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Federal Communications Commission
Washington, DC 20554

In the Matter of)
)
Restoring Internet Freedom) WC Docket No. 17-108
)

REPLY COMMENTS OF THE OPEN TECHNOLOGY INSTITUTE AT NEW AMERICA

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Executive Summary

The *2015 Open Internet Order* gave the Commission the strongest legal standing to protect network neutrality and the public interest. The record shows broad support for the 2015 Order and demonstrates that the past two years have been a success for the online economy, consumers, and the internet's continuing role as an open platform for free speech and innovation. In these reply comments, New America's Open Technology Institute explains how the record supports preserving the 2015 Order and contains no justification for abandoning important consumer protections as outlined in the Notice of Proposed Rulemaking.

First, the record demonstrates that Title II is the appropriate classification for BIAS. The internet ecosystem has changed significantly since the 1996 Telecommunications Act, when most people accessed the internet via dial-up services and walled-garden portals like America Online and CompuServe. The lawmakers who drafted the 1996 Act were describing a completely different service to modern-day broadband internet access services. It is unreasonable to suggest that the lawmakers who drafted the 1996 Act intended for the transmission of data to be treated in the same manner as the data itself. After the flawed move to integrate telecommunications and information services in the *Cable Modem Order* in 2002, the Commission in 2015 took the appropriate step to return to treating transmission and applications as separable services. This regulatory approach accurately reflects the original intent of Congress and the current technical and business reality of broadband internet access service.

The record also makes clear that Section 706 cannot be the legal foundation for open internet rules. The Commission already tried this approach with the *2010 Open Internet Order*, which the D.C. Circuit Court of Appeals overturned in 2014. Furthermore, Chairman Pai's long, documented history of opposition to Section 706 as an independent source of authority makes it difficult to believe the Commission would rely on this authority to enact strong rules. The Commission's current Notice of Inquiry on the deployment of "advanced telecommunications

services” could further weaken the Commission’s authority under Section 706. Title II remains the clearest and strongest legal basis for net neutrality rules.

Second, the record contains no persuasive justification for repealing the ban on paid prioritization. Opponents of this bright-line rule do not acknowledge that it is designed to keep the internet a level, competitive playing field. The ability to pay for prioritization would tilt the playing field in favor of incumbent BIAS providers and a handful of large edge providers, while increasing costs for everyone else, including consumers. Further, as BIAS providers integrate with content services (e.g. AT&T and DirecTV, Comcast and NBCUniversal, and AT&T’s proposed takeover of Time Warner), their incentives to disadvantage competitors through expensive paid prioritization deals will only grow. These deals would distort the market and stifle small business growth.

Third, the record shows that antitrust law and other ex-post enforcement alternatives cannot adequately protect open internet principles. Voluntary commitments from BIAS providers would likely be weak and unenforceable. As the record demonstrates, the Federal Trade Commission is ill-equipped to single-handedly protect net neutrality without the FCC’s support. The FCC has a statutory mandate to protect telecommunications networks and has the rulemaking power to do so. It is the expert agency with respect to protecting consumers in the BIAS market, and nothing in the record justifies abandoning that expertise and leaving consumers and the market vulnerable to BIAS provider abuses.

Fourth, the record details how reclassifying BIAS as a Title I service would hurt the public interest—particularly in the contexts of the Lifeline program, consumer privacy, and network investment. Without Title II, the Commission’s legal basis for offering Lifeline support for standalone broadband service would weaken substantially. As a result, potentially millions of Americans could lose vital support for internet access, and the Commission would lose its best tool for bridging the digital divide. The loss of Title II would also eliminate the Commission’s strongest authority to protect consumer privacy in the BIAS market. The Commission’s role in

this space is particularly important as BIAS providers have the ability to collect and disseminate nearly comprehensive information about their customers. Under Title I, the Commission would have little, if any, authority to promulgate strong rules to protect American privacy. Lastly, the loss of Title II would inflict substantial risk on the internet economy—which the record demonstrates has been thriving under Title II. For the past two years, Title II has promoted innovation at the edge and not harmed network investment. Upending that legal regime would inflict uncertainty on the market and risk chilling online investment for no discernible benefit to the public interest.

Fifth, the record shows that the Commission should preserve its oversight of interconnection agreements. Transit providers and third-party researchers submitted evidence demonstrating that the 2015 Order has deterred the kinds of interconnection congestion that harmed millions of Americans prior to the Order's enactment. Moreover, the state of New York submitted evidence demonstrating that this congestion was part of a deliberate strategy that BIAS providers developed to extract new fees from interconnecting parties. All of this underscores precisely why the Commission must maintain its authority to adjudicate interconnection disputes and oversee agreements. The comments from several large BIAS providers and their trade associations are inaccurate and misleading and they should carry no weight in the current proceeding. The Commission should retain its authority to protect the American people from interconnection abuse.

Lastly, the record shows that the Commission should continue to enforce regulatory parity between mobile and fixed BIAS providers. The record contains broad support for this parity and makes clear that there is no technical or legal justification for disparate regimes. Broadband internet access is a telecommunications service and mobile BIAS is clearly a common carrier commercial service within the meaning of Section 332 of the Communications Act. In the modern era, mobile BIAS "is interconnected with the public switched network" because the service "gives subscribers the capability to communicate to or receive

communication from [all] other users on the public switched network,” a network of networks that today includes the traditional circuit-switched phone networks as well as the IP-switched internet. Finally, the record supports maintaining a reasonable network management exception that is narrowly tailored to technical management to ensure that the open internet rules allow providers to manage their networks for technical considerations, but do not open a loophole that allows business decisions to dictate if and how consumers access various edge content and services online.

I. Introduction

The Federal Communications Commission's 2015 *Open Internet Order* and reclassification of broadband internet access service (BIAS) providers were legally justified, necessary to protect an open internet, and have not catalyzed any sort of demonstrable harm to the internet nor to BIAS providers' networks. These arguments are all supported by robust evidence in the record from a large number of filers from the public interest and internet economy communities. The open internet rules currently in place are the best way to ensure that the internet continues to be a platform for innovation, a thriving economy, free speech, education, and democracy. The Commission's 2015 net neutrality rules gave the agency the strongest foothold to enforce open internet protections to protect the public interest. The 2015 Order protects consumers and businesses from potentially harmful BIAS provider practices. The record shows these providers have both the ability and incentive to engage in anti-competitive behavior such as paid prioritization as well as blocking and throttling competing services.

Title II classification is not just the best way to ensure open internet protections, it is also the most appropriate classification for BIAS providers, as they undoubtedly provide a telecommunications service in the context of the 1934 and 1996 Acts. Applying Title II to BIAS providers is consistent with the regulatory history of the communications marketplace. The Commission is the expert agency in telecommunications and should retain its jurisdiction over one of the primary methods of communication in the modern age, broadband.

The record shows that repealing the 2015 Order and the Commission's Title II authority over BIAS providers could result in substantial harm to consumers, the internet ecosystem, and the broader internet economy. The Commission should carefully review the potential damage a reversal of the Title II classification would cause the public and abandon this fatally flawed NPRM.

II. The record demonstrates that Title II is the appropriate classification for BIAS

Broadband internet access service (BIAS) providers and the NPRM attempt to cast doubt on the proper classification of BIAS by pointing to, among other things, the history of the 1996 Telecommunications Act (“the Act” or “1996 Act”) and the Commission’s various classification orders. However, these arguments are not persuasive. First, the meaning of “internet access service” has changed since 1996, when it generally meant dial-up service that was provided separately over a telecom service—typically, a telephone line. Second, even if Congress thought that both broadband transmission and content were Title I services in 1996, that outdated determination should not apply today given the changes in the market. Third, the Commission long understood that transmission and information that rides on top of that transmission were separable and thus could be classified appropriately. The Commission wrongly abandoned that understanding in the *Cable Modem Order* and its subsequent reclassification orders.

A. The meaning of “internet access service” has changed since the dial-up era of 1996

The 1996 Act passed against a background starkly different than today. The Commission and BIAS providers attempt to argue that Congress dictated the classification of all internet services in perpetuity when a few lawmakers stated “internet” services should not be regulated under Title II.¹ They also argue that the Commission’s contemporaneous interpretations of the 1996 Act indicated broadband should be classified as an information service.² However, “internet access service” is not a static term. When the term was used in 1996, it more closely resembled the edge services of today, which, unlike transmission of data, are unequivocally information services.

¹ See, e.g., *Restoring Internet Freedom, Notice of Proposed Rulemaking*, 32 FCC Rcd 4434, ¶¶ 10, 34 (2017) (“NPRM”). The Commission and BIAS providers also attempt to argue that Congress, when it wrote cabined definitions of internet service in Sections 230 and 231, dictated internet service classification in perpetuity. OTI addressed that argument (which should be rejected) thoroughly in its initial comments. See OTI Comments at 34-35.

² NPRM, ¶ 39.

As an initial matter, Congress likely understood the internet access market in the context of dial-up service—the most common form of internet access service in 1996. Broadband as we know it today hardly existed. According to the Commission, even in 1998 only 30 million Americans subscribed to narrowband (dial-up) services, and a mere half of all households had personal computers.³ Further, in the first Section 706 report, the Commission stated “[n]umerous companies in virtually all segments of the communications industry are starting to deploy, or plan to deploy in the near future, broadband to the consumer market.”⁴ That sentiment is borne out in the numbers. “There appears to be a significant initial demand for broadband in the consumer market—at least 375,000 paying customers.”⁵ Further, telephone and satellite were the only technologies that were considered “nationwide” by the Commission in 1999. Most other broadband technologies, including cable modem service, were deployed only in “some major cities, suburbs and rural areas.”⁶

Given this context, legislators using the term “internet access service” in the mid-1990s were most likely referring specifically to dial-up service—which was typically a walled-garden service like America Online or CompuServe that was separate from the telephone transmission line.⁷ The NPRM points to a public statement by five senators as justification for Title I

³ *Inquiry Concerning the Deployment of Advance Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, Report*, 14 FCC Rcd 2398, ¶ 86 (Feb. 2, 1999) (“*First 706 Inquiry*”), https://apps.fcc.gov/edocs_public/attachmatch/FCC-99-5A1.pdf.

⁴ *Id.* ¶ 12.

⁵ *Id.* ¶ 88.

⁶ *Id.* ¶ 61 (Chart 2).

⁷ OTI Comments at 25; Rob Pegoraro, *The Trump Administration Gets the History of Internet Regulations All Wrong*, Wash. Post (May 12, 2017), <https://www.washingtonpost.com/posteverything/wp/2017/05/12/the-trump-administration-gets-the-history-of-internet-regulations-all-wrong/> (“In the 1990s, the tiny share of Americans online usually got there by using dial-up modems to reach Internet service providers — often small, local companies — over the copper lines owned and operated by phone companies.... As phone companies began providing digital subscriber line (DSL) broadband over their lines, slower dial-up services faded. But Title II rules stayed in effect.”).

classification of internet services,⁸ but it is highly unlikely these five individuals intended to assert that the *transmission* of all internet data (as opposed to the data itself) should be treated as an information service in perpetuity.

Reports from the mid-1990s also show that the Commission defined “internet access service” with dial-up in mind. In particular, the 1998 *Stevens Report* discussed “internet access service” by noting that dial-up internet service providers offer services like Usenet forums, Telnet applications, email, web page hosting, FTP clients, and newsreaders.⁹ The Commission further recognized that “[i]nternet access providers, typically, own no telecommunications facilities. Rather, in order to provide those components of Internet access services that involve information transport, they lease lines, and otherwise acquire telecommunications, from telecommunications providers—interexchange carriers, incumbent local exchange carriers, competitive local exchange carriers, and others.”¹⁰ In fact, the only mention of “broadband” is in Commissioner Powell’s concurring statement.

Later in 1998, the *Digital Subscriber Line (DSL) Classification Order* understood internet access service similarly. That order addressed an early version of broadband (xDSL-based advanced services), similar to what we consider BIAS today. There, the Commission understood xDSL-based services as a transmission service, and separately referred to “Internet access

⁸ NPRM, ¶ 34.

⁹ *Federal-State Joint Board on Universal Service, Report to Congress*, 13 FCC Rcd 11501, ¶ 76 (1998) (“*Stevens Report*”). In describing the types of “information services” capabilities provided by internet access providers, the Commission emphasized (in the *Stevens Report*) the number of decisions internet providers make: “An Internet service provider receives and stores these articles (in 1996, about 1.2 gigabytes of new material each day) on its own computer facilities. Each Internet service provider must choose whether to carry a full newsgroup feed, or only a smaller subset of available newsgroups. Each Internet service provider must decide how long it will store articles in each newsgroup, and at what point it will delete them as outdated.... Its function seems indistinguishable from that of the database proprietor offering subscribers access to information it maintains on-site; such a proprietor offers the paradigmatic example of an information service.” *Id.* ¶ 77. Today, it is typically edge providers (properly classified as information services) that make those decisions.

¹⁰ *Stevens Report*, ¶ 81.

services” when discussing edge-provider-like services such as email and web hosting. For instance, the Commission stated “[a]n end-user may utilize a telecommunications service together with an information service, as in the case of Internet access. In such a case, however, we treat the two services separately: the first service is a telecommunications service (e.g., the xDSL-enabled transmission path), and the second service is an information service, in this case Internet access.”¹¹ Similar to the *Stevens Report*, here the Commission focused the definition of internet access service on the separate services and applications that are transmitted by Title II carriers. Applying this logic to today’s networks, the Commission should treat the transmission portion separately from the information services that run over the network.¹²

It would take the Commission only four years to upend this understanding of networks. In 2002, when the Commission considered cable modem service, it again recognized the distinction between transmission and internet access service when it stated “[r]esidential high-speed Internet access services are provided primarily over” transmission technologies like coaxial cable and DSL.¹³ But it began to meld and conflate transmission and other services when it defined “internet access providers” as providers that “combine computer processing, information storage, protocol conversion, and routing with transmission to enable users to access Internet content and services.”¹⁴ The Commission emphasized that “[c]able modem service typically includes many and sometimes all of the functions made available through dial-up Internet access service, including

¹¹ *Deployment of Wireline Services Offering Advanced Telecommunications Capacity, Memorandum Opinion and Order and Notice of Proposed Rulemaking*, 13 FCC Rcd 24011, ¶ 36 (1998), https://transition.fcc.gov/Bureaus/Common_Carrier/Orders/1998/fcc98188.pdf.

¹² See generally OTI Comments at 27-28.

¹³ *Internet Over Cable Declaratory Ruling, Declaratory Ruling and Notice of Proposed Rulemaking*, 17 FCC Rcd 4798, ¶ 9 (2002) (“*Cable Modem Order*”). “High-speed internet access services” are much like what the Commission defined as “broadband internet access services” in the *2015 Open Internet Order*. See *Protecting and Promoting the Open Internet, Report and Order*, 30 FCC Rcd 5601, ¶ 187 (2015) (“*2015 Open Internet Order*”).

¹⁴ *Id.* ¶ 11 n.43.

content, e-mail accounts, access to news groups, the ability to create a personal web page, and the ability to retrieve information from the Internet, including access to the World Wide Web.”¹⁵ But the Commission decided that cable modem service also included a transmission component.¹⁶ This marked a significant departure from the Commission’s earlier understanding of internet access services as being purely apps that make use of a separable transmission service.

Subsequent orders applied similarly flawed logic as the *Cable Modem Order*. For instance, the *Wireline Broadband Classification Order* states:

Wireline broadband Internet access service, for purposes of this proceeding, is a service that uses existing or future wireline facilities of the telephone network to provide subscribers with Internet access capabilities. The term ‘Internet access service’ refers to a service that *always and necessarily* combines computer processing, information provision, and computer interactivity with data transport, enabling end users to run a variety of applications such as e-mail, and access web pages and newsgroups.¹⁷

This definition is again different from the late-1990s definition, which primarily focused on the apps and services provided by internet service providers like AOL and CompuServe. Unlike those services, the “internet access service” provider of 2005 “always and necessarily” combined information processing with transmission, even though just a few years before, they were different services. This further shows that the Commission has changed its definition of “internet access service” over the years.

In sum, in 1996, dial-up internet access service was an information service offered over a separable telecommunications service. In the *DSL Classification Order* in 1998, what we today call BIAS was a separable telecommunications service, and the applications (confusingly termed

¹⁵ *Id.* ¶ 10.

¹⁶ *Id.* ¶ 38.

¹⁷ *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, Report and Order and Notice of Proposed Rulemaking*, 20 FCC Rcd 14853, ¶ 9 (2005) (“*Wireline Broadband Classification Order*”) (emphasis added).

“internet access service” at the time) were information services. With the *Cable Modem Order* in 2002 and the subsequent reclassification decisions, these separate telecommunications and information services were deemed a single, integrated service. In 2015, the Commission properly returned to the original understanding of broadband, that transmission and applications are separable services necessitating separate classifications.¹⁸ With the changing technology and terminology over the past two decades, it is unreasonable to argue that Congress required the transmission component of broadband to be classified as an information service, or that contemporaneous interpretation of the 1996 Act by the Commission favors such a classification.

B. New circumstances justified the 2015 Order

Lawmakers’ understanding of dial-up internet service in 1996 should not control the Commission’s actions in 2017. The technology required for internet service providers to discriminate in 1996 was nascent and primarily focused on security. Circumstances have changed in the subsequent two decades, which the Commission correctly understood when it enacted the 2015 Order.

1. Since 1996, broadband has replaced dial-up service and traffic discrimination technology has evolved

The problems addressed by the 2015 Order did not exist in 1996, largely because BIAS providers lacked the ability to discriminate traffic in a significant or targeted manner. While telecommunications networks have long been able to block connections based on superficial properties related to the recipient, the automated and scalable ability to identify the sources and nature of traffic require dedicated functionalities, commonly called Deep Packet Inspection (DPI).

¹⁸ See *2015 Open Internet Order*, ¶ 331.

In 1996, DPI technology was new and research literature focused on its use as a security function.¹⁹ The inclusion of DPI functionality into specialized hardware and common equipment only began in the early 2000s,²⁰ and it did not spread to BIAS providers until a few years after that. While it is difficult to determine exactly when DPI became a viable option for large networks, much of the underlying research first appears in 1998, such as with the publication of the Bro Intrusion Detection System.²¹ Likewise, the patents that describe the functions of DPI, such as detection of traffic based on signature characteristics, were first filed in 2002 and 2003.²² The earliest, high-profile examples of BIAS providers using DPI did not occur until a decade after Congress passed the 1996 Act, when Madison River Communications blocked VoIP in 2005 and Comcast throttled BitTorrent and other apps in 2007.²³ There is some evidence that DPI was still too expensive for BIAS providers to implement even in 2008.²⁴

¹⁹ Testimony of Gigi B. Sohn, to the U.S. Senate Committee on Commerce, Science, and Transportation, (Sept. 25, 2008), at 4, https://www.commerce.senate.gov/public/_cache/files/73f050c9-9f11-46b0-826c-f9d32512a338/750D7CB7E272E1FE44016EA5F7A503D2.sohntestimony.pdf.

²⁰ See Dan Patterson, *Deep Packet Inspection: The Smart Person's Guide*, TechRepublic (Mar. 9, 2017), <http://www.techrepublic.com/article/deep-packet-inspection-the-smart-persons-guide>.

²¹ Vern Paxson, *Bro: A System for Detecting Network Intruders in Real-Time*, ICSI Networking and Security Group, <http://www.icir.org/vern/papers/bro-CN99.html> (last visited August 29, 2017).

²² See United States Patent US 7424744 B1 Wu *et al.*, Signature based network intrusion detection system and method (filed Mar. 5, 2002), <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnethtml%2FPTO%2Fsearch-adv.htm&r=128&f=G&l=50&d=PTXT&s1=7424744&p=3&OS=7424744&RS=7424744>; United States Patent US 8788650 B1, Xie, Hardware based detection devices for detecting network traffic content and methods of using the same (filed July 21, 2003), <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnethtml%2FPTO%2Fsearch-adv.htm&r=6&f=G&l=50&d=PTXT&p=1&S1=8788650&OS=8788650&RS=8788650>; United States Patent US 8789183 B1, Xie, Detecting network traffic content (filed July 21, 2003), <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnethtml%2FPTO%2Fsearch-adv.htm&r=4&f=G&l=50&d=PTXT&p=1&S1=8789183&OS=8789183&RS=8789183>.

²³ See Joint Comments of Internet Engineers, Pioneers, and Technologists at 34 (“Network engineer comments”); see also M. Chris Riley & Ben Scott, *Deep Packet Inspection: The End of the Internet as We Know It?*, Free Press (Mar. 2009), https://www.freepress.net/sites/default/files/resources/Deep_Packet_Inspection_The_End_of_the_Internet_As_We_Know_It.pdf. Comcast's throttling practice, subject to a Commission enforcement proceeding in 2007, originally began in 2005. See *Comcast Corporation Description of Current Network Management Practices* at 3, https://downloads.comcast.net/docs/Attachment_A_Current_Practices.pdf.

²⁴ See Ellen Marja Wesselingh, *Website Blocking: Evolution or Revolution? 10 Years of Copyright Enforcement by Private Third Parties*, *Internet, Law & Politics. A Decade of Transformations* at 65 (July

Today, there are myriad examples of problematic BIAS provider practices, including zero-rating of affiliated content and the Verizon Supercookie.²⁵ The ultimate worry, of course, is that BIAS providers will turn the internet into a carbon copy of cable television, a centralized system with most, if not all, content acquisition decisions made by the cable provider rather than users.²⁶ This fundamental shift would destroy the power of the internet as an organizing tool, as a level playing field for e-commerce, and as a speech platform. Congress did not contemplate these developments when developing the 1996 Act, nor could it have predicted the future threats to internet freedom. However, the Commission had the benefit of studying this history and understanding the changed circumstances when it enacted the 2015 Order.

2. Unfettered internet access is necessary for full participation in society, and BIAS provider attempts and incentives to undermine that should be addressed through strong rules at the Commission

Americans need unfettered broadband access to fully participate in society. The very power of the internet comes from its ability to give voice to anyone and everyone, and particularly to those voices that have historically been silenced or limited in traditional media.²⁷ That power can be upended by BIAS provider business or other interests, either through paid priority or manipulating content with which the provider disagrees or does not like. Given the stakes, it is entirely reasonable for the Commission to impose net neutrality regulations in response to even four²⁸ specific types of such behavior and an incentives analysis. Classification under Title II, in

12, 2014), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2464969 (“DPI is considered to be too expensive for Internet Access Providers, both economically and in data traffic delay.”).

²⁵ Network Engineers Comments at 35-40.

²⁶ Press Release, Internet Association, Internet Association Files with FCC and Calls for Net Neutrality Rules to Be Kept in Place, July 17, 2017, <https://internetassociation.org/files-fcc-calls-net-neutrality-rules-kept-place> (“No one wants to live in a world where the internet is like cable TV and consumers have to pay to access only a curated version of the internet”).

²⁷ Voices for Internet Freedom Coalition Comments at 10-33.

²⁸ NPRM, ¶ 50.

addition to be sound policy from a technical standpoint, provides the soundest legal basis for these protections.

AT&T claims that net neutrality advocates keep returning to the “dry well” of BIAS provider discrimination.²⁹ First, the well is quite full. A set of comments filed by network engineers and technologies goes into great detail describing BIAS provider practices that violate at least the spirit of net neutrality, such as zero rating, search redirecting, encryption stripping, and introducing new vulnerabilities into web browsing traffic.³⁰ There is no shortage of examples.³¹

Second, agencies and legislatures often pass laws and regulations as a deterrent. Since 2005, some form of net neutrality protections have been on the books or in the works.³² Given that, we would in fact *expect* few, potentially zero examples of the outlawed behavior. The fact that the well is so full despite the existence of federal protections for over a decade is indicative of how much BIAS providers are champing at the bit to discriminate against traffic and therefore interfere with consumers’ ability to access the content of their choosing.

C. Before 2002, the Commission had long assumed correctly that basic (telecom) and enhanced (information) services were separable and thus should be classified appropriately

Before the *Cable Modem Order*, the Commission long understood that basic and enhanced services (now called telecom and information services) were separable.³³ The Commission should maintain that understanding.

²⁹ AT&T Comments at 19.

³⁰ Network Engineers Comments at 37-40

³¹ Jacob Kastrenakes, *As Net Neutrality Dies, One Man Wants to Make Verizon Pay for its Sins*, Verge (Aug. 9, 2017), <https://www.theverge.com/platform/amp/2017/8/9/16114530/net-neutrality-crusade-against-verizon-alex-nguyen-fcc>.

³² NPRM ¶¶ 14-19.

³³ Some of this discussion occurred in Section II.A.

Technically speaking, the transmission of information and the information itself are separable.³⁴ In *Computer II*, the Commission stated that “the regulatory demarcation between basic and enhanced services [is] relatively clear-cut. An enhanced service is any offering over the telecommunications network which is more than a basic transmission service.”³⁵ The Commission even recognized the changing nature of telecommunications service at the time by stating the following:

Traditionally, transmission capacity has been offered for discrete services, such as telephone service. With the incorporation of digital technology into the telephone network and the inclusion of computer processing capabilities into both terminal equipment located in the customer’s premises and the equipment making up a firm’s “network,” this is no longer the case. Telecommunications service is no longer just “plain old telephone service” to the user. A subscriber may use telephone service to transmit voice or data. Both domestic and international networks allow for voice and data use of the same communications path. *Thus in providing a communications service, carriers no longer control the use to which the transmission medium is put. More and more the thrust is for carriers to provide bandwidth or data rate capacity adequate to accommodate a subscriber’s communications needs, regardless of whether subscribers use it for voice, data, video, facsimile, or other forms of transmission.*³⁶

The Commission understood that a “telecommunications service” could change from a “plain old telephone service” to something different, yet still be a telecommunications service.

The Commission in *Computer II* recognized that communications networks should be general purpose with enough capacity for users to access the services that run over them. The Commission stated “a carrier maintains its flexibility to structure its communications network such that the network efficiently functions as the basic building block upon which it (in the form of a separate subsidiary in some cases) as well as other service vendors can add computer facilities to perform myriad combinations and permutations of information processing, data processing,

³⁴ See OTI Comments at 25-27.

³⁵ *Amendment of Section 64.702 of the Commission’s Rules and Regulations (Second Computer Inquiry), Final Decision*, 77 FCC 2d 384, ¶ 97 (1980) (“*Computer II*”).

³⁶ *Id.* ¶ 94 (emphasis added).

process control, and other enhanced services.”³⁷ Thus, communications networks were a separate, general purpose network that provided the “building block” on which other service vendors could provide services. That remains true today, and the Commission properly recognized that role of the network in the 2015 Order.

The Commission’s temporary departure from this understanding in 2002 should not be repeated. When considering cable modem service, the Commission focused on whether the “offer” of service had separable components, not whether the services themselves were technically separable.³⁸ With the changing nature of the question, BIAS providers were given free reign to decide how they were classified. As long as they could convince the Commission that their “offer” was an inseparable information and telecom service, they could skirt Title II classification. The Commission should not restore this loophole when it is clear that the underlying services are separable. The *Cable Modem Order* was also inconsistent with the Commission’s early Section 706 inquiries, which clearly stated that “broadband service does not include content, but consists only of making available a communications path on which content may be transmitted and received.”³⁹

Further reinforcing the technical separability of data and transmission of data is the fact that third parties provide essentially all of the information services that BIAS providers claim they provide, and which, they say, turns their entire offering into an information service. The fact that third parties provide email, cloud storage, web hosting, and other information processing services significantly weakens the argument that the services are somehow inseparable. If the services

³⁷ *Id.* ¶ 96.

³⁸ See *Wireline Broadband Classification Order*, ¶ 9 (“Wireline broadband Internet access service, for purposes of this proceeding, is a service that uses existing or future wireline facilities of the telephone network to provide subscribers with Internet access capabilities.”).

³⁹ *First 706 Inquiry*, ¶ 23.

were as inseparable as BIAS providers claim, one would expect that it would be nearly impossible for third parties to provide all of these same services over the same networks.

Services used for internal purposes—such as to ensure delivery of data—have long been considered telecommunications services as well. “Use internal to the carrier’s facility of companding techniques, bandwidth compression techniques, circuit switching, message or packet switching, error control techniques, etc. that facilitate economical, reliable movement of information does not alter the nature of the basic service.”⁴⁰ Today, this would include DNS and caching when used for telecommunications management.⁴¹ BIAS providers do not advertise their DNS and caching abilities, and consumers do not choose a BIAS provider based on DNS or caching capabilities. The fact that these services are *not* consumer-facing indicates that these are internal to the carrier and do not turn what is otherwise a telecom service into a Title I information service.⁴²

Moreover, Congress envisioned separating the services. The statutory definition of “telecommunications carrier” states that a telecom carrier shall only be treated as a common carrier to the extent it provides a telecom service.⁴³ This language implicitly recognizes that telecom carriers can provide non-telecom services, and that those services would be classified differently. The statutory definition of “information services” includes the phrase “via telecommunications,”⁴⁴ and telecommunications is the *transmission* of data at the request of the user.⁴⁵ These definitions clearly acknowledge a legal and technical separation between the two services. Congress envisioned that these services would be classified appropriately. The

⁴⁰ *Id.* ¶ 95.

⁴¹ See OTI Comments at 33-34.

⁴² Consumer perceptions are indicative of the “offer” made by BIAS providers. *Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 990 (2005) (*Brand X*).

⁴³ 47 U.S.C. § 153(51).

⁴⁴ 47 U.S.C. § 153(24).

⁴⁵ 47 U.S.C. § 153(50).

Commission should retain the Title II classification that was properly passed in 2015 and upheld by the DC Circuit Court of Appeals twice.

Thus, the 2015 Order properly classified BIAS as a telecom service.

D. The Commission Is Unlikely to Use Section 706 for Open Internet Rules and Should Wait Until It Completes Its Section 706 Report Before Moving Forward in this Proceeding

Several BIAS providers argue that the Commission could use Section 706 as a legal basis for open internet rules.⁴⁶ However, based on prior statements, Chairman Pai appears to oppose interpreting Section 706 as an affirmative grant of authority. Further, given his general skepticism of open internet regulations in general, it seems even less likely he would adopt a Section 706 approach.⁴⁷

Chairman Pai has long argued that Section 706 is a problematic source of authority for enacting regulations. In his dissent from the open internet NPRM in 2014, then-Commissioner Pai said that Section 706 provided the Commission (and by extension every state utility commission) “virtually unfettered authority” to regulate the internet.⁴⁸ In his dissent to the *2015 Open Internet Order*, he stated it is “simply wrong” that Congress delegated authority over broadband to the

⁴⁶ See AT&T Comments at 8 (“Section 706 is now an engrained part of telecommunications law, and the Commission could reasonably rely on that provision as its primary basis for open internet rules.”); see also Verizon Comments at 18 (“Finally, if the Commission were to decide to adopt rules of its own, the D.C. Circuit has held that Section 706 of the Telecommunications Act of 1996, 47 USC § 1302, affords the Commission the same authority to adopt rules pertaining to the open internet.”).

⁴⁷ See Statement of Commissioner Ajit Pai on FCC Internet Regulation (Feb. 19, 2014), https://apps.fcc.gov/edocs_public/attachmatch/DOC-325659A1.pdf (“Net neutrality has always been a solution in search of a problem.”); see FCC Commissioners on Open Internet Rules, C-SPAN (Feb. 27, 2015), <https://www.c-span.org/video/?324583-1/discussion-republican-fcc-commissioners-open-internet-rules&start=589> (“I think net neutrality is a solution that won’t work in search of a problem that doesn’t exist.”); see also The Communicators, C-SPAN (Jan. 16, 2016), <https://www.c-span.org/video/?403127-1/communicators-ajit-pai> (“I certainly wouldn’t have supported the adoption of the [net neutrality] regulations to begin with, I don’t think the record suggested a need for it... I don’t think we legally had the authority to do it...”).

⁴⁸ Dissenting Statement of Commissioner Ajit Pai, *Protecting and Promoting an Open Internet, Notice of Proposed Rulemaking*, (May 15, 2014) at 3, https://apps.fcc.gov/edocs_public/attachmatch/DOC-327104A5.pdf.

Commission through Section 706, that Section 706 does not “expressly” authorize the Commission to engage in rulemaking, and that Section 706 does not “expressly” authorize the Commission to “prescribe or proscribe the conduct of any party.”⁴⁹ Pai’s views on Section 706 have been unequivocal: “only one conclusion is possible: Congress did not delegate substantive authority to the FCC in Section 706 of the Telecommunications Act. Instead, that statutory provision is a deregulatory admonition.”⁵⁰ The chances are therefore low that now-Chairman Pai would change his mind on this point, given how vociferously he has argued against the use of Section 706 authority in the past. Suggestions by commenters that Section 706 provides a path forward are therefore unpersuasive.

To the extent Chairman Pai seeks to derive substantive authority from Section 706, that authority is directly tied to a finding that advanced telecommunications is not being deployed in a reasonable and timely fashion. But the recent *Section 706 Notice of Inquiry (Section 706 NOI)* may make that finding more difficult. In particular, the *Section 706 NOI* proposes to focus the inquiry “on whether *some form* of advanced telecommunications capability, be it fixed or mobile, is being deployed to all Americans in a reasonable and timely fashion.”⁵¹ With the addition of mobile services, and the underlying assumption that mobile and fixed broadband services are substitutable, the changed focus in the inquiry would have the effect of making the U.S. appear more adequately served than in previous years. In turn, that changed focus would make it more difficult for the Commission to make the affirmative finding that advanced telecommunications service is *not* being deployed in a reasonable and timely fashion, thus triggering Section 706

⁴⁹ See Dissenting Statement of Commissioner Ajit Pai, *Protecting and Promoting an Open Internet, Report and Order on Remand, Declaratory Ruling, and Order* (Mar. 12, 2015) at 52-53, https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-24A5.pdf.

⁵⁰ *Id.* at 57.

⁵¹ *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, Thirteenth Section 706 Report Notice of Inquiry*, ¶¶ 9-10, http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0808/FCC-17-109A1.pdf.

authority. With such a dramatic change in the methodology of the Section 706 Inquiry, Section 706 appears even more unlikely to provide authority for any open internet protections, much less strong protections.

We strongly recommend the Commission wait to take any action in this proceeding until it has completed its *Section 706 NOI* proceeding so that it may properly consider all comments in that proceeding, decide on whether advanced telecommunications capability is being deployed in a reasonable and timely fashion, and then use that to inform the open internet debate. To work in reverse order, thus leaving commenters to speculate on the Commission's Section 706 determination, is wasteful and inefficient.

III. The record contains no persuasive justification for repealing the paid priority ban

The initial comment round included extensive discussion of the 2015 Order's ban on paid prioritization.⁵² The NPRM and BIAS providers claim that this ban is categorically unreasonable because it addressed "an apparently nonexistent problem."⁵³ AT&T claims that the ban prevents BIAS providers from providing pro-consumer services.⁵⁴ The Commission should reject these arguments and maintain the bright-line rule banning paid prioritization.

BIAS providers argue that the paid prioritization ban is unfounded, unreasonable, and the "ultimate red herring."⁵⁵ AT&T in particular argues that paid prioritization would unequivocally

⁵² BIAS providers seem to generally agree that they should not be allowed to block or throttle information. AT&T Comments at 11, Comcast Comments at 53. The FCC should retain those rules in their entirety.

⁵³ NPRM ¶ 85; AT&T Comments at 37-46.

⁵⁴ AT&T Comments at 39-40.

⁵⁵ AT&T Comments at 38; *see also* Comcast Comments at 62 ("there is no sound policy rationale for a categorical ban on all paid prioritization arrangements in today's marketplace.").

enhance consumer welfare.⁵⁶ The record developed in this docket as well as in the previous comment period, which the Commission should incorporate into this proceeding, does not support these assertions.

AT&T argues that the Commission's actions in 2015 were premature because paid priority arrangements have not been operationalized.⁵⁷ While this may be true, it is difficult from the outside to know for sure. Even if it is true, it is likely because the Commission has disfavored these practices since at least the *2010 Open Internet Order*.⁵⁸ Even in 2010, the Commission understood that pay-for-priority was a problematic practice that would affect the underlying function and value of the internet. The lack of implementation of a practice banned since 2010 should not support the repeal of the rule. Moreover, these types of arrangements have certainly been contemplated, given Verizon's admission in federal court that it would be considering these types of arrangements but for the *2010 Open Internet Order*.⁵⁹

Further, while some BIAS providers claim they do not engage in these practices and do not plan to, that is simply not enough to protect consumers.⁶⁰ One example belies the usefulness of these statements. As mentioned above, Verizon admitted in federal court that it would be pursuing these arrangements if the Commission had not enacted rules disfavoring them in 2010.⁶¹ Without

⁵⁶ AT&T Comments at 38 (“Moreover, if and when such arrangements are operationalized, they would enhance consumer welfare, and flatly banning them could thus only injure consumers and suppress Internet innovation, particularly for latency-sensitive applications.”). We question this assertion especially because, as AT&T stated in its previous sentence, “both the paid prioritization of packets traversing the public Internet and any associated payments remain theoretical constructs that no ISP has yet operationalized for the mass market.” *Id.* Even assuming AT&T is correct and the practice has not been operationalized, it would seem premature to claim that all paid priority arrangements will enhance consumer welfare. *See also* Comcast Comments at 56.

⁵⁷ AT&T Comments at 38.

⁵⁸ *Preserving the Open Internet, Report and Order*, 25 FCC Rcd 17905, ¶ 128 (2010) (“*2010 Open Internet Order*”) (2010), https://apps.fcc.gov/edocs_public/attachmatch/FCC-10-201A1_Rcd.pdf.

⁵⁹ *2015 Open Internet Order*, ¶ 127.

⁶⁰ *Id.*

⁶¹ *Id.* ¶ 127 n.302.

such protections in place, consumers would be at the whim of their BIAS provider and pay-for-priority schemes would likely flourish.

Next, AT&T argues that even if these practices are implemented, there is little chance that they would cause consumer harm.⁶² AT&T specifically points to a few specific services, like online video gaming, video conferencing, and telehealth, to argue that consumers could benefit from paid priority practices. But this is hardly the only way BIAS providers would use paid priority arrangements as a business practice. As discussed above, if paid priority is allowed, BIAS providers will focus on maximizing revenue, not consumer welfare. For example, BIAS providers may force online gaming and video conferencing companies to pay prioritization fees that would ultimately be passed on to end users. It is difficult to see how this practice enhances consumer welfare.

AT&T further claims that “paid-prioritization arrangements could help level the playing field for small start-ups by enabling them to compete more effectively against better-funded incumbents.”⁶³ The notion that a startup could afford prioritized service that is beyond the reach of incumbents that AT&T acknowledges are “better-funded” defies common sense. Moreover, the startups that would supposedly benefit from paid-priority have told the Commission a very

⁶² AT&T Comments at 38; see CTIA Comments at 14. Some of the pro-consumer applications BIAS providers have cited in their comments may not even need to use BIAS providers’ networks, and thus it would be wrong to claim that a paid prioritization program could benefit them in the first place. For example, Comcast has noted the potential importance of opportunities for paid prioritization for “autonomous vehicles that may require instantaneous data transmission.” See Comcast Comments at 56. This is a red herring; the Commission’s rules do not limit the ability of Comcast or any other BIAS provider from selling “specialized” data services, such as those for applications in telehealth or data communication among autonomous vehicles, including vehicle-to-vehicle communications. These kinds of specialized services are exempt from Title II regulation and the bright-line rule against paid prioritization, to the extent they are not offering BIAS, and instead a narrower type of data service.

⁶³ AT&T Comments at 44.

different story. More than 1,000 startups have asked the Commission to preserve the ban on paid prioritization because it protects their business models and market viability.⁶⁴

Medical experts also oppose paid prioritization and told the Commission that it could harm the American health care system. As the American Association of Pediatrics explains in its comments, paid prioritization would have “detrimental effects on the elimination of health disparities, efficiency of healthcare, and access to health information by parents and caregivers” and would be “contrary to the health and well-being of infants, children, adolescents, and young adults.”⁶⁵ The chorus of comments in support of the paid prioritization ban is driven by the concern that “tiered pricing based on the type of content being delivered would disrupt the internet as we know it and would harm doctors, patients, and smaller startup Internet companies working diligently to upgrade our nation’s digital healthcare infrastructure.”⁶⁶ Others argue that paid prioritization would force health care providers to “pass along increased costs to patients.”⁶⁷

These concerns comport with the Commission’s 2015 conclusion (based on an extensive record) that paid prioritization would create fast and slow lanes that harm competition, consumers, innovation, public safety, and free expression.⁶⁸ Paid prioritization could also deter venture capitalists from investing in online companies that are subject to new fees.⁶⁹ And as OTI

⁶⁴ See Engine Advocacy, *Startups for Net Neutrality* (2017), <http://www.engine.is/startups-for-net-neutrality>.

⁶⁵ American Association of Pediatrics Comments at 1, <https://ecfsapi.fcc.gov/file/7521376015.pdf>.

⁶⁶ Matthew Douglass, *A Digital Health Care Argument for Net Neutrality*, TechCrunch (May 16, 2013), <https://techcrunch.com/2014/11/29/a-digital-healthcare-argument-for-net-neutrality/>; Jorge A. Rodriguez, *Why Net Neutrality Matters for Digital Health*, Tincture (July 12, 2017) <https://tincture.io/why-net-neutrality-matters-for-digital-health-equity-1db0e72856c6>.

⁶⁷ Beatriz Malloy, *What Happens to Telemedicine if We Lose Net Neutrality?*, HealthCareDive (May 31, 2017), <http://www.healthcaredive.com/news/what-happens-to-telemedicine-if-we-lose-net-neutrality/443908/>.

⁶⁸ *2015 Open Internet Order*, ¶ 126.

⁶⁹ See *2015 Open Internet Order*, ¶ 127 (“documenting the harms could prove challenging, as it is impossible to identify small businesses and new applications that are stifled before they become commercially viable.”); see also David Talbot, *Talk of an Internet Fast Lane Is Already Hurting Some*

argued in 2014, paid prioritization disproportionately affects innovators with little or no outside funding, which puts start-ups, as well as larger companies with narrow profit margins, at a major competitive disadvantage.⁷⁰

AT&T's claim that "if and when such arrangements are operationalized, they would enhance consumer welfare, and flatly banning them could thus only injure consumers and suppress Internet innovation, particularly for latency-sensitive applications," is contradicted by a wide range of commentators.⁷¹ The practice harms both consumers and edge providers, and the Commission should continue to ban the practice.

IV. The record shows that antitrust law and other ex-post enforcement alternatives are inadequate

Several commenters suggest that the open internet can be adequately protected through *ex post* enforcement, particularly by the Federal Trade Commission.⁷² However, these arguments ignore the inherent flaws of voluntary commitments, the FCC's expertise, the flexibility of the current rules, and the general weakness of *ex post* enforcement compared to *ex ante* regulation.

A. Voluntary commitments and the FTC cannot adequately protect the open internet

Startups, MIT Technology Review (May 7, 2014), <http://www.technologyreview.com/news/527006/talk-of-an-internetfast-lane-is-already-hurting-some-startups>.

⁷⁰ OTI Comments, *Preserving and Promoting the Open Internet*, Dkt. No. 14-28, at 13 (July 17, 2014). In 2014, Level 3, Cogent, and Netflix had all been very vocal about access fees and the damage those fees do to their business. *Id.* at 13-14. Contextly also stated that it had "every reason to believe that the cable and phone companies will implement pay-to-play arrangements. This has been obvious since at least late 2005 and early 2006, when executives at AT&T and Verizon declared an intention to charge web companies for using 'their pipes' and eating a 'free lunch.'" *Id.* at 15. Etsy and AARP also supported the paid priority ban. See Etsy Comments at 4; AARP Comments at 21-23.

⁷¹ See Comments of AT&T, 17-108 at 38 (July 17, 2017), <https://www.fcc.gov/ecfs/filing/10717906301564>.

⁷² FTC Staff Comments at 3; Comcast Comments at 63; Cox Comments at 23; NCTA Comments at 54; Consumer Enterprise Institute Comments at 27.

A number of commenters suggest that *ex post* enforcement by the FTC will adequately address threats to the open internet. Multiple BIAS providers argue that their public commitments to open internet practices, such as those found in their terms of use, would become effectively binding and subject to FTC oversight. Comcast, for example, states it will publicly “promise to keep the commitments in its policies” and only alter these commitments as required by changes in law or regulation.⁷³ Cox extolls its own commitment to open internet practices.⁷⁴ And the NCTA proposes a code of conduct for members to adopt.⁷⁵

These proposals suffer from the same flaw: they are voluntary. Voluntary commitments will not give consumers or the market sufficient confidence that net neutrality will be protected. Typically, voluntary commitments are made by individual companies, each holding very different views of what should be protected. It is clear, based on the previous section, that few, if any, BIAS providers will voluntarily commit not to engage in paid prioritization. BIAS providers may promise not to block or throttle traffic, but those promises mean little if the BIAS provider can force edge companies to pay for faster service, creating fast and slow lanes, and thus harming consumers while still proclaiming to support “the open internet.”

Another flaw in voluntary commitments is that they can change at any time.⁷⁶ A BIAS provider may initially promise to protect everything in the 2015 Order to curry favor with regulators. But there is nothing to prevent BIAS providers from abandoning those pledges in the future, and competitive forces are unlikely to keep them in check.⁷⁷ Consumers have few alternatives in the BIAS market, face high switching costs if they do, and have no guarantee that

⁷³ Comcast Comments at 63.

⁷⁴ Cox Comments at 23.

⁷⁵ NCTA Comments at 54.

⁷⁶ FTC Commissioner Terrell McSweeney Comments at 4 (“McSweeney Comments”).

⁷⁷ See Jon Brodtkin, *50 million US homes have only one 25Mbps Internet provider or none at all*, Ars Technica (June 30, 2017), <https://arstechnica.com/information-technology/2017/06/50-million-us-homes-have-only-one-25mbps-internet-provider-or-none-at-all>; Terrell McSweeney Comments at 4.

an alternative BIAS provider will have better net neutrality promises.⁷⁸ Accordingly, a voluntary net neutrality regime would leave consumers almost entirely at the whim of their current BIAS provider.

The set-top box proceeding offers an instructive example of how BIAS providers are likely to operate under a voluntary regime.⁷⁹ In response to a proposed rulemaking to make the set-top device market more competitive, the cable industry offered a counterproposal to move the industry away from cable boxes entirely, rendering the need for regulation moot.⁸⁰ When the proposed rulemaking was shelved earlier this year, so too was the cable industry's counter proposal.⁸¹ A similar dynamic could occur if the Commission relinquishes its oversight of BIAS providers to the FTC; once the threat of regulation disappears, there would be nothing to stop BIAS providers from renegeing on their promises and leaving both the FCC and FTC powerless to hold them accountable. If that happens, BIAS providers will have little incentive to follow through on any promises made in this proceeding.

Further, terms of service are opaque and often difficult for consumers to understand, if they even read them in the first place. They are unlikely to give consumers a clear understanding of what practices the BIAS provider engages in at any given moment. The BIAS provider may leave certain practices ambiguous. Without an explicit promise, consumers may have no idea whether the BIAS provider engages in paid prioritization.⁸² Strong rules in place at the federal level, as are

⁷⁸ 2015 Open Internet Order, ¶¶81.

⁷⁹ *Expanding Consumers' Video Navigation Choices, Notice of Proposed Rulemaking and Memorandum Opinion and Order*, 31 FCC Rcd 1544 (2016), https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-18A1_Rcd.pdf.

⁸⁰ *Moving Forward on "Ditching the Box" not "Unbundling the App,"* NCTA (July 22, 2016), <https://www.ncta.com/platform/public-policy/moving-forward-on-ditching-the-box-not-unbundling-the-app>.

⁸¹ Rob Pegoraro, *Big Cable Broke Its Promise and You're Paying For It*, Yahoo! Finance (June 23, 2017), <https://finance.yahoo.com/news/big-cable-broke-promise-youre-paying-191135140.html>.

⁸² Some of these concerns could be alleviated by a strong transparency rule, though the NPRM appears to signal that the transparency rule could be weakened as well. NPRM, ¶¶ 89-91.

currently in place, provide the maximum clarity for consumers, edge providers, and BIAS providers as to what types of behavior are allowed.

Moreover, antitrust law is too narrow in scope to address the full range of threats to net neutrality. Hal Singer, himself an opponent of Title II classification, argues that antitrust law is poorly suited to address concerns about paid prioritization because “nondiscrimination obligations generally do not flow from the antitrust laws.”⁸³ Mr. Singer offers a hypothetical in which a BIAS provider enters into an exclusive arrangement to prioritize a telemedicine provider, concluding that this would not violate antitrust laws because there is no attempt by the BIAS provider to disadvantage one of its horizontal rivals—a requirement for the discriminatory-refusal-to-deal antitrust doctrine.⁸⁴ Mr. Singer also reiterates some of OTT’s prior concerns, that “private litigants would be reluctant to [file an antitrust complaint] given the low likelihood of prevailing under the antitrust laws” and “antitrust litigation imposes significant costs on private litigants, and it does not provide timely relief; if the net neutrality concern is a loss to edge innovation, a slow-placed [sic] antitrust court is not the right venue.”⁸⁵ And when it comes to antitrust agencies, “it likely would take an edge provider months if not years to motivate an antitrust agency to bring a case.”⁸⁶

Thus, it is not unreasonable to expect that if the Commission relies on industry promises (which it need not do), the industry will eventually move away from explicit promises to protect the open internet, or may carve out their own exceptions to serve their own interests. But because

⁸³ See Hal J. Singer, *Paid Prioritization and Zero Rating: Why Antitrust Cannot Reach the Part of Net Neutrality Everyone Is Concerned About*, (2017), https://www.americanbar.org/content/dam/aba/publishing/antitrust_source/aug17_singer_8_2f.authcheckdam.pdf

⁸⁴ *Id.* at 3.

⁸⁵ *Id.*

⁸⁶ *Id.*

ISPs know that there will be little oversight of a self-regulatory regime, this is the regime for which they advocate most strongly.

B. The FCC is the expert agency on consumer protection in the BIAS market

Commenters also suggest that because the 2015 Order is inherently a consumer protection regime, the FTC should be solely charged with enforcing these protections.⁸⁷ However, the FCC is the expert agency in wired and wireless communications with a long history of protecting the public interest, convenience, and necessity in a variety of contexts.⁸⁸ The FCC has long focused on consumer protection, with many statutes explicitly requiring the FCC to protect the interests of consumers.⁸⁹ Additionally, the FCC has had a Consumer Advisory Committee since 2000.⁹⁰ Chairman Pai's recent effort to combat robocalls is a consumer protection measure.⁹¹ It is therefore difficult to believe an argument that the FCC has little experience protecting consumers.

Moreover, the FTC is constrained by its narrow Section 5 authority, which limits the agency's ability to consider the multitude of factors inherent in protecting consumers in the BIAS market, such as the interplay between networks and edge providers, First Amendment protections for speech and assembly, and investment levels.⁹² The unfairness and deception standards that guide the FTC are ill-suited for open internet protections. As discussed above, deception requires a

⁸⁷ See Verizon Comments at 15; NTCA Comments at 11.

⁸⁸ See, e.g., Jon Sallet, *FCC Transaction Review: Competition and the Public Interest*, FCC (Aug. 12, 2014), <https://www.fcc.gov/news-events/blog/2014/08/12/fcc-transaction-review-competition-and-public-interest>; Anthony E. Varona, Note, *Toward a Broadband Public Interest Standard*, 61 Admin. L.Rev. 1 (2009), https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1015&context=facsch_lawrev; 47 U.S.C. § 151.

⁸⁹ See, e.g., 47 U.S.C. § 222, 47 U.S.C. § 631, 47 U.S.C. § 521(4), 47 U.S.C. § 532(a), 47 U.S.C. § 157.

⁹⁰ Consumer Advisory Committee, FCC, <https://www.fcc.gov/consumer-advisory-committee> (last visited August 29, 2017).

⁹¹ Press Release, The First 100 Dates Under FCC Chairman Ajit Pai: Bringing the Benefits of the Digital Age to All Americans, FCC, https://apps.fcc.gov/edocs_public/attachmatch/DOC-344732A1.pdf.

⁹² The FCC has been analyzing and monitoring these issues for decades through reports, rulemakings, and critical analysis, and has become an important agency for data collection and analysis.

material statement or omission likely to mislead a reasonable consumer.⁹³ Every prong presents the opportunity for BIAS providers to argue they did not deceive their customers. And deception applies to what BIAS providers actually say, which can be changed at any time. Unfairness has similar downfalls. An unfair act or practice must cause substantial injury to customers that they cannot reasonable avoid and with no countervailing benefits to customers or competition.⁹⁴ It is unclear what constitutes a substantial injury to a single customer or edge provider in the case of an open internet violation. It is also unclear what a countervailing benefit to customers or competition would be. All of these questions are unanswered in the FTC ex post enforcement context, leaving consumers and BIAS providers grasping in the dark with absolutely no clarity or certainty.

Thus, the FCC, with its extensive consumer protection expertise and authority, is better positioned to protect net neutrality and the public interest.

V. Reclassification back to Title I would substantially harm the public interest

If the Commission reclassifies BIAS to a Title I service, the harm to the Lifeline program, consumer privacy, and the economy could be significant. Nothing in the record demonstrates that these harms would not occur or otherwise be mitigated. The Commission should not risk inflicting this damage on the American people.

A. Title I would jeopardize the Commission's efforts to modernize Lifeline and bridge the digital divide

⁹³ See FTC Policy Statement on Deception (1983), https://www.ftc.gov/system/files/documents/public_statements/410531/831014deceptionstmt.pdf.

⁹⁴ Verizon comments at 16-17.

The NPRM’s proposal to reclassify BIAS providers under Title I threatens to undermine the Commission’s ongoing efforts to modernize the Lifeline program and help the millions of Americans stuck on the wrong side of the digital divide.⁹⁵ Some parties argued that the Commission will still be able to offer broadband Lifeline subsidies without Title II classification of BIAS.⁹⁶ However, the Commission would not necessarily be able to do so, as the Commission has the strongest legal authority to provide standalone broadband service to low-income Americans through the Lifeline program under Title II of the Communications Act. The 2016 *Lifeline Modernization Order* in large part relied on Title II classification of broadband to provide the authority to include stand-alone broadband in Lifeline. In fact, the Commission addressed the legality of using Section 254 for USF-supported broadband in the 2015 *Open Internet Order*. The Commission then concluded that directly applying Section 254 as part of its move to reclassify BIAS under Title II provided “both more legal certainty for the Commission’s prior decisions to offer universal service subsidies for deployment of broadband networks and adoption of broadband services and more flexibility going forward.”⁹⁷

As the Commission stated in its third *Lifeline Modernization Order*, the agency can provide standalone BIAS in the Lifeline program under the authorization of section 254(c)(1) that allows it

⁹⁵ At any rate, the NPRM does not tee up these issues in its one short paragraph. As Free Press notes, “[t]he few throwaway lines about Lifeline in paragraph 68 of the *Notice* suggest that the Commission understands the instant proceeding impacts Lifeline broadband, yet does little to protect it.” See Free Press Comments at 72, <https://ecfsapi.fcc.gov/file/1071818465092/Free%20Press%20Title%20II%20Comments.pdf>.

⁹⁶ See NCTA Comments at 20, <https://ecfsapi.fcc.gov/file/10717022415667/07.17.17%20NTCA%20Comments%20on%20Internet%20Freedom%20NPRM%20WC%2017-108..pdf>; Communications Workers of America and NAACP Comments at 20, <https://ecfsapi.fcc.gov/file/10717972714690/CWA%2C%20NAACP%20Comments%20-%20Net%20neutrality%20proceeding%20-%2017-108%20-%2017-17-17.pdf>; Verizon Comments at 23, <https://ecfsapi.fcc.gov/file/10717390819816/2017%2007%2017%20Verizon%20comments%202017%20Open%20Internet%20Notice.pdf>.

⁹⁷ 2015 *Open Internet Order*, ¶ 57.

to define universal service as an “evolving level of telecommunications services.”⁹⁸ The *Lifeline Modernization Order* defined BIAS as a supported service for the Lifeline program, and as a telecommunications service that “warrants inclusion in the definition of universal service,” deriving that authority from Title II reclassification.⁹⁹ While the Commission now claims that Section 254 is sufficient to include BIAS, it is unclear whether that authority is sufficient without the Title II classification of BIAS. As Public Knowledge and Common Cause argued in their initial comments, a carrier seeking the Commission’s support through the Universal Service Fund must be designated by the Commission or a state as an “eligible telecommunications carrier,” and only common carriers under Title II can be designated as eligible telecommunications carriers.¹⁰⁰

The Commission also fails to invite consideration of the potential impact the reinvestment requirement would have on resellers’ ability to provide subsidies for broadband, despite resellers’ prominence in the Lifeline program. As the California Public Utilities Commission wrote in its comments, wireless resellers have been successful in marketing to low-income households and enrolling them in state and federal subsidy programs such as Lifeline.¹⁰¹ The NPRM does not even acknowledge the importance of resellers to providing Lifeline service and their potential inability to offer standalone broadband without Title II classification of BIAS.

⁹⁸ *Lifeline and Link Up Reform and Modernization, Third Report and Order, Further Report and Order, and Order on Reconsideration*, 31 FCC Rcd 3962, ¶ 39 (2016) (“*Third Lifeline Modernization Order*”).

⁹⁹ *Id.* ¶ 39 n.92.

¹⁰⁰ Public Knowledge and Common Cause Comments at 96-97, <https://ecfsapi.fcc.gov/file/1071932385942/PK%20CC%20Updated%20Comments%20with%20Appendices%20FINAL.pdf>.

¹⁰¹ California Public Utilities Commission Comments at 17-18, <https://ecfsapi.fcc.gov/file/107172199528427/WC%20Docket%20No.%2017-108%20CPUC%20Comments%20on%20Restoring%20Internet%20Freedom.pdf> (“Non-facilities based wireless service providers receive most of the federal Lifeline and California LifeLine funds. By the end of 2015, 70% of the California LifeLine participants had discounted wireless services; by 2016 the percentage increased to 76% of the 2.16 million California LifeLine participants. The CPUC launched California LifeLine wireless telephone services in mid-March 2014. It took just one month thereafter to reverse the trend of 81 consecutive month-to-month decreases in program participation. By May 2015, participation in the California LifeLine Program more than doubled.”)

Title II classification of BIAS gave the Commission the strongest legal backing to offer subsidies for standalone broadband service for Lifeline recipients, and its proposal to require reinvestment will severely undercut resellers' ability to provide service. The Commission should not undermine the Lifeline program at this critical juncture where low-income Americans can finally receive standalone broadband service through the Lifeline program.

B. Title I would weaken the Commission's authority to protect consumer privacy

The Commission passed common sense, effective privacy rules in October 2016.¹⁰² These rules took into account the special circumstances of BIAS providers, and ensured that consumers had real choices based on informed consent when it came to how BIAS providers used, disclosed, and allowed access to customer data. The FCC underwent a long deliberation process and arrived at a rule that was nearly identical to the FTC's sensitive vs. non-sensitive regime. Unfortunately, BIAS providers prevailed over members of Congress, who subsequently nullified the rules by passing a resolution of disapproval under the Congressional Review Act.¹⁰³ This is yet another example of the Commission glossing over a very important issue that should be more thoroughly noticed and analyzed before the Commission reclassifies BIAS.

The FTC, for similar reasons as discussed above, is less equipped to protect broadband privacy. First, as explained in detail above, the FTC lacks robust rulemaking authority. It generally relies on *ex post* enforcement of Section 5 unfair and deceptive practices authority. FTC enforcement is "most clearly asserted" in situations where harm has already occurred or in cases

¹⁰² *Protecting the Privacy of Customers of Broadband and Other Telecommunications Services, Report and Order*, 31 FCC Rcd 13911 (2016), https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-148A1.pdf.

¹⁰³ Brian Naylor, *Congress Overturns Internet Privacy Regulation*, NPR (Mar. 28, 2017), <http://www.npr.org/2017/03/28/521831393/congress-overturms-internet-privacy-regulation>. The repeal has had the collateral effect of pushing states, especially those that care deeply about privacy such as California, to propose their own state-level solutions, much to the dismay of BIAS providers.

where terms of service were annulled.¹⁰⁴ As the Electronic Privacy Information Center notes, the “FTC lacks the regulatory authority to protect consumers before any harm has occurs and, if they do decide to take action, consumers have already suffered from not having adequate privacy protections.”¹⁰⁵ Additionally, unlike the FCC, the FTC is not “statutorily mandated” to protect consumers’ online privacy.¹⁰⁶ The FTC only has some jurisdiction to enact privacy rules in specific areas, such as the Children’s Online Privacy Protection Act, but even in the these areas the FTC’s regulation powers are limited.¹⁰⁷ The FTC cannot engage in rulemaking in the same manner as traditional federal agencies (and even when the FTC is able to go through rulemakings under the Magnuson-Moss Act, it takes an average of 5.26 years).¹⁰⁸ The FTC also has responsibilities to fight deceptive practices from companies across every sector, ranging from technology to automotive to the oil industries. These constraints limit the FTC’s ability to unilaterally protect users’ personal information, and underscore the need for the FCC to seriously consider the potential damage to the public interest if it decides to reclassify BIAS and cede all broadband privacy protection to the FTC.

Second, rules were preferable in the BIAS provider instance because the FCC understands the market, understands privacy, and knows how best to protect consumers from the most problematic privacy practices. It also had Section 222 of the 1996 Act to guide it. The FTC does not have similar statutory guidance and, while the FTC is a privacy expert, it is less of an expert in

¹⁰⁴ McSweeney Comments at 7 (“Both of these constraints compare unfavorably to the strong rules the FCC had in place for protecting consumer’s’ private information... Rather than roll back protections, we should augment them with renewed FCC vigor and a change to anachronistic barriers to FTC enforcement.”).

¹⁰⁵ Electronic Privacy Information Center Comments at 4, <https://ecfsapi.fcc.gov/file/1071713404549/EPIC-FCC-Privacy-Comments%20.pdf> (“While the FTC does have experience in this area their willingness and ability to take strong meaningful steps to protect online privacy has been muted and, unlike the FCC, the FTC is not statutorily mandated to protect online privacy.”).

¹⁰⁶ *Id.*

¹⁰⁷ Electronic Frontier Foundation Comments at 27.

¹⁰⁸ *Id.*

communications networks than the FCC. Thus, the FCC is the better agency to protect consumer privacy in the BIAS market.

OTI strongly urges the Commission to seriously consider the negative effects of consumer privacy from a decision to reclassify BIAS providers as a Title I service.

C. The record indicates that network investment, broadband speeds, and the economy are thriving under Title II

The NPRM and several commenters argue that Title II classification has dampened broadband infrastructure investment, but these claims are factually dubious and fail to take into account all of the benefits of the 2015 Order and Title II classification.

1. There is no persuasive evidence Title II classification has dampened broadband investment, in fact, the internet economy has continued to thrive

NCTA argues, without persuasive support, that the classification of BIAS as a Title II service “significantly dampened investment and innovation” in the two years since the Commission adopted the 2015 Order.¹⁰⁹ As an initial matter, two years is not long enough to determine whether a causal link exists between the 2015 Order and investment numbers (especially given that regulations are only one of many factors in whether and how companies invest). Both NCTA and Hal Singer agree.¹¹⁰

Arguments that broadband investment has decreased are unsupported by persuasive evidence. USTelecom, which also opposes the Title II classification of BIAS and has previously argued the 2015 Order has harmed broadband investment, recently released a research brief

¹⁰⁹ NCTA Comments at 32.

¹¹⁰ *Dear Harold Feld*, NCTA (June 13, 2017), <https://www.ncta.com/platform/public-policy/dear-harold-feld> (“Moreover, two years is too short a time to fully evaluate the impact of a Title II regime because investment horizons are typically much longer than two years.”); Hal J. Singer, Ph.D., Comments at 10, https://ecfsapi.fcc.gov/file/10717926007033/Singer_Internet%20Freedom%20Comments_final.pdf.

stating that “ongoing, widespread deployment of competitive broadband networks is the result of *substantial capital investment* in a dynamic, evolving market.”¹¹¹ This evidence from USTelecom shows that not only is there no demonstrated harm to broadband investment, but that investment is thriving following the Commission’s Title II classification of BIAS.

NCTA cites a study, and conducted by the Free State Foundation, that follows the trend of overall broadband capital expenditures from 2003 to 2015, when the Commission adopted the 2015 Order.¹¹² The study then extrapolates from that trend and argues that if the Commission had not adopted the Title II classification of BIAS, the broadband industry “likely” would have invested more in 2016.¹¹³ The argument from these commenters is not even that Title II classification “dampened” BIAS investment, but is instead speculation that if the Commission had not adopted the 2015 Order, BIAS providers would have invested more into infrastructure development. The study should be granted very little weight given its counterfactual and speculative nature.

The Internet Association (IA) argues that “[t]here is no reliable evidence that the 2015 Order has reduced ISPs’ investments in broadband infrastructure.”¹¹⁴ IA found that BIAS provider investment has increased over time and could not find any decrease as a result of the 2015 Order. The organization analyzed actual capital expenditure numbers, capacity, and prices and found that opponents’ claims of dampened investment “don’t mesh with reality.”¹¹⁵ IA’s research thoroughly documents the thriving internet and broadband economy following Title II

¹¹¹ *U.S. Broadband Availability Mid 2016*, USTelecom (Aug. 25, 2017), <https://www.ustelecom.org/sites/default/files/BB%20Availability%202016%201H%20RB%20Final%207.pdf> (emphasis added).

¹¹² *Broadband Investment Slowed by \$5.6 Billion Since Open Internet Order*, Free State Foundation (May 5, 2017), <http://freestatefoundation.blogspot.com/2017/05/broadband-investment-slowed-by-56.html>.

¹¹³ NCTA Comments at 32.

¹¹⁴ Internet Association Comments at 11-12, <https://ecfsapi.fcc.gov/file/10717274209550/IA%20Net%20Neutrality%20Comments%20Docket%2017-108%20F.pdf>.

¹¹⁵ *Id.*

classification, including but not limited to an increase in total capital investments by publicly traded ISPs (by 5 percent), an increase in capital investments at 16 of the 24 publicly traded ISPs, and an increase in broadband penetration in the two years since the 2015 Order.¹¹⁶

There is plenty of evidence that the rules have not hurt broadband infrastructure investment as the Chairman and other commenters have claimed, and that Title II classification has instead helped investment in the internet economy.

2. The 2015 Order has not slowed broadband speeds

Indeed, the 2015 Order appears not to have slowed the improvement of Internet speed in the United States—if anything, the opposite is true. When Measurement Lab (M-Lab) analyzed the 5.6 million tests performed by users against the M-Lab platform over the past 6 years,¹¹⁷ it found that from 2012 to 2014, internet speeds in the US improved at a rate of .23 Mbps every year. That is, every four years, the median rate should improve by around a megabit. From 2015 to 2017, it found that Internet speeds in the US improved at a rate of 1.9 Mbps per year. In other words, not only did US internet performance get better after the 2015 Order, it got better faster than it had previously.¹¹⁸ The Internet Association similarly reported that cable broadband speeds have doubled from 2014 to 2016.¹¹⁹

The evidence put forth by opponents of Title II classification that broadband speeds have been affected by the 2015 Order is unavailing. NCTA argues¹²⁰ that the Title II classification resulted in a “significant decline” in the rate of average broadband speed increases in the U.S.,

¹¹⁶ *Id.* at 12-13.

¹¹⁷ Measurement Lab has the complication that new tools and measurements were introduced in the past 6 years, so it has restricted its analysis to users using only one particular NDT client (uTorrent on Windows) for the past 8 years to ensure an apples-to-apples comparison.

¹¹⁸ Analysis of the M-Lab NDT dataset based on a selection of measurements conducted from February 2012 to May 2017.

¹¹⁹ See Internet Association Comments at 12.

¹²⁰ NCTA Comments at 33.

citing a study from the Phoenix Center.¹²¹ This Phoenix study actually contradicts a similar study from Akamai, promoted by NCTA as well, that showed the average peak internet connection speeds has steadily increased from 2015 to the first quarter of 2017, and that a massive uptick in Q1 of 2017 led to a “huge leap forward” in internet speeds compared to other countries.¹²² NCTA itself notes that “[i]f the last five years are any indication, internet speeds in America will continue to rise, broadband technology will continue to improve, and more Americans will reap the benefits of living in one of the world’s most connected countries.”¹²³ USTelecom gave a similar prognosis in a recent research brief, writing, “[c]ompetitive availability at higher speeds is growing rapidly as providers upgrade their widely deployed broadband networks.”¹²⁴

While opponents to Title II have attempted to argue the rules have hurt broadband speeds in the U.S., all available evidence makes it clear that broadband speeds have thrived and improved in the years following the Title II classification of BIAS. There is no reliable proof that internet speeds would have grown at a faster rate had the Commission not reclassified BIAS.

VI. The record does not support dismantling the Commission’s oversight of interconnection

Several large BIAS providers and their trade associations submitted inaccurate and misleading comments regarding the NPRM’s proposal to abandon oversight of interconnection

¹²¹ *Broadband Speeds Post-Reclassification: An Empirical Approach*, Phoenix Center (Jun. 27, 2017), <http://www.phoenix-center.org/perspectives/Perspective17-07Final.pdf>.

¹²² *America’s Internet Speeds Continue to Soar*, NCTA (June 2, 2017), <https://www.ncta.com/platform/broadband-internet/americas-internet-speeds-continue-to-soar/>.

¹²³ *Id.*

¹²⁴ *U.S. Broadband Availability Mid 2016*, USTelecom (Aug. 25, 2017), <https://www.ustelecom.org/sites/default/files/BB%20Availability%202016%201H%20RB%20Final%207.pdf>.

agreements.¹²⁵ These commenters mischaracterize the interconnection market prior to 2015, peddle falsehoods about the nature of interconnection, and completely ignore the widespread consumer harm that the Commission was trying to address in the 2015 Order. Accordingly, the interconnection analysis in these comments should carry no weight in the current proceeding. The Commission should retain its authority to protect the American people from interconnection abuse.

A. BIAS providers' analysis of the interconnection market rests on flimsy evidence and poor reasoning

Prior to the enactment of the 2015 Order, the interconnection market showed signs of failure. Several BIAS providers ignore these signs and wrongly claim that the interconnection market was “efficient, dynamic, and robustly competitive,”¹²⁶ “well functioning,”¹²⁷ and “hyper-efficient.”¹²⁸ These assertions are not supported by any compelling evidence.

Comcast and NCTA both cite five press releases as evidence of the interconnection market's health. However, the press releases merely establish, anecdotally, that five traffic exchange agreements were reached over the past 10 years. They merely prove that interconnection continues to occur, which no one disputes. Indeed, if interconnection stopped occurring, the internet itself would cease to exist. The press releases prove nothing about the health of the interconnection market. They offer no insight into whether the terms of the agreements were reasonable, how those agreements were brokered, or whether consumers were harmed during the negotiations.

¹²⁵ See Comcast Comments; AT&T Comments; Cox Comments; NCTA Comments; US Telecom Comments.

¹²⁶ Comcast Comments at 73.

¹²⁷ Cox Comments at 34.

¹²⁸ AT&T Comments at 46.

They certainly do not prove that the public has nothing to worry about and that the Commission should abandon its oversight role.

Comcast, AT&T, and Cox also point to declining prices for transit services as evidence that the interconnection market was healthy prior to 2015. As an initial matter, this premise is flawed. The guiding measure of the interconnection market's health should be the consumer experience, not transit pricing. Millions of Americans have suffered as collateral damage during interconnection negotiations; whether consumers continue to suffer during these negotiations should be the primary metric by which the Commission assesses the market.

However, even if one were to accept the commenters' flawed premise, they nonetheless fail to provide compelling data. Comcast, AT&T, and Cox all rely on the same lone source for their pre-2015 data: William Norton's "DrPeering" website. Mr. Norton himself acknowledges that his data collection methods are less than rigorous:

My data are anecdotal and based on a variable and small sample size, polling maybe 30–50 people three to five times a year. The transit price points are collected on an ad-hoc basis at operations conferences that I attend every year. I ask ISPs and transit customers, "What is the going price for transit these days?" From the dataset I throw out the outliers and select the middle from the mass of numbers that fall within a narrow range. I would not recommend taking these numbers as anything but very rough indications.¹²⁹

Mr. Norton's ad-hoc efforts underscore the secretive nature of interconnection—and, ultimately, why we need the Commission's oversight to shed light on these opaque dealings. Mr. Norton's website should not be the sole basis for a determination that the interconnection market was working well prior to 2015. Moreover, the commenters selectively highlight Norton's data from 2005 to 2015, when BIAS providers were classified under Title I, presumably to suggest that this

¹²⁹ William Norton, *What Are the Historical Transit Pricing Trends?*, DrPeering, <http://drpeering.net/FAQ/What-are-the-historical-transit-pricing-trends.php> (last visited Aug. 9, 2017).

regulatory regime led to declining transit prices. However, the commenters failed to disclose that Norton’s data shows declining transit prices for *every* year going back to 1998—before BIAS providers were classified under Title I. This suggests that the Commission’s legal classification of BIAS has no singular, significant impact on transit prices.

Comcast, AT&T, and Cox cite only one source for post-2015 data: a recent report from industry analyst Dan Rayburn.¹³⁰ This report claims that CDN prices fell substantially between May 2016 and May 2017—*after* the Commission established jurisdiction over interconnection. If anything, this data is evidence that the 2015 Order is working. It does not support any of the commenters’ claims about the pre-2015 market.

These two citations are the only quantitative data that the BIAS providers offer with respect to interconnection. The evidence is flimsy at best, and an exceptionally weak basis upon which to conclude that the Commission should abandon all oversight of the interconnection market. The Commission should not base this extreme step on such a slender reed.

AT&T also makes the qualitative claim that the 2015 Order “served only to distort this otherwise well-functioning [interconnection] market.”¹³¹ This baseless assertion is contradicted by AT&T’s own quantitative evidence. Specifically, AT&T claims that the interconnection authority created an “unreasonable double standard” and an “asymmetry [that] warps the negotiating process.”¹³² AT&T does not explain how the Commission’s limited oversight authority has, in practice, affected interconnection negotiations in any cognizable way, nor does it offer any data that the interconnection market has become distorted since 2015. Rather, AT&T only offers the aforementioned Dan Rayburn data showing that CDN prices have continued to plummet over the

¹³⁰ See *CDN Market Update: Web Performance, DIY, and CDN Pricing Trends*, Dan Rayburn (May 15, 2017), <http://blog.streamingmedia.com/wp-content/uploads/2017/06/rayburn-cdn-pricing-2017.pdf>.

¹³¹ AT&T Comments at 48.

¹³² AT&T Comments at 49.

past two years—and this is offered as proof that the market is *working*, not distorted.¹³³ This internal contradiction repeats itself throughout AT&T’s comments and indicates that the Commission should give their interconnection analysis no weight in the current proceeding.

AT&T, Comcast, Cox, US Telecom, and NCTA also ignore a prerequisite for any healthy, competitive market: informed and empowered consumers. In a “well-functioning” market, consumers hold businesses accountable for poor service by voting with their wallets. Due to limited choice, high switching costs, and poor transparency, consumers are unable to play this role in the interconnection market. NCTA agrees that consumers are a key ingredient: “If a broadband provider were to approach one of these [content] hyper-giants and threaten to block or degrade access to its site if it refused to pay a significant fee, such a strategy almost certainly would be self-defeating, in light of the immediately hostile reaction of consumers to such conduct.”¹³⁴ Indeed, such a tactic would be “self-defeating” if consumers were able to detect congestion, identify its cause, and reasonably switch to a non-congested network. But consumers lack the knowledge and ability to hold their BIAS provider accountable for interconnection disputes, which typically occur under a veil of secrecy. During the 2013-14 congestion crisis, many consumers realized their internet connections had degraded, but struggled to understand why. BIAS providers did not explain the cause of the congestion and, in some cases, actively misled consumers; some customer service agents reportedly told frustrated customers that their degraded service could be fixed if they paid for a more expensive service tier—a patently false explanation that did nothing to remedy the congestion.¹³⁵ This episode suggests that interconnection activity is

¹³³ *CDN Market Update: Web Performance, DIY, and CDN Pricing Trends*, Dan Rayburn (May 15, 2017), <http://blog.streamingmedia.com/wp-content/uploads/2017/06/rayburn-cdn-pricing-2017.pdf>.

¹³⁴ NCTA Comments at 16.

¹³⁵ *Beyond Frustrated: The Sweeping Consumer Harms as a Result of ISP Disputes*, New America (Nov. 2014), https://na-production.s3.amazonaws.com/documents/Beyond_Frustrated.pdf. (“Beyond Frustrated”).

so opaque that a BIAS provider's own employees may be unaware that a dispute is happening. With so many disempowered actors in this space, the Commission cannot reasonably conclude that the interconnection market is "well-functioning."

Ultimately, the flimsy and opaque evidence submitted by the aforementioned commenters underscores why the Commission must consider data from its recent merger reviews. The Commission studied the interconnection market while reviewing the Comcast/Time Warner Cable, AT&T/DirecTV, and Charter/Time Warner Cable transactions. The evidence in those merger dockets could confirm whether the market is healthy and fill the enormous gaps in the BIAS providers' arguments. INCOMPAS has filed a motion to make this happen, which the Commission should approve.¹³⁶ Tellingly, Comcast and AT&T are actively fighting this motion and seeking to keep this data hidden.¹³⁷

B. BIAS providers distort and misrepresent how interconnection functions and what the 2015 Order does

Comcast, AT&T, Cox, NCTA, and US Telecom fundamentally distort the nature of interconnection and the authority that the Commission established in 2015. Their comments

¹³⁶ Motion of INCOMPAS to Modify Protective Orders, WC Docket No. 17-108 (July 17, 2017) <https://ecfsapi.fcc.gov/file/10717078280118/INCOMPAS%20Motion%20to%20Modify%20Protective%20Orders-WC%20Docket%20No.%2017-108.pdf>; OTI Support of INCOMPAS Motion to Modify Protective Orders, WC Docket No. 17-108 (Aug. 3, 2017), <https://ecfsapi.fcc.gov/file/10804234727853/OTI%20Support%20of%20INCOMPAS%20Motion.pdf>; Public Knowledge Support of Motion of INCOMPAS to Modify Protective Orders, WC Docket No. 17-108 (July 31, 2017), <https://ecfsapi.fcc.gov/file/10731805730077/pk%20support%20of%20incompas%20motion.pdf>.

¹³⁷ See Comcast Corporation's Opposition to Motion of INCOMPAS to Modify Protective Orders, WC Docket No. 17-108 (July 27, 2017), <https://ecfsapi.fcc.gov/file/10727386819615/2017-07-27%20AS-FILED%20Comcast%20Opposition%20to%20Incompas%20Motion%20To%20Modify%20POs.pdf>; See Opposition of AT&T Services Inc. to Motion of INCOMPAS To Modify Protective Orders, WC Docket No. 17-108 (July 27, 2017), <https://ecfsapi.fcc.gov/file/10727087328737/AT%26T%20Opposition%20to%20Incompas%20Motion%2007-27-2017.pdf>.

conflate, obfuscate, and misrepresent critical aspects of how the interconnection market is structured.

First, several commenters conflate the different types of interconnection, demonstrating a poor understanding of what the 2015 Order was designed to address. Interconnection refers to the process by which the “network of networks” exchange traffic with each other. This includes (1) traffic exchanges between two backbone networks (“backbone-backbone interconnection”) and (2) traffic exchanges between a backbone network and a BIAS network (“backbone-BIAS interconnection”). The 2015 Order addressed the latter, backbone-BIAS interconnection.¹³⁸

However, multiple commenters conflate the two types of interconnection. For example, NCTA cites a former FCC official’s 2000 working paper about *backbone-backbone interconnection* as evidence that the Commission should abandon its oversight of *backbone-BIAS interconnection*.¹³⁹ This paper concerns an inherently different market than the one addressed by the 2015 Order. It is inapposite at best and contains analysis that actually supports the 2015 Order’s interconnection authority.¹⁴⁰

Similarly, Comcast cites the 2011 merger of Level 3 and Global Crossing as evidence that the Commission’s interconnection authority is unnecessary.¹⁴¹ That merger combined two backbone providers. Accordingly, the Commission’s findings addressed backbone-backbone interconnection, not backbone-BIAS interconnection. The findings are similarly inapposite to the current proceeding and are misapplied by Comcast.

¹³⁸ 2015 Open Internet Order, ¶ 196.

¹³⁹ NCTA Comments at 46 (noting that the FCC paper found that the “absence of a dominant backbone ... encourage[s] interconnection between backbones and thereby protect consumers from any anti-competitive behavior on the part of backbone providers.”). See Michael Kende, FCC Office of Plans and Policy, *The Digital Handshake: Connecting Internet Backbones*, at 1 (Sep. 2000), http://transition.fcc.gov/Bureaus/OPP/working_papers/oppwp32.pdf.

¹⁴⁰ Kende’s paper notes that the “absence of a dominant backbone” is key to maintaining competitiveness in the backbone transit market. *Id.* The backbone market may not be dominated by a handful of providers, but the BIAS market is. Since this paper was published in 2000, four dominant BIAS providers have emerged due to mergers and acquisitions. As a result, the competitive pressure that protected consumers in Kende’s analysis no longer exists in the BIAS market.

¹⁴¹ Comcast Comments at 75.

Relatedly, multiple commenters relied on a misconception that interconnection is competitive because edge providers have many “alternative routes” to deliver their content to end users.¹⁴² This falsehood fundamentally misrepresents the architecture of the internet by once again conflating backbone-backbone interconnection with backbone-BIAS interconnection. Indeed, edge providers can choose from myriad routes across the internet’s backbone. If a particular backbone-backbone interconnection fails, the edge provider can likely find an alternative backbone-backbone interconnection. The problem arises at the point of *backbone-BIAS* interconnection. If that handoff point is congested or otherwise fails, there are no alternate routes. The only avenue for reaching a BIAS provider’s retail customers is through one of their interconnections with a backbone network. That interconnection is the critical bridge that links edge providers to consumers. If that bridge is closed or otherwise broken, the number of alternate routes leading up the bridge is irrelevant. What matters is that the bridge is the only route that ultimately reaches consumers, and that the BIAS provider has exclusive control over that route.¹⁴³ This is the fundamental point that BIAS providers misunderstand and misrepresent in their comments.

BIAS providers also misrepresent their bargaining power. By virtue of their exclusive control over access routes to consumers, BIAS providers exert enormous leverage when negotiating interconnection deals with edge providers. However, several commenters wrongly

¹⁴² See US Telecom Comments at 20 (asserting that the myriad “alternative routes” for internet transit “prevent an ISP from acquiring monopolistic leverage over edge providers”); see also Comments of Cox Communications, Inc., at 17, GN Docket Nos. 10-127 & 14-28 (July 18, 2014) (“Redundant network architecture gives edge providers substantial control over the arrangements through which their Internet traffic flows to and from Cox’s and other Internet service providers’ networks”).

¹⁴³ See Cogent Comments at 5 (“While thousands of networks collectively comprise the Internet, BIAS providers control the only path to reach the tens of millions of customers who subscribe to their broadband services”); Letter from Level 3 to U.S. Department of Justice (Dec. 16, 2010) (“Comcast and other last-mile providers enjoy a unique position within the Internet -- access to their subscribers must be achieved through direct or indirect interconnection with Comcast. There is simply no other way to deliver to Comcast’s subscribers the content that they request”).

assert that edge providers have the greater leverage. For example, AT&T claims that it cannot “selectively degrade” an interconnection point because the edge provider “chooses the interconnection facilities they will use for sending content to the ISP’s customers.”¹⁴⁴ As explained above, this reasoning is flawed and misunderstands how interconnection operates. The existence of multiple routes across the backbone does not enhance an edge provider’s bargaining position. The fact remains that BIAS providers retain exclusive control over the only route that matters in this context: the route into the BIAS provider’s network. This gatekeeper control gives many BIAS providers maximal advantage in interconnection negotiations.

The New York Attorney General recently submitted bombshell evidence revealing that at least two BIAS providers used their dominant bargaining position to extract new fees from interconnecting partners.¹⁴⁵ New York filed internal documents from two BIAS providers detailing a “deliberate business strategy” to allow their interconnection ports to congest until the other party agreed to pay new fees. Time Warner Cable (now Charter) described this strategy as “a game of chicken.”¹⁴⁶ New York’s evidence dovetails with M-Lab’s data showing severe degradation across multiple BIAS networks during the same timeframe.¹⁴⁷ It also directly refutes AT&T’s claim that it could not execute a “degradation by congestion” strategy because it would be “a commercial nonstarter” that would “radically degrade the provider’s Internet access service and threaten its status as a broadband provider to both consumers and businesses.”¹⁴⁸ And yet, radical degradation is precisely what happened for millions of American internet users in the years leading up to the 2015 Order. The New York Attorney General explains that “BIAS providers took

¹⁴⁴ AT&T Comments at 47.

¹⁴⁵ Comments of the People of the State of New York, WC Docket No. 17-108 (July 17, 2017) (“New York Comments”).

¹⁴⁶ *Id.*

¹⁴⁷ Comments of Measurement Lab, WC Docket No. 17-108 (July 15, 2017).

¹⁴⁸ AT&T Comments at 48.

advantage of this unregulated space by manipulating interconnection arrangements to extract fees from backbone and edge providers, to the direct detriment of their customers.”¹⁴⁹ BIAS providers did not lose business from this strategy because their customers face limited options and high switching costs. Moreover, since the degradation was occurring on all of the nation’s largest BIAS networks in 2013-14, consumers were likely to find that an alternative provider was also experiencing severe degradation. In short, consumers had nowhere to run.

Moreover, US Telecom wrongly invokes small BIAS providers as evidence of edge providers’ bargaining power. US Telecom begins with a straw man: “The suggestion that ISPs with only tens or even hundreds of thousands of end-users could have market power over an edge provider like Netflix is contrary to both common sense and the experience of those ISPs.”¹⁵⁰ Indeed, this does defy common sense—because it is a claim that nobody makes. The market dynamics described by OTI and other commenters make clear that smaller BIAS providers were not implicated in the congestion crisis of 2013-14.¹⁵¹ None of this changes the material facts that led the Commission to correctly conclude in 2015 that interconnection needs oversight.

Lastly, commenters incorrectly claim that the 2015 Order’s interconnection authority created a “one-sided” burden on BIAS providers.¹⁵² The 2015 Order merely established that aggrieved parties can turn to the Commission as a forum to resolve interconnection disputes. That forum is available on equal terms to everyone and it does not impose any special or asymmetric

¹⁴⁹ New York Comments at 2.

¹⁵⁰ US Telecom Comments at 22.

¹⁵¹ See Comments of Level 3, WC Docket No. 17-108 (July 17, 2017); Comments of Cogent, WC Docket No. 17-108 (July 17, 2017); Comments of INCOMPAS, WC Docket No. 17-108 (July 17, 2017); *see also* Letter from Barbara S. Esbin, American Cable Ass’n, to Marlene H. Dortch, Secretary, FCC, at 4, GN Docket Nos. 10-127 & 14-28 (Feb. 2, 2015) (“These [small] operators described how, rather than trying to congest their interconnection points for the purpose of demanding payments from edge providers, they have had to work hard to even get the attention of OTT video distributors for the purpose of enabling a better consumer experience.”)

¹⁵² Cox Comments at 34; NCTA Comments at 45.

burden on BIAS providers. Moreover, no commenter explains what this mythical burden could be. This claim is a baseless assertion that distorts the plain meaning of the 2015 Order.

C. BIAS providers ignore the empirical evidence that interconnection abuse has caused widespread consumer harm

The Commission predicated its interconnection authority on a clear and robust record of anti-competitive tactics and consumer harm. Several commenters blithely ignored this record when they claimed that the Commission had “no policy justification”¹⁵³ or “empirical basis”¹⁵⁴ for overseeing interconnection agreements. In reality, the 2015 Order responded to strong empirical evidence showing that interconnection congestion had harmed millions of Americans. OTI and M-Lab documented the interconnection-related congestion that quietly swelled into a national crisis in 2013 and 2014.¹⁵⁵ The New York Attorney General submitted internal company documents demonstrating that BIAS providers made a “deliberate business decision” to let their networks congest.¹⁵⁶ New York’s investigation also uncovered evidence that the strategy “was not limited to a single instance or locality. This practice was used for years by at least two of the country’s biggest BIAS providers who operate in New York and in many other states.”¹⁵⁷ This finding is consistent with Measurement Lab’s data that indicated the congestion would persist for months on end until an interconnecting party agreed to new terms, upon which the congestion would disappear within a matter of days.¹⁵⁸ Level 3 and Cogent also explained how this congestion crisis

¹⁵³ NCTA Comments at 45.

¹⁵⁴ AT&T Comments at 48.

¹⁵⁵ See Beyond Frustrated.

¹⁵⁶ New York Comments at 1.

¹⁵⁷ New York Comments at 1.

¹⁵⁸ See Beyond Frustrated.

harmed transit providers.¹⁵⁹ None of the aforementioned commenters refute or otherwise engage with Measurement Lab’s data, the New York Attorney General’s investigation, or the transit provider accounts. All of these comments tell a consistent and persuasive story: that BIAS providers manufactured a congestion crisis, at great harm to their customers, in order to extract new monopoly rents from interconnecting partners. BIAS providers may be willing to dismiss this crisis, but the Commission cannot turn a blind eye to the evidence. This record provided a strong and compelling case for federal action to address a crisis that effectively broke the internet for millions of Americans. The industry comments do not refute the quantitative evidence of this congestion, nor do they provide a compelling justification for abandoning oversight of the interconnection market and leaving Americans vulnerable to another congestion crisis.

VII. Mobile BIAS is a Commercial Mobile Radio Service and properly subject to common carrier consumer protections

Whether the classification of mobile BIAS as a “private” mobile service (PMRS) was plausible in 2007, in 2017 the NPRM’s proposal to redefine mobile BIAS as a “private” radio service (akin to a private taxi or push-to-talk workplace network)—and not as a “commercial” service (akin to the mobile voice services)—only serves to reinforce the fact that the more consistent and natural interpretation of the Act is the one adopted by the FCC in 2015 and upheld by the D.C. Circuit Court in 2016. Broadband internet access is a telecommunications service and mobile BIAS is clearly a common carrier commercial service within the meaning of Section 332 of the Communications Act. Today mobile BIAS “is interconnected with the public switched network” because the service “gives subscribers the capability to communicate to or receive communication

¹⁵⁹ See Level 3 Comments at 1; Cogent Comments at 1.

from [all] other users on the public switched network,” a network of networks that today includes the traditional circuit-switched phone networks as well as the IP-switched internet.

There is also a clear consensus among commenters that both fixed and mobile broadband internet access should continue to be subject to the same set of rules. No party offers a compelling reason to apply different rules to different network technologies that cannot be accommodated by the current reasonable network management exception. The record strongly supports the principle of regulating broadband internet access in a manner that is as technologically and competitively neutral as possible. The overwhelming majority of commenters recognize that the substantial increases in adoption and capabilities of mobile broadband reinforce the need for regulatory parity, as does mobile broadband’s role as the primary, and often the only, means of internet access for low-income and minority households. Finally, the Commission should summarily reject the proposal by two mobile BIAS providers that reasonable network management exceptions should be made for *business and financial* reasons in addition to legitimate technical reasons. This is a transparent attempt to preempt protections for consumers and edge providers, as well as to distort the market for increasingly competing and convergent BIAS services.

A. The Commission and D.C. Circuit correctly determined that mobile BIAS meets the definition of a Commercial Mobile Radio Service

CTIA and several of its largest mobile carrier members (AT&T, Verizon, T-Mobile) filed comments that do little more than rehash the same arguments they made in their appeal of the 2015 Order—arguments that the D.C. Circuit Court of Appeals thoroughly considered and rejected in its *U.S. Telecom* decision. Rather than acknowledge that its interpretation of Section 332 is contrary both to Congressional intent and to the reality that the capabilities of mobile BIAS are

radically different in 2017 compared to 2007, CTIA instead argues that the D.C. Circuit upheld “a radical and unlawful departure from the statute,”¹⁶⁰ while AT&T claims the D.C. Circuit “adopted an alternative rationale” of its own devising that “does not withstand scrutiny.”¹⁶¹ The mobile industry’s certitude concerning arguments that have been rebuffed by both the Commission in 2015 and by what it calls the D.C. Circuit’s “panel majority” in 2016 is particularly curious since this year the full D.C. Circuit rejected the industry’s petition to revisit the thorough analysis adopted by the majority in *U.S. Telecom*.

OTI’s initial comments contributed additional evidence on the two primary points of contention concerning whether mobile BIAS is properly classified under Section 332 as a Commercial Mobile Radio Service (CMRS) rather than as a Private Mobile Radio Service (PMRS).¹⁶² Specifically, we addressed at length the question of whether mobile BIAS is a “service that is interconnected with the public switched network”¹⁶³ because the service “gives subscribers the capability to communicate to or receive communication from [all] other users on the public switched network.”¹⁶⁴ And OTI discussed whether Congress in 1993, or the Commission in 1994, intended the term “public switched network” to be forever limited to the circuit switched *telephone* network. In the sections below we revisit each of these issues in turn to explain why the interpretation of Section 332 advanced by CTIA and several of its members remains as unconvincing now as they were in 2015 and 2016.

1. Mobile BIAS is an interconnected service because it provides the capability to communicate with all users of the telephone network

¹⁶⁰ CTIA Comments at 48.

¹⁶¹ AT&T Comments at 94-95.

¹⁶² See OTI Comments at 67-94.

¹⁶³ 47 U.S.C. § 332(d)(1) and § 332(d)(2).

¹⁶⁴ 47 C.F.R. § 20.3 (the prior version of the definition – through June 11, 2015 – included the word “all,” which is discussed further below).

Putting aside the fact that mobile BIAS is not remotely comparable to a private mobile radio service (PMRS),¹⁶⁵ whether mobile BIAS is properly classified as CMRS hinges on whether it is an “interconnected service” that is offered to the general public (or “a substantial portion of the public”) for a fee.¹⁶⁶ As the D.C. Circuit observed, the debate—and the holding in *U.S. Telecom*—boils down to “whether mobile broadband [BIAS] ‘makes interconnected service available’”¹⁶⁷ to the public because the service “gives subscribers the capability to communicate to or receive communication from [all] other users on the public switched network.”¹⁶⁸

Comments filed by CTIA, AT&T and Verizon all emphasize, as they did on appeal, that mobile BIAS *itself* is not “interconnected with the public switched network”¹⁶⁹ because users are not able to “call telephone numbers” unless they take the additional step of downloading third-party Voice over Internet Protocol (VoIP) applications, such as Google Voice or Skype.¹⁷⁰ For a number of reasons, the court in *U.S. Telecom* rejected this line of reasoning. The court found no meaningful distinction between mobile broadband *itself* enabling a connection and mobile

¹⁶⁵ As we explained in our comments, PMRS networks are private, closed and special-purpose networks connecting people (typically workers) engaged in a common enterprise. OTI Comments at 95-96. The Wireless Bureau’s 1996 report on Private Land Mobile Radio Services (PLMRS), just two years after the FCC’s *CMRS Order*, restates the commonly accepted understanding that private mobile radio services in the 1990s “offered users access to a *discrete and limited set of endpoints*.” Michele Farquhar (Chief, Wireless Telecommunications Bureau), *Private Land Mobile Radio Services: Background*, FCC Staff Paper (Dec. 18, 1996), at iv (emphasis added), <http://wireless.fcc.gov/reports/documents/whtepapr.pdf>. The Wireless Bureau explained that

[What] differentiates private wireless use from commercial use . . . is that . . . Private radio users employ wireless communications as they would any other tool or machine – radio contributes to their production of some other good or service. For commercial wireless service providers, by contrast, the services offered over the radio system is the end product. . . .

This difference in purpose is significant because it has historically been the foundation of the different regulatory treatments afforded to the different communities.

Id. at 7.

¹⁶⁶ 47 U.S.C. § 332(d)(1).

¹⁶⁷ *U.S. Telecom v. FCC*, 825 F.3d 674, 714 (2016) (quoting 47 U.S.C. 332(d)(1)).

¹⁶⁸ 47 C.F.R. § 20.3 (the prior version of the definition, through June 11, 2015, included the word “all,” which is discussed further below).

¹⁶⁹ 47 U.S.C. § 332(d)(2).

¹⁷⁰ Verizon Comments at 47 (“Section 332 asks whether *the service . . . is interconnected . . . not whether the service allows consumers to acquire other services that bridge the gap to the telephone network*”). *Accord* CTIA Comments at 50; AT&T Comments at 94-95; Mobile Future Comments at 12-13.

broadband enabling a connection through the use of an application.¹⁷¹ Indeed, as the court in *U.S. Telecom* stated, not only does virtually anything that a consumer purchases mobile broadband service to do (including accessing the Internet) require a software application (some built into the device, others downloaded in seconds from a pre-loaded app store connection),¹⁷² increasingly mobile carriers themselves are building in applications, such as Wi-Fi calling, that connect calls initiated over the Internet (IP endpoints) to all telephone numbers (NANP endpoints, such as landlines).

For these and other reasons the D.C. Circuit in *U.S. Telecom* concluded:

Mobile petitioners do not challenge the Commission’s understanding that a “capability to communicate” suffices to establish an interconnected service Consequently, the capability of mobile broadband users “to communicate to” telephone users via VoIP suffices to render the network—and, most importantly, its users—“interconnected.”¹⁷³

Although communication from mobile BIAS users “to” telephone numbers is sufficient to satisfy the definition of an “interconnected service,” the majority opinion went on to observe that the record before the Commission in 2015 also showed that a mobile broadband (or other computer) user can use an application or service “enabling her to receive telephone calls [from NANP endpoints] to her IP address.”¹⁷⁴

Rather than acknowledge that technology, consumer behavior and marketplace trends are rapidly blurring any meaningful distinction between the internet and traditional telephone networks (the “PSTN”), CTIA and its members seek to take us back in a time machine to 1994 or

¹⁷¹ *U.S. Telecom* at 721.

¹⁷² *Id.*

¹⁷³ *Id.*

¹⁷⁴ *Id.* at 722 (citing Public Knowledge, Ex Parte Letter, at 11, n. 50 (Dec. 19, 2014)) (describing applications and services, including Apple’s Continuity, Google Voice and Hangouts, and “Skype Number,” that enable mobile broadband users to receive calls from telephone users). OTI Comments at 84-87 (providing an updated description of these and other applications used that enable two-way voice calling and messaging between IP and NANP endpoints).

2007, to a time when either mobile BIAS did not exist or, as in 2007, a time when it was nascent and did not have today’s capabilities for easy interconnection with the circuit-switched telephone endpoints. The Commission’s findings in the 2007 *Wireless Broadband Ruling* were reasonable at the time.¹⁷⁵ But in 2017—as we clearly see the increasing convergence of mobile service offerings (mobile carriers market “data” packages, not separate voice calling and broadband products) and of mobile networks (all data over integrated IP networks)—there are several reasons why the repetition by CTIA and the dominant mobile carriers of the exact same arguments rejected in 2015 and again in 2016 are even less convincing in 2017.

First, as the court stated in *U.S. Telecom*, mobile BIAS “gives subscribers *the capability to communicate to*” and from telephone users (NANP numbers and endpoints) whether or not an application routes the call or translates the data between different protocols or addressing systems. Explaining that the Commission “had a different understanding about the relationship between mobile broadband and VoIP” in 2007 than it did in 2015, the D.C. Circuit found that the Commission properly based its conclusion in the 2015 Order on that fact that “VoIP applications now function as an integrated aspect of mobile broadband, rather than as a functionally distinct, separate service.”¹⁷⁶

It is nonsensical to argue, as Verizon and some other commenters do, that mobile BIAS does not give subscribers the capability to do anything that requires the use of “software applications.”¹⁷⁷ In reality, virtually all smartphone and tablet functionality is enabled by

¹⁷⁵ *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks, Declaratory Ruling*, 22 FCC Rcd 5901, ¶¶ 19-20 (2007) (“*Wireless Declaratory Ruling*”). The 2007 *Wireless Declaratory Ruling* concluded that even if mobile broadband services were an “interconnected service” for purposes of Section 332, “we find it would be unreasonable to classify mobile wireless broadband Internet access service as commercial mobile service because that would result in an internal contradiction within the statutory scheme.” *Id.* at ¶ 41.

¹⁷⁶ *U.S. Telecom* at 720.

¹⁷⁷ Verizon Comments at 47-48; see also AT&T Comments at 95; CTIA Comments at 50-51.

applications, some of which are “native” (mobile carriers build them into the device, such as FaceTime on every iPhone, or T-Mobile Wi-Fi Calling), some are pre-loaded before purchase (such as Google Voice on Android smartphones), and most others are downloaded in a matter of seconds from a gateway app that is also typically pre-loaded (e.g., the Apple “App Store” on every iPhone). This “capability” (apps) is what motivates consumers to purchase the service.

This is no different than legacy telephone and other Title II services that have always required customer premises equipment (CPE)—including mobile handsets, which combine hardware and software applications—that are essential to the capability of voice communication between NANP endpoints. Without CPE—including software applications often purchased from third parties—two wireline telephone subscribers would not have the capability to speak to one another, which would defeat their expectation of what a telephone service is offering. Conversely, a mobile voice subscriber cannot “speak” to a fax machine, or to a pager, because each of these common carrier services, despite being “interconnected” through the “public switched network,” obviously requires certain CPE (or applications) to meaningfully interconnect and communicate. VoIP and Wi-Fi calling to NANP endpoints over the internet is no different, whether the application is pre-loaded by the mobile BIAS provider (e.g., T-Mobile Wi-Fi Calling, Google Voice) or downloaded via a pre-loaded app store gateway.

Like legacy telephone service subscribers—who cannot actually communicate without third-party CPE (telephones, fax machines, etc.) that includes software to encode and decode the signals transmitted—mobile BIAS users could do nothing without applications, not even browse websites. Consumers would not buy a broadband access service they did not perceive as giving them the “capability” to, for example, stream video, make calls, text messages, etc. The court in *U.S. Telecom* made this point, stating

Indeed, even for communications from one mobile broadband user to another, mobile broadband generally works in conjunction with a native or third-party application of some sort (e.g., an email application such as Gmail . . .) to facilitate transmission of users' messages. *The conjunction of mobile broadband and VoIP to enable IP-to-telephone communications is no different.*¹⁷⁸

All the functionality that motivates a consumer to subscribe to mobile BIAS service is dependent on software applications, whether pre-installed or downloaded. There is nothing more basic to mobile BIAS than web browsing—yet being able to visit and view websites requires the consumer to choose and use a software application (e.g., Safari or Chrome on an iPhone).

AT&T attempts to obscure this point by arguing that a subscriber's use of a third-party VoIP app does not mean the mobile carrier is “provid[ing] telephone service... any more than it becomes a video provider because its customers can download the Netflix app...”¹⁷⁹ AT&T may be correct that giving subscribers the capability to stream video does not turn a BIAS provider into a video provider (although it is one, if the subscriber instead uses the carrier's DIRECTV NOW app). At the same time, if a statutory or regulatory definition hinged on whether mobile BIAS gives subscribers the capability to stream video, then yes, clearly mobile BIAS today gives subscribers that capability. From a consumer perspective, mobile BIAS enables voice calling to any endpoint, including from both mobile network and IP endpoints (e.g., Wi-Fi calls) to other IP endpoints and/or telephones not connected to the Internet (NANP endpoints).

Second, and further reinforcing the court's conclusion, mobile carriers are increasingly building in the capability of subscribers to communicate over the Internet (from an IP endpoint) with any telephone user (NANP numbers and endpoints). The growing prevalence of Wi-Fi calling—including mobile carrier Wi-Fi calling—reflects the growing interconnected nature of the

¹⁷⁸ *U.S. Telecom* at 721 (emphasis added).

¹⁷⁹ AT&T Comments at 95.

internet and the traditional public switched telephone networks.¹⁸⁰ All four major carriers provide Wi-Fi calling that offer ubiquitous interconnection between IP and NANP endpoints even when there is no cellular network connectivity.

T-Mobile's Wi-Fi calling capability comes pre-installed and does not require subscribers to download special software, or attach special devices, as CTIA's comments seem to suggest are necessary. T-Mobile Wi-Fi calling is a native feature that requires no third-party software. Most phones T-Mobile sells, including all smartphones, have Wi-Fi calling installed and enabled.¹⁸¹ The customers' devices can use a Wi-Fi connection, over the internet, to call NANP endpoints (not just other T-Mobile customers) and to smoothly transfer calls between available Wi-Fi connections and T-Mobile's LTE network without disruption.¹⁸²

"Our Wi-Fi calling feature lets you call anyone, period. You don't have to worry if the person you're calling has a compatible device or application," a T-Mobile representative says in an instructional video on YouTube uploaded by the company.¹⁸³ That is the essence of interconnected. T-Mobile customers using Wi-Fi calling can even make calls when the user has no cellular reception, according to the company, which can compensate for the lack of a cellular reception inside buildings.¹⁸⁴ The company transfers Wi-Fi calls (which initially traverse a fixed IP network) to other users, including NANP end-points, even when the customer has no connection to T-Mobile's cellular telephone network.

¹⁸⁰ OTI Comments at 92.

¹⁸¹ Nathan Ingraham, *T-Mobile makes it easier for all its customers to use Wi-Fi calling*, Verge (Sept. 10, 2014), <https://www.theverge.com/2014/9/10/6132015/t-mobile-rolls-out-wi-fi-calling-for-all-of-its-customers>.

¹⁸² *Id.*

¹⁸³ *See T-Mobile | What is Wi-Fi Calling?*, YouTube (June 4, 2013), <https://www.youtube.com/watch?v=tcy4-8oMh58>.

¹⁸⁴ *Id.*

While T-Mobile has the most robust Wi-Fi calling service, all four national carriers offer some form of Wi-Fi calling. Sprint Wi-Fi calling offers interconnection capabilities comparable to T-Mobile. Subscribers are able to make Wi-Fi calls on “most recent Android phones,” as well as on iPhones (iPhone 5 model up to iPhone 7 plus). These native IP calls on Sprint smartphones can be made to any US, US Virgin Islands, or Puerto Rico number through a Wi-Fi network even when there is no mobile network coverage (and even when the phones are in “airplane mode”).¹⁸⁵ Verizon’s Wi-Fi calling also allows its customers to make and receive calls over a Wi-Fi network even if cellular telephone service is not available.¹⁸⁶ AT&T says its Wi-Fi calling service enables its users to “talk and text from indoor locations where it’s hard even for a strong cellular signal to reach.”¹⁸⁷

A third reason it no longer makes sense to regard broadband data and telephone networks as conceptually distinct is that the product that mobile carriers are marketing and selling—and consumers’ perception of what they are buying—no longer distinguishes between a CMRS mobile telephone service and what carriers want classified as a PMRS mobile broadband service. The reality today is it is all one network and one service marketed as “data plans.” CTIA, for example, argues that the “public switched network” and the internet are physically separate and distinct networks.¹⁸⁸ However, even if this were actually true (and it is not, as mobile telephone and BIAS share network elements), the relevant question is whether the *service* is interconnected, not whether the various networks that comprise the PSN are physically interconnected.¹⁸⁹ Mobile

¹⁸⁵ *FAQs about Wi-Fi calling*, Sprint, <https://www.sprint.com/en/support/solutions/services/faqs-about-wi-fi-calling.html>.

¹⁸⁶ *Wi-Fi Calling FAQs*, Verizon, <https://www.verizonwireless.com/support/wifi-calling-faqs/>.

¹⁸⁷ *Wi-Fi Calling*, AT&T, <https://www.theverge.com/2014/9/10/6132015/t-mobile-rolls-out-wi-fi-calling-for-all-of-its-customers>.

¹⁸⁸ CTIA Comments at 49-50.

¹⁸⁹ 47 U.S.C. § 332(d)(1) (“the term ‘commercial mobile service’ means any mobile service (as defined in section 153 of this title) that is provided for profit and makes interconnected service available...”).

carriers themselves are rapidly eliminating any distinction between mobile internet access service and the mobile phone service they claim is a physically separate network. What consumers are actually offered—and purchasing—is a bundled service that gives their device (e.g., a smartphone) the ability to communicate with every IP and every NANP endpoint.

From a consumer and marketplace perspective, in 2017 (and very much unlike 2007) voice and data are viewed and sold as one single, integrated service. This is apparent by looking at the actual plans that the nation’s four national mobile providers offer on the “shopping” sections their websites. Verizon, AT&T, T-Mobile and Sprint offer only plans that combine data, voice, and texting into a single bundled offering. While this would be expected for smartphones, even flip phones are now only made available with plans that bundle data, text, and voice on the four carriers’ websites. Mobile BIAS is no longer a separate service—it (“data”) is the integrated focus of a wireless plan today, both from the perspective of the consumer and how companies market their smartphone plans. Indeed, even consumers who might prefer to purchase a mobile telephone service (CMRS) that *only* interconnects with NANP endpoints have no choice but to purchase a mobile *data service* that also includes the capability to communicate to and from every IP endpoint as well.

AT&T Wireless, for example, offers potential customers shopping online for a mobile phone and voice plan only data-voice bundles regardless of whether they choose a smartphone (iPhone, Samsung) or even a flip phone. But even if a consumer chooses the flip phone, the first page of voice line offerings features two unlimited data plans with the tagline “Enjoy unlimited talk, text, data, and entertainment with up to 10 devices. After 22GB of data usage, AT&T may slow

speeds.”¹⁹⁰ However, the subsequent page offers talk, text and data plans ranging from 25GB to 1GB monthly, and features no offerings for voice-only plans.¹⁹¹

Verizon Wireless has similar constraints limiting customers to data-voice bundles even for “basic” phones (non-smartphones). When shopping for “single-device plans” on Verizon’s website, Verizon offers the following for “basic” phones, which still includes 500MB monthly: “Introducing the Single Basic Phone Plan, the new single-line plan that connects your basic phone to America’s most reliable network. Unlimited Talk & Text, plus 500MB of data for \$30/mo. Plus taxes and fees. No more counting minutes. All at a great price.”¹⁹² When a customer clicks through to buy a basic phone and to review the available plans, the plan with 500MB of data monthly and unlimited talk and text is the only one available.¹⁹³ Sprint¹⁹⁴ and T-Mobile¹⁹⁵ similarly integrate voice and data into a single integrated offering.

One clear implication of this marketplace reality is that even consumers who would prefer to subscribe to nothing but a plain old CMRS mobile phone service are able to communicate with *both* every NANP endpoint *and* every IP endpoint. Because at least a modest amount of “data”

¹⁹⁰ *Select a Plan*, AT&T Shop & Support– Wireless, <https://www.att.com/shop/wireless/plans/planconfigurator.html>. In small writing at the top of the page, AT&T offers potential customers who “don’t need unlimited data” an out: its Mobile Share Advantage plans.

¹⁹¹ *Id.*

¹⁹² *Single Device Plans*, Verizon Wireless, <https://www.verizonwireless.com/plans/single-device-plan/>.

¹⁹³ *Choose Your Plan*, Verizon Wireless, <https://www.verizonwireless.com/vzw/browse/plan/planListing.jsp>. Plans tailored for multiple devices are also available, but the user still must choose between plans ranging from a minimum 2 GB of data monthly to unlimited.

¹⁹⁴ For Sprint, there’s a similar emphasis on bundled plans. The page featuring “all plans” for Sprint features an unlimited data plan most prominently (as Verizon and AT&T also do) and the header (“Sprint data, talk & text cell phone plans”) at the top of the page even places data as the most prominent of the company’s offerings. Even if a customer clicks through to a flip phone, the only plans made available are an unlimited data plan and a 2GB per month plan. *Build Your Order Kyocera DuraXTP*, Sprint, <https://www.sprint.com/shop/build/kyocera-duraxtp-512mb-black?skuld=100700080&duration=18&contractType=lease&linelid=8711526611>.

¹⁹⁵ T-Mobile’s website, like its mobile competitors, also does not show offerings for voice-only packages for flip phones. When a customer clicks through to a flip phone, the only plan shown to the user is “T-Mobile ONE” which includes “Unlimited talk, text, and LTE data on your smartphone.” *Alcatel GO Flip in My Cart*, T-Mobile Shop, <https://www.t-mobile.com/cart>.

(internet access) is bundled into even the least expensive feature phone plans, *every* mobile phone subscriber has the capability on that device to interconnect with every IP and NANP endpoint. *The statute leaves no room for a definition that contradicts that reality*, which is yet another reason the Commission correctly updated and clarified the definition of PSN in its 2015 Order.

Finally, the factual record showing that mobile broadband and traditional telephone networks and users are increasingly “interconnected”—relied upon by both the Commission in 2015 and by the D.C. Circuit in 2016—is in 2017 even more clear that mobile BIAS users have the capability to communicate to and receive calls from telephone users (NANP endpoints). CTIA claims that “while VoIP subscribers have the ability to place calls to the public switched telephone network, the opposite is not true,” citing the declaration of mobile industry consultant Peter Rysavy that CTIA attached to its comments.¹⁹⁶ CTIA argues further that VoIP services can only interconnect between the internet and the public switched telephone network through “specialized gateway equipment and software.”¹⁹⁷ These assertions ignore the capabilities readily available to any mobile BIAS user today. Indeed, CTIA’s claims ignore even the three examples cited by the D.C. Circuit majority in *U.S. Telecom*, smartphone applications that were already being used by millions of mobile BIAS subscribers to call between IP and NANP endpoints—and today to receive calls from traditional telephone callers.¹⁹⁸ OTI’s comments described several others as well.¹⁹⁹

¹⁹⁶ CTIA Comments at 51 and Declaration of Peter Rysavy at 4, <https://ecfsapi.fcc.gov/file/10717020224587/Exhibit%20A%20Rysavy%20Declaration.pdf>.

¹⁹⁷ *Id.* CTIA also states “Mobile broadband does not provide dial tone, does not offer the user access to NANP endpoints, and does not ‘interconnect’ with the public switched network.”

¹⁹⁸ *U.S. Telecom* at 722.

¹⁹⁹ OTI Comments at 84-87.

Apple’s Continuity service demonstrates this broader interconnection capability, as the service (pre-installed for users with iPhones running iOS 8.1 or later²⁰⁰) enables mobile BIAS subscribers with an iPhone to call an iPad or Mac laptop user with a broadband connection (but not a telephone). It also allows iPhone customers to use the service to receive telephone calls to their IP address.²⁰¹ The user does not need to download any new software to have this capability. The D.C. Circuit in *U.S. Telecom* recognized this iPhone capability when it found that the Commission “permissibly found that mobile broadband now qualifies as interconnected because it gives subscribers the ability to communicate to all users of the newly defined public switched network.”²⁰²

Google Voice, integrated in the commonly used Google Hangouts, for example, allows users to call from a NANP endpoint to a mobile IP endpoint through a free subscription for most places in the United States and Canada.²⁰³ Landline users *can* in fact make calls to Google Voice users on their laptops or smartphones, and mobile BIAS subscribers can simply download the Google Voice application on Android²⁰⁴ and iPhones²⁰⁵ for free. No separate device is necessary for a user to make calls to NANP endpoints through the OTT service of Google Voice, and landline users can call Google Voice users on their internet-connected laptops and smartphones through the public switched telephone network.

²⁰⁰ *System Requirements for Continuity on Mac, iPhone, iPad, iPod touch, and Apple Watch*, Apple, available at <https://support.apple.com/en-us/HT204689#calls>.

²⁰¹ *Use Continuity to connect your Mac, iPhone, iPad, iPod touch, and Apple Watch*, Apple, <https://support.apple.com/en-us/HT204681>.

²⁰² *U.S. Telecom* at 722.

²⁰³ *Get started with Google Voice*, Google Voice Help, <https://support.google.com/voice/answer/115061?hl=en>.

²⁰⁴ Google Voice, Google Play, <https://play.google.com/store/apps/details?id=com.google.android.apps.googlevoice>

²⁰⁵ Google Voice, iTunes Application Store, <https://itunes.apple.com/us/app/google-voice/id318698524>.

Any telephone call initiated through Google Voice has to pass through the public switched telephone network, and then the call subsequently goes through Google on the internet. Google then pools the calls and numbers there, and if the call is meant to go through to another Google Voice number, Google identifies the number and then sends the call there.²⁰⁶ Google Voice integrates both the public switched telephone network and the internet to direct calls and text messages. A mobile BIAS user can make or receive the calls from the PSTN through a free application, showing how the two networks are indeed “interconnected.”

The D.C. Circuit also cited the “Skype Number” service because it “enables mobile broadband users to receive calls from telephone users.”²⁰⁷ Indeed, Skype offers users an “online number”²⁰⁸ that enables calls to mobile phones as well as landlines.²⁰⁹ Several other applications use mobile BIAS to facilitate calls and text messages, as OTI detailed in initial comments.²¹⁰ Simply put, these applications *do* in fact give consumers the capability to communicate with other users on the public switched network, as the definition for an “interconnected service” requires.

2. There is today a single ‘Public Switched Network’ that includes IP end points and it is not limited forever to the legacy telephone network

OTI agrees with the National Association of State Utility Consumer Advocates (NASUCA) that the Commission in 2015 correctly determined that the internet and telephone networks today are part of an interconnected “public switched network.”²¹¹ NASUCA observes that the court in *U.S. Telecom* affirmed the Commission’s conclusion, stating that “mobile broadband by 2015 had come

²⁰⁶ Nadeem Unuth, *How Google Voice Works*, Lifewire (Mar. 9, 2017), <https://www.lifewire.com/how-google-voice-works-3426682>.

²⁰⁷ *Id.*

²⁰⁸ Skype Number, Microsoft, <https://www.skype.com/en/features/online-number/>.

²⁰⁹ Skype Features, Microsoft, <https://www.skype.com/en/features/>.

²¹⁰ Comments of at 84-88.

²¹¹ National Association of State Utility Consumer Advocates Comments at 19.

to provide the same sort of ubiquitous access” as mobile voice was found to provide in 1994 when it was added to the definition of public switched network.²¹²

CTIA and its mobile carrier members oppose this view, repeating yet again their false claims that Congress in 1993, and the Commission in 1994, intended to limit the term “public switched network” to the traditional circuit switched telephone network—thereby forever precluding the classification of a future mobile service as CMRS. Of course, as the D.C. Circuit concluded in *U.S. Telecom*, this claim has no basis. Congress could have referred specifically to the “telephone” network in Section 332 if it intended to strictly limit the future services that the Commission might designate as CMRS—but instead it cast the provision more broadly.²¹³ Congress went further: it expressly omitted the word “telephone” from the plain language of the statute.²¹⁴ The court in *U.S. Telecom* noted that extemporaneously reading the word “telephone” into the statute is not a reasonable interpretation.²¹⁵

Both AT&T and Verizon claim in their comments that the Conference Report on the bill that became Section 332 “characterized the House bill as requiring interconnection ‘with the [p]ublic switched telephone network.’”²¹⁶ This claim is misleading at best. The House version of the bill did use the narrower, technologically-based term “public switched *telephone* network” and did not leave the Commission with clear authority to define and update the term in the future. The

²¹² *Id.* (citing *U.S. Telecom*, 825 F.3d at 715).

²¹³ *See id.* at ¶396 n.1142.

²¹⁴ 47 U.S.C. § 332(d)(2); *see U.S. Telecom* at 717-18 (“Indeed, Congress used that precise formulation in another, later-enacted statute. *See* 18 U.S.C. § 1039(h)(4). Here, though, Congress elected to use the more general term ‘public switched network,’ which by its plain language can reach beyond telephone networks alone . . . Not only did Congress decline to invoke the term ‘public switched telephone network,’ but it also gave the Commission express authority to define the broader term it used instead.”).

²¹⁵ *U.S. Telecom* at 717 (noting that adding critical words to statutes is “an unpromising avenue for an argument about the meaning of the words Congress used”). The court went on to state “Mobile petitioners conceive of ‘public switched network’ as a term of art referring only to a network using telephone numbers. But if that were so, it is far from clear why Congress would have invited the Commission to define the term, rather than simply setting out its ostensibly fixed meaning in the statute.” *Id.* at 718.

²¹⁶ Verizon Comments at 46; AT&T Comments at 93 (both citing H.R. Rep. No. 103-213, at 495 (1993)).

Conference rejected this approach. Congress instead adopted the Senate’s version of Section 332. While the House version included the word “telephone,” the Conference Committee adopted the Senate language that omits the word “telephone,” so that the statute actually enacted states that CMRS must be “interconnected with the public switched network” as those terms are “defined by regulation by the Commission.”²¹⁷ This, in turn, is consistent with the statements of the 1993 Act’s lead House and Senate authors.²¹⁸ As Rep. Markey stated, “[t]he fact that this legislation ensures PCS, the next generation of communications, will be treated as a common carrier is an important win for consumers.”²¹⁹

It is also relevant to recall that in 1993, Internet access relied on dial-up modems and copper telephone lines, which at that time were considered foundational elements for what the Clinton Administration called the emerging “information superhighway.” Although mobile broadband Internet access did not exist at the time, Congress in 1993 was keenly aware of the need to extend the utility of the “public switched network” beyond telephony to high-speed Internet data access, which accounts for the several changes in the 1993 Conference Report that expanded the discretion of the Commission to define, assess and update the appropriate classification of wireless networks.

Consistent with this Congressional intent, the following year, in 1994, the FCC implemented Section 332 by declaring that *all* PCS services would be “presumptively CMRS.”²²⁰

²¹⁷ H.R. Rep. 103-213, 103d Cong., 1st Sess., at 496 (1993) (“*Conference Report*”). The Conference Report also explicitly stated that, unlike the House version, the “Senate definition expressly recognizes the Commission’s authority to define the terms used in defining ‘commercial mobile service.’” *Id.*

²¹⁸ OTI Comments at 75-76.

²¹⁹ House Floor Statement of Statement of Rep. Markey, Congressional Record, Volume 139 at H3286-87 (May 27, 1993). “A fundamental regulatory step that this legislation takes is to *preserve the core principle of common carriage as we move into a new world of services such as PCS*. I have grave concerns that the temptation to put new services under the heading of private carrier [PMRS] is so great that the FCC and the States will lose their ability to impose the lightest of regulations on these services.” *Id.*

²²⁰ *Implementation of Sections 3(n) and 332 of the Communications Act Regulatory Treatment of Mobile Services*, 2nd Report and Order, GN Docket No. 93-252, 9 FCC Rcd 1411 at ¶¶118, 120 (1994)

The 1994 CMRS Order concluded that “designating broadband and narrowband PCS as presumptively CMRS will advance all of our goals and Congress’s intent in enacting the Budget Act [1993 OBRA].”²²¹ Every indication from the 1994 CMRS Order points to a Commission intent on interpreting the definition of CMRS broadly based on its evaluation of the statutory language.²²²

The Order recounts that the Commission “defines PCS broadly,”²²³ explaining that

By classifying many mobile services as commercial, *we have taken a strong step toward guaranteeing that all consumers will have non-discriminatory access to these services.*

. . . [W]e believe that *the family of personal communications services holds the potential of revolutionizing the way in which Americans communicate* with each other. In this Order, we establish the regulatory framework for the development of PCS principally as broadly available CMRS offerings.²²⁴

Surely, in proclaiming that a “*family of personal communications services*” would “revolutionize” how Americans communicate, the Commission in 1994 was not assuming that Congress intended to limit common carrier consumer protections for all time to plain old telephone services. And contrary to CTIA’s mistaken claim that the 1994 CMRS Order “emphasized that Congress was referring to the traditional *telephone network*,”²²⁵ *the Commission explicitly rejected proposals that it should define the statutory term “public switched network” as equivalent to what the Order described as the “more technologically based term ‘public switched telephone network’.*”²²⁶ The Commission’s contemporaneous understanding of Congressional intent led it to reject precisely the same assertion that CTIA, Verizon, and AT&T insist the Commission should

(“1994 CMRS Order”).

²²¹ *Id.*

²²² See *id.* at ¶¶ 76, 78 (“Congress intended to narrow the scope of the definition for private mobile radio service . . . if the service amounts to the ‘functional equivalent’ of a service that is classified as CMRS, it should be regulated as CMRS”).

²²³ *Id.* at ¶118, citing Broadband PCS Order, 8 FCC Rcd at 7712, ¶ 23 and Narrowband PCS Order, 8 FCC Rcd at 7164, ¶ 13.

²²⁴ *Id.* at ¶¶ 27-28.

²²⁵ CTIA Comments at 46 (emphasis in original).

²²⁶ *Second CMRS Report and Order*, ¶ 59.

revisit here. Although the Commission acknowledged that it “has frequently used the term ‘public switched telephone network’ (PSTN) to refer to the local exchange and interexchange common carrier switched network,” it nevertheless concluded that in implementing Section 332 Congress intended a broader, future-looking approach:

Some parties argue that there is no indication that Congress intended to broaden the scope of the term “public switched network.” Others, however, urge the Commission to adopt a more forward looking definition that acknowledges that *the future of telecommunications will encompass many service providers using various technologies to create a “network of networks.”*

...

We agree with commenters who argue that the network should not be defined in [such] a static way. We believe that *this interpretation is also more consistent with the use of the ‘public switched network,’ rather than the more technologically based term ‘public switched telephone network.’ The network is continuously growing and changing* because of new technology and increasing demand.²²⁷

In 1994 the Commission’s understanding of “the public switched network” was functional— that is, its scope would be based on the services it offered the public. The *1994 CMRS Order* declared that “[t]he purpose of the public switched network is to allow the public to send or receive messages to or from anywhere in the nation.”²²⁸ The *Order* goes on to state that although use of the North American Numbering Plan (NANP) “is a key element” in determining whether a service is sufficiently interconnected to the PSN to be considered CMRS, it is indicative but *not a litmus test*. The *Order* stated that another key criterion is the network’s “switching capability”— that is, the extent that it serves to connect all users to each other in furtherance of universal service.²²⁹

²²⁷ *Id.* at ¶ 59 (emphasis added). Ironically, the commenters cited in support of the broader, future-looking interpretation of PSN as potentially a “network of networks” included Bell Atlantic and NYNEX.

²²⁸ *Second CMRS Report and Order* at ¶ 59.

²²⁹ *Id.* at ¶ 60.

Finally, CTIA and its members yet again put great stock in Section 332’s use of the word “the” in front of “public switched network.” CTIA opines that “[t]he public switched telephone network and the internet are distinct networks, and Congress could not have intended the statutory term to include both.”²³⁰ It’s certainly true that Congress was not thinking specifically about a separate mobile BIAS network, because that did not yet exist. However, it is also certainly true that just like the *1994 CMRS Order*, and like the Clinton administration’s initiatives to spur an “information superhighway,” Congress was contemplating what it denoted as “the public switched network” as the conduit for advanced services that included—but also went far beyond—traditional voice telephone calling.

As noted above, in discerning Congressional intent, it is important to acknowledge that in 1993 the public internet was transported to consumers over the telephone network (PSTN). From a consumer perspective, there was at that time no distinction between the facilities that carried telephone calls and internet data traffic. The internet providers of 1993—such as AOL, CompuServe, and Prodigy—were nothing like the broadband telecommunications service providers of today. Those early over-the-top ISPs built no separate last-mile access network to subscribers. They rode on top of the PSTN. Likewise, subscribers relied on the PSTN—and to dial-up modems attached to phone lines—for advanced data services including, of course, internet access.

In short, as the D.C. Circuit concluded in *U.S. Telecom*, “Congress elected to use the more general term ‘public switched network,’ which by its plain language can reach beyond telephone

²³⁰ CTIA Comments at 49-50 (“Congress’s use of that phrasing demonstrates that it meant for there to be only *one* such network”). See also AT&T Comments at 93 (“no conversant speaker of the English language uses the formulation “the X” to mean “multiple distinct X’s”); Verizon Comments at 45-46 (“Section 332’s use of the word ‘the’ makes clear that ‘the public switched network’ necessarily refers to a *single* network”).

networks alone.”²³¹ Even if the Commission reverts to the 1994 definition of PSN, the conclusion in *U.S. Telecom* would remain correct: “the more general phrase ‘public switched network,’ by its terms, reaches any telecom network that is both ‘public’ and ‘switched.’”²³² The original PSTN evolved over time to encompass a network of telephone networks, provisioned by a variety of companies, and providing distinct but interconnected common carrier services (e.g., telephone exchange service, telephone toll service, paging services, mobile phone service). The network of networks that rely on IP addressing (the internet) is merely the most recent and increasingly interconnected addition to “the public switched network.”

The Congressional authors of Section 332 were clearly determined to extend “common carrier” consumer protections to PCS and advanced mobile services that extended beyond telephone calls (what the 1994 *CMRS Order* called the emerging “family of PCS services”). Therefore, the notion that “the public switched network” would over time expand beyond narrowband copper lines to incorporate a larger network of networks—a PSN that today includes a multiplicity of cable, fiber, satellite, and mobile networks that together give the public the capability to interconnect using a variety of protocols and applications—would be entirely consistent with Congressional intent. As then-Subcommittee Chairman Ed Markey stated on the House floor when he introduced the bill that became Section 332:

*The fact that this legislation ensures PCS, the next generation of communications, will be treated as a common carrier is an important win for consumers and for State regulators and for those who seek to carry those core notions of nondiscrimination and common carriage into the future.*²³³

²³¹ *U.S. Telecom* at 717-18. “Mobile petitioners do not dispute that a network using both IP addresses and telephone numbers is ‘public’ and ‘switched.’” *Id.* at 718.

²³² *Id.* at 718.

²³³ House Floor Statement of Statement of Rep. Edward Markey, Congressional Record, Volume 139 at H3286-87 (May 27, 1993) (emphasis added).

B. The record shows overwhelming support for regulatory parity between fixed and mobile BIAS networks

There is a clear consensus among commenters that both fixed and mobile broadband internet access should continue to be subject to the same set of rules. No party offers a compelling reason to apply different rules to different network technologies that cannot be accommodated by the current reasonable network management exception. The overwhelming majority of commenters recognize that the substantial increase in adoption and importance of mobile broadband only reinforces the need for a common regulatory framework. Moreover, many commenters recognize and highlight the particular importance of mobile broadband as a primary means of internet access for low-income and minority communities.

We agree with the many commenters who opined that parity between fixed and mobile providers is most consistent with the Commission's principle of regulating in a manner that is technologically and competitively neutral as possible. Additionally, there is no support in the record for the notion that competition in the mobile broadband market is so robust that mobile BIAS should be exempt from basic consumer and edge provider protections that would apply to fixed BIAS providers. Finally, the idea advanced by Nokia, Sprint, and T-Mobile that reasonable network management exceptions should be allowed for *business and financial* in addition to legitimate technical reasons is a transparent attempt to preempt protections for consumers and edge providers. This would distort the market for increasingly competing BIAS services that the Commission should summarily reject.

1. A diverse range of commenters support regulatory parity

We agree with telecommunications industry commenters that include NCTA,²³⁴ Cox Communications²³⁵ and CenturyLink,²³⁶ with edge providers that include Amazon,²³⁷ Etsy²³⁸ and Microsoft,²³⁹ as well as with public interest and local government perspectives that include the broad-based Voices for Internet Freedom Coalition²⁴⁰ and the National Association of State Utility Consumer Advocates (“NASUCA”),²⁴¹ that mobile and fixed BIAS should be subject to the same open internet rules of the road.

Specifically, we agree with NCTA that “[a]ny federal framework for ensuring Internet openness should apply equally to fixed and mobile BIAS providers.”²⁴² We strongly agree with CenturyLink that “[m]obile broadband should not be treated differently from fixed broadband for purposes of either regulatory classification or the imposition of any rules. *There are no legal,*

²³⁴ NCTA Comments at 59 (“Any federal framework for ensuring Internet openness should apply equally to fixed and mobile BIAS providers.”).

²³⁵ Cox Comments at 28.

²³⁶ CenturyLink Comments at 36-37.

²³⁷ Amazon Comments at 7.

²³⁸ Etsy Comments at 5 (“We also believe that all protections should apply equally to mobile and desktop, as well as points of interconnection.”).

²³⁹ Microsoft Comments at i (“An open internet, and open internet rules, applicable to *all fixed and mobile broadband internet access services*, are critical to continued investment and innovation, not only in the networks of broadband internet access service providers, but across the full range of the internet economy.”) (emphasis added).

²⁴⁰ Voices for Internet Freedom Coalition Comments at 67. The Voices for Internet Freedom Coalition is composed of National Hispanic Media Coalition; Free Press; Center for Media Justice; Color of Change; 18MillionRising.org; Access Humboldt; Allied Media Projects; Appalshop; Arts & Democracy; BYP100; Center for Media Justice; Center for Social Inclusion; Chinese Progressive Association; Color of Change; Common Cause; Common Frequency; #Cut50; DigiColor; Dignity and Power Now; Dream Corps; Equality Labs; Families for Freedom; Families Rally for Emancipation and Empowerment; Forward Together; Generation Justice; Global Action Project; Hollaback!; Human Pictures; Ignite NC; Instituto de Educacion Popular del Sur de California (IDEPSCA); KRSM Radio; LatinoRebels.com; Line Break Media; Livier Productions, Inc.; #LoveArmy; May First / People Link; Media Action Center; Media Alliance; Media Mobilizing Project; MPower Change; MomsRising.org; Movement Strategy Center; Native Public Media; New Sanctuary Coalition; Open Access Connections; OVEC - Ohio Valley Environmental Coalition; Parks and Power; People's Action; Presente.org; Race Forward; Prometheus Radio Project; Rebuild the Dream; Somos Un Pueblo Unido; Stop LAPD Spying Coalition; United Church of Christ, OC Inc.; Urbana-Champaign Independent Media Center; Voices for Racial Justice; Washington Peace Center; The Whitman Institute, WFNU Frogtown Community Radio; WITNESS; Working Narratives; #YesWeCode, <https://ecfsapi.fcc.gov/file/107202424413478/Voices%20Coalition%20NN%20Comments%20-%20WC%20Docket%2017-108%20-%2007.19.2017.pdf>.

²⁴¹ NASUCA Comments at 20 (“The common carrier obligation of the Open Internet rules should apply to mobile broadband just as they apply to fixed broadband.”).

²⁴² NCTA Comments at 59.

technical, economic, and/or policy reasons to distinguish mobile and fixed broadband in this context.”²⁴³ CenturyLink is correct that it would be “arbitrary and capricious to regulate one platform differently from another” and that “there are simply no differences between mobile wireless broadband platforms and wireline platforms that would justify differences in how any Internet openness principles are applied.”²⁴⁴ We agree with Cox Communications that the Commission “should ensure comparable treatment of fixed and mobile BIAS providers” and that regulatory parity should be a “core tenant” of the Commission’s approach to mobile BIAS.²⁴⁵

The record demonstrates a clear consensus that the Commission should remain as neutral as possible among increasingly competing and converging broadband networking technologies. As Amazon stated in its comments: “[C]onsumer choice among Internet-based information, products, and services is no less important via broadband access over wireline, wireless, or satellite facilities than via cable[.]”²⁴⁶ NCTA correctly states that “parity between fixed and mobile providers is necessary to comport with the Commission’s longstanding commitment to ensuring technological neutrality and thereby avoiding the creation of unwarranted marketplace distortions.”²⁴⁷ We also agree with edge providers, such as Amazon and Etsy, who ask the Commission to “[t]reat all services equally.” Etsy states that “all protections should apply equally to mobile and desktop, as well as points of interconnection.”²⁴⁸

²⁴³ CenturyLink Comments at 36 (emphasis added), <https://ecfsapi.fcc.gov/file/1071893493148/170717%20CTL%20Comments%20WC%2017-108%20FINAL.pdf>.

²⁴⁴ *Id.* at 37.

²⁴⁵ Cox Communications Comments at 28, 30.

²⁴⁶ Amazon Comments at 7-8 (quoting Comments of Amazon.com, CS Docket No. 02-52, at 5 (June 17, 2002)).

²⁴⁷ NCTA Comments at 62. “As NCTA has explained in the past, ‘[t]he fundamental goals of Internet openness do not and should not turn on the type of technology platform that consumers use to access online content and services.’” *Id.* at 59 (quoting NCTA Comments, GN Docket No. 14-28 and 10-127, at 59 (filed Jul. 15, 2014)).

²⁴⁸ Etsy Comments at 5.

We also strongly agree with public interest coalitions, such as the Voices for Internet Freedom Coalition and NASUCA, both of which urge the Commission to “preserve and equally apply the current net neutrality rules to mobile networks.”²⁴⁹ The Voices for Internet Freedom Coalition correctly observes that “[i]n the 2015 Open Internet Order the Commission adopted mobile parity with fixed broadband service. This was the correct approach, and the Commission should leave it alone.”²⁵⁰

2. The record details substantial changes in the mobile ecosystem that support a common regulatory framework

The record’s widespread support for regulatory parity reflects substantial changes in the mobile ecosystem. NCTA, Mobile Future, NASUCA, Amazon, and Etsy are among the commenters that emphasized the steadily improving quality and surging usage of mobile BIAS, which in turn supports consumer expectations that there is a single internet with common rules of the road. NASUCA, for example, describes how consumer use of mobile broadband has steadily become ubiquitous, that hundreds of millions of Americans use mobile broadband to access the internet, and that 25 times more data was consumed over mobile networks in 2015 than in 2010.²⁵¹

We agree with Amazon that “[b]ecause consumers increasingly access Internet content and services via mobile broadband connections, the application of equivalent neutral policies to mobile is more important than ever.”²⁵² Similarly, Etsy observes that “more people than ever access the internet through their mobile devices.”²⁵³ Along with the mobile ecosystem, due to the prevalence of smartphones and 4G in particular, consumer expectations for mobile broadband

²⁴⁹ Voices for Internet Freedom Coalition Comments at 67.

²⁵⁰ *Id.*

²⁵¹ NASUCA Comments at 18.

²⁵² Amazon Comments at 8.

²⁵³ Etsy Comments at 5.

internet access have changed significantly in recent years. We concur with Etsy that “[g]iven consumer reliance on mobile to access the internet, neutrality protections should be consistent” across internet access services regardless of the network technology.²⁵⁴

As NCTA correctly observes in its comments, “mobile broadband technology and market penetration have advanced significantly” since 2010 and concludes that today there is no “defensible justification for treating fixed and mobile BIAS providers differently.”²⁵⁵ NCTA details changes made in the mobile BIAS landscape, including the advent of 4G LTE wireless technology and the coming 5G network revolution to show that the “continued evolution of the marketplace belies any notion that the two services should be subject to different frameworks.”²⁵⁶ NCTA also correctly describes how consumer expectations “weigh strongly in favor of treating fixed and mobile broadband alike,” citing data showing that U.S. mobile data traffic has “increased exponentially” by a factor of 25 times between 2010 and 2015.²⁵⁷ Although OTI strongly disagrees with NCTA’s suggestion that mobile BIAS is close to being an adequate substitute for fixed BIAS at this time, there is no question that there is a steady trend toward high-capacity mobile networks (e.g., 5G), making this precisely the wrong time for the Commission to regulate fixed and mobile BIAS under different rules.

Comcast likewise concluded that there is “no sound basis in 2017 to adopt different regulatory frameworks for fixed and mobile broadband services (just as there was not in 2015).”²⁵⁸ Cox Communications made this same point, stating: “As capabilities of mobile broadband services continue to increase, and with 5G services on the near-term horizon, consumers increasingly view

²⁵⁴ Etsy Comments at 5.

²⁵⁵ NCTA Comments at 59.

²⁵⁶ *Id.* at 60.

²⁵⁷ *Id.* at 61.

²⁵⁸ Comcast Comments at 83.

fixed and mobile services as interchangeable.”²⁵⁹ OTI agrees with Cox that “even if some regulatory distinctions between fixed and mobile broadband may have made sense in 2010, those differences have long since dissipated.”²⁶⁰ Public Knowledge and Common Cause similarly detailed the increasing importance of mobile broadband for consumers and the “explosive growth in mobile devices” that has “come to define much of today’s internet” in their joint comments as well.²⁶¹

CenturyLink stated that mobile BIAS should not be treated differently from fixed BIAS because there are no “legal, technical, economic and/or policy reasons” to do so, and it would be “arbitrary and capricious to regulate one platform differently from another.”²⁶² In short, the record reflects a clear consensus that in 2017 there is no technological, economic or legal basis for the Commission to apply different open internet rules to fixed and mobile broadband internet providers.

3. Regulatory parity narrows the digital divide

The above-mentioned trends are particularly important in light of the disproportionate reliance of low-income and minority communities on mobile BIAS for internet access. The NPRM sought comment on whether there are negative policy consequences associated with treating mobile broadband differently from fixed broadband, to which the Voices for Internet Freedom Coalition responded that the “answer, in short, is yes, and that negative consequences will be felt most acutely in communities of color.” We agree with the Voices for Internet Freedom Coalition that weaker protections for mobile BIAS subscribers would “risk disproportionate harm to

²⁵⁹ Cox Communications Comments at 28-29.

²⁶⁰ *Id.* at 29

²⁶¹ Public Knowledge and Common Cause Comments at 9-12.

²⁶² CenturyLink Comments at 36-37.

communities of color” and to low-income consumers more generally.²⁶³ The adoption of weaker non-discrimination protections for mobile BIAS would “result in separate and unequal Internet experiences for people of color and poor people, who rely disproportionately on mobile services as their only Internet access points.”²⁶⁴

Cox Communications similarly observed that “[t]oday’s mobile-only customers are largely drawn from vulnerable communities,”²⁶⁵ citing figures showing 21 percent of adults who earn less than \$30,000 a year, 27 percent of adults without a high school diploma, and 23 percent of Hispanics all said they access the internet only using a mobile device in 2016.²⁶⁶ The Internet Association also makes the point that all Americans rely increasingly on mobile BIAS, but “especially in the case of lower-income users, they are wholly reliant on mobile wireless for internet access.”²⁶⁷ Public Knowledge concurred that a very disproportionate share of low-income consumers rely on mobile broadband for internet access, but also made the significant point (in light of the Commission’s current NOI for its Section 706 Report on broadband deployment) that while mobile broadband is “more important” to low-income consumers, it is inadequate as a substitute for fixed broadband.²⁶⁸

As OTI emphasized in our initial comments, the lack of a common regulatory framework for fixed and mobile broadband connections would exacerbate the nation’s digital divide by adding an ‘Open Internet Divide’ to the detriment of disproportionate numbers of low-income and

²⁶³ Voices of Internet Freedom Coalition Comments at 67.

²⁶⁴ *Id.*

²⁶⁵ See Cox Communications Comments, p 30 “All of these figures represent substantial year-over-year increases in dependency on mobile broadband.”

²⁶⁶ Pew Research Center, Mobile Fact Sheet (Jan. 12, 2017), <http://www.pewinternet.org/fact-sheet/mobile>.

²⁶⁷ Internet Association Comments at 31-32.

²⁶⁸ Public Knowledge Comments at 78.

rural communities, as well as communities of color.²⁶⁹ The Commission must not assume that every American is equally willing or financially able to purchase and access *both* a high-capacity fixed connection at home (and/or work) *and* a mobile phone and data subscription. Studies show that these historically marginalized groups are not only much less likely to have a high-speed broadband connection at home, they are also more than twice as likely to rely either exclusively or primarily on mobile broadband devices for access to the Internet.²⁷⁰ We therefore fully agree with the Voices for Internet Freedom Coalition that “repealing mobile parity would further exacerbate the digital divide,” and that “[m]obile parity mitigates second class digital citizenship.”²⁷¹

4. The “reasonable network management” exception must remain limited to technical considerations

We vociferously disagree with the proposals made by Sprint,²⁷² Nokia,²⁷³ Ericsson,²⁷⁴ and T-Mobile²⁷⁵ that reasonable network management exceptions should be allowed not only for legitimate technical reasons, but for financial and business reasons as well. Favoring mobile BIAS based on non-technical (business) considerations would make a mockery of any “reasonable network management” exception and repeal regulatory parity entirely. As the Internet Association states in its comments, the Commission’s current “reasonable network management” rule is not overly “open-ended,” as the NPRM suggests; the rule is in fact similar to the anti-discrimination

²⁶⁹ OTI Comments at 104.

²⁷⁰ Monica Anderson, *Digital divide persists even as lower-income Americans make gains in tech adoption*, Pew Research Center (March 22, 2017), <https://goo.gl/31XjKY> (“*Pew Digital Divide Study*”) (finding that 20% of adults who made \$30,000 or less in 2016 had a smartphone but no broadband at home, compared to just 12% of adults in that wage bracket in 2013),

²⁷¹ Voices of Internet Freedom Coalition Comments at 67.

²⁷² Sprint Comments at 9-10.

²⁷³ Nokia Comments at 21 (“The Commission Should Modify the Reasonable Network Management Exception for Any Applicable Rules it Maintains or Adopts.”).

²⁷⁴ Ericsson Comments at 10.

²⁷⁵ T-Mobile Comments at 21.

rule the Commission adopted in its 2010 open internet rules that prohibited unreasonable discrimination and “was generally not opposed by ISPs.”²⁷⁶

As OTI argued in initial comments, mobile carriers have every reason to prefer to discriminate among users and among edge providers for business reasons, just as AT&T did when it blocked the FaceTime application,²⁷⁷ or when the Commission found AT&T to be offering third-party content providers terms and conditions for its Sponsored Data program that the agency reported were “effectively less favorable than those it offered to its affiliate, DirecTV.”²⁷⁸ Allowing BIAS providers a “reasonable network management” exception for business reasons as well as technical reasons would completely undermine the purpose of non-discrimination rules in favor of BIAS provider interests the open internet protections are specifically designed to combat. The reasonable network management exception must remain narrowly tailored to technical management to ensure that the open internet rules protect an open internet while also allowing providers to manage their networks for technical considerations, instead of allowing business decisions to dictate if and how consumers access various edge content and services online.

While we believe operators should have flexibility to manage their networks, we take issue with Nokia’s assertion that the current, narrow exception “creates legal doubt, potentially second guessing those in charge of running networks.”²⁷⁹ To the contrary, the “technical” exception means that lawyers would *not* be second-guessing engineers on network management decisions

²⁷⁶ Internet Association Comments at 30 (“What the Commission provided in the text of the 2015 Order is not a complicated or novel rule but rather a detailed guide on how, in any future enforcement proceedings, it expected to analyze claims of unreasonable conduct on the part of ISPS. The Commission can always provide revised guidance if it so chooses, without changing the straightforward underlying rule.”).

²⁷⁷ OTI Comments at 113.

²⁷⁸ Policy Review of Mobile Broadband Operators’ Sponsored Data Offerings for Zero-Rated Content and Services, Wireless Telecommunications Bureau Report (Jan. 11, 2017), at 12, http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0111/DOC-342982A1.pdf.

²⁷⁹ Nokia Comments at 17 (“engineers should not be second-guessed by lawyers when it comes to management scarce network resources”).

that do not unreasonably discriminate among edge providers or applications. The Commission should certainly weigh business and financial considerations in fashioning the rules—but, once adopted, compliance with rules such as no blocking and no throttling must not be subject to the whims of each individual BIAS provider as it considers whether it might generate a higher return by circumventing the intent of the rules.

We also disagree with Ericsson that the “experience with mobile services to date demonstrates why regulation is unnecessary.”²⁸⁰ There are multiple examples in the record of the exact harm open internet principles seek to minimize. For example, Microsoft details its experience with a single product, Skype, in foreign markets that lack open internet regulations.²⁸¹ Microsoft states the following:

In the absence of open internet protections, Skype has seen broadband internet access service providers: block Skype traffic on their networks... degrade Skype traffic on their networks; interfere with the operation of Skype on their networks; drop Skype packets on their networks; terminate Skype sessions on their networks; charge their customers a toll to be able to use Skype on their networks; and interfere with the ability of customers to log in to their Skype accounts. Many of these examples occurred several years ago, but the “economic realities” underlying these broadband internet access service provider actions remain, which, in countries without open internet protections, allows broadband internet access services providers to continue to find new ways to interfere with traffic on their networks. Indeed, only three years ago, Digicel, the predominant mobile broadband internet access service provider in the Caribbean, suddenly blocked access to Skype and other VoIP providers on Digicel’s networks. Access was restored only when regulators intervened and questioned the legality of Digicel’s action. This is the sort of “economic reality” that prevails in countries without open internet protections.²⁸²

We believe that the same fundamental principles and obligations should apply to *all* BIAS providers, even if the resulting rules are *applied* differently based on what is reasonable network

²⁸⁰ Ericsson Comments at 10.

²⁸¹ Microsoft Comments at 14.

²⁸² *Id.* at 14-15.

management for a particular Internet access technology.²⁸³ We agree with cable industry commenters who suggested in a previous proceeding that “[w]hile technological differences might be relevant in *applying* the open Internet rules... such differences should not have any bearing on whether a given obligation applies in the first place.”²⁸⁴ Comcast, for example, expressed support for the reasonable network management exception to the no throttling rule as it currently stands.²⁸⁵

The 2015 Order recognized this distinction and correctly concluded it is technically feasible for mobile networks to adhere to a common set of rules that includes a Reasonable Network Management exception that recognizes differences in underlying network technologies. A technical study commissioned by OTI in 2014 explains how LTE technology has the capability now to manage even situations of severe network congestion by *treating like applications alike, without favoring carrier-sponsored or carrier-affiliated applications, content or services*.²⁸⁶ The study concluded that Long Term Evolution (LTE, or 4G) technology is capable of managing *moderate* congestion through prioritization protocols that are application-agnostic (e.g., user-directed prioritization) and is capable, when faced with *severe* congestion, of prioritizing delay-sensitive

²⁸³ OTI Comments at 111-112 (“contrary to the claims of mobile carriers at that time, the study demonstrates that LTE technology has the capability now to manage even situations of severe network congestion by *treating like applications alike, without favoring carrier-sponsored or carrier-affiliated applications, content or services*”). *Id.* at 112. CTC Technology & Energy and Wireless Future Project/Open Technology Institute, *Mobile Broadband Networks Can Manage Congestion While Abiding by Open Internet Principles* (Nov. 13, 2014), https://s3.amazonaws.com/www.newamerica.org/downloads/OTI_CTC_Wireless_Network_Neutrality_Engineering_Study_FINAL_111314.pdf.

²⁸⁴ NCTA Comments, GN Docket No. 14-28, GN Docket No. 10-127 (July 17, 2014), at 70; *cf.* Center for Digital Technology Comments, GN Docket No. 14-28, GN Docket No. 10-127 (July 17, 2014), at 28 (similarly, the Center for Digital Technology suggested that “the best approach is to account for any such considerations in the rules’ application, not in substantive differences”) (emphasis added).

²⁸⁵ Comcast Comments at 61.

²⁸⁶ CTC Technology & Energy and Wireless Future Project/Open Technology Institute, *Mobile Broadband Networks Can Manage Congestion While Abiding by Open Internet Principles* (Nov. 13, 2014), https://s3.amazonaws.com/www.newamerica.org/downloads/OTI_CTC_Wireless_Network_Neutrality_Engineering_Study_FINAL_111314.pdf.

traffic while avoiding discrimination among like applications, content, or services, and also without favoring carrier-sponsored or carrier-affiliated applications, content or services.²⁸⁷

IX. Conclusion

The record supports the 2015 Order and the Title II classification of BIAS providers as it provided strong backing for enforceable net neutrality rules to protect the integrity of the internet. The NPRM and commenters opposed to the 2015 Order have failed to make a compelling argument for why it is necessary for the Commission to do anything to adjust or undermine the net neutrality rules. Commenters opposed to the 2015 Order have not explained sufficiently why BIAS providers should not be considered a telecommunications service nor how open internet protections would be secured in the absence of Title II jurisdiction. Commenters opposed to the 2015 Order have not offered any conclusive evidence of the harms to broadband investment and average internet connection speeds that they claim were a result of the 2015 Order. In fact, the record shows compelling evidence that broadband investment and internet speeds in the U.S. have thrived under Title II classification of BIAS providers.

While the opposition to the 2015 Order have failed to make the case for repealing the rules, the likely harms from the net neutrality rules being reversed threatens the very foundation of the internet. How consumers access information, commerce, employment resources, government services, health care tools, and financial services could all be under the complete control of BIAS providers in the absence of strong oversight. For companies both small and large, a lack of enforceable open internet protections would give BIAS providers immense power to be able to decide the winners and losers on the online marketplace, one of the biggest drivers of commerce

²⁸⁷ *Id.*

in the modern age. The Commission is obligated to protect the public interest and protect consumers. OTI strongly urges the Commission to review the record and subsequently cease consideration of this deeply flawed NPRM.