Federal Trade Commission
600 Pennsylvania Avenue
NW Washington, DC 20580

Re: Hearings on Competition and Consumer Protection in the 21st Century: FTC Hearing #10: Competition and Consumer Protection Issues in U.S. Broadband Markets

Docket ID: FTC-2018-0113

May 31, 2019

To the FTC Commissioners and Staff:

Introduction and Summary

These comments express the views of Randolph May, President of the Free State Foundation, and Seth Cooper, Senior Fellow and Director-Policy Studies.[*] The Free State Foundation is an independent, nonpartisan, non-profit free market-oriented think tank focusing heavily on communications and Internet law and policy.

Within the realm of that communications and Internet law and policy work, the Free State Foundation has focused on, and devoted scholarly resources to, researching and writing about public policy-related issues involving broadband Internet services. It is with this expertise and experience in mind that we offer these comments on "Competition and Consumer Protection Issues in U.S. Broadband Markets."

[*] The views expressed do not necessarily represent the views of others associated with the Free State Foundation.

Network convergence is a widely recognized reality of the broadband marketplace, and deployment of 5G and gigabit broadband networks will accelerate competition among competing platforms. However, competition policy lags behind technological developments, and that risks perpetuating an outdated analytical outlook that misses the benefits of innovation and intermodal competition being enjoyed by consumers, both now and in the future. To align with market realities and future developments, the Commission should apply relevant market definitions that encompass all broadband Internet access platforms, regardless of their differing delivery technologies. And it should apply a forward-looking analysis that factors in the market's technological dynamism.

Delivery of Internet Protocol-based video, voice, and data services through different technologies and the advanced capabilities of next-generation networks increasingly will result in consumers having choices among competing platforms, place downward pressure on prices, and establish a disincentive for anticompetitive conduct by providers.

When assessing competition conditions and potential consumer harm regarding broadband Internet access services, wireless/wireline substitution renders separate product markets for "mobile telephony/broadband services" and "wireline broadband services" too narrow. The Commission's assessments should define the relevant product market to encompass all broadband Internet access platforms providing comparable goods or services, regardless of the differing technologies by which they are delivered.

Furthermore, the Commission's case-by-case evaluations of alleged anticompetitive conduct by broadband service providers should be informed by economic analysis and antitrust precedents. In order to determine whether particular market practices are anticompetitive, the Commission's analysis should be keyed to whether or not there is market power in the relevant market, and it should also weigh the benefits of the evaluated conduct against its costs.

Although the existence of market power generally is a necessary precondition for a finding of anticompetitive conduct, to date no evidence of market power in the broadband markets has been shown. And cross-platform competition among wireless and wireline service providers renders the existence of market power for broadband Internet services unlikely. Furthermore, providers also are less likely to act in an anticompetitive manner in dynamic markets, like the broadband Internet market, in which the introduction of new goods and services may thwart a provider's attempt to engage in such conduct.

Moreover, the ability of broadband market participants to compete and innovate is hindered by restrictive regulations. Legacy telephone and cable regulations reduce providers' financial resources for investment in next-generation broadband networks. Federal agency delays in clearing spectrum for licensed use and lengthy local government processes and excessive fees for infrastructure siting and equipment modification also hinder deployment of broadband services. Potential state "net neutrality" regulation of broadband Internet services, if not prohibited, also will inhibit investment and innovation by broadband service providers. In assessing the competitive conditions of the broadband

marketplace, the Commission should call attention to the counterproductive nature of such regulations.

Network Convergence and Next-Generation Network Deployments Are Key to Understanding Broadband Competition

Present and future network convergence centers on Internet Protocol-based video, voice, and data services, delivered via new generations of high-speed network technologies. One result is that goods and services are made accessible through different digital communications platforms. According to the FCC's *Communications Marketplace Report* (2019),[1] as of December 2017, about 94% of the population were covered by both 25 Mbps/3 Mbps fixed terrestrial service and mobile LTE with a minimum advertised speed of 5 Mbps/1 Mbps. Fixed terrestrial service of 10 Mbps/1 Mbps was deployed to 97.3% of all Americans, fixed terrestrial 50 Mbps/5 Mbps service was deployed to 92.3% of the population, and deployment of 100 Mbps/10 Mbps increased to over 89.3% of the population. Also, some 92% of the U.S. population lived in census blocks with LTE coverage by at least four facilities-based mobile service providers. Additionally, "nearly all areas in the country have access to satellite broadband as an alternative for fixed terrestrial broadband service at both the 10 Mbps/1 Mbps and 25 Mbps/3 Mbps levels."[2]

Convergence is also reflected in the combinations of different platform technologies that increasingly are being used by broadband service providers. This includes fixed wireless broadband services that combine Wi-Fi, cell towers, and backhaul.[3] Additionally, Comcast and Charter Communications launched hybrid Wi-Fi/cellular mobile wireless services in 2017 and 2018. And Ligado Networks' modified FCC applications for spectrum licenses propose an integrated satellite/terrestrial IoT network.[4]

Wi-Fi offloading of mobile network traffic is a key facet supporting this convergence. About 54% of global mobile data traffic was offloaded onto fixed networks via Wi-Fi or femtocells in 2017, and that amount is expected to climb to 59% by 2022.[5] Mobile offloading for 5G will be higher still, with the amount of mobile data being offloaded from 5G networks reaching 71% by 2022.

Wi-Fi use in connection with wireline broadband services is another facet of convergence. As of the third quarter in 2017, over 76% of 117 million households in

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[1] Federal Communications Commission, *Communications Marketplace Report*, GN Docket No. 18-231, *et al*. (released Dec. 26, 2019), ¶¶ 251, 253, 41.
[2] *Communications Marketplace Report*, ¶ 186.
[3] Michael J. Horney, "Fixed Wireless Could Help Reach More Rural Consumers," *FSF Blog* (November 24, 2017), at: https://freestatefoundation.blogspot.com/2017/11/fixed-wireless-broadband-could-help.html.
[4] *See* Reply Comment of the Free State Foundation, Comment Sought on Ligado's Modification Applications, IB Docket No. 11-109, SAT-AMD-20180531-00044, SAT-AMD-20180531-00045 (July 19, 2018), at: https://www.fcc.gov/ecfs/filing/10719575514007.
[5] Cisco Systems, Inc., "Global Mobile Data Traffic Forecast Update, 2017-2022" (February, 2019), at: https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white-paper-c11-738429.pdf.

America that have broadband used Wi-Fi as their primary connection technology.[6] Annual sales of all connected home devices are projected to increase to 442 million units by 2020. New hardware devices that support Wi-Fi 6 (previously called 802.11ax) feature maximum speeds of 9.6 Gbps, up from 3.5 Gbps on Wi-Fi 5, and feature significantly improved network performance when numerous devices are simultaneously connected.[7] This will make Wi-Fi usage in conjunction with mobile and wireline networks increasingly attractive to consumers and enterprises.

Aside from accelerating convergence, next-generation network technologies will offer higher speeds and improved network performance. For instance, 5G wireless networks will feature higher capacity and will enable average speeds up to 10 times faster than 4G networks and peak speeds up to 100 times faster.[8] Moreover, the cable industry has unveiled its "10G platform."[9] Built upon FDX DOCSIS 3.1 technology and utilizing existing hybrid fiber coax broadband networks, 10G will significantly boost network data traffic capacity, lower latency, and feature speeds up to 10 Gbps for both upstream and downstream traffic. Furthermore, geostationary orbit fixed-satellite broadband service providers HughesNet and ViaSat plan launches for next-generation satellites that could deliver download speeds of 500 Gbps and 1 Tbps, respectively. And non-geostationary orbit fixed-satellite broadband providers, including OneWeb, have received FCC approval to provide competing broadband services.

Future Technological Developments Will Enhance Wireless/Wireline Substitutability and Consumer Choice

One significant result of convergence and next-generation network deployment is that consumers increasingly will be able to access identical or comparable products and services through different digital communications platforms, whether wireless, fiber, cable, satellite or combinations of these. Indeed, deployment of next generation broadband networks will substantially increase the substitutability of differing wireless and wireline technology platforms.

Next generation mobile network technology is essential to growing mobile video viewing – a trend constituting key evidence demonstrating mobile broadband substitution. An AOL study published in early 2017 found "On average, 57% of consumers globally watch videos on a mobile phone every day."[10] And the June 2018 Ericsson Mobility

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[6] Park Associates, "76% of North American broadband households use Wi-Fi as their primary connection technology" (January 24, 2018), at: https://www.parksassociates.com/blog/article/pr-01242018.
[7] Jacob Kastrenakes, "Wi-Fi 6: is it really that much faster?" *The Verge* (February 21, 2019), at: https://www.theverge.com/2019/2/21/18232026/wi-fi-6-speed-explained-router-wifi-how-does-work.
[8] *See* Thomas K. Sawanobori & Paul V. Anuszkiewicz, High Band Spectrum: The Key to Unlocking the Next Generation of Wireless, CTIA, at 5 (June 13, 2016), at https://www.ctia.org/news/high-band-spectrum-key-to-unlocking-the-next-gen-wireless.
[9] Doug Jones, "Preparations for Full Duplex DOCSIS® 3.1 Technology are Marching Along," Informed (CableLabs blog) (March 7, 2019), at: https://www.cablelabs.com/preparations-for-full-duplex-docsis-3-1-technology-are-marching-along.
[10] AOL, "How Consumers are Engaging with Mobile Video Around the World" (February 17, 2017), available at: https://advertising.aol.com/mobile-video-global.

Report forecasted that global mobile video traffic will account for 73% of all mobile data traffic by 2023.[11] Deployment of 4G LTE networks enabled this growth, as it provides speeds that exceed minimum requirement for most applications. But deployment of 5G networks, which will offer peak speeds of up to 10 Gbps, can readily handle Netflix's recommended minimum broadband speeds of 25 Mbps for streaming 4K Ultra HD video, and thus increase further the viability of wireless/wireline substitutability for viewing video content.

Moreover, technological and marketplace spurring convergence and next-generation deployment will benefit consumers by expanding choices among more reliable networks and faster speeds. Surveys indicate consumers already anticipate adopting 5G-enabled services and applications, including enhanced smartphone use, fixed wireless home broadband, augmented reality and virtual reality (AR/VR) headsets and glasses for media entertainment and gaming use, smart home uses such as security and other home device sensors, and automotive applications.[12]

Also, as will be further discussed below, the competitive market conditions enabled by these ongoing developments are likely to put downward pressure on prices, and thereby reduce the likelihood that any one broadband Internet provider can impose significant and non-transitory price increases on consumers.

The Commission Should Broadly Define Broadband Internet Access Services as the Relevant Product Market for Its Competition Analysis

When assessing competition conditions and potential consumer harm regarding broadband Internet access services, or any broadband-related good or service, the Commission should broadly define the relevant product market to encompass all broadband Internet access platforms providing the same good or service, regardless of the differing technologies by which they are delivered. The relevant product market should include all reasonable substitutes, not merely identical goods or services. "[T]he relevant market must include all products 'reasonably interchangeable by consumers for the same purposes.'"[13]

In light of the existing wireless/wireline substitution enabled by convergence, which is likely to accelerate further due to next generation technology deployments, separate product markets for "mobile telephony/broadband services" and "wireline broadband services" are too narrow. Particularly in geographic markets where 4G LTE networks have been optimized through densification and where 5G networks are deployed, wired and wireless services are reasonably interchangeable. When analyzing business data services (BDS) or broadband enterprise services, the Commission similarly should define

[11] Ericsson Mobility Report (June 2018), at 13, available at: https://www.ericsson.com/assets/local/mobility- report/documents/2018/ericsson-mobility-report-june-2018.pdf.
[12] *See* Ericsson, "5G consumer potential: Busting the myths around the value of 5G for consumers" (May 2019), page 9.
[13] *United States v. Microsoft Corp.*, 253 F.3d 34, 52 (D.C. Cir. 2001), *cert. denied*, 122 S. Ct. 350 (2001) (quoting *E.I. du Pont de Nemours*, 351 U.S. 377, 395 (1956)).

the relevant product market to include wireless and wireline alternatives that function as reasonable substitutes in providing services to business customers.

For all other broadband-related goods or services, when defining relevant product markets, the Commission should maintain a forward-looking view that takes stock of emerging technologies and capabilities enabled by next generation wireless, wireline, and satellite broadband delivery technologies. For instance, whether analyzing goods and services such as Internet transit, content delivery networks (CDNs), and more, the Commission should be open to examining whether, or the extent to which, such goods and services are competitively effected by IoT connectivity, edge computing, wireless backhaul deployment, or other new technological advancements and market changes that may be relevant.

The Commission's Case-By-Case Evaluation of Anticompetitive Conduct Should Rely on Market Power and Benefit-Cost Analysis of Particular Practices

When the Commission investigates alleged instances of anticompetitive conduct by broadband Internet service providers, its case-by-case evaluation should be based on microeconomic analysis, including antitrust precedents. The Commission's analysis should consider the existence or non-existence of monopoly power in the relevant product or geographic market and also weigh the relative benefits and costs of the market practices under evaluation. For alleged anticompetitive conduct involving practices such as discounted or preferential price offerings, vertical contracts between providers at different levels within a supply chain, or discriminatory treatment toward competitors, the existence of consumer harm will likely or even necessarily turn on whether or not the provider possesses non-transitory market power. Providers that do not have a sufficiently large market share and that face competition cannot successfully restrict output or impose substantial price increases on consumers without losing them to competitors. The existence of market power on a non-transitory basis is an especially necessary precondition for a finding of anticompetitive conduct when no evidence of actual consumer harm exists. However, no evidence of market power in the broadband markets has been shown.

Moreover, providers are less likely to have the incentive and capability to engage in anticompetitive conduct when they operate in dynamic markets, such as the broadband Internet market, in which the introduction of new goods and services as well as new entrants could render short-lived or entirely thwart a provider's attempt to engage in such conduct. Cross-platform competition among wireless and wireline service providers, enabled by convergence and next-generation network upgrades, renders the existence of market power for broadband Internet services extremely unlikely. Due to the dynamism that characterizes the broadband Internet market, allegations of anticompetitive conduct should show more than some transitory failure that can be met by competitive responses of other market participants. Thus, any allegations of anticompetitive conduct should be "non-transitory" to trigger a Commission response.

Unnecessary Regulations at the Federal, State, and Local Levels Harm the Ability of Broadband Market Participants to Compete and Innovate

The ability of broadband market participants to compete and innovate is hindered by outdated, unnecessary, and overly restrictive regulations at the federal, state, and local levels. Legacy telephone regulations, including federal unbundling rules, which require incumbent telecommunications providers to provide network capacity to their competitors at below-market rates, and various cable regulations, artificially inhibit returns for those providers and divert their investment resources away from next-generation broadband facility upgrades and deployments.

Local franchising authority fees charged to cable operators under Section 621 of the Cable Act not only put cable operators at a disadvantage compared to non-cable video providers, but also reduce their financial resources for investment in next-generation broadband networks. Prolonged federal agency delays in clearing spectrum for auction or for evaluating license applications or modifications necessarily reduce the supply of resources available for commercial use and inhibit new service offerings. Lengthy local government review processes and excessive fees charged for building new towers, modifying existing wireless infrastructure, or placement of small cell equipment also hinders deployment of next generation service.

Furthermore, potential state and local regulation of broadband Internet access services would inhibit investment and innovation by broadband service providers. California's SB-822, which the state agreed to defer implementing, attempts to reimpose at the state level restrictions contained in the FCC's repealed 2015 *Title II Order*. This includes categorical bans on blocking, throttling, and paid prioritization. SB-822 also bars mobile broadband service providers from offering California consumers "free data" plans that allow consumers to access content from selected websites without it counting against their monthly data allotments. And the law appears to restrict "non-broadband Internet access data services" or "specialized services."

In its complaint challenging the California law, the U.S. Department of Justice rightly alleges "SB-822 conflicts with the 2018 Order's affirmative federal 'deregulatory policy' and 'deregulatory approach' to Internet regulation" that was adopted in furtherance of Congress's policy to preserve a competitive free market for the Internet "unfettered by Federal or State regulation."[14] DOJ's complaint further alleges, correctly, that SB-822 contributes to "separate and potentially conflicting requirements from different state and local jurisdictions" and that broadband ISPs are unable to comply with such requirements for intrastate communications without applying the same requirements to interstate communications.[15]

In the *Restoring Internet Freedom Order* (2018), the Federal Communications Commission similarly concluded that Internet access is a jurisdictionally interstate

[14] Complaint for Declaratory and Injunctive Relief of Plaintiff U.S. Department of Justice, U.S. v. California, Case No. 18-01539 (U.S. Dist Ct. E. Dist. Cal.) (filed Sept. 30, 2018), at 11, ¶ 41.
[15] Complaint for DOJ, at 10, ¶ 42.

service because "a substantial portion of Internet traffic involves accessing interstate or foreign websites."[16] As the FCC further concluded, it is "impossible or impractical" for broadband service providers to "distinguish between intrastate and interstate communications over the Internet or to apply different rules in each circumstance."[17] If ever permitted to stand, such conflicting and impractical state laws surely would be harmful to investment and to innovation. Additionally, insofar as the Title II public utility like rules are effectively reimposed at the state level, such state laws would contain the anti-investment and anti-innovation characteristics that the FCC recognized when it repealed the Title II rules in the *Restoring Internet Freedom Order*.

In assessing the competitive conditions of the broadband marketplace, the Commission should call attention to the counterproductive nature of such regulations.

Conclusion

Thank you for the opportunity to comment on these issues. For the foregoing reasons, the Commission should act in accordance with the views expressed herein.

Sincerely,

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[16] FCC, *Restoring Internet Freedom Order*, WC Docket No. 17-108, (released January 4, 2018), at ¶ 199 (internal quotes omitted).
[17] *Id.*, at ¶ at 200.