.8%	69,865	78.7%	85.6%	70.5%
Vance County	19,793	94.2%	92.5%	86.9%	22,345	66.1%	46.4%	34.8%
Wake County	1,112,030	98.1%	99.8%	97.9%	62,991	90.0%	95.5%	86.0%
Warren County					18,713	31.6%	36.0%	14.4%
Washington County					10,828	67.6%	28.9%	24.3%
Watauga County	27,197	94.1%	92.9%	87.3%	27,892	91.9%	46.7%	44.1%
Wayne County	53,724	94.6%	98.0%	92.7%	63,562	82.1%	79.0%	65.7%
Wilkes County	19,753	95.9%	77.0%	73.4%	46,031	94.7%	31.3%	29.9%
Wilson County	48,446	99.4%	93.9%	93.3%	30,003	88.2%	73.7%	65.1%
Yadkin County					37,463	92.0%	83.3%	77.7%
Yancey County					18,811	94.4%	56.1%	54.1%
North Dakota	476,825	99.6%	93.9%	93.6%	302,436	95.8%	55.8%	54.0%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Adams County					2,115	100.0%	7.1%	7.1%
Barnes County	6,743	100.0%	100.0%	100.0%	4,015	93.4%	49.5%	46.2%
Benson County					5,770	75.5%	59.5%	44.2%
Billings County					1,018	49.3%	47.9%	27.5%
Bottineau County					6,376	98.1%	55.4%	55.0%
Bowman County					2,894	100.0%	63.2%	63.2%
Burke County					2,155	96.4%	56.7%	55.8%
Burleigh County	75,752	98.9%	93.0%	92.0%	23,528	99.4%	21.9%	21.7%
Cass County	173,268	100.0%	99.0%	99.0%	19,466	96.1%	77.7%	75.8%
Cavalier County					3,597	99.7%	72.5%	72.5%
Dickey County					4,923	99.3%	75.4%	74.8%
Divide County					2,187	95.3%	72.1%	70.8%
Dunn County					4,015	97.9%	45.5%	45.3%
Eddy County					2,314	90.6%	82.5%	76.6%
Emmons County					3,250	100.0%	55.9%	55.9%
Foster County					3,378	100.0%	67.3%	67.3%
Golden Valley County					1,744	81.2%	64.3%	56.0%
Grand Forks County	58,498	100.0%	99.3%	99.3%	13,915	99.4%	67.8%	67.5%
Grant County					2,243	96.5%	51.0%	50.4%
Griggs County					2,252	99.7%	73.5%	73.3%
Hettinger County					2,406	100.0%	52.9%	52.9%
Kidder County					2,393	100.0%	58.2%	58.2%
LaMoure County					4,098	100.0%	55.5%	55.5%
Logan County					1,855	100.0%	37.6%	37.6%
McHenry County					5,189	95.1%	61.0%	59.1%
McIntosh County					2,475	100.0%	37.8%	37.8%
McKenzie County	6,012	99.4%	94.8%	94.4%	7,896	82.4%	41.1%	37.3%
McLean County					9,824	95.5%	61.7%	60.4%
Mercer County					8,333	100.0%	68.2%	68.2%
Morton County	23,609	99.7%	79.4%	79.2%	10,101	99.5%	47.5%	47.1%
Mountrail County					9,290	93.6%	79.7%	76.8%
Nelson County					2,995	86.9%	30.0%	25.7%
Oliver County					1,856	100.0%	39.8%	39.8%
Pembina County					6,763	100.0%	42.8%	42.8%
Pierce County					3,942	79.8%	74.7%	66.5%
Ramsey County	7,274	99.9%	99.8%	99.7%	4,241	77.9%	60.9%	47.0%
Ransom County					5,640	99.3%	59.7%	59.6%
Renville County					2,220	95.5%	57.8%	56.2%
Richland County	7,744	100.0%	96.8%	96.8%	8,836	96.2%	46.5%	45.2%
Rolette County					11,933	99.6%	52.7%	52.5%
Sargent County					3,795	99.8%	35.1%	35.0%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Sheridan County					1,295	95.9%	57.8%	56.2%
Sioux County					3,711	98.1%	12.2%	12.0%
Slope County					672	99.7%	38.0%	38.0%
Stark County	24,910	100.0%	96.5%	96.5%	7,893	95.6%	50.2%	48.1%
Steele County					1,788	100.0%	17.2%	17.2%
Stutsman County	15,040	100.0%	89.0%	89.0%	6,447	100.0%	46.5%	46.5%
Towner County					2,064	94.7%	63.1%	61.3%
Trail County					7,958	98.9%	73.0%	72.6%
Walsh County					10,438	99.9%	82.5%	82.4%
Ward County	51,246	98.9%	88.8%	87.8%	17,624	97.7%	62.1%	60.9%
Wells County					3,930	88.9%	32.3%	29.3%
Williams County	26,729	98.9%	70.9%	70.3%	11,380	86.8%	58.1%	53.5%
Ohio	8,944,217	97.9%	98.6%	96.6%	2,811,841	73.1%	70.0%	55.0%
Adams County					27,420	41.3%	47.2%	26.7%
Allen County	69,632	96.3%	76.1%	73.9%	31,483	84.6%	57.5%	51.5%
Ashland County	19,016	99.9%	100.0%	99.9%	33,165	74.6%	86.1%	66.1%
Ashtabula County	46,108	98.9%	86.5%	85.5%	50,906	72.5%	73.4%	56.4%
Athens County	30,042	87.6%	96.3%	83.9%	28,937	59.8%	45.6%	34.6%
Auglaize County	28,170	99.8%	65.6%	65.5%	17,778	67.6%	26.6%	18.3%
Belmont County	25,281	98.8%	91.6%	90.6%	40,228	62.1%	59.0%	41.6%
Brown County	1,796	96.6%	96.6%	93.3%	41,884	64.2%	62.2%	44.5%
Butler County	350,832	98.1%	99.9%	98.1%	37,588	91.9%	90.3%	83.9%
Carroll County					26,659	51.9%	67.4%	40.3%
Champaign County	11,213	100.0%	81.5%	81.5%	27,496	74.2%	65.4%	52.0%
Clark County	100,627	97.9%	100.0%	97.9%	34,204	88.6%	93.0%	82.9%
Clermont County	155,081	98.2%	99.4%	97.6%	55,724	92.6%	85.3%	79.4%
Clinton County	12,254	94.8%	99.4%	94.4%	29,710	68.9%	81.8%	58.0%
Columbiana County	45,218	98.5%	98.5%	97.0%	55,293	58.8%	79.0%	50.8%
Coshocton County	12,263	94.1%	99.7%	93.9%	24,308	41.2%	47.8%	28.1%
Crawford County	27,008	95.0%	84.6%	80.5%	14,514	52.2%	49.8%	26.5%
Cuyahoga County	1,228,946	99.1%	99.8%	98.9%	7,095	97.7%	100.0%	97.7%
Darke County	14,737	95.8%	71.6%	68.5%	36,792	64.8%	50.2%	36.3%
Defiance County	17,537	100.0%	76.5%	76.5%	20,650	97.1%	34.5%	33.6%
Delaware County	179,294	98.3%	100.0%	98.3%	47,002	90.4%	97.2%	87.9%
Erie County	53,368	99.2%	94.0%	93.4%	21,133	84.1%	90.8%	76.4%
Fairfield County	104,966	98.1%	99.9%	98.1%	57,932	79.2%	85.1%	69.9%
Fayette County	14,655	96.1%	95.0%	91.8%	14,184	51.1%	56.0%	28.2%
Franklin County	1,303,134	99.0%	100.0%	99.0%	18,686	93.0%	99.4%	92.5%
Fulton County	7,473	100.0%	100.0%	100.0%	34,698	99.6%	78.3%	78.1%
Gallia County	5,778	61.0%	98.1%	61.0%	23,290	15.6%	49.1%	11.4%
Geauga County	20,621	98.6%	100.0%	98.6%	74,848	82.1%	97.1%	80.7%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Greene County	130,585	97.9%	99.9%	97.9%	37,871	69.2%	91.6%	64.1%
Guernsey County	14,290	93.7%	88.9%	83.2%	23,808	57.9%	38.4%	23.8%
Hamilton County	805,046	98.9%	99.3%	98.2%	19,991	95.8%	88.2%	84.6%
Hancock County	51,836	99.8%	95.0%	94.9%	23,025	99.3%	35.8%	35.6%
Hardin County	13,060	99.7%	99.2%	99.0%	17,356	95.2%	39.5%	37.9%
Harrison County					14,378	50.8%	17.8%	12.6%
Henry County	8,675	100.0%	88.3%	88.3%	18,837	99.1%	39.0%	38.7%
Highland County	11,331	92.5%	99.7%	92.3%	32,060	46.2%	55.6%	32.2%
Hocking County	8,050	94.5%	95.0%	90.3%	19,808	44.1%	31.1%	22.0%
Holmes County					44,390	34.5%	69.5%	25.7%
Huron County	28,167	96.2%	98.5%	94.8%	30,051	65.4%	76.4%	55.0%
Jackson County	11,708	92.5%	93.3%	86.3%	20,878	49.0%	43.6%	28.9%
Jefferson County	38,809	99.1%	90.8%	90.2%	25,521	65.9%	39.1%	29.2%
Knox County	18,805	91.4%	99.9%	91.4%	44,378	51.8%	85.4%	50.0%
Lake County	214,280	98.0%	99.7%	97.7%	17,562	95.3%	99.6%	95.0%
Lawrence County	31,177	98.3%	91.0%	89.5%	25,476	64.5%	46.1%	38.5%
Licking County	117,938	98.1%	100.0%	98.1%	63,421	73.3%	79.5%	64.6%
Logan County	20,053	97.9%	82.4%	81.0%	25,987	83.5%	41.7%	37.4%
Lorain County	271,185	97.2%	99.6%	96.8%	45,083	71.1%	96.3%	67.6%
Lucas County	405,120	99.6%	98.7%	98.3%	21,523	96.7%	80.4%	77.8%
Madison County	14,719	96.1%	100.0%	96.1%	28,821	60.3%	96.9%	58.3%
Mahoning County	190,215	97.4%	99.9%	97.4%	35,421	89.2%	96.4%	86.4%
Marion County	41,971	99.9%	91.9%	91.9%	22,671	85.9%	51.0%	43.9%
Medina County	119,743	99.4%	100.0%	99.4%	63,769	90.4%	99.3%	90.1%
Meigs County	2,647	84.4%	55.0%	45.7%	19,322	33.0%	31.0%	12.1%
Mercer County	11,931	99.9%	57.8%	57.8%	30,417	84.8%	44.7%	41.4%
Miami County	76,475	99.3%	99.9%	99.3%	33,772	71.7%	92.2%	67.5%
Monroe County	179	99.4%	100.0%	99.4%	13,055	20.2%	34.3%	5.7%
Montgomery County	504,304	98.0%	99.9%	98.0%	29,588	75.9%	93.0%	72.6%
Morgan County					13,668	35.4%	29.7%	20.7%
Morrow County	4	100.0%	0.0%	0.0%	35,335	80.7%	87.3%	71.4%
Muskingum County	42,030	94.8%	91.4%	86.4%	44,083	67.4%	54.1%	42.2%
Noble County					14,335	35.9%	55.0%	26.0%
Ottawa County	15,187	96.5%	91.8%	88.4%	24,791	75.0%	73.4%	56.4%
Paulding County					18,757	95.2%	41.7%	41.6%
Perry County	6,945	94.7%	96.5%	91.3%	28,535	46.6%	47.5%	25.9%
Pickaway County	23,628	97.2%	98.2%	95.4%	36,395	65.2%	81.0%	51.7%
Pike County	5,035	88.1%	96.4%	84.6%	21,970	57.3%	34.4%	23.4%
Portage County	99,231	98.2%	100.0%	98.2%	62,514	90.3%	95.2%	86.1%
Preble County	9,462	95.9%	99.5%	95.4%	31,134	71.2%	74.5%	56.7%
Putnam County	5,204	100.0%	84.0%	84.0%	29,130	97.9%	32.1%	31.7%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Richland County	83,088	92.1%	99.9%	92.0%	42,231	81.1%	80.8%	65.7%
Ross County	28,679	96.9%	95.9%	93.0%	47,927	65.6%	54.3%	37.0%
Sandusky County	33,142	96.1%	95.8%	92.1%	25,525	72.7%	73.9%	53.1%
Scioto County	32,037	92.8%	92.1%	85.2%	40,157	69.8%	42.2%	32.6%
Seneca County	29,333	98.1%	96.6%	94.8%	25,299	83.0%	40.3%	35.9%
Shelby County	20,304	99.9%	95.5%	95.5%	27,367	64.2%	45.7%	32.8%
Stark County	317,100	91.4%	99.9%	91.4%	55,557	81.2%	95.1%	78.4%
Summit County	515,651	98.6%	100.0%	98.6%	20,231	95.6%	99.9%	95.6%
Trumbull County	145,967	95.6%	100.0%	95.6%	54,676	80.2%	92.7%	78.4%
Tuscarawas County	46,211	98.6%	97.1%	95.8%	45,726	59.5%	65.9%	45.3%
Union County	36,011	97.9%	98.8%	96.7%	30,887	91.7%	67.0%	60.9%
Van Wert County	14,340	99.3%	91.0%	90.4%	14,429	99.3%	35.0%	34.9%
Vinton County	721	97.9%	49.2%	47.4%	11,844	28.4%	28.9%	19.1%
Warren County	205,222	97.2%	98.7%	96.0%	44,556	85.5%	90.0%	77.1%
Washington County	24,575	92.2%	93.0%	85.6%	34,326	50.4%	37.1%	23.3%
Wayne County	50,902	78.8%	99.3%	78.6%	65,657	74.5%	90.6%	68.6%
Williams County	9,132	99.6%	92.0%	91.7%	27,520	98.8%	25.8%	25.5%
Wood County	91,281	98.5%	96.2%	94.8%	40,311	94.9%	69.0%	64.5%
Wyandot County	6,446	99.4%	89.8%	89.3%	15,121	98.6%	50.8%	50.7%
Oklahoma	2,587,917	98.3%	99.4%	97.8%	1,431,883	71.7%	72.3%	55.4%
Adair County					19,576	99.8%	56.6%	56.6%
Alfalfa County					5,637	55.0%	61.9%	27.7%
Atoka County					14,262	79.6%	63.8%	54.6%
Beaver County					5,016	88.0%	42.4%	41.4%
Beckham County	10,810	99.6%	99.8%	99.5%	11,199	98.3%	76.6%	76.2%
Blaine County					8,409	88.3%	49.2%	46.8%
Bryan County	19,240	100.0%	97.0%	97.0%	28,942	86.0%	57.2%	53.2%
Caddo County	5,076	97.4%	99.3%	96.7%	21,122	64.8%	73.4%	46.1%
Canadian County	136,667	99.9%	100.0%	99.9%	32,482	92.9%	90.8%	86.8%
Carter County	21,725	99.9%	97.2%	97.2%	26,785	92.6%	62.2%	58.9%
Cherokee County	17,357	99.6%	98.5%	98.2%	30,741	91.0%	58.4%	53.4%
Choctaw County	4,998	91.2%	54.3%	48.0%	9,360	20.1%	29.4%	5.8%
Cimarron County					2,252	80.6%	61.1%	57.6%
Cleveland County	252,601	99.6%	100.0%	99.6%	46,986	91.4%	87.6%	81.8%
Coal County					5,313	63.0%	63.6%	49.1%
Comanche County	86,819	99.7%	100.0%	99.7%	36,227	87.7%	88.7%	78.2%
Cotton County					5,477	93.1%	84.3%	81.4%
Craig County	4,682	100.0%	98.5%	98.5%	9,441	52.8%	59.2%	41.4%
Creek County	27,272	99.3%	99.7%	99.1%	45,427	54.6%	75.2%	46.5%
Custer County	19,706	99.9%	99.5%	99.5%	8,180	95.0%	51.9%	51.6%
Delaware County	8,372	99.9%	94.1%	94.1%	33,041	66.4%	55.2%	41.8%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Dewey County					4,401	77.1%	65.0%	58.2%
Ellis County					3,657	25.1%	49.2%	14.6%
Garfield County	48,152	99.9%	99.7%	99.7%	13,768	96.1%	53.5%	52.6%
Garvin County	5,479	85.1%	98.9%	84.6%	20,234	49.0%	73.4%	39.4%
Grady County	15,256	54.0%	100.0%	54.0%	41,402	86.3%	84.7%	74.4%
Grant County					4,124	75.9%	53.4%	46.8%
Greer County					5,547	91.7%	87.2%	86.0%
Harmon County					2,428	1.1%	74.2%	1.1%
Harper County					3,129	51.9%	74.4%	38.7%
Haskell County					11,641	56.1%	54.3%	42.5%
Hughes County	4,269	95.5%	65.4%	61.1%	9,138	6.0%	58.4%	4.1%
Jackson County	17,723	100.0%	100.0%	100.0%	6,833	97.7%	28.9%	28.8%
Jefferson County					5,389	91.3%	70.8%	67.1%
Johnston County					10,406	60.0%	64.4%	46.5%
Kay County	29,910	100.0%	100.0%	100.0%	13,758	95.2%	82.9%	81.9%
Kingfisher County					15,293	87.7%	80.7%	77.0%
Kiowa County					8,345	96.0%	79.9%	79.1%
Latimer County					9,630	42.6%	58.1%	35.7%
Le Flore County	9,802	86.7%	100.0%	86.7%	39,105	43.0%	78.8%	38.9%
Lincoln County	1	0.0%	100.0%	0.0%	34,187	66.1%	72.9%	50.1%
Logan County	19,814	96.4%	99.9%	96.3%	32,119	77.8%	86.8%	67.4%
Love County					10,218	90.6%	76.5%	74.0%
Major County					7,502	89.6%	48.5%	45.7%
Marshall County					15,882	81.1%	70.3%	64.5%
Mayes County	9,583	99.9%	99.9%	99.8%	30,006	64.4%	74.0%	52.5%
McClain County	5,911	96.9%	100.0%	96.9%	39,395	85.2%	92.9%	82.3%
McCurtain County	5,606	100.0%	86.2%	86.2%	25,325	75.2%	29.6%	27.6%
McIntosh County					19,451	83.3%	75.0%	62.9%
Murray County	4,775	100.0%	98.7%	98.7%	8,897	85.1%	71.3%	66.1%
Muskogee County	35,636	79.7%	99.6%	79.5%	30,718	76.4%	78.2%	59.9%
Noble County	4,471	100.0%	100.0%	100.0%	6,425	94.9%	59.3%	57.2%
Nowata County	687	98.8%	12.0%	11.2%	8,796	65.5%	65.4%	54.3%
Okfuskee County					11,134	54.6%	60.5%	37.9%
Oklahoma County	739,493	99.6%	99.9%	99.6%	63,066	87.7%	97.7%	85.8%
Okmulgee County	17,327	79.7%	95.0%	75.6%	19,663	78.1%	61.4%	43.9%
Osage County	12,432	67.9%	99.2%	67.1%	33,407	34.6%	69.5%	28.9%
Ottawa County	15,383	99.9%	97.4%	97.4%	14,955	72.2%	58.0%	38.7%
Pawnee County					15,757	58.2%	77.0%	48.6%
Payne County	54,313	88.6%	99.9%	88.5%	28,481	74.7%	91.7%	69.7%
Pittsburg County	20,908	100.0%	97.8%	97.8%	22,705	45.1%	61.4%	35.4%
Pontotoc County	17,199	99.5%	98.8%	98.3%	20,942	57.2%	56.3%	36.1%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Pottawatomie County	34,436	99.9%	99.7%	99.7%	39,097	76.2%	83.0%	67.2%
Pushmataha County					10,769	58.3%	39.8%	32.0%
Roger Mills County					3,320	36.3%	38.0%	4.6%
Rogers County	44,505	97.5%	99.9%	97.5%	54,331	47.8%	84.7%	43.2%
Seminole County	6,042	83.8%	96.3%	81.7%	17,309	34.3%	65.4%	30.4%
Sequoyah County	7,505	99.6%	95.4%	95.0%	32,162	75.0%	61.1%	48.1%
Stephens County	20,840	99.3%	98.2%	97.5%	22,870	50.8%	60.1%	43.7%
Texas County	11,606	99.9%	95.8%	95.8%	8,889	92.8%	44.8%	43.4%
Tillman County					6,977	89.4%	73.1%	71.4%
Tulsa County	642,084	99.4%	99.9%	99.3%	35,274	65.8%	88.4%	59.7%
Wagoner County	54,610	98.6%	99.9%	98.6%	32,034	78.6%	79.8%	62.3%
Washington County	40,573	99.8%	100.0%	99.8%	12,669	28.7%	68.0%	21.7%
Washita County					10,732	94.5%	70.7%	67.5%
Woods County	5,072	100.0%	88.8%	88.8%	3,515	58.5%	57.5%	25.8%
Woodward County	11,189	100.0%	89.3%	89.3%	8,801	66.6%	46.7%	28.2%
Oregon	3,397,493	98.9%	97.5%	96.5%	842,644	62.5%	62.0%	43.1%
Baker County	9,873	97.3%	72.5%	70.7%	7,065	29.6%	33.6%	7.9%
Benton County	78,129	98.9%	94.7%	94.1%	19,501	68.1%	62.2%	48.8%
Clackamas County	349,001	98.6%	99.4%	98.1%	74,176	71.8%	76.3%	57.1%
Clatsop County	25,432	94.3%	75.2%	70.2%	16,263	62.0%	56.9%	38.3%
Columbia County	31,362	98.3%	94.7%	93.3%	22,226	46.9%	54.6%	34.0%
Coos County	40,166	99.3%	84.4%	83.9%	24,824	61.2%	48.8%	38.5%
Crook County	13,020	99.9%	99.0%	98.9%	13,355	25.7%	75.8%	18.4%
Curry County	11,238	100.0%	90.8%	90.8%	12,360	80.3%	26.9%	25.8%
Deschutes County	144,569	99.8%	91.0%	90.9%	61,980	74.0%	52.7%	40.8%
Douglas County	66,794	99.6%	91.7%	91.3%	45,503	85.2%	53.4%	48.4%
Gilliam County					2,018	27.1%	78.3%	27.1%
Grant County					7,218	29.1%	0.0%	0.0%
Harney County	4,168	97.8%	88.0%	86.0%	3,347	22.4%	52.1%	19.6%
Hood River County	11,680	95.2%	96.5%	91.9%	12,368	51.6%	90.0%	48.4%
Jackson County	175,338	99.8%	94.5%	94.4%	46,306	73.9%	66.5%	51.3%
Jefferson County	8,106	100.0%	100.0%	100.0%	17,224	50.4%	81.4%	45.8%
Josephine County	49,780	95.6%	99.1%	94.9%	37,950	34.4%	67.4%	28.1%
Klamath County	43,579	100.0%	100.0%	100.0%	26,633	70.9%	64.5%	52.4%
Lake County					8,385	58.8%	67.7%	52.6%
Lane County	310,885	99.0%	96.1%	95.1%	71,468	58.9%	43.5%	30.4%
Lincoln County	31,515	97.4%	84.4%	82.3%	19,298	74.2%	59.9%	52.9%
Linn County	84,477	99.6%	97.7%	97.5%	45,990	70.2%	65.1%	51.2%
Malheur County	13,010	100.0%	97.5%	97.5%	18,869	71.3%	69.5%	59.2%
Marion County	300,790	98.6%	98.9%	97.6%	45,913	70.0%	81.6%	59.4%
Morrow County					12,300	49.2%	59.1%	33.0%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
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Multnomah County	784,431	99.4%	99.7%	99.1%	10,652	70.5%	73.7%	53.0%
Polk County	70,433	99.8%	98.3%	98.1%	19,181	47.7%	73.5%	42.5%
Sherman County					1,955	60.3%	64.8%	40.7%
Tillamook County	10,833	96.7%	90.3%	87.2%	16,741	80.0%	45.3%	39.6%
Umatilla County	54,956	88.1%	95.9%	84.1%	25,259	69.4%	61.0%	40.9%
Union County	15,657	97.4%	97.7%	95.2%	10,520	53.0%	44.5%	29.4%
Wallowa County					7,659	49.6%	16.2%	9.7%
Wasco County	17,023	95.4%	99.3%	94.8%	9,538	38.3%	53.9%	27.1%
Washington County	564,963	99.5%	99.7%	99.3%	35,213	51.9%	78.2%	48.4%
Wheeler County					1,445	44.4%	34.1%	28.5%
Yamhill County	76,285	99.2%	99.8%	99.1%	31,941	43.7%	74.2%	40.9%
Pennsylvania	9,886,696	99.3%	98.2%	97.6%	3,085,312	81.3%	71.2%	61.5%
Adams County	38,444	98.8%	99.6%	98.4%	67,583	81.6%	91.3%	78.0%
Allegheny County	1,202,611	99.8%	97.4%	97.2%	30,642	95.9%	84.4%	81.2%
Armstrong County	22,769	99.6%	95.4%	95.0%	41,978	78.0%	49.9%	42.0%
Beaver County	117,542	99.4%	97.8%	97.3%	48,135	87.8%	80.4%	72.8%
Bedford County	4,532	99.4%	98.6%	98.1%	42,886	70.6%	43.6%	37.4%
Berks County	316,496	100.0%	99.9%	99.9%	113,953	99.9%	90.8%	90.8%
Blair County	89,811	99.5%	97.7%	97.4%	31,221	83.5%	57.3%	52.0%
Bradford County	16,056	99.3%	93.1%	92.4%	43,810	48.9%	36.5%	23.0%
Bucks County	577,183	99.4%	98.3%	97.7%	67,871	97.8%	81.7%	80.1%
Butler County	111,247	99.7%	95.5%	95.2%	86,053	92.2%	68.1%	64.4%
Cambria County	70,762	97.9%	96.6%	94.6%	60,679	81.1%	63.0%	54.6%
Cameron County					4,418	88.2%	65.3%	63.3%
Carbon County	26,583	99.6%	89.2%	88.9%	38,877	96.6%	68.3%	66.8%
Centre County	95,558	96.9%	99.6%	96.6%	62,867	80.5%	79.3%	68.4%
Chester County	438,805	99.4%	95.2%	94.7%	107,018	93.7%	84.6%	79.6%
Clarion County	5,444	99.0%	100.0%	99.0%	31,902	65.3%	44.1%	33.8%
Clearfield County	30,072	93.5%	85.6%	79.2%	47,832	69.8%	58.8%	47.4%
Clinton County	19,422	99.8%	89.4%	89.4%	18,509	79.1%	42.2%	35.1%
Columbia County	35,765	98.8%	99.8%	98.7%	29,161	55.6%	67.4%	42.1%
Crawford County	27,930	99.9%	93.5%	93.5%	54,740	60.1%	56.6%	37.3%
Cumberland County	210,853	99.2%	99.8%	99.0%	57,726	86.0%	91.6%	78.9%
Dauphin County	245,175	99.8%	99.8%	99.6%	43,625	87.9%	90.7%	80.8%
Delaware County	570,605	99.8%	98.5%	98.3%	4,577	98.6%	70.9%	69.8%
Elk County	13,447	97.8%	90.7%	88.7%	17,030	82.3%	70.5%	64.0%
Erie County	202,325	96.6%	96.2%	93.0%	65,364	80.8%	73.5%	60.7%
Fayette County	56,537	96.6%	94.5%	91.6%	69,218	77.6%	57.6%	45.1%
Forest County					6,626	37.6%	64.4%	27.3%
Franklin County	87,280	99.2%	98.5%	97.7%	69,622	80.8%	87.0%	72.2%
Fulton County					14,533	40.6%	63.9%	33.5%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
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Greene County	8,483	99.7%	99.1%	98.8%	26,180	64.7%	30.5%	21.7%
Huntingdon County	10,800	99.9%	96.4%	96.3%	32,481	73.8%	45.3%	39.9%
Indiana County	33,118	99.2%	95.1%	94.5%	49,839	56.0%	51.3%	31.7%
Jefferson County	11,616	99.7%	98.2%	98.0%	32,178	72.4%	56.4%	45.7%
Juniata County					23,339	56.2%	60.7%	42.2%
Lackawanna County	177,056	99.7%	99.4%	99.2%	38,559	89.8%	80.3%	73.9%
Lancaster County	402,902	99.6%	99.8%	99.5%	153,727	87.8%	93.8%	83.3%
Lawrence County	48,985	99.7%	95.5%	95.3%	35,864	85.4%	82.3%	70.8%
Lebanon County	106,637	99.7%	100.0%	99.7%	37,374	88.1%	96.1%	84.8%
Lehigh County	338,178	99.4%	99.9%	99.4%	38,139	95.4%	92.4%	88.9%
Luzerne County	252,720	98.7%	99.5%	98.3%	73,649	80.2%	74.2%	61.1%
Lycoming County	67,473	99.9%	99.8%	99.7%	45,631	76.7%	63.6%	55.1%
McKean County	10,760	99.6%	93.2%	92.9%	29,106	79.6%	56.2%	51.5%
Mercer County	56,103	96.7%	99.4%	96.2%	53,117	73.2%	70.7%	53.8%
Mifflin County	20,827	99.8%	88.7%	88.6%	25,161	76.4%	44.1%	36.8%
Monroe County	72,247	99.5%	91.7%	91.2%	94,951	94.5%	69.4%	65.7%
Montgomery County	835,528	99.1%	98.2%	97.5%	29,155	96.1%	91.9%	88.6%
Montour County	8,252	95.9%	100.0%	95.9%	9,839	70.6%	86.4%	63.6%
Northampton County	264,026	99.7%	99.8%	99.6%	54,500	97.4%	92.0%	89.6%
Northumberland County	57,496	99.3%	97.6%	97.0%	32,637	74.2%	66.7%	51.8%
Perry County	2,963	99.9%	96.9%	96.8%	43,151	71.8%	72.4%	56.9%
Philadelphia County	1,567,258	99.7%	99.9%	99.6%				
Pike County	7,714	97.0%	86.6%	83.7%	52,844	94.7%	47.8%	45.8%
Potter County					16,220	93.6%	32.3%	31.3%
Schuylkill County	75,615	96.4%	95.0%	91.8%	67,489	77.6%	68.5%	55.1%
Snyder County	11,781	99.6%	94.3%	93.9%	27,871	66.7%	62.6%	48.4%
Somerset County	16,384	98.5%	93.4%	92.0%	56,326	71.3%	55.8%	42.7%
Sullivan County					5,855	46.7%	20.9%	12.5%
Susquehanna County					38,074	67.5%	58.3%	42.9%
Tioga County					41,106	80.6%	38.2%	36.0%
Union County	14,230	99.7%	87.9%	87.8%	28,514	77.3%	65.6%	54.4%
Venango County	21,728	97.7%	97.8%	95.7%	28,049	67.6%	45.6%	35.4%
Warren County	15,065	95.8%	90.6%	87.4%	22,743	52.4%	55.1%	39.3%
Washington County	141,292	99.5%	96.7%	96.3%	69,091	77.0%	71.1%	58.1%
Wayne County	7,091	98.9%	94.6%	93.6%	44,082	81.6%	48.0%	40.5%
Westmoreland County	259,097	99.4%	94.8%	94.3%	92,960	89.4%	79.3%	71.9%
Wyoming County	1,219	96.7%	100.0%	96.7%	24,795	73.0%	56.5%	45.1%
York County	328,798	99.5%	99.8%	99.3%	132,260	83.6%	94.6%	80.5%
Puerto Rico	2,966,395	98.7%	98.9%	97.7%	255,394	77.0%	86.3%	68.8%
Adjuntas Municipio	7,642	97.9%	97.3%	96.0%	9,558	96.2%	88.3%	84.9%

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	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Aguada Municipio	36,358	97.6%	89.1%	87.4%	220	99.5%	100.0%	99.5%
Aguadilla Municipio	53,970	99.9%	99.5%	99.5%	120	98.3%	100.0%	98.3%
Aguas Buenas Municipio	20,347	94.6%	99.0%	93.8%	2,745	76.3%	95.3%	72.2%
Aibonito Municipio	19,513	100.0%	98.4%	98.4%	4,229	100.0%	86.1%	86.1%
Arecibo Municipio	77,213	99.4%	98.7%	98.3%	8,627	52.2%	66.0%	40.6%
Arroyo Municipio	15,575	99.9%	98.3%	98.2%	519	91.5%	75.7%	67.8%
Añasco Municipio	21,093	97.0%	98.6%	96.0%	3,528	31.4%	88.5%	30.4%
Barceloneta Municipio	21,419	98.5%	96.8%	95.5%	1,208	91.0%	90.8%	83.6%
Barranquitas Municipio	26,483	99.0%	96.8%	95.8%	1,383	99.8%	84.9%	84.8%
Bayamón Municipio	181,072	99.9%	99.8%	99.7%				
Cabo Rojo Municipio	45,509	98.7%	98.5%	97.3%	1,949	77.7%	99.5%	77.4%
Caguas Municipio	122,435	99.4%	99.8%	99.2%	1,424	99.8%	95.8%	95.7%
Camuy Municipio	26,007	96.6%	99.8%	96.5%	5,725	45.4%	79.2%	40.9%
Canóvanas Municipio	39,884	99.9%	99.3%	99.2%	1,439	98.6%	87.4%	87.0%
Carolina Municipio	152,771	99.7%	99.7%	99.4%	369	97.5%	100.0%	97.5%
Cataño Municipio	22,319	100.0%	98.6%	98.6%				
Cayey Municipio	36,264	100.0%	99.9%	99.9%	4,669	100.0%	88.7%	88.7%
Ceiba Municipio	10,535	98.6%	99.8%	98.5%	951	33.4%	96.0%	31.9%
Ciales Municipio	10,034	82.6%	99.6%	82.5%	6,245	29.3%	93.4%	28.0%
Cidra Municipio	37,089	98.0%	99.8%	97.9%	760	99.0%	79.7%	78.8%
Coamo Municipio	23,946	100.0%	99.0%	99.0%	10,381	100.0%	90.6%	90.6%
Comerío Municipio	15,229	88.7%	98.4%	87.9%	2,799	85.4%	97.0%	84.2%
Corozal Municipio	30,714	93.3%	99.9%	93.3%	1,836	94.8%	94.5%	89.4%
Culebra Municipio					1,858	95.9%	95.5%	92.3%
Dorado Municipio	34,556	98.9%	99.8%	98.9%	570	80.3%	100.0%	80.3%
Fajardo Municipio	30,597	99.4%	99.7%	99.1%	1,883	83.4%	94.7%	81.3%
Florida Municipio	9,148	95.4%	99.8%	95.2%	2,296	60.9%	89.5%	51.3%
Guayama Municipio	31,320	100.0%	99.8%	99.8%	5,666	92.5%	87.2%	80.3%
Guayanilla Municipio	13,784	98.2%	93.5%	92.3%	3,539	71.4%	81.0%	66.9%
Guaynabo Municipio	89,274	99.7%	99.9%	99.7%				
Gurabo Municipio	38,555	99.2%	99.7%	98.9%	1,432	89.0%	100.0%	89.0%
Guánica Municipio	12,170	100.0%	93.9%	93.9%	2,029	100.0%	93.3%	93.3%
Hatillo Municipio	32,904	99.5%	99.8%	99.3%	3,898	95.5%	88.8%	85.8%
Hormigueros Municipio	15,112	98.8%	100.0%	98.8%	214	94.3%	100.0%	94.3%
Humacao Municipio	50,093	99.6%	99.0%	98.7%	318	93.3%	100.0%	93.3%
Isabela Municipio	40,080	98.4%	97.6%	96.3%	2,160	84.7%	87.7%	77.5%
Jayuya Municipio	9,553	79.6%	80.0%	66.8%	4,547	37.0%	53.1%	26.2%
Juana Díaz Municipio	41,765	99.9%	98.1%	98.1%	4,102	100.0%	76.6%	76.6%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Juncos Municipio	35,811	97.8%	100.0%	97.8%	702	76.7%	99.2%	76.6%
Lajas Municipio	14,522	99.9%	99.9%	99.9%	8,228	100.0%	97.0%	97.0%
Lares Municipio	20,811	95.4%	98.0%	94.3%	5,965	63.1%	82.3%	61.0%
Las Marías Municipio	99	100.0%	100.0%	100.0%	8,352	54.8%	97.3%	54.6%
Las Piedras Municipio	33,525	98.0%	98.8%	96.9%	559	47.5%	100.0%	47.5%
Loiza Municipio	22,342	98.5%	99.8%	98.4%	1,009	25.4%	95.8%	25.4%
Luquillo Municipio	16,399	98.7%	98.1%	97.1%	1,611	76.0%	90.0%	68.2%
Manatí Municipio	34,443	98.0%	97.6%	95.7%	4,078	52.1%	97.6%	50.8%
Maricao Municipio					4,527	60.3%	87.5%	59.5%
Maunabo Municipio	7,051	99.9%	100.0%	99.9%	3,374	99.0%	98.8%	98.1%
Mayagüez Municipio	69,501	95.7%	98.6%	94.5%	2,961	66.0%	97.4%	65.8%
Moca Municipio	31,706	96.2%	97.4%	94.3%	3,926	80.6%	95.0%	78.5%
Morovis Municipio	23,817	92.5%	98.0%	91.2%	3,508	72.2%	92.5%	67.6%
Naguabo Municipio	17,510	93.0%	99.4%	92.4%	5,611	81.9%	95.8%	77.9%
Naranjito Municipio	27,464	97.3%	99.5%	96.9%				
Orocovis Municipio	12,356	98.8%	98.4%	97.3%	8,029	68.4%	87.2%	59.5%
Patillas Municipio	11,484	99.9%	92.6%	92.6%	4,154	98.7%	50.0%	49.6%
Peñuelas Municipio	15,206	99.8%	99.1%	99.0%	4,761	99.6%	87.5%	87.1%
Ponce Municipio	129,315	100.0%	98.7%	98.7%	8,484	91.2%	51.7%	49.1%
Quebradillas Municipio	20,414	99.8%	99.4%	99.2%	2,268	47.3%	88.2%	38.4%
Rincón Municipio	14,959	96.4%	94.5%	91.6%	8	62.5%	62.5%	25.0%
Río Grande Municipio	43,873	98.6%	99.8%	98.4%	2,503	83.6%	95.8%	80.9%
Sabana Grande Municipio	19,297	99.2%	93.9%	93.4%	2,806	72.9%	91.4%	69.8%
Salinas Municipio	20,959	99.8%	99.7%	99.6%	5,340	99.9%	72.9%	72.9%
San Germán Municipio	25,016	98.1%	95.2%	94.0%	5,797	67.7%	71.5%	56.0%
San Juan Municipio	343,257	99.9%	99.7%	99.7%	7	100.0%	100.0%	100.0%
San Lorenzo Municipio	31,319	97.4%	100.0%	97.4%	4,431	84.3%	99.4%	83.8%
San Sebastián Municipio	31,718	96.5%	99.7%	96.3%	6,638	64.8%	95.8%	63.4%
Santa Isabel Municipio	16,480	100.0%	98.8%	98.8%	3,767	99.8%	98.3%	98.3%
Toa Alta Municipio	64,186	99.4%	99.8%	99.2%	685	92.7%	96.0%	89.6%
Toa Baja Municipio	72,337	99.9%	99.9%	99.8%	603	93.0%	99.8%	92.8%
Trujillo Alto Municipio	66,009	99.5%	100.0%	99.5%	18	100.0%	100.0%	100.0%
Utua Municipio	12,482	97.5%	97.9%	95.8%	14,749	71.9%	80.2%	67.6%
Vega Alta Municipio	32,612	95.0%	99.2%	94.4%	1,279	28.8%	99.1%	28.8%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Vega Baja Municipio	49,747	98.6%	99.7%	98.3%	3,167	78.2%	96.1%	75.2%
Vieques Municipio	6,580	90.6%	91.8%	83.1%	1,661	92.7%	90.6%	85.7%
Villalba Municipio	17,593	100.0%	99.0%	99.0%	3,682	100.0%	90.1%	90.1%
Yabucoa Municipio	24,289	97.1%	97.9%	95.6%	5,187	99.9%	98.9%	98.9%
Yauco Municipio	27,574	98.5%	99.2%	98.5%	5,763	36.4%	81.1%	33.7%
Rhode Island	992,744	99.7%	94.1%	93.9%	100,990	96.6%	66.6%	64.7%
Bristol County	49,821	99.9%	79.9%	79.9%	539	98.5%	93.8%	92.3%
Kent County	158,751	99.9%	88.9%	88.9%	12,524	99.4%	61.0%	60.9%
Newport County	76,788	99.9%	87.8%	87.7%	7,693	92.9%	57.9%	54.3%
Providence County	622,963	99.6%	98.9%	98.5%	34,325	97.5%	59.2%	58.5%
Washington County	84,421	99.9%	82.6%	82.6%	45,909	95.8%	74.9%	71.8%
South Carolina	3,589,048	97.1%	96.9%	94.2%	1,693,586	76.1%	66.6%	53.1%
Abbeville County	5,410	100.0%	68.5%	68.5%	18,946	95.2%	46.4%	44.0%
Aiken County	109,268	99.1%	99.8%	98.9%	64,882	75.9%	86.5%	67.8%
Allendale County					7,579	63.2%	69.3%	57.2%
Anderson County	120,997	96.6%	98.9%	95.6%	88,584	85.0%	87.8%	74.9%
Bamberg County					12,908	70.8%	39.4%	30.3%
Barnwell County					20,414	61.6%	47.4%	32.7%
Beaufort County	158,991	99.9%	92.6%	92.5%	37,380	95.0%	55.4%	53.4%
Berkeley County	188,666	94.7%	98.0%	93.2%	56,451	36.8%	69.1%	25.0%
Calhoun County					14,179	89.2%	57.9%	53.5%
Charleston County	380,123	99.0%	97.9%	97.0%	39,156	71.5%	74.8%	57.7%
Cherokee County	18,945	94.8%	98.6%	93.4%	37,176	66.2%	71.3%	50.2%
Chester County	8,672	91.5%	93.4%	85.7%	23,259	42.9%	37.5%	18.2%
Chesterfield County	7,350	94.1%	62.7%	58.5%	36,333	73.3%	39.2%	31.1%
Clarendon County	4,707	95.6%	98.2%	93.9%	26,206	75.3%	38.9%	29.9%
Colleton County	9,129	100.0%	96.5%	96.5%	29,470	99.7%	46.1%	45.9%
Darlington County	26,602	96.1%	88.8%	85.0%	35,796	71.1%	45.6%	36.4%
Dillon County	8,371	96.4%	93.7%	90.6%	19,367	70.6%	43.1%	30.0%
Dorchester County	141,425	98.8%	99.8%	98.6%	24,708	54.4%	73.2%	42.2%
Edgefield County	3,209	99.7%	100.0%	99.7%	23,723	69.8%	57.4%	44.0%
Fairfield County	4,599	80.3%	70.2%	55.8%	15,856	56.3%	44.2%	30.1%
Florence County	83,376	97.1%	94.1%	91.5%	53,345	82.9%	66.4%	55.7%
Georgetown County	37,383	96.5%	90.2%	87.0%	27,339	92.6%	53.4%	50.1%
Greenville County	479,714	96.5%	99.8%	96.3%	68,236	73.3%	84.7%	65.9%
Greenwood County	41,379	99.9%	89.0%	89.0%	27,888	72.0%	64.0%	54.2%
Hampton County					18,113	65.1%	32.8%	27.5%
Horry County	291,937	96.9%	92.8%	89.8%	91,164	93.3%	63.1%	59.4%
Jasper County	3,523	100.0%	100.0%	100.0%	28,516	89.6%	73.3%	68.9%
Kershaw County	31,889	96.2%	96.4%	93.1%	35,862	68.5%	55.9%	39.8%
Lancaster County	64,424	99.4%	86.5%	86.0%	40,153	87.1%	56.5%	50.4%

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Laurens County	24,291	95.8%	86.0%	82.8%	43,674	81.1%	70.9%	59.2%
Lee County					16,153	50.1%	48.8%	31.0%
Lexington County	227,157	98.1%	99.9%	98.0%	77,640	90.7%	89.8%	82.4%
Marion County	11,561	95.9%	93.2%	89.7%	16,889	86.7%	42.6%	36.4%
Marlboro County	9,232	44.6%	72.1%	32.1%	16,807	35.5%	40.3%	14.3%
McCormick County					9,764	87.6%	22.9%	22.5%
Newberry County	11,797	100.0%	86.9%	86.9%	26,450	87.6%	62.6%	53.8%
Oconee County	28,662	94.2%	97.9%	92.4%	51,518	53.6%	72.5%	44.4%
Orangeburg County	28,046	94.5%	97.6%	92.2%	55,048	70.4%	52.9%	37.9%
Pickens County	79,888	97.1%	99.3%	96.5%	53,574	84.0%	83.5%	72.4%
Richland County	387,035	95.8%	99.5%	95.4%	34,531	88.2%	85.8%	75.7%
Saluda County	281	99.6%	100.0%	99.6%	18,657	74.4%	57.3%	44.1%
Spartanburg County	242,595	94.9%	99.6%	94.6%	103,236	70.2%	90.6%	67.3%
Sumter County	67,425	97.5%	98.0%	95.6%	36,587	78.4%	72.4%	60.0%
Union County	9,440	92.8%	99.7%	92.7%	17,312	57.8%	65.3%	47.2%
Williamsburg County	5,262	94.7%	84.5%	79.9%	24,796	75.9%	53.4%	42.4%
York County	226,287	99.5%	94.4%	94.0%	67,961	89.0%	62.0%	56.5%
South Dakota	517,050	99.5%	97.3%	96.9%	392,774	83.4%	68.0%	59.4%
Aurora County					2,755	95.5%	54.3%	52.7%
Beadle County	14,288	100.0%	99.4%	99.4%	5,088	96.8%	60.2%	59.0%
Bennett County					3,336	81.3%	51.9%	45.4%
Bon Homme County					7,062	89.5%	75.7%	65.6%
Brookings County	23,754	99.7%	98.6%	98.3%	11,730	96.2%	70.9%	68.3%
Brown County	27,354	99.8%	89.7%	89.5%	10,618	64.7%	32.6%	26.1%
Brule County					5,321	93.1%	73.0%	70.9%
Buffalo County					1,861	92.3%	71.3%	66.7%
Butte County	5,455	100.0%	100.0%	100.0%	5,319	80.7%	64.8%	56.1%
Campbell County					1,349	60.7%	22.0%	12.6%
Charles Mix County					9,213	83.5%	66.5%	58.7%
Clark County					3,912	96.1%	67.4%	65.3%
Clay County	11,724	100.0%	99.6%	99.6%	3,556	62.5%	55.9%	44.4%
Codington County	20,975	100.0%	95.7%	95.7%	7,746	97.4%	73.2%	72.5%
Corson County					3,826	87.7%	48.9%	44.2%
Custer County					9,006	69.9%	63.4%	47.8%
Davison County	15,477	100.0%	98.1%	98.1%	4,496	98.1%	75.1%	74.3%
Day County					5,479	91.3%	68.5%	66.4%
Deuel County					4,352	98.8%	61.6%	61.0%
Dewey County					5,140	88.7%	72.2%	66.7%
Douglas County					2,776	95.1%	57.5%	56.4%
Edmunds County					4,065	75.2%	34.1%	32.8%
Fall River County					7,370	78.9%	77.2%	69.3%

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Faulk County					2,126	97.4%	46.0%	46.0%
Grant County					7,463	98.1%	71.6%	70.5%
Gregory County					3,962	97.4%	50.1%	49.6%
Haakon County					1,826	96.8%	77.5%	76.3%
Hamlin County					6,352	98.6%	65.7%	65.1%
Hand County					3,140	99.4%	56.1%	56.1%
Hanson County					3,461	96.4%	55.1%	52.5%
Harding County					1,330	99.3%	31.1%	30.5%
Hughes County	12,538	99.5%	98.1%	97.6%	5,154	90.1%	83.3%	73.4%
Hutchinson County					7,368	93.2%	80.8%	77.0%
Hyde County					1,184	100.0%	84.7%	84.7%
Jackson County					2,821	74.2%	47.8%	40.9%
Jerauld County					1,650	98.2%	82.7%	81.4%
Jones County					884	69.6%	62.4%	49.3%
Kingsbury County					5,294	93.2%	74.0%	71.0%
Lake County	5,972	99.9%	100.0%	99.9%	5,000	87.3%	80.4%	70.0%
Lawrence County	18,025	99.6%	87.5%	87.1%	9,189	54.7%	51.1%	35.0%
Lincoln County	51,648	99.7%	99.4%	99.1%	19,339	79.1%	86.7%	71.1%
Lyman County					3,692	98.1%	60.5%	59.8%
Marshall County					4,374	99.2%	64.7%	64.7%
McCook County					5,778	86.4%	70.9%	61.4%
McPherson County					2,395	67.0%	23.6%	17.6%
Meade County	17,839	98.4%	76.7%	75.7%	12,859	54.3%	59.7%	32.7%
Mellette County					1,892	60.0%	29.8%	17.3%
Miner County					2,304	94.4%	75.0%	71.4%
Minnehaha County	173,681	99.2%	99.7%	99.0%	30,290	95.2%	89.2%	84.8%
Moody County					6,349	99.9%	77.7%	77.6%
Oglala Lakota County					13,519	69.9%	78.1%	61.9%
Pennington County	93,213	99.5%	99.1%	98.6%	21,248	54.1%	64.8%	40.6%
Perkins County					2,804	97.2%	60.4%	60.1%
Potter County					2,438	100.0%	55.3%	55.3%
Roberts County					10,163	97.6%	56.6%	54.7%
Sanborn County					2,415	94.2%	71.1%	67.8%
Spink County					6,235	91.2%	12.3%	11.6%
Stanley County	2,146	97.4%	99.2%	96.6%	853	56.5%	66.1%	35.7%
Sully County					1,471	100.0%	77.5%	77.5%
Todd County					9,220	44.1%	78.9%	41.2%
Tripp County					5,565	90.6%	71.5%	66.2%
Turner County					8,856	92.5%	74.7%	70.4%
Union County	6,937	99.4%	99.9%	99.3%	10,126	94.5%	87.8%	83.5%
Walworth County					5,265	93.5%	85.1%	80.5%

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Yankton County	16,024	99.8%	93.6%	93.5%	7,349	61.6%	67.7%	44.1%
Ziebach County					2,395	93.9%	57.9%	55.6%
Tennessee	4,643,858	98.7%	97.3%	96.1%	2,407,481	79.3%	60.0%	51.0%
Anderson County	50,325	99.3%	99.6%	99.0%	28,588	86.9%	77.3%	69.1%
Bedford County	22,783	94.9%	93.0%	88.3%	29,167	62.1%	55.1%	38.5%
Benton County					16,002	55.8%	44.7%	32.1%
Bledsoe County					14,798	72.3%	41.5%	39.2%
Blount County	87,960	97.2%	98.7%	96.0%	51,998	86.3%	81.4%	72.8%
Bradley County	75,453	96.5%	99.0%	95.6%	35,163	76.7%	67.3%	56.4%
Campbell County	20,399	98.9%	87.0%	86.2%	19,185	49.1%	51.4%	30.5%
Cannon County					14,788	66.6%	72.4%	52.5%
Carroll County	5,089	91.5%	96.2%	88.3%	23,369	56.5%	51.9%	37.7%
Carter County	33,304	95.6%	93.5%	89.4%	23,106	78.8%	48.5%	41.9%
Cheatham County					41,830	86.5%	78.6%	70.8%
Chester County	5,979	99.5%	99.3%	98.9%	11,630	78.4%	34.7%	27.3%
Claiborne County	9,464	100.0%	89.7%	89.7%	22,967	93.3%	53.0%	50.6%
Clay County					7,620	99.9%	37.8%	37.8%
Cocke County	11,972	97.0%	95.1%	92.2%	24,907	47.4%	48.4%	31.1%
Coffee County	32,037	98.0%	72.1%	70.6%	27,691	85.1%	36.7%	32.6%
Crockett County					13,888	99.9%	58.9%	58.9%
Cumberland County	29,335	93.8%	76.5%	71.4%	34,187	56.3%	51.2%	33.1%
Davidson County	684,748	99.6%	99.8%	99.4%	23,396	91.5%	89.2%	82.2%
DeKalb County	4,985	100.0%	81.6%	81.6%	16,018	89.4%	49.9%	44.3%
Decatur County					11,564	46.3%	35.4%	25.5%
Dickson County	16,953	98.8%	97.1%	95.9%	38,808	55.2%	75.5%	45.2%
Dyer County	16,427	100.0%	98.2%	98.2%	19,983	99.0%	61.8%	61.4%
Fayette County	11,226	99.5%	91.0%	90.6%	32,404	70.0%	55.8%	46.6%
Fentress County					19,332	100.0%	29.1%	29.1%
Franklin County	14,271	96.9%	81.5%	78.6%	29,671	64.3%	39.9%	25.9%
Gibson County	14,881	95.9%	99.7%	95.7%	35,956	92.9%	56.8%	53.7%
Giles County	8,062	93.5%	99.8%	93.3%	22,492	32.3%	52.3%	25.2%
Grainger County	3,805	95.2%	88.3%	83.9%	20,472	76.5%	42.1%	35.0%
Greene County	22,678	99.5%	94.0%	93.6%	48,727	83.6%	49.4%	42.8%
Grundy County					13,783	90.7%	42.7%	39.9%
Hamblen County	50,348	99.7%	79.2%	79.0%	14,820	93.9%	69.2%	66.7%
Hamilton County	326,275	99.9%	99.5%	99.5%	48,407	96.9%	82.4%	80.5%
Hancock County					6,845	99.7%	1.6%	1.6%
Hardeman County	5,391	100.0%	77.1%	77.1%	20,138	70.5%	47.5%	38.3%
Hardin County	8,842	92.8%	79.2%	72.3%	18,235	44.0%	37.8%	19.3%
Hawkins County	21,803	96.2%	90.3%	86.5%	36,240	97.7%	70.4%	69.4%
Haywood County	9,420	98.7%	96.2%	95.2%	8,130	51.9%	38.7%	22.2%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Henderson County	6,409	92.2%	75.9%	69.4%	21,520	49.2%	46.7%	28.7%
Henry County	10,317	93.2%	84.2%	78.2%	22,062	78.2%	38.8%	30.6%
Hickman County					25,455	86.2%	29.6%	26.6%
Houston County					8,219	95.8%	24.4%	23.8%
Humphreys County					19,106	100.0%	44.9%	44.9%
Jackson County					11,989	99.8%	22.4%	22.3%
Jefferson County	13,552	99.8%	98.5%	98.4%	43,175	81.0%	69.8%	57.1%
Johnson County					18,086	81.7%	41.8%	37.5%
Knox County	448,465	99.3%	99.6%	98.9%	46,109	90.6%	89.4%	81.1%
Lake County					6,507	100.0%	23.4%	23.4%
Lauderdale County	6,693	95.4%	69.2%	66.2%	18,100	97.2%	43.8%	42.2%
Lawrence County	12,105	94.5%	91.1%	85.8%	33,310	68.4%	54.9%	41.2%
Lewis County					12,957	97.9%	51.2%	50.7%
Lincoln County	10,384	94.3%	84.2%	79.1%	25,620	63.4%	56.6%	40.2%
Loudon County	37,131	97.3%	97.6%	95.0%	21,050	68.3%	78.7%	60.4%
Macon County	6,463	100.0%	10.3%	10.3%	19,766	99.9%	21.0%	21.0%
Madison County	73,108	99.9%	96.9%	96.8%	26,137	89.0%	50.9%	47.9%
Marion County	2,554	100.0%	75.4%	75.4%	26,540	99.2%	64.8%	64.4%
Marshall County	12,397	94.9%	87.6%	82.9%	23,481	68.1%	35.3%	25.2%
Maury County	67,108	97.0%	99.5%	96.5%	41,051	70.8%	67.1%	54.3%
McMinn County	20,976	96.5%	83.4%	81.8%	33,743	47.2%	38.1%	22.2%
McNairy County					25,988	47.3%	44.9%	27.0%
Meigs County					13,272	58.1%	47.5%	31.7%
Monroe County	12,908	94.2%	49.7%	46.6%	34,832	52.5%	34.7%	24.3%
Montgomery County	192,019	99.7%	99.3%	99.0%	43,182	91.2%	84.1%	77.5%
Moore County	7	100.0%	0.0%	0.0%	6,735	46.9%	34.0%	17.4%
Morgan County					21,224	99.8%	42.6%	42.6%
Obion County	12,273	94.7%	95.9%	90.8%	18,121	99.3%	53.7%	53.0%
Overton County					23,044	99.8%	53.5%	53.4%
Perry County					8,685	99.8%	35.6%	35.6%
Pickett County					5,107	99.9%	34.6%	34.6%
Polk County					17,863	69.9%	25.7%	19.8%
Putnam County	50,115	94.0%	95.7%	89.8%	32,267	85.6%	62.4%	53.1%
Rhea County	9,917	95.4%	98.8%	94.3%	23,813	76.5%	57.4%	49.5%
Roane County	26,422	98.7%	91.9%	90.8%	28,660	74.3%	47.0%	40.4%
Robertson County	34,723	99.6%	99.8%	99.4%	40,747	74.9%	85.9%	67.8%
Rutherford County	299,938	99.4%	99.8%	99.3%	60,681	89.9%	92.1%	84.6%
Scott County					22,035	100.0%	61.1%	61.1%
Sequatchie County					16,909	87.1%	75.2%	68.1%
Sevier County	45,548	96.5%	99.1%	95.8%	53,241	75.3%	78.2%	63.0%
Shelby County	884,674	99.1%	99.1%	98.2%	31,697	73.2%	76.5%	63.1%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Smith County					20,489	96.4%	55.8%	53.1%
Stewart County					14,035	86.1%	36.5%	32.7%
Sullivan County	118,242	97.1%	95.3%	92.5%	42,578	94.4%	78.1%	74.4%
Sumner County	151,135	99.2%	99.7%	99.0%	52,723	89.3%	80.8%	73.6%
Tipton County	20,580	99.8%	60.4%	60.3%	41,076	88.2%	46.2%	42.6%
Trousdale County					12,111	96.5%	31.9%	31.8%
Unicoi County	8,654	99.8%	98.5%	98.4%	9,020	94.7%	57.5%	56.1%
Union County					20,452	70.9%	65.9%	49.6%
Van Buren County					6,429	78.5%	38.2%	33.3%
Warren County	15,934	95.0%	87.4%	83.0%	26,092	82.8%	45.5%	36.8%
Washington County	100,364	98.6%	94.6%	93.3%	35,808	81.7%	74.7%	61.4%
Wayne County					16,308	38.7%	36.0%	28.8%
Weakley County	10,318	99.9%	86.3%	86.2%	22,745	74.8%	50.7%	44.5%
White County	5,895	93.3%	98.7%	92.0%	22,169	91.2%	58.8%	54.8%
Williamson County	210,560	99.4%	99.0%	98.4%	50,255	76.3%	91.4%	72.3%
Wilson County	101,755	97.3%	98.9%	96.2%	56,800	87.0%	87.3%	76.3%
Texas	5,000,804	96.8%	99.2%	96.1%	5,028,768	72.5%	74.4%	57.8%
Anderson County	19,419	97.8%	62.4%	61.8%	38,645	14.2%	19.3%	8.4%
Andrews County	15,058	100.0%	78.3%	78.3%	3,276	75.0%	41.5%	39.6%
Angelina County	41,615	85.9%	92.2%	79.1%	45,486	47.4%	55.8%	32.1%
Aransas County	19,088	99.9%	98.3%	98.2%	5,856	99.2%	96.2%	95.7%
Archer County	1,131	100.0%	100.0%	100.0%	7,704	87.1%	58.0%	51.3%
Armstrong County					1,850	99.0%	27.5%	27.2%
Atascosa County	14,555	91.9%	97.9%	90.0%	36,309	40.1%	80.2%	37.9%
Austin County	6,262	100.0%	99.1%	99.1%	24,835	93.1%	78.4%	74.5%
Bailey County	4,994	100.0%	99.4%	99.4%	1,785	99.4%	32.8%	32.6%
Bandera County					22,115	89.7%	65.1%	59.8%
Bastrop County	30,178	88.9%	96.5%	86.1%	76,010	72.0%	74.1%	57.7%
Baylor County					3,466	92.6%	72.1%	72.1%
Bee County	14,225	99.9%	95.8%	95.7%	16,169	93.8%	49.5%	46.4%
Bell County	331,132	99.1%	98.7%	97.9%	57,254	83.5%	76.1%	64.7%
Bexar County	1,954,489	96.8%	99.9%	96.7%	105,041	51.8%	98.7%	51.1%
Blanco County					12,418	91.0%	77.5%	73.2%
Borden County					585	54.8%	37.6%	32.9%
Bosque County					18,697	61.8%	59.2%	37.4%
Bowie County	56,828	99.7%	95.7%	95.5%	35,207	58.5%	59.2%	39.4%
Brazoria County	300,034	97.4%	99.6%	97.0%	88,147	56.1%	93.7%	54.4%
Brazos County	211,543	98.2%	99.9%	98.2%	30,471	82.2%	86.1%	74.3%
Brewster County	6,175	94.1%	100.0%	94.1%	3,168	48.0%	53.0%	29.5%
Briscoe County					1,431	96.4%	81.8%	81.6%
Brooks County	4,462	100.0%	100.0%	100.0%	2,444	81.2%	65.0%	59.7%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
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Brown County	21,367	100.0%	99.0%	99.0%	17,006	97.8%	64.6%	64.1%
Burleson County					18,657	55.3%	69.1%	40.3%
Burnet County	17,148	98.8%	98.0%	96.9%	35,354	81.5%	72.9%	63.9%
Caldwell County	21,316	97.1%	90.3%	87.6%	26,532	72.3%	60.5%	46.2%
Calhoun County	11,732	99.8%	99.3%	99.2%	7,974	69.8%	84.0%	60.8%
Callahan County					14,210	95.0%	67.8%	66.5%
Cameron County	349,423	99.7%	99.8%	99.5%	75,785	86.9%	97.6%	85.4%
Camp County					12,716	94.1%	45.9%	45.7%
Carson County					5,784	83.1%	76.6%	67.5%
Cass County	5,537	96.1%	98.3%	94.6%	23,002	28.0%	50.7%	22.9%
Castro County					7,298	82.8%	80.2%	71.3%
Chambers County	23,346	97.6%	100.0%	97.6%	27,942	75.5%	92.4%	70.7%
Cherokee County	14,071	90.4%	77.7%	71.9%	37,574	24.0%	46.5%	17.7%
Childress County	4,938	100.0%	86.8%	86.8%	1,871	41.7%	24.6%	21.0%
Clay County					10,486	94.4%	61.1%	60.1%
Cochran County					2,526	83.3%	16.3%	8.9%
Coke County					3,333	80.9%	71.2%	67.8%
Coleman County	3,478	100.0%	100.0%	100.0%	4,372	83.1%	52.0%	51.1%
Collin County	1,085,403	96.6%	99.9%	96.6%	73,293	86.9%	95.0%	83.1%
Collingsworth County					2,568	85.7%	77.9%	75.6%
Colorado County					20,754	70.5%	80.1%	65.3%
Comal County	96,653	93.4%	99.1%	92.7%	87,989	94.6%	93.7%	88.7%
Comanche County					13,878	75.1%	74.0%	62.8%
Concho County					3,340	95.1%	58.2%	57.6%
Cooke County	16,555	99.7%	100.0%	99.7%	26,495	82.8%	56.9%	50.6%
Coryell County	64,267	99.6%	99.5%	99.1%	20,790	54.9%	67.9%	41.4%
Cottle County					1,307	96.4%	83.0%	82.4%
Crane County					4,546	18.9%	98.6%	18.9%
Crockett County					2,943	0.9%	89.0%	0.9%
Crosby County					4,998	96.4%	88.3%	86.4%
Culberson County					2,155	68.1%	94.8%	67.8%
Dallam County	5,559	99.9%	72.4%	72.4%	1,682	83.9%	52.2%	46.3%
Dallas County	2,585,848	96.5%	99.9%	96.5%	14,992	88.6%	100.0%	88.6%
Dawson County	9,189	100.0%	97.0%	97.0%	2,941	96.1%	78.0%	75.9%
DeWitt County	9,598	93.7%	99.6%	93.4%	10,174	10.8%	70.9%	8.8%
Deaf Smith County	15,255	99.9%	90.8%	90.8%	3,122	90.9%	40.7%	37.1%
Delta County					5,406	93.6%	78.9%	76.2%
Denton County	901,254	96.0%	100.0%	96.0%	76,027	92.3%	96.8%	89.3%
Dickens County					1,726	94.0%	81.8%	78.3%
Dimmit County	5,457	95.2%	94.4%	90.0%	2,930	46.5%	57.6%	25.4%
Donley County					3,339	17.4%	84.1%	15.4%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
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Duval County					9,888	93.5%	90.7%	88.1%
Eastland County					17,944	89.5%	78.3%	73.9%
Ector County	146,058	100.0%	99.4%	99.4%	14,811	79.8%	97.7%	79.6%
Edwards County					1,422	7.2%	78.3%	4.2%
El Paso County	834,862	99.4%	99.9%	99.4%	33,901	97.9%	98.7%	96.8%
Ellis County	145,813	99.0%	99.9%	98.9%	66,369	90.7%	93.5%	85.8%
Erath County	20,742	99.9%	95.4%	95.4%	23,153	70.3%	55.9%	44.5%
Falls County	5,538	0.0%	99.9%	0.0%	11,511	67.1%	46.4%	24.0%
Fannin County	8,071	99.9%	98.9%	98.9%	29,054	71.7%	58.1%	44.6%
Fayette County	5,072	99.9%	96.7%	96.6%	19,841	49.6%	76.7%	41.9%
Fisher County					3,622	81.5%	64.9%	60.7%
Floyd County					5,235	78.6%	73.5%	63.8%
Foard County					1,057	92.3%	75.5%	75.5%
Fort Bend County	844,502	98.3%	99.9%	98.3%	44,644	73.2%	98.3%	72.5%
Franklin County					10,618	88.1%	67.2%	60.5%
Freestone County					19,950	87.1%	43.8%	41.4%
Frio County	8,016	91.6%	92.7%	84.9%	9,799	63.1%	53.5%	37.9%
Gaines County	7,251	100.0%	100.0%	100.0%	14,930	98.2%	64.9%	64.7%
Galveston County	341,251	98.0%	99.7%	97.7%	15,866	63.8%	98.9%	63.6%
Garza County					6,262	86.5%	89.9%	81.7%
Gillespie County	11,530	100.0%	99.9%	99.9%	15,947	93.7%	49.8%	49.2%
Glasscock County					1,164	81.8%	33.5%	30.6%
Goliad County					7,131	63.8%	69.9%	50.9%
Gonzales County	6,926	99.7%	65.3%	65.1%	12,906	28.8%	61.6%	12.2%
Gray County	16,666	100.0%	99.9%	99.9%	4,349	94.5%	71.9%	70.1%
Grayson County	72,754	99.9%	99.9%	99.8%	70,377	91.6%	79.8%	74.9%
Gregg County	108,763	98.2%	96.5%	95.1%	16,680	63.9%	62.5%	43.5%
Grimes County	7,764	100.0%	98.0%	98.0%	22,990	68.6%	68.3%	47.9%
Guadalupe County	136,485	97.2%	99.9%	97.1%	46,275	80.5%	92.0%	74.9%
Hale County	22,168	93.6%	93.3%	93.2%	9,659	90.2%	68.0%	64.7%
Hall County					2,810	87.2%	80.8%	72.8%
Hamilton County					8,298	79.4%	70.8%	67.1%
Hansford County					5,151	84.0%	58.1%	55.1%
Hardeman County					3,516	97.5%	90.3%	89.7%
Hardin County	28,333	96.6%	98.5%	95.3%	29,478	66.6%	70.4%	51.4%
Harris County	4,722,337	96.6%	99.9%	96.6%	58,576	77.0%	99.8%	76.9%
Harrison County	31,362	98.2%	92.4%	90.7%	38,593	49.2%	47.7%	30.0%
Hartley County	2,745	100.0%	100.0%	100.0%	2,463	67.4%	52.0%	40.4%
Haskell County					5,403	88.8%	70.6%	68.3%
Hays County	184,244	99.0%	99.7%	98.7%	84,981	91.4%	95.6%	88.2%
Hemphill County					3,217	82.9%	38.9%	31.8%

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Henderson County	28,645	93.8%	78.4%	74.2%	55,866	43.4%	41.3%	22.2%
Hidalgo County	808,957	96.9%	99.9%	96.9%	79,410	76.3%	99.0%	75.8%
Hill County	8,266	99.5%	87.9%	87.6%	29,063	73.0%	45.0%	37.0%
Hockley County	12,383	100.0%	100.0%	100.0%	8,778	91.2%	78.5%	75.5%
Hood County	39,046	97.8%	96.9%	94.7%	27,327	79.8%	86.6%	72.5%
Hopkins County	15,011	99.0%	100.0%	99.0%	22,793	93.1%	56.3%	54.7%
Houston County	6,011	99.4%	98.8%	98.2%	15,939	22.1%	45.4%	18.1%
Howard County	27,182	99.9%	97.1%	97.1%	6,490	82.8%	84.8%	73.5%
Hudspeth County					3,432	7.1%	82.6%	7.1%
Hunt County	39,350	99.9%	99.4%	99.3%	68,932	92.1%	64.7%	61.1%
Hutchinson County	12,764	99.5%	96.3%	95.8%	7,451	82.1%	81.9%	72.0%
Irion County					1,530	82.4%	74.5%	67.7%
Jack County					8,922	82.4%	25.1%	19.3%
Jackson County	5,894	100.0%	82.0%	82.0%	9,248	79.9%	71.9%	62.4%
Jasper County	7,473	95.8%	93.4%	89.2%	25,011	18.0%	68.1%	13.8%
Jeff Davis County					1,903	29.7%	51.9%	21.0%
Jefferson County	227,531	94.1%	99.9%	94.0%	23,299	74.8%	83.6%	60.5%
Jim Hogg County					4,763	24.8%	97.7%	24.7%
Jim Wells County	19,214	98.6%	100.0%	98.6%	19,612	96.8%	73.8%	72.2%
Johnson County	104,364	97.6%	99.7%	97.4%	91,142	96.6%	94.1%	92.1%
Jones County					19,935	91.1%	60.0%	57.9%
Karnes County					14,836	52.0%	82.1%	47.8%
Kaufman County	98,454	97.6%	99.9%	97.6%	73,912	97.3%	77.2%	74.6%
Kendall County	19,866	98.5%	100.0%	98.5%	29,107	91.0%	70.7%	66.0%
Kenedy County					358	22.9%	42.1%	10.8%
Kent County					740	92.7%	75.4%	73.6%
Kerr County	32,124	98.3%	83.8%	82.2%	21,617	80.6%	58.9%	49.8%
Kimble County					4,422	63.2%	74.3%	57.8%
King County					233	84.5%	54.5%	53.6%
Kinney County					3,128	0.0%	95.4%	0.0%
Kleberg County	24,004	100.0%	99.6%	99.6%	6,358	91.4%	89.2%	83.0%
Knox County					3,273	95.2%	0.3%	0.0%
La Salle County					6,604	67.5%	65.5%	51.6%
Lamar County	26,209	99.1%	99.4%	98.5%	24,275	62.1%	50.6%	34.8%
Lamb County	5,575	100.0%	100.0%	100.0%	7,149	90.5%	76.1%	72.8%
Lampasas County	7,766	99.9%	98.8%	98.7%	15,019	89.6%	61.5%	56.1%
Lavaca County	3,645	97.2%	99.6%	96.8%	16,944	49.8%	75.5%	44.6%
Lee County					17,954	72.1%	69.0%	57.4%
Leon County					16,209	35.4%	47.6%	24.3%
Liberty County	22,118	98.6%	99.8%	98.5%	79,874	41.6%	82.1%	35.0%
Limestone County	6,709	100.0%	51.1%	51.1%	15,544	86.2%	33.7%	30.8%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Lipscomb County					2,854	62.3%	1.8%	0.5%
Live Oak County					11,428	74.5%	62.2%	56.7%
Llano County	11,068	94.9%	91.3%	86.7%	11,472	81.1%	65.2%	56.1%
Loving County					51	35.2%	64.7%	35.2%
Lubbock County	282,328	98.8%	99.7%	98.6%	35,233	86.7%	81.0%	70.9%
Lynn County					5,724	94.9%	79.9%	76.1%
Madison County					13,661	74.2%	65.5%	60.6%
Marion County					9,560	29.0%	35.4%	25.5%
Martin County					5,217	93.8%	83.2%	80.0%
Mason County					3,982	82.4%	61.3%	57.5%
Matagorda County	18,713	99.8%	99.1%	98.9%	17,412	69.8%	79.1%	56.5%
Maverick County	54,071	95.8%	96.7%	92.6%	3,772	73.6%	82.1%	62.6%
McCulloch County	4,831	100.0%	98.4%	98.4%	2,666	92.4%	56.4%	54.6%
McLennan County	200,174	97.9%	92.9%	90.9%	66,662	82.0%	63.5%	55.0%
McMullen County					576	74.8%	50.5%	43.9%
Medina County	8,927	81.2%	97.4%	79.1%	44,796	42.0%	76.7%	36.6%
Menard County					1,968	91.4%	74.2%	73.1%
Midland County	147,391	95.9%	99.2%	95.2%	24,608	66.6%	87.7%	56.8%
Milam County	10,819	100.0%	73.3%	73.3%	14,809	84.1%	60.3%	54.7%
Mills County					4,500	91.3%	67.9%	61.9%
Mitchell County	5,683	99.9%	98.5%	98.5%	3,260	33.7%	50.5%	20.7%
Montague County	5,705	99.7%	90.1%	89.9%	15,358	84.5%	64.9%	59.5%
Montgomery County	518,900	92.2%	99.9%	92.2%	159,590	60.6%	98.7%	59.6%
Moore County	14,464	100.0%	99.0%	99.0%	6,532	94.8%	86.3%	83.5%
Morris County					12,083	53.0%	31.1%	16.0%
Motley County					1,032	91.4%	84.8%	83.9%
Nacogdoches County	32,832	92.9%	98.8%	91.9%	32,030	25.1%	45.7%	14.4%
Navarro County	24,856	99.9%	74.1%	74.1%	29,780	91.3%	51.5%	49.9%
Newton County					12,052	11.7%	47.7%	9.5%
Nolan County	10,141	99.9%	98.4%	98.3%	4,332	44.8%	45.1%	28.6%
Nueces County	328,314	98.3%	99.8%	98.1%	23,360	98.0%	90.9%	89.9%
Ochiltree County	8,073	98.9%	30.5%	29.7%	1,533	25.6%	20.0%	12.0%
Oldham County					1,752	88.1%	69.2%	64.4%
Orange County	53,979	95.8%	98.6%	94.5%	30,955	70.7%	85.2%	65.8%
Palo Pinto County	14,142	100.0%	98.2%	98.2%	15,097	61.4%	58.0%	34.8%
Panola County	6,408	98.5%	97.6%	96.2%	16,269	22.0%	24.0%	8.2%
Parker County	59,806	99.1%	99.6%	98.7%	106,028	94.7%	87.0%	83.1%
Parmer County					9,620	86.6%	86.0%	73.1%
Pecos County	8,402	99.7%	99.8%	99.5%	6,333	52.8%	60.0%	36.0%
Polk County	5,978	86.9%	100.0%	86.9%	47,277	52.8%	60.3%	34.4%
Potter County	102,370	95.0%	98.4%	94.3%	13,275	80.7%	65.1%	53.4%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Presidio County					5,939	70.4%	71.5%	60.1%
Rains County					12,823	99.6%	44.0%	44.0%
Randall County	121,191	96.3%	98.3%	94.9%	24,949	86.5%	74.3%	64.7%
Reagan County					3,135	94.4%	96.3%	93.3%
Real County					2,840	53.9%	47.1%	37.0%
Red River County					11,542	49.5%	46.0%	35.2%
Reeves County	10,479	97.8%	94.5%	94.3%	2,426	38.7%	67.6%	31.8%
Refugio County					6,632	87.1%	87.4%	77.4%
Roberts County					803	37.7%	8.7%	1.4%
Robertson County					17,153	86.6%	51.7%	47.9%
Rockwall County	106,049	99.7%	99.8%	99.6%	17,159	98.2%	98.4%	96.6%
Runnels County					9,859	93.9%	69.3%	68.3%
Rusk County	19,320	94.6%	93.9%	89.6%	34,013	35.5%	33.4%	13.1%
Sabine County					10,048	21.3%	25.5%	4.2%
San Augustine County					7,857	22.0%	46.3%	18.1%
San Jacinto County					28,348	36.9%	56.9%	21.8%
San Patricio County	50,039	99.7%	98.3%	98.1%	19,915	98.9%	86.7%	86.2%
San Saba County					5,824	79.4%	74.4%	63.1%
Schleicher County					2,357	90.4%	85.4%	83.6%
Scurry County	11,331	100.0%	93.8%	93.8%	5,355	54.5%	43.3%	31.7%
Shackelford County					3,186	89.7%	84.0%	83.6%
Shelby County	5,071	67.8%	74.3%	51.3%	18,937	13.8%	39.5%	7.7%
Sherman County					2,799	94.4%	86.6%	84.0%
Smith County	155,432	81.2%	96.5%	79.7%	86,490	36.3%	62.8%	25.8%
Somervell County					9,757	54.4%	68.3%	43.1%
Starr County	46,889	97.6%	98.5%	96.1%	18,839	86.5%	85.8%	75.4%
Stephens County	5,861	100.0%	96.1%	96.1%	3,529	84.4%	48.2%	46.7%
Sterling County					1,417	87.0%	2.6%	0.9%
Stonewall County					1,182	86.8%	83.6%	79.1%
Sutton County					3,217	86.2%	86.9%	83.8%
Swisher County					6,881	98.9%	82.3%	82.0%
Tarrant County	2,127,286	96.8%	99.9%	96.8%	27,309	82.8%	99.7%	82.6%
Taylor County	121,295	99.6%	91.3%	90.9%	23,868	96.5%	74.6%	73.3%
Terrell County					693	88.8%	0.0%	0.0%
Terry County	8,151	100.0%	100.0%	100.0%	3,416	95.0%	74.2%	71.2%
Throckmorton County					1,550	81.3%	48.1%	47.9%
Titus County	15,305	99.8%	95.7%	95.6%	15,903	66.0%	56.9%	45.9%
Tom Green County	98,647	99.6%	99.2%	98.9%	20,245	95.2%	64.2%	62.4%
Travis County	1,254,347	96.2%	98.6%	94.9%	72,089	84.2%	87.4%	75.0%
Trinity County					13,996	18.5%	52.7%	12.9%
Tyler County					20,030	33.0%	64.8%	20.6%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
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Upshur County	8,191	91.8%	71.8%	65.7%	34,297	55.4%	46.2%	26.3%
Upton County					3,152	4.5%	24.8%	0.0%
Uvalde County	15,878	94.6%	100.0%	94.6%	9,062	65.9%	52.1%	38.5%
Val Verde County	41,957	93.5%	94.6%	90.4%	5,649	68.0%	72.2%	56.9%
Van Zandt County					62,859	90.3%	52.5%	51.0%
Victoria County	64,796	99.8%	99.5%	99.4%	26,269	72.5%	78.6%	59.0%
Walker County	44,107	62.6%	94.2%	60.4%	34,763	56.4%	73.7%	42.0%
Waller County	13,942	99.5%	99.9%	99.5%	47,952	81.5%	95.4%	78.2%
Ward County	8,643	100.0%	100.0%	100.0%	2,321	83.0%	86.9%	71.9%
Washington County	17,281	100.0%	98.0%	98.0%	18,878	96.1%	68.3%	66.7%
Webb County	251,256	95.9%	99.0%	94.9%	16,524	85.6%	87.9%	75.5%
Wharton County	21,724	99.7%	97.7%	97.5%	20,100	61.0%	78.3%	55.4%
Wheeler County					4,807	79.6%	42.8%	36.3%
Wichita County	113,133	95.3%	98.8%	94.1%	16,845	62.2%	83.8%	50.5%
Wilbarger County	9,119	99.0%	22.5%	21.9%	3,372	70.1%	16.0%	11.5%
Willacy County	13,059	81.8%	99.7%	81.6%	7,084	78.6%	86.3%	66.2%
Williamson County	604,861	97.8%	98.5%	96.4%	66,557	90.3%	78.4%	72.7%
Wilson County	6,367	95.5%	99.6%	95.1%	46,368	61.7%	76.9%	49.9%
Winkler County	6,030	100.0%	100.0%	100.0%	1,276	26.8%	27.6%	26.0%
Wise County	7,213	100.0%	100.0%	100.0%	67,682	99.7%	80.1%	79.9%
Wood County	5,850	96.8%	88.8%	86.3%	41,007	83.0%	46.5%	42.3%
Yoakum County					7,451	89.2%	92.1%	85.5%
Young County	8,694	100.0%	92.1%	92.1%	9,268	91.0%	58.8%	58.6%
Zapata County	10,852	97.4%	79.7%	77.4%	2,997	74.5%	64.0%	49.7%
Zavala County	6,387	97.5%	99.7%	97.3%	2,990	39.0%	83.8%	38.3%
U.S. Virgin Isl.	99,088	99.6%	92.1%	91.8%	6,325	96.0%	54.8%	52.3%
St. Croix Island	47,201	99.8%	88.6%	88.5%	3,965	98.7%	63.2%	62.5%
St. John Island	3,599	100.0%	84.9%	84.9%	1,452	96.0%	13.2%	12.1%
St. Thomas Island	48,288	99.4%	96.0%	95.5%	908	84.6%	84.6%	72.3%
Utah	3,018,430	99.0%	99.7%	98.7%	362,370	81.4%	87.6%	75.0%
Beaver County					7,327	94.2%	95.3%	90.9%
Box Elder County	41,660	99.8%	100.0%	99.8%	19,838	70.7%	87.6%	60.2%
Cache County	118,911	99.8%	100.0%	99.8%	21,262	91.3%	97.4%	90.4%
Carbon County	13,459	100.0%	100.0%	100.0%	7,112	97.2%	77.3%	75.8%
Daggett County					1,014	42.6%	93.3%	42.6%
Davis County	366,836	99.5%	99.9%	99.5%	3,112	92.8%	99.7%	92.8%
Duchesne County	6,384	99.7%	100.0%	99.7%	13,777	37.2%	67.6%	30.5%
Emery County					10,099	98.4%	93.9%	93.0%
Garfield County					5,281	72.2%	83.2%	65.6%
Grand County	8,101	100.0%	94.9%	94.9%	1,668	90.2%	59.1%	55.2%
Iron County	43,810	99.9%	100.0%	99.9%	18,619	93.8%	93.2%	89.8%

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Juab County	6,773	99.8%	100.0%	99.8%	5,794	75.0%	97.8%	73.2%
Kane County					8,227	70.1%	83.1%	63.9%
Millard County					13,330	78.3%	82.4%	70.4%
Morgan County					12,832	94.3%	89.9%	86.6%
Piute County					1,487	58.8%	90.7%	58.7%
Rich County					2,628	64.4%	62.0%	43.5%
Salt Lake County	1,175,333	98.9%	100.0%	98.9%	10,924	70.2%	94.8%	68.8%
San Juan County					14,359	49.6%	42.4%	33.1%
Sanpete County	5,097	99.6%	100.0%	99.6%	24,627	90.2%	86.0%	78.4%
Sevier County	8,867	100.0%	35.7%	35.7%	13,202	92.8%	79.5%	75.5%
Summit County	23,868	98.9%	100.0%	98.9%	19,168	76.8%	94.7%	75.2%
Tooele County	63,805	99.8%	100.0%	99.8%	16,129	94.3%	99.2%	93.9%
Uintah County	20,392	97.7%	99.9%	97.6%	16,749	55.9%	80.4%	50.8%
Utah County	668,312	98.1%	100.0%	98.1%	34,122	85.3%	97.7%	85.0%
Wasatch County	25,979	98.1%	99.4%	97.6%	10,640	78.0%	90.9%	74.2%
Washington County	167,052	99.9%	99.3%	99.3%	30,628	93.6%	87.5%	83.3%
Wayne County					2,645	68.4%	88.8%	66.0%
Weber County	253,791	99.5%	100.0%	99.5%	15,770	94.6%	98.0%	94.5%
Vermont	228,285	98.4%	79.2%	77.8%	418,779	73.4%	38.6%	31.7%
Addison County	6,224	99.3%	93.9%	93.2%	31,354	59.5%	40.9%	33.0%
Bennington County	14,056	99.7%	33.2%	33.1%	23,336	81.8%	47.1%	42.9%
Caledonia County	5,183	89.3%	95.5%	85.1%	25,396	57.7%	47.9%	35.3%
Chittenden County	124,390	98.2%	79.0%	77.4%	44,911	86.0%	38.3%	34.0%
Essex County					5,994	40.0%	40.4%	25.9%
Franklin County	11,688	99.5%	96.2%	95.8%	39,043	69.9%	24.9%	19.6%
Grand Isle County					7,489	59.7%	13.1%	10.6%
Lamoille County					26,090	65.0%	45.0%	37.4%
Orange County					29,846	76.0%	26.2%	19.5%
Orleans County					27,666	63.9%	30.7%	23.4%
Rutland County	19,851	99.7%	97.3%	97.0%	40,515	88.0%	48.9%	45.9%
Washington County	20,608	96.7%	88.8%	86.2%	39,440	57.4%	57.3%	36.3%
Windham County	13,914	99.5%	53.8%	53.5%	31,928	72.8%	22.8%	19.6%
Windsor County	12,371	99.9%	87.3%	87.3%	45,771	94.8%	38.7%	37.4%
Virginia	6,525,894	98.5%	96.7%	95.3%	2,157,725	73.7%	53.5%	42.1%
Accomack County	3,338	98.4%	83.6%	82.3%	29,853	78.6%	43.8%	36.5%
Albemarle County	66,890	99.9%	90.3%	90.3%	47,644	92.4%	37.6%	36.0%
Alexandria city	155,525	99.7%	100.0%	99.7%				
Alleghany County	6,891	98.3%	87.9%	86.5%	7,944	63.7%	31.0%	25.2%
Amelia County					13,455	71.6%	28.3%	23.2%
Amherst County	11,761	99.9%	57.6%	57.6%	19,828	97.7%	25.2%	25.1%
Appomattox County					16,748	98.8%	31.1%	31.0%

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Arlington County	234,000	99.9%	99.7%	99.7%				
Augusta County	12,382	97.8%	97.9%	95.7%	65,682	66.3%	68.8%	53.3%
Bath County					4,049	45.0%	12.3%	6.2%
Bedford County	23,538	100.0%	73.1%	73.1%	57,310	98.3%	39.3%	39.2%
Bland County					6,148	49.0%	34.0%	21.5%
Botetourt County	13,666	99.3%	86.2%	85.6%	20,469	69.1%	60.3%	41.3%
Bristol city	16,782	99.9%	97.8%	97.8%	193	100.0%	64.2%	64.2%
Brunswick County					15,921	38.5%	32.5%	8.3%
Buchanan County					19,352	91.0%	1.7%	1.7%
Buckingham County					16,982	70.2%	22.6%	16.9%
Buena Vista city	6,417	98.8%	99.7%	98.7%	174	84.4%	54.5%	50.5%
Campbell County	23,847	99.9%	83.0%	83.0%	31,294	99.0%	52.8%	52.6%
Caroline County					31,957	53.3%	41.4%	22.0%
Carroll County	693	97.8%	74.0%	73.5%	28,454	44.3%	32.2%	16.1%
Charles City County					6,605	66.9%	50.3%	33.8%
Charlotte County					11,475	83.5%	34.8%	29.9%
Charlottesville city	45,373	99.1%	97.8%	96.9%				
Chesapeake city	232,776	99.6%	100.0%	99.6%	19,712	76.6%	92.2%	71.6%
Chesterfield County	347,328	98.6%	99.1%	97.8%	31,080	94.3%	87.3%	83.0%
Clarke County					15,266	57.3%	69.1%	42.9%
Colonial Heights city	18,294	99.7%	100.0%	99.7%				
Covington city	5,644	98.1%	98.8%	97.0%	35	82.8%	82.8%	82.8%
Craig County					4,847	24.1%	40.5%	21.7%
Culpeper County	22,903	99.7%	94.6%	94.4%	31,478	75.0%	45.1%	34.9%
Cumberland County	674	100.0%	98.0%	98.0%	9,072	88.2%	44.0%	41.4%
Danville city	40,885	98.9%	97.1%	96.1%	1,344	90.4%	90.6%	82.5%
Dickenson County					13,725	71.7%	21.9%	20.7%
Dinwiddie County	8,009	94.4%	99.7%	94.2%	20,152	32.8%	41.7%	23.4%
Emporia city	5,204	99.2%	91.9%	91.2%	277	90.2%	55.2%	50.5%
Essex County					10,630	57.8%	53.8%	39.4%
Fairfax County	1,119,903	99.6%	96.2%	95.9%	18,428	97.7%	57.8%	56.5%
Fairfax city	24,835	99.9%	98.9%	98.9%				
Falls Church city	14,586	100.0%	100.0%	100.0%				
Fauquier County	31,583	98.1%	89.0%	87.5%	43,081	49.4%	45.4%	28.4%
Floyd County					15,619	63.8%	39.2%	28.1%
Fluvanna County	10,299	99.9%	89.4%	89.4%	17,860	98.8%	32.7%	32.4%
Franklin County	5,486	99.9%	96.1%	96.0%	49,588	93.5%	47.2%	46.3%
Franklin city	7,898	93.2%	100.0%	93.2%	349	90.8%	98.5%	89.6%
Frederick County	56,146	98.8%	73.1%	72.1%	38,905	53.4%	65.4%	42.0%
Fredericksburg city	28,757	99.1%	99.7%	98.8%				
Galax city	6,032	97.0%	94.2%	91.4%	698	91.4%	87.9%	81.2%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Giles County					16,453	73.5%	71.7%	58.1%
Gloucester County	10,941	99.4%	99.3%	98.8%	28,552	78.5%	80.8%	67.5%
Goochland County	1,825	81.6%	96.3%	78.0%	24,284	65.2%	60.0%	42.1%
Grayson County	17	100.0%	100.0%	100.0%	15,326	45.1%	34.2%	20.4%
Greene County					21,107	83.9%	49.4%	41.9%
Greensville County	1,304	98.3%	53.6%	52.3%	9,922	25.2%	44.3%	5.8%
Halifax County	7,373	99.9%	94.9%	94.9%	26,271	89.2%	37.4%	35.0%
Hampton city	137,590	98.5%	99.8%	98.4%	447	91.9%	100.0%	91.9%
Hanover County	70,769	98.9%	99.8%	98.8%	42,169	44.9%	82.0%	38.1%
Harrisonburg city	50,813	94.0%	97.1%	91.6%	345	90.7%	98.8%	89.5%
Henrico County	321,084	99.3%	99.6%	99.0%	12,878	90.4%	81.1%	74.1%
Henry County	17,468	97.3%	86.6%	84.6%	32,438	85.6%	46.0%	41.5%
Highland County					2,301	71.3%	24.7%	22.6%
Hopewell city	22,962	99.6%	99.9%	99.6%				
Isle of Wight County	16,440	95.9%	95.6%	91.9%	23,711	64.5%	74.7%	52.9%
James City County	69,608	98.7%	98.0%	96.8%	11,591	92.6%	93.3%	86.8%
King George County					27,856	69.2%	69.4%	53.1%
King William County					18,492	54.7%	52.7%	31.8%
King and Queen County					6,718	45.6%	46.1%	24.5%
Lancaster County					10,750	74.4%	19.1%	14.7%
Lee County					21,982	96.7%	48.4%	47.6%
Lexington city	7,457	99.5%	100.0%	99.5%				
Loudoun County	376,094	94.1%	97.2%	91.6%	55,991	67.9%	78.7%	54.8%
Louisa County					40,116	45.3%	41.3%	25.3%
Lunenburg County					12,031	60.9%	26.1%	22.3%
Lynchburg city	77,645	94.6%	82.2%	78.2%	1,642	75.9%	59.2%	39.0%
Madison County					14,000	55.5%	50.7%	34.7%
Manassas Park city	16,703	99.9%	100.0%	99.9%				
Manassas city	42,642	99.7%	99.9%	99.7%				
Martinsville city	13,714	99.1%	86.1%	85.6%	11	100.0%	100.0%	100.0%
Mathews County					8,490	80.0%	68.2%	55.1%
Mecklenburg County	5,165	98.5%	92.1%	90.7%	25,343	47.1%	33.7%	21.1%
Middlesex County					10,943	65.1%	41.5%	24.2%
Montgomery County	68,909	98.8%	94.0%	92.9%	30,006	76.9%	54.3%	47.3%
Nelson County					14,652	96.3%	33.4%	33.1%
New Kent County					24,986	69.6%	84.5%	64.4%
Newport News city	184,069	99.7%	99.8%	99.5%	237	93.2%	100.0%	93.2%
Norfolk city	232,995	92.1%	99.7%	91.9%				
Northampton County					11,900	80.2%	56.6%	49.2%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Northumberland County					12,302	70.4%	27.2%	18.9%
Norton city	3,250	100.0%	98.9%	98.9%	359	100.0%	56.5%	56.5%
Nottoway County					15,559	78.7%	67.3%	57.0%
Orange County	16,544	99.1%	98.0%	97.3%	21,447	84.9%	46.2%	39.3%
Page County	4,774	97.3%	100.0%	97.3%	18,976	52.7%	59.5%	38.4%
Patrick County					17,643	25.8%	38.1%	14.9%
Petersburg city	32,413	96.4%	99.3%	95.8%	981	94.8%	100.0%	94.8%
Pittsylvania County	6,528	99.9%	77.2%	77.2%	53,424	96.5%	58.7%	57.7%
Poquoson city	11,462	99.8%	99.7%	99.6%	1,120	99.7%	100.0%	99.7%
Portsmouth city	97,029	98.3%	100.0%	98.3%				
Powhatan County	624	100.0%	97.4%	97.4%	30,865	90.2%	69.4%	63.0%
Prince Edward County	6,628	100.0%	96.1%	96.1%	15,299	99.1%	32.8%	32.5%
Prince George County	18,466	93.7%	99.7%	93.5%	24,668	91.9%	70.1%	64.3%
Prince William County	460,771	98.8%	95.7%	94.6%	26,172	79.4%	84.0%	66.0%
Pulaski County	19,157	96.5%	89.6%	86.3%	14,549	56.8%	46.6%	29.9%
Radford city	15,638	98.5%	91.5%	90.4%	1,100	91.5%	67.3%	63.6%
Rappahannock County					7,502	43.7%	45.8%	33.8%
Richmond County					9,080	61.8%	34.2%	26.8%
Richmond city	229,384	99.6%	99.9%	99.6%	11	36.3%	100.0%	36.3%
Roanoke County	78,714	99.9%	86.7%	86.7%	18,200	91.2%	47.8%	46.7%
Roanoke city	97,833	99.6%	94.6%	94.2%	14	100.0%	71.4%	71.4%
Rockbridge County	1,894	97.3%	96.8%	94.4%	20,699	75.4%	48.7%	40.8%
Rockingham County	34,540	95.4%	88.7%	84.4%	50,857	56.6%	74.1%	45.2%
Russell County	164	100.0%	1.2%	1.2%	25,284	91.4%	62.4%	58.6%
Salem city	25,523	99.7%	95.5%	95.3%				
Scott County	368	100.0%	100.0%	100.0%	21,108	80.5%	54.1%	47.6%
Shenandoah County	13,500	99.2%	91.0%	90.4%	31,468	68.6%	64.4%	51.4%
Smyth County	7,158	99.8%	99.4%	99.3%	22,291	93.3%	34.3%	32.3%
Southampton County	318	100.0%	83.9%	83.9%	17,614	40.8%	63.4%	30.7%
Spotsylvania County	99,078	98.7%	94.7%	93.4%	47,610	77.4%	40.4%	34.5%
Stafford County	132,275	98.3%	95.4%	93.8%	31,105	89.1%	60.9%	54.4%
Staunton city	25,325	98.5%	94.5%	93.0%	579	78.0%	100.0%	78.0%
Suffolk city	71,183	94.2%	100.0%	94.2%	27,354	73.7%	87.4%	67.6%
Surry County					6,527	92.6%	65.7%	61.7%
Sussex County					10,680	64.7%	48.6%	38.4%
Tazewell County	19,072	99.4%	87.3%	87.1%	20,749	85.2%	36.5%	34.4%
Virginia Beach city	446,292	99.2%	99.8%	99.1%	9,326	87.7%	86.6%	76.8%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Warren County	16,308	98.8%	71.7%	70.8%	25,132	73.9%	40.9%	29.3%
Washington County	16,664	99.5%	85.8%	85.5%	37,294	86.1%	54.0%	50.5%
Waynesboro city	22,262	98.3%	99.3%	97.7%	546	98.9%	100.0%	98.9%
Westmoreland County	3,930	99.5%	53.4%	53.3%	14,782	65.9%	52.5%	34.6%
Williamsburg city	15,893	98.7%	99.2%	97.9%	16	100.0%	100.0%	100.0%
Winchester city	27,936	99.6%	98.5%	98.1%				
Wise County	12,364	98.9%	84.6%	83.9%	23,057	93.2%	38.2%	37.2%
Wythe County	7,032	98.8%	90.3%	89.4%	21,079	47.2%	47.1%	26.9%
York County	65,668	98.9%	99.0%	98.0%	5,673	94.0%	94.0%	89.5%
Washington	6,454,972	98.6%	96.8%	95.6%	1,330,814	56.9%	66.7%	41.9%
Adams County	10,862	95.3%	91.8%	87.8%	10,099	12.3%	71.4%	10.6%
Asotin County	20,873	99.8%	96.1%	96.0%	1,635	32.9%	36.3%	25.5%
Benton County	186,138	98.5%	94.3%	93.0%	26,653	90.7%	87.6%	81.3%
Chelan County	52,580	98.9%	97.1%	96.2%	27,346	77.0%	68.8%	60.1%
Clallam County	49,716	92.5%	88.1%	82.3%	28,089	19.3%	49.4%	8.6%
Clark County	444,059	99.1%	99.5%	98.7%	72,720	39.7%	60.9%	35.1%
Columbia County					4,026	66.1%	74.7%	65.8%
Cowlitz County	74,807	99.1%	95.4%	94.7%	37,149	52.2%	37.5%	24.3%
Douglas County	32,796	99.5%	100.0%	99.5%	11,396	73.7%	73.4%	56.9%
Ferry County					7,448	24.3%	40.2%	17.6%
Franklin County	87,080	92.3%	76.1%	68.5%	11,598	59.3%	56.6%	30.2%
Garfield County					2,363	64.3%	63.8%	57.8%
Grant County	55,408	99.7%	92.3%	92.0%	45,903	67.3%	76.9%	53.3%
Grays Harbor County	47,074	99.4%	85.8%	85.3%	29,964	68.7%	67.9%	51.5%
Island County	43,243	96.4%	67.4%	65.1%	43,382	73.8%	51.9%	38.2%
Jefferson County	15,717	96.8%	59.5%	57.1%	17,872	51.0%	51.4%	31.9%
King County	2,190,819	99.2%	98.9%	98.2%	75,970	74.6%	85.0%	65.8%
Kitsap County	227,766	97.9%	91.4%	89.7%	49,907	73.2%	67.0%	50.1%
Kittitas County	24,704	100.0%	99.9%	99.9%	20,485	93.7%	87.3%	84.2%
Klickitat County	4,668	94.0%	99.9%	93.9%	18,603	28.4%	61.6%	25.5%
Lewis County	33,023	98.3%	95.2%	93.6%	52,347	26.2%	69.9%	19.6%
Lincoln County					11,601	6.9%	65.8%	6.1%
Mason County	20,935	97.6%	63.2%	62.2%	47,231	76.5%	35.4%	27.8%
Okanogan County	8,302	89.4%	91.6%	81.6%	34,825	19.4%	60.7%	13.6%
Pacific County	9,075	91.8%	68.1%	62.5%	15,038	72.7%	68.0%	53.6%
Pend Oreille County					14,179	53.4%	61.1%	31.8%
Pierce County	861,399	98.3%	97.8%	96.3%	65,981	48.4%	65.9%	35.0%
San Juan County	3,614	95.8%	80.9%	77.8%	15,048	63.5%	39.3%	30.0%
Skagit County	85,623	99.2%	91.1%	90.4%	45,556	65.4%	69.7%	48.7%
Skamania County					12,460	33.6%	66.2%	30.8%
Snohomish County	737,939	98.4%	99.3%	97.9%	102,140	60.9%	74.8%	47.7%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
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Spokane County	466,824	98.9%	99.8%	98.7%	82,866	28.3%	85.1%	26.9%
Stevens County	5,452	89.7%	100.0%	89.7%	42,777	27.6%	56.7%	23.6%
Thurston County	233,624	98.7%	94.9%	93.9%	65,134	63.3%	54.2%	38.3%
Wahkiakum County					4,688	68.1%	56.5%	46.8%
Walla Walla County	49,015	95.3%	84.0%	79.6%	12,875	63.1%	66.7%	49.8%
Whatcom County	163,530	98.0%	91.6%	91.0%	67,147	66.7%	64.3%	44.3%
Whitman County	30,418	93.6%	100.0%	93.6%	17,201	57.1%	42.8%	28.2%
Yakima County	177,889	98.3%	97.5%	95.9%	79,112	87.0%	88.6%	79.6%
West Virginia	795,101	92.5%	92.5%	86.1%	980,055	52.6%	45.2%	29.4%
Barbour County					15,414	7.7%	44.1%	4.3%
Berkeley County	87,162	97.8%	95.5%	93.6%	42,328	69.0%	71.2%	53.9%
Boone County					20,968	68.5%	32.6%	22.2%
Braxton County					12,185	36.5%	43.4%	30.3%
Brooke County	12,785	99.4%	87.8%	87.5%	8,948	74.5%	37.0%	29.2%
Cabell County	72,386	95.4%	98.9%	94.5%	20,344	65.9%	51.7%	41.5%
Calhoun County					6,068	3.0%	13.1%	0.8%
Clay County					7,814	12.2%	14.3%	1.2%
Doddridge County					7,698	44.1%	32.9%	26.1%
Fayette County	14,758	81.1%	76.5%	60.7%	24,729	40.4%	40.1%	18.2%
Gilmer County					7,325	29.9%	49.0%	23.9%
Grant County					10,968	39.3%	43.0%	26.5%
Greenbrier County	7,058	73.7%	72.2%	52.1%	25,377	32.2%	48.6%	19.3%
Hampshire County					23,468	24.1%	44.4%	17.0%
Hancock County	18,935	99.8%	94.8%	94.6%	9,237	70.5%	68.5%	56.4%
Hardy County					14,192	82.6%	51.3%	45.8%
Harrison County	36,136	93.1%	96.1%	89.9%	28,779	55.1%	50.2%	37.2%
Jackson County					27,716	53.0%	68.2%	46.7%
Jefferson County	22,598	99.2%	85.8%	85.2%	36,381	85.3%	59.2%	50.7%
Kanawha County	124,363	88.9%	92.4%	82.4%	51,152	44.1%	54.6%	27.0%
Lewis County	4,387	99.1%	95.6%	94.8%	12,380	48.3%	37.6%	27.3%
Lincoln County					19,901	48.3%	23.6%	15.1%
Logan County	8,564	51.5%	61.6%	38.0%	22,752	49.7%	9.8%	4.1%
Marion County	31,407	95.5%	97.0%	92.6%	24,545	61.4%	57.1%	42.1%
Marshall County	15,074	99.7%	67.4%	67.3%	14,678	51.9%	27.9%	16.6%
Mason County	7,805	78.6%	88.6%	70.9%	17,195	28.9%	38.2%	15.6%
McDowell County					17,850	82.2%	16.7%	10.8%
Mercer County	34,307	89.3%	84.9%	76.5%	24,393	52.7%	52.5%	31.8%
Mineral County	8,212	98.4%	98.5%	97.0%	18,643	66.9%	63.7%	47.3%
Mingo County					22,573	60.8%	2.4%	2.0%
Monongalia County	78,216	98.4%	96.9%	95.3%	28,653	73.5%	58.2%	48.3%
Monroe County					12,296	46.8%	20.1%	12.8%

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Morgan County					17,430	46.6%	57.1%	34.3%
Nicholas County					24,335	44.1%	52.0%	27.2%
Ohio County	27,809	99.7%	95.6%	95.3%	13,638	80.5%	72.2%	63.8%
Pendleton County					6,011	62.8%	28.5%	21.6%
Pleasants County					7,586	54.6%	46.6%	33.7%
Pocahontas County					7,819	17.7%	14.6%	0.7%
Preston County					34,172	66.2%	58.6%	45.4%
Putnam County	37,562	92.1%	90.9%	84.3%	19,453	47.3%	41.0%	25.0%
Raleigh County	41,559	86.3%	91.3%	79.2%	31,323	59.4%	45.4%	28.5%
Randolph County	10,943	64.6%	83.2%	52.9%	16,657	19.5%	35.7%	8.4%
Ritchie County					8,207	82.6%	40.1%	37.7%
Roane County					13,834	26.3%	42.5%	22.8%
Summers County					11,762	27.3%	62.8%	23.4%
Taylor County	5,134	97.4%	96.9%	94.3%	11,208	59.9%	62.1%	43.7%
Tucker County					6,568	63.6%	58.9%	52.5%
Tyler County					8,183	24.7%	49.1%	20.6%
Upshur County	8,487	69.3%	73.3%	52.2%	15,225	28.7%	17.0%	7.4%
Wayne County	15,451	94.7%	95.6%	90.7%	22,547	40.4%	38.2%	22.4%
Webster County					8,167	55.9%	51.5%	43.9%
Wetzel County	5,278	78.6%	96.7%	76.8%	8,747	30.2%	10.9%	7.7%
Wirt County					5,091	25.5%	44.0%	13.5%
Wood County	58,725	93.5%	97.2%	90.9%	24,615	62.7%	52.0%	38.9%
Wyoming County					20,527	85.0%	23.2%	21.6%
Wisconsin	3,926,612	98.4%	96.1%	94.7%	1,965,927	70.3%	56.7%	45.7%
Adams County					21,226	69.7%	29.8%	19.7%
Ashland County	7,207	99.2%	59.6%	59.3%	8,832	44.7%	28.9%	16.6%
Barron County	9,898	99.7%	93.4%	93.3%	36,945	73.0%	58.3%	47.4%
Bayfield County					16,608	85.1%	27.6%	23.7%
Brown County	224,072	99.8%	99.3%	99.2%	45,964	95.0%	85.3%	81.7%
Buffalo County					13,391	79.7%	9.4%	8.3%
Burnett County					17,036	69.5%	37.1%	32.5%
Calumet County	24,825	99.8%	100.0%	99.8%	27,893	99.4%	77.2%	76.8%
Chippewa County	24,919	94.6%	99.0%	93.7%	41,888	73.8%	63.6%	48.6%
Clark County					34,691	36.9%	48.5%	28.6%
Columbia County	19,388	94.9%	96.4%	92.2%	38,805	77.7%	57.7%	48.0%
Crawford County	5,811	99.3%	99.8%	99.1%	10,196	38.8%	17.6%	12.0%
Dane County	488,425	97.7%	99.1%	96.9%	79,778	74.3%	80.1%	62.8%
Dodge County	39,781	99.7%	89.8%	89.6%	48,501	99.0%	69.7%	69.2%
Door County	9,287	93.5%	95.6%	90.2%	21,239	51.3%	51.2%	26.4%
Douglas County	26,876	96.1%	100.0%	96.1%	17,268	28.8%	42.9%	17.6%
Dunn County	16,227	93.5%	98.4%	92.0%	29,424	70.0%	43.1%	32.3%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Eau Claire County	81,517	96.1%	99.2%	95.3%	25,320	65.8%	60.8%	44.7%
Florence County					4,688	38.8%	29.6%	21.6%
Fond du Lac County	65,680	99.8%	100.0%	99.8%	38,156	97.2%	93.0%	90.5%
Forest County					9,381	49.9%	15.1%	10.1%
Grant County	11,431	90.1%	56.5%	49.0%	39,845	57.4%	38.3%	25.4%
Green County	10,683	98.8%	99.0%	97.9%	26,133	42.4%	63.1%	38.2%
Green Lake County	5,211	97.0%	99.1%	96.2%	14,009	58.1%	54.0%	32.1%
Iowa County	4,874	98.5%	53.5%	53.1%	18,991	45.6%	38.8%	22.5%
Iron County	1,962	95.1%	58.0%	53.9%	4,262	15.3%	26.1%	4.0%
Jackson County	4,342	92.7%	98.0%	90.9%	16,494	27.8%	32.5%	14.4%
Jefferson County	47,192	99.7%	90.9%	90.7%	38,592	96.5%	84.4%	82.2%
Juneau County					26,866	57.0%	52.5%	37.4%
Kenosha County	145,282	97.2%	96.5%	93.8%	22,535	76.0%	80.6%	62.7%
Kewaunee County					20,623	91.5%	95.6%	88.0%
La Crosse County	98,291	96.9%	90.0%	87.1%	22,003	67.1%	39.6%	29.9%
Lafayette County					16,877	43.6%	44.3%	22.6%
Langlade County	7,819	100.0%	88.9%	88.9%	11,740	73.9%	22.2%	16.2%
Lincoln County	9,076	93.1%	90.7%	84.8%	19,300	34.4%	15.9%	4.1%
Manitowoc County	46,185	99.9%	99.5%	99.5%	34,987	93.6%	76.1%	73.2%
Marathon County	77,943	98.6%	70.5%	69.4%	60,015	44.4%	36.6%	21.4%
Marinette County	16,204	95.1%	79.5%	76.7%	25,784	38.8%	17.1%	7.2%
Marquette County					15,779	65.9%	41.0%	31.2%
Menominee County					4,197	90.8%	24.3%	22.9%
Milwaukee County	916,096	99.6%	99.5%	99.2%	2,565	87.8%	98.7%	87.2%
Monroe County	19,910	95.7%	85.5%	82.0%	26,199	33.6%	43.9%	19.3%
Oconto County					39,633	85.4%	49.0%	46.6%
Oneida County	9,404	91.8%	50.1%	45.5%	28,808	54.4%	12.0%	9.4%
Outagamie County	143,021	99.3%	98.8%	98.2%	49,106	93.2%	69.4%	65.2%
Ozaukee County	70,024	98.5%	98.0%	96.6%	22,985	97.3%	87.6%	85.8%
Pepin County					7,410	81.4%	40.2%	33.1%
Pierce County	12,163	98.8%	97.7%	96.8%	30,369	83.4%	64.9%	58.5%
Polk County					45,709	72.9%	51.6%	39.9%
Portage County	44,396	97.2%	85.1%	82.7%	26,322	83.8%	47.3%	42.2%
Price County					14,179	57.7%	25.6%	20.4%
Racine County	167,554	96.6%	95.8%	92.6%	28,292	74.5%	72.0%	52.3%
Richland County	4,939	96.4%	74.6%	71.2%	12,151	64.7%	17.2%	11.1%
Rock County	130,747	97.5%	97.3%	95.0%	33,313	64.8%	71.7%	48.9%
Rusk County					14,186	53.4%	12.8%	9.1%
Sauk County	36,032	94.0%	76.9%	72.4%	29,745	58.8%	29.1%	18.7%
Sawyer County					18,559	46.5%	34.0%	21.7%
Shawano County	12,185	99.6%	98.6%	98.2%	28,701	84.8%	62.5%	58.6%

State, Territory, County or County Equivalent	Urban Areas				Rural Areas			
	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile	Pop. Evaluated	% of Pop. with Fixed 100/20 Mbps	% of Pop. with Mobile 5G-NR 35/3 Mbps	% of Pop. with Fixed & Mobile
Sheboygan County	83,036	99.7%	95.7%	95.5%	34,805	91.9%	73.8%	69.3%
St. Croix County	34,353	94.5%	99.0%	93.6%	61,664	63.2%	90.2%	57.9%
Taylor County	4,135	99.2%	95.6%	94.9%	15,840	14.7%	8.6%	4.1%
Trempealeau County					30,899	78.1%	27.1%	22.5%
Vernon County	4,137	100.0%	97.0%	97.0%	26,923	92.3%	33.2%	30.2%
Vilas County					23,763	40.8%	14.1%	4.3%
Walworth County	65,850	96.0%	86.8%	83.3%	39,530	72.8%	66.7%	49.2%
Washburn County					16,911	37.3%	42.7%	26.1%
Washington County	84,574	99.8%	97.4%	97.3%	53,114	98.4%	88.4%	87.3%
Waukesha County	347,091	99.2%	96.8%	96.0%	63,343	95.9%	88.9%	85.6%
Waupaca County	18,355	95.0%	93.9%	89.1%	33,133	54.8%	58.0%	38.1%
Waushara County	84	98.8%	98.8%	98.8%	24,915	43.5%	56.2%	27.5%
Winnebago County	140,685	99.2%	99.7%	98.9%	30,033	82.9%	74.4%	67.7%
Wood County	47,433	97.8%	79.0%	76.9%	26,560	54.3%	38.2%	25.1%
Wyoming	355,788	98.6%	82.6%	81.5%	225,593	70.4%	50.9%	41.8%
Albany County	32,825	100.0%	45.2%	45.2%	5,206	81.9%	43.7%	41.5%
Big Horn County					11,855	47.8%	60.4%	38.6%
Campbell County	34,413	99.2%	93.9%	93.2%	12,645	71.0%	47.4%	40.5%
Carbon County	7,546	95.6%	100.0%	95.6%	6,996	71.5%	33.4%	18.7%
Converse County	6,463	100.0%	95.1%	95.1%	7,323	81.6%	40.4%	35.1%
Crook County					7,448	48.9%	50.3%	33.8%
Fremont County	18,963	99.7%	84.2%	84.0%	20,509	77.8%	28.6%	25.4%
Goshen County	6,441	100.0%	91.3%	91.3%	6,121	90.2%	37.6%	36.1%
Hot Springs County					4,588	75.0%	82.4%	72.1%
Johnson County	4,664	99.9%	38.2%	38.2%	4,066	59.5%	26.4%	11.1%
Laramie County	76,245	97.6%	99.9%	97.5%	24,478	87.9%	71.7%	67.7%
Lincoln County					20,660	72.0%	51.7%	39.6%
Natrona County	67,196	99.7%	100.0%	99.7%	12,405	89.3%	76.4%	71.6%
Niobrara County					2,380	86.8%	72.4%	70.3%
Park County	16,925	99.4%	85.1%	84.7%	13,593	17.5%	41.1%	12.0%
Platte County					8,645	92.6%	74.1%	72.1%
Sheridan County	20,248	99.9%	83.8%	83.7%	11,848	84.6%	31.5%	27.3%
Sublette County					8,763	74.8%	51.9%	51.1%
Sweetwater County	36,823	97.1%	42.1%	40.3%	4,522	62.5%	37.3%	24.3%
Teton County	10,708	99.2%	100.0%	99.2%	12,579	80.5%	63.5%	57.5%
Uinta County	11,430	90.5%	33.3%	31.2%	9,282	14.8%	19.8%	4.7%
Washakie County	4,898	100.0%	92.8%	92.8%	2,821	49.2%	40.1%	22.9%
Weston County					6,860	82.6%	71.5%	67.6%

Source: FCC BDC data; Staff Block Estimates.

Note: For year-end 2022, we rely on the 2020 Census Urban Areas (See United States Census Bureau, *Urban and Rural*, <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html>). A blank cell

indicates that the county contains either no populated Urban Areas or no populated Rural Areas.

APPX. B-14

Service Availability (Millions) of Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Minimum Advertised Speed of 35/3 Mbps on Tribal Lands by State (December 31, 2022)

	Pop. Evaluated	Fixed 100/20 Mbps		Mobile 5G-NR 35/3 Mbps		Fixed 100/20 Mbps and Mobile 5G-NR 35/3 Mbps	
		Pop.	% of Pop.	Pop.	% of Pop.	Pop.	% of Pop.
All Tribal Lands	4,043,227	3,086,560	76.3%	3,145,177	77.8%	2,663,757	65.9%
Alaska Native Village Statistical Areas	269,755	162,806	60.4%	117,621	43.6%	97,841	36.3%
Federal Reservations	1,056,973	599,136	56.7%	688,602	65.1%	467,432	44.2%
Alabama	321	0	0.0%	69	21.5%	0	0.0%
Alaska	1,200	39	3.3%	9	0.8%	0	0.0%
Arizona	168,817	33,141	19.6%	73,517	43.5%	29,279	17.3%
California	68,497	42,023	61.4%	58,936	86.0%	39,953	58.3%
Colorado	13,917	8,229	59.1%	7,834	56.3%	5,106	36.7%
Connecticut	651	562	86.3%	461	70.8%	372	57.1%
Florida	3,913	1,608	41.1%	3,330	85.1%	1,608	41.1%
Idaho	33,361	12,428	37.3%	17,298	51.9%	8,447	25.3%
Indiana	16	16	100.0%	16	100.0%	16	100.0%
Iowa	993	867	87.3%	599	60.3%	567	57.1%
Kansas	5,432	4,877	89.8%	4,163	76.6%	3,801	70.0%
Louisiana	950	637	67.1%	831	87.5%	635	66.8%
Maine	2,281	2,184	95.7%	822	36.0%	773	33.9%
Massachusetts	98	98	100.0%	0	0.0%	0	0.0%
Michigan	33,852	31,017	91.6%	24,484	72.3%	23,027	68.0%
Minnesota	39,095	30,759	78.7%	16,142	41.3%	12,399	31.7%
Mississippi	7,882	3,445	43.7%	4,663	59.2%	1,802	22.9%
Montana	69,552	35,563	51.1%	43,038	61.9%	27,573	39.6%
Nebraska	8,097	3,682	45.5%	3,054	37.7%	494	6.1%
Nevada	11,330	7,817	69.0%	8,639	76.2%	7,297	64.4%
New Mexico	119,317	43,372	36.4%	77,710	65.1%	34,059	28.5%
New York	77,771	64,593	83.1%	65,911	84.8%	57,808	74.3%
North Carolina	9,091	496	5.5%	2,023	22.3%	83	0.9%
North Dakota	22,307	20,749	93.0%	12,109	54.3%	11,191	50.2%
Oklahoma	45,839	20,010	43.7%	35,556	77.6%	18,016	39.3%
Oregon	8,734	4,450	51.0%	6,343	72.6%	2,957	33.9%
Rhode Island	1	1	100.0%	1	100.0%	1	100.0%
South Carolina	997	993	99.6%	403	40.4%	403	40.4%
South Dakota	61,023	47,285	77.5%	41,247	67.6%	33,681	55.2%
Tennessee	82	81	98.8%	82	100.0%	81	98.8%
Texas	2,463	1,800	73.1%	1,756	71.3%	1,674	68.0%
Utah	32,383	13,808	42.6%	21,120	65.2%	12,584	38.9%
Washington	138,514	103,774	74.9%	117,642	84.9%	94,319	68.1%

	Pop. Evaluated	Fixed 100/20 Mbps		Mobile 5G-NR 35/3 Mbps		Fixed 100/20 Mbps and Mobile 5G-NR 35/3 Mbps	
		Pop.	% of Pop.	Pop.	% of Pop.	Pop.	% of Pop.
Wisconsin	43,317	35,915	82.9%	25,654	59.2%	24,357	56.2%
Wyoming	24,879	22,817	91.7%	13,140	52.8%	13,069	52.5%
Hawaiian Home Lands	34,358	32,529	94.7%	32,309	94.0%	30,866	89.8%
Tribal Statistical Areas	2,682,141	2,292,089	85.5%	2,306,645	86.0%	2,067,618	77.1%
California	3,212	3,183	99.1%	3,204	99.8%	3,183	99.1%
New York	2,504	2,385	95.2%	1,764	70.4%	1,682	67.2%
Oklahoma	2,628,939	2,247,858	85.5%	2,272,804	86.5%	2,036,882	77.5%
Virginia	5,009	2,597	51.8%	2,410	48.1%	1,434	28.6%
Washington	42,477	36,066	84.9%	26,463	62.3%	24,437	57.5%

Source: FCC BDC data; Staff Block Estimates.

APPX. B-15

Service Availability (Millions) on Tribal Lands of Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps (In-Vehicle Mobile Services) (December 31, 2022)

Area	Pop. Evaluated	Including Fixed Wireless		Excluding Fixed Wireless	
		Pop.	%	Pop.	%
Tribal Lands	4.043	2.242	55.5%	2.113	52.3%
Rural Areas	2.219	0.702	31.6%	0.589	26.5%
Urban Areas	1.824	1.540	84.4%	1.524	83.5%
Alaska Native Village Statistical Areas	0.270	0.097	36.1%	0.087	32.2%
Rural Areas	0.176	0.032	18.3%	0.023	12.9%
Urban Areas	0.094	0.065	69.2%	0.064	68.2%
Federal Reservations	1.057	0.329	31.1%	0.294	27.8%
Rural Areas	0.780	0.150	19.2%	0.126	16.2%
Urban Areas	0.277	0.179	64.6%	0.168	60.5%
Hawaiian Home Lands	0.034	0.025	71.7%	0.025	71.7%
Rural Areas	0.008	0.003	40.0%	0.003	40.0%
Urban Areas	0.026	0.021	81.7%	0.021	81.7%
Tribal Statistical Areas	2.682	1.791	66.8%	1.707	63.7%
Rural Areas	1.255	0.516	41.1%	0.436	34.8%
Urban Areas	1.427	1.275	89.4%	1.271	89.1%

Source: FCC BDC data; Staff Block Estimates.

APPX. B-16

Service Availability (Millions) on Tribal Lands of Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (Outdoor Stationary Services) (December 31, 2022)

Area	Pop. Evaluated	Including Fixed Wireless		Excluding Fixed Wireless	
		Pop.	%	Pop.	%
Tribal Lands	4.043	2.948	72.9%	2.697	66.7%
Rural Areas	2.219	1.210	54.5%	0.981	44.2%
Urban Areas	1.824	1.738	95.3%	1.717	94.1%
Alaska Native Village Statistical Areas	0.270	0.131	48.4%	0.110	40.8%
Rural Areas	0.176	0.053	30.3%	0.035	19.8%
Urban Areas	0.094	0.077	82.3%	0.075	80.1%
Federal Reservations	1.057	0.546	51.6%	0.475	44.9%
Rural Areas	0.780	0.306	39.3%	0.249	31.9%
Urban Areas	0.277	0.239	86.4%	0.225	81.3%
Hawaiian Home Lands	0.034	0.032	93.5%	0.032	93.5%
Rural Areas	0.008	0.006	75.5%	0.006	75.5%
Urban Areas	0.026	0.026	99.2%	0.026	99.1%
Tribal Statistical Areas	2.682	2.239	83.5%	2.081	77.6%
Rural Areas	1.255	0.844	67.2%	0.691	55.0%
Urban Areas	1.427	1.395	97.8%	1.390	97.4%

Source: FCC BDC data; Staff Block Estimates.

APPX. B-17

Service Availability (Millions) on Tribal Lands of Fixed Terrestrial 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (In-Vehicle Mobile Services) (December 31, 2022)

Area	Pop. Evaluated	Including Fixed Wireless		Excluding Fixed Wireless	
		Pop.	%	Pop.	%
Tribal Lands	4.043	2.762	68.3%	2.542	62.9%
Rural Areas	2.219	1.059	47.7%	0.860	38.7%
Urban Areas	1.824	1.703	93.3%	1.682	92.2%
Alaska Native Village Statistical Areas	0.270	0.130	48.0%	0.110	40.6%
Rural Areas	0.176	0.052	29.8%	0.034	19.6%
Urban Areas	0.094	0.077	82.1%	0.075	79.9%
Federal Reservations	1.057	0.473	44.8%	0.415	39.2%
Rural Areas	0.780	0.248	31.8%	0.203	26.0%
Urban Areas	0.277	0.226	81.4%	0.212	76.5%
Hawaiian Home Lands	0.034	0.031	91.3%	0.031	91.3%
Rural Areas	0.008	0.006	69.4%	0.006	69.4%
Urban Areas	0.026	0.026	98.2%	0.026	98.1%
Tribal Statistical Areas	2.682	2.127	79.3%	1.986	74.1%
Rural Areas	1.255	0.753	60.0%	0.617	49.1%
Urban Areas	1.427	1.374	96.3%	1.369	96.0%

Source: FCC BDC data; Staff Block Estimates.

APPX. B-18

Service Availability (Millions) on Tribal Lands of Fixed Terrestrial 100/20 Mbps and Mobile 4G LTE with a Minimum Speed of 5/1 Mbps (Outdoor Stationary Services) (December 31, 2022)

Area	Pop. Evaluated	Including Fixed Wireless		Excluding Fixed Wireless	
		Pop.	%	Pop.	%
Tribal Lands	4.043	3.076	76.1%	2.800	69.3%
Rural Areas	2.219	1.328	59.9%	1.074	48.4%
Urban Areas	1.824	1.748	95.8%	1.726	94.6%
Alaska Native Village Statistical Areas	0.270	0.162	60.1%	0.137	50.8%
Rural Areas	0.176	0.077	44.0%	0.054	30.9%
Urban Areas	0.094	0.085	90.3%	0.083	88.1%
Federal Reservations	1.057	0.595	56.3%	0.513	48.5%
Rural Areas	0.780	0.355	45.6%	0.287	36.8%
Urban Areas	0.277	0.240	86.5%	0.226	81.4%
Hawaiian Home Lands	0.034	0.032	93.7%	0.032	93.6%
Rural Areas	0.008	0.006	76.1%	0.006	76.1%
Urban Areas	0.026	0.026	99.2%	0.026	99.2%
Tribal Statistical Areas	2.682	2.287	85.3%	2.118	79.0%
Rural Areas	1.255	0.890	70.9%	0.726	57.9%
Urban Areas	1.427	1.397	97.9%	1.392	97.6%

Source: FCC BDC data; Staff Block Estimates.

APPX. B-19

Service Availability (Millions) on Tribal Lands of Fixed Terrestrial 100/20 Mbps and Mobile 4G LTE with a Minimum Speed of 5/1 Mbps (In-Vehicle Mobile Services) (December 31, 2022)

Area	Pop. Evaluated	Including Fixed Wireless		Excluding Fixed Wireless	
		Pop.	%	Pop.	%
Tribal Lands	4.043	3.005	74.3%	2.741	67.8%
Rural Areas	2.219	1.259	56.7%	1.016	45.8%
Urban Areas	1.824	1.746	95.7%	1.725	94.6%
Alaska Native Village Statistical Areas	0.270	0.159	58.9%	0.134	49.8%
Rural Areas	0.176	0.074	42.2%	0.052	29.4%
Urban Areas	0.094	0.085	90.2%	0.083	88.0%
Federal Reservations	1.057	0.571	54.0%	0.492	46.5%
Rural Areas	0.780	0.331	42.5%	0.267	34.2%
Urban Areas	0.277	0.239	86.3%	0.225	81.2%
Hawaiian Home Lands	0.034	0.032	93.5%	0.032	93.5%
Rural Areas	0.008	0.006	75.4%	0.006	75.4%
Urban Areas	0.026	0.026	99.2%	0.026	99.1%
Tribal Statistical Areas	2.682	2.243	83.6%	2.083	77.7%
Rural Areas	1.255	0.847	67.5%	0.692	55.1%
Urban Areas	1.427	1.396	97.9%	1.391	97.5%

Source: FCC BDC data; Staff Block Estimates.

APPX. B-20
Mobile Broadband Penetration Rate by State and U.S. Territory

Market Name	Market Population	Market Subscribers	Penetration Rate
Alabama	5,024,279	7,199,971	143%
Alaska	733,391	915,124	125%
American Samoa	49,710	64,353	129%
Arizona	7,151,502	9,088,300	127%
Arkansas	3,011,524	4,159,367	138%
California	39,538,223	60,892,488	154%
Colorado	5,773,714	7,527,238	130%
Connecticut	3,605,944	4,922,150	137%
Delaware	989,948	1,331,546	135%
District of Columbia	689,545	2,157,418	313%
Florida	21,538,187	30,489,936	142%
Georgia	10,711,908	17,340,764	162%
Guam	153,836	287,716	187%
Hawaii	1,455,271	2,019,816	139%
Idaho	1,839,106	2,188,649	119%
Illinois	12,812,508	18,780,531	147%
Indiana	6,785,528	8,329,725	123%
Iowa	3,190,369	4,368,050	137%
Kansas	2,937,880	3,569,547	122%
Kentucky	4,505,836	5,517,509	122%
Louisiana	4,657,757	6,520,325	140%
Maine	1,362,359	1,630,561	120%
Maryland	6,177,224	8,622,416	140%
Massachusetts	7,029,917	10,187,328	145%
Michigan	10,077,331	14,511,454	144%
Minnesota	5,706,494	7,358,738	129%
Mississippi	2,961,279	4,071,355	137%
Missouri	6,154,913	8,387,890	136%
Montana	1,084,225	1,282,691	118%
Northern Mariana Islands	47,329	79,760	169%
Nebraska	1,961,504	2,575,272	131%
Nevada	3,104,614	4,103,863	132%
New Hampshire	1,377,529	1,771,650	129%
New Jersey	9,288,994	13,954,224	150%
New Mexico	2,117,522	3,013,685	142%
New York	20,201,249	29,462,722	146%
North Carolina	10,439,388	13,343,109	128%
North Dakota	779,094	981,453	126%
Ohio	11,799,448	15,641,767	133%
Oklahoma	3,959,353	5,359,529	135%
Oregon	4,237,256	5,221,279	123%
Pennsylvania	13,002,700	17,943,765	138%
Puerto Rico	3,285,874	4,470,827	136%
Rhode Island	1,097,379	1,391,946	127%
South Carolina	5,118,425	6,555,368	128%
South Dakota	886,667	1,101,224	124%
Tennessee	6,910,840	9,775,055	141%
Texas	29,145,505	41,024,051	141%

Market Name	Market Population	Market Subscribers	Penetration Rate
U.S. Virgin Islands	87,146	133,300	153%
Utah	3,271,616	4,731,514	145%
Vermont	643,077	717,070	112%
Virginia	8,631,393	11,368,538	132%
Washington	7,705,281	9,740,849	126%
West Virginia	1,793,716	2,348,320	131%
Wisconsin	5,893,718	7,175,627	122%
Wyoming	576,851	745,735	129%

Source: December 2022 NRUF data; 2020 U.S. Census data.

APPX. B-21

Average Percentage of Households with Zero, One, Two, or at Least Three Provider Options for 25/3 Mbps Fixed Terrestrial Services by Census Block (December 31, 2022)

	Zero	One	Two	At Least Three
Population Density				
First Quartile (Lowest Population Density)	17.2%	36.6%	27.2%	19.1%
Second Quartile	1.9%	18.7%	34.4%	45.0%
Third Quartile	0.9%	11.7%	30.7%	56.6%
Fourth Quartile (Highest Population Density)	0.9%	9.4%	29.4%	60.3%
Population Density - Excluding Fixed Wireless				
First Quartile (Lowest Population Density)	31.3%	50.1%	17.2%	1.4%
Second Quartile	3.8%	44.0%	46.2%	6.0%
Third Quartile	1.9%	32.7%	55.1%	10.3%
Fourth Quartile (Highest Population Density)	1.9%	30.0%	57.1%	11.0%
Median Household Income				
First Quartile (Lowest Median H/hold Income)	6.7%	22.6%	30.6%	40.1%
Second Quartile	6.7%	21.7%	29.5%	42.1%
Third Quartile	4.6%	18.5%	30.1%	46.8%
Fourth Quartile (Highest Median H/hold Income)	1.9%	12.9%	31.6%	53.6%
Median Household Income - Excluding Fixed Wireless				
First Quartile (Lowest Median H/hold Income)	11.0%	48.3%	35.7%	4.9%
Second Quartile	12.5%	42.2%	39.1%	6.1%
Third Quartile	10.0%	37.1%	45.1%	7.7%
Fourth Quartile (Highest Median H/hold Income)	4.3%	28.5%	57.1%	10.1%
Household Count				
First Quartile (Lowest H/hold Count)	6.1%	19.3%	30.3%	44.2%
Second Quartile	5.6%	19.4%	30.2%	44.8%
Third Quartile	5.3%	19.6%	30.4%	44.7%
Fourth Quartile (Highest H/hold Count)	3.9%	18.2%	30.8%	47.2%
Household Count - Excluding Fixed Wireless				
First Quartile (Lowest H/hold Count)	11.2%	37.9%	43.9%	7.0%
Second Quartile	10.4%	38.4%	44.2%	6.9%
Third Quartile	9.8%	40.0%	43.3%	7.0%

	Zero	One	Two	At Least Three
Fourth Quartile (Highest H/hold Count)	7.5%	40.5%	44.2%	7.8%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Median household income is based on 2022 data and is measured in 2022 inflation-adjusted dollars.

APPX. B-22

Average Percentage of Households with Zero, One, Two, or at Least Three Provider Options for 940/500 Mbps Fixed Terrestrial Services by Census Block Group (December 31, 2022)

	Zero	One	Two	At Least Three
Population Density				
First Quartile (Lowest Population Density)	76.4%	22.4%	1.2%	0.1%
Second Quartile	63.4%	33.6%	2.8%	0.1%
Third Quartile	55.5%	39.7%	4.6%	0.2%
Fourth Quartile (Highest Population Density)	51.5%	42.2%	6.1%	0.2%
Population Density - Excluding Fixed Wireless				
First Quartile (Lowest Population Density)	77.1%	21.7%	1.1%	0.1%
Second Quartile	64.2%	32.9%	2.7%	0.1%
Third Quartile	56.4%	38.9%	4.5%	0.2%
Fourth Quartile (Highest Population Density)	52.1%	41.8%	6.0%	0.1%
Median Household Income				
First Quartile (Lowest Median H/hold Income)	68.9%	28.9%	2.1%	0.1%
Second Quartile	65.3%	32.0%	2.5%	0.1%
Third Quartile	61.0%	35.3%	3.5%	0.2%
Fourth Quartile (Highest Median H/hold Income)	50.7%	42.5%	6.6%	0.2%
Median Household Income - Excluding Fixed Wireless				
First Quartile (Lowest Median H/hold Income)	70.1%	27.8%	2.0%	0.1%
Second Quartile	66.1%	31.4%	2.4%	0.1%
Third Quartile	61.6%	34.8%	3.4%	0.2%
Fourth Quartile (Highest Median H/hold Income)	51.1%	42.2%	6.5%	0.2%
Household Count				
First Quartile (Lowest H/hold Count)	59.8%	35.6%	4.5%	0.1%
Second Quartile	60.9%	35.1%	3.9%	0.1%
Third Quartile	62.8%	33.8%	3.2%	0.2%
Fourth Quartile (Highest H/hold Count)	63.4%	33.4%	3.0%	0.2%
Household Count - Excluding Fixed Wireless				
First Quartile (Lowest H/hold Count)	60.4%	35.0%	4.4%	0.1%
Second Quartile	61.7%	34.4%	3.8%	0.1%
Third Quartile	63.7%	33.1%	3.1%	0.1%
Fourth Quartile (Highest H/hold Count)	64.1%	32.8%	2.9%	0.1%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Median household income is based on 2022 data and is measured in 2022 inflation-adjusted dollars.

APPX. B-23

Average Percentage of Population with Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (Outdoor Stationary Services) by Census Block Group (December 31, 2022)

	Fixed Terrestrial 100/20 Mbps	Mobile 5G-NR 35/3 Mbps	Both Fixed and Mobile 5G-NR
Median Household Income - Including Fixed Wireless			
First Quartile (Lowest Median Household Income)	89.4%	95.8%	87.2%
Second Quartile	88.8%	94.2%	85.5%
Third Quartile	91.5%	96.3%	89.2%
Fourth Quartile (Highest Median Household Income)	96.5%	98.7%	95.5%
Population Density - Including Fixed Wireless			
First Quartile (Lowest Population Density)	72.4%	86.3%	64.8%
Second Quartile	96.7%	99.2%	96.0%
Third Quartile	98.6%	99.7%	98.3%
Fourth Quartile (Highest Population Density)	98.6%	99.9%	98.5%
Household Poverty Rate - Including Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	93.5%	97.9%	92.2%
Second Quartile	92.0%	96.1%	89.5%
Third Quartile	90.0%	95.1%	87.2%
Fourth Quartile (Highest Household Poverty Rate)	90.8%	96.0%	88.7%
Median Household Income - Excluding Fixed Wireless			
First Quartile (Lowest Median Household Income)	87.3%	95.8%	85.2%
Second Quartile	86.0%	94.2%	83.0%
Third Quartile	88.4%	96.3%	86.3%
Fourth Quartile (Highest Median Household Income)	95.0%	98.7%	94.1%
Population Density - Excluding Fixed Wireless			
First Quartile (Lowest Population Density)	64.9%	86.3%	58.1%
Second Quartile	95.6%	99.2%	94.9%
Third Quartile	98.1%	99.7%	97.8%
Fourth Quartile (Highest Population Density)	98.0%	99.9%	97.8%
Household Poverty Rate - Excluding Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	91.3%	97.9%	90.1%
Second Quartile	89.2%	96.1%	87.0%
Third Quartile	87.4%	95.1%	84.8%
Fourth Quartile (Highest Household Poverty Rate)	88.8%	96.0%	86.8%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Median household income is based on 2022 data and is measured in 2022 inflation-adjusted dollars.

APPX. B-24

Average Percentage of Population with Fixed Terrestrial Services at 100/20 Mbps and Mobile 4G LTE with a Minimum Speed of 5/1 Mbps (Outdoor Stationary Services) by Census Block Group (December 31, 2022)

	Fixed Terrestrial 100/20 Mbps	Mobile 5G-NR 35/3 Mbps	Both Fixed and Mobile 5G-NR
Median Household Income - Including Fixed Wireless			
First Quartile (Lowest Median Household Income)	89.4%	99.1%	89.0%
Second Quartile	88.8%	99.1%	88.4%
Third Quartile	91.5%	99.4%	91.2%
Fourth Quartile (Highest Median Household Income)	96.5%	99.7%	96.3%
Population Density - Including Fixed Wireless			
First Quartile (Lowest Population Density)	72.4%	97.7%	71.4%
Second Quartile	96.7%	99.8%	96.6%
Third Quartile	98.6%	99.9%	98.5%
Fourth Quartile (Highest Population Density)	98.6%	99.9%	98.5%
Household Poverty Rate - Including Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	93.5%	99.6%	93.3%
Second Quartile	92.0%	99.4%	91.6%
Third Quartile	90.0%	99.2%	89.6%
Fourth Quartile (Highest Household Poverty Rate)	90.8%	99.2%	90.5%
Median Household Income - Excluding Fixed Wireless			
First Quartile (Lowest Median Household Income)	87.3%	99.1%	86.9%
Second Quartile	86.0%	99.1%	85.5%
Third Quartile	88.4%	99.4%	88.1%
Fourth Quartile (Highest Median Household Income)	95.0%	99.7%	94.7%
Population Density - Excluding Fixed Wireless			
First Quartile (Lowest Population Density)	64.9%	97.7%	64.0%
Second Quartile	95.6%	99.8%	95.5%
Third Quartile	98.1%	99.9%	98.0%
Fourth Quartile (Highest Population Density)	98.0%	99.9%	97.8%
Household Poverty Rate - Excluding Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	91.3%	99.6%	91.1%
Second Quartile	89.2%	99.4%	88.8%
Third Quartile	87.4%	99.2%	87.0%
Fourth Quartile (Highest Household Poverty Rate)	88.8%	99.2%	88.4%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Median household income is based on 2022 data and is measured in 2022 inflation-adjusted dollars.

APPX. B-25

Average Percentage of Population with Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps (In-Vehicle Mobile Services) by Census Block Group (December 31, 2022)

	Fixed Terrestrial 100/20 Mbps	Mobile 5G-NR 35/3 Mbps	Both Fixed and Mobile 5G-NR
Median Household Income - Including Fixed Wireless			
First Quartile (Lowest Median Household Income)	89.4%	75.8%	71.2%
Second Quartile	88.8%	68.6%	65.0%
Third Quartile	91.5%	70.1%	67.1%
Fourth Quartile (Highest Median Household Income)	96.5%	72.7%	71.1%
Population Density - Including Fixed Wireless			
First Quartile (Lowest Population Density)	72.4%	39.8%	32.0%
Second Quartile	96.7%	72.2%	69.8%
Third Quartile	98.6%	83.4%	82.2%
Fourth Quartile (Highest Population Density)	98.6%	91.8%	90.5%
Household Poverty Rate - Including Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	93.5%	71.4%	68.4%
Second Quartile	92.0%	69.1%	66.4%
Third Quartile	90.0%	70.0%	66.6%
Fourth Quartile (Highest Household Poverty Rate)	90.8%	76.7%	73.1%
Median Household Income - Excluding Fixed Wireless			
First Quartile (Lowest Median Household Income)	87.3%	75.8%	69.8%
Second Quartile	86.0%	68.6%	63.7%
Third Quartile	88.4%	70.1%	65.6%
Fourth Quartile (Highest Median Household Income)	95.0%	72.7%	70.2%
Population Density - Excluding Fixed Wireless			
First Quartile (Lowest Population Density)	64.9%	39.8%	28.7%
Second Quartile	95.6%	72.2%	69.0%
Third Quartile	98.1%	83.4%	81.7%
Fourth Quartile (Highest Population Density)	98.0%	91.8%	89.9%
Household Poverty Rate - Excluding Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	91.3%	71.4%	67.1%
Second Quartile	89.2%	69.1%	65.1%
Third Quartile	87.4%	70.0%	65.3%
Fourth Quartile (Highest Household Poverty Rate)	88.8%	76.7%	71.7%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Median household income is based on 2022 data and is measured in 2022 inflation-adjusted dollars.

APPX. B-26

**Average Percentage of Population with Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (In-Vehicle Mobile Services) by Census Block Group
(December 31, 2022)**

	Fixed Terrestrial 100/20 Mbps	Mobile 5G-NR 35/3 Mbps	Both Fixed and Mobile 5G-NR
Median Household Income - Including Fixed Wireless			
First Quartile (Lowest Median Household Income)	89.4%	90.3%	83.4%
Second Quartile	88.8%	86.7%	80.1%
Third Quartile	91.5%	89.7%	84.2%
Fourth Quartile (Highest Median Household Income)	96.5%	94.2%	91.6%
Population Density - Including Fixed Wireless			
First Quartile (Lowest Population Density)	72.4%	68.8%	52.9%
Second Quartile	96.7%	94.2%	91.2%
Third Quartile	98.6%	98.3%	96.9%
Fourth Quartile (Highest Population Density)	98.6%	99.5%	98.1%
Household Poverty Rate - Including Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	93.5%	92.5%	87.8%
Second Quartile	92.0%	89.4%	84.4%
Third Quartile	90.0%	88.2%	82.2%
Fourth Quartile (Highest Household Poverty Rate)	90.8%	90.7%	85.0%
Median Household Income - Excluding Fixed Wireless			
First Quartile (Lowest Median Household Income)	87.3%	90.3%	81.5%
Second Quartile	86.0%	86.7%	77.9%
Third Quartile	88.4%	89.7%	81.6%
Fourth Quartile (Highest Median Household Income)	95.0%	94.2%	90.2%
Population Density - Excluding Fixed Wireless			
First Quartile (Lowest Population Density)	64.9%	68.8%	47.2%
Second Quartile	95.6%	94.2%	90.2%
Third Quartile	98.1%	98.3%	96.5%
Fourth Quartile (Highest Population Density)	98.0%	99.5%	97.5%
Household Poverty Rate - Excluding Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	91.3%	92.5%	85.9%
Second Quartile	89.2%	89.4%	82.2%
Third Quartile	87.4%	88.2%	80.1%
Fourth Quartile (Highest Household Poverty Rate)	88.8%	90.7%	83.2%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Median household income is based on 2022 data and is measured in 2022 inflation-adjusted dollars.

APPX. B-27

Average Percentage of Population with Fixed Terrestrial Services at 100/20 Mbps and Mobile 4G LTE with a Minimum Speed of 5/1 Mbps (In-Vehicle Mobile Services) by Census Block Group (December 31, 2022)

	Fixed Terrestrial 100/20 Mbps	Mobile 5G-NR 35/3 Mbps	Both Fixed and Mobile 5G-NR
Median Household Income - Including Fixed Wireless			
First Quartile (Lowest Median Household Income)	89.4%	96.8%	87.8%
Second Quartile	88.8%	95.3%	86.3%
Third Quartile	91.5%	96.4%	89.3%
Fourth Quartile (Highest Median Household Income)	96.5%	98.0%	94.9%
Population Density - Including Fixed Wireless			
First Quartile (Lowest Population Density)	72.4%	87.8%	65.8%
Second Quartile	96.7%	99.0%	95.8%
Third Quartile	98.6%	99.8%	98.4%
Fourth Quartile (Highest Population Density)	98.6%	99.9%	98.5%
Household Poverty Rate - Including Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	93.5%	97.4%	91.8%
Second Quartile	92.0%	96.3%	89.7%
Third Quartile	90.0%	95.8%	87.7%
Fourth Quartile (Highest Household Poverty Rate)	90.8%	96.9%	89.3%
Median Household Income - Excluding Fixed Wireless			
First Quartile (Lowest Median Household Income)	87.3%	96.8%	85.8%
Second Quartile	86.0%	95.3%	83.6%
Third Quartile	88.4%	96.4%	86.4%
Fourth Quartile (Highest Median Household Income)	95.0%	98.0%	93.4%
Population Density - Excluding Fixed Wireless			
First Quartile (Lowest Population Density)	64.9%	87.8%	58.9%
Second Quartile	95.6%	99.0%	94.7%
Third Quartile	98.1%	99.8%	97.9%
Fourth Quartile (Highest Population Density)	98.0%	99.9%	97.8%
Household Poverty Rate - Excluding Fixed Wireless			
First Quartile (Lowest Household Poverty Rate)	91.3%	97.4%	89.7%
Second Quartile	89.2%	96.3%	87.1%
Third Quartile	87.4%	95.8%	85.2%
Fourth Quartile (Highest Household Poverty Rate)	88.8%	96.9%	87.3%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Median household income is based on 2022 data and is measured in 2022 inflation-adjusted dollars.

APPX. B-28

Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (Outdoor Stationary Services) (December 31, 2022)

	Population	Population Density	Per Capita Income	Median Household Income	Household Poverty Rate
United States - Including Fixed Wireless					
Served	1,440.8***	7,969.0***	\$43,020.05***	\$88,765.54***	12.9%***
Unserved	1,282.3	1,735.0	\$36,871.45	\$73,141.99	13.8%
Rural Areas - Including Fixed Wireless					
Served	1,318.7***	465.5***	\$37,992.83***	\$80,054.89***	11.4%***
Unserved	1,220.5	123.6	\$35,622.24	\$72,157.87	12.6%
Urban Areas - Including Fixed Wireless					
Served	1,448.7***	8,455.0***	\$43,345.35***	\$89,338.58***	13.1%***
Unserved	1,393.2	4,622.8	\$39,158.24	\$75,007.99	15.9%
Tribal Areas - Including Fixed Wireless					
Served	1,274.8***	2,211.3***	\$33,458.19***	\$66,366.56***	16.1%***
Unserved	1,201.1	289.0	\$29,488.03	\$59,105.90	18.5%
Tribal Rural Areas - Including Fixed Wireless					
Served	1,181.6	352.8***	\$30,000.31	\$61,700.69	16.5%**
Unserved	1,180.5	115.6	\$29,179.34	\$58,931.06	18.6%
Tribal Urban Areas - Including Fixed Wireless					
Served	1,305.2	2,817.0***	\$34,577.18*	\$67,864.55***	16.0%
Unserved	1,311.6	1,219.2	\$31,142.98	\$60,039.34	17.8%
United States - Excluding Fixed Wireless					
Served	1,440.3***	7,986.3***	\$43,361.09***	\$89,497.12***	12.8%***
Unserved	1,304.6	2,531.6	\$36,948.63	\$73,616.99	13.9%
Rural Areas - Excluding Fixed Wireless					
Served	1,295.9***	559.3***	\$38,190.45***	\$79,787.61***	11.8%***
Unserved	1,231.2	132.7	\$35,758.78	\$72,770.33	12.5%
Urban Areas - Excluding Fixed Wireless					
Served	1,447.1***	8,335.7***	\$43,604.24***	\$89,959.20***	12.9%***
Unserved	1,414.2	6,110.2	\$38,754.95	\$74,949.49	16.2%
Tribal Areas - Excluding Fixed Wireless					
Served	1,272.9**	2,434.4***	\$33,761.81***	\$66,768.14***	16.1%***
Unserved	1,209.5	297.8	\$29,622.08	\$59,464.55	18.3%
Tribal Rural Areas - Excluding Fixed Wireless					
Served	1,144.2	425.9***	\$29,643.31	\$61,581.07	16.8%
Unserved	1,187.3	120.6	\$29,306.62	\$59,161.49	18.4%
Tribal Urban Areas - Excluding Fixed Wireless					
Served	1,303.8	2,917.1***	\$34,747.88**	\$67,998.16**	15.9%
Unserved	1,315.3	1,143.6	\$31,129.27	\$60,911.15	17.7%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Per capita income and median household income are based on 2022 data and are measured in 2022 inflation-adjusted dollars.

APPX. B-29

Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile LTE with a Minimum Speed of 5/1 Mbps (Outdoor Stationary Services) (December 31, 2022)

	Population	Population Density	Per Capita Income	Median Household Income	Household Poverty Rate
United States - Including Fixed Wireless					
Served	1,436.2***	7,730.3***	\$42,953.87***	\$88,526.61***	12.9%***
Unserved	1,281.3	1,862.0	\$36,480.64	\$72,321.19	14.0%
Rural Areas - Including Fixed Wireless					
Served	1,295.9***	384.2***	\$38,092.83***	\$79,120.73***	11.4%***
Unserved	1,218.4	117.2	\$35,314.60	\$71,620.47	12.7%
Urban Areas - Including Fixed Wireless					
Served	1,448.8***	8,391.0***	\$43,391.17***	\$89,389.53***	13.0%***
Unserved	1,389.2	4,854.6	\$38,526.28	\$73,596.57	16.3%
Tribal Areas - Including Fixed Wireless					
Served	1,268.2**	2,084.0***	\$33,338.71***	\$66,210.63***	16.1%***
Unserved	1,202.2	268.0	\$29,281.53	\$58,643.98	18.7%
Tribal Rural Areas - Including Fixed Wireless					
Served	1,155.8	353.5***	\$29,957.46	\$61,823.48*	16.4%***
Unserved	1,190.4	95.0	\$29,125.39	\$58,639.83	18.9%
Tribal Urban Areas - Including Fixed Wireless					
Served	1,314.3	2,794.6***	\$34,719.75***	\$67,999.53***	15.9%
Unserved	1,265.7	1,196.1	\$30,118.75	\$58,666.18	18.2%
United States - Excluding Fixed Wireless					
Served	1,436.7***	7,785.7***	\$43,320.75***	\$89,324.73***	12.8%***
Unserved	1,304.6	2,661.8	\$36,632.94	\$72,984.98	14.1%
Rural Areas - Excluding Fixed Wireless					
Served	1,281.6***	456.1***	\$38,351.41***	\$79,208.26***	11.8%***
Unserved	1,229.9	126.5	\$35,534.45	\$72,381.36	12.5%
Urban Areas - Excluding Fixed Wireless					
Served	1,447.1***	8,274.3***	\$43,652.15***	\$90,008.99***	12.9%***
Unserved	1,412.9	6,342.6	\$38,257.14	\$73,911.96	16.5%
Tribal Areas - Excluding Fixed Wireless					
Served	1,271.5**	2,336.4***	\$33,676.53***	\$66,602.16***	16.1%***
Unserved	1,207.5	274.0	\$29,484.59	\$59,227.35	18.4%
Tribal Rural Areas - Excluding Fixed Wireless					
Served	1,130.3	447.5***	\$29,529.79	\$61,305.67	17.1%
Unserved	1,192.8	100.3	\$29,317.25	\$59,105.08	18.4%
Tribal Urban Areas - Excluding Fixed Wireless					
Served	1,313.6	2,899.0***	\$34,908.06***	\$68,169.54***	15.9%*
Unserved	1,278.1	1,109.9	\$30,291.21	\$59,816.26	18.0%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Per capita income and median household income are based on 2022 data and are measured in 2022 inflation-adjusted dollars.

APPX. B-30

Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 35/3 Mbps (In-Vehicle Mobile Services)
(December 31, 2022)

	Population	Population Density	Per Capita Income	Median Household Income	Household Poverty Rate
United States - Including Fixed Wireless					
Served	1,383.2***	11,478.3***	\$40,496.33***	\$81,909.92***	14.9%***
Unserved	1,407.1	2,861.8	\$41,912.82	\$86,208.53	12.0%
Rural Areas - Including Fixed Wireless					
Served	1,222.8	854.7***	\$34,021.83***	\$73,762.73	13.4%***
Unserved	1,240.9	171.3	\$36,165.94	\$73,755.00	12.3%
Urban Areas - Including Fixed Wireless					
Served	1,386.0***	11,664.9***	\$40,608.45***	\$82,051.86***	14.9%***
Unserved	1,497.1	4,319.5	\$45,037.73	\$93,028.99	11.9%
Tribal Areas - Including Fixed Wireless					
Served	1,287.2**	2,944.2***	\$33,990.93***	\$67,087.78***	15.6%***
Unserved	1,218.3	582.7	\$30,467.87	\$60,976.77	18.0%
Tribal Rural Areas - Including Fixed Wireless					
Served	1,094.4	535.9***	\$29,654.87	\$63,406.33	14.2%**
Unserved	1,185.1	148.8	\$29,343.68	\$59,338.30	18.4%
Tribal Urban Areas - Including Fixed Wireless					
Served	1,307.9	3,202.9***	\$34,446.19	\$67,471.76	15.7%
Unserved	1,304.4	1,708.7	\$33,377.32	\$65,224.64	17.0%
United States - Excluding Fixed Wireless					
Served	1,381.2***	11,294.9***	\$40,735.82***	\$82,423.59***	14.7%***
Unserved	1,407.5	3,247.9	\$41,723.74	\$85,775.04	12.2%
Rural Areas - Excluding Fixed Wireless					
Served	1,170.0***	961.6***	\$33,809.60***	\$72,408.54	13.5%***
Unserved	1,242.0	174.5	\$36,153.71	\$73,786.24	12.3%
Urban Areas - Excluding Fixed Wireless					
Served	1,384.1***	11,435.9***	\$40,829.47***	\$82,560.54***	14.7%***
Unserved	1,493.9	4,852.5	\$44,641.93	\$92,112.44	12.2%
Tribal Areas - Excluding Fixed Wireless					
Served	1,294.6**	3,071.9***	\$34,168.86***	\$67,291.27***	15.7%***
Unserved	1,217.0	583.3	\$30,470.27	\$61,014.86	17.9%
Tribal Rural Areas - Excluding Fixed Wireless					
Served	1,105.3	627.3***	\$28,753.08	\$62,520.74	14.8%
Unserved	1,183.5	150.2	\$29,380.98	\$59,418.91	18.3%
Tribal Urban Areas - Excluding Fixed Wireless					
Served	1,310.4	3,275.1***	\$34,611.84	\$67,681.87	15.8%
Unserved	1,301.7	1,680.2	\$33,224.09	\$65,058.08	16.9%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Per capita income and median household income are based on 2022 data and are measured in 2022 inflation-adjusted dollars.

APPX. B-31

Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Minimum Speed of 7/1 Mbps (In-Vehicle Mobile Services)
(December 31, 2022)

	Population	Population Density	Per Capita Income	Median Household Income	Household Poverty Rate
United States - Including Fixed Wireless					
Served	1,431.2***	8,676.5***	\$42,578.60***	\$87,762.73***	13.3%***
Unserved	1,334.2	1,718.2	\$39,023.52	\$78,432.91	13.0%
Rural Areas - Including Fixed Wireless					
Served	1,280.8***	585.6***	\$36,297.59	\$76,951.95***	12.0%*
Unserved	1,235.2	142.8	\$36,075.32	\$73,352.82	12.4%
Urban Areas - Including Fixed Wireless					
Served	1,437.1***	8,993.5***	\$42,823.86	\$88,190.37***	13.3%***
Unserved	1,461.4	3,743.6	\$42,862.52	\$85,177.43	13.7%
Tribal Areas - Including Fixed Wireless					
Served	1,282.1***	2,441.1***	\$33,551.46***	\$66,768.65***	15.8%***
Unserved	1,204.9	361.6	\$29,913.49	\$59,716.59	18.4%
Tribal Rural Areas - Including Fixed Wireless					
Served	1,161.6	374.7***	\$29,814.85	\$61,961.76	15.7%**
Unserved	1,183.8	133.8	\$29,284.84	\$59,144.07	18.6%
Tribal Urban Areas - Including Fixed Wireless					
Served	1,309.3	2,907.8***	\$34,385.68	\$67,828.73*	15.9%
Unserved	1,296.9	1,353.8	\$32,648.67	\$62,200.94	17.7%
United States - Excluding Fixed Wireless					
Served	1,429.6***	8,647.8***	\$42,882.28***	\$88,422.08***	13.1%
Unserved	1,345.7	2,404.6	\$38,854.14	\$78,201.30	13.2%
Rural Areas - Excluding Fixed Wireless					
Served	1,223.3	724.4***	\$35,855.78	\$75,055.05*	12.6%
Unserved	1,241.7	149.5	\$36,120.01	\$73,650.72	12.4%
Urban Areas - Excluding Fixed Wireless					
Served	1,435.2***	8,864.1***	\$43,073.61***	\$88,789.20***	13.1%***
Unserved	1,464.1	4,971.4	\$42,002.27	\$83,560.86	14.3%
Tribal Areas - Excluding Fixed Wireless					
Served	1,284.0***	2,627.8***	\$33,730.69***	\$67,127.06***	15.9%***
Unserved	1,208.2	365.4	\$30,006.52	\$59,895.42	18.2%
Tribal Rural Areas - Excluding Fixed Wireless					
Served	1,148.2	444.1***	\$29,358.55	\$62,046.04	15.8%*
Unserved	1,184.3	136.9	\$29,358.44	\$59,258.74	18.4%
Tribal Urban Areas - Excluding Fixed Wireless					
Served	1,306.7	2,993.2***	\$34,457.97	\$67,956.30*	15.9%
Unserved	1,305.2	1,293.9	\$32,639.46	\$62,470.87	17.4%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Per capita income and median household income are based on 2022 data and are measured in 2022 inflation-adjusted dollars.

APPX. B-32

**Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at
100/20 Mbps and Mobile LTE with a Minimum Speed of 5/1 Mbps (In-Vehicle Mobile Services)
(December 31, 2022)**

	Population	Population Density	Per Capita Income	Median Household Income	Household Poverty Rate
United States - Including Fixed Wireless					
Served	1,434.0***	8,091.7***	\$42,677.35***	\$87,933.73***	13.1%***
Unserved	1,306.6	1,704.6	\$38,011.51	\$75,956.07	13.4%
Rural Areas - Including Fixed Wireless					
Served	1,270.2***	494.5***	\$36,231.17	\$75,775.77***	12.1%**
Unserved	1,233.5	124.2	\$36,070.58	\$73,295.93	12.4%
Urban Areas - Including Fixed Wireless					
Served	1,443.8**	8,548.5***	\$43,064.49***	\$88,676.14***	13.2%***
Unserved	1,429.0	4,353.7	\$41,328.23	\$80,643.99	15.0%
Tribal Areas - Including Fixed Wireless					
Served	1,268.5**	2,225.5***	\$33,360.53***	\$66,160.13***	16.1%***
Unserved	1,206.6	260.7	\$29,553.49	\$59,246.49	18.5%
Tribal Rural Areas - Including Fixed Wireless					
Served	1,130.3	423.8***	\$29,425.09	\$60,897.01	16.6%*
Unserved	1,194.8	95.9	\$29,339.92	\$59,153.23	18.6%
Tribal Urban Areas - Including Fixed Wireless					
Served	1,313.0	2,804.7***	\$34,616.66**	\$67,830.81***	16.0%
Unserved	1,273.6	1,193.1	\$30,761.62	\$59,771.97	17.9%
United States - Excluding Fixed Wireless					
Served	1,433.5***	8,113.2***	\$43,018.65***	\$88,667.16***	13.0%***
Unserved	1,323.7	2,476.2	\$37,901.97	\$75,958.36	13.6%
Rural Areas - Excluding Fixed Wireless					
Served	1,234.9	610.3***	\$35,853.15	\$74,187.57	12.7%**
Unserved	1,241.1	132.9	\$36,135.54	\$73,693.57	12.3%
Urban Areas - Excluding Fixed Wireless					
Served	1,442.0	8,432.0***	\$43,322.83***	\$89,288.71***	13.0%***
Unserved	1,440.9	5,798.6	\$40,447.28	\$79,329.89	15.4%
Tribal Areas - Excluding Fixed Wireless					
Served	1,273.4**	2,460.8***	\$33,700.25***	\$66,534.53***	16.2%***
Unserved	1,209.0	272.4	\$29,660.89	\$59,626.15	18.2%
Tribal Rural Areas - Excluding Fixed Wireless					
Served	1,108.4	536.5***	\$29,108.57	\$60,658.93	17.2%
Unserved	1,193.6	101.9	\$29,402.91	\$59,331.34	18.3%
Tribal Urban Areas - Excluding Fixed Wireless					
Served	1,312.0	2,910.9***	\$34,770.28**	\$67,894.97**	15.9%
Unserved	1,285.1	1,113.2	\$30,935.14	\$61,080.94	17.8%

Source: FCC BDC data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Per capita income and median household income are based on 2022 data and are measured in 2022 inflation-adjusted dollars.

APPX. B-33

Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Median Ookla Speed of 35/3 Mbps (December 31, 2022)

	Population	Population Density	Per Capita Income	Median Household Income	Household Poverty Rate
United States - Including Fixed Wireless					
Served	1,446.6***	8,873.1***	\$43,056.18***	\$88,900.78***	13.0%***
Unserved	1,409.6	2,141.0	\$41,616.16	\$84,342.11	11.9%
Rural Areas - Including Fixed Wireless					
Served	1,386.1***	622.0***	\$39,380.23	\$85,741.46***	10.3%
Unserved	1,334.9	163.8	\$38,874.35	\$80,796.12	10.8%
Urban Areas - Including Fixed Wireless					
Served	1,448.1***	9,073.3***	\$43,144.77***	\$88,977.63***	13.1%
Unserved	1,481.3	4,037.4	\$44,283.39	\$87,868.34	13.1%
United States - Excluding Fixed Wireless					
Served	1,446.6***	8,873.1***	\$43,056.18***	\$88,900.78***	13.0%***
Unserved	1,409.6	2,141.0	\$41,616.16	\$84,342.11	11.9%
Rural Areas - Excluding Fixed Wireless					
Served	1,386.1***	622.0***	\$39,380.23	\$85,741.46***	10.3%
Unserved	1,334.9	163.8	\$38,874.35	\$80,796.12	10.8%
Urban Areas - Excluding Fixed Wireless					
Served	1,448.1***	9,073.3***	\$43,144.77***	\$88,977.63***	13.1%
Unserved	1,481.3	4,037.4	\$44,283.39	\$87,868.34	13.1%

Source: FCC BDC data; Ookla Speedtest data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Per capita income and median household income are based on 2022 data and are measured in 2022 inflation-adjusted dollars.

APPX. B-34

Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile 5G-NR with a Median Ookla Speed of 7/1 Mbps (December 31, 2022)

	Population	Population Density	Per Capital Income	Median Household Income	Household Poverty Rate
United States - Including Fixed Wireless					
Served	1,456.6***	8,265.4***	\$43,611.29***	\$90,164.25***	12.8%***
Unserved	1,363.3	2,345.0	\$39,185.78	\$78,376.19	13.1%
Rural Areas - Including Fixed Wireless					
Served	1,414.7***	446.1***	\$40,775.00***	\$87,759.37***	9.8%***
Unserved	1,318.0	143.7	\$38,372.16	\$79,383.38	11.1%
Urban Areas - Including Fixed Wireless					
Served	1,458.6***	8,643.8***	\$43,748.25***	\$90,282.22***	12.9%***
Unserved	1,417.5	4,985.1	\$40,183.47	\$77,097.05	15.5%
United States - Excluding Fixed Wireless					
Served	1,454.8***	8,246.0***	\$43,913.33***	\$90,811.70***	12.6%***
Unserved	1,383.4	3,351.5	\$39,035.15	\$78,402.23	13.4%
Rural Areas - Excluding Fixed Wireless					
Served	1,398.7***	538.6***	\$41,556.74***	\$89,049.01***	9.9%***
Unserved	1,329.6	153.1	\$38,438.11	\$79,889.12	11.0%

	Population	Population Density	Per Capital Income	Median Household Income	Household Poverty Rate
Urban Areas - Excluding Fixed Wireless					
Served	1,456.7***	8,509.9***	\$43,993.89***	\$90,872.65***	12.7%***
Unserved	1,437.8	6,576.5	\$39,648.06	\$76,819.42	15.9%

Source: FCC BDC data; Ookla Speedtest data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Per capita income and median household income are based on 2022 data and are measured in 2022 inflation-adjusted dollars.

APPX. B-35

Comparison of Demographic Data Between Areas With and Without Fixed Terrestrial Services at 100/20 Mbps and Mobile Broadband with a Median Ookla Speed of 10/3 Mbps (December 31, 2022)

	Population	Population Density	Per Capital Income	Median Household Income	Household Poverty Rate
United States - Including Fixed Wireless					
Served	1,446.1***	7,916.7***	\$43,306.63***	\$89,375.34***	12.8%***
Unserved	1,297.1	1,945.7	\$36,680.43	\$72,750.34	14.0%
Rural Areas - Including Fixed Wireless					
Served	1,356.3***	390.3***	\$39,873.03***	\$84,097.71***	10.4%***
Unserved	1,243.6	129.7	\$35,780.86	\$72,759.03	12.4%
Urban Areas - Including Fixed Wireless					
Served	1,452.6***	8,464.2***	\$43,556.29***	\$89,766.55***	13.0%***
Unserved	1,379.1	4,728.4	\$38,088.35	\$72,736.24	16.4%
United States - Excluding Fixed Wireless					
Served	1,445.5***	7,942.5***	\$43,639.54***	\$90,087.15***	12.7%***
Unserved	1,321.0	2,785.2	\$36,874.50	\$73,524.54	14.0%
Rural Areas - Excluding Fixed Wireless					
Served	1,346.9***	464.2***	\$40,416.95***	\$84,880.50***	10.7%***
Unserved	1,256.0	137.8	\$36,039.45	\$73,648.33	12.2%
Urban Areas - Excluding Fixed Wireless					
Served	1,450.8***	8,340.2***	\$43,810.92***	\$90,368.02***	12.8%***
Unserved	1,405.7	6,234.2	\$37,981.50	\$73,354.13	16.5%

Source: FCC BDC data; Ookla Speedtest data; Staff Block Estimates; 2020 Census; ACS Five-Year Estimates for 2018-2022. Per capita income and median household income are based on 2022 data and are measured in 2022 inflation-adjusted dollars.

**STATEMENT OF
CHAIRWOMAN JESSICA ROSENWORCEL**

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 22-270, 2024 Section 706 Report (March 14, 2024)

In the United States, we dream big and do audacious things. We connected the coasts with railways. We crisscrossed this country with interstate highways. We did these things because they strengthened our communities, our economy, and our national security. Today we are engaged in the same kind of history-making because we are building high-speed broadband to everyone, everywhere in this country.

We have committed to this course—at the Federal Communications Commission, with our colleagues at other agencies, and with Congress—because we know that all of us need access to broadband to have a fair shot at 21st century success.

Nothing made this apparent like the pandemic. After all, it was just four years ago this week that so many of us were told to head home. Life moved online—school, work, healthcare, and so much more. But not all of us were able to make this digital leap. Not everyone had access to reliable broadband. The pandemic exposed our digital divide in living color.

That is why we are now in the bold business of fixing this divide. That is why today the Commission updates its standard for broadband, our baseline, to 100 Megabits down and 20 Megabits up from 25 Megabits down and 3 Megabits up. This fix is overdue. It aligns us with pandemic legislation like the Bipartisan Infrastructure Law and the work of our colleagues at other agencies. It also helps us better identify the extent to which low-income neighborhoods and rural communities are underserved. And because doing big things is in our DNA, we also adopt a long-term goal of 1 Gigabit down and 500 Megabits up.

One more thing. The law requires that we assess how reasonable and timely the deployment of broadband is in this country. So we do something in this report that is simple. We are honest. Our goal is to connect everyone, everywhere to high-speed broadband. But the last fully vetted and validated annual data before this agency show conclusively that we are not there yet. Nearly 24 million are not connected, including 28% of Americans living in rural areas and more than 23% of people on Tribal lands. That means millions of people still do not have the broadband they need to fully participate in modern life. We are working on it. That is why we have revamped our broadband mapping at this agency. It is why we are refining our universal service programs. It is why our colleagues at other agencies have been given unprecedented billions from Congress to help build broadband infrastructure to places that are still without.

Don't bet against us. Because we are making progress. So many providers are building and so many communities are planning their digital futures. Big things are ahead.

Thank you to the staff across the agency for their work on this report, including Allison Baker, Michele Berlove, Brad Berry, Bryan Boyle, David Brodian, Ted Burmeister, Jessica Campbell, Adam Copeland, Lisa Edwards, CJ Ferraro, Janice Gorin, Joel Graham, Jodie Griffin, Audra Hale-Maddox, Heather Hendrickson, Clint Highfill, Jesse Jachman, Alex Johns, Julia Johnson, Jamile Kadre, Melissa Kinkel, Ed Krachmer, Heidi Lankau, Chris Laughlin, Jodie May, Ben Nashed, Khoa Nguyen, Kimia Nikseresht, Nick Page, Jordan Reth, Johnnay Schrieber, Christi Shewman, Gilbert Smith, Simon Solemani, Noah Stein, Renae Stong, Raphael Sznajder, Jennifer Vickers, George Weber, Eric Wu, and Suzanne Yelen from the Wireline Competition Bureau; Johannes Bauer, Nicholas Copeland, Judith Dempsey, Chelsea Fallon, Lonnie Hofmann, Steven Kauffman, Evan Kwerel, Ken Lynch, Catherine Matraves, Jeffrey Ocker, Steven Rosenberg, Michelle Schaefer, Molly Schwarz, Alexander Simmons, Donald Stockdale, and Patrick Sun from the Office of Economics and Analytics; Barbara Esbin, Garnet Hanly, Jean Kiddoo, Susannah Larson, Susan Mort, Paul Powell, Jessica Quinley, Sayuri Rajapakse, Sean

Spivey, and Matt Warner from the Wireless Telecommunications Bureau; Scott Mackoul and Kerry Murray from the Space Bureau; Eduard Bartholme, Zac Champ, Bambi Kraus, Wes Platt, and Cara Voth from the Consumer and Governmental Affairs Bureau; Ben Bartolme, Doug Klein, Irene Ly, Rick Mallen, Erika Olsen, Karen Onyeije, Brayden Parker, Robert Primosch, Anjali Singh, Sheryl Wilkerson, Derek Yeo, and Chin Yoo from the Office of General Counsel; and Joy Ragsdale from the Office of Communications Business Opportunities.

**DISSENTING STATEMENT OF
COMMISSIONER BRENDAN CARR**

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 22-270, 2024 Section 706 Report (March 14, 2024)

Today’s Section 706 Report is the FCC’s first in three years. Thanks to the passage of time, we came to this proceeding with a fresh opportunity to grade the pace of progress that broadband providers have made over the past few years to bring Americans across the digital divide.

We’ve made impressive strides. Definitely so. Wireline providers are aggressively rolling out fiber optic networks with gigabit speeds. 5G networks now stretch from coast to coast. Fixed wireless has become a competitive mainstay with millions of new subscribers in the residential broadband market. Thousands of satellites launched into low-earth orbit offer speeds comparable to terrestrial broadband, particularly in rural and remote areas that were traditionally left behind. And billions of dollars in federal support are flowing to close any remaining gaps. By any possible measure, we’re seeing real progress in the availability of high-speed broadband.

If there were ever moment—if there were ever a stretch of time—where the pace, cadence, and speed of broadband builds would result in the FCC agreeing, on a unanimous basis, that broadband is “being deployed to all Americans in a reasonable and timely fashion,”¹ as Section 706 states, today would be that day. But it isn’t. The more than \$8 billion for broadband allocated by states and localities under the American Rescue Plan does not matter. The more than \$9 billion awarded through the Treasury Department’s Capital Projects Fund does not matter. The more than \$21 billion doled out to the FCC’s low-income and school kids programs does not matter.

So what today’s decision really does is lay bare for everyone to see that the Section 706 inquiry is no longer about assessing the pace of broadband builds—it is about the next month or two. It is about Title II. The reason the FCC gives the Biden Administration’s broadband efforts a failing grade today, the first the FCC has handed out since 2016,² is because the FCC believes that a negative finding will empower it soon enough to impose new controls on the Internet.

None of this is really all that surprising. But what’s surprising, or at least interesting to me, is how the FCC arrived at this conclusion.

This 706 Report makes three basic errors that work to obscure the state of progress. *First*, the report relies on bad data. It uses broadband deployment statistics that are 15 months old when newer information is available at our fingertips. And the numbers used in this report have inaccuracies that were since corrected. *Second*, the FCC reads a new standard into the law that Congress never enacted. Rather than measure the incremental progress of broadband availability as Section 706 requires, the FCC moves the goalposts and undertakes an all-or-nothing inquiry using factors that appear nowhere in the statute. In

¹ 47 U.S.C. § 1302(b).

² Compare *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, Fourteenth Broadband Deployment Report, 36 FCC Rcd 836 (2021); *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 2020 Broadband Deployment Report, 35 FCC Rcd 8986 (2020); *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, Broadband Deployment Report, 34 FCC Rcd 3857 (2019); *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 2018 Broadband Deployment Report, 33 FCC Rcd 1660 (2018). The FCC did not release a 706 Report in 2017, 2022, or 2023.

other words, the agency uses criteria that could never be satisfied. *And third*, while we all agree that the FCC should be aiming for 100/20 Mbps in our programs (which we've been doing since at least 2016), the 706 Report uses that benchmark to disregard technological neutrality and consumer expectations.

* * *

Start with the data. In 2020, Congress enacted the Broadband DATA Act, which directed the FCC to undertake a biannual Broadband Data Collection (BDC) “relating to the availability and quality of service of fixed and mobile broadband Internet access service for the Commission to create broadband coverage maps.”³ Congress recognized that these information collections would be imperfect. After all, they largely rely on self-reported data from providers. So Congress required the FCC to iterate continuously by undertaking a fresh BDC every six months and subjecting that data collection to a public challenge process. Each iteration would be more accurate than the last. To date, the Commission has released three versions of the map. In this 706 Report, the Commission relies on the BDC for the first time. The maps represent a monumental achievement thanks to the tireless work of Commission staff.

But there is a very big problem: this 706 Report doesn't use the latest BDC datasets. The 706 Report relies on BDC Version 2, which shows broadband deployment as of December 31, 2022. The most recent dataset, BDC Version 3, was released last year in November 2023 and reflects broadband deployment as of June 30, 2023. The FCC barely mentions the existence of BDC Version 3, let alone explains why it wasn't used.⁴ The 706 Report's reliance on stale data undermines entirely the FCC's conclusions. It discredits the whole exercise and renders its ultimate conclusions untenable as to the current state of broadband availability.

The use of bad data has a compounding effect. For starters, the 706 Report glosses over all the developments that happened between the last two versions of the BDC. Six months may not sound like much, but it's a lifetime in today's climate of dynamism, investment, and intermodal competition. The rapid improvements in broadband availability and quality should be obvious to everyone. Consider the following changes over the course of six months, by no means exhaustive:

- **Total deployments:** BDC Version 3 shows 151.8 million units served by fixed terrestrial broadband at 100/20 Mbps. BDC Version 2, by contrast, had that number at 145.7 million. No surprise. Shovels are well in the ground under our FCC funding programs. After all, December 31, 2023 was the 60% service milestone under CAF Phase II. Meanwhile, the December 31, 2025 deadline for 40% service under RDOF Phase I is fast approaching.
- **Fixed wireless:** BDC Version 3 shows 66.0 million locations with fixed wireless service at 100/20 Mbps. BDC Version 2, used in the 706 Report, shows 41.9 million units with fixed wireless service at 100/20 Mbps. The growth of fixed wireless was also expected. Newly lit C-band and previously freed up 2.5 GHz spectrum have unlocked the possibilities of fixed wireless and intensified competition for the addressable in-home broadband segment. Mobile broadband

³ Broadband Deployment Accuracy and Technology Availability Act, Pub. L. No. 116-130, 134 Stat. 228 (2020) (codified at 47 U.S.C. §§ 641-646) (Broadband DATA Act).

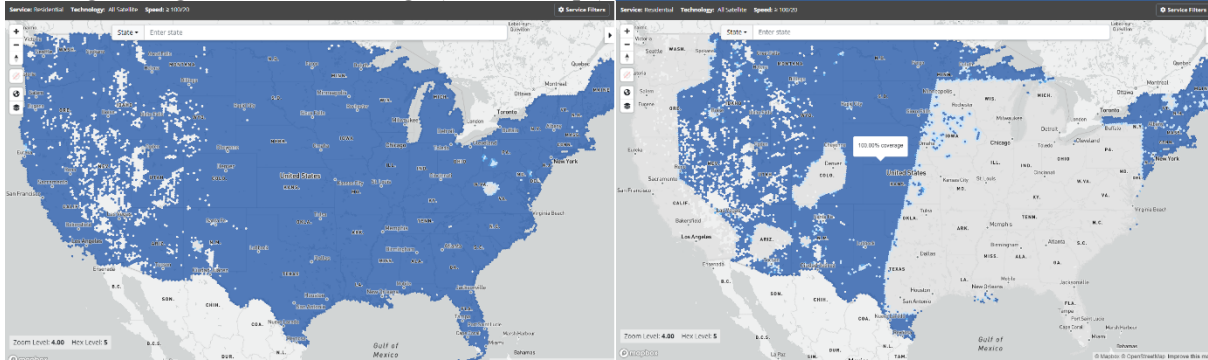
⁴ The FCC offers two defenses for using the older BDC Version 2. First, the FCC claims to follow previous 706 reports, which used datasets from trailing years. *See* 706 Report at fn.720. That comparison is flawed. Unlike past reports, this 706 Report has access to a comprehensive data collection updated on a rolling, biannual basis. Second, the FCC states that the verification of *BDC Version 4* remains ongoing. *See id.* (“Further, we evaluate December 2022 data because, among other things, the verification process for the more recent data, from June 2023 and December 2023, has not been completed.”). But the FCC provides no basis for ignoring BDC Version 3, which is current as of June 2023 and corrects numerous deficiencies in BDC Version 2.

providers have announced new fixed wireless deployments and record-shattering net adds on a seemingly daily basis during the intervening six months between BDC Version 2 and Version 3.

- **Satellite:** BDC Version 3 shows 99.6% of locations with satellite service at 100/20 Mbps. BDC Version 2, used in the 706 Report, shows 16.09% of locations with satellite service at 100/20 Mbps. Here again, no surprise. Starlink successfully launched approximately 1,000 satellites between December 31, 2022 and June 30, 2023.⁵ You don't need to zoom into the FCC maps below to see the vivid differences in high-speed satellite coverage over the span of six months.

Left image: Satellite coverage (100/20 Mbps) for BDC Version 3 (as of June 30, 2023)

Right image: Satellite coverage (100/20 Mbps) for BDC Version 2 (as of December 31, 2022)



Worse, the dataset used in the 706 Report (BDC Version 2) has inaccuracies that overstate the number of unserved locations. When announcing BDC Version 3, the FCC rightly highlighted the improvements in accuracy—resulting in a gross addition of 3 million broadband serviceable locations and a drop in 1.1 million net unserved locations. These corrections were the result of 4.8 million challenges to broadband availability, 1.5 million accepted challenges to broadband location, mobile coverage audits, and FCC-initiated verification efforts.⁶ But the Commission disregards this newer, cleaner dataset for a 15-month-old snapshot that's demonstrably inaccurate in many ways.

* * *

Now turn to the statute. Section 706(b) directs the FCC to study the “*availability* of advanced telecommunications capability to all Americans.”⁷ The FCC’s inquiry, in turn, must “determine whether advanced telecommunications capability *is being deployed* to all Americans *in a reasonable and timely fashion*.”⁸ The 706 Report defies this directive in several ways.

To start, the statute limits the scope of the 706 Report to the “availability” of broadband—that is, whether it “is being deployed to all Americans in a reasonable and timely fashion.” We have traditionally conducted the Section 706 exercise with a focus on availability, consistent with the law’s plain language.

⁵ See Wikipedia, *List of Starlink and Starshield launches* (last visited Mar. 8, 2023), https://en.wikipedia.org/wiki/List_of_Starlink_and_Starshield_launches.

⁶ See Chairwoman Rosenworcel Note, *National Broadband Map 3.0: Thankful for Continued Improvements* (Nov. 17, 2023), <https://www.fcc.gov/news-events/notes/2023/11/17/national-broadband-map-30-thankful-continued-improvements>.

⁷ 47 U.S.C. § 1302(b) (emphasis added).

⁸ 47 U.S.C. § 1302(b) (emphasis added).

For the first time, however, the Commission conducts a completely new inquiry by focusing on “universal service,” “affordability,” “adoption,” and “equitable access.”⁹

That cannot be right. *For one*, those terms appear nowhere in Section 706. Congress knows they are different from “availability,” as demonstrated elsewhere. As one example, the Communications Act has a specific section on “universal service.” And in that section, Congress uses “affordable” to modify “availability.”¹⁰ Section 706’s limited reference to “availability” is therefore no accident; it was meant to constrain the scope of our 706 Report.¹¹ *And for another*, the remedies envisioned in connection with the 706 Report—“removing barriers to infrastructure investment” and “promoting competition in the telecommunications market”—would be woefully incomplete under the Commission’s expansive reading.

Having inserted “universal service” and other terms into Section 706, the Commission then undertakes a simplistic, binary determination of whether advanced telecommunications capability *has been* deployed to all Americans. That interpretation reads the “reasonable and timely” language out of the statute and contradicts Congress’s use of the present progressive tense “is being deployed.” It also disregards language Congress used for FCC inquiries that result in a negative determination. In such cases, Congress states that the FCC “shall take immediate action to accelerate deployment,” thus confirming Congress’s focus in Section 706 on the pace of deployment and the progress that providers are making. Yet the FCC in this 706 Report makes no attempt at a progress report or a comparative finding.

Even assuming Section 706 means what the Commission now says, the 706 Report still flunks the statute. The 706 Report uses outdated (and demonstrably inaccurate) BDC datasets, and such data, by definition, cannot inform any inquiry Congress asked us to undertake when superior alternatives are available. The 706 Report could have measured incremental progress by putting our rich, iterative BDC datasets side by side. In particular, we could have compared BDC Version 3 to the previous two iterations and isolated changes resulting from new deployments (as opposed to errors uncovered during the challenge process). But we did not.

* * *

The liberties the Commission takes with the data and the law necessarily color its adoption of a new 100/20 Mbps benchmark. Now, to be clear, I would have no objection to the FCC setting a goal of 100/20 Mbps for our programs. As noted earlier, we have been doing so for at least eight years now. But the item’s treatment of the new benchmark is troubling in several respects.

First, the 100/20 Mbps requirement appears to be part and parcel of the Commission’s broader attempt to circumvent the statutory requirement of technological neutrality. Section 706 defines “advanced telecommunications capability” as, “*without regard to any transmission media or technology*, 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*.”¹² Not

⁹ One should not take solace in the item’s failure to make affirmative determinations about affordability, adoption, and other factors based on incomplete data, for the Commission states its intent to “revisit” these quixotic exercises in future reports. *See, e.g.*, 706 Report at paras. 104, 114, 121.

¹⁰ *See, e.g.*, 47 U.S.C. § 254(i) (“The Commission and the States should ensure that universal service is available at rates that are just, reasonable, and affordable.”).

¹¹ According to the FCC, the Infrastructure Investment and Jobs Act (IIJA) describes Section 706 as containing “statutorily mandated goals of universal service.” 706 Report at para. 6. But as the FCC concedes, this passing characterization did not amend Section 706. *Id.* So the IIJA does not permit us to disregard Section 706’s plain language.

¹² 47 U.S.C. § 1302(d)(1) (emphases added).

just once, but twice, the statute expressly requires technological neutrality.

Yet the 706 Report disregards Congress’s directive—most notably, by ignoring satellite deployment. According to the latest BDC, more than 99% of eligible locations have high-speed satellite service at 100/20 Mbps. In refusing to account for high-speed satellite, the item claims to follow past FCC practice. That ostrich-like assertion ignores the obvious fact that the quality and availability of high-speed, low-earth orbit satellite service has improved dramatically since our last report in 2021—so much so that satellite has become a viable source of intermodal competition. Next, the item cites to low take rates.¹³ But evidence of consumer adoption, even if it were based on the latest BDC datasets (which it isn’t), has nothing to do with the “availability” of service, which is the inquiry the statute requires. And in any case, a rationale based on take rates would prove too much. For example, it would defeat the adoption of 100/20 Mbps altogether, which also has low take rates according to the Commission’s data.¹⁴ Next, the FCC claims, without citing to any evidence, that BDC-reported satellite speeds are overstated due to the theoretical capacity constraints of satellite spectrum.¹⁵ I have already explained elsewhere why the Commission cannot use armchair speculation to pretend high-speed satellite broadband doesn’t exist.¹⁶ In any case, the FCC cannot have it both ways: either the BDC represents the best evidence of broadband deployment or it doesn’t.

Arbitrarily picking and choosing preferred technologies, unfortunately, has become all too common in this Administration.¹⁷ When I saw the original draft of the *Notice of Inquiry* in this proceeding, I was surprised to learn that it did not even propose to consider fixed wireless. And while I appreciated the ultimate decision to consider fixed wireless at my suggestion, I echo Commissioner Simington’s worry that Commission’s long-term goal of 1,000/500 Mbps lays the groundwork to step even further away from our technological neutrality mandate. I hope it is not a Trojan Horse to exclude fixed wireless in a future report because it is deemed not “capable” of supporting aspirational speeds. Because, fundamentally, the problem with counting broadband as something other than broadband is that it leads inevitably to wasteful overbuilding and upgrading communities that already have connectivity rather than remaining focused on the communities still stuck on the wrong side of the digital divide.

Second, the 706 Report justifies 100/20 Mbps by invoking the performance benchmarks in BEAD, ARPA, and our other high-cost programs.¹⁸ But the comparison is inapt. Our 706 Report should look at the current state of broadband availability. Federal funding programs are measured on a long-term horizon spanning many years. If the federal government is to spend billions of dollars on broadband deployment, that investment should endure for the long run. In other words, our funding programs establish 100/20 Mbps goals in an effort to futureproof each dollar that is spent. Section 706, on the other hand, does not direct the FCC to measure futureproofed service.

Finally, the 706 Report makes a surprisingly weak showing to justify 100/20 Mbps as the *minimum* threshold to count as official broadband service—which is, after all, the point of the 706 Report.

¹³ 706 Report at para. 58.

¹⁴ See 706 Report at fn. 226 & Fig. 23.

¹⁵ 706 Report at para. 58 & fn. 223.

¹⁶ See Dissenting Statement of Commissioner Brendan Carr, *Application for Review of Starlink Services, LLC, Rural Digital Opportunity Fund, Rural Digital Opportunity Fund (Auction 904), Viasat Auction 904 Application for Review*, Order on Review, WC Docket No. 19- 126, OEA Docket No. 20-34, GN Docket No. 21-231 (Dec. 12, 2023), <https://docs.fcc.gov/public/attachments/FCC-23-105A2.pdf>.

¹⁷ See, e.g., *Redlight Report*, Ranking Member, U.S. Senate Committee on Commerce, Science, and Transportation (Sept. 2023), <https://www.commerce.senate.gov/services/files/0B6D8C56-7DFD-440F-8BCC-F448579964A3>.

¹⁸ See 706 Report at paras. 27-28.

As Section 706 indicates, the FCC should be looking first to identify the voice, video, and data applications that consumers are demanding and then, as a second step, adopt metrics that define “advanced telecommunications capability” based on that determination. Put differently, is it really fair to say consumers don’t have “advanced telecommunications capability” at a speed lower than 100/20 Mbps? The answer may be yes, but the item provides no compelling reason why.¹⁹ Just look at the revealed preferences. As the 706 Report acknowledges, the take rate for 100/20 Mbps was quite low as of December 2022.²⁰ Do these consumers know something we don’t? These flaws suggest the benchmark was selected, not based on hard evidence or reasonable customer expectations, but as another lever to reverse-engineer a predetermined outcome.

* * *

I could go on, but everyone sees where the politics are headed. After putting off our Section 706 report for the past three years, the FCC now issues this 706 Report just ahead of what many expect will be a Title II vote to come.²¹

In a regulatory environment where the FCC believes that doling out a failing grade will give the agency more power, I don’t think it is too surprising, as I noted at the outset, that this Commission landed where it did. But the FCC’s basic data and legal errors will ultimately sink whatever future decisions rely on this report as a justification or basis for action. I am sure the courts will see through that gambit. I dissent.

¹⁹ As the FCC’s former Chief Economist has observed, the longstanding benchmark of 25/3 can readily support routine consumer applications—from videoconferencing to 4K streaming to real-time gaming. See Michelle P. Connolly, *Mindfully Wasteful Spending: The Definition of Broadband*, Free State Foundation Report (May 18, 2023), <https://freestatefoundation.org/wp-content/uploads/2023/08/Mindfully-Wasteful-Spending-The-Definition-of-Broadband-051823.pdf>. See also 706 Report at fn. 151 (acknowledging this point).

²⁰ See 706 Report at fn. 226 & Fig. 23 (adoption rate between 2% and 38% for 100/20 Mbps depending on technology). In supporting the 100/20 Mbps benchmark, however, the 706 Report points to the adoption rate for services with *download speeds* at 100 Mbps or higher. See 706 Report at para. 29 (adoption rate between 68% and 79% for 100 Mbps download only).

²¹ See *Protecting and Promoting the Open Internet*, Notice of Proposed Rulemaking, 29 FCC Rcd 5561, paras. 143-47 (2023) (proposing to rely on Section 706 as legal authority for Title II reclassification).

**STATEMENT OF
COMMISSIONER GEOFFREY STARKS**

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 22-270, 2024 Section 706 Report (March 14, 2024)

Today, in assessing “the availability of advanced telecommunications capabilities,” we update our broadband benchmark to 100 Mbps download speed and 20 Mbps upload speed, better aligning with consumer expectations, other federal programming and the offerings of many ISPs. For the first time, we assess 5G mobile coverage data for speeds of at least 35/3, and we update our short-term goal for school and classroom broadband access. I support all of these steps, ensuring that our section 706 Report will continue to accurately reflect the availability of advanced telecommunications capability nationwide.

We have made great progress since issuing our last section 706 report in 2021.¹ But there remains much work to be done to close the digital divide, and I agree with the Report’s conclusion that advanced telecommunications capability is not being deployed to all Americans in a reasonable and timely fashion.

One of those challenges is affordability. I want to focus, specifically, on this account because our ability to solve this aspect of the digital divide is in grave peril. I’m talking about the lack of funding for the Affordable Connectivity Program. Over 23 million American households have relied on the ACP to subscribe to broadband. These households will soon confront a hard choice between bill shock and disconnection. We should not let that happen.

ACP has had a significant impact nationwide. Americans throughout the country enroll – in urban, rural, and Tribal communities. At the time of the ACP enrollment freeze last month, over 130,000 households in my home state of Kansas were enrolled, over 1,707,000 in Florida, 186,000 in Connecticut, and 470,000 in Virginia, the home states of my colleagues. Over 329,000 Tribal households were enrolled, and notably ACP has surpassed expectations for rural enrollment.²

ACP enrollees include young learners, grandparents, and everyone in between. To put it plainly, ACP is the most effective program we’ve ever had in helping low-income Americans get online and stay online. Those benefits are in jeopardy because we recently announced that April will be the last fully funded month in the Program. That means without additional funding from Congress, millions of Americans will lose access to affordable broadband. Millions of low-income American households will face monthly Internet bills that will skyrocket, and I fear many will be unable to remain connected. This fear is supported by data the Commission recently released. 77 percent of recent survey respondents said that losing their ACP benefit would disrupt their service by making them change their plan or drop service entirely.³ Nationwide, 49 percent of ACP households are subscription vulnerable, meaning that they find the Internet very difficult to fit into their monthly budgets and are constantly on the edge of

¹ *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 20-269, Fourteenth Broadband Deployment Report, 36 FCC Rcd 836 (Jan. 19, 2021).

² John Horrigan, *The Affordable Connectivity Program and Rural America: It’s going surprisingly well*, Benton Institute for Broadband & Society, June 27, 2023, <https://www.benton.org/blog/affordable-connectivity-program-and-rural-america>.

³ ACP Consumer Survey, FCC, available at <https://www.fcc.gov/acp-survey> (last visited Mar. 12, 2024) (ACP Consumer Survey).

disconnection.⁴ 68 percent of ACP households reported that they had inconsistent or zero connectivity prior to ACP, and 80 percent cited affordability as the reason for this lack of connectivity.⁵ I have heard directly from people about how having access to affordable, high-quality broadband has impacted their lives, and what the risk of losing access could mean. But, don't take my word for it. Let me share one story with you.

I met Debra, a dynamic grandmother, when I was recently in Illinois to discuss ACP. She is currently receiving federal housing assistance and moved to Lake County, an hour away from her family and church community. She told me that, thanks to ACP, she's "hooked" on the Internet. She goes to church online every Sunday and speaks to her grandchildren and family once a week. She is taking advantage of her Internet connection to use MapQuest and explore her new community. She also started a knitting business online, and she told me when I met her just after Valentine's Day last month that she has joined an online dating site for seniors. I wished her luck. When we discussed the potential end of the program, she asked me, "what am I going to have to give up to keep what you've put in my life? Maybe eat less food?"

The lack of an affordability program also risks harming the biggest investment the country has ever made in broadband infrastructure deployment, the Broadband Equity Access and Deployment Program (BEAD). Without ACP, BEAD's \$42.5 billion to deploy broadband networks to reach millions of unserved and underserved communities, primarily in rural communities, will not reach as far as it could. ACP makes building out to these rural homes less risky and less expensive, because more of the serviceable population can afford to subscribe. Indeed, a recent study concluded that ACP reduces the subsidy needed to incentivize building in rural areas by a whopping 25 percent.⁶ With ACP, states can stretch their BEAD dollars farther and can connect some of the 24 million Americans identified in our section 706 Report.

I'm an optimist, so I remain hopeful that Congress will fund ACP going forward. And there is reason for hope. President Biden has asked Congress to fund ACP as part of his budget, and recently called again on Congress to extend its funding. There is a bipartisan, bicameral effort to fund ACP – the Affordable Connectivity Program Extension Act – which I am proud to strongly support. Additionally, nearly 400 other government leaders, industry, and public interest groups support the Extension Act as well. At the state and local level, 26 bipartisan governors and 174 mayors have urged Congress to act. I stand ready and willing to do whatever it takes to make sure that these Congressional proposals bear fruit, so that next year when we adopt our 2025 section 706 Report, we can highlight that the availability of advanced telecommunications capability to all Americans has improved because Americans continue to have access to affordable broadband.

I thank the Commission staff for their hard work. I approve.

⁴ John Horrigan, *Affordability and the Digital Divide*, EveryoneOn, Dec. 21, 2021, <https://static1.squarespace.com/static/5aa8af1fc3c16a54bcbb0415/t/61ad7722de56262d89e76c94/1638758180025/EveryoneOn+Report+on+Affordability+%26+the+Digital+Divide+2021.pdf>.

⁵ ACP Consumer Survey.

⁶ *Closing the Digital Divide Benefits Everyone, Not Just the Disconnected*, Common Sense Media and BCG, https://www.common Sense Media.org/sites/default/files/research/report/2022-cs-bcg-closing-digital-divide_final-release-3-for-web.pdf.

**DISSENTING STATEMENT OF
COMMISSIONER NATHAN SIMINGTON**

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 22-270, 2024 Section 706 Report (March 14, 2024)

I agree with all of Commissioner Carr's points, but I want to focus on a few specific issues.

I think the report deserves some praise for considering latency (the time it takes a packet to reach its destination, measured in milliseconds) and not just speed (the amount of data that a connection can carry per time period, measured in megabits per second). Especially as speed ceases to be the bottleneck, other connection characteristics like latency and jitter (moment-to-moment variations in latency) become more important for improving application performance and user experience. It's high latency, not low speed, that makes your video chat feel choppy, that makes you lag in a video game, that makes skipping to a different part of a movie painful, and that makes web browsing feel unresponsive. So as we push for better internet service for Americans, I'm glad we're going to be considering what can be done to drive down latency and make sure that all Americans can fully enjoy these interactive internet applications. This does not necessarily mean new rules or impositions on ISPs, but might instead involve initiatives with router manufacturers and Wi-Fi vendors to reduce other sources of latency and jitter, such as a buffer bloat or avoidable Wi-Fi interference.¹

Unfortunately, I am unable to support the report due to numerous other issues. While I'm glad the report addresses latency, I'm disappointed that it nonetheless sets an unnecessary long-term speed target of 1000/500 Mbps. Certainly, for the same price, I would take gigabit service over 100/20 Mbps service, but I wouldn't get much added utility out of it. A 100/20 Mbps connection is enough to watch multiple 4K video streams, make multiple video calls, and play multiple online games, all at the same time. Before we adopt a 1000/500 Mbps long-term goal and begin to design our universal service programs around reaching it, we need to be able to articulate the use cases for such high speeds that justify making the taxpayer subsidize deployment of such service to every corner of the country. This report does no such thing, and I fear that it instead sets the stage for a generation of wasteful spending.

The second issue, even more glaring, is the exclusion of satellite-based internet service from the report's analysis. Before the advent of Low Earth Orbit (LEO) constellations, it used to be that satellite internet was unbearably slow and extremely high latency. These old services were not adequate substitutes for wired broadband, just make-dos for when no viable alternative existed. And if that was still what the satellite internet market looked like, we would be right to exclude it from consideration in our assessment of broadband access and affordability in the United States.

But SpaceX's LEO-based Starlink service has completely changed the game. Starlink is available in almost every corner of all 50 states and offers low latency and speeds nearing or exceeding 100/20 Mbps, especially in rural areas, which are most likely to lack access to comparable wireline service in the first place.² The report says that satellite services are limited in the numbers of customers they can serve, but that limit is only a function of how much spectrum they are allowed to use and how many satellites they can launch per year, both things the FCC has control over. If we give Starlink and its forthcoming competitors access to more spectrum and permission for more launches, and if we allow them to compete for Universal Service Fund subsidies on equal footing with other providers, I have no doubt that they

¹ Dave Taht & Members and supporters of the Bufferbloat.net community Comments.

² Starlink Map, <https://www.starlink.com/map>; Starlink Specifications, <https://www.starlink.com/legal/documents/DOC-1400-28829-70>.

could easily offer low latency 100/20 Mbps service to every household that does not already have it.

So, for these reasons, I must respectfully dissent.

**STATEMENT OF
COMMISSIONER ANNA M. GOMEZ**

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 22-270, 2024 Section 706 Report (March 14, 2024)

I support the adoption of today's Section 706 Report, which updates the benchmark for broadband to 100/20 Mbps and finds that more work must be done to connect the unconnected. I couldn't agree more.

Today's Report finds that 24 million Americans lack access to fixed broadband connectivity. More must be done to ensure that broadband is being reasonably and timely deployed to all Americans, and particularly those that have been historically underserved—consumers who live in rural, tribal, and low-income communities. More must also be done to ensure that when broadband is deployed, that it is affordable to consumers. Ensuring that connectivity is affordable will ensure that once deployed, networks can be sustained.

Unfortunately, one of the FCC's greatest tools to closing the digital divide and supporting connectivity, the Affordable Connectivity Program (ACP), will end next month. For low-income rural Americans, the ACP has been a lifeline to ensuring they have access to connectivity. For rural Americans who are yet to be served, the end of ACP means that the Broadband, Equity, Access Deployment (BEAD) Program's \$42.5 billion investment in broadband infrastructure may not reach them. These rural consumers have been waiting for connectivity to finally come to them—but may be disappointed when the buildout does not go as far as expected.

We've made so much progress. But as today's Report finds, more must be done. The ACP is a key tool that is necessary to continue our progress to connecting everyone everywhere, particularly, those in rural and hard to reach areas.

Thank you to the Chairwoman for her leadership on this item, and for her leadership in establishing the ACP. Thank you also to the staff of the Wireline Competition Bureau, Wireless Telecommunications Bureau, and Office of Economics and Analytics for their work on this item.