ACA Connects – America’s Communications Association hereby comments on the Federal Trade Commission’s (FTC’s or Commission’s) March 20, 2019 hearing on competition and consumer protection in broadband markets and the questions posed in the Commission’s Public Notice.¹

Introduction

In the U.S. today, almost 300 million Americans have access to robust (100 Mbps) broadband service, most often from multiple Internet Service Providers (ISPs).² Investment in broadband networks is enormous, technology is advancing inexorably, prices are declining (on a per megabit (Mbps) basis, and demand continues to grow as consumers seek to access more video and other content over an increasing number of devices. In brief, broadband markets as


a whole are working, and they are evolving to become even more competitive. That is good news.

In these comments and in response to questions posed by the FTC, ACA Connects provides the perspectives of smaller ISPs on broadband technology, markets, and competition. ACA Connects represents smaller ISPs that pass about 17 million housing units in the U.S. and serve about 8 million broadband subscribers. Most of these ISPs have 1,000 or fewer subscribers and provide broadband service in smaller communities and rural markets. Other smaller providers “overbuild” incumbent providers in more urban markets.

Smaller ISPs, like their larger counterparts, are investing in their networks and rolling out innovative services. However, smaller ISPs differ from their larger counterparts in a number of ways that affect their market presence. To begin with, they operate most often in less dense (more rural) local markets, where the cost of building networks (on a per homes passed basis) tends to be significantly higher than in more urban areas and where consumers tend to have lower incomes. Further, smaller ISPs generally serve one or a few small markets and therefore cannot achieve scale and scope efficiencies. Further, because they serve much fewer subscribers (“eyeballs”) than larger ISPs, they are less attractive partners or customers for upstream content producers and aggregators. In fact, just as in the video programming market where they have no market power over programmers, they have no ability to leverage upstream edge providers. Thus, in analyzing broadband markets and determining whether and how to intervene, the FTC and other government agencies should recognize and account for the unique capabilities and incentives of smaller ISPs.

Smaller ISPs, moreover, face competitive threats in the downstream market where they provide broadband Internet access service. Smaller providers in rural markets compete with multiple ISPs, including incumbent telephone companies, fixed wireless providers, satellite providers, and, increasingly, electric cooperatives. In more urban markets, they face a major
incumbent cable operator and telephone provider and often other providers. To respond to these competitors, smaller ISPs have ramped up their investments, reduced prices, and enhanced their customer service. In the past decade alone, they have invested more than $10 billion to upgrade their networks to DOCSIS 3.0/3.1 and all-fiber technologies, and they continue to invest more than $1 billion annually. Their broadband prices on a per Mbps basis have declined by at least 50% in the past few years, and they regularly win awards for providing good customer service.³

Smaller ISPs also confront obstacles in the upstream market where they interconnect with much larger peering and edge (including content) providers to exchange internet and other IP traffic. Unlike larger ISPs, which have many millions of “eyeballs” and extensive regional and even national networks, smaller ISPs have fewer subscribers and those operating in rural areas have networks with no, or at most limited, regional reach. As a result, most smaller ISPs seeking to interconnect and exchange traffic upstream need to use and pay a transit provider to carry traffic to and from an internet exchange point (IEP). Moreover, even for those smaller providers that have networks relatively proximate to IEPs and sufficient traffic to justify building to IEPs, they must pay for peering. Finally, some smaller ISPs with more traffic have been able to enter into arrangements with content providers to collocate their caching servers, which significantly improves the quality and reliability of the transmission and may reduce the need to build or purchase larger transport facilities. More rural ISPs with fewer subscribers are not able to strike such arrangements.

In sum, in most markets served by smaller ISPs, the provision of – and competition for – broadband internet access service is flourishing. Network and service supply are increasing,

prices are declining, and customer service is responsive. Yet, even in this favorable environment, select government intervention is warranted to address the economic challenges smaller ISPs and consumers in rural areas face. The government can further increase supply by removing barriers to network deployment, including by facilitating pole attachments and access to rights-of-way. In rural markets where locations are not served, the government should subsidize deployment of broadband networks that have performance capabilities similar to those in urban areas.

At the same time and above all, the government should do no harm by intervening in markets that are working, especially by imposing common carrier regulations on smaller ISPs. Not only are such regulations unwarranted, onerous, and unlikely to work, they are counterproductive, stymying investment and limiting supply. The broadband business case is built upon a number of critical factors: fixed costs are substantial and marginal costs are low; the cost of customer acquisition is significant; economies are only achieved when the network has sufficient traffic; and competitors are present in virtually all markets. These factors drive smaller ISPs, who are more economically challenged, to be responsive to consumers and enhance overall consumer welfare. Further, smaller ISPs have no prior monopoly right or market power. As such, the FTC and other government agencies should let the market work to the maximum extent consistent with competition and consumer protection law.

Below ACA Connects responds to questions posed by the FTC in the Public Notice.
Responses to Issues Identified by the FTC

- **The FTC’s 2007 Broadband Report** provided a technical background of broadband market issues relevant at that time. How should the Commission evaluate broadband technology issues now? Which technological developments are important for understanding the competitiveness of the industry? How would future technological developments likely to occur in the near future impact the competitiveness of broadband markets, or otherwise affect consumer interests?

  **ACA Connects Response:** Today, in fixed broadband downstream markets, ISPs using Fiber-to-the-Premises (FTTP) or DOCSIS 3.0/3.1 networks offer reasonably similar performance capabilities that make them competitive for all service tiers, including very high (gigabit) speed tiers. DOCSIS networks reach approximately 85% of the housing units in the U.S.; FTTP about 30%. DSL, fixed wireless, and satellite have lesser performance capabilities and, although these capabilities are increasing, they will never match the capabilities and reliability of FTTP/DOCSIS networks. That said, ISPs using these other technologies provide choice for consumers that only need low to mid-speed broadband service or do not want to pay for higher-speed service. Thus, by being a sufficient choice for many, if not most, subscribers, ISPs using these other technologies constrain prices for services offered by FTTP/DOCSIS providers and drive them to respond by offering innovative services and investing in network upgrades.

  As for future developments, because of its enormous performance capabilities, fiber is the fundamental wireline transmission media that will drive 21st Century communications. Fiber not only will provide direct connectivity enabling ever-increasing speeds and low latency, but fiber connectivity underlies wireless, including 5G, networks. At the same time, Cable Labs continues to develop more robust DOCSIS technology, including to provide 10G symmetrical transmissions over fiber/coax networks and, thus,
they will be competitive with FTTP.\textsuperscript{4} In addition, ISPs are beginning to deploy fixed 5G networks with gigabit download capabilities, which should enable them to provide greater competition to wireline ISPs.\textsuperscript{5}

The technology in upstream markets too has evolved, largely in response to the enormous growth in video (over-the-top) traffic. Consumers want to experience video without buffering and with high reliability. As a result, content providers are locating caching servers closer to consumers, most often at IEPs or, where there is sufficient demand, in local access networks. Content providers also are creating multiple paths to send their transmissions to improve reliability and lower cost. Today, these technology trends primarily benefit larger ISPs, which have sufficient traffic to justify content providers investing to collocate caching servers and create multiple paths. Smaller providers largely need to use and pay transit providers to reach IEPs.

- **How should the Commission define relevant markets in this industry? How should the Commission identify and measure market power of content providers, content delivery networks, internet transit providers, internet service providers, and other relevant market actors?**

  ACA Connects Response: Over the past decade, the Federal Communications Commission (FCC) and Department of Justice (DOJ) have defined broadband markets when conducting merger reviews, and the FCC has done so in rulemakings or when issuing reports. For broadband internet access service, there are two major product markets, each of which is tied to different geographic markets. First, there is the “downstream” market for the provision of broadband internet access service. This is a

\footnote{See “Full Duplex DOCSIS 3.1,” CableLabs, available at https://www.cablelabs.com/technologies/full-duplex-docsis.}

\footnote{See, e.g., “Verizon’s 5G network is now hitting gigabit download speeds,” The Verge (May 16, 2019), available at https://www.theverge.com/2019/5/16/18628080/verizon-5g-network-gigabit-1gbps-download-speeds.}
local market that includes connectivity and transmissions from the ISP’s headend/central office (or other major point of traffic aggregation) to consumer premises’ connections (modems).

Today, consumers select – and ISPs market – broadband service (technologies) largely based on performance characters (speed and latency) and portability/mobility. Based on these factors, the FCC and DOJ have found that fixed market participants include: FTTP providers (incumbents and overbuilders), DOCSIS (cable) providers, incumbent telephone companies providing DSL service, fixed wireless providers, and satellite providers. These participants may not be complete product and geographic market substitutes, but they often compete in many of the same geographic areas and provide many of the same tiers of broadband service. For instance, DSL providers may cover an entire Metropolitan Statistical Area or community, but only offer lower-speed service (e.g., 25 Mbps) at a low price, targeting the broad “mid-market.” Fixed wireless providers have coverage limitations, but tend to compete for the “value” customer by providing sufficient service at a low price point. However, because even competition in limited segments of the market affects the economics of all providers, it tends to provoke competitive responses throughout the market.

The downstream broadband product market also may be sub-divided between fixed (including fixed 5G wireless) and portable/mobile services, although this distinction is becoming increasingly blurred. Today, fixed broadband, at least when provided over FTTP and DOCSIS 3.0/3.1 networks, provides greater performance and reliability than portable/mobile connectivity, which is advantageous for accessing video content and enabling multiple devices. However, with 4G LTE and now 5G, portable/mobile

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6 In the future, consumers may deem other factors that contribute to the overall broadband experience, such as upgradability, reliability, and network security, to be important factors.
broadband, which has the advantage of enabling mobile/portable access on a “personal” basis, can provide greater performance, albeit not as great as FTTP/DOCSIS, and increasingly is being used to access video and other content over the internet. Moreover, with personal hotspots providing seamless connectivity to wireline networks, the in-home utility of the portable/mobile broadband is expanding. Thus, while fixed and mobile broadband service are not viewed by most users as close substitutes today, that will change over time as technologies and performance capabilities evolve.

Because ISPs need to exchange local broadband traffic with edge (including content) providers, there is an “upstream” broadband market. Larger ISPs tend to interconnect directly with peering providers to send and receive traffic to and from all internet end points. Smaller ISPs, which have more limited network reach, usually interconnect with transit providers to reach IEPs, where they connect to peering providers. In addition, ISPs may directly interconnect with larger edge providers and Content Distribution Networks. These upstream markets are local, involving interconnection between a single ISP and a single upstream entity, but they can be regional and even national where the ISP has networks in multiple geographic areas.

In examining market power in broadband markets, the FTC should recognize that, unlike the traditional local telephone sector, no entity was given, or has, an exclusive right to provide broadband service. With the exception of more remote areas where the government provides subsidies, broadband providers, including cable and telephone providers, have invested private capital to deploy their networks with no assurance of a return. Moreover, there are no or relatively few barriers to entry. Further, in most markets, there are multiple providers and, as a testament to the relative ease of entry, market players and services are constantly evolving.
• How should the Commission identify and evaluate conduct in this industry that may be exclusionary or anticompetitive, including but not limited to discounting and preferential pricing, contracts and agreements between firms in vertical relationships, and conduct that may undermine or discriminate against rivals? Under what conditions does such conduct harm consumers? Under what conditions is conduct that may exclude or discriminate against rivals also associated with short-run or long-run efficiencies or consumer benefits?

ACA Connects Response: Because broadband markets are generally competitive, the FTC should not presume that ISPs are acting anti-competitively when they, for instance, discount or give preferential pricing to an edge provider. However, there are limited instances where the FTC should be concerned about potential anti-competitive acts. For example, just as the FCC and DOJ expressed concern with the potential for anticompetitive conduct when a multichannel video distributor vertically integrates with a video programmer, the FTC should be concerned when a major ISP integrates with an edge provider that owns or controls a service, application, or content that can be deemed effectively essential for an ISP’s subscribers to access. In such instances, the vertically integrated ISP/edge provider has an incentive to increase the price for a competing ISP or its subscribers to access the content – or even withhold the content entirely. At a Senate Judiciary Committee hearing last fall, the Assistant Attorney General raised this concern about Comcast (an ISP) that has a significant interest in the over-the-top content provider Hulu. In a somewhat similar vein, albeit involving a traditional content provider, AT&T/Time Warner effectively admitted that its vertical relationship could result in harm to competing providers and offered to engage in commercial arbitration to ensure a competitor could access the Turner Broadcasting

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programming at fair market value. Even though both the DOJ and ACA Connects found this remedy inadequate to address the harm posed by the combination, it provides a basis for the FTC to investigate such vertical relationships and address their harms.

- **Do existing local, state or federal regulations affect different market participants in ways that limit competition and innovation?**

  ACA Connects Response: Yes, there are many local, state, and federal regulations that either skew the marketplace or act as barriers to competition and innovation for most participants. Let us provide a few examples that are most troublesome, raising the cost of network deployments and service rollouts.

  - Local governments should be able to assess reasonable (cost-based) fees for access to the public rights-of-way, which are essential to the provision of wireline and most wireless broadband services. Smaller ISPs generally first built their networks as cable (video) service providers and were granted access to the public rights-of-way by paying to the local government 5% of their annual gross video service revenues. These smaller ISPs then began to provide broadband

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11 Fees based on gross revenues cannot be considered cost-based. However, the 1984 Cable Communications Policy Act, Pub. L. 98-549, 98 Stat. 2779, permitted local franchising authorities to impose fees based on a cable operator’s gross revenues from the provision of cable services, and cable operators were able to acquire an exclusive franchise. Exclusive cable franchises were prohibited by the 1992 Cable Television Consumer Protection and Competition Act, Pub. L. 102-385, 106 Stat. 1460, but the 5% fee provision was not altered, thus potentially placing cable operators at a competitive disadvantage. Other wireline providers generally do not pay a fee
service over their video networks without further burdening the public rights-of-way. However, now some local governments are imposing (or seeking to impose) additional fees on these smaller ISPs for use of the public rights-of-way to provide broadband service. These fees have no relationship to the cost of the local government for management and use of the public rights-of-way because smaller ISPs are not further burdening the public asset when they provide broadband service. In effect, local governments are seeking to extract additional rents for access to a monopoly asset. This will not only harm incumbent ISPs but deter new entry that can drive additional competition.

- A similar situation holds in some states, which impose “market-based” – instead of cost-based – fees for access to state rights-of-way to deploy fiber or other broadband facilities. These fees inflate the cost of access to assets that are limited yet essential, deterring broadband builds.

- ISPs tend to provide over the same network traditional pay television service as multichannel video programming distributors (MVPDs). The FCC’s program access rules provide protections for individual MVPDs, which benefit larger MVPDs who generally negotiate on their own behalf with programmers. However, these rules do not provide protections for buying groups of smaller MVPDs who negotiate for programming on their behalf. Thus, smaller MVPDs have higher costs for video inputs, which limits the capital available for

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based on revenues. Direct satellite broadcasters do not use public rights-of-way and do not have to pay the fee to local governments. Fixed wireless providers that do not use public assets have a similar advantage.
broadband network upgrades, which places them at a disadvantage to larger rivals.

- **What are the existing standards, if any, regarding how actual internet speeds correspond to advertised internet speeds? Are such standards relevant to an FTC analysis under Section 5?**

  **ACA Connects Response:** The FCC began requiring ISPs to disclose their broadband internet access service speeds in 2010 with the adoption of the Transparency Rule in the *Preserving the Open Internet Order*, which among other things, required an ISP to disclose accurate information about the expected and actual access speed and latency of its broadband service.\(^\text{12}\) In 2011, the FCC provided guidance to ISPs about how they could comply with the Transparency Rule.\(^\text{13}\) In one part of this guidance, the FCC found that, because smaller ISPs may not have the resources to participate in the FCC’s Measuring Broadband America (MBA) program, they could either use the MBA program’s methodology to measure actual performance or they could disclose actual performance based on internal testing, consumer speed test data, or other data regarding network performance. The FCC’s *Restoring Internet Freedom Order*, which took effect on June 11, 2018, retained the 2010 Transparency Rule’s service performance disclosure requirement.\(^\text{14}\) Under the current rule, an ISP is required either to file this disclosure with the FCC or to display it on a publicly available, easily accessible website, and the FCC will monitor compliance with the rule.\(^\text{15}\) The FTC,

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\(^\text{15}\) 47 C.F.R. § 8.1.
according to a memorandum of understanding developed with the FCC, will investigate and take enforcement actions against ISPs for unfair or deceptive acts or practices, including actions pertaining to the accuracy of their disclosures.\textsuperscript{16} In sum, an ISP’s broadband service performance disclosure provides a key metric by which it can advertise its service and by which government agencies and consumers can judge whether the ISP is complying with the Transparency Rule and consumer protection requirements.

As noted above, the FCC, beginning in 2011, has developed methodologies and standards for assessing fixed broadband service performance through the MBA program.\textsuperscript{17} Each year, the FCC tests broadband service performance for the largest wireline ISPs and issues a report with its findings. For speed, the MBA reports a variety of metrics, including “the minimum actual speed experienced by at least 80% of panelists during at least 80% of the daily peak usage period (‘80/80 consistent speed’ measure) . . . . [and what] fraction of consumers obtains median speeds greater than 95%, between 80% and 95%, and less than 80% of advertised speeds.”\textsuperscript{18} The MBA also reports on latency and packet loss. Among the findings in the most recent report, the FCC reported —

Customers of Charter, Comcast, Cincinnati Bell Fiber, Frontier Fiber, Optimum and Verizon Fiber (Fios) experienced median download speeds that were very consistent; with each provider delivering in excess of 90% of the advertised speed to at least 80% of the panelists for at least 80% of the peak usage period. In particular, Charter and Optimum provided 80/80 consistent speeds that were in excess of 100% of the advertised


\textsuperscript{18} Id.
speed . . . . cable and fiber ISPs performed better than DSL and satellite ISPs with respect to their 80/80 consistent speeds.\textsuperscript{19}

These large “cable operator” ISPs use DOCSIS technology over fiber/coax networks, and because smaller “cable operator” ISPs use the same technology, it is reasonable to assume they deliver similar broadband performance.

As a testament to the validity of the MBA’s metric, the New York Attorney General used the MBA’s “80/80” speed consistency metric and the median peak-period speed test as benchmarks to investigate whether Charter’s advertised and actual speeds were substantially similar and to impose relief in the December 2018 settlement agreement with Charter.\textsuperscript{20} Under the agreement, Charter is prohibited from using the term “consistent” to describe its broadband speeds “unless it can substantiate such claims with the FCC Consistent Speed Metric.”\textsuperscript{21} Charter also is required to substantiate its advertisements based on the MBA’s median peak-period speed test or other industry-accepted testing methodology.\textsuperscript{22} Thus, there are existing, proven methodologies for ISPs to use to ensure they are accurately advertising their broadband performance. Further, the FTC should recognize that ISPs using these approaches to assess their actual speeds are compliant with Section 5 requirements to not engage in unfair or deceptive acts or practices.

ACA Connects recognizes that various firms make available speed tests that subscribers can use and that can be an indicator of network speeds. However, for these tests to accurately measure the speed of the ISP’s service, they need to test from the

\textsuperscript{19} Id.
\textsuperscript{21} Id. at 5.
\textsuperscript{22} Id. at 7.
ISP’s side of the modem to the ISP’s side of the point of interconnection with an upstream provider (e.g., a transit provider). Further, to accurately determine network speeds, these tests should be performed frequently over time because there can be traffic anomalies (e.g., Apple releases a new operating system or a major weather event occurs). The New York Attorney General did not rely on speed tests in investigating Charter’s behavior, but on the MBA or other industry standards, to substantiate speeds.

- What tools, platforms, and research are used to measure the speed of broadband and related services? Are they adequate for the FTC’s analysis of speed claims? If not, what additional resources are needed? Do competitors rely on data from these sources in challenging each other’s speed claims?

ACA Connects Response: As discussed above, the testing methodology developed by the FCC since 2011 and used in the MBA program, along with other industry-standard tests, provide smaller ISPs with an objective basis to measure broadband speed between the operator’s point of interconnection to an IEP or to a transit provider and the network side of the customer modem. The Transparency Rule then acts as validation of these speeds, as it requires that ISPs disclose actual speeds that reflect these methodologies. Thus, the FTC should find these current tools/approaches to be adequate.

The FTC should be wary of using publicly available speed test data to check an ISP’s performance, because far too often, these speeds tests do not measure from the network side of the modem to the ISP’s point of traffic aggregation and do not take a variety of measurements over time to account for traffic anomalies. The FTC accordingly should never use such data unless it can be validated as accurately reflecting network performance.

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23 This test excludes variables that may be introduced by the consumer that could slow down the offered service, such as a customer’s choice of in-home Wi-Fi router.
To date, there is no standard methodology to measure speeds from the customer’s modem to the wireless router to a wireless device, and it is doubtful whether any such methodology can be developed because of the many variable factors beyond the control of the ISP that influence wireless transmissions. At most, an operator should have an obligation to supply a modem and router that can deliver the advertised speed (or inform a customer that supplies a modem or router of the technical requirements of the service). In addition, an operator should inform subscribers that that wireless transmission speeds may vary because of many factors. This is the approach used by the New York Attorney General in its settlement agreement with Charter.

Finally, as evidenced by disputes brought before the National Advertising Division (NAD), competitors rely on a variety of indicators, including FCC-required disclosures, an understanding of network capabilities, and speed tests, to determine whether a rival is actually providing the advertised speed or making a claim that varies from its actual broadband service performance. For instance, in 2018, in a dispute initiated by Verizon, the NAD recommended that Comcast cease claiming that it “delivers the fastest Internet in America” and “the fastest, most-reliable in-home WiFi.”

- How can consumers or other stakeholders determine whether actual internet speeds match advertised speeds?

   ACA Connects Response: A consumer should first go to the ISP’s Transparency Rule disclosure, where the actual broadband service performance is required to be posted. Many ISPs offer their customers their own speed tests to assess their broadband performance.

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speeds. If offered, consumers should use these tests. Consumers also can use third-party speed tests to assess their broadband speeds, but because these tests often determine the speed from the consumer device to an edge provider’s server not on the ISP’s network, they are likely to reflect a slower speed provided by the ISP over its network than a speed test application offered by their own ISP.

- **Do existing methods of advertising internet speed adequately inform consumers about their choices for broadband and telecommunications services?**

  **ACA Connects Response:** In today’s market, speed is the critical metric by which ISPs offer and market (advertise) broadband service and by which consumers choose a service. The MBA tests show that for ISPs using DOCSIS 3.0/3.1 or FTTH technologies, actual and advertised speeds are substantially similar. So far, based on the lack of complaints brought by subscribers against smaller ISPs, smaller ISPs are providing information about speed in their advertising that consumers find useful and sufficient. We also should note that the settlement agreement between the New York Attorney General and Charter further refines and clarifies how ISPs are to advertise speed claims, including substantiation of those claims, which should provide further direction for ISPs. To ensure its members are aware of the terms and requirements of this agreement, ACA Connects not only sent its members an extended advisory, but followed it up with a webinar in which over 125 individuals from member companies participated. In addition

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to speed, consumers choose broadband service based on price, and the FCC’s Transparency Rule requires disclosure of an ISP’s broadband pricing.

Respectfully submitted,

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May 31, 2019