Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20544

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

COMMENTS OF VERIZON

William H. Johnson
Of Counsel

Katharine R. Saunders
VERIZON
1300 I Street NW, Suite 500E
Washington, DC 20005
(202) 515-2462

Helgi C. Walker
Michael R. Huston
Russell B. Balikian
GIBSON DUNN & CRUTCHER LLP
1050 Connecticut Ave., NW
Washington, DC 20036

Attorneys for Verizon

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COMMENTS OF VERIZON[1]

We are committed to an open Internet. As we've said before,[2] it's what's right for consumers and is critical to our business. When we talk about the open Internet, we're straight-forward about what we mean: consumers should be able to access the legal content of their choice when and how they want. Businesses should be able to invest in networks and create new products and offers with confidence. And providers (network and edge alike) should be able to continue to expand and grow their networks, services, and technologies without fear of being cut short or held back by either unnecessary regulation or by the anticompetitive practices of anyone in the Internet ecosystem.

The give and take of a vibrant and competitive marketplace will best advance these goals. As we discuss below, and as Drs. Lerner and Ordover explain in their attached declaration,[3] Verizon faces competition nearly everywhere we offer broadband Internet access services. For

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1 The Verizon companies participating in this filing are the regulated, wholly owned subsidiaries of Verizon Communications Inc.

2 *See*, *e.g.*, Craig Silliman, "Net Neutrality: A Path Forward," *Verizon News* (Mar. 21, 2016) http://www.verizon.com/about/news/net-neutrality-path-forward.

3 Andres V. Lerner and Janusz A. Ordover, An Economic Analysis of Title II Regulation of Broadband Internet Access Providers (July 17, 2017), attached at Ex. A ("Lerner & Ordover Decl.").

wireless services, multiple providers compete head-to-head almost everywhere that consumers live. And where competition exists, providers are eager to grow their market share and compete aggressively to respond to consumer demands. In this atmosphere, a flexible regulatory framework – not prescriptive, last-century regulation – makes sense. Regulatory requirements can protect consumers, but they shouldn't handcuff innovation.

Title II, as imposed by the FCC's 2015 Order,[4] is the wrong answer. That arcane price and service scheme – written for 19th Century railroad and early 20th Century telephone monopolies – doesn't fit today's fast-paced and competitive Internet. The Commission tried in error to shoehorn today's markets into that framework and, as we show below, it doesn't work. Title II invites regulatory overreach, as we recently saw with the Commission's actions to investigate – and its threat to ice – free data programs (services that consumers love and which are in the same model as the unexceptional free-shipping service regularly offered by online retailers). Title II also provides the framework for price regulation – a toxic approach if the goal is to encourage investment or the entrance of new competitors into the market. And its mother-may-I approach to the introduction of new services and discontinuance of outdated ones flips on its head the permission-less innovation so fundamental to the success of the Internet. Indeed, Title II, with its rate regulation, mandatory fees, and required regulatory approval prior to either offering or discontinuing services, was tailored to address an era marked by a government-sponsored monopoly for the provision of simple and standardized voice transmission services. That's a far cry from the diverse and competitive broadband world of today. In fact, as studies

[4] *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601 (2015) ("*Title II Order*").

have shown, Title II regulation of today's broadband access services have injected uncertainty into the marketplace, restricted innovation, and chilled investment.

The Commission can and should reverse its classification of broadband Internet access services, as it currently proposes.[5] This would return these services to the longstanding, light-touch, and bipartisan approach that successfully governed the Internet for most of its history. Reverting to this approach will not leave consumers unprotected. Particularly given the broad-based support for open Internet protections, the best answer is that Congress takes on this issue once and for all. An even-handed legislative approach would protect the open Internet and put this counterproductive conversation to rest for good. But even while Congress is reviewing the issue, with removal of common-carriage regulation, the Federal Trade Commission (FTC) would again have jurisdiction to protect consumers and competition, as it does every day in nearly all other parts of the economy. The FTC also has authority to proscribe unfair methods of competition, and, along with the Department of Justice, can pursue action against anti-competitive actors. Finally, if the Commission were to choose to adopt rules of its own, courts have held that the Commission has at least some authority to adopt rules for the open Internet.

Whether from a legislative approach – which we prefer – or another course, we think enforceable rules are appropriate to protect consumers and the open Internet. Critically, those rules need to be sufficiently flexible and future-proof to ensure they don't restrict future developments as technology and services evolve. To ensure that is so, we all need to be sure of what we're talking about. Parties may use the same language but with different definitions as they discuss possible rules, or they may fail to define what it is they mean at all. And at the same

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[5] *Restoring Internet Freedom*, Notice of Proposed Rulemaking, 32 FCC Rcd 4434 (2017) ("*Notice*").

time, our technological understanding of what is possible (and the political maelstrom that accompanies this conversation) also is evolving, broadening the risks associated with unclear rules or loose language, such as we recently saw in the context of sponsored data. Indeed, some parties are quick to throw around terms like "throttling" or "paid prioritization" with little justification, and to condemn as a supposed net neutrality violation anything that Internet companies do with which they disagree. Appropriate rules, if adopted, therefore need to be clear, and must be guided by concepts that explain what we mean when we use these words.

As such, we support the same principles we have laid out before – all of which are designed to protect consumers' ability to access the lawful Internet content they choose using broadband Internet access services. Providers should still be able to offer differentiated or specialized services that may appeal to those who are looking for a different offering, and should have flexibility when working with sophisticated business customers. But for the mass market Internet access services subject to the rules, we believe there should be guiding principles in the following areas:

- **Transparency**: We support rules that require providers to tell customers what the provider's policies and practices are.
- **Blocking**: We support rules that prevent providers from blocking lawful content, applications, or services.
- **Throttling**: We support rules that prevent providers from intentionally slowing down or throttling Internet traffic based on the traffic's source, destination, or content.
- **Paid prioritization**: We support rules that prevent providers from charging content suppliers a fee to deliver their Internet traffic faster than the Internet traffic of others where the result is harm to competition or consumers.
- **Reasonable network management**: We support rules that recognize that providers can manage their networks efficiently.

We think these principles are a reasonable and balanced approach to get at the heart of the issue while still encouraging growth and investment.

There's been a lot of churn in the net neutrality discussion over the past few years. Some of the discussion is warranted as we discuss the hard issues that come with evolving technologies. But much of it isn't motivated by substance or grounded in reality. Superficial news reports, sensationalist interest-group fundraising appeals, and even late-night television drive claims of cataclysm and a parade of potential horribles, and net neutrality has been a buzzword that's been twisted to too many ends. It's time to move past all of that. Our focus should be on building and deploying the next generation of broadband.

We encourage the Commission to re-classify broadband access as information services and return to the successful light-touch regulatory approach that worked so well for so long. At the same time, we urge Congress to move forward with legislation to resolve this issue for good.

I. Verizon Strongly Supports an Open Internet.

A. Our Business Depends on an Open Internet.

As we have explained before, Verizon is committed to an open Internet. We have invested billions of dollars in businesses that rely on the open Internet, which our customers view as essential and which is therefore a critical ingredient to our success. These include our multi-billion dollar investments in businesses that offer content or related services that must transit not just our own networks, but the last-mile networks of other providers. To reach our customers, our businesses need the ability to transit software platforms, search engines, and services of both other ISPs and of edge providers.

Verizon recently completed its acquisition of the operating business of Yahoo!. Combined with its existing AOL business, our new subsidiary, Oath, houses more than 50 media

and technology brands that together engage more than a billion people around the world.[6] These brands are part of growing scale for our digital media company, which is focused on creating exciting new ways to captivate global audiences.

For example, we provide original, engaging content through our partnership in Complex Media, and our own Yahoo Sports and go90, as well as premium editorial content through our brands Huffington Post, Engadget, and TechCrunch. We also offer comprehensive and efficient online advertising tools through Oath. Further, our Verizon Digital Media Services business provides a variety of services to facilitate online video and other data processing and distribution across the Internet, and operates a significant global content delivery network.[7]

In addition to the acquisition of new businesses, we have invested tens of billions of dollars in capital on our wired and wireless broadband networks, including $17.1 billion in 2016 and $17.9 billion in 2015.[8] And, as our customers demand access to better and faster services, we continue to invest to improve and grow these networks. For example, in April of this year, Verizon announced that it had entered into a three-year minimum purchase agreement with Corning to purchase up to 12.4 million miles of optical fiber each year from 2018 through 2020, with a minimum purchase commitment of $1.05 billion.[9] That fiber will spur our development

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6 Oath, "Verizon completes Yahoo acquisition, creating Oath subsidiary," Oath Press (June 13, 2017), https://www.oath.com/2017/06/13/verizon-completes-yahoo-acquisition-creating-a-diverse-house-of/.

7 *See* Verizon, *What We Do*, http://about.verizon.com/our-company/products-services (last visited July 14, 2017).

8 Verizon, *Building a Connected World: 2016 Annual Report* 26, http://www.verizon.com/about/sites/default/files/annual_reports/2016/downloads/Verizon-AnnualReport2016.pdf.

9 Corning, News Releases, "Verizon Agrees to $1.05 Billion Three-Year Minimum Purchase Agreement with Corning for Next-Generation Optical Solutions" (Apr. 18, 2017), https://www.corning.com/worldwide/en/about-us/news-events/news-

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of a next-generation fiber platform that will support all of our businesses, including to deliver high-speed broadband to homes and businesses of all sizes, improve our 4G LTE coverage, and speed the deployment of 5G. In particular, for 5G, we'll need to deploy spectrum in dense areas, using multiple "small cells" connected by fiber optic cables. The resulting 5th generation of mobile technology will be able to connect orders of magnitude more devices delivering gigabit speeds with super-low latency.

Our investments – both in new businesses and in building our networks – rest on the idea of an open Internet. Verizon has a limited ISP wireline footprint, and directly provides wireless services only in the United States. And thus, in areas throughout the United States and around the world, we rely on the Internet services and connections of other broadband providers to help us reach customers. In fact, since the vast majority of Internet users worldwide are served by other broadband providers, we routinely send our content and offerings over the networks of other ISPs. Moreover, customers regularly seek to access our content via third party search engines and social networks. We would be deeply concerned if any part of the Internet ecosystem – an ISP, or otherwise –were to restrict the availability of Verizon's services to end users or prevented end users from reaching the Internet on their own terms.

We have therefore publicly committed to our customers that our broadband Internet access services will remain open.[10] We promise our customers that they "can access and use the legal content, applications, and services of your choice, regardless of their source" on "any of our

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releases/2017/04/verizon-agrees-to-1-point-05-billion-dollar-three-year-minimum-purchase-agreement-with-corning-for-next-generation-optical-solutions.html.

[10] *See* Verizon, "Verizon's Commitment to Our Broadband Internet Access Customers," https://www.verizon.com/about/sites/default/files/Verizon_Broadband_Commitment.pdf.

Internet access services, wireline or wireless," "so long as they are legal and do not harm our networks or the provision of Internet access service, facilitate theft of service, or harm other users of the service." Users "can attach to the Verizon Wireless network any device marketed by Verizon Wireless, or certified through the Verizon Wireless Open Development program." And we promise to provide customers "accurate and relevant information in plain language about the characteristics and capabilities of our Internet access services so you can make informed choices," as well as "tools to keep track of … usage to avoid surprises … ."[11]

Far from blocking user access to content and applications, Verizon has worked to promote third-party content and services. We have state-of-the-art LTE Innovation Centers in Waltham, Massachusetts and San Francisco, California that provide facilities, tools and assistance to innovators of all types in developing the devices and applications of tomorrow.[12] These centers provide the technical resources developers need to test and optimize their products in a real-world environment, without charge to the innovators, without claims to their intellectual property, and without any commitment that they actually use any of their developments on Verizon's networks.[13] By providing new developers with resources and assistance they might otherwise lack, we hope they will develop new offerings that will benefit our customers. We also operate a venture capital business, Verizon Ventures, focused on partnering with and

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[11] *Id.*

[12] *See Verizon Innovation Program: Powering the Future*, http://innovation.verizon.com/content/vic/en.html.

[13] *See id.*; *see also* Verizon Innovation Program, "Get Advanced Technology and Unequaled Experience," http://innovation.verizon.com/content/dam/vic/PDF/vzInnovationLABSBrochure_vlayout.pdf.

funding promising entrepreneurs that are working on solutions to advance the connected society of today and the networks that power it.[14]

B. A Flexible Framework – Not Title II – Will Keep the Internet Open.

Some proponents of Title II suggest that only its framework will adequately protect consumers. Not so. The increasingly competitive and complex structure of the Internet and online ecosystem increases incentives to protect consumers. Consumers today have access to a dizzying array of services offered by competing providers. Wireless providers compete intensely for customers on the basis of price, network coverage and reliability, plan characteristics, and other factors.[15] And Verizon faces significant competition from next-generation high-speed cable services almost everywhere that it offers wireline broadband services.[16] In this interdependent and interconnected world, the last-mile link is just one input among many.[17] Entities that offer network capacity, online services, applications, content, and devices simultaneously partner with and compete against one another to offer broadband and related

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[14] *See* "Turning opportunity into success," Verizon Ventures, http://www.verizonventures.com/about (last visited July 14, 2017).

[15] Lerner & Ordover Decl. ¶¶ 50-58.

[16] *Id*. ¶¶ 67-71.

[17] *See*, *e.g*., Jeffrey A. Eisenach, *Broadband Competition in the Internet Ecosystem*, AEI ECONOMICS STUDIES, at 18 (Oct. 18, 2012), http://www.aei.org/files/2012/10/17/-broadband-competition-in-the-internetecosystem_164734199280.pdf ("BROADBAND COMPETITION") ("Although it is certainly understandable that the modern telecommunications intelligentsia would see broadband as the center of the Internet ecosystem … it is not. For purposes of competition analysis, at least, broadband is a complement among complements, a module among modules.").

services.[18] With this type of mix-and-match competition, distinctions between providers that rely on outdated regulatory categories make no sense.[19]

In the competitive landscape we face, there's no incentive to harm the customer experience by preventing them from accessing the lawful content they seek. As Drs. Lerner and Ordover discuss, competition between broadband providers creates incentives for providers to implement business models and practices that benefit consumers.[20] The only way for us and other providers to continue to compete is to retain existing customers and win new ones – and the only way to do that is to offer customers the services and features, content and applications that they demand. Customers can and do switch providers when they are unsatisfied with their existing provider.[21] Any provider who sought to increase revenue through favoritism or a "toll" on an edge provider would face backlash and the loss of substantial potential lifetime revenues when customers inevitably switched to another provider.

Given this degree of competition and dynamism in the market, the Commission should be guided by flexibility, innovation, and consumer choice. But the Commission's 2015 reclassification of broadband Internet access service as a Title II common carriage telecommunications service does the opposite, by applying intrusive regulation and discouraging investment and innovation. As Drs. Lerner and Ordover explain, Title II imposes significant costs on firms and consumers that greatly outweigh the theoretical – and economically flawed – alleged benefits.[22] These risks include the threat of onerous public-utility requirements, such as

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[18] Lerner & Ordover Decl. ¶¶ 52, 54, *see also* n.38.

[19] *See*, *e.g.*, BROADBAND COMPETITION at 18.

[20] Lerner & Ordover Decl. ¶¶ 11, 37, 58-64, 72.

[21] *Id*. ¶¶ 50-58, 69-70.

[22] Lerner & Ordover Decl. ¶¶ 3-7, 19, 21-33.

rate regulation, and inhibition of new business models, arrangements, and services.[23] Such costs are borne by consumers, not just providers. As the D.C. Circuit recently recognized, "Rate regulation of a firm in a competitive market harms consumers: Prices set below the competitive level result in diminished quality, while prices set above the competitive level drive some consumers to a less preferred alternative."[24]

The risks from Title II regulation are not speculative. Just last year, the Commission used its Title II based "General Conduct" standard to begin an investigation into the "free" or "sponsored" data services offered by a number of wireless providers. In its review, Chairman Wheeler's Wireless Bureau expressed "concern" about the free data products offered by a number of providers, including Verizon, and raised concerns that some free data services "may harm the open Internet … ."[25]

Such free data services are extremely popular with consumers.[26] When initially offered, unlimited data plans were less pervasive,[27] and thus the offerings, while structured in different ways, were generally designed to provide consumers with new content and/or services without it

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[23] Lerner & Ordover Decl. ¶¶ 24, 30.

[24] *Nat'l Ass'n of Telecomms. Officers and Advisors v. FCC*, — F.3d —, No. 15-1295, 2017 WL 2883738, *4; 2017 U.S. App. LEXIS 12139, *13 (D.C. Cir. July 7, 2017) (citing 1 Alfred E. Kahn, *The Economics of Regulation: Principles and Institutions* 21, 66-67 (1970)).

[25] *See*, *e.g.*, Letter from Jon Wilkins, FCC, to Kathleen Grillo, Verizon, Re: Verizon's Zero-Rating Program (Dec. 1, 2016).

[26] *See*, *e.g.*, Multicultural Media, Telecom and Internet Council, *Understanding and Appreciating Zero-Rating: The Use and Impact of Free Data in the Mobile Broadband Sector* (May 2016) http://mmtconline.org/WhitePapers/MMTC_Zero_Rating_Impact_on_Consumers_May2016.pdf; *see also* William P. Rogerson, *The Economics of Data Caps and Free Data Services in Mobile Broadband* 26 (Aug. 17, 2016), http://www.ctia.org/docs/default-source/default-documentlibrary/ 081716-rogerson-free-data-white-paper.pdf.

[27] Since then, competition has pushed most providers into again offering unlimited plans, rendering the regulators' concerns – and their investigation – somewhat academic.

counting against their data plan. Several of these offerings are ad-supported, so consumers benefit from access to content without paying subscription fees. This is similar to toll-free calling, where the provider of the content, rather than the consumer, pays the cost. It's also analogous to over-the-air broadcast TV, where advertisers pick up the expenses, and to newspapers, where the bulk of the costs are covered by advertisers. In all these instances, consumers benefit as costs are shifted away from the consumer onto the willing advertiser or provider of the product who voluntarily picks up the tab on a non-discriminatory basis.

Yet despite the popular appeal of free data services and obvious consumer benefits, previous Commission leadership took steps to halt them. Based on its "investigation," the Wireless Bureau in January 2017 issued a report that concluded that several of the free data offerings "present significant risks to consumers and competition in downstream industry sectors because of network operators' potentially unreasonable discrimination in favor of their own affiliates."[28] Finding authority in the Title II-enabled General Conduct standard, the report concluded that "sponsored data offerings by vertically integrated mobile broadband providers may harm consumers and competition in downstream industry sectors by unreasonably discriminating in favor of select downstream providers … ."[29] The report intimated that the Commission might only approve of sponsored data offerings that were free of charge to third parties, or had charges only at the actual cost of provisioning the service.[30]

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[28] Staff of the Wireless Telecommunications Bureau, FCC, *Wireless Telecommunications Bureau Report: Policy Review of Mobile Broadband Operators' Sponsored Data Offerings for Zero-Rated Content and Services* 1 (Jan. 11, 2017), https://apps.fcc.gov/edocs_public/attachmatch/DOC-342987A1.pdf.

[29] *Id.* at 17.

[30] *Id.* at 15-16.

Less than a month later, under Chairman Pai, the Wireless Bureau closed its investigation and rescinded its report and preliminary conclusion.[31] But with Title II still encompassing these services, the risk of such investigations and future prohibitions remains. There is no market failure that might justify such public-utility-style regulation, and no benefits that defray the significant costs of Title II.[32] Standing alone, the costs of Title II regulation, and its threat of uncertain future action, could chill development of other similar products, or of new offerings that might benefit consumers.[33] Providers would be less willing to create innovative services that could arbitrarily be terminated or that could trigger complaints or enforcement actions, even if consumers approve of and welcome them. And consumers ultimately will lose out.

C. In Particular, the Fiercely Competitive Mobile Market Doesn't Need Prescriptive Regulation.

Every day, American consumers see how intensely competitive the mobile broadband marketplace is. Mobile broadband services in particular warrant a return to the light touch regulatory approach that first enabled this market. Title II regulation risks artificially limiting future growth and innovation.

The mobile broadband market has evolved at breathless speed. Not only are consumers adopting wireless solutions for mobile use, but huge numbers are getting rid of landlines altogether. They're able to do so because the wireless market is competitive. Approximately 96 percent of the U.S. population lives in areas with at least three providers offering LTE services, and approximately 89 percent live in areas with at least four providers offering LTE services;

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31 *Wireless Telecommunications Bureau Report: Policy Review of Mobile Broadband Operators' Sponsored Data Offerings for Zero-Rated Content and Services*, Order, 32 FCC Rcd 1093 (2017).

32 Lerner & Ordover Decl. ¶¶ 2, 19, 24-31, 92.

33 Lerner & Ordover Decl. ¶¶ 4-6, 21-33.

cable providers have also begun to enter the market and bundle cable and wireless services.[34] Consumers regularly evaluate competing wireless offers, and choose the best provider, plan, and mobile device based on their data needs, price range, and various other factors.[35] Customers can and do switch wireless providers regularly, with 26.5 percent of subscribers switching providers (or "churning") in 2016.[36] Wireless consumers switch not only because of price differences, but also due to data download speeds, data coverage, reliability, and other quality attributes.

In this competitive marketplace, there is no "market failure" that might justify public-utility-type regulation. Competition results in market outcomes that are beneficial to consumers, creating incentives to implement practices that benefit consumers and reducing incentives or ability to engage in practices that harm consumers or competition.[37]

Moreover, there are significant potential harms from utility-style regulation, not only to existing technologies through diminished investment and increased risks,[38] but to the development of future ones. For example, with a new form of network architecture, 5G technology will enable use cases beyond the broadband Internet access services that are the subject of this proceeding but also will add a new layer of competitive broadband technology that will enable more robust broadband Internet access services. 5G will allow such innovations as permitting heavy equipment operators to remotely control robotic equipment at construction sites, and supporting more widespread use of autonomous vehicles. Other possibilities include

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[34] Lerner & Ordover Decl. ¶¶ 42, 45.

[35] *Id*. ¶¶ 51, 54.

[36] *Id*. ¶¶ 9, 53.

[37] *Id*. ¶¶ 35, 74, 83-89.

[38] *Id*. ¶¶ 3-6, 26-27 (noting that various empirical studies of telecommunications industries find that increased regulation deters investment and innovation).

remote medical treatment or surgery, and new avenues for the Internet of Things. Given the enormous benefits and possibilities inherent in the wide range of use cases, any regulatory framework must foster, not inadvertently discourage, the investment and infrastructure that will support 5G.

D. We Support Enforceable, Uniform, Future-Proof Rules to Protect Consumers.

Although in our experience market forces already compel broadband providers to abide by open Internet principles, the open Internet is important enough to warrant a backstop of enforceable rules that guard against acts that would harm consumers or competition. But these rules can and should be supported by sources of authority other than ill-fitting Title II. Whatever the source, Verizon supports reasonable rules, guided by clear principles, to safeguard the open Internet for consumers.

1. Sources of Authority.

As we've said consistently for many years, the best course for open Internet rules would be for Congress to take action either by setting forth clear, limited open Internet rules itself, or by giving a federal agency the authority to do so. This approach would reduce ambiguity and allow the political branches to give renewed consideration to the tradeoffs between increased clarity and increased regulation. Short of congressional action, the federal government has several existing tools at its disposal that may allow it to enforce bright-line rules, without any need to impose unnecessary common-carrier regulation on a thriving market.

The FTC, as the nation's expert consumer-protection agency, has a mission to protect competition and consumers that aligns closely with the concerns underlying net neutrality rules. Section 5 of the FTC Act grants the FTC authority to proscribe "unfair methods of

competition,"[39] which encompass "'practices that violate the Sherman Act and the other antitrust laws.'"[40] FTC guidance further provides that unfair competition includes acts and practices "that contravene the spirit of the antitrust laws and those that, if allowed to mature or complete, could violate" those laws.[41] The FTC has stated that three principles guide it in determining whether an act or practice that does not necessarily violate the antitrust laws is nonetheless an unfair method of competition: (1) the FTC will be "guided" by "the promotion of consumer welfare;" (2) the FTC will evaluate practices under a framework "similar to the rule of reason," which considers whether the act or practice will "cause, or be likely to cause, harm to competition or the competitive process, taking into account any associated cognizable efficiencies and business justifications;" and (3) the FTC will be "less likely to challenge" an act or practice under Section 5 "if enforcement of the Sherman or Clayton Act is sufficient to address the competitive harm."[42] The FTC has authority to adopt "rules and regulations for the purposes of carrying out the provisions" of Section 5.[43]

The FTC also has authority to protect consumers from "unfair or deceptive acts or practices in or affecting commerce."[44] To qualify as "unfair," an act or practice must at a

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[39] 15 U.S.C. § 45(a)(2).

[40] *FTC v. Actavis, Inc.*, 133 S. Ct. 2223, 2230 (2013) (quoting *FTC v. Ind. Fed'n of Dentists*, 476 U.S. 447, 454 (1986)).

[41] *Statement of Enforcement Principles Regarding "Unfair Methods of Competition" Under Section 5 of the FTC Act* 1 (2015), https://www.ftc.gov/system/files/documents/public_statements/735201/150813section5enforcement.pdf; *see Ind. Fed'n of Dentists*, 476 U.S. at 454 (stating that the "standard of 'unfairness'" encompasses "practices that the [FTC] determines are against public policy").

[42] *Id.*

[43] 15 U.S.C. § 46(g).

[44] *Id.* § 45(a)(2).

minimum "caus[e] or [be] likely to cause substantial injury to consumers" that is neither "reasonably avoidable by consumers themselves" nor "outweighed by countervailing benefits to consumers or to competition."[45] If the FTC determines that an unfair practice is prevalent, the FTC may address it using a rulemaking proceeding;[46] the FTC may also initiate an enforcement action against the alleged offender and seek an adjudication that a specific practice is unfair.[47]

Whether the FTC elects to proceed by rule or by enforcement, the FTC Act could provide a framework to allow the agency to enforce the policies underlying the *Title II Order*, insofar as those policies are justified by actual market conditions. Notably, the FTC's acting chairman appears to be willing to exercise this authority.[48] As long as broadband service providers are deemed common carriers under Title II, however, the FTC Act bars the agency from doing so.[49]

The FTC's authority could be supplemented by the authority of the Department of Justice, which shares antitrust-enforcement authority with the FTC.[50] In addition to bringing differing expertise to bear, the Department has authority to pursue criminal sanctions in court where warranted under the antitrust laws.[51] This authority provides a further backstop against any anticompetitive practices.

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[45] *Id.* § 45(n).

[46] *Id.* § 57a(b)(3).

[47] *See id.* § 45(b) (administrative enforcement); *id.* § 53(b) (judicial enforcement).

[48] *See generally* Maureen K. Ohlhausen, *Antitrust Over Net Neutrality: Why We Should Take Competition in Broadband Seriously*, 15.1 Colo. Tech. L.J. 119 (2016), https://www.ftc.gov/system/files/documents/public_statements/1054963/ohlhausen_cotechjournal.pdf.

[49] *See* 15 U.S.C. § 45(a)(2) (excepting "common carriers subject to the Acts to regulate commerce" from FTC jurisdiction).

[50] *See id.* § 25.

[51] *Id.* § 46(k).

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 U.S.C. § 1302, affords the Commission some authority to adopt rules pertaining to the open Internet.[52] Of course, these rules may not replicate Title II; the Communications Act "expressly prohibits" the Commission from imposing common-carrier regulations on entities that are not common carriers.[53] But so long as the rules do not "subject broadband providers to common carrier treatment,"[54] and if the relevant statutory criteria are satisfied, the Commission may adopt measures that "encourage the deployment … of advanced telecommunications capability to all Americans" by "remov[ing] barriers to infrastructure investment."[55] While the D.C. Circuit did not specify the precise contours of the rules authorized by Section 706, it may be that interpreting Section 706 as a "grant of regulatory authority" for certain open Internet rules would provide the Commission with a means of curbing some problematic practices.[56]

2. Any Rules – Whether Enacted by Congress or Otherwise – Must Be Future-Proof and Informed by Clear Principles.

Whatever the source, any rules that are developed in this space must be designed to allow technology and services to grow and evolve. While we may not yet know all the benefits that will come from the next generation of innovation, at the very least, they promise potentially exponential change and corresponding benefits to consumers. Regulations should not be so restrictive as to limit growth and investment, nor should a framework allow so much uncertainty

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[52] *See Verizon v. FCC*, 740 F.3d 623, 635 (D.C. Cir. 2014).

[53] *See Verizon*, 740 F.3d at 628.

[54] *Id.* at 650.

[55] 47 U.S.C. § 1302(a), (b).

[56] *Verizon*, 740 F.3d at 637.

as to dissuade innovation. And thus, as we think about what governing rules should look like, we start from the principle that any framework that is enacted must encourage new investments and ideas, not curtail them. New rules should extend only to consumer broadband Internet access services; they should not apply to specialized services, business-to-business, or other services.

Nor should the rules be so vague as to permit them to be stretched over new technologies and services they were never intended to address. As technology advances, so will the way we talk about these services and technologies likely change dramatically over time. The same is true retroactively: the definitions of terms we use – sometimes as shorthand – in this debate have often morphed over the years. Therefore, to ensure a consistent and predictable approach, any enacted rules must be guided by concepts that explain what the rules mean and to what they apply, as we lay out below. We believe these principles should make clear that any future rules ensure consumers can use their broadband Internet access services to access legal Internet content of their choice when and how they want, while still encouraging businesses to invest in and grow their networks, services, and technologies and to continue to innovate:

Transparency: we support rules that require providers to tell customers what the providers' policies and practices are, and when those policies change. Disclosure mandates should be reasonable, rather than require technical information that is essentially meaningless to all but the most technically savvy customers or require new surveys or studies to create data for disclosure.

Blocking: we support rules that prevent providers from blocking lawful Internet content, applications or services from consumers. As discussed above, Verizon has been clear with our customers that we will not block their access to any legal content, applications, or services based

on their source, and we believe that any appropriate no-blocking rule should be consistent with that approach. But the appropriate rule should also allow flexibility for providers to negotiate differentiated arrangements or experiment with different service models that offer consumers the choice, for example, of curated service experiences or capabilities that differ from traditional, best-efforts broadband Internet access service.

Throttling: we support rules that prevent providers from intentionally slowing down or throttling particular Internet traffic based on the traffic's source, destination or content. Throttling should not be defined so broadly as to limit providers' ability to use reasonable tools to manage their networks and ensure a good customer experience as customers compete for finite network resources. And a throttling rule should not prohibit providers from offering different tiers of service for consumers to choose among, provided that they are transparent with customers about their services. An example would be services already in the market that involve the slowing of traffic after consumers pass a monthly usage threshold.

Paid prioritization: we support rules that prevent providers from charging content suppliers a fee to deliver their Internet traffic faster than the Internet traffic of others where the result is harm to competition or consumers. As broadband speeds continue to increase, the real world relevance of "paid prioritization" continues to decrease. Nonetheless, the discussion of "prioritization" continues and some advocates of regulation have sought to extend it far beyond the mass-market broadband Internet access services at issue here. Any rule should therefore be careful to underscore that a prohibition on paid prioritization needs to be focused on the instance where a provider might slow a consumer's access to a particular website or application in favor of another, competing one. But consumers should also be able to choose to prioritize certain content or applications, where technologically practicable. Further, providers also need the

ability to offer differentiated arrangements or make use of the tools available from ever more sophisticated networks, including the ability to provide services that need high bandwidth and extremely low latency such as is necessary for virtual or augmented reality applications. Most of these services likely would not fit the definition of broadband Internet access services at all, and thus fall outside the scope of any open Internet rules. But to the extent they are broadband Internet access services, providers need to be able to operate their networks effectively and in a manner that will enhance all customers' experiences and honor consumers' choices.

Reasonable network management: we support rules that recognize that providers will continue to need flexibility to manage their networks efficiently. These should apply in all instances (blocking/throttling/paid prioritization) to ensure that providers are able to best optimize network performance in a reasonable manner.

3. The Regulatory Framework for Broadband Must Be Uniform and National.

The regulatory approach to broadband Internet access services must be uniform and consistent with the federal policy of promoting broadband development through deregulation at *all* levels of government.[57] Piecemeal regulation by states would impose substantial burdens that frustrate this congressional policy of promoting broadband development through deregulation.[58]

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[57] *See*, *e.g.*, 47 U.S.C. §§ 230, 1302 (favoring deregulation and expansion of broadband services); *City of New York v. FCC*, 486 U.S. 57 (1988) (upholding FCC preemption of varying state and local laws relating to cable systems that could impede provision of the service, increase consumer costs, and impede responses to technological changes).

[58] *See Ark. Elec. Co-op. Corp. v. Arkansas Pub. Serv. Comm'n*, 461 U.S. 375, 384 (1983) (a federal determination that the area is best left "*un*regulated" carries "as much pre-emptive force as a decision *to* regulate"); *Geier v. Am. Honda Motor Co.*, 529 U.S. 861, 883-84 (2000) (state cause of action preempted where the federal decision to adopt a more permissive approach constituted a substantive determination that federal statutory objectives, including promoting innovation, were best achieved by less, not more, regulation);

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To ensure that state regulation does not hamper Congress's design and undermine the Commission's broadband policies, the Commission should be clear that in returning to the longstanding light-touch regulatory approach and reversing Title II classification, it is not abnegating federal jurisdiction to promote the deployment of broadband or leaving any regulatory gap for state regulators to fill. Broadband Internet access service is an inherently interstate service. Any regulation of these interstate services must be handled at the federal level. For example, Congress entrusted the Commission to promote broadband through its available deregulatory tools as a matter of federal law. State regulation that frustrates this federal policy is preempted.[59] It does not matter whether the state rules purport to be good policy; when "Congress has taken the particular subject-matter in hand, coincidence is as ineffective as opposition, and a state law is not to be declared a help because it attempts to go farther than Congress has seen fit to go."[60]

(Cont'd from previous page)

Northwest, Inc. v. Ginsberg, 134 S. Ct. 1422, 1428 (2014) (the doctrine of preemption may prevent states from "undo[ing] federal deregulation with regulation of their own").

[59] *See Minn. Pub. Utils. Comm'n. v. FCC*, 483 F.3d 570, 580 (8th Cir. 2007) (comparing state regulatory requirements for telecommunications providers to the Commission's pre-Title II "market-oriented policy allowing providers of information services to 'burgeon and flourish in an environment of free give-and-take of the market place without the need for and possible burden of rules, regulations and licensing requirements,'" and concluding that "any state regulation of an information service conflicts with the federal policy of nonregulation") (citation omitted); *Computer & Commc'ns Indus. Ass'n v. FCC*, 693 F.2d 198, 205, 214 (D.C. Cir. 1982) (holding that federal law preempts regulation of information services, notwithstanding that they "were not within the scope of [the Commission's] Title II jurisdiction," because the Commission's "broad authority over 'all interstate and foreign communication by wire or radio'" authorized it to preempt state regulation that "would interfere with achievement of a federal regulatory goal");

[60] *Charleston & W. Carolina Ry. Co. v. Varnville Furniture Co.*, 237 U.S. 597, 604 (1915).

E. Reclassification Does Not Change the FCC's Ability to Continue to Work to Close the Digital Divide or Protect Other Important Consumer Interests.

The proposed return to classifying broadband Internet access as an information service will not – as some of the hype might have one believe – undermine other important concerns unrelated to the open Internet. Among other things, the FTC – the expert agency over privacy issues – will regain jurisdiction over privacy concerns, ensuring a consistent privacy regulatory scheme across the Internet. And the Commission's efforts to recalibrate the Universal Service Fund (USF) – including the Lifeline programs – to support broadband will remain in effect.

1. Privacy and Consumer Protection

Reinstating broadband Internet access service as an information service will restore the FTC's consumer-protection authority over Internet service providers. In particular, the FTC would regain jurisdiction over Internet service providers' privacy practices. With its uniform, technology-neutral approach, the FTC – with more than 100 years' experience protecting consumers against illegal commercial practices – is the right agency for the job. Customers will benefit when the Commission ends common-carrier regulation of broadband Internet access services and "put[s] America's most experienced and expert privacy cop back on the beat."[61]

Because federal law prohibits the FTC from regulating common-carriage services,[62] the *Title II Order* divested the FTC of its authority to regulate Internet service providers' privacy practices. The FTC for more than a decade had successfully regulated the privacy practices of all players in the Internet ecosystem, including ISPs. And it did so by applying the same

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[61] *See Statement of FCC Chairman Ajit Pai on President Trump Signing Into Law the Congressional Resolution of Disapproval* (Apr. 3, 2017), https://apps.fcc.gov/edocs_public/attachmatch/DOC-344205A1.pdf.

[62] *See* 15 U.S.C. § 45(a)(1). Although a recent Ninth Circuit panel decision held that the FTC's common-carrier exemption was status based and not activity based, thereby limiting the FTC's jurisdiction, that decision is now set for *en banc* rehearing.

framework to ISPs and other ecosystem participants. Consumers will be better off when the FTC can again apply its experience and expertise to protect them from potentially harmful activities.

Under the FTC's approach, customers have a consistent level of protection across the Internet. The FTC's technology-neutral, uniform approach to privacy regulation requires the same protections and safeguards regardless of which entity collects customers' sensitive information. Consumers expect information should be treated consistently across the Internet ecosystem and that their personal information will be subject to the same framework, in all contexts. The FTC also has shown the adaptability and flexibility necessary to respond to new technologies and marketplaces while fulfilling its essential consumer-protection mission. New technology-driven issues like robocalling and mobile payments, in addition to data privacy for non-common carriers, now are within the FTC's docket,[63] and the FTC has ably dealt with them.

With the nation's foremost experience and know-how in regulating consumer protection matters, the FTC is best-suited to protecting consumers from non-common carrier activities that cause them harm or that harm competition, as it has been doing for more than 100 years. Only the FTC can apply consumer protection rules consistently across industries. And only the FTC operates on a national level across industries, which is especially important when regulating providers that operate across state lines.

The Commission therefore should adopt the proposal in the *Notice* and return to the FTC jurisdiction over Internet service providers' privacy practices.

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[63] *See The FTC at 100: Where Do We Go From Here?: Hearing Before the H. Subcomm. on Commerce, Mfg., & Trade, Comm. on Energy & Commerce*, 113th Cong. 8-9 (2014) (statement of Chairwoman Edith Ramirez).

2. Universal Service

After it reclassifies broadband Internet access as an information service, the Commission will still have ample authority under Sections 254 and 706 of the Act to address the digital divide through the universal service fund. Indeed, the Commission had already supported broadband services under all four universal service programs before it classified broadband as a telecommunications service in the *Title II Order*.[64]

The E-rate program has supported broadband Internet access services since the program's inception in 1997. The Commission determined in the *Universal Service First Report and Order* that it had the authority to provide E-rate support for Internet access and other non-telecommunications services pursuant to Sections 254(c)(3), (h)(1)(B), and (h)(2) of the Act.[65]

The rural health care (RHC) program has supported broadband Internet access services since 2003, when the Commission created the RHC Internet Access Program.[66] The Commission created the RHC Internet Access Program pursuant to its authority under Section 254(h)(2)(A) of the Act, which directs the Commission to enhance access to "advanced telecommunications and information services" for health care providers.[67]

The high cost program has supported broadband Internet access services since the Commission created the Connect America Fund and the Mobility Fund in the 2011

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[64] *See Title II Order* ¶ 486 (noting that the Commission was already providing universal service support for broadband and that classification as a telecommunications service simply provided "another statutory justification.")

[65] *See Federal-State Joint Board on Universal Service,* Report and Order, 12 FCC Rcd 8776, ¶¶ 436-441 (1997) ("*Universal Service First Report and Order*").

[66] *Rural Health Care Support Mechanism*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 18 FCC Rcd 24546, ¶¶ 19-20 (2003).

[67] 47 U.S.C. § 254(h)(2)(A).

Transformation Order.[68] In the *Transformation Order*, the Commission concluded that Section 254 grants the Commission "clear authority" to condition the receipt of universal service support on the deployment of broadband networks, and also concluded that Section 706 "provides the Commission with independent authority to support broadband networks in order to 'accelerate the deployment of broadband capabilities' to all Americans."[69] The Tenth Circuit confirmed that the Commission has the authority to provide universal service support for broadband regardless of regulatory classification.[70]

Although the Commission cited the *Title II Order*'s classification decision when it extended the Lifeline program to broadband in the 2016 *Lifeline Modernization Order*,[71] the Commission has the authority to provide Lifeline support for broadband services regardless of regulatory classification. As the Commission proposes in the *Notice*, the Commission can maintain support for broadband in the Lifeline program after reclassification by relying on the same authority that underpins the *Transformation Order*'s support for broadband in the high-cost program.[72] Notably, the Commission first provided Lifeline support for broadband services in 2012, after the *Transformation Order* but before the *Title II Order*, when it created the broadband Lifeline Pilot Program in the *Lifeline Reform Order*.[73] As the Commission explained

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68 *Connect America Fund*, *et al.*, Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 17663 (2011) ("*Transformation Order*").

69 *Id.*, ¶¶ 60-72.

70 *See In re FCC 11-161*, 753 F.3d 1015, 1046 (10th Cir. 2013).

71 *Lifeline and Link-Up Reform and Modernization*, Third Report and Order, Further Report and Order, and Order on Reconsideration, 31 FCC Rcd 3962, ¶ 39 n.92 (2016) ("*Lifeline Modernization Order*").

72 *Notice*, ¶ 68.

73 *Lifeline and Link-Up Modernization*, Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 6656 (2012) ("*Lifeline Reform Order*").

when it created the Pilot Program, "sections 254 and 706 authorize [the Commission] to fund bundled voice and broadband services as well as standalone broadband services."[74]

Reclassification will not, therefore, remove from the Commission the authority under Sections 254 and 706 of the Act to address the digital divide through the universal service fund.

II. The Commission Should Reverse the 2015 Order's Public-Utility Regulation of Broadband Internet Access Service.

Subjecting broadband Internet access service to 1930s public-utility regulation was both bad policy and unlawful. Although a divided panel of the D.C. Circuit found the *Title II Order* was not unreasonable,[75] that decision in no way prevents the Commission from returning to the bipartisan, light-touch regulatory approach for broadband Internet access service that prevailed for years and that was previously upheld by the U.S. Supreme Court. The Commission should re-adopt that approach by reinstating its classification of both fixed and mobile broadband Internet access service as an "information service" under 47 U.S.C. § 153, and by reinstating its classification of mobile broadband as a "private mobile service" under Section 332.

A. The Commission Should Reinstate Its Classification of Broadband Internet Access Service as an Information Service Under 47 U.S.C. § 153.

After nearly two decades of consistently classifying broadband Internet access service as an "information service" immune from common-carrier regulation, the *Title II Order* abruptly reversed course and classified the service as a common-carrier "telecommunications service" under 47 U.S.C. § 153. This stark departure from years of well-established regulatory law violated the text of the Telecommunications Act of 1996 and departed from Supreme Court precedent upholding the Commission's prior approach.

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[74] *Id.*, ¶ 328.

[75] *See U.S. Telecom Ass'n v. FCC*, 825 F.3d 674 (D.C. Cir. 2016).

1. Title II Is a "Historical Anachronism" Intended to Regulate Monopolies.

Common-carrier regulation under Title II is a regulatory dinosaur. Enacted as part of the original Communications Act of 1934,[76] Title II evolved from an 1880s law regulating railroad monopolies.[77] It was enacted to address a communications environment radically different from today's – one in which a government-sponsored monopoly provided simple, standardized communication (specifically, rotary telephone service).[78] Title II's provisions are tailored to monopoly-controlled voice-transmission technologies; they were never intended to be applied to innovative, advanced technologies driven by data processing and competitive market forces.

By the 1990s, Congress already recognized that "[c]hanges in technology and consumer preferences" in the communications industry rendered the 1934 Act "a historical anachronism."[79] The Act "imposed strict regulatory requirements on all common carriers whether they are monopolies or not," and did not account for the "increasing diversity of media" because it had "not been rewritten since its original passage."[80] Acknowledging the monopolistic telephone service of the 1930s was worlds away from the rapidly advancing communications technologies of the 1990s, a Republican Congress and Democratic President overhauled the Act in 1996.[81]

The Telecommunications Act of 1996 defines two mutually exclusive categories of communication services by reference to their functionalities, tracking a regulatory distinction

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[76] *See* Communications Act of 1934, ch. 652, tit. II, 48 Stat. 1064, 1070.

[77] *See* Telecommunications Competition and Deregulation Act of 1995, S. Rep. No. 104-23, at 2 (1995) (citing Interstate Commerce Act, ch. 104, 24 Stat. 379 (1887)).

[78] *See*, *e.g.*, *MCI Telecomms. Corp. v. AT&T Co.*, 512 U.S. 218, 220 (1994).

[79] S. Rep. No. 104-23, at 2.

[80] *Id.*, at 2, 9.

[81] *See* Telecommunications Act of 1996, Pub. L. No. 104-104, sec. 3(a), § 3, 110 Stat. 56, 58 (amending definitional section of the Communications Act of 1934, 48 Stat. at 1064).

that the Commission had previously drawn between "basic" and "enhanced" services.[82] Under the 1996 Act, "telecommunications services" offer pure "transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information."[83] These basic services would continue to be subject to common-carrier regulation under Title II.[84] By contrast, "information service[s]" offer a capability "for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications."[85] These enhanced services would be shielded from common-carrier regulation and allowed to flourish in a competitive, open market.[86]

Congress made unambiguously clear in 1996 that "a service or system that provides access to the Internet" is an "information service" exempt from Title II.[87] Indeed, the 1996 Act

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[82] *See Amendment of Section 64.702 of the Commission's Rules and Regulations (Second Computer Inquiry)*, Final Decision, 77 F.C.C.2d 384, 387 (1980) ("*Computer II*") (distinguishing between basic services and enhanced services, and concluding that enhanced services should not be regulated as common-carrier offerings); *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 977 (2005) (describing the 1996 Act's definitions as "analog[s]" to the definitions set forth in the *Computer II* decision); *see also United States v. AT&T Co.*, 552 F. Supp. 131 (D.D.C. 1982) (distinguishing between telecommunications and information services); *Notice* ¶¶ 6-7 (discussing these decisions).

[83] A "telecommunications service" is the "offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used." 47 U.S.C. § 153(53). The term "telecommunications" means "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received." *Id.* § 153(50).

[84] *See* 47 U.S.C. § 153(51) (providing in relevant part that telecommunications carriers – that is, "any provider of telecommunications services" – shall "be treated as a common carrier under this chapter only to the extent that it is engaged in providing telecommunications services"); *see also Brand X*, 545 U.S. at 975.

[85] 47 U.S.C. § 153(24).

[86] *See Verizon*, 740 F.3d at 650.

[87] Telecommunications Act, sec. 509, § 230(e)(2) (codified as amended at 47 U.S.C. § 230(f)(2)).

affirmatively endorsed the Commission's preexisting light-touch regulatory approach for Internet access service by making it the "policy of the United States" to "preserv[e] the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation" – "including specifically" services that "provid[e] access to the Internet."[88] Shortly after enacting the 1996 Act, Congress reaffirmed this approach by not only distinguishing between "telecommunications service" and "Internet access service,"[89] but also by expressly *excluding* "telecommunications services" from the meaning of "Internet access service," which Congress defined as a "service that enables users to access content, information, electronic mail, or other services over the Internet."[90]

For nearly 20 years, the Commission wisely heeded Congress's direction and consistently treated access to the Internet as an information service. In its first major analysis of the issue following the passage of the 1996 Act, the Commission explained that "Internet access services are appropriately classed as information, rather than telecommunications, services,"[91] because even in the early days of the Internet, they "provide[d] their subscribers with the ability to run a variety of applications, including World Wide Web browsers, FTP clients, Usenet newsreaders, electronic mail clients, Telnet applications, and others."[92] The Commission further explained that when subscribers "retrieve files from the World Wide Web, they are similarly interacting with stored data, typically maintained on the facilities of either their own Internet service

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[88] *Id.* sec. 509, § 230(b)(2), (e)(2) (codified as amended at 47 U.S.C. § 230(b)(2), (f)(2)).

[89] *See* Act of Oct. 21, 1998, Pub. L. No. 105-277, div. C, title XIV, sec. 1403, § 231(b)(1)–(2) (codified at 47 U.S.C. § 231).

[90] *Id.* § 231(e)(4).

[91] *Federal-State Joint Board on Universal Service*, Report to Congress, 13 FCC Rcd 11,501, ¶ 73 (1998) ("*Universal Service Report*").

[92] *Id.* ¶ 76.

provider (via a Web page 'cache') or on those of another;" they are therefore utilizing the provider's "'capability for acquiring, retrieving and utilizing information.'"[93] In short, Internet access "gives users a variety of advanced capabilities" that are accessible through "applications" that, in turn, are able to function "precisely because of the enhanced functionality that Internet access service gives them."[94]

Although Internet service has advanced since then in important ways, these fundamental technological principles underlying the service have remained. Accordingly, in 2002, the Commission formally classified cable broadband service as an information service,[95] and the Supreme Court upheld that classification in 2005.[96] In 2005, the Commission confirmed that DSL and other wireline broadband services were information services, noting that a "minimal regulatory environment" for these services would "benefit American consumers and promote innovative and efficient communications."[97] In 2007, the Commission applied the same reasoning to wireless broadband Internet access service.[98] Broadband investment soared during this era: According to USTelecom, American broadband providers invested about $1.5 trillion

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93 *Id.* (alterations omitted).

94 *Id.* ¶ 79.

95 *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*; *Internet Over Cable Declaratory Ruling*; *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002) ("*Cable Broadband Order*").

96 *See Brand X*, 545 U.S. 967.

97 *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*; *et al.*, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14,853, ¶ 1 (2005) ("*Wireline Broadband Order*").

98 *See Appropriate Regulatory Treatment for Broadband Access to the Internet over Wireless Networks*, Declaratory Ruling, 22 FCC Rcd 5901, ¶ 26 (2007) ("*Wireless Broadband Order*").

into their networks between 1996 and 2015, the year the *Title II Order* was adopted.[99] In the mobile broadband market in particular, the Commission's light-touch regulatory framework spurred vigorous competition which produced important consumer benefits including lower prices for higher-quality services, higher broadband speeds with improving technology, greater choice in wireless devices and services, and increased output.[100]

In 2009, the Commission proposed adopting a handful of open Internet rules,[101] and the D.C. Circuit held in 2014 that Section 706 of the Telecommunications Act grants the FCC limited authority to do so, without any need to rely on Title II.[102] Thus, when the Commission initiated the rulemaking that led to the *Title II Order*, it planned to rely for legal authority on "the blueprint offered by the D.C. Circuit" in its 2014 decision,[103] *not* on reclassifying broadband as a Title II common-carrier service. After the comment period closed – and following a rare presidential declaration that the Commission should apply Title II – the Commission abruptly pivoted and asserted sweeping Title II regulatory authority over all broadband Internet access

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[99] *See* USTelecom, Press Releases, "Broadband Investment Remains Large, but Ticked Down in 2015" (Dec. 14, 2016), http://www.ustelecom.org/news/press-release/broadband-investment-remains-large-ticked-down-2015.

[100] Lerner & Ordover Decl. ¶¶ 59-64.

[101] *See Preserving the Open Internet*, Notice of Proposed Rulemaking, 24 FCC Rcd 13,064 (2009).

[102] *Verizon*, 740 F.3d 623.

[103] *Protecting and Promoting the Open Internet*, Notice of Proposed Rulemaking, 29 FCC Rcd 5561, ¶¶ 3-4 (2014) ("*2014 Notice*"). The Commission noted that it would "seriously consider" Title II as a source of authority to regulate, *id.*, ¶ 4, but it did not propose to modify any existing definitions or to subject mobile broadband to common-carrier regulation.

services.[104] By a 3 to 2 vote, the Commission obliged, scrapping its original proposal and abruptly adopting the *Title II Order*, without seeking further comment.

The *Title II Order* is a dramatic, results-oriented course reversal from longstanding and successful agency practice, declaring for the first time that broadband Internet access service is a pure "telecommunications service" subject to Title II's outmoded common-carrier regulations – and thus subject to maximum governmental control.[105] The Commission did not and could not contend that this about-face was necessitated by some fundamental change in the nature of Internet access service. Instead, the Commission *admitted* that it reclassified Internet access service because it wanted to provide a "strong legal foundation" for its ability to regulate Internet service providers.[106] The Commission thus unnecessarily foisted a restrictive common-carrier regime onto a highly competitive, innovative market in order to expand its regulatory power, not because anything about the service itself had actually changed.

As many economists previously predicted, capital investment "declined sharply in 2016 relative to 2014, the last year before reclassification."[107] Indeed, the costs of Title II regulation

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[104] *See*, *e.g.*, Maj. Staff of S. Comm. on Homeland Sec., *Regulating the Internet: How the White House Bowled over FCC Independence* (2016), http://goo.gl/52ceDs (last visited July 17, 2017; Brian Fung, *Obama to the FCC: Adopt 'the Strongest Possible Rules' on Net Neutrality, Including Title II*, Wash. Post (Nov. 10, 2014), http://wpo.st/zMrk1 (last visited July 17, 2017).

[105] *See Title II Order* ¶¶ 355−87.

[106] *Id.* ¶ 5; *see*, *e.g.*, *id.* ¶ 42 ("all available sources of legal authority"); *id.* ¶ 273 ("We marshal all of these sources of authority toward a common statutorily-supported goal: to protect and promote Internet openness …."); *id.* ¶ 283 (describing Title II as an "alternative source of legal authority for today's rules"); *id.* ¶ 288 ("Applying these statutory sources of authority, we have ample legal bases on which to adopt the three bright-line rules against blocking, throttling, and paid prioritization.").

[107] Hal Singer, *Bad Bet by FCC Sparks Capital Flight from Broadband*, Forbes (Mar. 2, 2017), https://www.forbes.com/sites/washingtonbytes/2017/03/02/capital-flight-from-broadband-in-the-title-ii-era/.

are clear and real: "Basic investment theory shows that increased risks, including regulatory risks, have the effect of reducing the profitability of investment projects and therefore diminishing investment activity."[108] Those costs apply with full force to broadband service, and particularly mobile broadband, which "entails significant fixed (and sunk) costs of deploying the network and relatively low marginal costs of serving existing subscribers."[109] Title II also inhibits pro-consumer offerings, such as sponsored data programs.[110] These costs are not outweighed by the supposed benefits of Title II regulation, since any economically justified rules that can be achieved by Title II can also be achieved by more limited, targeted rules.[111] The *Title II Order* did not grapple with the realistic costs and benefits of Title II regulation, violating the requirement of *Michigan v. EPA* that an agency conduct an accurate, reasonable cost-benefit analysis when determining whether regulation is appropriate.[112]

To be sure, the Commission did not immediately exercise all of its newly claimed regulatory authority. While the *Title II Order* lays the groundwork for the Commission to "nimbly" impose new common-carrier obligations and fees in the future,[113] it stops short of imposing full-scale rate regulation and some of Title II's other heavy burdens "at this time."[114] But the regulatory authority claimed by the Commission in the *Title II Order* is vast, and the

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[108] Lerner & Ordover Decl. ¶ 25; *see id.* ¶¶ 24–29 (explaining how Title II threatens investment in broadband networks).

[109] *Id.* ¶ 58.

[110] *Id.* ¶¶ 30–33.

[111] *See id.* ¶ 39.

[112] *See Michigan v EPA*, 135 S. Ct. 2699 (2015); *see supra* Part I.B; *see generally* Lerner & Ordover Decl.

[113] *Title II Order* ¶ 470.

[114] *E.g.*, *id.* ¶¶ 470, 490.

Commission's decision to forbear from some common-carrier requirements – for now, as a matter of grace – does not minimize the fact that access to the Internet is currently subject to sweeping federal regulatory authority. Moreover, the *Title II Order* does not forbear from "core provisions of Title II,"[115] including the authority to declare what shall and shall not be "unjust or unreasonable discrimination" or an "undue or unreasonable preference or advantage."[116]

2. The *Title II Order* Rests on a Contorted Interpretation of Section 153.

The Commission's current *Notice* proposes to correct the *Title II Order*'s anomalous reclassification decision and reinstate broadband's longstanding, bipartisan classification as an information service. The Commission can and should adopt that proposal.

Broadband Internet access service qualifies as an information service under the plain terms of the Telecommunications Act. It "offer[s]" consumers the "capability" of "acquiring" and "retrieving" information from websites, "storing" information in the cloud, "transforming and processing" information by manipulating images and documents, and "generating" and "making available" information to others through social media – among a multitude of other uses.[117] The service also "stor[es]" information in local caches so that it is available for expedited "retriev[al]," "process[es]" data through domain name servers (DNS), "generat[es]" and assigns Internet Protocol ("IP") addresses, and offers other computer-processing services that enable the service to function in a user-friendly and safe way.[118] Broadband Internet access

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115 *Title II Order* ¶ 409.

116 47 U.S.C. § 202(a); *see id.* § 201.

117 47 U.S.C. § 153(24).

118 *E.g.*, *Universal Service Report*, ¶¶ 73–82; *Cable Broadband Order*, ¶ 17; *Wireline Broadband Order*, ¶ 15; *Wireless Broadband Order*, ¶ 26; Cisco, "Service Provider Security," http://www.cisco.com/c/en/us/about/security-center/service-provider-infrastructure-security.html (last visited July 17, 2017) (providing a "comprehensive

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service is therefore an information service within the plain terms of the Act – just as Congress unambiguously stated in Sections 230 and 231.[119]

These points are so well-established that when the Supreme Court considered the Commission's classification of cable broadband in *National Cable & Telecommunications Ass'n v. Brand X Internet Services*, it was "*unchallenged*" that "cable modem service" – *i.e.*, the Internet access service that "enables users, for example, to browse the World Wide Web, to transfer files from file archives available on the Internet via the 'File Transfer Protocol,' and to access e-mail and Usenet newsgroups" – was "an 'information service.'"[120] The technological question that divided the Court was whether cable providers *also* offered a separable telecommunications service in providing this information service, or whether instead the Commission had reasonably concluded that the transmission of information was an integrated aspect of the information-service offering, as the Court held.[121] No party or Justice took the *Title II Order*'s extreme position that the *entire service* is a telecommunications service subject to common-carrier regulation.

Classifying broadband as an information service respects Congress's intent that the 1996 Act track the Commission's preexisting regulatory approach. Before the 1996 Act, the Commission drew a distinction between enhanced services, which were not subject to common-

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overview of security measures and tools that Internet service providers can use to secure their network infrastructures").

[119] *See* 47 U.S.C. §§ 230(b)(2), (f)(2); 231(b)(1)–(2), (e)(4).

[120] *Brand X*, 545 U.S. at 987 (emphasis added).

[121] *See id.* at 990 ("The question, then, is whether the transmission component of cable modem service is sufficiently integrated with the finished service to make it reasonable to describe the two as a single, integrated offering.").

carrier regulation, and basic services, which were.[122] The 1996 Congress "passed the definitions in the Communications Act against the background of this regulatory history," so it can fairly be "assume[d] that the parallel terms 'telecommunications service' and 'information service' substantially incorporated their meaning, as the Commission has held."[123]

The *Notice*'s proposed approach also comports with Congress's decision to avoid imposing common-carrier regulation on entities that lack market power. The overriding goal of the Telecommunications Act of 1996 was to "provide for a pro-competitive, de-regulatory national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services to all Americans by opening all telecommunications markets to competition."[124] Imposing common-carrier regulation without finding that broadband service providers have overwhelming "market power" would "*discourage* broadband development, thus frustrating the statutory objective" that undergirds the entire 1996 Act and that is set forth explicitly in Section 706, 47 U.S.C. § 1302.[125] Indeed, consistent with the economic rationale for common-carrier regulation, applying intrusive common-carrier regulation can, as a matter of law, be justified only to the extent that a service provider enjoys a problematic degree of market power.[126] Here, there is no plausible basis for making a uniform

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[122] *E.g.*, *Computer II*, ¶ 5; *Computer & Commc'ns Indus. Ass'n*, 693 F.2d at 209; *AT&T Co.*, 552 F. Supp. 131 (distinguishing between information services and telecommunications services); *see also AT&T Co.*, 552 F. Supp. 131 (distinguishing between information services and telecommunications services).

[123] *Brand X*, 545 U.S. at 992; *see id.* at 992-97.

[124] Telecommunications Act of 1996, Conference Report, H.R. Rep. No. 104-458, at 1 (1996).

[125] *Verizon*, 740 F.3d at 666 (Silberman, J., concurring in part and dissenting in part).

[126] *See*, *e.g.*, *Munn v. Illinois*, 94 U.S. 113, 131-32 (1876); *see also Computer & Commc'ns Indus. Ass'n*, 693 F.2d at 210 (upholding Commission determination that providing equipment "is not a common carrier activity" because of "healthy competition in the …

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finding of such market power nationwide and for all broadband providers, as would be needed to justify the *Title II Order*. Competition in the broadband market is stiff and broad-based; for example, Verizon's wireline broadband service competes head-to-head against cable's broadband services essentially everywhere that it is offered.[127]

There is likewise no possible basis for a nationwide finding of market power with respect to *mobile* broadband Internet access services. The "wireless broadband Internet access industry does not come close to resembling a monopolistic industry."[128] The Commission's own data confirm that multiple nationwide providers compete head-to-head with each other and with regional providers, with deployment increasing each year. As Ordover and Lerner explain, as of the Commission's latest Mobile Wireless Competition Report, about 96 percent of Americans were able to choose between three or more providers' top-tier LTE broadband networks, with 89 percent of Americans able to choose from four or more.[129] Consumers take advantage of this choice, too; according to the Commission's own data, "18.72% of customers switch providers each year," assuming that people do not switch providers more than once in a year, which "suggest[s] quite robust competition."[130] That number increased to 26.5% for 2016.[131] This

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market by non-common carriers"); Lerner & Ordover Decl. ¶¶ 35–39 (explaining that public utility regulation is a response to "market failure").

[127] *See* Lerner & Ordover Decl. ¶¶ 67-72.

[128] *Id.* ¶ 37.

[129] *Id.*¶ 42 and n. 33 (noting these numbers likely understate the share of the population covered); *see also id.* at ¶¶ 41-45 (explaining that 99 percent of the non-rural U.S. population and more than 80 percent of the rural population can select LTE coverage from three or more service providers); *see Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Nineteenth Report, 31 FCC Rcd 10,534, , ¶ 39 at Chart III.A.2 (2016) ("*2016 Wireless Report*").

[130] *U.S. Telecom*, 825 F.3d at 752 (Williams, J., dissenting).

significant level of wireless subscriber switching takes place because "[c]onsumers evaluate competing wireless offers, and choose the best provider, plan, and mobile device based on their data needs, price range, and various other factors."[132] And they "have access to information about rival offerings" from "social media, industry groups and publications, consumer groups," and "[m]arketing and advertising," among other sources.[133]

This level of competition belies the *Title II Order*'s claim that broadband providers are "gatekeepers" to the Internet with significant bargaining power that can be used to harm consumers.[134] The "concept of a 'gatekeeper' is economically significant from a competition perspective when there is a single supplier of a particular product or service, or at least when there is limited competition between firms such that firms may possess monopoly power."[135] But as just explained, "the fundamental assumptions of the 'gatekeeper' theory" are "not present" in the mobile broadband industry.[136]

That broadband Internet access is an information service is confirmed by the fact that it is *not* a telecommunications service. Broadband Internet access is not merely a conduit for the transmission of information "*without change in the form or content of the information as sent and received*."[137] As the Commission itself has previously and repeatedly explained, "Internet

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[131] *See* Lerner & Ordover Decl.¶ 53.

[132] Lerner & Ordover Decl. ¶ 54.

[133] *Id.*

[134] *Title II Order* ¶ 20.

[135] Lerner & Ordover Decl. ¶ 75; *see id.* ¶¶ 73-91 (explaining why the "gatekeeper" theory cannot justify the *Title II Order*).

[136] Lerner & Ordover Decl. ¶ 76.

[137] 47 U.S.C. § 153(50) (emphasis added).

access providers do not offer a pure transmission path; they combine computer processing, information provision, and other computer-mediated offerings with data transport."[138] This fact is even more obvious in the context of mobile broadband: Because the mobile environment is in constant flux – users move around, buildings obstruct wireless signals, and multiple signals cause interference – mobile broadband providers must "stor[e] … information" about mobile devices at different nodes in the network so that packets reach the correct user, "process[s] … information" by encrypting IP packets for security, and "generat[e] … information" by producing security keys to perform mutual authentication.[139] The idea that broadband Internet access provides unadorned transmission of information is simply belied by technological reality.

If broadband Internet access service could be deemed a telecommunications service simply because it delivers information, there would be no principled basis for distinguishing between telecommunications services and information services. By definition, *all* information services accomplish their functions "via telecommunications."[140] But that does not render them telecommunications services; if it did, the entire category of information services would be surplusage. The relevant question is whether the service at issue provides a mere transmission link, or instead makes available information-processing technology. Broadband Internet access service clearly falls within the latter category and is therefore an information service.

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[138] *Universal Service Report* ¶ 73; *see also Cable Broadband Order* ¶ 17; *Wireline Broadband Order* ¶ 15; *Wireless Broadband Order* ¶ 26.

[139] *See* Jeffrey H. Reed & Nishith D. Tripathi, *Net Neutrality and Technical Challenges of Mobile Broadband Networks* 32-33 (Sept. 4, 2014), *attached to* Letter from Scott Bergmann, CTIA, to Marlene H. Dortch, FCC, GN Dkt. Nos. 14-28 & 10-127 (Oct. 6, 2014).

[140] 47 U.S.C. § 153(24).

Broadband service also fails the definition of a "telecommunications service" because it does not allow "the user" to "specif[y]" the "points" between which information will travel.[141] Unlike telephone numbers, web addresses do not correlate with any single endpoint – the same information is often stored on multiple servers, and thus the same request may be routed to different endpoints.[142] The *Title II Order* rejected this reality, implying that to recognize it would be to require that users specify "the routing or handling of their transmissions along the path to the end point."[143] But that is false: The relevant question under the statute is whether the user specifies the *endpoint*, as with a telephone number, or whether instead a behind-the-scenes, information-processing technology determines which of multiple identical endpoints will be selected.[144] The latter category describes broadband service, so under the plain language of the statute, it cannot be deemed a mere telecommunications service.

Finally, the *Notice* is correct to observe that the Commission's forbearance decisions illustrate Title II's "poor fit for broadband Internet access service."[145] To avoid crippling the

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[141] *Id.* § 153(50), (53).

[142] *See Universal Service Report* ¶ 76 (noting that data may be maintained in a "Web page 'cache'" on the facilities of the subscriber's own Internet service provider); *Cable Broadband Order* ¶ 17 n.76 (defining caching as "the storing of copies of content at locations in the network closer to subscribers than their original sources, *i.e.*, data from websites, that subscribers wish to see most often in order to provide more rapid retrieval of information"); *see also Title II Order* ¶ 361 (admitting that "DNS often routes the same domain name to different locations based on its inference of which location is most likely to be the one the end user wants").

[143] *Id.* ¶ 361.

[144] It is true, of course, that some *third-party* services allow a single telephone number to ring at multiple locations. But that does not change the fact that the dialing party specifies the endpoint of the call, at which point third-party technology redistributes the call. Internet traffic is routed in a fundamentally different way because "there is not a one-to-one correspondence between IP addresses and domain names." *Id.*

[145] *Notice* ¶ 33.

Internet with regulations designed for telephone technology, the Commission stated in the *Title II Order* that it would "forbear from 30 statutory provisions and render over 700 codified rules inapplicable" to broadband, at least for the time being.[146] The *Title II Order* even attempted to spin this as a "Title II tailored for the 21st Century."[147] What the Commission *actually* was doing was playing the role of a regulatory MacGyver, duct-taping together a makeshift patchwork of retrograde regulation to get itself out of a jam. Repurposing old and unlikely tools to reach a desired result may make for great television, but it is no way to regulate "America's most important platform for economic growth, innovation, competition, free expression, and broadband investment and deployment."[148] To be sure, forbearance was better than full-scale Title II regulation, but the point is that none of Title II is suited for broadband Internet access.

For all of these reasons, broadband Internet access service is not – and never was – a "telecommunications service" within the meaning of the 1996 Act. It is an "information service," and, as such, is not subject to common-carrier regulation under Title II.

B. The Commission Should Reinstate Its Classification of Mobile Broadband as a Private Mobile Service Under 47 U.S.C. § 332.

In addition to being an information service, mobile broadband is protected from common-carrier treatment by a separate provision of the Communications Act unique to wireless providers, 47 U.S.C. § 332. The Commission should adopt the *Notice*'s proposal to cancel the *Title II Order*'s attempt to nullify Section 332's protections for mobile broadband.

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[146] *Title II Order* ¶ 51.

[147] *Id.* ¶ 38.

[148] *2014 Notice*, ¶ 1.

1. Congress Doubly Immunized Mobile Broadband from Treatment as a Common-Carrier Service in Section 332.

In 1993, Congress amended Title III of the Communications Act to harmonize the treatment of mobile voice service with that of traditional landline telephone service, which had long been regulated as a common-carrier service.[149] Congress therefore provided in § 332 that a "commercial mobile service" – that is, a mobile service that is "interconnected with the public switched network" – is subject to common-carrier regulation under Title II.[150] But Congress simultaneously provided that any mobile service that is *not* a commercial mobile service (or the functional equivalent of one) falls into the residual category of "private mobile service," and is immune from common-carrier regulation.[151]

Congress granted the Commission authority to adopt reasonable definitions of the terms "interconnected" service and "the public switched network,"[152] and the Commission promptly did so in 1994. The Commission defined the term "interconnected" by reference to its ordinary meaning: Interconnected service refers to service that allows users to communicate with "all other users" on the public switched network.[153] The Commission similarly gave the term "the

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[149] *See Implementation of Sections 3(n) and 332 of the Communications Act*; *Regulatory Treatment of Mobile Services*, Second Report and Order, 9 FCC Rcd 1411, ¶¶ 7, 11–12 (1994) ("*Second Report and Order*").

[150] 47 U.S.C. § 332(c)(1)(A). A "commercial mobile service[s]" is a mobile service that "is provided for profit and makes interconnected service available" to the public, and "interconnected service" means "service that is interconnected with the public switched network." *Id.* § 332(d)(1)-(2).

[151] *Id* § 332(c)(2), (d)(3); *see also U.S. Telecom*, 825 F.3d at 714 ("private mobile service" is a "residual category" encompassing all services that are not "commercial mobile service[s]").

[152] *Id.* § 332(d)(2).

[153] 47 C.F.R. § 20.3 (1994).

public switched network" its customary meaning by defining it to refer to the telephone network – specifically, the network that uses 10-digit telephone numbers.[154]

For the next 20 years, these definitions remained unchanged,[155] and the Commission applied them to conclude that mobile broadband is a "private mobile service" not subject to common-carrier regulation.[156] As the Commission explained, mobile broadband is not "interconnected with the public switched network" because a connection to the Internet, standing alone, does not enable the user to communicate with *any* telephone number, much less "all other users on the public switched network."[157]

The *Title II Order* cast aside this longstanding regulatory practice. Having already reclassified fixed and mobile broadband as a common-carrier telecommunications service under Section 153, the Commission argued that a "statutory contradiction" would occur unless it departed from another 20 years of consistent regulatory practice by reclassifying mobile broadband as a common-carrier "commercial mobile service" under Section 332.[158] Accomplishing this feat required the Commission to distort its regulatory definitions beyond recognition. The Commission began by "updat[ing]" its definition of the term "the public switched network" to refer to *both* the telephone system (comprised of 10-digit telephone numbers) *and* the Internet (comprised of IP addresses), as though they were a single network.[159] It then redefined the term "interconnected" to drop the requirement that all users on the network

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[154] *Id.* (defining the public switched network as the public network that uses the "North American Numbering Plan").

[155] *See* 47 C.F.R. § 20.3 (2014).

[156] *Wireless Broadband Order* ¶¶ 39, 41, 45.

[157] *Id.* ¶ 45 (quoting 47 C.F.R. § 20.3 (1994)).

[158] *Title II Order* ¶ 403; *see id.* ¶¶ 388–408.

[159] *Id.* ¶ 396.

be able to communicate with each other,[160] and further claimed that third-party Voice over Internet Protocol (VoIP) software applications could be considered part of mobile broadband service for purposes of its analysis. The result of the Commission's analysis is a Frankenstein's monster of disparate technologies and incompatible systems and devices.

2. The *Title II Order* Rests on Radical Reinterpretations of Key Terms in Section 332.

The *Notice* correctly concludes that the *Title II Order*'s reclassification of mobile broadband is difficult to reconcile with the text of Section 332.[161] Mobile broadband should be returned to its longstanding – and correct – classification as a private mobile service under Section 332.

Beginning with the term "the public switched network," Section 332's use of the word "the" makes clear that "the public switched network" necessarily refers to a *single* network. The background of the term, moreover, reveals that the term refers specifically to the *telephone* network. Before Section 332 was adopted, the Commission itself stated that "the public switched network interconnects all telephones in the country,"[162] and that "800 calls [are] transmitted over the public switched network."[163] Courts similarly referred to the public switched network as "the same network over which regular long distance calls travel,"[164] and used the phrases "public switched network" and "public switched telephone network"

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[160] *See id.* ¶ 402 n.1175.

[161] *Notice* ¶ 56.

[162] *Applications of Winter Park Tel. Co.*, Memorandum Opinion & Order, 84 F.C.C.2d 689, ¶ 2 n.3 (1981).

[163] *Provision of Access for 800 Service*, Memorandum Opinion and Order on Reconsideration and Second Supplemental Notice of Proposed Rulemaking, 6 FCC Rcd 5421, ¶ 1 n.3 (1991).

[164] *Ad Hoc Telecomms. Users Comm. v. FCC*, 680 F.2d 790, 793 (D.C. Cir. 1982).

interchangeably.[165] Congress used the phrases interchangeably too: The Conference Report on the bill that became Section 332 characterized the House bill as requiring interconnection "with the [p]ublic switched telephone network."[166] Elsewhere in the Communications Act, "the public switched network" unambiguously refers to the telephone network.[167] Moreover, Congress never amended the definition of the public switched network when the Commission tethered it to the telephone network,[168] even though Congress subsequently made other amendments to the Communications Act. And in 2012, Congress expressly distinguished between "the public Internet" and "the public switched network,"[169] confirming that the Commission's original interpretation was correct. Thus, while Section 332 gives the Commission authority to clarify, for example, whether a paging system that connects to the telephone network is part of the public switched network,[170] Congress did not authorize the Commission to stretch the term "beyond the scope of whatever ambiguity [the statute] contains."[171]

In any event, the term "the public switched network" certainly cannot refer to *both* the Internet *and* the telephone network, because those networks are technologically and functionally distinct. A mobile broadband connection for an IP-enabled device, like a laptop, does not join that laptop to the telephone network. Similarly, customers who have only telephone service

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165 *Pub. Util. Comm'n v. FCC*, 886 F.2d 1325, 1327, 1329–30, 1335, 1337 (D.C. Cir. 1989).

166 H.R. Rep. No. 103-213, at 495 (1993) (Conf. Rep.).

167 *See* 47 U.S.C. § 259(a), (b)(2), (b)(7).

168 *See Second Report and Order*, ¶¶ 59–60 (defining the public switched network by reference to the telephone network); *Wireless Broadband Order* ¶ 45 n.119 (declining to include the Internet within the definition of "the public switched network").

169 47 U.S.C. § 1422(b)(1)(B)(ii).

170 *See Second Report and Order* ¶ 60 (noting that "use of the North American Numbering Plan … is a key element in defining the network").

171 *City of Chicago v. Envtl. Def. Fund*, 511 U.S. 328, 339 (1994).

cannot reach IP addresses; there is no way to place a phone call to "FCC.gov." Just as it makes no sense to refer to an apple and an orange as a single apple-orange, the *Title II Order*'s reference to a supposed "*single network* comprised of all users of public IP addresses and [telephone] numbers" is gibberish.[172]

To be sure, VoIP may help bridge the gap between some IP-enabled devices and the telephone network. The *Title II Order* made this point as a fallback argument,[173] and the D.C. Circuit panel majority embraced it even after the government had abandoned it in its briefing.[174] According to the panel majority, the Communications Act does not "draw a talismanic (and elusive) distinction between (i) mobile broadband alone enabling a connection, and (ii) mobile broadband enabling a connection through use of an adjunct application such as VoIP."[175]

But conclusory adjectives aside, the text of the statute draws *precisely* the distinction that the panel majority described: Section 332 asks whether *the* "*service*" – here, mobile broadband Internet access service – "is *interconnected* with the public switched network,"[176] not whether the service allows consumers to acquire *other services* that bridge the gap to the telephone network. And there is nothing "elusive" about distinguishing mobile broadband service from communication applications. Mobile broadband service works with a mobile device's transmission *hardware* to provide a connection to the Internet. VoIP apps like Skype and

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[172] *Title II Order* ¶ 396.

[173] *Id.* ¶¶ 400-401.

[174] The Commission's brief did not mention VoIP at all in the context of mobile-broadband reclassification, and instead merely quoted, without argument, the *Title II Order*'s generic finding of "convergence between mobile voice and data networks [since] 2007." *Title II Order* ¶ 401.

[175] *U.S. Telecom*, 825 F.3d at 721.

[176] 47 U.S.C. § 332(d)(2) (emphasis added).

Google Hangouts are *software* applications – similar to the Uber app, the Netflix app, the New York Times app, and the Starbucks app – that rely on the customer's Internet connection to send and receive certain kinds of data. And because mobile broadband, "in and of itself, does not provide the ability to reach all other users of the public switched network,"[177] it does not provide interconnected service to the telephone network.

Even if VoIP applications that may use broadband services were considered, moreover, the *Title II Order*'s redefinition of "the public switched network" still would fail by a longshot because that definition sweeps in *all* IP endpoints, not just mobile ones. And there are billions of IP-enabled devices that are incompatible with VoIP software including servers, thermostats, washing machines, and scores of other devices in the Internet of Things. Indeed, even some mobile devices with web browsers – including Amazon's Kindle Paperwhite E-reader and basic flip phones – are incompatible with VoIP apps. Defining the public switched network to include the Internet and the telephone network thus produces the absurd result that mobile *voice* service – the one service that everyone agrees Section 332 was meant to govern under common-carriage principles – could no longer qualify as a commercial mobile service because it would not provide interconnected service with the billions of IP endpoints that can never be dialed over a telephone line. That result forecloses the *Title II Order*'s interpretation.[178]

The Commission attempted to avoid the problems with its definition of "the public switched network" by redefining the term "interconnected" without reference to its core characteristic: that "all" endpoints on the network be able to communicate with one another.[179]

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[177] *Title II Order* ¶ 400 (citing *Wireless Broadband Order* ¶ 45).

[178] *See Util. Air Reg. Grp. v. EPA*, 134 S. Ct. 2427, 2439 (2014) ("*UARG*").

[179] *See Title II Order* ¶ 402 n.1175 (deleting the word "all" from the definition).

In a move mentioned only in a footnote and euphemistically dubbed a "conforming change,"[180] the Commission erased the word "all" from the regulation interpreting "interconnected service."[181] That redefinition is patently unreasonable. The ability for everyone on an "interconnected" network to reach everyone else is the very property that makes the network "interconnected,"[182] and "the need to rewrite clear provisions of the statute should have alerted [the Commission] that it had taken a wrong interpretive turn."[183] The D.C. Circuit panel majority too was unwilling to accept the Commission's specious argument on this point.[184]

The *Title II Order* also stated that even if mobile broadband is not a commercial mobile service, it is the "functional equivalent" of such a service and thus is subject to common-carrier regulation.[185] But the *Title II Order* was only able to reach this result by abandoning the Commission's longstanding functional-equivalence test, which examines whether the services are effective substitutes for each other.[186] The *Title II Order* simply declined to apply this test,[187]

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[180] *Id.*

[181] 47 C.F.R. § 20.3 (2015).

[182] *See*, *e.g.*, *Merriam-Webster's Collegiate Dictionary* 609 (10th ed. 1993) (an interconnected system provides "internal connections between the parts or elements").

[183] *UARG*, 134 S. Ct. at 2446.

[184] *See U.S. Telecom*, 825 F.3d at 719. The *Notice* seeks comment on whether the definition of "interconnected service" should be modified to account for the possibility that restrictions on access to limited parts of the network – for example, to 900 numbers – would make the phone network non-interconnected. *See Notice* ¶ 57. Verizon agrees with the *Notice*'s suggestion that there is no "need for changes to the prior definition to account for that limited exception to general access," *id.*; the prior definition focused on the "capability" of communicating with all parts of the network, not on whether full access is actually granted. 47 C.F.R. § 20.3 (2014). There is a massive difference between limited, targeted restrictions that deny access to certain points on the network and the situation envisioned by the *Title II Order*, where millions of users on what is ostensibly the same network are incapable of reaching each other.

[185] *Title II Order* ¶ 404.

[186] *See* 47 C.F.R. § 20.9(a)(14).

and in any event had no basis for concluding that mobile broadband and voice services are substitutes for these purposes. That is the very definition of arbitrary rulemaking, and it should not be repeated in this proceeding. The *Notice*'s proposal to use the Commission's existing functional equivalence test for purposes of Section 332 should be implemented.[188]

The driving force behind the *Title II Order*'s mobile-reclassification analysis apparently was a desire to avoid the supposed "statutory contradiction" that would result if mobile broadband service "was a telecommunications service [under Section 153]" but "was not a commercial mobile service [under Section 332]."[189] There is no risk of contradiction, however; in that situation, Section 332 would preclude application of common-carrier regulation under Title II.[190] Section 153 and Section 332 operate independently of each other, with Section 332 providing *additional* protection against common-carrier regulation for mobile broadband and other non-voice services. Section 332 is located in a different title of the Communications Act than Section 153, was enacted at a different time, and is focused on a different question (whether the service is interconnected with the telephone network, rather than whether the service utilizes information-processing functions). Yoking Section 332 to 153 in the way the *Title II Order* suggests would render Section 332 a dead letter: A protection against common-carrier regulation that applies only to entities that are already not common carriers (per Section 153) is no

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187 *See Title II Order* ¶ 408.

188 *Notice* ¶ 61.

189 *Title II Order* ¶ 403.

190 *See* 47 U.S.C. § 332(c)(2).

protection at all. And the Commission's "preference for symmetry cannot trump an asymmetrical statute."[191]

Of course, there need not be any regulatory asymmetry here. Even though Sections 153 and 332 involve independent inquiries, they *both,* properly read, preclude treating mobile broadband as a common-carrier service. As noted, Section 332 was adopted to harmonize the treatment of mobile voice service with that of traditional landline telephone service, while protecting other mobile services against common-carrier regulation. Read against that backdrop, it is reasonable to give effect to Section 332's command that a provider of a private mobile service "*shall not* … be treated as a common carrier,"[192] even if that service provider is also deemed to provide a telecommunications service under Section 153. And it is equally reasonable to give effect to Congress's unambiguously expressed intent that "information service[s]" "that provid[e] access to the Internet" should be "unfettered by Federal or State regulation," even if the information service were also deemed a commercial mobile service that would otherwise be subject to common-carrier treatment.[193] Consistent with Congress's deregulatory intent and the Commission's longstanding recognition of the value of a light-touch regulatory approach, the Commission should apply common-carrier treatment to mobile services only when commanded by the statute – that is, only when the service is *both* a telecommunications service *and* a commercial mobile service. To the extent that the Commission believes wired and mobile broadband should be treated alike,[194] the clear statutory prohibition on treating mobile broadband

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[191] *Michigan*, 135 S. Ct. at 2710.

[192] 47 U.S.C. § 332(c)(2).

[193] *Id.* §§ 230(b)(2), (f)(2); 332(c)(1)(A).

[194] *See Notice* ¶ 60 (stating that if mobile broadband is "best interpreted to be an information service" under Section 153, that would counsel in favor of classifying it as a private mobile

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as a commercial mobile service counsels in favor of classifying *all* broadband services as information services, just as the Commission always did prior to the 2015 Order.

The *Title II Order*'s reclassification decision rested on implausible interpretations of statutory terms. The Commission should reinstate its original, longstanding definitions and restore a light-touch regulatory framework to mobile broadband.

C. The Commission Has Authority To Reinstate Its Pre-2015 Classifications.

The Commission has legal authority to reinstate the longstanding classifications of fixed and mobile broadband Internet access service that it reiterated for two decades prior to the *Title II Order*. Specifically, the Commission has legal authority to reclassify fixed and mobile broadband Internet access service as an information service (rather than telecommunications service), and to classify mobile broadband Internet access service as a private mobile service (rather than a commercial mobile service). This is not the case of an abrupt agency departure from a long-settled interpretation; rather, this proceeding involves a *restoration* of such an interpretation. A regulatory agency, no less than any other entity, is entitled to recognize that it has taken a wrong turn and to go back to the right path.

The Commission is not foreclosed from its primary proposal in the *Notice* by the existing *Title II Order* nor by the fact that the *Title II Order* was sustained by the D.C. Circuit against legal challenge in *U.S. Telecom*. As an initial matter, Supreme Court review of the *Title II Order* remains a distinct possibility: The time to a petition for a writ of certiorari has not yet run, and the D.C. Circuit's decision may not ultimately survive.

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service under Section 332 "to avoid the inconsistency" that would otherwise result from its being a commercial mobile service).

In any event, when an agency changes an existing regulatory policy, the agency must first "display awareness that it *is* changing position"; the agency may not "depart from a prior policy *sub silentio* or simply disregard rules that are still on the books."[195] But after properly taking account of parties' reasonable reliance interests,[196] the agency may change position if it can "show 'that the new policy is permissible under the statute, that there are good reasons for it, and that the agency *believes* it to be better.'"[197] In fact, not only *may* an agency modify its position in light of changed circumstances; the agency "*must* consider varying interpretations and the wisdom of its policy on a continuing basis" if the agency is to "engage in informed rulemaking."[198] And a prior judicial decision upholding an agency interpretation does not "trump[ ] an agency construction otherwise entitled to *Chevron* deference" unless "the prior court decision holds that its construction follows from the unambiguous terms of the statute and thus leaves no room for agency discretion."[199]

Here, the Commission's *Notice* has already satisfied its obligation to display awareness that it is changing its position from the *Title II Order*, and to explain the reasons why it believes that change would be more consistent with the Telecommunications Act and better for the

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195 *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009).

196 *See id*. at 515.

197 *Mary V. Harris Found. v. FCC*, 776 F.3d 21, 24−25 (D.C. Cir. 2015) (quoting *Fox*, 556 U.S. at 515).

198 *Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837, 863−64 (1984) (emphasis added); *see also Am. Family Ass'n v. FCC*, 365 F.3d 1156, 1166 (D.C. Cir. 2004) ("[T]he FCC's 'necessarily wide latitude to make policy based on predictive judgments deriving from its general expertise implies a correlative duty to evaluate its policies over time to ascertain whether they work – that is, whether they actually produce the benefits the Commission originally predicted they would.'" (quoting *Bechtel v. FCC*, 10 F.3d 875, 880 (D.C. Cir. 1993))).

199 *Brand X*, 545 U.S. at 982.

public. The D.C. Circuit's decision in *U.S. Telecom* upheld the *Title II Order* as a reasonable construction of the statute at *Chevron*'s second step;[200] the court did not hold that the statute was unambiguous at *Chevron*'s first step or that it left no room for agency discretion. In fact, the D.C. Circuit could not have concluded that broadband Internet access service unambiguously is a telecommunications service in light of the Supreme Court's decision in *Brand X*, which upheld (also at *Chevron* step 2) the Commission's prior classification of cable broadband service as an information service[201] – the same classification to which the Commission now seeks to return. Moreover, unlike the *Title II Order*, which upset decades of settled regulatory analysis, the Commission's proposal in the *Notice* will not disrupt any meaningful investment-backed expectations: The *Title II Order* has been in effect for less than two years, and it has labored under a cloud of significant legal challenges throughout.

Thus, the Commission has legal authority to adopt its primary proposal so long as its new policy – which was also its old policy for 20 years before the *Title II Order* – is a permissible reading of the statute and there are good reasons for it. Those requirements are easily met here. The Commission engaged in sound legal analysis for 20 years prior to the *Title II Order* when it concluded that broadband Internet access service is an information service, and that mobile broadband service is a private mobile service. It is not impermissible or unreasonable for the Commission to return to those conclusions as a matter of law, policy, and record evidence.

First, as explained above, the legal conclusions in the *Notice* are the best interpretations of the statutory text. Even though the D.C. Circuit concluded that the *Title II Order* was a *permissible* reading of the statute, wrongly in our view, the Commission's prior longstanding

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[200] *See U.S. Telecom*, 825 F.3d at 704, 714, 717.

[201] *See Brand X*, 545 U.S. at 997 ("We also conclude that the Commission's construction was 'a reasonable policy choice for the Commission to make' at *Chevron*'s second step.").

interpretation is a far better interpretation of the text and more consistent with Congress's deregulatory purpose for the 1996 Act. Among many other reasons, Title II is an extremely poor fit for broadband Internet access service: As the Commission itself acknowledged, that classification required the Commission to forbear in whole or in part from "30 statutory provisions" and from the "vast majority of rules adopted under Title II."[202]

The Commission's deeply flawed statutory analysis was showcased in the *Title II Order*'s classification of mobile broadband service as a commercial mobile service under Section 332. That classification required the Commission to undo multiple longstanding and eminently reasonable regulatory conclusions, including that the "public switched network" refers to the traditional 10-digit telephone network, that an "interconnected" single network is one where all users have the ability to communicate with "all other users," that there is a meaningful difference between the mobile service that is offered by providers to the public and third-party systems or applications that can be acquired by a consumer via their mobile connection, and that a mobile service can be the "functional equivalent" of a commercial mobile service only when consumers substitute the one service for the other. Some of these changes in the *Title II Order* were not accepted by the D.C. Circuit – including, critically, the conclusion that a network can be interconnected even if all users cannot reach all other users.[203] The *Title II Order*'s redefinition of the public switched network beyond the telephone network also produced the serious (indeed, fatal) problem that mobile voice service no longer qualified as "interconnected" because a customer with only mobile voice service cannot interact with IP addresses – a problem that the

[202] *Title II Order* ¶ 51.

[203] *See U.S. Telecom*, 825 F.3d at 723.

D.C. Circuit left for another day.[204] And while the D.C. Circuit eventually upheld the Commission's ultimate conclusion regarding Section 332, it did so only by constructing a new argument that the Commission did not even make to the court.[205]

The fact that so many statutory provisions and regulatory interpretations simply made no sense when applied to fixed and mobile broadband Internet access service were among the most significant problems with the *Title II Order*'s statutory analysis. And those problems will be solved by the *Notice*. The Commission will no longer be forced to forbear from massive portions of the statute or to shoehorn its policy into statutory and regulatory terms that do not fit when applied to broadband. In short, the *Title II Order* only barely qualified to the D.C. Circuit as reasoned statutory analysis, so it cannot be *unreasonable* to revert to the Commission's prior interpretation. Under the circumstances here, the fact that the Commission now proposes to adopt the best interpretation of the relevant statutes *by itself* provides sufficient legal authority for the primary proposal in the *Notice*.

The Commission has legal authority to adopt the proposals in the *Notice* for the additional reason that the *Title II Order* depended on several incorrect factual assumptions and market assessments – the previous record would have (better) supported contrary conclusions. Some of those were assumptions about the likely impact of the *Title II Order* itself that have since been proven wrong. For example, the *Title II Order* predicted that the application of Title

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[204] *See id.* at 722. *But see UARG*, 134 S. Ct. at 2442−43 (absurd results are evidence that the agency has exceeded its authority).

[205] *See id.* at 721 (holding that the Commission reasonably concluded that mobile broadband service is "interconnected" based on the availability of VoIP, even though the Commission's brief to the D.C. Circuit never mentioned VoIP in the section on mobile reclassification).

II would not significantly depress investment in broadband, and yet studies show that the last two years have seen exactly such a reduction, a trend that could be expected to continue.[206]

Other assumptions in the *Title II Order* were wrong the day they were issued. The Commission contended, for example, that its decision to change its classification of broadband Internet access service was driven in part by a supposed change in "broadband providers' marketing and pricing strategies, which emphasize speed and reliability of transmission separately from and over the extra features of the service packages they offer."[207] In fact, there was no meaningful change leading up to the *Title II Order*. Broadband providers have *always* emphasized speed and reliability in marketing their services, including during the years when the Commission repeatedly determined that broadband is an information service rather than a telecommunications service. This focus does not suggest that broadband is being marketed as a mere "conduit for the transmission of data across the Internet," giving a "reasonable consumer" the impression that they are paying for "transmission capability" with "complementary services … also included as part of the offer."[208] Indeed, no "reasonable consumer" would pay for broadband Internet access service if it lacked information-processing capabilities. When a user inputs a *textual* web address into a browser, the user expects this data to be processed so that it routes to the appropriate IP address and retrieves data that will produce a *graphical, interactive* webpage. Advertising the speed and reliability with which this data is transferred is not remotely inconsistent with broadband Internet service being an information service – service providers are simply informing consumers how they can use the speed and reliability of their connection *for*

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[206] *See Singer*, *supra* n. 107; *see generally* Lerner & Ordover Decl.

[207] *Title II Order* ¶ 330.

[208] *Id*. ¶¶ 351–354.

the purpose of "generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information."[209]

The *Title II Order* assumed that DNS and caching were simply used "for the management, control, or operation of a telecommunications system or the management of a telecommunications service."[210] That is not an accurate description of those features or the role that they play in the service that is offered to consumers. Without DNS and caching, it is *consumers* – not providers – who would have a very different Internet experience. DNS is a "featur[e]" that is "essential to providing Internet access."[211] Consumers simply "cannot reach a third party's web site without access to the Domain Naming Service (DNS) capability 'which (among other things) matches the Web site address the end user types into his browser (or 'clicks' on with his mouse) with the IP address of the Web page's host server.'"[212] Caching is similarly a behind-the-scenes service that speeds content delivery and thus improves consumers' online experience.[213] For that reason, DNS and caching are not "network management" processes; they are instead valuable components of the information service that broadband providers offer to consumers, as the Commission itself previously explained to the Supreme Court in *Brand X*.[214]

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[209] 47 U.S.C. § 153(24).

[210] *Title II Order* ¶ 352.

[211] *Brand X*, 545 U.S. at 987, 990.

[212] *Wireline Broadband Order* ¶ 15 (quoting *Brand X*, 545 U.S. at 999).

[213] *See Universal Service Report* ¶ 76; *Cable Broadband Order* ¶ 17 n.76.

[214] *See* Reply Br. for the Federal Petitioners, Nos. 04-277 & 04-281, at I.2. n.2, (Mar. 18, 2005) http://supreme.findlaw.com/supreme_court/briefs/04-277/04-277-mer-pet-fcc-rep.html; 2005 U.S. S. Ct. Briefs LEXIS 285*12, n.2; 2005 WL 640965.

As explained above, the *Title II Order* also made several incorrect assessments about mobile broadband Internet access service on its way to re-classifying mobile broadband as a commercial mobile service. Contrary to the *Title II Order*, the Internet and the telephone network are not – and have never been – a single interconnected network, because there are millions of users of each of those separate systems who have no ability to communicate with each other. A consumer who purchases mobile voice service cannot interconnect with billions of IP-enabled devices. Relatedly, the *Title II Order* was wrong to conclude that mobile broadband service is inseparable from VoIP, such that mobile broadband users are interconnected with the telephone network. Indeed, the Commission itself previously stated that from the consumer's perspective, "broadband Internet access service is today sufficiently independent of" various "'add-on' applications, content, and services" such as VoIP.[215] The *Title II Order* noted that VoIP has become more popular in recent years, but the popularity of VoIP does not change its technological reality. VoIP today *functions* the same way it always has: as a separate offering that is distinct from the service offered by mobile broadband providers. The Commission's statement that its prior description of VoIP "no longer accurately reflects the current technological landscape"[216] is mere *ipse dixit*; the *Title II Order* does not (and could not) contend that mobile broadband service itself now allows IP-enabled devices to reach all telephone numbers in ways that it did not before.

Finally, the *Title II Order*'s concerns that broadband providers might harm consumers' ability to access an open Internet were entirely misplaced in the mobile Internet marketplace, which (as explained above) is the subject of vigorous competition. Hundreds of millions of

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[215] *Title II Order* ¶¶ 341, 356.

[216] *Id.* ¶ 401.

Americans now have their choice among multiple wireless broadband Internet providers – a testament to the tremendous success of that service and to the value that it holds for consumers.

The Commission is also legally permitted to take a different policy view of the best way to promote broadband deployment and the appropriateness of burdensome regulatory regimes for such a dynamic and important service. The fact that a new administration is in place, with a new take on such questions, is a particularly strong basis for reevaluating the prior Commission's policies and returning to the historic approach in this area. As Chief Justice Rehnquist explained: "A change in administration brought about by the people casting their votes is a perfectly reasonable basis for an executive agency's reappraisal of the costs and benefits of its programs and regulations. As long as the agency remains within the bounds established by Congress, it is entitled to assess administrative records and evaluate priorities in light of the philosophy of the administration."[217]

Because the *Title II Order* was built upon a series of spurious factual assumptions and strained legal interpretations, nothing prevents the Commission from returning to the tried-and-true, bipartisan, light-touch regulatory approach that the Supreme Court upheld in *Brand X*. The Commission should re-adopt that approach.

III. CONCLUSION

We strongly support an open Internet and reasonable, future-proof rules to secure it. The *Title II* Order, however, was an ill-conceived departure from a bipartisan, successful regulatory framework that imposed anachronistic telephone laws on a sophisticated, modern technical architecture. Common-carrier regulation of broadband service is both unnecessary and

[217] *Motor Vehicle Manufacturer's Ass'n v. State Farm Automobile Ins. Co.*, 463 U.S. 29, 59 (1983) (Rehnquist, J., concurring).

undesirable to achieve an open Internet, and is not justified by the Communications Act. And this unfortunate detour has already harmed consumers through its effect on innovation and investment. The *Notice* is an important first step toward realigning America's broadband regulatory regime with the law and spurring a new wave of next-generation investment in broadband deployment.

Respectfully submitted,

/s/ *Katharine R. Saunders*

Katharine R. Saunders
VERIZON
1300 I Street NW, Suite 500E
Washington, DC 20005
(202) 515-2462

Helgi C. Walker
Michael R. Huston
Russell B. Balikian
GIBSON DUNN & CRUTCHER LLP
1050 Connecticut Ave., NW
Washington, DC 20036

William H. Johnson
Of Counsel

EXHIBIT A

An Economic Analysis of Title II Regulation of Broadband Internet Access Providers

Andres V. Lerner and Janusz A. Ordover*

July 17, 2017

* Lerner: Executive Vice President, Compass Lexecon; Ordover: Professor of Economics, New York University, and Senior Consultant, Compass Lexecon.

About the Authors

Andres V. Lerner is an Executive Vice President at Compass Lexecon. He has extensive experience applying economic and econometric analysis to a wide range of issues in antitrust matters, including litigation, regulatory proceedings, and mergers. Dr. Lerner has been named one of the foremost competition economists in *The International Who's Who of Competition Economists* each year since 2013. He also has been selected as one of the leading competition economists aged 45 and under by Who's Who Legal and Global Competition Review for the *Who's Who Legal: Competition – Future Leaders 2017* publication. Dr. Lerner has published scholarly articles in leading economic and legal journals, including the *American Economic Review*, the *Antitrust Law Journal*, and the *Antitrust Bulletin*, and has co-edited a collection of seminal articles in antitrust economics. He has taught Economics as a Visiting Professor at the University of Southern California Marshall School of Business. Dr. Lerner holds a Ph.D. in Economics from the University of California at Los Angeles (UCLA).

Janusz A. Ordover is a Professor of Economics and a former Director of the Masters in Economics Program at New York University. He served as the Deputy Assistant Attorney General for Economics in the Antitrust Division of the U.S. Department of Justice under President George H. W. Bush. While at the Antitrust Division, Professor Ordover served on the White House de-regulation task force, guided economic analyses of antitrust enforcement and acted as a liaison between the Justice Department and various regulatory agencies. At the Division, he was one of the main drafters of the 1992 Horizontal Merger Guidelines. Professor Ordover served as an advisor to the Organization for Economic Cooperation and Development (OECD) in Paris, the World Bank, and the Inter-American Bank for Development on matters of privatization, regulation, international trade policy, and competition policy. He has advised the governments of Poland, Czech Republic, Russia, Hungary, Argentina, and others on regulation and competition matters, as well as on privatization strategies. He has published many articles in economics and law journals on various antitrust issues, including predation, access to bottleneck facilities, vertical integration, as well as overlap between intellectual property rights and competition policy. He is a frequent lecturer on antitrust policy in the U.S. and abroad. Professor Ordover was voted "The Economist of the Year" in 2010 in a poll organized by the *Global Competition Review.* Additionally, he was named "Competition Economist of the Year" by *Who's Who Legal* in 2015, 2016, and 2017.

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I. Introduction and Executive Summary

1. Despite the tremendous investment, innovation, and growth of the Internet that thrived under limited regulatory oversight, and the significant competition that exists in many parts of the broadband Internet access industry, the Federal Communications Commission ("FCC") reclassified broadband Internet access services from information services to telecommunications services under Title II of the 1934 Communications Act, subjecting the broadband Internet access industry to public utility-type regulation (the "*Title II Order*").[1] The FCC's *Notice of Proposed Rulemaking* ("NPRM") proposes to reclassify broadband Internet access as information services.[2] The NPRM asks for comment on various economic issues engendered by the proposed reclassification. In this declaration, we focus on a costs-benefit analysis of Title II regulation of broadband Internet access providers.

2. As we discuss, some protections—such as future rules narrowly designed to protect consumers' unfettered ability to access lawful Internet content of their choice over broadband Internet access services—may be economically justified. However, Title II is an inappropriate, overly-burdensome regulatory framework for purposes of achieving such a goal. While a public utility-type regulatory framework may be suitable for static natural monopolies, it is not for dynamic and highly competitive industries. Where there is effective competition, public utility-style regulation of broadband Internet access services imposes significant costs on firms and consumers, while providing few (if any) benefits. Title II regulation clearly fails a cost-benefit analysis, and makes consumers worse off.

3. <u>The social and consumer welfare costs of Title II regulation:</u> The costs of Title II regulation are real. By reclassifying broadband Internet access services as telecommunication services, the *Title II Order* will reduce incentives to investment and adversely affect innovation. Title II creates significant regulatory risks, and the ever-present threat of onerous regulatory interference. Although the Title II Order abstains from applying many of the Title II provisions

[1] *In the Matter of Protecting and Promoting the Open Internet, Report and Order on Remand, Declaratory Ruling and Order*, FCC 15-24, GN Docket No. 14-28 (Released March 12, 2015).

[2] *In the Matter of Restoring Internet Freedom*, WC Docket No. 17-108, Notice of Proposed Rule Making, FCC 17-60 (Released May 23, 2017).

to broadband Internet access providers, some of the most significant provisions (including the basic provisions underlying most rate and service regulation) remain in place. The FCC could regulate any practice that it considers "unreasonable." In theory, the FCC also could, under Title II, impose onerous public-utility requirements such as rate regulation.

4. The threat that broadband Internet access providers will be subjected to such regulation creates significant risks. These risks are likely to have the effect of reducing investments and hampering innovation in the long term, in an industry where continual investments and innovation are key to providing services that benefit consumers. Investments in wireless broadband Internet access networks, which inherently entail large initial sunk and irreversible costs and long-term benefits (*i.e.*, expected revenue streams), are highly sensitive to increased risks. As a result, small increases in risk can significantly reduce the expected profitability of investment projects. The risks of regulatory interference will not completely stifle investments and innovation—but the effect on investments are unambiguously negative. The *Title II Order* understates the costs that the regulation will impose, incorrectly dismissing the threat to investments and innovation.

5. In addition to the adverse long-term impact due to the risks noted above, the significant ambiguity regarding what provider practices are permitted under Title II likely will inhibit new, innovative business models, arrangements, and services. One example of these types of arrangements is "sponsored data" or "free data" programs (such as Verizon's FreeBee Data 360 program or T-Mobile's BingeOn), whereby the consumer can access content without bearing the costs of the broadband access, which may be subsidized by the content provider. Pursuant to the Title II regulation, the Commission expressed concern that such arrangements have the "potential to hinder competition and harm consumers."[3] However, such programs are likely to benefit consumers and content providers alike. From the perspective of consumers, "sponsored data" programs lower the effective price they pay for broadband access, and increase the amount of content they access (for instance, by allowing them to try new content or services without it counting against their data plan). From the perspective of content providers, such programs allow them to promote their services to subscribers, and thereby increase usage. These types of

[3] See Letter from the Federal Communications Commission to Verizon, Re: Verizon's Zero-Rating Program, December 1, 2016.

arrangements, wherein the cost of services used by consumers are subsidized by others, are common in many industries, and are generally procompetitive. These arrangements also have been analyzed and discussed extensively in the economics literature on "two-sided" platforms, which concludes that arrangements wherein one "side" of the platform (*e.g.*, content providers) subsidizes another (subscribers) are generally efficient and output enhancing.

6. More generally, arrangements between broadband access providers and content providers are "vertical" in nature. Vertical arrangements are widely-recognized to be generally procompetitive and can provide important benefits to consumers. Regulatory ambiguity regarding whether specific vertical arrangements are permitted under Title II, or any *ex ante* blanket ban on such arrangements, will inhibit many procompetitive vertical arrangements. Restricting or inhibiting the ability of content and broadband providers to experiment and deploy such innovative business models would distort market outcomes and thereby harm consumers, particularly given the rapidly changing and dynamic nature of the industry, and the significant uncertainty concerning the services and business models that will best serve consumers going forward. The *Title II Order*, and proponents of such regulation, fail to identify anticompetitive vertical arrangements that would necessitate public utility-style regulation, rather than being addressed through case-by-case oversight by the antitrust agencies.

7. The claimed benefits of Title II regulation: While the costs of Title II regulation are real, the stated benefits are theoretical, and are flawed as a matter of economics. The *Title II Order*, as well as proponents of Title II regulation of broadband Internet access, fail to identify any actual market failure that would necessitate public utility-style regulation. It is widely accepted among economists that, absent a market failure, competition results in market outcomes that are beneficial to consumers. Thus, the key initial economic question in assessing the benefits of a particular regulation is what is the market failure that the regulation is supposed to address?

8. One type of market failure arises from the existence of monopoly power. Monopoly power can stem from natural monopoly conditions, where an industry with a single firm producing all market output may be most efficient due to the existence of significant economies of scale. In some circumstances, regulating the prices set by natural monopolies may be economically justified, since such natural monopolies may harm consumers as a result of monopoly pricing. This is the justification for public utility regulation that is common in some

static utility markets. However, the wireless broadband Internet access industry does not come close to resembling a monopolistic industry, and Verizon also faces effective competition where it offers consumer wireline broadband Internet access services.

9. There is significant competition between wireless broadband Internet access providers, which gives the vast majority of consumers the ability to choose among various different providers of high-speed broadband wireless services. Spurred by competition, wireless providers have made massive capital investments to deploy high-speed broadband services, including "fourth-generation" ("4G") LTE technology, and to improve network coverage and capacity. And, even as investments in deploying 4G LTE technology continue, wireless providers are investing to further expand the capabilities of wireless broadband networks, including through developing 5G technology and deploying other advancements to increase broadband speeds (*e.g.*, 4x4 MIMO technology and 256 QAM for downloads). Wireless providers also compete intensely for customers on the basis of price, network coverage and reliability, plan characteristics, and with respect to other important aspects of the wireless ecosystem, including the provision of handset devices, operating systems, applications, and content. The competitive rivalry among providers, and the presence of competitive choices, is evidenced by the significant rate of subscriber switching among wireless providers, with 26.5 percent of subscribers switching providers (or "churning") in 2016.[4]

10. Verizon also faces effective competition in the provision of consumer wireline broadband Internet access services. While industry observers and commenters typically frame their arguments to focus on areas in which a cable operator competes against a DSL network that offers much lower speeds, or is the only option, Verizon faces significant competition from next-generation, high-speed cable services in almost all areas in which it offers consumer wireline broadband services.

11. Competition creates incentives for broadband Internet access providers to implement business models and practices that benefit consumers. And, the greater the degree of competition, the less likely that individual broadband providers would have the incentive or ability to engage in practices that harm consumers, as consumers can choose broadband Internet access services that best suit their purposes.

[4] *Infra* note 57.

12. Despite the significant competition that exists, the *Title II Order* argues that all broadband Internet access providers, including wireless providers and wireline providers facing effective competition, are "gatekeepers" that have "significant bargaining power" over providers of online content and services in all areas.[5] The *Title II Order* argues, based on economic theory, that "once a consumer chooses a broadband provider, that provider has a monopoly on access to the subscriber" by online content and service providers.[6] The *Title II Order* emphasizes that the level of competition between broadband Internet access providers for subscribers is irrelevant to the ability of broadband providers to engage in anticompetitive conduct *vis-à-vis online content providers*, because providers have monopoly power as a result their "gatekeeper" position even in the absence of "the sort of market concentration that would enable them to impose substantial price increases on end users."[7] Therefore, according to the *Title II Order*, one need not even consider the degree of competition between broadband Internet access providers.

13. The claim that broadband Internet access providers have monopoly power regardless of the degree of competition over users is flawed as a matter of economic logic. The concept of a "gatekeeper" is economically significant from a competition policy perspective when there is a single supplier of a particular product or service, or at least when there is limited competition between firms such that firms may possess monopoly power. When there is effective competition between firms, competition creates incentives for firms to offer attractive services at competitive prices. The "gatekeeper" claims motivating the *Title II Order* incorrectly dismiss this competition for subscribers, instead arguing that "once a consumer chooses a broadband provider," the provider is a monopolist over access to that subscriber. But this *ex post* view of competition ignores the *ex ante* competition to sign up customers in the first place.

14. Where broadband competition exists, competition for subscribers imposes a competitive constraint on broadband Internet access providers with respect to actions that the provider can take vis-à-vis online content providers. As a result, the fundamental assumptions of the "gatekeeper" theory—also referred to as the "terminating access monopoly" theory—are not

[5] *Title II Order* at ¶80.

[6] *Title II Order* at ¶80.

[7] *Title II Order* at ¶84.

present, and distinguishes broadband Internet access from other services where the Commission has invoked that theory in the past.

15. In the context of long-distance voice services, the area to which the "gatekeeper" theory traditionally has been applied, local exchange carriers ("LECs") were claimed to be "terminating access monopolies" because long-distance carriers (known as "inter-exchange carriers" or "IXCs") required access to the LEC's network to reach the LEC's customers. In this market setting, there were no effective market constraints on the ability of LECs to impose high termination fees on IXCs for termination of long-distance calls. A LEC could charge the IXC a high price to reach its customer and, because the IXC provided no service to and had no relationship with the end user on the terminating end, there was no mechanism for the IXC to pass those costs back to the terminating LEC's customer (*i.e.*, the called party). Furthermore, because IXCs were barred by regulations from refusing to terminate traffic to LECs with inflated rates, the IXCs had no way to discipline LECs that imposed inflated terminating rates.

16. These market characteristics are fundamentally different from the provision of broadband Internet access services. In contrast to market conditions in the provision of long-distance voice services, actions that a broadband provider takes with regard to an online content provider resonates back to the broadband access provider's own customers. That is, there is a direct "feedback loop" whereby imposing artificially-high fees or unreasonable requirements on content providers would lower subscribers' demand for the network itself, creating incentives for current subscribers to switch to other providers and inhibiting the ability of the broadband provider to attract new customers. The risk of losing subscribers imposes a powerful competitive constraint on broadband Internet access providers facing effective competition.

17. The *Title II Order* acknowledges that the claimed monopoly power from the "gatekeeper" position of broadband Internet access providers could be "mitigated if a consumer could easily switch broadband providers."[8] But the *Title II Order* dismisses the importance of switching by arguing that there are significant switching costs for subscribers, claiming that the gatekeeper role of broadband providers "is strengthened by the high switching cost consumers face when seeking a new service."[9] These claims are contradicted by the significant rate of switching, as

[8] *Title II Order* at ¶80.

[9] *Title II Order* at ¶81.

discussed above, which shows that subscribers are not "locked-in" to specific broadband networks.

18. Similarly, The *Title II Order* acknowledges that the claimed monopoly power from the "gatekeeper" position could be "mitigated if consumers multi-homed (*i.e.*, obtained broadband services from multiple networks)," but dismisses the impact of multi-homing by claiming that it "is not widely practiced and imposes significant additional costs on consumers."[10] However, consumers generally do multi-home by accessing online content on multiple platforms, such as one or more wireless broadband services, a consumer wireline broadband service at home, a wireline broadband service at work, and Wi-Fi networks at numerous locations (*e.g.*, Starbucks, libraries, airports). Subscriber multi-homing is at odds with the claim that once a subscriber chooses a broadband Internet access provider, that provider is a "gatekeeper" over access to that subscriber.

19. In sum, while Title II regulation of broadband Internet access imposes significant costs on consumers and providers, it offers little (if any) competitive benefit. Such regulation would fail a cost-benefit analysis, and makes consumers of broadband access services worse off. The *Title II Order*, as well as proponents of Title II regulation, have failed to identify a market failure that would necessitate public utility-type regulation intended for natural monopolies, nor have they identified any benefits of Title II regulation that cannot be achieved by more reasonable, targeted rules.

20. In the remainder of this declaration, we discuss these findings in more detail. This paper is organized as follows. Section II discusses the economic costs of Title II regulation. Section III discusses the claimed economic benefits of Title II. Section III.A explains that proponents of Title II regulation of broadband Internet access fail to identify any actual market failure that would necessitate public utility-style regulation. Section III.B describes the significant competitive rivalry between wireless broadband providers, and the evidence of switching by wireless subscribers that results from this competitive rivalry. Section III.C explains that Verizon also faces significant competitive constraints in the provision of consumer *wireline* broadband services. Section III.D explains that the fundamental assumptions of the "gatekeeper"

[10] *Title II Order* at ¶80.

theory are inconsistent with the provision of broadband Internet access service where there is effective competition. Section IV offers concluding remarks.

II. The Economic Costs of Title II Regulation

21. It is widely accepted that a costs-benefit analysis ("CBA") is the appropriate framework to assess the impact of a particular regulation on consumers.[11] CBA is a methodology for systematically assessing tradeoffs inherent in different alternatives (*e.g.*, different regulations, policies, investments, strategies, or projects), and therefore is an economically-valuable tool in decision-making.

22. From an economic perspective, such a CBA should focus on the impact of Title II regulation on competition and investment. Because enhancing competition and stimulating investment is fundamental to enhancing consumer welfare, such a CBA focused on competition and investment is consistent with the Commission's public-interest standard. A CBA also should focus on weighting the risks and potential costs of *false positives* (*i.e.*, practices that benefit consumers and competition, but which are prohibited) and *false negatives* (*i.e.*, practices that harm consumers and competition, which are permitted). False positives, which can entail significant costs without corresponding benefits, can have a detrimental effect on efficient market behavior, and can be especially harmful to consumers in dynamic, innovative industries. False negatives also can lead to consumer harm, but in addressing the potential impact of false negatives on competition and consumers, it is important to consider whether less restrictive market intervention (such as targeted rules or case-by-case oversight) can achieve similar objectives at lower cost. As we discuss below, the *Title II Order* fails to apply these widely-accepted economic principles in assessing the impact of Title II regulation.

23. In this section, we discuss the economic costs of Title II regulation, including costs from reduced investments (Section II.A) and from inhibiting innovative arrangements and business models that can benefit both consumers and content providers (Section II.B). In Section III, we address the claimed benefits of Title II regulation.

[11] CBA has been applied extensively in environmental, health and safety regulation, antitrust, and other types of regulation. It also is commonly used by private firms.

A. The economic cost of reduced investments

24. The costs of Title II regulation are clear. By reclassifying broadband internet services as telecommunications services, the *Title II Order* will reduce investment and adversely affect innovation. Title II creates significant regulatory risks and the ever-present threat of regulatory interference. Although the Title II Order abstains from applying the many of Title II provisions to broadband Internet access providers, some of the most significant provisions (*e.g.*, the basic provisions underlying most rate and service regulation) remain in place. In theory, under Title II, FCC could impose onerous public-utility requirements, such as rate regulation. Title II—and the associated "general conduct" rule adopted in the 2015 order—also creates significant ambiguity regarding what practices the Commission may consider "unreasonable" (such as "sponsored data" arrangements). The threat that broadband Internet access providers will be subjected to such regulation creates significant business risks. These risks are likely to have the effect of reducing investments and hampering innovation in the long term, in an industry where continual investments and innovation are key to providing services that benefit consumers.

25. Basic investment theory shows that increased risks, including regulatory risks, have the effect of reducing the profitability of investment projects and therefore diminishing investment activity. Broadband providers will undertake investments as long as the internal rate of return ("IRR") on the project is greater than the required rate of return. The threat of regulation can reduce the IRR of a project either by (1) decreasing the expected returns or (2) increasing the required rate of return due to a greater "risk premium" on any additional investments (even if the expected returns do not change).

26. Importantly, investments in broadband Internet access networks, which inherently entail large initial sunk costs and long-term benefits (*i.e.*, expected revenue streams), are highly sensitive to increased risks. Small increases in risk can yield a significant reduction in the expected IRR of a project. Moreover, as the economics literature shows, because investments in broadband access networks are "irreversible"—in the sense that they cannot be sold to firms for uses other than providing broadband Internet access—regulatory uncertainty can have a significant adverse effect on investment incentives.[12] As a result, Title II regulation can make

[12] Robert S. Pindyck, *Irreversibility, Uncertainty, and Investment*, 29 JOURNAL OF ECONOMIC LITERATURE 1110 (September 1991); Robert S. Pindyck, *Mandatory Unbundling and Irreversible Investment in Telecom Networks*, MIT Sloan Working Paper 4452-03 (2004).

the IRR of some potential investment projects fall below the required rate. Consistent with these fundamental principles, various empirical studies of telecommunications industries find that increased regulation deters investment and innovation.[13]

27. Reduced investments by broadband Internet access providers will harm consumers by reducing coverage and/or lowering the quality services. Diminished investments by access providers will be particularly harmful for *wireless* broadband Internet access, where new technologies are still being developed and deployed, and for which there is the potential for significant improvements in quality (such as in speed, latency capacity, and reliability). Further deployment of and improvements in high-speed wireless broadband Internet access services has the potential to significantly benefit millions of Americans, and would benefit not just those individuals receiving high-speed wireless broadband access, but for the broader economy as well.

28. The *Title II Order* understates the costs that the regulation will impose, incorrectly dismissing the threat to investments and innovation.[14] The *Title II Order* argues that Title II regulation of broadband Internet access services will "not have a negative impact on investment and innovation in the Internet marketplace as a whole" because "regulation is just one of many factors affecting investment decisions."[15] Specifically, it argues that

> key drivers of investment are demand and competition. Internet traffic is expected to grow substantially in the coming years, and the profits associated with satisfying that growth provide a strong incentive for broadband providers to continue to invest in their networks. In addition, continuing advances in technology are lowering the cost of providing Internet access service. The possibility of enhancing profit margins can be expected to induce broadband providers to make the appropriate network investments needed to capture a reduction in costs made possible only through technological advances.[16]

29. However, whether overall investments in broadband networks will continue, given market growth and other profit opportunities, is not the relevant question. The relevant question

[13] See, *e.g.*, Michal Grajek and Lars-Hendrik Röller, *Regulation and Investment in Network Industries: Evidence from European Telecoms*, 55 JOURNAL OF LAW AND ECONOMICS 189 (February 2012); J. E. Prieger, *Regulation, Innovation and the Introduction of New Telecommunications Services*, 84 REVIEW OF ECONOMICS AND STATISTICS 704 (2002).

[14] *Title II Order* at ¶409-425.

[15] *Title II Order* at ¶410.

[16] *Title II Order* at ¶412.

is whether investment incentives will be lower—*all else equal*—because of regulatory uncertainty from Title II regulation. The risks of regulatory interference do not imply that all investments and innovation will cease—in fact, wireless providers continue to invest in new technologies (such as 5G). But the effect on investments is unambiguously negative—regulatory uncertainty will diminish investment activity by reducing the profitability of investment projects.

B. Inhibiting arrangements that benefit consumers and content providers

30. In addition to the adverse long term impact due to the risk of onerous public utility-type regulation on investments, Title II also imposes other costs on broadband providers and consumers. In particular, because of the significant ambiguity regarding what provider practices are permitted under Title II, such regulation is likely to inhibit innovative business models, arrangements, and services. One example of these types of arrangements is "sponsored data" and "free data" programs (such as Verizon's FreeBee program or T-Mobile's BingeOn[17]) whereby the consumer accesses content without bearing the costs of the broadband access, which may be subsidized by the content provider. Pursuant to the Title II regulation, the Commission expressed concern that such arrangements have the "potential to hinder competition and harm consumers."[18] However, such programs are likely to benefit consumers and content providers alike, and are generally output-enhancing. From the perspective of consumers, such programs lower the effective price they pay for broadband Internet access and increase the amount of content they access—for instance, by allowing them to try new content or services without it counting against their data plan. From the perspective of content providers, such programs allow them to promote their services to subscribers, and thereby lead to greater usage of their services. And, from the perspective of broadband providers, such arrangements provide an opportunity to compete in attracting more subscribers to the network.

31. These sponsored data programs, wherein a provider subsidizes certain costs that would otherwise be incurred by consumers, are an example of two-sided pricing arrangements, which

[17] Russell Brandom, "New FCC report says AT&T and Verizon zero-rating violates net neutrality," The Verge, January 11, 2017, *available at* https://www.theverge.com/2017/1/11/14243196/fcc-zero-rating-report-net-neutrality-att-verizon-t-mobile.

[18] Letter from the Federal Communications Commission to Verizon, Re: Verizon's Zero-Rating Program, December 1, 2016. See also, Federal Communications Commission, *Wireless Telecommunications Bureau Report: Policy Review of Mobile Broadband Operators' Sponsored Data Offerings for Zero-Rated Content and Services*, January 11, 2017.

are common in many industries and are generally procompetitive. These pricing arrangements have been analyzed and discussed extensively in the economics literature on "two-sided" (or "multi-sided") platforms.[19] Multi-sided platforms enable interactions between two or more distinct groups of participants who wish to transact with each other—in this case, subscribers and content providers.[20] A common business strategy in two-sided platforms is for one side of the platform (*e.g.*, content providers) to subsidize the other (*e.g.*, subscribers), often leading to zero or negative prices on that side. The economics literature on two-sided platforms shows that such subsidies from one side of the platform to another can increase output, and can benefit competition and consumers.[21] These types of pricing arrangements have the potential to provide significant benefits to consumers in the future, especially given the significant diversity of consumer preferences, applications, and uses.

32. More generally, arrangements between broadband providers and providers of online content and services are "vertical" in nature. Vertical arrangements are widely-recognized to be generally procompetitive, and can achieve various efficiencies and provide important benefits to consumers.[22] These efficiencies can benefit consumers in the form of lower prices, higher quality, greater product variety, and/or enhanced innovation. This is not to say that vertical arrangements can never be anticompetitive, but such instances can be addressed through *ex post* case-by-case enforcement or targeted rules, and do not justify *ex ante* regulation that imposes a blanket ban or other substantial restrictions on vertical contractual arrangements between broadband and content providers.

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[19] See, *e.g.*, Benjamin Klein, Andres V. Lerner, Kevin M. Murphy & Lacey L. Plache, *Competition In Two-Sided Markets: The Antitrust Economics Of Payment Card Interchange Fees*, 73 ANTITRUST LAW JOURNAL 571 (2006); Richard Schmalensee, *Interchange Fees: A Review of the Literature*, 1 PAYMENT CARDS ECONOMIC REVIEW 25 (Winter 2003); Jean-Charles Rochet & Jean Tirole, *Cooperation Among Competitors: Some Economics of Payment Card Associations*, 33 RAND JOURNAL OF ECONOMICS 549 (Winter 2002); Julian Wright, *The Determinants of Optimal Interchange Fees in Payment Systems*, 52 JOURNAL OF INDUSTRIAL ECONOMICS 1 (March 2004).

[20] For instance, newspapers bring together readers and advertisers; shopping malls bring together merchants and consumers. Multi-sided platforms are ubiquitous in today's digital economy (*e.g.*, Uber, eBay, PayPal, online publishing, online search, smartphone platforms, software platforms).

[21] See, *e.g.*, Benjamin Klein, Andres V. Lerner, Kevin M. Murphy & Lacey L. Plache, *Competition In Two-Sided Markets: The Antitrust Economics of Payment Card Interchange Fees*, 73 ANTITRUST LAW JOURNAL 571 (2006); Richard Schmalensee, *Interchange Fees: A Review of the Literature*, 1 PAYMENT CARDS ECONOMIC REVIEW 25 (Winter 2003); Jean-Charles Rochet & Jean Tirole, *Cooperation Among Competitors: Some Economics of Payment Card Associations*, 33 RAND JOURNAL OF ECONOMICS 549 (Winter 2002).

[22] Dennis W. Carlton and Jeffrey M. Perloff, MODERN INDUSTRIAL ORGANIZATION 414-431 (Prentice Hall, 4th ed., Addison-Wesley 2004).

33. Regulatory ambiguity regarding whether specific arrangements are permitted under Title II will inhibit many innovative and procompetitive two-sided or vertical arrangements, leading to "false positives"—*i.e.*, arrangements that benefit consumers but which are inhibited by uncertainty regarding what provider practices are permitted under Title II, or prohibited by an *ex ante* ban on such arrangements. Restricting or inhibiting the ability of content and broadband providers to experiment and deploy such business models has the potential to distort market outcomes and thereby harm consumers. This is particularly true given the rapidly changing and dynamic nature of the industry, and the significant uncertainty concerning the services and business models that will best serve consumers going forward. The *Title II Order*, and proponents of such regulation, fail to identify anticompetitive vertical arrangements that would be better addressed through public utility-style regulation, rather than by case-by-case oversight by antitrust agencies.

III. The Claimed Economic Benefits of Title II Regulation

34. While the costs of Title II regulation are real, the stated benefits of Title II regulation are based on a theoretical framework that all broadband providers are "gatekeepers" that have monopolies over access to their subscribers by online content providers. As we discuss in this section, that theoretical framework is wholly inapplicable to Verizon's broadband Internet access services.

A. What "market failure" necessitates public utility-type regulation?

35. The *Title II Order*, as well as proponents of Title II regulation of broadband Internet access, fail to identify any actual market failure that would necessitate public utility-style regulation. It is widely accepted among economists that, absent a market failure—wherein an unfettered marketplace results in an inefficient allocation of resources —competition results in market outcomes that are beneficial to consumers. Thus, the key initial economic question that must be answered in assessing the benefits of a particular regulation is what is the market failure that the regulation is supposed to address?

36. Monopoly power: One type of market failure arises from the existence of monopoly power. Monopoly power can stem from natural monopoly conditions, in which, due to pervasive

scale economies, it may be efficient for a single firm to produce all market output.[23] In some circumstances, regulating the prices set by natural monopolies may be economically justified, since such natural monopolies may lead to allocative inefficiencies that harm consumers due to monopoly pricing.[24] This is the justification for public utility regulation that is common in some static utility markets. Firms also may acquire monopoly power even in instances where the market is not a natural monopoly, including by innovating and competing successfully. In those instances, monopoly power may be transitory, especially in dynamic, innovation-driven industries.

37. As we discuss below in Section IV.B., the wireless broadband Internet access industry does not come close to resembling a monopolistic industry—in fact, there is significant competition between wireless broadband Internet access providers. In the case of Verizon, it also faces effective competition in areas in which it offers consumer wireline broadband Internet access services (Section IV.C). Competition creates incentives for broadband providers to implement business models and practices that benefit consumers. The greater the degree of competition, the less likely that individual broadband providers would have the incentive or ability to engage in practices that harm consumers or competition, as consumers can choose broadband networks that best suit their purposes in terms of price and quality attributes, including the speed and reliability of delivery of their desired content. The existence of firms with monopoly power, or facing limited competitive constraints, is a necessary condition for firms to have the incentive and ability to enter into anticompetitive arrangements that harm competition and consumers. The two-sided aspect of the ISP market—wherein broadband providers sign up subscribers on one side and provide access to content providers on the other—also does not give broadband Internet access providers monopoly power.

38. Externalities: Another type of market failure is the existence of "externalities," which arise when transacting parties do not internalize all costs and benefits.[25] Externalities could be

[23] See, *e.g.*, Dennis W. Carlton and Jeffrey M. Perloff, MODERN INDUSTRIAL ORGANIZATION 104-105 (Prentice Hall, 4th ed., Addison-Wesley 2004).

[24] See, *e.g.*, Dennis W. Carlton and Jeffrey M. Perloff, MODERN INDUSTRIAL ORGANIZATION 700-702 (Prentice Hall, 4th ed., Addison-Wesley 2004).

[25] See, *e.g.*, Dennis W. Carlton and Jeffrey M. Perloff, MODERN INDUSTRIAL ORGANIZATION 82-83 (Prentice Hall, 4th ed., Addison-Wesley 2004). Classic examples of negative externalities are pollution and traffic congestion. A common example of a positive externality is technology spillovers, where a firm's innovation not only benefits the firm, but contributes to overall technological knowledge and thereby benefits others.

negative—leading to too much output, or positive—leading to too little output if left unregulated. However, the presence of externalities does not invariably require regulation since private parties can implement contractual and other arrangements to internalize such costs and benefits.[26] Even when government intervention is necessary, externality problems can be addressed through rules targeted at creating incentives for parties to internalize externalities (*e.g.*, taxes or subsidies), or restrictions on particular activities (*e.g.*, limits on pollution).

39. In the current context, there may be social benefits of unrestricted access by consumers to Internet content, which may not be internalized by transacting parties (*e.g.*, a broadband Internet access provider and an online content or service provider). Such concerns may reflect the potential for a market failure due to "externalities," not the exercise of monopoly power,[27] and can be addressed through targeted Open Internet protections. Title II regulation is ill suited to addressing potential concerns regarding such externalities. While such a regulatory framework may be appropriate for static natural monopolies, it is not well-suited for dynamic, competitive industries. Title II imposes significant costs without any incremental benefits compared to more reasonable protections that are targeted at concerns regarding externalities, such as those targeted at ensuring that consumers can access any content or service online. The *Title II Order*, and proponents of Title II regulation, have failed to identify any benefits of Title II regulation that cannot be achieved by more reasonable, targeted rules.

B. There is significant competition in the provision of wireless broadband Internet access services

40. It is widely accepted that there is significant competition between wireless broadband Internet access providers. As we discuss below, consumers have access to various providers of wireless services (Section B.1). Driven by competition, wireless providers have made massive capital investments to deploy high-speed broadband Internet access services (Section B.2). Wireless providers also compete intensely for subscribers, which is evidenced by the significant rate of subscriber switching (Section B.3). This competition among wireless providers has led to important consumer benefits (Section B.4).

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[26] See, *e.g.*, Stanley J. Liebowitz and Stephen E. Margolis, *Network Externality: An Uncommon Tragedy*, 8(2) THE JOURNAL OF ECONOMIC PERSPECTIVES 133 (Spring 1994).

[27] See, *e.g.*, Timothy J. Brennan, *Network Neutrality or Minimum Quality? Barking Up the Wrong Tree – and Finding the Right One*, CPI CHRONICLE (March 2012).

1. Consumers have access to various providers of wireless services

41. Consumers can access wireless service from various providers. AT&T, Verizon, Sprint and T-Mobile are the four largest, nationwide facilities-based wireless service providers. U.S. Cellular, the fifth largest, is a multi-regional provider that operates in portions of 23 states.[28] Other regional providers have significant presence in certain parts of the country, and dozens of local providers serve specific geographic areas.[29] Although regional and local service providers comprise a small portion of the nationwide footprint, they are important sources of competition in certain geographic areas, especially rural areas, as the Commission has recognized.[30]

42. The vast majority of consumers can choose among various different providers of broadband wireless services. In particular, as of December 2015, approximately 96 percent of the U.S. population lived in areas with at least three providers offering LTE services, and approximately 89 percent lived in areas with at least four providers offering LTE services.[31] Approximately 99 percent of the *non-rural* U.S. population lived in areas with LTE wireless coverage by at least three service providers, while over 80 percent of the *rural* U.S. population lived in areas with LTE wireless coverage by at least three service providers.[32] Verizon offered the broadest LTE coverage, with 92 percent of the rural population and 98 percent of the non-rural population covered as of December 2015.[33]

43. The vast majority of U.S. consumers also has access to high-speed 4G LTE services from multiple providers: Verizon offers 4G LTE coverage to over 96 percent of the U.S. population,

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[28] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶ 8.

[29] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶ 8. Shentel and C Spire were the sixth and seventh largest U.S. wireless carriers as of Q1 2017. (Strategy Analytics, *available at* http://www.fiercewireless.com/wireless/how-verizon-at-t-t-mobile-sprint-and-more-stacked-up-q1-2017-top-7-carriers.)

[30] *Mobile Spectrum Holdings Report and Order*, FCC 14-63, adopted May 15, 2014, ¶ 179; Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, Table II.C.2.

[31] These numbers likely understate the share of the population as wireless carriers have continued to build out (and advertise their buildouts) since 2015. Number of providers based on network coverage in the census block. (Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, Chart III.A. and Chart III.A.2.)

[32] As of December 2015. Number of providers based on network coverage in the census block. (Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, Chart III.A.2.)

[33] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, Chart VI.A.7 and ChartVI.A.8.

AT&T to 98 percent, T-Mobile to 96 percent, and Sprint to 93 percent.[34] These estimates imply that at least 94 percent of U.S. consumers have access to two 4G LTE services (at least from Verizon and AT&T), and at least 83 percent have access to four 4G LTE services.[35]

44. In addition, resellers and mobile virtual network operators (MVNOs), which do not own facilities but instead purchase wholesale wireless services and then resell those services to consumers, also are an important part of the competitive wireless landscape.[36] MVNOs sometimes have better access to a particular market segment than facilities-based service providers.[37] For instance, the MVNO may target low-income consumers or those with low-usage needs.

45. Cable providers have begun to enter the wireless marketplace in order to bundle wireless and cable services and are expected to continue doing so, including through arrangements with wireless network providers to purchase wholesale wireless services.[38] In May 2017, Comcast and Charter announced a one year cooperation agreement focused on offering wireless services.[39] These cable providers entered into exclusive talks with Sprint in June 2017 to explore arrangements to offer wireless services. According to press reports, "one arrangement that has been considered is for Charter and Comcast to invest in improving Sprint's network in exchange

[34] Estimates based on share of U.S. population in 2016. Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, note 18; Census Bureau, "U.S. and World Population Clock," *available at* https://www.census.gov/popclock/.

[35] Other estimates also indicate that the vast majority of the U.S. population has access to three or more providers of wireless services. For instance, estimates by CTIA indicate that more than 98 percent of the U.S. population is covered by three or more wireless providers and more than 95 percent of population is covered by three or more LTE-based wireless providers. (CTIA, "Wireless Snapshot 2017," *available at* https://www.ctia.org/docs/default-source/default-document-library/ctia-wireless-snapshot.pdf.)

[36] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶ 9.

[37] For example, TracFone Wireless (a subsidiary of America Movil) serviced approximately 26 million subscribers as of 2015. Google launched a partnership with T-Mobile and Sprint ("Project Fi") which allowed Google Fi subscribers to switch between Google's Wi-Fi services and the provider's LTE Networks. (Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, notes 28 and 29.)

[38] Bank of America/Merrill Lynch, *Wireline & Wireless Telecom Services 4Q preview – Buckle up*, January 17, 2017 at 5, 13. For example, Comcast's MVNO agreement with Verizon, together with its Wi-Fi hotspots, enable Comcast to compete in the wireless space. (Bank of America/Merrill Lynch, *Cable/Satellite 2017 year ahead – reform, relief and resilience*, January 11, 2017 at 1.) See also, Holman Jenkins, "Comcast vs. the 5G Frenzy," The Wall Street Journal, July 4, 2017, *available at* https://www.wsj.com/articles/comcast-vs-the-5g-frenzy-1499188939.

[39] Bank of America/Merrill Lynch, *Cable/Satellite Cable cooperation*, May 8, 2017 at 1.

for favorable terms to offer wireless service using the carrier's network…" and "could involve the companies taking an equity stake in Sprint."[40]

2. Wireless providers have made massive capital investments to deploy high-speed broadband Internet access services

46. The broad availability of high-speed wireless Internet access has been enabled by massive investments by wireless providers in deploying high-speed broadband services (including 4G LTE technology) and improving network coverage and capacity.[41]

47. Verizon was the first and leading wireless provider to roll out 4G LTE in the U.S., and is considered "the pioneer in LTE deployment."[42] Verizon began deploying its 4G LTE network in late 2010 and aggressively expanded its 4G LTE network coverage. By 2012, the majority of Verizon's data traffic was transmitted on 4G.[43] AT&T, Sprint, and T-Mobile subsequently launched their 4G LTE networks (in 2011, 2012, and 2013, respectively).[44]

48. Verizon further upgraded its 4G network by rolling out "XLTE," which delivers faster peak data speeds, and double the bandwidth compared to "regular" 4G.[45] Verizon's roll-out of XLTE in many of its 4G LTE markets improved performance on Verizon's wireless broadband

[40] "Sprint Enters Into Exclusive Talks With Charter, Comcast On Wireless Deal," Wall Street Journal, June 26, 2017, *available at* https://www.wsj.com/articles/sprint-enters-into-exclusive-talks-with-charter-comcast-on-wireless-deal-1498524087.

[41] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶ 9. These investments include both cell sites and the backhaul connections between sites, which facilitate increased speed and capacity.

[42] Marguerite Reardon, "T-Mobile launches 4G LTE network," CNET, March 26, 2013, *available at* http://www.cnet.com/news/t-mobile-launches-4g-lte-network/.

[43] Marguerite Reardon, "Verizon: Our 4G LTE network will soon carry most of our data," CNET, October 9, 2012, *available at* http://www.cnet.com/news/verizon-our-4g-lte-network-will-soon-carry-most-of-our-data/.

[44] Phil Goldstein, "AT&T to launch LTE Sunday, September 18," FierceWireless, September 15, 2011, *available at* http://www.fiercewireless.com/story/att-launch-lte-sunday/2011-09-15. Marguerite Reardon, "Sprint officially launches 4G LTE in 15 cities," CNET, July 16, 2012, *available at* http://www.cnet.com/news/sprint-officially-launches-4g-lte-in-15-cities/; Marguerite Reardon, "T-Mobile launches 4G LTE network," CNET, March 26, 2013, *available at* http://www.cnet.com/news/t-mobile-launches-4g-lte-network/.

[45] Debi Lewis, "XLTE: America's Best Network Gets Even Better," Verizon Wireless, October 16, 2014 *available at* http://www.verizonwireless.com/news/article/2014/05/verizon-wireless-xlte.html. As of June 2014, the XLTE 4G network had been launched in over 300 of Verizon's 500 4G LTE-ready cities. (Angela Moscaritolo, "Verizon Brings Super-Charged XLTE to 300 Markets," PCMag, June 27, 2014, *available at* http://www.pcmag.com/article2/0,2817,2460175,00.asp; "Verizon XLTE IS HERE," *available at* http://s7.vzw.com/is/content/VerizonWireless/eCatalogs/Verizon-XLTE-markets.pdf.)

network, especially in densely populated areas.[46] Verizon rolled out LTE Advanced in August 2016, which combines multiple wireless connections together into one.[47] Wireless providers also have developed and deployed various advancements to increase broadband speeds (*e.g.*, 4x4 MIMO technology and 256 QAM for downloads).[48]

49. Even as deployment of 4G LTE continues, the industry is already investing to further expand the capabilities of wireless broadband networks, including "fifth-generation" ("5G") LTE technology, which will provide higher speeds and reduced latency.[49] Wireless providers continue to make large investments to roll out new technologies and to make other network improvements. In the six years ending 2015, wireless service providers in the U.S. made capital investments of approximately $177 billion.[50] In 2015 alone, Verizon invested more than $11 billion to meet demands for wireless data and video using 4G LTE, and to lay the groundwork for 5G.[51]

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[46] Angela Moscaritolo, "Verizon Brings Super-Charged XLTE to 300 Markets," PCMag, June 27, 2014, *available at* http://www.pcmag.com/article2/0,2817,2460175,00.asp.

[47] In August 2016, Verizon announced that it had enabled LTE Advanced in over 450 cities across the U.S. (Jacob Kastrenakes, "LTE Advanced has been rolling out across the U.S.," The Verge, August 29, 2016, *available at* https://www.theverge.com/2016/8/29/12693030/verizon-lte-advanced-461-cities-launched-faster-data-speeds.) According to Verizon, consumers will see a 50 percent increase in peak speeds with a Verizon LTE Advanced device in a LTE Advanced area. ("Verizon LTE Advanced FAQs," *available at* https://www.verizonwireless.com/support/verizon-lte-advanced-faqs/.)

[48] See, *e.g.*, Diana Goovaerts, "Verizon, AT&T Confirm Limited Roll Outs of 256-QAM," Wireless Week, February 8, 2017, *available at* https://www.wirelessweek.com/news/2017/02/verizon-t-confirm-limited-roll-outs-256-qam. See also, "Unparalleled network leadership by doing," Verizon press release, April 28, 2017, *available at* http://www.verizon.com/about/news/unparalleled-network-leadership-doing. Sprint also is testing "multiple-input and multiple-output" (MIMO), which could significantly increase the wireless capacity and coverage of its LTE network. See, *e.g.*, Diana Goovaerts, "Sprint's Massive MIMO Tests with Samsung Yield 330 Mbps on 20 MHz Channel," Wireless Week, June 20, 2017, *available at* https://www.wirelessweek.com/news/2017/06/sprints-massive-mimo-tests-samsung-yield-330-mbps-20-mhz-channel.

[49] "Experiencing 5G: demoing the blazin' fast future of wireless," Verizon press release, June 8, 2017, *available at* http://www.verizon.com/about/news/experiencing-5g-demoing-blazin-fast-future-wireless; "AT&T Details 5G Evolution," AT&T Newsroom press release, January 4, 2017, *available at* http://about.att.com/story/att_details_5g_evolution.html; "T-Mobile Announces Plans for Real Nationwide Mobile 5G," T-Mobile press release, May 2, 2017, *available at* https://newsroom.t-mobile.com/news-and-blogs/nationwide-5g.htm. Latency impacts, for example, the time lag between pressing play and seeing a video start to stream.

[50] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶ 23.

[51] Verizon Wireless Network, *available at* http://www.verizon.com/about/our-company/wireless-network.

3. *Wireless providers compete intensely for subscribers, as evidence by the significant rate of switching*

50. In addition to competing by investing in network improvements, wireless providers compete intensely for customers on the basis of price, network plan characteristics, and with respect to other important aspects of the wireless ecosystem.

51. Wireless service providers offer a wide range of data plans, equipment promotions, early termination plans, and free international roaming plans, among others.[52] Promotions include increased monthly data allowances, unlimited data plans, data plans with shared data across multiple phone lines, multi-line family plans, early termination buy-outs, and switching incentives.[53] Analysts report that the competitive rivalry among wireless broadband providers has continued to intensify.[54]

52. Competition among wireless broadband providers also takes place in an "ecosystem" that includes various complementary products and services, including mobile devices, operating systems, apps, content, and other services. Wireless broadband providers compete for customers by offering innovative broadband-connected mobile computing devices (which provide access to specific mobile platforms, such as iOS, Android, or Windows Mobile) and mobile services.[55] Wireless providers offer a wide range of devices to differentiate their services at different price points.[56] The devices offered by wireless carriers, and the corresponding mobile platform accessed by the devices, have become important dimensions of competition for wireless carriers.

53. The competitive rivalry among providers, and the competitive choices available to consumers, is evidenced by the significant rate of subscriber switching among wireless providers, with 26.5 percent of wireless subscribers switching providers (or "churning") in

[52] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶ 82.

[53] See, *e.g.*, Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶¶ 82-87; Bank of America/Merrill Lynch, *Wireline & Wireless Telecom Services – 1Q preview – 'Unlimited comes to town'*, April 17, 2017 at 3.

[54] Bank of America/Merrill Lynch, *Wireline & Wireless Telecom Services – 4Q preview – buckle up*, January 17, 2017 at 18, 20. See also, Bank of America/Merrill Lynch, *Wireline & Wireless Telecom Services – 1Q preview – 'Unlimited comes to town'*, April 17, 2017 at 3.

[55] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶ 111.

[56] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶ 112.

2016.[57] Wireless consumers switch among providers not only because of price, but also due to data download speeds, data coverage, and other quality attributes.[58]

54. Consumers evaluate competing wireless offers, and choose the best provider, plan, and mobile device based on their data needs, price range, and various other factors. Wireless broadband consumers have access to information about rival offerings including from social media, industry groups and publications, consumer groups, and other third parties.[59] Marketing and advertising further raise consumer awareness of the attributes of different broadband services, and allow consumers to compare competitive offerings.[60]

55. Despite the significant rate of switching among subscribers, The *Title II Order* argues that there are there are "high switching costs [that] consumers face when seeking a new service," due to "long-term contracts and early termination fees" and the "compatibility costs of owned equipment not working with the new service."[61] However, all major wireless carriers have essentially ended the practice of signing up subscribers to standard two-year contracts, thereby making switching among wireless carriers even easier.[62] The Commission has observed the "continued phase-out of contract service plans" and noted that "service providers have been promoting service plans without term contracts."[63] Instead of a contract, consumers pay monthly

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[57] Robert F. Roche and Kathryn Malarkey, *CTIA's Wireless Industry Indices Report, Year-End 2016 Results* at 39.

[58] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, note 375: "Consumers choose a service provider or switch between providers for varying reasons, including price, availability of family plans, network quality, free/unlimited in-network calling, billing/payment options/credit, reputation/recommendation, previous experience with service provider, customer service, mobile data services, specific phone offerings, bundling mobile phone services or other unspecified reasons."

[59] Industry groups and publications (*e.g.*, Consumer Reports, J.D. Power and Associates) provide surveys and comparisons of broadband provider offerings, and report user satisfaction with various providers, allowing consumers to make informed decisions when choosing providers. See, *e.g.*, "J.D. Power 2016 U.S. Residential Television Service Provider Satisfaction Study," accessed May 26, 2017, *available at* http://www.jdpower.com/ratings/study/U.S.-Residential-Television-Service-Provider-Satisfaction-Study/1545ENG/. See also, Consumer Reports' 2016 U.S. Cell Phone Service Provider Ratings Survey referenced in Mike Gikas, "Best Cell-Phone Companies: Is a Big Carrier or a Small Provider Right for You?" Consumer Reports, November 21, 2016, *available at* http://www.consumerreports.org/cell-phones-services/best-cell-phone-companies-big-carrier-or-small-provider/.

[60] Marketing campaigns focus on speeds, coverage, plan offerings, and reliability of their wireless broadband networks. (Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶ 118.)

[61] *Title II Order* at ¶81.

[62] See, *e.g.*, Julian Chokkattu, "How to Avoid Early Termination Fees and Switch Phone Carriers Like a Pro," DigitalTrends, December 10, 2016, *available at* https://www.digitaltrends.com/mobile/how-to-switch-phone-carriers/.

[63] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶ 86.

for a service plan, while committing to purchase their device through equipment installment plans ("EIPs").[64] Most consumers chose to do so over the course of a two-year period, but the consumer is free to choose the length of time over which to pay for their phone. Carriers also may offer to pay off subscribers' EIPs to incentivize switching, which reduces switching costs even *during* the term during the period over which a subscriber is paying off his or her device.[65] Some carriers such as Sprint also provide leasing options which give users the option to upgrade.[66] Industry analysts have recognized that the shift from the two-year contract business model has increased flexibility and facilitated switching by consumers.[67]

56. The Commission's "number portability" rules further reduce switching costs.[68] And, subscribers can switch wireless providers without switching between mobile platforms—*e.g.*, between Android and Apple iOS—which means they can keep all of downloaded apps and content.

57. Moreover, while GSM and CDMA wireless transmission technologies are incompatible, the significance of these incompatibilities has diminished over time with the roll-out of 4G LTE, which is a common transmission technology deployed by all the major wireless providers. And, any incompatibilities related to the use of different spectrum bands also are becoming less important as mobile devices increasingly support multiple frequency bands.[69] For example, starting with the launch of the iPhone 6 in September 2014, buyers in the US have been able to "buy an unlocked and SIM-free model to use on any carrier" which means that consumers "can

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[64] Federal Communications Commission, *19th Annual Mobile Wireless Competition Report*, ¶ 86.

[65] See, *e.g.*, "Switching Mania Continues: Sprint Extends Biggest Wireless Offer in U.S. History – 50% off AT&T, T-Mobile and Verizon Rate Plans," Sprint press release, January 1, 2016, *available at* http://newsroom.sprint.com/switching-mania-continues-sprint-extends-biggest-wireless-offer-in-us-history-50-off-att-t-mobile-and-verizon-rate-plans.htm; "Now, Ditch Verizon, Switch to T-Mobile, Keep Your Phone – and #GetOutoftheRed," T-Mobile press release, May 24, 2017, *available at* https://newsroom.t-mobile.com/news-and-blogs/get-out-of-the-red.htm.

[66] See, *e.g.*, Julian Chokkattu, "How to Avoid Early Termination Fees and Switch Phone Carriers Like a Pro," DigitalTrends, December 10, 2016, *available at* https://www.digitaltrends.com/mobile/how-to-switch-phone-carriers/.

[67] See, *e.g.*, Kara Brandeisky, "How to Break Up With Your Cell Phone Carrier," Money, June 12, 2016, *available at* http://time.com/money/4362611/end-contract-leave-switch-cell-phone-plan/.

[68] Federal Communications Commission, *Portability: Keeping Your Telephone Number When You Change Service Provider*, *available at* http://www.fcc.gov/guides/portability-keeping-your-phone-number-when-changing-service-providers.

[69] See, *e.g.*, Brian Hall, "You can legally unlock your smartphone -- so now what?" Tech Hive, August 19, 2014, *available at* http://www.techhive.com/article/2466622/you-can-legally-unlock-your-smartphone-so-now-what.html.

activate the phone on any carrier, including major carriers AT&T, T-Mobile, Verizon and Sprint"[70] All major U.S. wireless providers (Verizon, AT&T, T-Mobile, Sprint and U.S. Cellular) now allow customers to "unlock" their phones and take them to a different wireless provider.[71] Thus, wireless consumers are able to switch to a technologically-compatible wireless provider without replacing their device.

58. Consistent with the lack of substantial switching costs for consumers, the churn data indicates that subscribers frequently switch among wireless providers, as discussed above. The risk of losing customers presents a substantial economic incentive for broadband providers to offer innovative service models and pricing arrangements that benefit consumers. The provision of wireless broadband access services entails significant fixed and sunk costs of deploying the network and relatively low marginal costs of serving existing subscribers. As a result of these fundamental economics of the broadband industry, the expected value of a broadband subscriber during their average expected lifetime of use (referred to as the "life-time subscriber value," or LTV) is substantial.[72] Because of the significant LTV of current subscribers, a fundamental competitive strategy for wireless providers is to attempt to reduce churn, in competition with rival providers which attempt to entice subscribers to switch. Wireless providers reduce churn by giving customers high-quality services, including high-speed and reliable access to content they demand. Wireless broadband providers spend considerable sums in competing to attract and sign on new subscribers. The ease with which consumers may switch broadband providers, and the potential for substantial foregone revenues from subscriber defections, creates significant incentives for broadband providers to implement business practices that benefit customers. The proliferation of consumer review sites, user forums, and blogs intensifies this competitive constraint, by providing a means for dissatisfied customers to inform and persuade other consumers.

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[70] Lance Whitney, "iPhone 6, 6 Plus available unlocked and SIM free," CNET, January 6, 2015, *available at* http://www.cnet.com/news/iphone-6-now-available-unlocked-and-sim-free-in-us/.

[71] Federal Communications Commission, "Wireless Providers Fulfill Commitment to let Consumers Unlock Mobile Phones," February 11, 2015, *available at* https://www.fcc.gov/news-events/blog/2015/02/11/wireless-providers-fulfill-commitment-let-consumers-unlock-mobile-phones.

[72] For example, the lifetime revenue of a wireless subscriber in 1Q 2017 was estimated to be about $2,100. (Bank of America/Merrill Lynch, *Wireline and Wireless Telecom Services – U.S. Wireless and Tower Matrix – Postpaid activity slows substantially in 1Q*, May 22, 2017 at 40.)

4. Competition among wireless providers has led to important consumer benefits

59. This vigorous competitive rivalry between wireless providers has led to important consumer benefits. Mobile wireless speeds continue to rise and prices per megabyte of data continue to fall. Wireless competition also has facilitated the availability of a wide variety of devices (and associated operating systems), apps, and services that are complements to a robust wireless broadband ecosystem. The significant investments and vigorous competition between wireless providers also has led to a rapid increase in output, both in terms of consumer connections and usage.

60. Lower quality-adjusted prices: Quality-adjusted prices for wireless broadband, such as prices per megabyte of data, have declined considerably in recent years. For instance, average prices for wireless data services in the U.S. are reported to have declined from approximately $1.50 per megabyte in 2006 to approximately $0.01 per megabyte in 2014.[73]

61. Higher broadband speeds and coverage: Average wireless broadband speeds have increased considerably. 4G LTE speeds have increased 40 times compared to the 3G speeds offered in 2007.[74] The average 4G LTE speed is nearly 17 Mbps.[75] Significant growth in the number cell sites, which has increased by 57 percent in the past ten years, also has increased speeds and expanded coverage.[76]

62. Greater choice of wireless devices, applications, and services: Wireless competition has facilitated the availability of a wide variety of devices (and associated operating systems), apps, content, and services that are complements to a robust wireless broadband ecosystem. Each segment of the mobile wireless "ecosystem" has had significant investment and innovation. Competition and innovation in each of these segments has provided consumers with a wide array

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[73] Roger Entner, *The Wireless Industry: Revisiting Spectrum, the Essential Engine of US Economic Growth*, Recon Analytics, April 2016, Exhibit 18, *available at* https://www.ctia.org/docs/default-source/default-document-library/entner-revisiting-spectrum-final.pdf.

[74] CTIA, "Wireless Snapshot 2017," *available at* https://www.ctia.org/docs/default-source/default-document-library/ctia-wireless-snapshot.pdf.

[75] CTIA, "Wireless Snapshot 2017," *available at* https://www.ctia.org/docs/default-source/default-document-library/ctia-wireless-snapshot.pdf, citing to Morning Consult Survey (December 2016).

[76] The number of cell sites has increased from approximately 195.6 thousand to 308.3 thousand, over the last 10 years, and the number is anticipated to increase dramatically as the wireless networks plan to deploy 5G. (CTIA, "Wireless Snapshot 2017," *available at* https://www.ctia.org/docs/default-source/default-document-library/ctia-wireless-snapshot.pdf.)

of innovative products and services, including sophisticated mobile devices and a wide variety of apps, content, and services customized for a mobile environment. Increased wireless bandwidth offered by wireless carriers has facilitated the delivery of this mobile content.

63. Increased output: The significant investments and vigorous competition between wireless providers has led to a rapid increase in output of wireless broadband services, both in terms of consumer connections and usage. For instance, wireless broadband connections have increased by approximately 40 percent between June 2013 and June 2016.[77]

64. The decrease in the quality-adjusted price of wireless broadband services and increases in output are the opposite of what one would expect in industries characterized by monopoly power.

C. Verizon also faces significant market constraints in the provision of consumer wireline broadband Internet access services

65. While the level of competition for residential wireline broadband does not match that of the wireless marketplace in many areas, Verizon also faces significant competition in the provision of consumer *wireline* broadband Internet access services. While industry observers and commenters typically frame their arguments to focus on areas in which a cable operator competes against a DSL network that offers much lower speeds, or is the only option, Verizon faces significant competition from next-generation, high-speed cable services in almost all areas in which it offers wireline broadband services.

66. Because competitive conditions in the wireline industry vary across geographic areas, and wireline broadband providers compete on a local or regional basis, it is inappropriate to draw conclusions regarding the degree of competition among wireline broadband providers on a national basis.[78] Broad claims that broadband access providers do not face sufficient competition

[77] Industry Analysis and Technology Division Wireline Competition Bureau, *Internet Access Services: Status as of June 30,* 2016, April 2017, Figure 1.

[78] In comments submitted regarding the Commission's National Broadband Plan, the U.S. Department of Justice stated that "[u]ltimately what matters for any given consumer is the set of broadband offerings available to that consumer, including their technical characteristics and the commercial terms and conditions on which they are offered. Competitive conditions vary considerably for consumers in different geographic locales." (*Ex Parte Submission of the U.S. Department of Justice in the Matter of Economic Issues in Broadband Competition - A National Broadband Plan for Our Future*, Before the Federal Communications Commission, GN Docket No. 09-51, January 4, 2010 at 7.)

ignore the wide variation in competitive conditions facing providers of consumer wireline Internet broadband access.

67. Verizon faces significant competition from next-generation, high-speed cable services in almost all areas in which it offers wireline broadband services.[79] Virtually all of the homes passed by Fios have access to high-speed DOCSIS 3.0 cable services.[80] Where Fios is available, there is intense competitive rivalry between Verizon and cable operators in terms of price and quality attributes, and consumers have access to competitive broadband services offering speeds of hundreds of megabits per second.

68. The introduction of fiber-to-the-home ("FTTH") broadband networks by Verizon starting around a decade ago ignited the race to make next-generation broadband services available to consumers.[81] Verizon was the first to build a fiber network on a wide scale, starting in 2004, and investing at least $23 billion in its Fios network.[82] Fios has grown to 5.7 million Internet subscribers by providing a superior platform to access online content and services.[83] These investments in deploying Fios spurred competition to deploy faster and faster broadband, and have compelled cable companies to upgrade their own networks in order to provide high-speed

[79] While next-generation cable services have greater capacity limitations than fiber networks, particularly for upstream speeds, these services offer high download speeds exceeding the demands of most of today's consumers, with services currently available that offer download speeds of greater than 100 Mbps.

[80] Data from the National Broadband Map shows that, as of 2013, in 97 percent of Census blocks where Verizon Fios was available, at least one cable firm offered broadband service with maximum advertised speeds of greater than 50 Mbps (more recent data is unavailable). (U.S. Department of Commerce, *National Telecommunications and Information Administration, State Broadband Initiative*, CSV format, December 31, 2013.)

[81] FTTH networks, while expensive to deploy, offer virtually unlimited capacity to meet consumer demand for higher speeds and lower latency, allowing for better consumer access to content, including streaming video. Verizon Fios offers broadband Internet plans with download speeds as high as one Gigabit. Fios's maximum speeds have increased substantially over time, from 20 Mbps in 2007. (Verizon 2007 10-K; Chris Welch, "Verizon rolls out fastest FiOS tier yet with 500Mbps downloads, 100Mbps uploads," The Verge, July 22, 2013, *available at* http://www.theverge.com/2013/7/22/4546286/verizon-rolls-out-fastest-fios-quantum-tier-500-100; Verizon Gigabit Connection, *available at* https://www.verizon.com/home/fios-gigabit-connection/.)

[82] See, *e.g.*, Malia Spencer, "Verizon plans more hires as it finalizes new FiOS tech center," Pittsburgh Business Times, June 10, 2011, *available at* http://www.bizjournals.com/pittsburgh/print-edition/2011/06/10/verizon-more-hires-new-fios-tech-center.html?page=all; Peter Svensson, "Verizon winds down expensive FiOS expansion," Seattle Times, March 26, 2010, *available at* http://seattletimes.com/html/businesstechnology/2011449152_apustecverizonfios.html: "The total cost [of building out FiOS] from 2004 to 2010 was budgeted at $23 billion."

[83] BankofAmerica/Merrill Lynch, *Verizon Communications Inc. – 1Q17 Wrap: Targeting better 2H as optimizers becomes up-sellers,* April 20, 2017 at 3. Other providers, such as AT&T's U-Verse, have extended fiber closer to the home in order to achieve higher speeds than traditional DSL services (but not as high as FTTH). Other fiber-based deployments—such as "fiber-to-the-neighborhood" ("FTTN," also referred to as "fiber-to-the-node")—also are increasingly available and offer higher speeds than traditional DSL services.

broadband services.[84] Cable providers responded to Verizon's deployment of Fios by rolling out DOCSIS 3.0 technology,[85] and recently have begun the rollout of even faster DOCSIS 3.1, with Comcast expected to complete its deployment by end of 2018.[86]

69. The competitive rivalry between fiber network and cable operators also is evidenced by the significant rate of subscriber switching. A 2014 survey by Global Strategy Group found that consumers switch broadband providers frequently, with 17.6 percent switching in the prior 12 months, 33.1 percent switching in the prior 2 years, and 49.4 percent switching in the prior 4 years.[87] The significant rate of switching indicates that wireline provider contracts do not inhibit subscriber switching. One reason for this is that contracts are generally fairly short-term, and subscriber agreements change to month-to-month at the end of their initial contract term.

70. Subscribers switch wireline broadband providers due to both price and non-price factors. According to one study, of U.S. households that switched broadband providers, 35 percent did so for faster broadband speed and only 18 percent for a lower price of a comparable-speed service.[88] A 2011 U.S. government study of Internet use by U.S. consumers found that of consumers that switched broadband providers, 38 percent did so because of price, 30 percent to obtain faster broadband speeds, 10 percent because of reliability, and 7 percent because of customer service.[89] According to a survey by Consumer Reports, 71 percent of respondents said they would switch to a competing service if their ISP started to block or charge extra to use high-bandwidth internet

[84] An industry analyst noted that "Verizon FiOS and AT&T U-Verse have already started pushing up speeds in other areas to create more pressure on the cable operators. Cable operators are responding, or in some cases leading, by deploying DOCSIS 3.0 solutions with 100Mbps and greater speeds." (Strategy Analytics, *Google Fiber's Impact on US Broadband*, October 7, 2013.)

[85] As a *Wall Street Journal* article reported in 2008, analysts believed DOCSIS 3.0 "will allow the cable industry to compete on a more even footing with telecom giant Verizon Communications Inc., which is aggressively marketing a high-performance fiber-optic network called FiOS that offers much faster Internet connection speeds than cable modems can currently deliver." (Vishesh Kumar, "Cable Prepares an Answer to FiOS," The Wall Street Journal, February 14, 2008, *available at* http://online.wsj.com/news/articles/SB120295689385867313.)

[86] See, *e.g.*, Jeff Baumgartner, "Comcast Lights Up DOCSIS 3.1 in More Markets," Multichannel News, May 31, 2017, *available at* http://www.multichannel.com/news/distribution/comcast-lights-docsis-31-more-markets/413152; Bank of America/Merrill Lynch, *Comcast Corp Minding margins*, January 26, 2017 at 1.

[87] Global Strategy Group Internet Survey, conducted July 10-14, 2014, cited in Mark A. Israel, "Economic Analysis of the Effect of the Comcast-TWC Transaction on Broadband: Reply to Commenters," September 22, 2014 at 196.

[88] "Parks Associates research shows faster broadband speeds drive more switching than do lower fees," Parks Associates, November 30, 2015, *available at* https://www.parksassociates.com/blog/article/pr-11302015-needforspeed.

[89] National Telecommunications and Information Administration and Economics and Statistics Administration, *Exploring the Digital Nation: America's Emerging Online Experience*, June 2013 at 23.

services.[90] This significant rate of switching due to non-price factors highlights that consumers are well-informed about the quality attributes, and are sensitive to quality differences between providers.

71. Claims that there is limited competition when consumers have access to two or more wireline broadband access providers also ignore the fact that wireless broadband services are increasingly becoming a competitive alternative for wireline networks for some consumers. Innovation and investments in both wireless broadband networks and wireless devices have made wireless networks more and more competitive to wireline networks. Significant improvements in speed and capacity of wireless networks have allowed consumers to perform many of the same tasks on wireless devices as they perform on computers connected via wireline networks. And, the promises of upcoming 5G technology are likely to increase the competitive pressure from wireless services on wireline broadband over time. The advent of advanced wireless devices, particularly tablets, also has blurred the distinction between wireless and wireline *devices*, and how content providers access consumers using those devices. As a result, Internet content and service providers receive a sizeable and growing share of their user traffic from mobile devices rather than computers connected to wireline networks.[91]

72. The risk of losing customers presents a substantial economic threat to providers' consumer wireline business because the net lifetime value of wireline subscribers is substantial. And, bundling with video, wireline voice, and wireless voice services increases the potential cost from the loss of subscribers. Because of the significant expected life-time value of wireline subscribers, retaining customers (*i.e.*, reducing churn) is an important part of the competitive strategy for Verizon and other broadband providers.[92] The ability of consumers to switch

[90] Consumer Reports, "71% of U.S. households would switch from providers that attempt to interfere with Internet," February 18, 2014, *available at* http://www.consumerreports.org/cro/news/2014/02/71-percent-of-households-would-switch-if-provider-interferes-with-internet-traffic/index.htm.

[91] For example, "At the end of 2015, Facebook passed the halfway mark for mobile-only users (51.7 percent to be exact). And that number continues to grow: 58.9 percent of Facebook users now access the social network exclusively from a mobile device." (Emil Protalinski, "Facebook passes 1 billion mobile-only monthly users," VentureBeat, November 2, 2016, *available at* https://venturebeat.com/2016/11/02/facebook-passes-1-billion-mobile-only-monthly-users/.)

[92] A Bain report regarding churn recently noted that "[r]educing customer departures and defections has become a high priority for most communications service providers as markets mature and competition intensifies. … Verizon, for instance, has learned that the installation of its Fios package in the home is a moment of truth. Instead of taking the standard approach of doing the installation as fast as possible, Verizon overinvests. Its well-trained, well-spoken staff often spend four to six hours in a customer's home, running through how the system works and making sure

wireline broadband providers creates strong incentives for Verizon to implement business practices that benefit customers.

D. The "gatekeeper" framework does not apply where effective competition for broadband Internet access exists

73. Despite the significant competition for subscribers, the *Title II Order* argues, based on economic theory, that broadband Internet access providers, including wireless providers and consumer wireline providers facing effective competition, are "gatekeepers" that have "significant bargaining power" over providers of online content and services.[93] The *Title II Order* argues that, "once a consumer chooses a broadband provider, that provider has a monopoly on access to the subscriber" by online content and service providers.[94] The *Title II Order* emphasizes that the level of competition for users in a local market is irrelevant to the ability of broadband Internet access providers to engage in anticompetitive conduct vis-à-vis online content and services providers, because providers have monopoly power as a result their "gatekeeper" position even in the absence of "the sort of market concentration that would enable them to impose substantial price increases on end users."[95] Therefore, the *Order* argues that one need not even consider the degree of competition for subscribers between broadband Internet access providers.

74. In this section, we explain why the fundamental assumptions of the "gatekeeper" framework do not apply to the provision of broadband Internet access services where there is effective competition. In contrast to this framework, broadband providers face significant market constraints that limit their ability to implement unreasonable business models or practices vis-à-vis content providers.

1. The "gatekeeper" theory

75. The concept of a "gatekeeper" could be economically significant from a competition policy perspective when there is a single supplier of a particular product or service, or at least

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that every application is functioning well." (Tom Springer, Charles Kim, Frédéric Debruyne, Domenico Azzarello and Jeff Melton, *Breaking the back of customer churn*, Bain & Company, 2014 at 1, 4.)

[93] *Title II Order* at ¶80.

[94] *Title II Order* at ¶80.

[95] *Title II Order* at ¶84.

when there is limited competition between firms such that firms may possess monopoly power. When there is effective competition between firms, such in the wireless broadband Internet access industry or in areas where Verizon offers consumer wireline services, competition creates incentives for firms to offer attractive services at competitive prices. The "gatekeeper" claim motivating the *Title II Order* incorrectly dismisses this competition for subscribers, and instead argues that "once a consumer chooses a broadband provider," the provider is a monopolist over that subscriber. But this *ex post* view of competition ignores the *ex ante* competition to sign up customers in the first place. By the same token, a movie theater, theme park, or stadium could be maintained to be a "gatekeeper" monopolist over customers who have entered the venue, and therefore could take advantage of those customers (as well as any suppliers wishing to serve those customers, such as soft-drink suppliers). But this would ignore the competition to attract customers to the venue in the first place.

76. The claim that broadband Internet access providers have monopoly power regardless of the degree of competition over users is flawed as a matter of economic logic. Where broadband competition exists, competition for subscribers imposes a competitive constraint on broadband Internet access providers with respect to actions that the provider can take vis-à-vis online content providers. The nature of broadband Internet access means that the fundamental assumptions of the "gatekeeper" theory—also referred to as the "terminating access monopoly" theory—are not present when there is effective competition, and distinguishes broadband Internet access from other services where the Commission has invoked that theory in the past.

77. The "gatekeeper" framework is based on the economic theory of "competitive bottlenecks."[96] The theory is based on a model of two-sided platforms, in which users on one side of the platform (say, side A) participate in only one platform (*i.e.*, "single-home"), while users on the other side of the platform (side B) participate in all platforms (*i.e.*, "multi-home") in order to reach all members of group A. Because each member of group A (say, a subscriber) single-homes, once the platform (say, a network service provider) has signed up some members of group A, the only way for members of group B (say, online content and service providers) to reach to those members of group A is to join the platform. It further follows that if a member of

[96] Mark Armstrong, *The Theory of Access Pricing and Interconnection*, in HANDBOOK OF TELECOMMUNICATIONS ECONOMICS, Vol. I (M. Cave, S. Majumdar, and I. Vogelsang eds. 2002).

group B wants to reach all members of group A, it has to join all the platforms that the members of group A have joined. Thus, according to the theory, once a platform has signed up some members of group A (in fact, even a small share of all members of group A) it has a "monopoly" over access to those members.[97] According to the theory, the platform's monopoly over access to its members of group A exists irrespective of the size (or market share) of the platform, or the level of competition in the market for members of group A.

78. The "competitive bottlenecks" theory assumes that there are no effective market mechanisms that constrain a platform's ability and incentive to set high prices to the "multi-homing" side (group B, here, the content and service providers). Members of group A (here, subscribers) do not switch to other networks in response to high prices or restrictive policies imposed by the network on group B.[98] However, when members of group B can take actions in response to higher prices or restrictive policies that cause some members of group A to switch platforms, this provides a competitive constraint on the conduct of the platform vis-à-vis members of group B. The reactions of group B to higher prices (or restrictive policies) by the platform can include passing through the higher price imposed by the platform in higher quality-adjusted prices for the services provided by group B to group A, or otherwise encouraging members of group A to switch platforms. Some members of group B also may drop out of the platform in response to higher prices which, given positive inter-side network effects between the two sides of the platform, also can lower demand by members of group A. These "feedback" mechanisms are particularly strong when (1) there is significant platform competition for, and switching across platforms by, members of group A, (2) when there is a business relationship (*e.g.*, transaction or other interaction) between group B and group A, and/or (3) when there are positive inter-side network effects between the two sides of the platform.

[97] Mark Armstrong, *Competition in Two-Sided Markets*, 37(3) RAND JOURNAL OF ECONOMICS 668, 669-670 (2006).

[98] In fact, because of inter-platform competition in the market for group A, higher prices charged by the platform to members of group B are competed away in lower prices to members of group A. As a result, in the "competitive bottlenecks" theory, competition compels a platform to charge high prices to members of group B and low (possibly zero or negative) prices to members of group A.

2. *The application of the "gatekeeper" theory to landline long-distance voice services*

79. The "gatekeeper" framework traditionally has been applied in the context of landline voice long-distance services. Local exchange carriers ("LECs") were claimed to be "terminating access monopolies" with respect to the termination of long-distance calls to the LEC's customers. This is because inter-exchange carriers ("IXCs") required access to the LEC's network in order to reach the LEC's customers for termination of long-distance calls.[99] LECs were considered to have a terminating access monopoly that allowed them to impose unreasonably-high termination fees on IXCs. This applied historically for the incumbent local exchange carriers ("ILECs"), which had monopolies in their local calling area and, subsequently, also for competitive local exchange carriers ("CLECs"), which entered local markets following the Telecommunications Act of 1996.[100]

80. In that context, there were limited, if any, market constraints on the ability and incentives of LECs to impose supra-competitive termination fees on IXCs because there was no effective market mechanism by which these high fees charged to the IXC could or would affect the choice of a terminating LEC by the called party. The IXC could not constrain the behavior of the terminating LEC or the called party. The IXC had no direct arrangement with the called party, and therefore had no means of passing on termination fees to those customers.[101] Consequently, the terminating LEC's customers had no incentive to switch to a rival, even if there were one. Simply, there were no adverse market consequences for a terminating LEC to impose unreasonably-high termination fees on IXCs.[102]

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[99] See, *e.g.*, Noel D. Uri, *Monopoly power and the problem of CLEC access charges*, 25 TELECOMMUNICATIONS POLICY 611, 613 (2001). As in the "competitive bottlenecks" theory, subscribers of the terminating carrier "single-home"—*i.e.*, subscribe to only one carrier—while an IXC "multi-homes"—*i.e.*, must enter into terminating arrangements with every LEC in order to ensure that subscribers of the originating LEC can reach all users, regardless of the carrier to which they subscribe.

[100] Noel D. Uri, *Monopoly power and the problem of CLEC access charges*, 25 TELECOMMUNICATIONS POLICY 611, 612-613.

[101] The Telecommunications Act of 1996 contains provisions requiring interconnection between carriers, diminishing the ability of an IXC to simply refuse to terminate calls to a customer of an LEC. See, *e.g.*, Federal Communications Commission, *Seventh Report and Order and Further Notice of Proposed Rulemaking In the Matter of Access Charge Reform*, CC Docket No. 96-262, April 26, 2001 at 37.

[102] In fact, because of competition between LECs and CLECs for subscribers, higher termination fee revenues were passed through to subscribers in *lower* prices for telephone service and, thus, consumers had incentives to choose carriers that imposed high termination fees (and competition therefore compelled carriers to do so). See, *e.g.*, Noel

81. The IXC could try to pass on the higher termination fees to customers of all LECs by increasing long-distance rates. However, although this may have reduced demand for telephone services in general, neither the terminating carrier nor the called party took these costs into account. Because the reduction in long-distance calls could lower demand by all potential parties called by the originating subscriber, including parties that subscribe to other carriers, higher termination fees imposed an "externality" on other carriers that was not considered by the terminating carrier in setting its fees.[103]

82. As we discuss below, the fundamental assumptions of the "gatekeeper" or "terminating access monopoly" theory do not apply to many broadband Internet access networks, in which subscribers can (and do) switch, online content and service providers "interact" through the network directly with subscribers, and the value of the broadband network itself to subscribers is largely dependent on the availability of the content that can be accessed.

3. The inapplicability of the "gatekeeper" theory to broadband Internet access services

83. The market characteristics inherent in the provision of landline voice long-distance services are fundamentally different from the provision of broadband Internet access in areas where consumers have a choice of broadband providers. Unlike in the long-distance context, actions that a broadband provider takes with regard to an online content or service provider resonates back to the broadband access provider's own customers. That is, there is a direct "feedback loop" whereby imposing artificially-high fees or unreasonable requirements on online providers would lower demand for the network itself, which would lead some current subscribers to switch to other providers and inhibit the ability of the broadband provider to attract new customers. For instance, content and service providers could pass on to subscribers any

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D. Uri, *Monopoly power and the problem of CLEC access charges*, 25 TELECOMMUNICATIONS POLICY 611, 614 (2001).

[103] Noel D. Uri, *Monopoly power and the problem of CLEC access charges*, 25 TELECOMMUNICATIONS POLICY 611, 615 (2001). This externality due to the interconnection between independent carriers, which is the basis for the market failure in telephone networks, is highlighted by the fact that the "terminating access monopoly" problem existed only for "off-net" calls (*i.e.*, where senders and receivers belong to different network), and not for "on-net" calls (*i.e.*, where senders and receivers both subscribe to the same network operator). In the latter case, the carrier internalized any costs that high termination fees imposed on originating callers, and the presence of competition limited the ability of the carrier to set supra-competitive termination fees.

hypothetical fee imposed in a higher price for the content or service, which would reduce demand by for the broadband access provider's services.

84. In contrast, there was no effective market mechanism that constrained the ability or incentives of a terminating LEC to set monopoly prices. IXCs did not have a relationship with, and could not impose fees on, the terminating LEC's customers (*i.e.*, the called party), and even if they could levy a surcharge on the originating LEC's customers (*i.e.,* the calling party), such a surcharge would not have had an effect on the terminating LEC or its customers. The market feedback in the case of broadband services is direct and, where there is effective competition (such as in wireless broadband and consumer wireline broadband in areas where Verizon offers those services), there are competitive alternatives to which customers can switch if a provider imposed business models that were unreasonably harmful to content or service providers.

85. Because content is complementary to the broadband network, the value to subscribers of the broadband network itself is in large part driven by the availability and price of high-quality content and the quality of access to that content (*e.g.*, the speed and reliability of transmission). Content may be highly valued by some subscribers, and subscribers are likely to value the variety of the available content itself. Any reduction in the quality or availability of content that can be accessed by subscribers of a particular broadband network, or any increases in the price of content, would reduce subscriber demand for that network.

86. The reduction in demand for a broadband access network is likely to be especially significant in the case of wireless providers, and where Verizon or others offer consumer wireline broadband service in direct competition to one or more wireline broadband providers, since subscribers have good competitive alternatives and switching costs are low. Because online content and service providers have a direct relationship with subscribers—*i.e.*, subscribers are direct consumers of the content and services of online providers—they are well-positioned to inform the broadband providers' subscribers of any unfavorable practices by the broadband provider, thus bringing substantial customer and public pressure on any broadband provider that engaged in anticompetitive practices. Rival providers also would have incentives to inform consumers of any such practices through advertising and other means in order to attract customers that highly value particular content.

87. Information on broadband provider practices is widely available from other sources. Numerous third-party websites, social media sites, and publications provide detailed information to consumers, and an active online community closely monitors providers' practices. For instance, a variety of websites, as well as many broadband providers themselves (including Verizon), offer Internet speed test tools that allow users to test the speed of their broadband connection.[104] Surveys indicate that a large share of broadband customers actually use such tools to monitor the speed of their Internet access service.[105] And, because broadband consumers often "multi-home"—*i.e.*, use various different broadband providers (such as a wireline broadband service at home, a wireline broadband service at work, and one or more wireless broadband services)—consumers readily can compare the performance of broadband networks in terms of the speed and other aspects of the quality of transmission. Consumers therefore can monitor the practices and performance of their broadband network provider and switch to a rival provider if they cannot get adequate access to the content they desire.

88. Moreover, because online content and service providers have a direct relationship with subscribers, some online providers could pass on to subscribers added costs or fees imposed by the broadband network in higher quality-adjusted prices for content, which also would reduce demand by subscribers for the broadband network. For instance, Netflix could implement a higher price for subscribers of a particular broadband network that imposed added costs or fees. And, there appear to be no material transaction costs or impediments for online content and service providers to set prices for their services that differ depending on the broadband provider used by the subscriber.[106] These higher quality-adjusted prices for the content or services of

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[104] See, *e.g.*, CNET Bandwidth Meter Speed Test, *available at* http://www.cnet.com/internet-speed-test/; Spectrum Speed Test, *available at* https://www.spectrum.com/internet/speed-test; Verizon Speed Test, *available at* https://www.verizon.com/speedtest/.

[105] For instance, Cisco reported that 43 percent of survey respondents in its Bandwidth Consumption and Broadband Reliability study have used an online speed test to validate their Internet package service speed. (Cisco, *Bandwidth Consumption and Broadband Reliability - Studying Speed, Performance, and Bandwidth Use in the Connected Home*, July 2012 at 6.)

[106] Nicholas Economides claims that "[i]t would be very difficult for content and applications providers to impose fees on broadband customers across the board or to add new fees to their services" because "only a small minority of [content and application providers] have contractual relationships with residential customers." (Nicholas Economides, *Broadband Openness Rules Are Fully Justified by Economic Research*, 84(4) COMMUNICATIONS AND STRATEGIES 1, 8 (2011).) However, even for online content and service providers that have no contractual relationship, and for content that has a "zero price," an online content and service provider may implement a higher "effective price" by increasing the number of advertisements shown to users or by reducing the amount of "free" content or services available.

online providers would reduce demand by subscribers for a broadband network that imposes supra-competitive fees or restrictive policies on content providers.

89. The loss of subscribers would impose significant costs on broadband providers, and this loss provides a powerful competitive constraint in the incentive and ability of providers to impose anticompetitive arrangements vis-à-vis content providers. For these reasons, the lack of market constraints that is the basis for "gatekeeper" concerns in other contexts simply does not apply to the provision of wireless broadband Internet access or to areas with effective wireline broadband competition.

90. The *Title II Order* acknowledges that the claimed monopoly power from the "gatekeeper" position of broadband Internet access providers could be "mitigated if a consumer could easily switch broadband providers."[107] But the *Title II Order* dismisses the importance of switching by arguing that there are significant switching costs for subscribers, claiming that the gatekeeper role of broadband providers "is strengthened by the high switching cost consumers face when seeking a new service."[108] However, these claims are contradicted by the significant rate of switching by subscribers, as discussed above, which shows that subscribers are not "locked-in" to specific broadband networks. Moreover, because the market is growing rapidly, there also is significant competition to sign up new customers.[109]

91. Similarly, The *Title II Order* acknowledges that the claimed monopoly power from the "gatekeeper" position of broadband Internet access providers could be "mitigated if consumers multi-homed (*i.e.*, bought broadband service from multiple networks)," but dismisses the impact of multi-homing by claiming that it "is not widely practiced and imposes significant additional costs on consumers."[110] However, as mentioned above, consumers generally do multi-home by accessing online content and services on multiple platforms, such as one or more wireless broadband services, a wireline broadband service at home, a wireline broadband service at work, and Wi-Fi networks at numerous locations (*e.g.*, Starbucks, libraries, airports). Subscriber multi-

[107] *Title II Order* at ¶80.

[108] *Title II Order* at ¶81.

[109] From the first quarter of 2015 to the first quarter of 2017, total estimated U.S. wireless subscribers increased from roughly 360 million to roughly 396 million, an increase of 10 percent. (Bank of America/Merrill Lynch, *Wireline & Wireless Telecom Services: U.S. Wireless and Tower Matrix – Postpaid activity slow substantially in 1Q*, May 22, 2017 at 10.)

[110] *Title II Order* at ¶80.

homing also is at odds with the claim that, once a subscriber chooses a broadband Internet access provider, that provider is a "gatekeeper" over access to that subscriber.

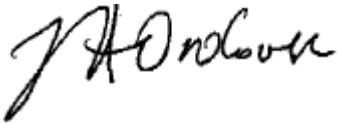
IV. Conclusions

92. In sum, while Title II regulation of broadband Internet access providers imposes significant costs on firms and consumers, it provides little (if any) competitive benefit. Such regulation clearly fails a cost-benefit analysis, and makes consumers of broadband Internet access services worse off. The *Title II Order*, as well as proponents of Title II regulation, have failed to identify a market failure that would necessitate public utility-type regulation. Given the vigorous competition that Verizon faces in both the provision of wireless broadband Internet access services and consumer wireline access services, and the nature of those services, the "gatekeeper" theory simply does not apply. While some rules may be economically justified, such as rules narrowly designed to protect consumers' unfettered ability to access lawful Internet content of their choice over broadband Internet access networks, Title II regulation is ill suited in addressing such concerns, imposing significant costs without any incremental benefits compared to more reasonable protections that are targeted at achieving such an objective.

I declare under penalty of perjury that the foregoing is true and correct.

Andres V. Lerner
July 17, 2017

I declare under penalty of perjury that the foregoing is true and correct.



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