PUBLIC NOTICE

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OFFICE OF ECONOMICS AND ANALYTICS SEEKS COMMENT ON THE STATE OF COMPETITION IN THE COMMUNICATIONS MARKETPLACE

GN Docket No. 24-119

Comments Due: June 6, 2024
Reply Comments Due: July 8, 2024

I. INTRODUCTION

1. In the last quarter of every even numbered year, the Commission must publish a *Communications Marketplace Report* that, among other things, "assess[es] the state of competition in the communications marketplace, including competition to deliver voice, video, audio, and data services among providers of telecommunications, providers of commercial mobile service (as defined in section 332 of the Communications Act of 1934, as amended (the Act)), multichannel video programming distributors (as defined in section 602 of the Act), broadcast stations, providers of satellite communications, Internet service providers, and other providers of communications services."[1] In assessing the state of competition, the Commission must consider all forms of competition, including "the effect of intermodal competition, facilities-based competition, and competition from new and emergent communications services."[2] The Commission must also "assess whether laws, regulations, regulatory practices (whether those of the Federal Government, States, political subdivisions of States, Indian [T]ribes or [T]ribal organizations (as such terms are defined in section 4 of the Indian Self–Determination and Education Assistance Act (25 U.S.C. § 5304)), or foreign governments), or demonstrated marketplace practices pose a barrier to competitive entry into the communications marketplace or to the competitive expansion of existing providers of communications services."[3]

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[1] 47 U.S.C. § 163(a), (b)(1) (with revisions to citations in parentheticals); *see also* Section 401 of the Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018 (RAY BAUM'S Act), Pub. L. No. 115-141, Div. P, 132 Stat. 1080, 1087 (codified at 47 U.S.C. § 163).

[2] 47 U.S.C. § 163(d)(1).

[3] 47 U.S.C. § 163(b)(3). In assessing the state of competition under subsection (b)(1) and regulatory barriers under subsection (b)(3), the Commission must also "consider market entry barriers for entrepreneurs and other small businesses in the communications marketplace in accordance with the national policy under section 257(b)." 47 U.S.C. § 163(d)(3). The Commission shall include information comparing the extent of broadband service capability (including data transmission speeds and price for broadband service capability) in a total of 75 communities in at least 25 countries abroad for each of the data rate benchmarks for broadband service utilized by the Commission to reflect different speed tiers as discussed in section 103(b)(1) of the Broadband Data Improvement Act as part of the Communications Marketplace Report. *See* RAY BAUM'S Act § 402(c), 132 Stat. at 1089; 47 U.S.C. § 1303(b)(1).

2. The Commission adopted the first *Communications Marketplace Report* (*2018 Communications Marketplace Report*) on December 12, 2018, which reflected the state of the communications marketplace primarily as of year-end 2017.[4] The Commission adopted the most recent *Communications Marketplace Report* (*2022 Communications Marketplace Report*) on December 30, 2022, which reflected the state of the communications marketplace primarily as of year-end 2021.[5]

3. This *Public Notice* seeks public input to inform the Commission's required assessment of the state of competition in the communications marketplace in its upcoming *Communications Marketplace Report* (*2024 Communications Marketplace Report*) to Congress. Specifically, we seek data, information, and comment on a wide range of issues relevant to the state of competition in the communications marketplace as a whole. We request that commenters submit information, data, and statistics for 2022 and 2023, as well as information on any notable trends and developments that have occurred during early 2024. Industry stakeholders, the public, and all other interested parties are encouraged to submit information, comments, and analyses. To facilitate analysis of competitive trends, parties should submit relevant current and historic data that are comparable over time.

II. COMPETITION AND SERVICE AVAILABILITY FOR FIXED BROADBAND SERVICES

4. Consumers access fixed broadband services through a variety of technologies, including cable, fiber to the premises, Digital Subcriber Line (DSL), terrestrial fixed wireless, and satellite. These services differ in their availability and in various characteristics such as price, speed, and latency.[6] We request comment on the criteria or metrics that could be used to evaluate the state of competition for those services and the state of broadband service availability. Comments and information also are sought on industry data, competitive dynamics, and trending factors in the provision of fixed broadband services. We request comment on the extent to which differences in service characteristics, e.g., latency, upload and download speed, and data allowances, affect consumers' ability to use the services effectively, and whether these differences significantly affect competition.

5. We also request comment on whether laws, regulations, regulatory practices, or demonstrated marketplace practices pose a barrier to facilities-based competitive entry into the marketplace for the provision of fixed services, or to the competitive expansion of existing facilities-based service providers. Further, we seek information on the extent to which any such laws, regulations, or marketplace practices affect entry conditions for entrepreneurs and other small businesses in the provision of facilities-based fixed broadband services.[7]

6. In March 2020, Congress passed the Broadband DATA Act,[8] which required the Commission, among other things, to collect biannual data relating to the availability and quality of service of fixed and mobile broadband Internet access service for the Commission to create broadband coverage maps.[9] Accordingly, starting on June 30, 2022, the Commission began collecting fixed and mobile broadband availability data as part of its new Broadband Data Collection (BDC), and in December 2022,

[4] *Communications Marketplace Report et al.*, GN Docket No. 18-231 et al., Report, 33 FCC Rcd 12558 (2018) (*2018 Communications Marketplace Report*).

[5] *Communications Marketplace Report*, GN Docket No. 22-203, 2022 Communications Marketplace Report, 37 FCC Rcd 15514 (2022) (*2022 Communications Marketplace Report*).

[6] Latency refers to the time it takes for a data packet to travel back and forth through the network.

[7] 47 U.S.C. § 163(d)(3).

[8] 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).

[9] 47 U.S.C. § 642(a)(1)(A).

the Commission sunset the collection of broadband deployment data through the FCC Form 477.[10] The Commission completed its fourth collection of BDC data on March 1, 2024, reflecting fixed and mobile service availability as of December 31, 2023.[11] In the *2024 Communications Marketplace Report*, we propose to use BDC data in our analysis of December 2023 broadband service availability[12] and to rely on both BDC and FCC Form 477 data for historical trends, and we seek comment on this approach.[13] We seek comment on how we should account for changes to the underlying source data in tables and graphs that span both FCC Form 477 and BDC data. The BDC represents significant improvements as compared to FCC Form 477 broadband deployment data through the use of more precise location-by-location fixed data, mobile data based on standardized parameters, and a public challenge process. What data sources beyond the BDC should the Commission consider in evaluating competition or deployment of fixed services, including any potential deployment related to the Infrastructure Investment and Jobs Act?[14]

7. Commenters are invited to submit data and information on, for example:

- The number of fixed broadband subscribers/connections at the national level disaggregated by technology, speed, and service provider
- Trends in connectivity gaps in service availability, speeds, and quality of fixed broadband services across geographic areas (e.g., rural, urban, and Tribal)
- Competition in the provision of fixed broadband services
- Information on innovations that have shaped and will shape fixed connectivity
- The extent of competition between fixed broadband providers that rely on different types of transmission technologies, such as fiber, cable, DSL, fixed wireless, and satellite, and the degree to which consumers consider or treat these services as substitutes
- How to incorporate fixed wireless or satellite services in our analysis of fixed broadband service availability, and the reasons why
- Whether we can evaluate competition between services by evaluating the percentage of potential subscribers offered the service that actually subscribe to that service

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[10] *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 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 BDC system. *Id*. at 14957, para. 1.

[11] BDC filings due March 1, 2024 include—among other things—broadband "service availability" data as of December 1, 2023. The data on fixed broadband service availability 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). *See* Broadband Data Collection, Data Specifications for Biannual Submission of Subscription, Availability, and Supporting Data (Mar. 30, 2023), https://us-fcc.app.box.com/v/bdc-availability-spec *and* 47 CFR § 1.7004.

[12] Consistent with the *2024 Section 706 Report*, we use the term "service availability" to refer to broadband "availability" as reported in the BDC. *2024 Section 706 Report*, FCC 24-27, at 27-28, para. 52 n. 203 (Mar. 18, 2024) (*2024 Section 706 Report*). As the Commission explained in the *2024 Section 706 Report*, the BDC does not currently factor in all of the universal service goals that the Commission analyzed in the *2024 Section 706 Report* as a part of its inquiry into "availability," and that we intend to analyze for purposes of the *2024 Communications Marketplace Report*. *Id.*; *see also* section IX infra (seeking comment on data related to universal service goals).

[13] FCC BDC data were used in the Commission's analysis of December 2022 broadband service availability as presented in the *2024 Section 706 Report*, while FCC Form 477 data for December 2018 through December 2021 were used for historical trend purposes. *2024 Section 706 Report*, FCC 24-27, at 27-28, para. 52.

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

- The extent to which there are quality of service differences between technologies and if consumers consider these differences to be significant
- How quality of service should be measured
- The factors that determine consumer demand for fixed broadband services
- Data caps and the provision and consumption of fixed broadband services
- Trends in subscriber churn
- Trends in data traffic and consumer data usage
- Price levels and trends, as well as trends in service offerings
- Revenue metrics—including total revenue and average revenue per unit—for the industry as a whole and for individual providers
- Capital investment, innovation, and technological upgrades
- Network quality and speeds of service, including latency and outages
- The role of entry conditions (federal, state, and/or local) in fixed broadband services, including for entrepreneurs and other small businesses
- Recent entry into and exit from the marketplace
- The extent of competition between mobile and fixed (i.e., wireline, satellite, and fixed wireless) providers of voice, broadband, and video services
- The status of competition among broadband providers in multiple tenant environments
- The effects of early termination fees on consumer contracts and the consumer's ability to switch providers

III. COMPETITION AND SERVICE AVAILABILITY FOR MOBILE WIRELESS SERVICES

8. We request comment and information that could be used to evaluate the state of competition and competitive dynamics within the marketplace for mobile wireless services. In addition to the nationwide facilities-based mobile wireless service providers, the mobile wireless marketplace consists of numerous regional and local facilities-based providers, mobile virtual network operators (MVNOs) which purchase mobile wireless services wholesale, cable providers that rely on a hybrid wholesale/hotspot arrangement to offer service, and mobile satellite providers that primarily focus on niche services, such as tracking services for aircraft and ships and operations in remote locations.

9. Comments and information are sought on industry data, competitive dynamics, and trending factors in the mobile wireless marketplace, including, but not limited to, factors that determine demand for mobile wireless services, the number of connections, pricing, spectrum holdings, network coverage, and the development of innovative technologies. We ask commenters to consider not only how these factors affect direct consumption of mobile wireless services, but also broader implications, such as the current and prospective impact of mobile wireless services on the cost and means of doing business and on innovation in various industries. We also request comment on whether laws, regulations, regulatory practices, or demonstrated marketplace practices pose a barrier to competitive entry into the mobile wireless marketplace, or to the competitive expansion of existing providers. Further, we seek information on the extent to which any such laws, regulations, or marketplace practices affect entry conditions for entrepreneurs and other small businesses in the mobile wireless marketplace.

10. We also note that since the release of the *2022 Communications Marketplace Report*, mobile wireless service providers have continued to deploy 5G-NR on a wide scale.[15] Similarly to our proposed analysis for fixed broadband services, we propose to use December 2023 BDC data in our

[15] *See, e.g.*, AT&T, *AT&T 5G. Fast. Reliable. Secure.*, https://www.att.com/5g/consumer/ (last visited Apr. 22, 2024); T-Mobile, *Experience America's largest & fastest 5G network.*, https://www.t-mobile.com/coverage/4g-lte-5g-networks (last visited Apr. 22, 2024); Verizon, *The network America relies on*, https://www.verizon.com/5g/ (last visited Apr. 22, 2024).

analysis of mobile broadband service availability[16] and to rely on both BDC and FCC Form 477 data for historical trends, and we seek comment on this approach.[17] In addition, are there alternative data sources on mobile broadband service availability that we should consider?

11. Commenters are invited to submit data and information on, for example:

- The number of mobile wireless subscribers/connections and churn at the national level and by technology, speed, and provider
- Trends in connectivity gaps in service availability, speed, and quality of mobile wireless broadband services across geographic areas (e.g., rural, urban, and Tribal)
- Trends in mobile data traffic and consumer data usage
- Price levels and trends as well as trends in service offerings
- Revenue metrics—including total revenue and average revenue per unit—for the industry as a whole and for individual providers
- Capital investment and technological upgrades
- Network quality, performance, and speeds of service
- Spectrum holdings, access to spectrum, spectrum usage, spectrum aggregation including any considerations for spectrum aggregation at the initial licensing stage, spectrum auctions and any effects on the state of competition due to the ongoing lapse of the Commission's spectrum auction authority,[18] and spectrum sharing
- The role of infrastructure in the mobile wireless marketplace, including any construction and/or deployment of wireless broadband infrastructure related to the Infrastructure Investment and Jobs Act[19] or otherwise
- The extent of competition in the wireless infrastructure marketplace, including opportunities for—and impacts of—new entrants, multi-vendor networks, and hybrid networks (e.g., satellite-terrestrial networks)
- Measurements of mobile coverage, nationwide and disaggregated by urban areas, rural areas, and Tribal lands, including discussion of any methodological issues identified

[16] As noted above, BDC data as of December 31, 2023, include—among other data—mobile broadband "service availability" data. Facilities-based providers of mobile broadband internet access service and/or voice service are required to submit data about where they make mobile service available, including coverage maps for 3G, 4G LTE, 5G-NR, and voice technologies. These coverage maps are based on propagation modeling, and the propagation modeling must be based on the parameters specified in the Broadband DATA Act and adopted by the Commission. *See* Broadband Data Collection, Data Specifications for Biannual Submission of Subscription, Availability, and Supporting Data (Mar. 30, 2023), https://us-fcc.app.box.com/v/bdc-availability-spec *and* 47 CFR § 1.7004.

[17] BDC data were used in the Commission's analysis of December 2022 broadband service availability as presented in the *2024 Section 706 Report*, while FCC Form 477 data for December 2018 through December 2021 were used for historical trend purposes. *See 2024 Section 706 Report*, FCC 24-27, at 27-28, para. 52.

[18] The Commission's authority to issue licenses pursuant to a system of competitive bidding expired on March 9, 2023. *See* 47 USC 309(j)(11) ("The authority of the Commission to grant a license or permit under this subsection shall expire March 9, 2023, except that, with respect to the electromagnetic spectrum identified under section 1004(a) of the Spectrum Pipeline Act of 2015, such authority shall expire on September 30, 2025, and with respect to the electromagnetic spectrum identified under section 90008(b)(2)(A)(ii) of the Infrastructure Investment and Jobs Act, such authority shall expire on the date that is 7 years after November 15, 2021."). Since the lapse of general authority on March 9, 2023, Congress has provided a 90-day window for the Commission to grant licenses "in the band of frequencies between 2496 megahertz and 2690 megahertz, inclusive" not granted prior to the 5G SALE Act and applied for based on competitive bidding held prior to March 9, 2023. *See* 5G Spectrum Authority Licensing Enforcement Act (5G SALE Act), P.L. 118-27, 137 Stat. 132 (2023). Congress has not otherwise changed the Commission's auction authority since it lapsed..

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

- Information on innovations that have shaped and will shape mobile connectivity, which may include topics such as but not limited to 5G, Open radio access networks (Open RAN), Internet of Things (IoT), dynamic spectrum sharing, the use of artificial intelligence (AI) in wireless networks, and other developing or new technologies
- The number and types of mobile applications that have been launched and downloaded by consumers as well as innovations in the types of applications that are available as a result of 5G
- The mix and utilization of connected devices such as smartphones, wearables, and connected cars across the population
- The impact of innovation on device availability and usage, especially for individuals with disabilities and lower income individuals
- The impact of handset unlocking policies on mobile wireless competition
- The role of entry conditions (federal, state, and/or local) in mobile wireless competition, including for entrepreneurs and other small businesses
- Recent entry into and exit from the marketplace
- The criteria, metrics, or methodologies that might be used to evaluate potential competition between mobile wireless and fixed broadband services, including the extent to which these services are viewed by consumers as substitutes or complements
- The extent to which survey data could help inform our evaluation of substitutability, including a discussion of reliable data sources
- The interaction of mobile wireless technology with other sectors of the economy, including how developments and needs in other sectors affect mobile wireless technology innovation
- The effects of early termination fees on consumer contracts and the consumer's ability to switch providers

IV. COMPETITION IN THE VOICE MARKETPLACE

12. We request comment on the criteria or metrics that could be used to evaluate the state of competition in the voice marketplace.[20] Comments and information also are sought on industry data, competitive dynamics, and trending factors in the provision of voice services. We also request comment on whether laws, regulations, regulatory practices, or demonstrated marketplace practices pose a barrier to facilities-based competitive entry into the marketplace for the provision of voice services. Further, we seek information on the extent to which any such laws, regulations, or marketplace practices affect entry conditions for entrepreneurs and other small businesses in the provision of voice services. We also request comment on the criteria, metrics, or methodologies that might be used to evaluate potential competition between mobile wireless and fixed voice services, including the extent to which these services are viewed by consumers as substitutes or complements. Finally, we seek information on the proportion of households that do not subscribe to either fixed or mobile voice, as well as any effects of cross-platform messaging applications.

V. COMPETITION IN THE VIDEO MARKETPLACE

13. We request comment on the issues and trends affecting competition in the market to deliver video programming services.[21] We plan to use an analytical framework similar to that employed in the *2022 Communications Marketplace Report*, which categorizes entities that deliver video services into three primary groups—multichannel video programming distributors (MVPDs), online video

[20] In the *2024 Communications Marketplace Report*, we plan to use data submitted into the BDC in our analysis of fixed and mobile voice.

[21] Video programming is defined as "programming provided by, or generally considered comparable to programming provided by, a television broadcast station." 47 U.S.C. § 522(20); *see also* 47 CFR § 76.5(ff).

distributors (OVDs), and broadcast television stations.[22] MVPDs deliver video programming to consumers in the form of channel packages, which typically include linear channels from cable networks and retransmitted broadcast television stations, as well as video-on-demand (VOD) content.[23] OVDs deliver video content to consumers via the Internet using a variety of business models, including advertising-supported models, subscription models, transactional models where consumers pay for programming on a per-program basis, and virtual multichannel video programming services that deliver channel packages similar to traditional MVPDs.[24] Broadcast television stations offer linear video programming channels over-the-air to households that receive this programming using a television set connected to an antenna.[25]

14. We seek comment on both intragroup competition (i.e., competition within a group) and intergroup competition (i.e., competition between groups) in the video marketplace. Specifically, we seek information on the business models and competitive strategies employed by video service providers. We also request comment on whether laws, regulations, regulatory practices, or demonstrated marketplace practices pose a barrier to competitive entry into the video marketplace, or to the competitive expansion of existing providers. Further, we seek information on the extent to which any such laws, regulations, or marketplace practices affect entry conditions for entrepreneurs and other small businesses in the video marketplace.

15. Commenters are invited to provide data and information on, for example:

- Video service pricing
- Video service offerings and features (e.g., original or exclusive programming, number or frequency of ads shown, device compatibility)
- Trends in video subscription and usage patterns including household subscription to or usage of multiple video services
- Vertical integration of programming ownership and distribution and any implications for competition and programming diversity
- Technological developments (e.g., deployment of ATSC 3.0 service, geo-targeted broadcasting)
- The provision of video programming accessible to people with disabilities
- The provision of diverse video programming
- Recent entry into and exit from the marketplace
- Consolidation and fragmentation in the marketplace
- The status of competition among video providers in multiple tenant environments
- The effects of early termination fees on consumer contracts and the consumer’s ability to switch providers
- Operating and financial statistics including subscriptions, subscription revenue, advertising revenue, retransmission consent fee revenue, and any other sources of revenue
- Data and comments that will help the Commission analyze how the ongoing evolution of the video programming market affects competition in the related market for set-top boxes and devices, including the extent to which consumer choice for devices to access MVPD content remains relevant

[22] *2022 Communications Marketplace Report*, 37 FCC Rcd at 15652, para. 212.

[23] *2022 Communications Marketplace Report*, 37 FCC Rcd at 15652, para. 213.

[24] *2022 Communications Marketplace Report*, 37 FCC Rcd at 15653, para. 214.

[25] *2022 Communications Marketplace Report*, 37 FCC Rcd at 15653, para. 215.

VI. COMPETITION IN THE AUDIO MARKETPLACE

16. We request comment on the criteria or metrics that could be used to evaluate the state of competition in the audio programming marketplace. We plan to use an analytical framework similar to that employed in the *2022 Communications Marketplace Report*, which categorizes entities that deliver audio programming into three groups—terrestrial broadcast radio stations, satellite radio, and online audio providers.[26] Terrestrial radio broadcasters use terrestrial radio stations licensed by the Commission to broadcast audio content over the air to consumers who use radios to receive the stations' programming.[27] Satellite radio uses satellite technology to offer subscription-based audio programming to consumers.[28] Online audio providers use the Internet to deliver a variety of audio services to listeners including linear audio channels and access to music libraries and podcasts.[29] We seek comment on using this approach.

17. We seek comment on both intragroup competition (i.e., competition within a group) and intergroup competition (i.e., competition between groups) in the audio marketplace. Specifically, we seek comment and information on industry data, competitive dynamics, and trending factors. We also request comment on whether laws, regulations, regulatory practices, or demonstrated marketplace practices pose a barrier to competitive entry into the audio marketplace, or to the competitive expansion of existing providers. Further, information is sought on the extent to which any such laws, regulations, or marketplace practices affect entry conditions for entrepreneurs and other small businesses in the audio marketplace.

18. Commenters are invited to submit data and information related to participants in the marketplace for the delivery of audio programming, including, but not limited to, terrestrial radio broadcasters (i.e., AM and FM radio stations), satellite radio providers, and entities that provide audio programming over the Internet and to mobile devices. We seek information on, for example:

- Industry participants in the provision of audio programming services
- Trends in service offerings, pricing, and consumer behavior
- The provision of audio programming accessible to people with disabilities
- The provision of diverse audio programming
- Ratings, subscribership, and revenue information, for the marketplace as a whole and for individual industry participants
- Capital investment, innovation, and the deployment of advanced technology
- The requirements for entry into the marketplace
- Recent entry into and exit from the marketplace

VII. COMPETITION IN SATELLITE COMMUNICATIONS SERVICES

19. Satellites function as relay stations in space that receive signals from an earth station and then re-transmit the signal to a distant point located often thousands of miles from the point of signal origination.[30] In broad terms, satellites operate in either a geostationary (GSO) or non-geostationary

[26] These three categories do not include music channels on cable and satellite TV or recorded music, such as CDs. *2022 Communications Marketplace Report*, 37 FCC Rcd at 15689, para. 295 & n.872.

[27] *2022 Communications Marketplace Report*, 37 FCC Rcd at 15689, para. 296.

[28] *2022 Communications Marketplace Report*, 37 FCC Rcd at 15689, para. 297.

[29] *2022 Communications Marketplace Report*, 37 FCC Rcd at 15690, para. 298.

[30] An earth station is a station located either on the Earth's surface or within the major portion of the Earth's atmosphere and intended for communication: (1) with one or more space stations; or (2) with one or more stations of the same kind by means of one or more reflecting satellites or other objects in space. 47 CFR § 25.103 (*Earth station*).

(NGSO) orbit.[31] In recent years, the Commission has received and granted an unprecedented number of applications for NGSO space station licenses, including for NGSO fixed-satellite service (FSS) systems.[32] Orbiting closer to the Earth than a traditional GSO satellite, low- and medium-orbit NGSO FSS satellite constellations are capable of providing broadband services to industry, enterprise, and individual customers with lower latency and faster speeds than were previously available via satellite.[33] The Commission has also received and granted a number of applications from GSO operators proposing the next generation of very high throughput satellites. These satellites are also capable of providing broadband to industry, enterprise, and residential customers at much faster speeds than the traditional GSO satellites.

20. We seek data, information, and comment on the delivery of voice, video, audio, and data services by providers of satellite communications, particularly services that may not be encompassed by the remaining product markets discussed in this notice. We request comment on the criteria or metrics that could be used for analysis of competition among satellite communications providers, as well as comment and information on industry data, competitive dynamics, and trending factors.

21. Commenters are invited to submit data and information on, for example:

- Retail and wholesale communications services that are provided by satellite communications providers
- The types of buyers of satellite communications services
- The requirements for entry into the marketplace and significant barriers to such entry
- Recent and prospective entry into and exit from the marketplace
- Orbital and spectrum resources, operators' access to spectrum, spectrum usage, and spectrum aggregation
- Price levels as well as trends in service offerings, pricing, and consumer behavior
- Investment, subscribership, and financial indicators (such as revenues or profitability)
- Network quality and speeds of service
- Service availability, access availability in the United States, and limitations on accessing satellite communications by customers
- The comparability of satellite broadband and other communications services to similar terrestrial services in capacity, quality, and price
- Information on innovations that have shaped and will shape the market
- The extent of competition as it relates to satellite communications, including the effects of intermodal competition with other fixed or mobile providers of communications services
- The ability of satellite communications services to provide service to underserved groups that otherwise might lack access to broadband service
- How factors such as satellite launch costs and the availability of resources such as launch facilities, ground infrastructure, spectrum, and orbital locations affect the marketplace for satellite communications services
- The impact of entry by NGSO FSS low-earth orbit licensees and market access grantees, as well as the new high-capacity GSO throughput satellites, on competition and broadband service availability, including prospective effects on Universal Service Fund programs and efforts to bridge the connectivity gap

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[31] *2022 Communications Marketplace Report*, 37 FCC Rcd at 15637, para. 176.

[32] *Revising Spectrum Sharing Rules for Non-Geostationary Orbit, Fixed-Satellite Service Systems et al.*, IB Docket No. 21-456, Report and Order and Further Notice of Proposed Rulemaking, FCC 23-29, 38 FCC Rcd 3699, at para. 2 (Apr. 21, 2023).

[33] *Id.*

VIII. INTERNATIONAL BROADBAND DATA

22. As part of its assessment in the *Communications Marketplace Report*, the Commission must by statute include "information comparing the extent of broadband service capability (including data transmission speeds and price for broadband service capability) in a total of 75 communities in at least 25 countries abroad for each of the data rate benchmarks for broadband service utilized by the Commission to reflect different speed tiers."[34] The Commission must choose international communities comparable to various communities in the United States with respect to population size, population density, topography, and demographic profile.[35] The Commission is required to include a "geographically diverse selection of countries" and "communities including the capital cities of such countries."[36] The Commission must "identify relevant similarities and differences in each community, including their market structures, the number of competitors, the number of facilities-based providers, the types of technologies deployed by such providers, the applications and services those technologies enable, the regulatory model under which broadband service capability is provided, the types of applications and services used, business and residential use of such services, and other media available to consumers."[37]

23. We seek data, information, and comment on comparative international information on broadband services that can inform this assessment. Commenters are invited to submit data and information on, for example:

- International fixed and mobile broadband speed and quality of service
- International fixed and mobile broadband pricing
- International fixed and mobile broadband service availability by technology
- Additional comparison countries beyond the Organization for Economic Cooperation and Development (OECD) countries
- Fixed and mobile broadband service availability data for non-European OECD countries, which may be comparable to FCC BDC data for the United States and the European Commission's coverage data for the European Union[38]
- Alternative fixed and mobile broadband pricing datasets that we should consider for analysis
- Potential methodologies that could be used to compare data transmission speeds and prices for broadband service across communities and countries

IX. BRIDGING THE DIGITAL DIVIDE

24. We invite comment on affordability, adoption, and equitable access to broadband throughout the United States.[39] Commenters are invited to submit data and information on, for example:

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[34] 47 U.S.C. § 1303(b)(1).

[35] *Id.* § 1303(b)(2).

[36] *Id*.

[37] *Id*. § 1303(b)(3).

[38] The previous report included European coverage data based on the *2021 Broadband Coverage in Europe Report*, which discusses the 28 member countries of the E.U., as well as Iceland, Norway, and Switzerland. European Commission, Broadband Coverage in Europe 2021 (2022), https://digitalstrategy.ec.europa.eu/en/library/broadband-coverage-europe-2021.

[39] *Report on the Future of the Universal Service Fund*, 37 FCC Rcd 10041, 10046, para. 12 (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*.

- Changes and trends in affordability
- Status and trends of connectivity-related gaps (e.g., variation in fixed and mobile broadband connectivity, homework gap, uneven access to healthcare services), speeds, and quality of service across geographic areas, demographics and income levels, and the impact of government programs, including the Emergency Broadband Benefit (EBB), Affordable Connectivity Program (ACP), and Emergency Connectivity Fund (ECF), on these gaps
- The contribution of public sector subsidies and private sector initiatives to improve affordability
- The impact of universal service programs on affordability
- Methodologies and data sources to measure affordability
- Methodologies and data sources to measure adoption
- Interaction between adoption and affordability
- Interaction of equitable access and various subsidy programs, specifically those focused on rural, low income, and Tribal areas
- Information on data and methodologies that could assist in identifying and quantifying connectivity-related gaps, speeds, and quality of service across geographic areas, demographics, and income levels
- Cost and attributes of broadband plans that consumers purchase
- Cost of broadband services for consumers after discounts and subsidies
- The impact of the wind-down of the ACP on churn, adoption rates, and other market indicators[40]

25. As part of the Commission's continuing effort to advance digital equity for all,[41] including low-income persons, people of color, persons with disabilities, persons who live in rural areas or Tribal lands, and others who are or have been historically underserved, marginalized, or adversely affected by inequality, we invite comment on any issues of diversity, equity,[42] inclusion, and accessibility in the communications marketplace.

[40] Affordable Connectivity Program, WC Docket No. 21-450, Order, DA 24-23, at 11, paras. 28-29 (WCB Jan. 11, 2024) (ACP Wind-Down Order); see also USAC, ACP Enrollment Freeze Begins February 8 (Feb. 5, 2024), https://www.usac.org/wp-content/uploads/about/documents/acp/bulletins/ACP-Enrollment-Freeze-Begins-February-8.pdf; USAC, ACP Newsletter - January 2024 (Jan. 30, 2024), https://www.usac.org/wp-content/uploads/about/documents/acp/bulletins/ACP-Newsletter-January-2024.pdf.

[41] Section 1 of the Communications Act of 1934, as amended, provides that the Commission "regulat[es] interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges." 47 U.S.C. § 151. *See also Implementing the Infrastructure Investment and Jobs Act: Prevention and Elimination of Digital Discrimination*, GN Docket No. 22-69, Report and Order and Further Notice of Proposed Rulemaking, FCC 23-100, at 2, para. 2 (Nov. 20, 2023) (adopting rules pursuant to section 60506 of the Infrastructure Investment and Jobs Act to establish a framework to facilitate equal access to broadband Internet access service).

[42] The term "equity" is used here consistent with Executive Order 13985 as the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. *See* Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, Exec. Order No. 13985, 86 Fed. Reg. 7009 (Jan. 20, 2021).

X. PROCEDURAL MATTERS

26. Interested parties may file comments on or before June 6, 2024, and reply comments on or before July 8, 2024, in GN Docket No. 24-119. Comments may be filed electronically using the Commission's Electronic Comment Filing System (ECFS) or on paper.

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

- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing.
- Filings can be sent by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701. U.S. Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street NE, Washington, D.C., 20554.
- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19. *See FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy*, Public Notice, 35 FCC Rcd 2788 (OMD 2020), https://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy.

28. People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

29. For further information, contact Catherine Matraves, Office of Economics and Analytics, (202) 391-6272 or Catherine.Matraves@fcc.gov, or Judith Dempsey, Economic Analysis Division, Office of Economics and Analytics, (202) 418-1861 or Judith.Dempsey@fcc.gov.

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