**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**Washington, DC 20554**

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| In the Matter of | ) | |
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| Safeguarding and Securing the Open Internet | ) | WC Docket No. 23-320 |
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# COMMENTS OF FREE PRESS

S. Derek Turner, Senior Advisor
Matthew F. Wood, VP of Policy
Joshua Stager, Policy Director
Free Press
1025 Connecticut Avenue, NW
Suite 1110
Washington, DC 20036
202-265-1490

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## EXECUTIVE SUMMARY

In 1998, the Commission first began accepting electronically-filed comments in its proceedings. Here, 25 years later, much has changed with this process. The computer applications used to encode the filing data at the user's location and decode it on the Commission's servers have evolved. The technology used to transmit the user's filing between these two points certainly has evolved, with the transmission taking much less time to reach the Commission's servers than it did a quarter-century ago. But what has not changed at all is the fact that this transmission involved then – and involves now – a telecommunications carrier receiving the filer's data from their location, and sending it along to the destination of the filer's choosing without altering the data.

A service offered to the public to carry their data between the points of their choosing without altering that data is a telecommunications service. Telecommunications services are essential. That is the case because telecom services are an open and neutral pathway that the public can use to connect and communicate freely. If a telecom carrier interfered with the customers' data payload, it would destroy the utility of the service and make it less secure.

Congress empowered the FCC to ensure that affordable and high-quality telecommunications services are available to all, regardless of their race, and no matter where they live. And Congress placed the FCC's authority to reach these goals in Title II of the Communications Act. Congress did so precisely because Title II requires that providers of these essential services offer them on a just, reasonable and non-discriminatory basis.

Title II of the Communications Act of 1934 is a time-tested yet modern, comprehensive yet flexible legal framework. It is critical to ensuring every person in the United States has access to affordable, high-quality communications services, free from discrimination. Title II is built upon the principle of common carriage, one of the most important and successful legal frameworks in human history. Common carriage is at its core the basic duty to serve the public indiscriminately.

There are many types of common carriers, from roller coaster operators to rail line companies. Despite frequent claims to the contrary by a handful of politicians and lobbyists, common carriage is not reserved for monopolies alone. In telecom markets, all providers "carry" their customers' speech and content – transmitting their content to the endpoints of users' choosing, and bringing back to users the content of their choosing from those endpoints. Telecom carriers do not pick and choose, or otherwise interfere with, what their customers can say or see. And they cannot pick and choose whom to serve. If they offer service in an area, they must offer it to all comers, and cannot unreasonably discriminate. This is still true whether or not the telecom carrier is the only available provider in a given area, or if they are one among many. These are the telecom carriers' duties under the law, including Section 1 of the Communications Act, necessary to ensure "all the people of the United States, without discrimination [have access to] communication service[s] with adequate facilities at reasonable charges."

But because of a string of misguided policy decisions rooted in a culture of regulatory capture, the prior Federal Communications Commission ("FCC" or "Commision") discarded Internet Service Providers' ("ISPs") basic duties. It did so just as there was a major societal and

generational shift from voice to data as the primary mode of telecommunications. It did so just before a global pandemic and associated economic shift proved once and for all how essential a service internet access has become. And it did so by committing the same mistakes as earlier administrations, attempting deregulation by definition under the pretense that broadband is not telecom, rather than by using successful and tested deregulatory levers Congress wrote into Title II itself.

The "payload" that is carried by telecom providers may have changed from voice to data, but the societal and policy reasons for requiring ISPs to adhere to basic common carriage obligations have not changed at all; nor has the need for the FCC to have the authority to ensure affordable service is available to all, and that it is sold on a just, reasonable, and non-discriminatory basis.

The ability to communicate without interference from the network owner is just as important in a data-centric world as it was in the voice-centric world. Title II gives the FCC the authority to prohibit carrier interference in their customers' communications, regardless of whether users are transmitting voice, video, or any other kind of data.

But Title II is not just a legal framework that protects Net Neutrality. The ability to access quality broadband service no matter where one may live, or no matter one's racial or ethnic identity, still matters. The ability to subscribe to broadband at an affordable price still matters. The need for the network to work – keeping people connected on the daily, but also before, during, and after times of emergency – still matters. And the assurance that network operators respect their customers' privacy still matters, arguably more so in the data era.

These and other ongoing concerns are why Title II is so critical. Title II gives the FCC the legal authority to ensure that high quality, affordable two-way communications services are universally available and provided on a non-discriminatory basis. Title II also gives the FCC the power to protect and promote competition in communications markets. And Title II is a critical consumer protection tool, granting users certain rights and empowering the FCC to investigate and sanction carriers for violating those rights.

The public expects and needs ISPs to carry their customers' data across the internet without undue interference or unreasonable discrimination. People need ISPs to offer their services to all comers without discrimination. Yet ISPs are no longer required to do so. The Obama FCC's 2015 restoration of Title II was working as intended to protect consumers and promote innovation and investment. But an ideologically-motivated Trump FCC took the unjustified step of once again removing the agency's Title II authority.

The Trump FCC's radical move in December of 2017 cast away the agency's broadband market oversight authority. Defenders of that move argue that because the internet is still operating in a net-neutral fashion, it proves that Net Neutrality rules and the Title II authority underpinning them are not necessary. However, this overly simplistic view ignores the massive industrial sea-change that took place immediately after the FCC's 2015 action to restore Title II and adopt common-sense Net Neutrality regulations.

Immediately prior to the FCC's 2015 Title II restoration, the internet was truly at a breaking point: major U.S. ISPs were refusing to accept the data traffic from companies delivering the streaming video content explicitly requested by those ISPs' own broadband subscribers. Customers of these major ISPs were left in the dark, with many encouraged by ISP customer reps to purchase more expensive speed tiers in order to improve their streaming quality. Yet these ISPs knew well that the issues stemmed from their own refusal to make additional "peering" capacity available to accept the data traffic that their broadband customers had requested. In other words, customer reps were instructed to upsell broadband subscribers already paying for speeds and monthly data allotments sufficient to deliver this traffic that those customers had already paid their ISP to carry to them.

But as the FCC finalized its order restoring its Title II authority, ISPs moved to open new peering "ports" so they could receive the streaming traffic requested by their customers. The ISP industry even moved from blaming streaming companies for service slowdowns to aggressively highlighting streaming as the primary reason to buy their broadband services. Many ISPs abandoned their plans to nickel and dime customers with punitive data caps and fees, and instead focused on modernizing their networks by investing in new fiber-based technologies. They made these investments with Title II in place; and even for investments made during the Trump administration, many were promised, planned, and paid for before the subsequent repeal. The ISP industry's newfound embrace of basic openness principles gave edge companies and other companies the confidence to invest, and billions were poured into cloud networking and other businesses that form the internet's content creation and distribution ecosystem.

As this industrial sea-change was taking place, the Trump FCC acted to dismantle this successful policy and important last line of defense for internet users. But as soon as the Trump FCC acted, California codified its own Net Neutrality rules. While of course not equivalent to the FCC's full authority under Title II, this action by the largest state in the U.S. – which was upheld by the courts – effectively cemented in place the progress already well underway. This beneficial evolution took place not despite the return to Title II, but because of it. The actions of California (and other states and localities that adopted their own laws too) built upon the FCC's 2015 reclassification decision that was likewise upheld in the courts. They made basic Net Neutrality the *de facto* policy of U.S. ISPs. The industry quickly learned what openness activists had said all along: Net Neutrality is good not only for internet users, it is good for ISPs and edge companies alike. The policy promotes innovation that ensures broadband is a valuable, essential service.

But while ISPs have for now largely moved away from their more nefarious anti-Net Neutrality plans, the reality remains that broadband is an essential utility service, one that is provisioned by companies that operate in monopoly or near-monopoly environments. Yet there's no regulator with the authority to step in and protect users from monopoly abuses and other consumer harms in an (at best) ineffectively competitive market. What's more, even though Congress recently appropriated nearly one hundred billion dollars in broadband deployment and low-income subscription subsidies, there is no agency with the necessary oversight authority to make sure that these networks are built and operated in a fair and equitable manner.

The ISP industry and its backers are right to note the progress in the U.S. broadband market over the past decade. But this progress was made in no small part because users and activists worked hard to protect the internet's default net neutral *status quo* against the stated plans of major ISPs to violate their basic common carrier duties. Those big ISPs now like to pretend they've always been big proponents of Net Neutrality, so long as it's purely voluntary. Likewise, major ISPs like to say how great their services are, how they're being deployed to more and more people, and how fair their prices are.

But these same ISPs are vehemently opposed to the FCC having the basic Title II authority that would allow the agency to investigate consumer complaints of unjust ISP practices. Some ISPs even argue that the FCC lacks the authority to enforce the digital discrimination rules Congress directed the agency to codify, prohibiting digital discrimination based on income level, race, ethnicity, color, religion, or national origin, and promoting equal access to robust broadband internet access service. Congress wisely adopted these news laws in the same infrastructure act creating a $42 billion broadband deployment subsidy fund at the National Telecommunications and Information Administration ("NTIA"). There is a definite need for the FCC's ongoing role in ensuring, on a going-forward basis, that these historic public investments in network deployment and affordability will benefit every individual and community.

These major ISPs think the industry is great as-is, and they should be left alone, letting market forces work to punish and prevent any bad carrier actions. But we don't let any other industry of this much importance to society self-regulate, particularly industries that are as highly concentrated as the home broadband market. Even if most ISPs are usually acting in a just and reasonable manner, the FCC still needs Title II authority so that it has the ability to adjudicate legitimate complaints alleging specific instances of ISP malfeasance. The public needs an oversight agency that has the proper tools to deal with specific, isolated problems, in part to ensure that they do not become standard industry operating procedure. The Communications Act makes the FCC that oversight authority, and the public needs the agency to restore its legal powers.

In sum, the people grant private companies the ability to build wealth off of their use of our public land and airwaves. In return for this we expect that affordable access to essential communications services will be made available to all without undue discrimination. This is the "Network Compact," and Title II is the glue that holds this compact together.

Title II centers the principles of non-discrimination, affordable universal service, competition, and public safety. Contrary to industry's revisionist history, Title II is not simply a framework for monopolies offering telephone service, but a robust blueprint for achieving these universal service, non-discrimination, public safety and competition goals. It is precisely the framework that Congress intended in 1996 to apply to today's mass market broadband services. However, Title II is particularly equipped to protect consumers from harms imposed by common carriers that abuse their market power, an ongoing concern in the cable company-dominated residential ISP market.

Once all of the myths and distortions about Title II are put to rest, it becomes clear that restoring common carriage is the best outcome for the public interest. A return to Title II's sensible deregulatory approach will harmonize the regulatory framework for broadband with long-standing principles of communications law and policy. Restoring the FCC's basic Title II authority will reestablish the traditional distinction between connectivity and content – a distinction that has allowed speech and commerce to flourish while maintaining the integrity and stability of the nation's communications infrastructure. Restoring Title II will ensure that the agency tasked with protecting the public's interest in communications markets actually has the legal authority to stand up to powerful ISPs, and not simply beg them to do the right thing if and when these companies so choose.

In these comments, we explain how important the concept of common carriage was to the creation of the internet – and also how critical it is to preserve common carriage for future generations, to ensure that they can use telecommunications services to build communications platforms that are more just and equitable.

We also discuss and dispel some of the pernicious myths surrounding Title II. It is not a legal framework solely for communications monopolies. It is not intended to apply solely to voice communications. It does not require rate regulation. It is not a burdensome regulatory framework in any respect. It is in fact a highly deregulatory framework consistent with the 1996 Telecom Act's preference for competition over regulation. Title II applies today in a highly deregulatory fashion to wireless carriers and numerous companies offering broadband services to large enterprise businesses.

We explain how the Pai FCC got it dead wrong when it classified broadband internet access services as information services. An examination of the offering and functioning of broadband services shows clearly that they are "telecommunications services." They allow users to transmit "between or among points specified by the user . . . information of the user's choosing, without change in the form or content of the information as sent and received." If this were not the case, the internet would not function properly. Over-the-top communications services, cloud storage services, and the thousands of other applications and web services that consumers depend on would not work. Encryption protocols and the https protocol that online commerce and almost all internet applications depend on would break.

We demonstrate why properly classifying broadband under Title II and restoring Net Neutrality rules is necessary for the Commission to effectively promote its critical public policy goals. While the broadband market is not a rigid monopoly, many users have little meaningful choice and nowhere to turn to for relief if their ISP acts in an unjust or unreasonably discriminatory manner. With restored Title II authority, the FCC will have the tools it needs to promote more effective competition and respond accordingly if an ISP abuses its market power.

We also discuss how the Pai FCC's repeal harmed the Commission's ability to administer a more efficient and effective Lifeline program. We explain how in the absence of Title II, ISPs can disconnect customers for any reason, without warning and without redress. We then detail how restoring Title II authority will empower the Commission to address these issues as well as enable it to better protect public safety and users' privacy rights.

When the Pai FCC repealed the Title II-backed Open Internet rules, it opened the door to ISPs being pressured to block or otherwise discriminate against legal content. This is a grave threat to free expression at a time when certain politicians all across the nation are pursuing public policies that restrict basic civil liberties and take away civil rights. This is in part why it is imperative for the Commission to restore the Open Internet rules in order to prevent these threats and to ensure that everyone in the nation has continued access to an open communications pathway.

We also provide detailed data and analysis that demonstrates conclusively that the FCC's classification of broadband has no impact on deployment or investment. Indeed, contrary to a misleading and fact-free narrative pushed by those with motivated ignorance, broadband deployment and investment increased to historic levels following the FCC's 2015 vote to restore Title II and codify Net Neutrality. We note how deployment of next-generation services accelerated in both rural and urban areas following the FCC's 2015 actions. And we discuss how broadband investment actually declined after the Pai FCC's 2017 repeal. We document numerous statements from ISPs to their investors, revealing that these changes in the pace of deployment and in the amount of investment had absolutely nothing to do with FCC policy, either prior to the FCC's 2015 vote, after it, or after the 2017 repeal. We also note how ISPs' investment plans have not changed following the Commission's announcement of its proposal to restore Title II and Open Internet rules now.

Finally we discuss data demonstrating that the FCC's 2015 actions supercharged the so-called "virtuous cycle" of investment in network and edge markets, which helped to usher in a new, more consumer-friendly era in the pay-TV and video content markets.

The right, just, and only legally sustainable path available to this Commission is clear: reverse the mistakes of the past by reclassifying broadband internet access services under Title II and restore Net Neutrality protections to users in every state.

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## I. Background

### A. The Importance of Common Carriage in the Data Era.

Common carriage is one of the most successful legal frameworks in human history. The growth of the communications sector from the telegraph to the internet is common carriage's greatest success story, though very few decision makers in Washington understand this history or appreciate its applicability to current communications policy debates.

Common carriage, through Title II of the Communications Act, promoted economic growth by ensuring universal access to a nationwide, fully interconnected infrastructure. Americans utilized common carrier networks to access other essential services, and the non-discrimination obligation created an open network that enabled innovation without prior approval. The basic duty to serve all comers indiscriminately also promotes a more efficient and productive economy through the reduction in transaction costs. Common carriage and the Commission's enforcement of the non-discriminatory principle also reduce market power in a telecommunications industry with high barriers to entry.[1] And the limited liability concept embodied in common carriage protects commercial freedoms, just as non-discriminatory access to the network promotes personal freedoms and the exercise of our basic free speech rights.

Common carriage was the DNA of the network revolution, and is not something that can be tossed aside in hopes that the positive outcomes it has ensured will continue in its absence.

[1] One of the most pro-competition and pro-investment features of common carriage is that access is guaranteed for all, even for those companies that compete with the carrier. This meant of course that the early long distance companies that competed with Ma Bell could reach Bell's local customers without having to duplicate the last-mile network. In the FCC's *Computer Inquiries* context, it meant that start-up companies' enhanced services were not at a disadvantage compared to those offered by AT&T or GTE. And of course in today's world of *de facto* common carrier broadband offerings, shaped by the Commission's wrongly discarded Title II framework and the state laws that partially filled the void caused by their repeal, an over-the-top service provider can compete with the voice, text, pay-TV, and cloud services owned by the companies that control the access network.

Too many people have bought the incumbents' snake oil, and believe that changes in communications technologies somehow mean we can abandon the successful principles that made those changes possible. The law is clear that this should not be the case.[2]

Common carriage under Title II is not merely synonymous or co-extensive with a "public utility" or a "regulated monopoly." Common carriage is a legal principle that applies to a carrier that "holds itself out . . . to carry for all people indifferently."[3] In general, common carriage continues to apply in competitive, largely deregulated markets such as airlines, buses, parcel shipping,[4] department store elevators[5] and even roller coasters.[6] Southwest Airlines, FedEx, Macy's, and Six Flags are not utilities, nor are they monopolies. Conversely, local water, electric,

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[2] See 47 U.S.C. § 153(53) ("The term 'telecommunications service' means 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.").

[3] *See, e.g., National Ass'n of Regulatory Util. Comm'rs v. FCC*, 525 F.2d 630, 641 (D.C. Cir.), *cert. denied*, 425 U.S. 992 (1976)

[4] *See, e.g.*, Brent Wm. Primus, "Fundamental Legal Differences within UPS and FedEx," *Parcel* (Feb. 1, 2010) ("Accordingly, with regard to legal matters, the most relevant question is not whether it is UPS or FedEx that transports a shipment, but in which capacity UPS or FedEx is acting. The Federal Motor Carrier Safety Administration website (www.fmcsa.dot.gov) shows that one member of the UPS corporate family, UPS Ground Freight, Inc. d/b/a UPS Freight, holds operating authority as a motor common carrier, a motor contract carrier and as a motor transportation broker . . . . Similarly, one member of the FedEx corporate family, FedEx Freight, Inc. d/b/a FedEx Freight, also holds operating authority as a motor common carrier, a motor contract carrier and as a motor transportation broker.").

[5] *See, e.g.*, *Treadwell v. Whittier,* 80 Cal. 574, 585 (1889) ("The defendants used their elevator in lifting persons vertically to the height of forty feet. That they were carriers of passengers, and should be treated as such, we have no doubt. The same responsibilities as to care and diligence rested on them as on the carriers of passengers by stage-coach or railway."). While this is clearly an old precedent, it demonstrates more than the historical pedigree and continued vitality of common carriage. It also illustrates that common carrier principles apply to settings and facilities that are quite clearly not "monopolies."

[6] *See, e.g.*, *Gomez v. Superior Court*, 35 Cal. 4th 1125 (2005) (finding that an operator of a roller coaster or similar amusement park ride can be a carrier of persons for reward (*i.e.* common carrier) within the meaning of Cal. Civ. Code Sections 2100 and 2101).

and gas companies are public utilities,[7] but they are not common carriers.[8] As we discuss in detail below, Title II common carriers include numerous companies, such as mobile phone and enterprise broadband carriers, that operate in competitive markets subject to very little affirmative regulation. It would be unthinkable to declare that mobile phone service is no longer a telecom service because there is more than one wireless carrier. It ought to be just as unthinkable to make that claim with regard to broadband.

Perhaps because a generation has passed since the days of the Bell System monopoly, it is easy for some to think that the general law governing basic local exchange telephone services was meant solely for such services. But this is simply not the case, as even the most cursory review of the law and its implementation would show. This belief that Title II was meant only for telephony is particularly bizarre given that the impetus for the 1996 amendments to the

[7] The Communications Act defines a public utility as "any person who is a local exchange carrier or an electric, gas, water, steam, or other public utility, and who owns or controls poles, ducts, conduits, or rights-of-way used, in whole or in part, for any wire communications. Such term does not include any railroad, any person who is cooperatively organized, or any person owned by the Federal Government or any State." 47 U.S.C. § 224(a)(1). This definition thus includes local exchange carriers (or "LECs"), but only insofar as they own or control poles or ducts, all for the purpose of maintaining non-discriminatory access to rights-of-way. Thus, Commercial Mobile Radio Service ("CMRS") providers, which are classified under the Communications Act as common carriers, are not public utilities under this federal law. Nor are any LECs that do not own or control rights-of-way (such as some Competitive LECs).

[8] The term "public utility" outside of the specific definition described above, and various state law definitions inapplicable here, is often a colloquial term. Merriam Webster defines the term as "a business organization (such as an electric company) performing a public service and subject to special governmental regulation." Meanwhile, The North American Industry Classification System ("NAICS") classifies telecommunications businesses under the "information" category and not the utility category. While it is true that broadband access providers meet the colloquial definition of a public utility, there are no legal duties that would flow from that under the Communications Act since they are not necessarily LECs that control rights-of-way facilities.

Communications Act was to promote the deployment of competitive advanced telecommunications services such as broadband.[9]

Many in Washington espouse this incorrect belief about the services that are the focus of the Act. Many also have no problem demonizing the principle of common carriage as applied to data communications, while ignoring or even upholding its application to voice calls. Indeed, there's no controversy that common carriage principles, which always have applied and still currently apply to wired and wireless voice service, should continue to apply to them even as the underlying technologies for delivering voice evolve.

But as anyone under the age of 50 can surely attest, many people think of voice as just an application, and one that many people are eager to avoid using in lieu of text-based communication applications. In the modern Local Exchange Carrier ("LEC") and Commercial Mobile Wireless Services ("CMRS") context, voice is an application that is transmitted via common carrier networks. Data of course can be transmitted via common carrier networks too, as it was for dial-up users and all DSL users prior to late 2005, and as it was during the three-year period that the *Open Internet Order* was in effect.

### B. Congress Amended the Act to Promote Universal Access to Affordable and Competitive Advanced Telecommunications Services.

While it is true that Congress last amended the Communications Act at a time when voice still reigned supreme, it was not in any way a backwards-looking effort. Congress wrote the Telecommunications Act of 1996 in anticipation of the then-rapidly developing transition from a

[9] *See* "Telecommunications Act of 1996," Conference Report, Rpt. No. 104-230, at 1 (1996) ("Conference Report") ("The committee of conference on the disagreeing votes of the two Houses on the amendments of the House to the bill (S. 652), 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, and for other purposes[.]").

voice-centric communications market to a data-centric one. The law was designed to promote the deployment of broadband telecommunications services that would carry all of this data.[10]

When it amended the 1934 Act in 1996, Congress did not create new titles or definitions in the law for "Internet service providers" or "broadband," but this was not an oversight. All of the references to "information services" in the 1996 Act are contained in amendments to Title II. Congress took this approach to distinguish common carrier services themselves from information services. The latter are provided via common carrier facilities, but are not themselves subject to any FCC regulation. Congress added definitions and duties for "telecommunications services" and "telecommunications carriers." These definitions apply "regardless of the facilities used" to anyone who provides telecommunications to the public for a fee. If Congress had not intended for these definitions to apply to cable modem offerings, it certainly could have said as much. But the use of the term "regardless," and the lack of a limitation of the term to LECs' offerings, is decisive (just as the Congressional record is on this point).[11]

Indeed, in amending Title VI and the definitions in the Act, Congress did not alter the definition of a cable service. It chose not to amend this definition knowing full well that cable providers intended to offer internet access over the cable plant.[12] This choice kept the original

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[10] *See* William J. Clinton, "Remarks on Signing the Telecommunications Act of 1996," The White House, Office of the Press Secretary (Feb. 8, 1996).

[11] *See, e.g.*, "Telecommunications Competition and Deregulation Act of 1995," Report of the Committee on Commerce, Science, and Transportation on S. 652, S. Rpt. 104-23, at 27 (1995) (Senate Committee Report on S. 652) ("As defined under the 1934 Act [as amended by this bill], 'telecommunications services' includes the transport of information or cable services, but not the offering of those services."); *see also id.* at 18 (noting that the definition of telecommunications "excludes those services, such as interactive games or shopping services or other services involving interaction with stored information, that are defined as information services. The underlying transport and switching capabilities on which these interactive services are based, however, are included in the definition of 'telecommunications services.'") (emphasis added).

[12] *See* Senate Committee Report on S. 652 at 13. ("Decker Anstrom testified that NCTA supports telecommunications legislation because the cable industry is ready to compete, and

distinction first adopted in the 1984 Cable Act, which made clear that cable would be considered a common carrier when providing non-cable television services that allowed users to control the content being sent and received.[13] Congress in 1996 also left in place the 1993 amendments to Title III that required the Commission to treat CMRS providers as common carriers and to retain for them the core of Title II (*i.e.*, Sections 201, 202 and 208).[14]

Congress also chose to continue requiring non-discriminatory access to public rights of way at regulated rates only for telecom carriers or cable operators (the latter for the provision of cable television services only).[15] This is important, as it suggests that Congress did not envision unregulated information service providers offering transmission facilities, even though the explicit purpose of the 1996 Act is to promote competition and market entry both in the market for advanced telecommunications and the market for information services.

In sum, Congress's actions are clear and deliberate. In 1993, it affirmatively applied common carriage to the emerging and weakly competitive mobile market. Then in 1996, it applied common carriage to new entrants as well as incumbents in their offering of telecommunications to the public, regardless of facilities used.

If there's any ambiguity today about what regulatory framework Congress intended for two-way broadband transmission facilities, it's not the fault of the laws that Congress actually

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legislation must include rate regulation relief for cable. He said that cable will be the competing wire to the telephone industry, and cable's coaxial cable carries 900 times more information than telephone's twisted copper pair. The problem, he said, is that cable does not have the capital or, in some states, the authority to compete with the local exchange carriers.").

[13] *See, e.g.,* 47 U.S.C. § 522(6) ("the term "cable service" means – (A) the one-way transmission to subscribers of (i) video programming, or (ii) other programming service, and (B) subscriber interaction, if any, which is required for the selection or use of such video programming or other programming service").

[14] *Id.* § 332(c)(1)(A).

[15] *See id.*§ 224(d)(3); *see also id.* § 541.

passed, nor the text of the 1996 Act. That ambiguity stems only from willful ignorance of these laws. There is ample evidence countering such willful ignorance. Indeed, in recounting the history of the regulatory regime that has governed broadband services, the court in *Verizon v. FCC* observed that when the 1996 Act passed, the FCC had already been subjecting broadband providers to common carrier regulations. The court said that "one might have thought, as the Commission originally concluded, that Congress clearly contemplated that the Commission would continue regulating Internet providers in the manner it had previously."[16] Indeed, the Senate Committee Report on S.652 removes all ambiguity. Section 8 of this report, explaining the Act's definitions, noted "'Telecommunications service' does not include information services, cable services, or 'wireless' cable services, but does include the transmission, without change in the form or content, of such services."[17] The Committee later noted:

> As defined under the 1934 Act (as amended by this bill), ''telecommunications services'' includes the transport of information or cable services, but not the offering of those services. This means that information or cable services are not included in the definition of universal service; what is included is that level of telecommunications services that the FCC determines should be provided at an affordable rate to allow all Americans access to information, cable, and advanced telecommunications services that are an increasing part of daily life in modern America.
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> Put another way, the Committee intends the definition of universal service to ensure that the conduit, whether it is a twisted pair wire, coaxial cable, fiber optic cable, wireless, or satellite system, has sufficient capacity and technological capability to enable consumers to use whatever consumer goods that they have purchased, such as a telephone, personal computer, video player, or television, to interconnect to services that are available over the telecommunications network.[18]

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[16] *Verizon v. FCC*, 740 F.3d 623, 638-39 (D.C. Cir. 2014).

[17] *See* Senate Committee Report on S. 652 at 18.

[18] *See id.* at 27 (emphases added). Though these are the findings of the Senate Report and not the Conference Report, the latter indicates that on these definitions the House had "receded" to the Senate's terminology. See Conference Report at 116 ("The House recedes to the Senate with respect to the definitions of 'affiliate' and 'cable service.' The House recedes to the Senate with

There's simply nothing in the law or the legislative history to suggest that Congress erred by omission, or that it desired its substantial amendments to the Act to be easily evaded through vertical integration and definitional trickery. At the time, the substantial majority of mass-market internet access services were offered by third parties over common carrier networks. Congress certainly anticipated and provided a framework for facilities owners to enter the information services market, including by provisioning internet access services over their own facilities. But it is absurd to think that Congress wanted the then-highly competitive market for provision of non-facilities-based Internet Service (an information service) to be destroyed simply by transmission facility owners deeming their transmission facilities to be information services.

However, as we explain below, whether or not a service is a telecommunications service or an information service depends on nothing more than whether the service is offered to the public, and enables end-users to transmit the information of their choosing between points of their choosing, without change in the form or content of the information as sent and received. As we discuss below, while at one time in the dial-up era the information services designation may have been appropriately applied to "Internet Access Services" generally, it is clear that the product offered today by mass market broadband access providers is itself a telecommunications service, per the definitions of the Act.

### C. Title II Provides the Correct, Light-Touch Legal Framework to Safeguard and Secure the Open Internet.

With the policy proposals outlined in the *Notice*, this Commission intends to confront the mess created by the prior Commission's turn away from the law, and specifically from the Communications Act's embrace of common carriage. Indeed, the need for states like California

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amendments with respect to the definitions of 'number portability,' 'telecommunications,' 'telecommunications carrier,' and 'telecommunications service.'").

to step in to preserve basic Net Neutrality is a sign that the experiment of "non-regulation" continues to be a failure.[19] Free Press fully agrees with the Commission that it is time to restore the principle of common carriage and follow the Communications Act's blueprint for reasoned deregulation.

The law that governs such common carrier networks is not chiefly concerned with how we use these transmission technologies. Nor should it be. A telecommunications service is one that transmits information of the users' choosing, between points of their choosing, without change in the form or content of that information. That is, a telecommunications service provider acts as a carrier whether the user is speaking with her voice, typing on her phone's keypad, sending or receiving video, or using her modem to send and receive other data.

However, in a misguided decision in 2017 that mirrored similar agency abdications of authority a decade or more before its latest Title II repeal, the Commission removed common carriage classification for broadband internet access service transmission of data just as there was a major societal and generational shift from voice to data as the primary mode of telecommunications. This is exactly the kind of illogical outcome that judges, even while

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[19] In his dissent in *Brand X*, Justice Scalia said of the Commission's definitional deregulatory approach in its *Cable Modem Declaratory Ruling*:

> The Federal Communications Commission [ ] has once again attempted to concoct "a whole new regime of regulation (or of free-market competition) under the guise of statutory construction." Actually, in these cases, it might be more accurate to say the Commission has attempted to establish a whole new regime of non-regulation, which will make for more or less free-market competition, depending upon whose experts are believed. The important fact, however, is that the Commission has chosen to achieve this through an implausible reading of the statute, and has thus exceeded the authority given it by Congress.

*National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 545 U.S. 967, 1005 (2005) (Scalia, J., dissenting) ("*Brand X*") (internal citations omitted).

affirming on deference grounds the Trump FCC's 2017 classification decision, castigated as "unhinged" from modern broadband realities and usage patterns. As most parents will tell you, kids today barely use voice calls. They speak to each other through data – text messages, social media, sometimes even e-mail. Their language is data; it is how they exercise their free speech rights, do school work, and talk to friends and family.

The technology may have changed, but the societal and policy reasons for common carriage obligations have not. The ability to communicate without interference from the network owner is just as important in a data-centric world as it was in the voice-centric world. The ability to connect affordably to these networks without regard to where you live still matters, as does a consumer's right to keep her communications private. The youth of today and tomorrow deserve to have legal protections that guarantee them an open and non-discriminatory communications platform, just as their parents and grandparents had.

As the Commission has noted, "classification of an entity as a common carrier is not an end unto itself. The primary purpose of the classification is to determine whether Title II applies."[20] If a common carrier offers a telecommunications service, all that Title II requires generally is that the "common carrier's rates and practices must be just and reasonable, and free of unjust and unreasonable discrimination."[21] To ensure adequate compliance with these basic duties, Title II common carriers also are "subject to administrative complaints filed with the FCC alleging a violation of the Communications Act."[22]

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[20] *See* Brief for Respondent Federal Communications Commission at 3, *Orloff v. FCC*, 352 F.3d 415 (D.C. Cir. filed Nov. 27, 2002) (No. 02-1189) (*Orloff v. FCC* Respondents' Brief).

[21] *Id*. (citing 47 U.S.C. §§ 201(b), 202(a)).

[22] *Orloff v. FCC* Respondents' Brief at 3 (citing 47 U.S.C. § 208(a)).

There are no legal requirements for common carriers generally to unbundle network elements or offer services for resale, and there's certainly nothing that requires the FCC to prescribe rates even in the absence of forbearance (which the *Notice* specifically proposes nonetheless). The Act prescribes some duties for telecommunications carriers in general (such as interconnection). But the bulk of Title II, outside of the core common carrier duties set forth in Sections 201, 202, and 208, is indeed specific to LECs, Incumbent LECs (or "ILECS"), Regional Bell Operating Companies ("RBOCs"), and the provision of basic telephone exchange services.

The Telecommunications Act of 1996 updated the Communications Act for the internet era. It firmly cemented this deregulatory approach to common carriers, but one that nevertheless preserves the core duties in these three statutory sections that the Commission has referred to as the heart of consumer protection. Yet even before 1996's Act's passage, the Commission had a long history of "light-touch" application of Title II for non-dominant carriers. This dominant/non-dominant distinction turned on whether or not a carrier possessed market power, with the Commission reasoning that non-dominant carriers were unlikely to have the ability to impose unreasonable or discriminatory charges and practices even in the absence of tariff requirements, rate prescriptions, and other provisions elsewhere in Title II.[23]

The 1996 Act's deregulatory approach to the application of Title II is itself based on the Commission's approach towards non-dominant carriers. Congress first codified this framework in its 1993 amendments to the Act,[24] which detailed a similarly deregulatory approach to

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[23] *See, e.g., Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor*, CC Docket No. 79-252, Notice of Inquiry and Notice of Proposed Rulemaking, 77 FCC 2d 308, 334-38 (1979); First Report and Order, 85 FCC 2d 1, 31 (1980).

[24] *See* Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, § 6002(b)(2)(A)-(B), 107 Stat. 312, 392 (1993).

oversight of CMRS that remained fully under Title II.[25] These 1993 amendments established the Commission's authority to specifically forbear from applying almost any section of Title II to wireless carriers, except for Sections 201, 202 and 208.[26] Pursuant to this authority, the Commission forbore on its own motion, and on a national basis, from applying sections 203, 204, 205, 211, 212 and 214 to CMRS providers.[27]

Thus it is quite clear that the Commission's application of Title II in non-monopoly contexts is highly deregulatory, with a strong preference for competitive forces.[28] Indeed, the Commission has a long history of presuming that carriers lacking market power[29] are unable to

[25] *See Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services*, GN Docket No. 93-252, Second Report and Order, 9 FCC Rcd 1411, 1478 (1994).

[26] 47 U.S.C. § 332(c)(1)(A).

[27] *See Implementation of Sections 3(n) and 332*, 9 FCC Rcd at 1478 ("We have concluded that although the record does not support a finding that the cellular services marketplace is fully competitive, the record does establish that there is sufficient competition in this marketplace to justify forbearance from tariffing requirements."); *id*. at 1479 ("Compliance with Sections 201, 202, and 208 is sufficient to protect consumers."). Sections of Title II that currently apply in whole or in part to CMRS providers are 201, 202, 206, 207, 208, 209, 216, 217, 223, 225, 226, 227, and 228. See 47 C.F.R. § 20.15.

[28] A carrier may still possess market power in a non-monopoly market. But the Commission has a history of avoiding any cost-based enforcement of Sections 201 and 202 in non-monopoly markets. We note that if a duopoly broadband provider does possess market power, this should of course be of great concern to the Commission. *See Kiefer v. PageNet*, 16 FCC Rcd 19129, 19131 (2001).

[29] While the Commission's experience with CMRS and other non-dominant carriers is that these carriers generally do not posses market power, this analysis focuses on market power in offering their services to the public. However, these carriers are all terminating access monopolies when interconnecting with other carriers to terminate telecommunications. The Commission generally has determined rightly that carriers under Title II should not be permitted unilaterally to impose termination charges or practices that are not subject to regulation. In the broadband access context, this means that while CMRS data carriers may generally have less retail-level market power than wireline broadband carriers (and thus have presumably less ability to impose unreasonable practices on their retail customers), both wireless and wired broadband providers are terminating access monopolies with respect to those who seek to reach their customers. Thus the concerns about discriminatory treatment (such as paid prioritization) that are at the heart of the Commission's Open Internet rules apply equally to all broadband providers

engage in unreasonable discrimination.[30] Thus, the practice of the Commission clearly demonstrates that reclassification would not open the door to rate regulation. But importantly, this kind of determination and analysis does not somehow magically make a carrier's telecommunications service into an information service. There is no need for such definitional nonsense. Deregulation to a great degree has been the norm for telecom providers for decades.

There should be no doubt: a return to common carriage will maintain the current deregulatory status quo. The Commission has a long history of giving non-monopoly common carriers a wide berth when interpreting the reasonableness of practices under Sections 201 and 202, repeatedly emphasizing that the level of market competition factors into the agency's interpretation of reasonableness. If policymakers ignore the fear-mongering around the law, and take the time to understand how the Commission has applied and still does apply Title II, they will see that it is a highly deregulatory and market-driven approach, precisely as Congress intended.

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regardless of the level of retail competition. *See In the Matter of Developing a Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, Further Notice of Proposed Rulemaking, 20 FCC Rcd 4685, 4792 (2005) ("Because the terminating carrier controls the only line and local switch connecting the called party to the network, that carrier has strong incentives to extract as high a payment as possible from the calling party's carrier. Competition at the retail level has not diminished the terminating access monopoly of the carrier selected by the called party.") (internal citations omitted)).

[30] *See, e.g.*, *Competitive Carrier Rates*, First Report and Order, 85 FCC 2d 1 (1980). This is a presumption, not an absolute declaration. The Commission could still adjudicate a specific practice by a non-dominant carrier, but the burden of proof on the complaining party would be high. However, the Commission could also find that certain practices are unreasonable, and that finding could apply to all common carriers regardless of the presence of market power. *See Kiefer v. PageNet*, 16 FCC Rcd at 19131-32 ("This does not mean, however, that section 201(b) has no meaning. If a charge is unjust or unreasonable, even in an unregulated market, we will find a violation. . . . We note however, that in a competitive market, certain industry practices will not necessarily 'be lawful under Section 201(b) of the Act and without regard to other contractual, service, and marketing practices of the CMRS provider.'") (internal citations omitted)).

Once all of the myths and distortions about Title II are put to rest, it becomes clear that restoring common carriage is the best outcome for the public interest. A return to Title II's sensible deregulatory approach will harmonize the regulatory framework for broadband with long-standing principles of communications law and policy. Most notably, it will reestablish the traditional distinction between connectivity and content – a distinction that has allowed speech and commerce to flourish while maintaining the integrity and stability of the nation's communications infrastructure.

### D. Broadband Internet Access Services are Telecommunications Services that Must be Governed Under Title II.

#### 1. Broadband is a Service Offered to the Public that Transmits Customers' Information Between Points of their Choosing.

The Commission's analysis in the *Notice*[31] is correct: broadband internet access services are telecommunications services, as defined in the Act.[32] The analysis in the *Notice* is comprehensive and correct.[33] In prior proceedings, we've exhaustively explained why the only logical read of the Act is that broadband is a telecommunications service. But we will once again briefly explain why this is the case.

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[31] *See In the Matter of Safeguarding and Securing the Open Internet*, WC Docket No. 23-320, Notice of Proposed Rulemaking, FCC 23-83, ¶ 70 (rel. Oct. 20, 2023) ("*Notice*").

[32] *See* 47 U.S.C. § 153(50) ("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"); *see also* 47 U.S.C. § 153(53) ("The term 'telecommunications service' means 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") (emphasis added); *see also* 47 U.S.C. § 153(11) ("The term 'common carrier' or 'carrier' means any person engaged as a common carrier for hire, in interstate or foreign communication by wire or radio or in interstate or foreign radio transmission of energy, except where reference is made to common carriers not subject to this Act; but a person engaged in radio broadcasting shall not, insofar as such person is so engaged, be deemed a common carrier.").

[33] *Notice* ¶¶ 68-80.

The Commission's rules defines "broadband internet access service" ("BIAS") as a "mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up internet access service," as well as "any service that the Commission finds to be providing a functional equivalent of the service described [in this definition] or that is used to evade the protections set forth" in Part 8 of the Commission's rules.[34]

It should be obvious that this definition of BIAS is a specific iteration of the standard definition of a telecom service. Compare the key clauses side-by-side. A "mass market retail service" is just another way of saying "the offering for a fee directly to the public." A service "that provides the capability to transmit data to and receive data from all or substantially all internet endpoints" is a "a service that transmits information between points specified by the user." The only difference between the two is something that is implied: the BIAS definition lacks any precise analogue to the clause in the definition of "telecommunications" that the transmission is "without change in the form or content of the information as sent or received." This omission does not raise a point of controversy. Nothing in the offering of BIAS suggests that the ISP will change the form or content of the information. And the broadband service itself does not in fact change the form or content of the information. For if it did, many widely used online services would not function properly.

The Commission's designation of mass-market broadband as an information service in the *RIF Order* was based on the claim that these services offer users "a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available

[34] 47 CFR § 8.1(b).

information via telecommunications,"[35] yet do not allow the user to transmit "between or among points specified by the user, [ ] information of the user's choosing, without change in the form or content of the information as sent and received."[36] The *RIF Order* pointed to two ancillary network management tools that are sometimes used in conjunction with BIAS: DNS and caching.[37]

But the *RIF Order*'s analysis is technically flawed, even if the courts were obliged to give it deference.[38] First, from a non-technical perspective, BIAS obviously transmits information without a change in the form or content of what is sent and received. If a consumer subscribes to a cloud storage service, the photos and files they upload and download to and from their computing device and their cloud storage provider are transmitted by BIAS without change in form or content. If this were not the case, and their broadband carrier transformed this information, they would find no value in the service. Indeed, in this case, it is clear that the cloud company is the information service provider offering the capability to store and retrieve information via telecommunications, while the broadband provider simply carries that information between points selected by the user.

This is true of any other situation. My broadband provider doesn't modify the form or content of this document that I am typing right now, and saving to the cloud. No, my broadband provider just sends the digital bits that my word processing application encodes to my cloud

[35] 47 U.S.C. § 153(24).

[36] 47 U.S.C. § 153(50).

[37] *See Restoring Internet Freedom*, WC Docket No. 17-108, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd 311, ¶ 33 (2017) ("*RIF Order*").

[38] *Mozilla v. FCC*, 940 F.3d 1, 94-95 (D.C. Cir. 2019) (Wilkins, J., concurring) ("As Judge Millett's concurring opinion persuasively explains, we are bound by the Supreme Court's decision in *[Brand X*], even though critical aspects of broadband Internet technology and marketing underpinning the Court's decision have drastically changed since 2005.").

provider; and in turn, my broadband provider will receive the data that I requested from my cloud provider and transmit it back to me. My broadband provider doesn't alter the content of the e-mail messages I exchange with my colleagues as we discuss our work on this filing, nor do our respective broadband providers store these messages on their servers: our e-mail provider does. As I type this, I am streaming relaxing music from a leading streaming provider. I used my broadband service to send a message to the streaming provider's servers requesting what I wanted to listen to. The streaming provider then transmitted that music back to me in the form of digital bits, sent from their infrastructure and eventually delivered to my computer via my broadband connection, where my streaming application authenticated my subscription and transformed these 0s and 1s into music. Where is the information service that my BIAS carrier supposedly provided in any of these actions? The *RIF Order* was clearly wrong to suggest that there was one.

### 2. Broadband Internet Access Service is Not Inextricably Intertwined with ISPs' Optional DNS or Outdated Content Caching Functions.

From a more technical perspective, if a broadband carrier did use protocols that modified the content or format of a customer's data, this would break the internet and make it completely insecure. Encryption protocols like HTTPS and IPSEC, which are critical to online commerce, would not work.[39] Network protocols are "transparent" by design. They transmit information

[39] Kendall J. Koning, "The Internet is a Packet-Switched Network," 37 *Hastings Comm. & Ent. L.J.* 273, 292-93 (2015).

> The transparency of network protocols – that they transmit user-specified data without modification – is a central feature of their design, and the manifestation of a layer-driven design philosophy nearly as old as packet-switched networking itself. The Internet's transparency in transmitting user data allows a wide variety of applications to be designed and implemented without the network even being aware of their existence, and innovation without coordination with, or permission from, the network provider. In fact, without this widely used transparency, encrypted application protocols [*e.g.*, HTTPS and IPSEC] would not be possible. Conversely, opacity in network protocols – transmission with modification –

without modification, for if they did not, the applications that utilize these protocols would need to know this and act on that knowledge. Otherwise, applications would need to be rewritten any time a new implementation of a protocol that changed the data had been deployed. If this were the case, "innovation without permission" would not be possible.[40]

A BIAS provider performs one main function: transmitting Internet Protocol ("IP") packets between the addresses of the user's choosing. One of the main points behind the development of IP is its separation from the application layer.[41] The character and function of the telecom network does not change just because there is some protocol processing involved in the broadband transmission. If that transmission processing were enough to morph a telecom service into an information service, then the PSTN would be an information service too. This is why the Commission has identified three types of protocol processing[42] that are used for the

> would impede the development of new network protocols and new applications. If protocols modified the content or format of user data, applications using them [would need to] be aware of these changes and specifically account for them. User applications would also need to be redesigned whenever a new technology altered the data differently. New network protocols (*e.g.*, Multiprotocol Label Switching) could not be implemented without breaking applications, and applications would require constant maintenance to account for changes to the network. Fortunately, the Internet does not work this way.

[40] *See id.*

[41] As Koning explained in greater detail in a pre-publication print of this article, the claim that BIAS is an information service is actually "absurd." *See* Comments of Free Press, *In the Matter of Restoring Internet Freedom,* WC Docket No. 17-108, at 49 (filed July 17, 2017) ("Free Press RIF NPRM Comments") ("At the root of this problem is the assertion that the Internet is fundamentally an inexorably integrated information service. To a former network engineer, this claim is absurd. In fact, the separation of concerns and transparency to applications is the central architectural principle of the Internet Protocol; the Internet's transparency to user information can be demonstrated by any competent network engineer with an Internet connection and a protocol analyzer. Of course, it is true that Internet Protocol packets contain protocol information that is processed, but this is true of any telecommunications network, including the legacy PSTN.") (internal citations omitted).

[42] *In the Matter of Amendment of Sections 64.702 of the Commission's Rules and Regulations (Third Computer Inquiry)*, Phase II Report and Order, 104 F.C.C.2d 958 (1986).

"management, control, or operation of a telecommunications system or the management of a telecommunications service,"[43] and involve no net protocol conversion.

When users connect a computing device to their broadband access network, they are able to send information in the IP format to any other computer connected to the internet. The carrier (and any other carriers with which it interconnects) looks at the IP packets' address headers and routes them on their way. This is, in the parlance of the *Computer Inquiries*, a basic service, not an enhanced service. Therefore the Commission is correct to revisit the notion of an "inextricably intertwined"[44] service offering. What exactly is inextricably intertwined in this

[43] 47 U.S.C. § 153(24).

[44] This term, not present in the Act, first arose from the *Stevens Report*. It is clear that this concept, as used in that 25-year old report, is completely anachronistic today. The types of ISPs described in the report were not facilities-based broadband network operators, but the providers of yesteryear that offered an internet portal, content, e-mail, and other true information services reached by using dial-up modems over other companies' telephone lines. *See Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report to Congress, 13 FCC Rcd 11501, ¶ 80 (1998) (emphasis added):

> The provision of Internet access service involves data transport elements: an Internet access provider must enable the movement of information between customers' own computers and the distant computers with which those customers seek to interact. But the provision of Internet access service crucially involves information-processing elements as well; it offers end users information-service capabilities inextricably intertwined with data transport.As such, we conclude that it is appropriately classed as an "information service."
>
> An Internet access provider, in that respect, is not a novel entity incompatible with the classic distinction between basic and enhanced services, or the newer distinction between telecommunications and information services. In essential aspect, Internet access providers look like other enhanced – or information – service providers. Internet access providers, typically, own no telecommunications facilities. Rather, in order to provide those components of Internet access services that involve information transport, they lease lines, and otherwise acquire telecommunications, from telecommunications providers – interexchange carriers, incumbent local exchange carriers, competitive local exchange carriers, and others. In offering service to end users, however, they do more than resell those data transport services. They conjoin the data transport with data processing, information provision, and other computer-mediated offerings, thereby creating an information service. Since 1980, we have classed

transmission? The *RIF Order* argued that DNS and caching were.[45] But the Commission in the instant *Notice* is correct to reconsider this and conclude,[46] as it did in the *Open Internet Order*,[47] that to the extent these services are sometimes used in conjunction with BIAS, they are not inextricably intertwined.[48] Indeed, the Commission in 1998 applied the "inextricably intertwined" concept to non-facilities-based dial-up ISPs like AOL, but in that same year made it quite clear that this concept was not meant for the vertical ISP services of the carriers themselves.[49]

ISPs may provide DNS services, but they are hardly inextricably intertwined. It is trivial to change to a third-party DNS provider, and is in fact recommended to improve user security and access enhanced functionality.[50] And as the Commission relates in the *Notice*, ISP caching is a service that consumers neither want nor likely make use of. Whatever value ISP caching may once have had, in an era of different network congestion issues, latency concerns, and

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> such entities as enhanced service providers. We conclude that, under the 1996 Act, they are appropriately classed as information service providers.

[45] *RIF Order* ¶ 33.

[46] *Notice* ¶ 76.

[47] *See Protecting and Promoting the Open Internet,* WC Docket No. 14-28, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601 ¶ 30 (2015) ("*Open Internet Order*").

[48] *Notice* ¶ 77.

[49] *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 13 FCC Rcd 24011, ¶ 60 (1998) ("Incumbent LECs have proposed, and are currently offering, a variety of services in which they use xDSL technology and packet switching to provide members of the public with a transparent, unenhanced, transmission path. Neither the petitioners, nor any commenter, disagree with our conclusion that a carrier offering such a service is offering a "telecommunications service.").

[50] Tim Brookes, "Why You Should Change Your DNS Server Today," *How To Geek* (June 22, 2023).

middle-mile and backbone architectures, ISPs cannot cache encrypted web pages or transmissions. And almost all internet traffic in 2023 is encrypted. For example, Google reported that as of December 2, 2023, 95 percent of the traffic across Google is encrypted.[51] If ISPs do not change the server certificate they have no way to "see" this content, and therefore they have nothing to cache.[52] And internet users do not buy service from their ISP in order for their ISP to spy on them. That itself is a potential policy problem internet users want policymakers to address.[53]

[51] *See* Google Transparency Report (accessed Dec. 12, 2023).

[52] *See, e.g.*, Davide Andreoletti *et al.*, "Privacy-Preserving Caching in ISP Networks," 2019 IEEE 20th International Conference on High Performance Switching and Routing, at 1-6 (2019) ("Content Providers (CPs) typically encrypt the content sent over the telecom network to improve security and privacy of their final users, as well as to protect business-critical information (*e.g.*, contents' popularity). Due to this encryption, Internet Service Providers (ISPs) can not easily apply caching strategies that require the inspection of traffic traversing their networks to select the most popular contents. The most common approach to solve the conflict between privacy and caching consists in allowing a CP to manage the caches (*e.g.*, by storing and delivering the contents) directly from inside the area of the ISP. However, in this way ISPs lose the legitimate control on a portion of traffic traversing their networks. An alternative approach is enabled by recently-proposed architectural solutions that allow a CP to encrypt the contents and associate pseudonyms to them, and the ISP to count the occurrences of such identifiers to infer popularity-related information without inspecting the original contents. However, we observe that ISPs can still obtain valuable information about contents' popularity that may threaten CPs' privacy.").

[53] *See* Federal Trade Commission, "A Look At What ISPs Know About You: Examining the Privacy Practices of Six Major Internet Service Providers," Staff Report (Oct. 21, 2021).

### 3. Broadband Providers Market, and Users Perceive, this Service as a Pure Transmission Path.

Below we discuss how streaming video has transformed the pay-TV market.[54] This transformation occurred in part because of the sea-change made possible by the 2015 *Open Internet Order*, then the state and local laws that filled the void created by its repeal. Those regulatory steps cemented in place the expectation that broadband internet access services are a pure transmission pathway between users' locations, and the locations from which the video content they watch is stored and transmitted. This market transformation has been so monumental that there are numerous cable TV providers now encouraging their customers to drop their traditional cable TV service and instead use an over-the-top alternative.[55]

Indeed, just about any ISP advertisement is built around how fast their transmission speeds are, and how customers can use their broadband services to watch streaming content. Some ISPs' recent ads even note how little streaming delay there is in their connections when compared to fixed wireless providers' connections.[56] Yet while hyping up its own fixed wireless service, Verizon's CEO noted that a selling point of their product is just how easy the installation process is, indicating that users immediately connecting their televisions to the internet is

[54] A recent survey indicates that the percentage of internet users watching primarily live TV declined from 40 percent in 2017 to 30 percent in 2023. This survey also indicates that 82 percent of internet households subscribed to at least one Subscription Video on Demand ("SVOD") service in Q3 2023, while only 51 percent reported having a traditional multichannel subscription. A remarkable 84 percent of internet households reported using Free Advertiser-Supported Television services ("FAST") like PlutoTV or Tubi. *See, e.g.*, Keith Nissen, "Q3'23 US Consumer Insights survey: Online video use plateaus as pay TV plummets," *S&P Global* (Oct. 24, 2023).

[55] *See, e.g.*, Luke Bouma, "Another Cable TV Company is Shutting Down its TV Service As Only 10 percent of Its Customers Pay For TV," *Cord Cutters News* (June 1, 2023).

[56] *See, e.g.*, "Noise Canceling," a commercial spot from Comcast XFinity (posted to the XFinity YouTube channel on Sept. 5, 2023) ("5G Home Internet can delay the game and make live sports not so live. It's time for better internet with Xfinity.").

commonplace.[57] Comcast's CFO expressed a similar sentiment recently, noting how good it is for Comcast's business when its customers use streaming services.[58]

The Commission is absolutely correct that consumers perceive BIAS as an "essential service."[59] But they perceive it as such because it is a telecommunications service. It does not matter which ISP they use, or where they live. With a reasonable quality broadband service, they may transmit the information of their choosing between the points of their choosing, without change in the form or content of the information as sent or received. It's far past time for the Commission to follow the law again, and properly classify BIAS as a telecommunications service under Title II.

Broadband Internet Access Service is a telecommunications service. That is the only reasonable interpretation of the plain language of the Communications Act, and an interpretation that is wholly consistent with the law and Congressional intent. Congress structured the Act as it did because ensuring every person in the nation has access to affordable, high-quality, open and non-discriminatory telecommunications services is a critical national goal. Telecommunications

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[57] *See, e.g.*, Comments of Hans E. Vestberg, Chairman & CEO, Verizon Communications, at the UBS Global Media and Communications Conference (Dec. 5, 2023) ("Verizon Dec. 5, 2023 Comments) ("That's sort of how great the product is. You just put it up, you have broadband and then you need to find your WiFi password and then you connect your computers, your TVs, whatever.").

[58] *See, e.g.*, Comments of Jason S. Armstrong, Chief Financial Officer, Comcast Corporation, at the Morgan Stanley 2023 European Technology, Media and Telecom Conference (Nov. 16, 2023) ("Comcast Nov. 16, 2023 Comments") ("It's a very healthy market. And in that, I mean customers are doing more on our network. They're hanging more devices off our network. There's more and more, whether it's sports moving to streaming, sort of hybrid streaming or streaming only, this is – already it has a place in the consumer hierarchy that's at the top or near the top, and that's not changing. If anything, it continues to move higher just given the usage patterns that you're seeing in households. And that's a great thing for our business.").

[59] *Notice* ¶ 117.

services are essential tools for promoting free expression, intellectual enlightenment, community cohesion, and economic prosperity.

That broadband is a telecom service does not mean it must be heavily regulated. The Telecommunications Act of 1996's amendments to Title II of the Communications Act are a blueprint for promoting openness, competition, and innovation through the process of reasoned deregulation. The Act gives the Commission incredibly broad authority to forbear from policies and even parts of the law itself that could (but typically, do not) apply to any telecommunications service, including BIAS.[60]

With this *Notice*, the Commission once again proposes to follow the law and Congress's blueprint for reasoned deregulation, while also ensuring promotion of the national interest and protection of basic consumer rights.[61] But properly classifying BIAS as a Title II telecommunications service is just the first step. The second step is implementing and enforcing policies that are critical to that national interest. As history shows, policies based on Title II authority were integral to the creation of the open internet *status quo*.[62] Protecting the open

[60] *See* 47 U.S.C. § 160.

[61] *See Notice* ¶ 104 (proposing forbearance from sections in Title II and the Commission's rules other than specified provisions protecting consumers, promoting competition, preserving public safety, and ensuring "access for persons with disabilities").

[62] Much of the forward-looking structure of the 1996 Act's amendments to Title II drew on prior Commission policies that applied common carrier principles to non-voice communications. It is well documented that the Commission's actions in the *Computer Inquiries* were directly responsible for enabling the growth of the internet. *See, e.g.*, Robert Cannon, "The Legacy of the Federal Communications Commission's Computer Inquiries," 55 *Fed. Comm. L.J.* 167 (2003). In this policy framework, the Commission utilized the principle of non-discrimination to ensure that AT&T, GTE, and other LECs could not leverage their ownership of the last mile to unfairly advantage their own enhanced services. That is, the Commission utilized structural and functional separation to create a non-discriminatory market structure, one that protected competition and ensured that the internet could be born. This framework was applied in the Modified Final Judgment (where it was applied to the Baby Bells as well as AT&T Long Lines).

internet and its users requires the Commission to adopt the right policies stemming from its restored Title II authority.

We now address the policy questions raised in the *Notice* that will or should flow from the proper classification of BIAS as a telecommunications service.

## II. Properly Classifying Broadband and Restoring Net Neutrality Rules is Necessary for the Commission to Effectively Promote Critical Public Policy Goals.

### A. Title II Authority is Necessary to Promote Competition, Protect Users' Privacy, Promote Public Safety, and Close the Digital Divide.

Throughout the *Notice* the Commission seeks comment on how the broadband market has or has not changed since the prior Commission adopted the *RIF Order*.[63] As we explain

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*See United States v. American Tel. & Tel. Co*., 552 F. Supp. 131 (1982). And this framework was later codified in the 1996 Act.

The FCC also progressively applied the principle of non-discrimination in the interconnection context in a manner that directly facilitated the explosive growth of the home internet access market. These policy decisions, based on maintaining the heart of Title II common carriage. not only saved consumers from the incumbent LECs' self-interested calls for unjust pricing, but they spurred a cascade of investment across the entire telecommunications and information technology ecosystem. *See, e.g.*, *Implementation of the Local Competition Provisions in the Telecomm. Act of 1996; Intercarrier Compensation for ISP-Bound Traffic*, CC Docket Nos. 96-98, 99-68, Order on Remand and Report and Order, 16 FCC Rcd 9151 (2001) (setting favorable rules for ISP-bound traffic that avoided costly access fees); *see also, e.g.*, *Expanded Interconnection with Local Telephone Company Facilities*, CC Docket No. 91-141, First Report and Order, 7 FCC Rcd 7369 (1992), vacated in part and remanded, *Bell Atlantic Telephone Cos., v. FCC*, 24 F.3d 1441 (1994); First Reconsideration, 8 FCC Rcd 127 (1993); vacated in part and remanded, *Bell Atlantic*, 24 F.3d 1441; Second Reconsideration, 8 FCC Rcd 7341 (1993); Second Report and Order, 8 FCC Rcd 7374 (1993), vacated in part and remanded, *Bell Atlantic*, 24 F.3d 1441; Remand Order, 9 FCC Rcd 5154 (1994), remanded for consideration of 1996 Act, *Pacific Bell, et al. v. FCC*, 81 F.3d 1147 (1996) (collectively referred to as the *Expanded Interconnection* proceeding) (adopting orders that pre-date the 1996 Act, which in part ensured that non-carriers could interconnect with LEC networks); *see also, e.g*., J.B. Speta, "A Common Carrier Approach to Interconnection," 54 *Fed. Comm. L.J.* 225, 249 (2001) ("Additionally, a telecommunications carrier's nondiscrimination duty requires it to treat an Internet carrier as if it were any other customer, *i.e.*, without regard to its status as an Internet carrier. Thus, dial-up ISPs could (and did) simply buy business lines or trunk groups from the ILEC and connect their modem pools to those lines.").

[63] *See, e.g.*, *Notice* ¶¶ 17-20, 47, 62-64, 67, 80.

throughout these comments, while it is appropriate and necessary to evaluate marketplace changes before and after critical policy decisions, it is also important to understand market trends that were in place prior to any single regulatory action. It is also necessary to evaluate these trends in the context of the complete regulatory, market, and political landscapes.

To that end, it is critical to understand that throughout their entire history, U.S. broadband ISPs have consistently offered a service that is functionally and thus legally a common carrier telecommunications service. This continues to this day, and is why the central question of this proceeding is easily answered: BIAS is a telecom service as defined in the Communications Act.

Prior to the *Open Internet Order* in 2015 and after the *RIF Order* in 2017, U.S. broadband carriers still generally sold customers a service used to send and receive the information of those customer's choosing, without any undue interference. Prior to adoption of the *Open Internet Order* however, there were of course certain instances where ISPs did unreasonably interfere with their customers' service in a manner inconsistent with how a reasonable telecom service should function.[64] Indeed, these specific instances – along with ISPs' general unwillingness to let go of their vague plans for monetizing their network through discriminatory means – are what drove a steady public outcry for FCC and Congressional action to restore Title II and adopt Net Neutrality rules.[65]

Subsequent to the *RIF Order*, there was no meaningful change in how U.S. ISPs market and provision BIAS. This observation is not surprising, and does not indicate in any way that the *RIF Order* was good policy, or was consistent with the Act. The *Open Internet Order* in 2015

[64] *See e.g. Open Internet Order*, n. 123. *See also e.g. infra.* Part II E.

[65] *See e.g.* Ryan Singel, FCC Gets an Earful From Open-Net Defenders at Stanford," *Wired* (Apr. 17, 2008).

made a *de facto* regulatory structure *de jure*.[66] Adoption of formal Net Neutrality rules gave the entire internet ecosystem certainty that ISPs would be held to their word that they would not unreasonably interfere with the data transmitted across their networks. Though the *RIF Order* scrapped these federal Net Neutrality rules, several U.S. states immediately stepped in and adopted their own regulations holding ISPs to their promises to operate their networks in a net neutral fashion.[67] These state actions, though providing *de jure* Net Neutrality protections in only part of the U.S., have worked to maintain the *de facto* internet openness *status quo* that has generally existed all throughout the history of the U.S. internet access market. This was thanks to Commission classification decisions, regulations, and policy pronouncements, backed by further promises to act if deregulatory approaches failed, and came about even as the Commission's approach shifted over time and lacked coherence prior to the issuance of the *Open Internet Order* in 2015.[68]

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[66] *See, e.g.*, *Notice* ¶ 136 ("Thus, in establishing open Internet rules using a light-touch application of Title II, we believe the *2015 Open Internet Order* ensured maintenance of the status quo that had existed for more than ten years prior to that *Order*. As such, we tentatively conclude that the action we propose today restores the status quo that had existed up until the Commission adopted the *RIF Order*, in which clear rules of the road ensure that edge innovation and investment flourish and consumers can access all lawful content they see fit.").

[67] *See* "Net Neutrality Law: An Overview," Congressional Research Service, R46973 (Oct. 18, 2022).

[68] *See, e.g.*, *Mozilla*, 940 F.3d at 56 ("We are, however, troubled by the Commission's failure to grapple with the fact that, for much of the past two decades, broadband providers were subject to some degree of open Internet restrictions. For example, from the late 1990s to 2005, Title II applied to the transmission component of DSL service. Even after the Commission issued the 2005 Wireline Broadband Order, which classified DSL as an integrated information service and thus further removing it from Title II's ambit, the Commission announced that should it 'see evidence that providers of telecommunications for Internet access or IP-enabled services are violating' the Internet Policy Statement, which reflected Chairman Michael Powell's four principles of Internet openness, it would 'not hesitate to take action to address that conduct.' In 2015, the Commission also claimed that 'Title II has been maintained by more than 1000 rural local exchange carriers that have chosen to offer their DSL and fiber broadband services as common carrier offerings.'" (internal citations omitted)).

But it would be short-sighted to view the *Open Internet Order* as just Net Neutrality policy. Title II is the law for telecom services, and as explained above, BIAS definitely fits the definition of a telecom service. Net Neutrality then is an outcome arising from the existence of common carriage telecommunications services. It was necessary for the Commission to classify BIAS as a telecommunications service in order for it to adopt and enforce Net Neutrality rules. But the classification decision is driven by the law, it is not a result of a desire to adopt certain policies. And as the instant *Notice* explains in detail, the same Title II legal protections that empower the Commission to protect Net Neutrality are necessary for it to promote the Act's other critical policy goals of universal service, non-discrimination, competition, consumer protection, public safety and cybersecurity.[69]

Opponents of the proposals in the *Notice* are eager to argue that the "sky didn't fall" after the *RIF Order*'s repeals in 2017. That simplistic view ignores the roles that various states' actions played in protecting internet openness, and of course ignores the reality that the sky didn't fall either after adoption of the *Open Internet Order* in 2015. The main difference between these two assessments is that the 2015 order followed the plain meaning of the Communications Act and the 1996 Amendments thereto. On the other hand, the 2017 Chicken Littles who voted to abandon that sound statutory approach chose to deregulate by definition according to their own policy preferences, adopting what Justice Scalia called an implausible reading rather than using the deregulatory levers built into Title II itself. The Commission's 2015 actions merely returned to the proper reading of the law, codified a *status quo*, and put ISPs on notice that there could be consequences if they unreasonably interfered in their customers' data transmissions or otherwise acted in an unreasonably discriminatory manner.

[69] *Notice* ¶¶ 21-55.

Reasonableness is of course a standard that is formed and shaped by public expectations and values. Consumer attention can act in concert with political attention to moderate the behavior of firms, aligning their incentives to act as rational economic actors with what the public collectively views as reasonable behavior. This informal pressure is critical to ensuring efficient market outcomes, particularly in markets where there are barriers to firm entry and consumer switching. But public pressure and even political posturing by powerful lawmakers are not enough to discipline such markets alone. The broadband market is one in which entry barriers are high, consumers have limited choice, switching costs are meaningful, and providers have terminating access monopoly power. While it is certainly the case that the BIAS market is more competitive than the pre-MFJ telecom services market, it is less competitive than the current CMRS market, in which Title II notably has applied and continues to apply in the "light-touch" manner outlined in the Act.[70]

The repeal of the *Open Internet Order* did not result in ISPs abandoning their general commitments to basic Net Neutrality principles. State Net Neutrality laws, coupled with heightened consumer and political attention, certainly played a role in maintaining the *status quo*. But it is also the case that the broadband and internet content markets in 2018 were different in several important ways when compared to where they were prior to 2015.

As we explain further herein, the *Open Internet Order* unleashed the pent-up consumer and edge industry demand for "Big Open Pipes."[71] Online services that consumers could use to

[70] 47 U.S.C. § 332(c)(1)(A).

[71] *See, e.g.,* S. Derek Turner, Free Press, "Combatting the Cable Cabal: How to Fix America's Broken Video Market," at 43 (May 2013):

> The answer to the video market's problems is to throw money at it. If venture capitalists in pursuit of a better video-bundling business model throw money at the programmers, the programmers will play ball. Over time, this investment could produce new video business models where supply more closely matches demand. But this investment and innovation will

replace their traditional video services expanded dramatically leading up to and directly after adoption of the *Open Internet Order* in 2015.[72] The widespread availability of non-discriminatory broadband access lines, as ensured by this order and its Title II legal framework, meant that consumer demand for better video services could be met by firms willing to invest and innovate in this long-stagnant market. This innovation, which was based on consumers and edge companies having continued access to an "open pathway," transformed the pay-TV market for good.[73] In the years that followed, the video market moved away from a highly concentrated industry that forced customers into bloated and expensive pay-TV channel bundles, and became a market in which user demands finally drive supply. There can be no doubt that the *Open Internet Order* supercharged the "virtuous cycle" and finally gave consumers a way of getting out of the video market's "vicious cycle" of bloated bundles and endless rate increases for low-quality, little-watched content.[74]

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> not happen if there is any uncertainty about the openness of the delivery platform. While American Internet Service Providers [ ] all claim to embrace openness, their actions tell a different story. When ISPs embrace data caps and overage charges that serve no legitimate engineering or economic purpose, they send a signal to the market that scarcity, not abundance, is the business model. Artificial scarcity is a market failure, one that depresses investment and deprives Americans of the benefits of technological progress. So the answer to this complex problem is the one we came up with so long ago. We don't need public policy to dictate how the industry should behave; that's the consumers' job. We need public policy to allow innovation to happen. If we keep the pipes open, the content will flow and consumers will win.

[72] *See, e.g.*, S. Derek Turner, Free Press, "It's Working: How the Internet Access and Online Video Markets Are Thriving in the Title II Era," at 44-62 (May 15, 2017) ("*It's Working*").

[73] *See* Statement of Chairman Tom Wheeler, *In the Matter of Protecting and Promoting the Open Internet*, GN Docket No. 14-28, Notice of Proposed Rulemaking, 29 FCC Rcd 5561, 5647 (2014). ("Let's look at how the Internet works at the retail level. The consumer accesses the Internet using connectivity provided by an Internet Service Provider (ISP). That connectivity should be open and inviolate; it is the simple purchase of a pathway.") (emphasis added).

[74] *See* Comments of Jessica M. Fischer, CFO, Charter Communications Inc., at UBS Global Media and Communications Conference (Dec. 5, 2023) ("Charter Dec. 2023 Comments") ("I think on the other side, like should there be more price pressure on programmers overall? Yes,

Free Press predicted that this transformation of the pay-TV markets would follow restoration of Title II. The result in the video space was important for that sector, and more broadly demonstrates how critical it is to our collective well-being to have ubiquitous availability of affordable, non-discriminatory telecommunications services thanks to proper classification of broadband as such a service. But there are other indications too that merely having a regulator with this solid authority to protect consumers helped to focus industry's attention on innovating and competing to earn their customer's business rather than exploiting market power. While we stress that we are in no way drawing a direct line from the restoration of Title II to movement in broadband prices (listed price, prices-paid, or quality-adjusted prices), it is the case that both the telecommunications industry Producer Price Index ("PPI") and Internet Access Services Consumer Price Index ("CPI-U") changed direction and dropped immediately following adoption of the *Open Internet Order*. And interestingly, these both reverted and increased immediately following the Commission's *RIF Order*.[75]

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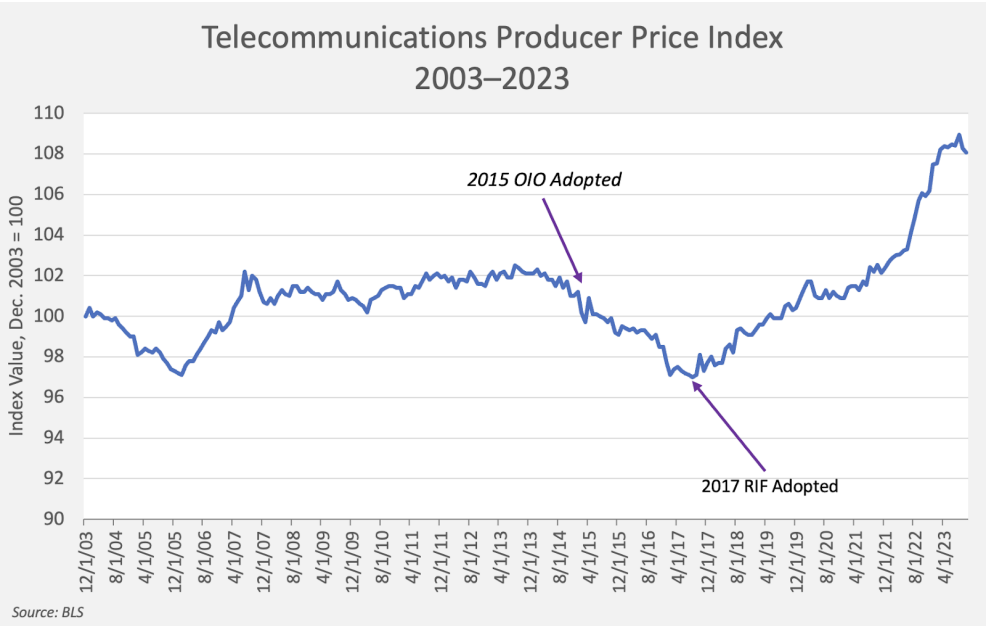
we've talked a lot over the long term about the fact that programmer rate increases generally continue to challenge the video space overall, it's a vicious cycle. They push through price. We are no longer capable of doing anything other than pushing those price increases through to consumers and that has an impact over how many consumers are willing to buy [Charter's traditional multichannel video service].") (emphasis added).

[75] The PPI and CPI indices shown here are calculated based on a monthly survey of "current prices of the selected items, including any changes or promotional offerings. Any characteristics of the selected items that have changed are also identified and reviewed. When the price of an item changes, BLS tries to determine a reason for the change; however, if the characteristics remain unchanged, the CPI [and PPI] usually reflects the price change without any adjustments." Therefore these are quality-adjusted measurements, but measured in a more holistic way than a pure dollar-per-megabit-per-second calculation. Because the prices that buyers actually paid on average did not decrease during this time, it is appropriate to interpret these declines as a result of buyer's receiving improved service at a price point that was close to what they recently paid. *See* U.S. Bureau of Labor Statistics, "Measuring Price Change in the CPI: Telecommunications Services," (Feb. 10, 2023). *See also* U.S. Bureau of Labor Statistics, Consumer Expenditures Survey.

As Figure 1 shows, the Telecom PPI declined 3 percent between February 2015 and December 2017 (a 1.1 percent annualized decline), but then increased 10.6 percent during the post-2017 *RIF Order* period (a 1.8 percent annualized increase).[76]

**Figure 1:**

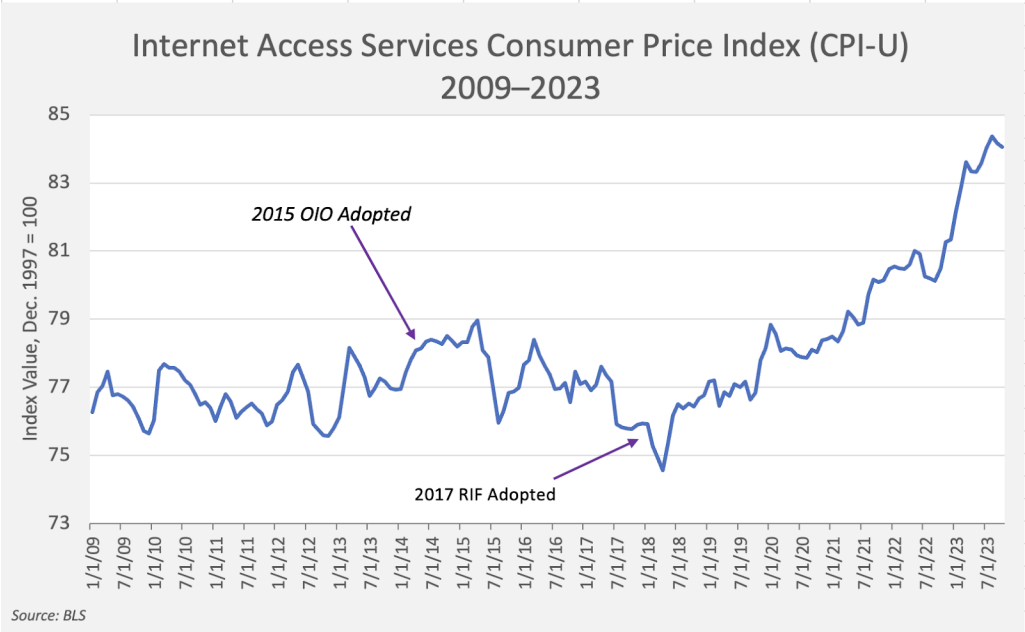



Similarly, Figure 2 shows the Internet Access Services CPI-U declining 2.1 percent during the *Open Internet Order* era (a 0.7 percent annualized decline), but then increasing 10.7 percent during the *RIF Order* era following that 2017 repeal (a 1.8 percent annualized increase).[77]

[76] U.S. Bureau of Labor Statistics, Producer Price Index by Industry: Telecommunications, PCU517517, Federal Reserve Bank of St. Louis (retrieved from FRED, Dec. 8, 2023). For an overview of how the PPI differs from the CPI-U, see U.S. Bureau of Labor Statistics, "How Does the Producer Price Index Differ from the Consumer Price Index? Comparing the Personal Consumption PPI with the CPI" (Mar. 3, 2023).

[77] U.S. Bureau of Labor Statistics, Internet services and electronic information providers in U.S. cities, CUUR0000SEEE03.

**Figure 2:**




We reiterate that we are not attributing these observed changes in broadband access price indices to either adoption of Title II-based Net Neutrality rules nor their repeal. But it is certainly the case, as seen from these and other data discussed herein, that the *RIF Order* did not bring about the broadband market nirvana that former Chairman Pai promised would come. Indeed, as we document below, many of the positive trends that continued after 2017 were set in motion by the *Open Internet Order*'s solidification of the market expectation for an open pathway when that order issued in 2015. And broadband investment – the poorly understood and often misused metric that Pai made the *raison d'être* of his 2017 repeal – plummeted in the aftermath of the *RIF Order*.

### 1. Title II Authority is Needed to Promote Competition and Prevent ISPs From Abusing their Market Power.

ISPs opposed to the Commission's proposals in the new *Safeguarding and Securing The Open Internet Notice* will surely argue that they are not engaging in any unjust or unreasonable behavior; that since ISPs apparently aren't currently blocking, throttling or offering paid-priority deals, there's no need for the FCC to act. This simplistic view frames the role of regulatory

authority and policy in a manner that focuses attention on industry-wide behavior; but a central function of the Act is to give the Commission authority to set rules and also step in to stop bad practices on a case-by-case basis too.

Congress clearly intended for the Commission to apply its light-touch Title II obligations to all telecom services, regardless of how competitive the market is.[78] However, basic Title II authority becomes particularly important for promoting the public's interest when carriers do possess market power. And though there are some green shoots of potential competition from fixed wireless providers, the home broadband market remains a rigid, cable-dominated duopoly. Furthermore, for the foreseeable future, tens of millions of people living in high-cost rural areas will continue to face a fixed terrestrial broadband monopoly.

ISPs do not deny that they have market power, at least not to the investment community. It's something they're proud of,[79] and they are eager to note how high the barriers-to-entry are

[78] As we discuss in these comments, one of the lasting myths in the debate around Title II and common carriage is that it is a legal framework developed for the "monopoly telephone era." A simple read of the law or an understanding of its history shows that this is not the case. There is no requirement in the law for a finding of market power for the application of Title II common carrier duties. Furthermore, Section 10 forbearance is predicated on the preservation of the non-discriminatory outcomes secured by Section 201 and 202. *See, e.g.*, Speta, *supra* note 62, at 264 ("Of course, the 1934 Act does not include any explicit monopoly test before applying common carrier obligations. And, while the 1996 Act does give the FCC expansive power to forbear from applying the 1934 Act where competition has taken root, even this provision declares that regulation may be eliminated only where nondiscriminatory service will continue in its absence. In other words, the common carrier obligations of the Communications Act were motivated by (and continued to be motivated by) concerns over both monopoly and discrimination.") (emphasis in original).

[79] Comcast for example has lost broadband subscribers since the beginning of this year, but still managed to increase its Average Revenue per User ("ARPU") by 4 percent. *See, e.g.*, Comcast Nov. 16, 2023 Comments ("The U.S. base has been relatively flat this year in terms of subscriber growth. So it's been right around 32 million. It's a competitive environment, which I'm sure we'll get into. But we've grown ARPU 4 percent against that base. And so when that's your starting point, that's about $1.2 billion of high-margin revenue growth that's flowing out of that category.").

for non-incumbents.[80] Nor is the expansion of FTTH services something that is meaningfully diminishing cable ISPs' market power.[81] There are inherent limits to this expansion, as incumbent LECs (like their Cable Multiple System Operator (or "MSO") counterparts), rarely enter into areas where they are not already the incumbent, even if subsidized to do so.[82]

As we discuss herein, the *Open Internet Order* supercharged the "virtuous cycle" and helped transform the home video markets. This shift continues to drive average household data use higher and higher (although this is not causing congestion issues; nor is it hurting ISP profits, which continue to grow).[83] While carriers now seem to embrace the shift away from traditional

[80] *See, e.g.*, Julia M. Laulis, Chairwoman, President & CEO, Cable One, Q3 2023 Investor Call (Nov. 2, 2023) ("Fast forward to today, and we are proud to have engineered a robust and reliable network with enough capacity to handle up to 5x our customers' current peak usage as well as a growing set of service offerings for residential customers and businesses of all sizes. Equally as important is the footprint in which we deliberately chose to operate, which consists primarily of small cities and large towns across rural America. We continue to enjoy the relatively less competitive environment in these markets, and our position is further solidified by our incumbent status, enabling ongoing network upgrades at a fraction of the cost of new entrants.") (emphasis added).

[81] *Id.* ("While we see competition continue to grow, in a majority of our markets, we do not compete against an Internet service provider that offers 100 meg speeds or higher.").

[82] *See, e.g.*, Comments of Anthony T. Skiadas, Executive VP & CFO Verizon Communications, at the Morgan Stanley 2023 European Technology, Media and Telecom Conference (Nov. 16, 2023) ("Verizon Nov. 16, 2023 Comments") ("You're not going to see us do fiber outside of the ILEC footprint. So that's something we've been very clear on . . . In terms of [BEAD] funding and things like that, we'll participate, again, within the ILEC footprint where it makes sense and where it makes economic sense to do so. But you're not going to see us going outside the footprint with fiber.") (emphasis added). We note that AT&T in 2022 formed a joint venture with private equity firm BlackRock to overbuild ILEC Lumen in parts of three Arizona cities, and reportedly secured a non-exclusive franchise with the city of Las Vegas, NV. *See* Diana Goovaerts, "AT&T's Gigapower JV targets 3 more cities in AZ, NV," *Fierce Telecom* (Apr. 24, 2023).

[83] *Id.* ("Moving to a key driver of our success, our dependable advanced network infrastructure, we continue to see and meet the strong appetite for data with average customer demand reaching an all-time high of 646 gigabytes per month. Equally telling, more than 20 percent of our residential customers now exceed 1 terabyte of usage each month, an increase of 18 percent from the same period last year. Our average network utilization during peak hours remained steady with downstream and upstream of 20 percent and 19 percent, respectively. The

pay-TV to over-the-top delivery, many still impose data caps and overage fees.[84] Some ISPs that charge these overage fees seem excited about the prospect of even more customers hitting their caps in the future.[85]

Once ISPs reach market saturation and subscriber additions cease to be a source for the increasing profit growth that Wall Street demands, carriers will surely look to other ways to monetize their customers. Is there enough broadband competition to prevent carriers from imposing unjust and unreasonable overage penalties? That is a question that is difficult to answer in the abstract. But the Commission needs basic Title II authority to ask the question with regard to specific carriers' practices and to protect users from this sort of monopoly abuse.

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ample network capacity enabled by years of network investments fuel our confidence in our ability to stay well ahead of the consumption curve in a highly capital-efficient manner.") (emphasis added).

[84] Cable One seems to have at least temporarily dropped its caps and overage fee system in recent weeks. As of October, it still imposed a 700 GB monthly cap on its lowest-priced tier, with a $10 per 100 GB overage fee. However, there are other carriers that continue to impose overage fees clearly unrelated to cost-causation economics. For example, Cox imposes a 1250 GB cap on all its plans, with each additional 50 GB costing $10 (up to $100 in a month in overage fees). Where Comcast imposes usage limits, this limit is 1200 GB per month with each additional 50 GB costing $10 (up to $100 in a month in overage fees). These cap-and-fee structures seem to be designed to push people into higher, more-expensive service tiers that the user may not actually need, with no apparent relationship to economic-cost recovery needs.

[85] *See, e.g.*, Comcast Nov. 16, 2023 Comments ("[C]ustomers are doing more on our network. They're hanging more devices off our network. There's more and more, whether it's sports moving to streaming, sort of hybrid streaming or streaming only, this is – already it has a place in the consumer hierarchy that's at the top or near the top, and that's not changing. If anything, it continues to move higher just given the usage patterns that you're seeing in households. And that's a great thing for our business . . . We've got the average broadband-only customer using something like 700 gigs a month on our network, and that continues to grow at a pretty healthy clip. Those are all good things, right? [. . .] Our priority is we want them to be able to use as much of the network as and whenever he wants, right? We would love for you to go from 700 gigs to a terabyte. And we are, we think, have the lowest marginal capacity to go serve that. So secular trends, I would tell you, we think are our friend. To the extent more sports are going streaming, to the extent that's in 4K or ultra HD and that's the way the world is going, we can handle that at a substantially lower cost than peers.") (emphasis added).

Limited competition can be particularly harmful to low-income users. In competitive markets, there will be suppliers that serve all parts of the demand curve. Consider the mobile market, which is far more competitive than the duopoly wired home-internet market. One consequence of this higher degree of competition is the existence of a resale market, which in turn has led to a number of mobile virtual network operators that specifically build businesses aimed at serving customers with lower incomes. In contrast, there is very little in the way of resale or prepaid offerings for wired home-internet service. This is a market failure, which directly contributes to the digital divide.

Wired ISPs have enough market power to not serve all parts of the demand curve. They know that price hikes will cause lower-income customers to drop their service.[86] They are particularly aware that if they offer tiers at lower transmission speeds for lower prices, many customers would choose those plans, and this would "cannibalize" their high-margin business.[87]

[86] *See, e.g.*, Comments of Teresa L. Elder, CEO, President and Director, WideOpenWest, Q3 2023 Investor Call (Nov. 8, 2023) ("WideOpenWest Nov. 2023 Comments") ("Over the course of the year, we introduced rate increases, which led to higher-than-anticipated churn predominantly for those subscribers who subscribe to lower-tier speeds. During the third quarter, a large number of high-speed data customers also came off of promotions, which is resulting in higher expected churn, especially once again at the lower speed tiers.").

[87] For example, at an investor conference Comcast's CFO was asked "[w]hy not continue some of those lower-end promotions to sort of drive some growth?" His response indicates this concern about self-cannibalization. "We are constantly trying to . . . see how we can compete in certain segments, but with an eye towards 'are we changing the acquisition mix unfavorably or are we putting the base of 32 million customers at risk in terms of tiering down.' And so it's a constant balance. We're going to constantly have offers in the market where we try to test that balance and see <u>if we can compete without cannibalizing</u>. I think we've had different offers in the market over the first half of the year. By the way, we'll have more offers that sort of look like that as we continue to test how we compete here. But most importantly, I think as you said and you've written in your research, <u>we probably have the same view, protecting ARPU growth in an environment like this is, I think, priority number 1</u>, and we've delivered on that this year." Comcast Nov. 16, 2023 Comments (emphases added).

This is a market failure and a public policy problem. But let us be very clear – this market failure does not mean that the correct solution is for the Commission to set retail rates, or somehow force a wholesale market into existence. Free Press does not call for and would not support such retail rate regulation. We do think, however, that if the Commission has the ability to receive complaints and investigate on a case-by-case basis the reasonableness of any particular practice, that the mere existence of this authority will nudge the "invisible hand" of the market and lead to positive outcomes. And it could lead to Commission action to protect against abusive practices if and when the facts warrant such intervention.

Although ISPs are quick to promise that they'll never do anything harmful and say the FCC doesn't need any authority as a result, they clearly view the concept of harm differently than an average reasonable person might. For example, when Congress recently created a new duty for ISPs to not engage in digital discrimination,[88] ISPs and their helpers reacted to the FCC's implementation of this law in a completely unhinged manner.[89] It's almost as if ISPs were willing to tolerate the passage of a law that prohibits unreasonable discrimination on the page, but don't actually want to be held to that standard of behavior.

What's more, while ISP conduct is currently in line with the expectations contained in the *Notice*, this does not mean that at some point in the future these carriers won't "innovate" new ways to discriminate or otherwise act in unreasonable ways. Some industry analysts are already

[88] Pub. L. No. 117–58, div. F, title V, § 60506, 135 Stat. 429, 1245 (Nov. 15, 2021). These provisions appear now at 47 U.S.C. § 1754.

[89] *See, e.g.*, Karl Bode, "The FCC Is Trying To Stop Discrimination In Broadband Deployment. Telecoms And Republicans Are Big Mad About It," *Techdirt* (Nov. 17, 2023); *see also* Karl Bode, "FCC Commish Brendan Carr Takes A Break From Crying About TikTok To Lie About His Agency's Plan To Combat Racism In Broadband Deployment," *Techdirt* (Nov. 14, 2023).

dreaming of ways to use artificial intelligence ("AI") to "optimize" carrier networks.[90] This could result in actions that are perfectly reasonable and in the public interest. But what if some ISPs use AI to optimize their networks in unreasonably discriminatory ways? The Commission clearly needs the authority to step in if that happens.

Such uses of AI are more hope and hype than reality at this point. However, it is very clear that ISPs are already using AI to reduce headcount, particularly in front line customer service positions.[91] This again may not materially impact the majority of customers' experiences. But it certainly has the potential to lead to bad outcomes, and ones that are unlawful under the Act. Telecom users need the Commission available to adjudicate allegations of unreasonable actions that are in fact unlawful.

### 2. The Commission Needs Authority over Broadband-Only Services in Order to Effectively Promote the Public Interest.

We now turn to the *Notice*'s questions and conclusions concerning the hole in its authority, particularly over broadband-only services, and how continued classification of these services as Title I information services frustrates the Commission's ability to efficiently and equitably achieve its goals as outlined in the Communications Act.[92] We agree with the

[90] *See, e.g.*, Joe Madden, "Trouble ahead: 6G cost per GB may pose problems – Madden,"*Fierce Wireless* (Nov. 9, 2023).

[91] *See, e.g.*, Robert Clark, "How GenAI could change telecom," *Light Reading* (Dec. 4 2023). ("Tom Rebbeck, head of Analysys Mason operator and IoT research, says that at the most basic level telcos are experimenting with gen AI for tasks such as meeting summaries, or are feeding transcripts from call centers to help generate suggestions for call agents. But – surprise – the biggest direct impact will most likely be headcount. During a podcast discussion, Rebbeck said gen AI would absorb some of the functions in virtually every part of a telecom operator, in particular areas such as customer service and sales . . . But this dynamic would drive retail telcos to become ultra-lean, run by just a tiny handful of staff. 'If you project that forward, you could have an extremely lean service provider with far fewer people than today, but the network side would still be relatively large,' Rebbeck said."); *see also* Iain Morris, "Irish tycoon Denis O'Brien says AI will cull half of telco jobs," *Light Reading* (Dec. 5, 2023).

[92] *See, e.g.*, *Notice* ¶¶ 47-48.

Commission that restoring the classification of BIAS as a Title II service will greatly enhance its ability to foster competition[93] and low-income consumer choice,[94] and promote public safety.[95] This matter is of particular importance now, as there are a growing number of ISPs who are moving away from offering traditional voice and facilities-based pay-TV services. Broadband-only fixed wireless services are one such service that could play an important role in increasing competition and broadband affordability.[96]

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[93] *Id.* ¶ 47 ("Since 2011, the Commission has undertaken a series of reforms with the goal of improving access to poles to, among other things, help speed the deployment of broadband infrastructure. However, in the *RIF Order*, the Commission effectively eliminated section 224 pole attachment rights of broadband-only providers as a result of its classifying broadband as an information service. In 2020, following the *Mozilla* court's direction that the Commission 'grapple with the lapse in legal safeguards' for broadband-only providers that resulted from the *RIF Order*, the Commission concluded that while there were potentially adverse effects to this class of providers resulting from the loss of pole attachment rights, the benefits of returning BIAS to an information service classification outweighed any drawbacks. We tentatively conclude that the Commission erred in its 2020 analysis and believe that reclassifying BIAS as a telecommunications service will help support the Commission's goals to facilitate broadband deployment . . . .") (internal citations omitted).

[94] *Id.* ¶ 50 ("Among other things, we believe that reclassifying BIAS as a telecommunications service could eventually allow broadband-only providers to once again participate in the Lifeline program, and would give the Commission the ability to adjust certain service obligations for ETCs. We further believe that reclassifying BIAS as a telecommunications service would enhance our ability to connect low-income households in rural areas, including through the Link Up program, which provides support to reduce connection charges for eligible residents of Tribal lands who subscribe to telecommunications service from a telecommunications carrier receiving high-cost support." (internal citations omitted)).

[95] *Id.* ¶ 33 ("We next tentatively conclude that reclassifying BIAS as a telecommunications service would enable the Commission to advance several public safety initiatives . . . .").

[96] Fixed wireless services have existed in the marketplace for decades, typically offering a workable solution in high-cost areas where wired deployment is unprofitable. While these services were historically offered by small firms using unlicensed spectrum, the Commission has adopted policies that further enhance these providers' capacity and access to the public airwaves. Recently, CMRS providers have entered the fixed wireless market, led by T-Mobile, then Verizon, and more recently, AT&T. These fixed wireless services appear to be popular with certain business customers, but are also increasingly an affordable option for residential users who may not need the higher capacities of wired services. *See, e.g.*, Verizon Dec. 5, 2023 Comments ("So we have said by '25, we should have 4 million to 5 million subscribers on fixed wireless access. Of course, we have built the network for more. The team has way more

### a) Restoring Authority over Broadband-Only Services is Critical to the Future of the Lifeline Program.

When the Commission classified BIAS as an information service in 2017, it undermined its own policies that aim to connect low-income people to the internet. In 2016, the Commission modernized Lifeline for the digital age by allowing the discount to be applied towards standalone broadband service.[97] This modification would have created important new opportunities for millions of low-income people, who are disproportionately people of color, to access the internet at a reduced cost.

The 2016 *Lifeline Modernization Order* relied on the agency's authority to treat broadband internet access providers as telecom service providers subject to Title II of the Act,[98] as re-established in the 2015 *Open Internet Order*. The classification of BIAS as a Title II service opened the door for Lifeline subscribers to apply their benefit to broadband-only services, in particular those offered by the new generation of ISPs that do not use their facilities to offer voice services. Though at the time there were not many fixed wireless options available to most consumers, they were growing rapidly. Fixed wireless is now the fastest-growing consumer broadband technology, and offers an easy-to-install, affordable option compared to traditional wired access services.[99]

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capacity."); *see also* Mike Dano, "FWA captures 90% of all new US customers, pleasing around 90% of them," *Light Reading* (Mar. 6, 2023).

[97] *Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42, Third Report and Order, Further Report and Order, and Order on Reconsideration, 31 FCC Rcd 3962 (2016) ("*Lifeline Modernization Order*").

[98] *Lifeline Modernization Order* ¶ 39 ("The BIAS that we define as a supported service for the Lifeline broadband program is a telecommunications service that warrants inclusion in the definition of universal service in this context.").

[99] *See, e.g.*, Monica Alleven, "FWA takes on starring role in 5G for T-Mobile and Verizon," *Fierce Wireless* (Dec. 27, 2022); Sue Marek, "Starry analysis shows buildings become profitable

But when the Commission raced to overturn the *Open Internet Order* in 2017, it gave little thought to how this would impact the Lifeline program and the people served by the program. Indeed, the few throwaway lines about Lifeline in paragraph 68 of the *RIF* Notice showed that the Commission understood that classifying broadband as an information service would impact the low-income program,[100] but the agency subsequently took no steps to address this problem of its own creation.

This grave error did not go unnoticed by the courts. Though the D.C. Circuit upheld the *RIF Order's* repeal of Net Neutrality rules and reclassification of BIAS as a telecom service (on agency deference grounds) the court noted that the Commission's typically wide berth in interpreting the law "cannot be invoked to sustain rules fundamentally disconnected from the factual landscape the agency is tasked with regulating."[101]

Those judges also noted that "critical aspects of broadband Internet technology and marketing . . . have drastically changed" since the Commission first argued more than fifteen years ago to treat broadband as something other than an essential telecommunications service.[102] And they criticized the "worrisome" results-oriented reasoning suggesting that "the Commission has drifted far beyond the statutory design and exceeded its interpretive discretion,"[103]

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in a year or less," *Fierce Wireless* (Aug. 9, 2022) (noting Starry's average revenue per user of $33.96, which is significantly below even the promotional prices of most wired ISPs).

[100] *In the Matter of Restoring Internet Freedom,* WC Docket No. 17-108, Notice of Proposed Rulemaking, 32 FCC Rcd 4434, ¶ 68 (2017) ("We also seek comment on any rule changes necessary to effectuate this change in our underlying authority to support broadband for low-income individuals and families.").

[101] *Mozilla*, 940 F.3d at 94 (Millett, J., concurring).

[102] *Id.* at 95 (Wilkins, J., concurring).

[103] *Id*. at 93 (Millett, J., concurring).

unflatteringly but rightly describing the *RIF Order* as "unhinged from the realities of modern broadband service."[104]

The *Mozilla* decision rejected outright the Commission's claim to preempt all state and federal laws designed to fill the vacuum created by the repeal, which thankfully enabled states to step in and help preserve the Net Neutrality *status quo*.[105] The court also handed significant portions of the *RIF Order* back to the agency, finding that the Pai majority had utterly failed to explain or even explore the order's impact on three critical areas: public safety, competitive broadband providers' ability to deploy their networks, and the use of Lifeline universal service funding for broadband. As the court noted, "[a]s a matter of plain statutory text, the 2018 Order's reclassification of broadband – the decision to strip it of Title II common-carrier status – facially disqualifies broadband from inclusion in the Lifeline Program."[106] After receiving this rebuke, the Pai Commission doubled-down on its flimsy analysis.[107]

As Free Press explained in an *ex parte* letter to the Commission in 2020, the legal framework that the Pai FCC constructed in order to continue offering Lifeline support for broadband service after explicitly removing broadband as a supported service is simply not workable for a subsidy-only policy.[108] The Pai Commission's justification was based on the same

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[104] *Id.* at 87.

[105] *Id.* at 74.

[106] *Id.* at 111.

[107] *In the Matter of Restoring Internet Freedom; Bridging the Digital Divide for Low-Income Consumers; Lifeline and Link Up Reform and Modernization*, WC Docket Nos. 17-108, 17-287, 11-42, Order on Remand, 35 FCC Rcd 12328, 12329, ¶ 2 (2020) ("*RIF Remand Order*"), *pets. for recon. pending*, *pet. for review pending*, *Cal. Pub. Utils. Comm'n v. FCC*, No. 21-1016 (D.C. Cir.).

[108] *See* Letter from Dana J. Floberg and Matthew F. Wood, Free Press, *In the Matter of Restoring Internet Freedom; Bridging the Digital Divide for Low-Income Consumers; Lifeline*

"bootstrapping" logic found in the Tenth Circuit's decision upholding the Commission's policy framework for High Cost Fund modernization.[109] That is, the Pai Commission argued that it could continue to support Lifeline broadband offerings over voice-capable networks, because that "compensates providers for some of their costs so they can offer discounted service to low-income Americans, thus incentivizing ETCs to provision, maintain, and upgrade facilities and services where low-income consumers live."[110]

However, unlike the High Cost Fund program at issue in the Tenth Circuit decision (which the Pai Commission heavily relied upon), Lifeline is not a program that is intended to incentivize and support infrastructure deployment. The Lifeline program was created to make telecommunications services more affordable for low-income households.[111]

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*and Link Up Reform and Modernization*, WC Docket Nos. 17-108, 17-287, 11-42 (filed Oct. 20, 2020).

[109] The bootstrapping we refer to here is the Commission's legal logic that it can extend subsidies to carriers for their construction of modern broadband networks, because those networks are also used by the subsidized carrier to offer Title II-regulated voice services. For example, the court noted that "in order to obtain USF funds, a provider must be designated by the FCC or a state commission as an 'eligible telecommunications carrier' under 47 U.S.C. § 214(e). . . And, under the existing statutory framework, only 'common carriers,' defined as 'any person engaged as a common carrier for hire . . . in interstate or foreign communication by wire or radio or in interstate or foreign radio transmission of energy,' are eligible to be designated as 'eligible telecommunications carriers.' Thus, under the current statutory regime, only ETCs can receive USF funds that could be used for VoIP support. Consequently, there is no imminent possibility that broadband-only providers will receive USF support under the FCC's Order, since they cannot be designated as 'eligible telecommunications carriers.' As a result, we agree with the FCC that the petitioners' argument 'will not be ripe for judicial review unless and until a state commission (or the FCC) designates . . . an entity' that is not a telecommunications carrier as 'an 'eligible telecommunications carrier'' under § 214(e)." *See In re FCC 11-161*, 753 F.3d 1015, 1048-1049 (10th Cir. 2014) (internal citations omitted).

[110] *See RIF Remand Order* ¶ 93.

[111] In 1984, acting on a recommendation from the Federal-State Joint Board, the Commission expanded the Subscriber Line Charge ("SLC"), a direct, non-traffic-sensitive charge for local carriers to levy on their customers to recover a portion of the cost of the local loop. This newly expanded portion of the SLC was initially set at $1 per month for residential lines, increasing to a frozen level of $2 per month after one year. The Joint Board and the Commission were

The *Lifeline Modernization Order* was intended to prepare the Lifeline program for a future in which consumer demand for broadband service would supersede demand for traditional voice telephony.[112] This modernization effort was warranted, as consumer use of voice services are clearly in decline relative to other methods, and social norms now disfavor voice calls entirely.[113] Congress clearly anticipated and encouraged this shift, as is seen in the Act's language that envisions an "evolving level" of communications services.[114] But Congress clearly never envisioned the Commission engaging in word games that would render its regulatory authority useless for any consumer service beyond voice telephony.

Fortunately, in the instant *Notice* the Commission now acknowledges that it cannot rely on a legal fiction that repositions Lifeline as a program to promote network deployment, particularly not for the provision of a service that the Commission characterizes as of declining importance.[115] The *Notice* recognizes that modernizing Lifeline requires including broadband

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concerned that even this increase in the price of local service could cause hardship for low-income users and potentially decrease telephone subscribership. Thus, the Joint Board recommended, and the Commission adopted, a subsidy system for low-income users that became known as the Lifeline program. Congress codified the FCC's authority to continue to administer the Lifeline and Link Up programs in the Telecommunications Act of 1996. *See* Comments of Free Press, *In the Matter of Lifeline and Link-Up Reform and Modernization*, WC Docket No. 11-42 (filed. August 31, 2015).

[112] *See Lifeline Modernization Order* ¶ 52 ("To be sustainable and achieve our goals of providing low-income consumers with robust, affordable, and modern service offerings, a forward-looking Lifeline program must focus on broadband services. Therefore, based on the record before us, we conclude that it is necessary that going forward the Lifeline discount will no longer apply to a voice-only offering following an extended transition period, except as provided below in Census blocks with only one Lifeline provider.").

[113] *See, e.g.*, Heather Kelly, "The new phone call etiquette: Text first and never leave a voicemail," *Wash. Post* (Sept. 25, 2023).

[114] 47 U.S.C. § 254(c)(1).

[115] *Notice* ¶ 49.

internet access as a supported service under section 254(c), and that in turn requires correctly reclassifying broadband as a Title II telecommunications service.[116]

The Commission needs clear authority over broadband-only services to implement and maintain an effective and efficient Lifeline policy. Broadband-only services that are not tied to a Title II-regulated voice carrier are growing in availability and are poised to play an important role in competition and affordability. Therefore the changes proposed in the *Notice* will undoubtedly bolster the Lifeline market, ensuring that Lifeline recipients have maximal choice and can enjoy the benefits of the modernizing telecom services market.

**b) Restoring Authority over Broadband-Only Services is Critical to Promoting Competitive Providers' Fair Access to Pole Attachments and Multiple Tenant Environments.**

The *Notice* rightly states that "in the *RIF Order*, the Commission effectively eliminated section 224 pole attachment rights of broadband-only providers as a result of its classifying broadband as an information service."[117] In the *Notice*, the Commission recounts how the *Mozilla* court directed the Commission to "grapple with the lapse in legal safeguards"[118] from reclassification, and specifically the elimination of Section 224 pole attachment rights for broadband providers that don't offer a legacy telephone or cable TV service.[119]

But in the *RIF Remand Order* the Pai Commission refused to do any grappling with the reality that its classification decisions would result in the loss of protections for competitive broadband providers' pole attachments and other facilities placed in rights-of-way. The Pai Commission was content to simply admit that the court was right about this loss of safeguards

[116] *Id.* ¶ 50.

[117] *Id.* ¶ 47.

[118] *Mozilla*, 940 F.3d at 67.

[119] *Notice* ¶ 47.

for competitive service providers' deployment plans. The *Order on Remand* acknowledged that its legal theory precludes broadband-only providers from such protections and would harm competition, but concludes in essence that the trade off for the hope-filled magic deregulation beans was worth it.[120] Indeed, the Pai Commission smugly concluded that the loss of these protections is actually good for competitive providers facing bottlenecks and stalling by the incumbent phone and cable companies against whom they hope to compete. Why? Because according to Pai's logic, in the absence of applicable law, broadband-only providers "have the regulatory flexibility to enter into innovative and solution-oriented pole attachment agreements with pole owners."[121]

Fortunately, in the instant *Notice* the Commission recognizes that Pai's tradeoff was based on faulty analysis and logic.[122] The Commission now rightly understands that "ensuring the protections of section 224 are restored to all ISPs, including broadband-only providers, will pave the way for quicker and less expensive broadband deployment . . . ."[123]

Reclassification of broadband back under Title II will also enhance the Commission's ability to deal with the ever-vexing issue of barriers to service provisioning in Multiple Tenant Environments ("MTEs"). As we note elsewhere in these comments, traditional MSOs are moving away from offering facilities-based pay-TV services, choosing to prioritize broadband-only services. ILECs simply do not push their traditional voice services in their

[120] *RIF Remand Order* ¶ 71.

[121] *Id.* ¶ 74.

[122] *Notice* ¶ 47 ("We tentatively conclude that the Commission erred in its 2020 analysis and believe that reclassifying BIAS as a telecommunications service will help support the Commission's goals to facilitate broadband deployment . . .").

[123] *Id*.

marketing materials, reflecting where their future lies. And as we noted above, broadband-only fixed wireless services are increasingly popular, particularly with consumers living in MTEs.[124]

But exclusive deals that prohibit new entrants from accessing MTEs continue to frustrate consumers and the Commission's policy goals. Though the Commission has recently taken action to further open up MTEs to competitive services,[125] the continued placement of broadband-only services in Title I (particularly those using only unlicensed spectrum) will increasingly frustrate the agency's policy goals as this form of access grows more popular. Classifying broadband-only services as Title II telecommunications services will undoubtedly enhance the Commission's ability to remove the MTE barriers to competition, a need that will only become more acute as traditional FCC-regulated services decline.[126]

### 3. The Commission Needs Title II Authority in Order to Effectively Protect Public Safety.

The *Mozilla* court found that aspects of the *RIF Order* were "arbitrary and capricious . . . because of the Commission's failure to address an important and statutorily mandated consideration." The consideration chief in the court's mind was the repeal's impact on public

[124] *See, e.g.*, "Broadband Challenges and Opportunities in Affordable Rental Housing," Pew Charitable Trusts (Apr. 3, 2023); *see also* HACLA, "Starry Partners with the Housing Authority of the City of Los Angeles to Expand Affordable Broadband Access" (June 20, 2020).

[125] *See Improving Competitive Broadband Access to Multiple Tenant Environments*, GN 17-142, Report and Order and Declaratory Ruling, 37 FCC Rcd 2448, 2456 (2022) ("Commenters argue we should subject broadband-only providers to our rules governing MTE access, citing the potential benefits of doing so and the potential harms that could result from regulatory asymmetry if we did not. . . In tackling these issues in our *Exclusive Service Contracts and Competitive Networks Orders*, we did not extend our decisions to broadband-only providers, and we applied rules differently to commercial and residential MTEs. Today's action builds on those previous determinations and so we adopt the approach taken in those prior orders. We proceed incrementally, and will continue to monitor competition in MTEs to determine whether we should alter the scope of our rules to cover other providers or differently distinguish between commercial and residential MTEs in response to any new information that comes to light.").

[126] *Notice* ¶ 52.

safety.[127] However, in the *RIF Remand Order* the Pai Commission again rejected the public safety arguments raised by emergency responders and public safety officials, and instead prioritized the self-interested analysis of ISPs. Ultimately the *RIF Remand Order* put all of its public safety eggs in a transparency basket, hoping that public relations pressure would make ISPs behave appropriately in the future.[128]

The notion that transparency and shaming is any sort of replacement for legal duties is dangerous. Without agency authority for *ex post* enforcement (or authority for *ex ante* rules) the Commission cannot do its job to promote public safety – a function that is increasingly critical as the consequences of climate change become more apparent.[129]

For example, should the Commission decide that requiring ISPs to transmit emergency alerts to their subscribers would be in the public interest, the classification of BIAS as an information service would likely prevent it from acting.[130] Likewise, as more and more consumers switch to broadband-only services and rely on pure-IP methods for contacting emergency services, the Title I BIAS classification will frustrate the Commission's ability to implement a cohesive public safety policy strategy. Indeed, as the Commission notes, its Network Outage Reporting System ("NORS") requires qualifying communications providers to report network outages, and the Commission uses this information to "advance network resiliency and reliability."[131] But because NORS is limited to voice service outages, "the Commission has historically lacked reliable outage information for today's modern, essential

[127] *Mozilla*, 940 F.3d at 49.

[128] *RIF Remand Order* ¶¶ 38-40.

[129] *Notice* ¶ 33.

[130] *Id.* ¶ 35.

[131] *Id.* ¶ 39.

broadband networks."[132] We agree with the Commission's conclusion that this tethering of outage reporting to voice services "inhibits the Commission from fully ensuring the resiliency and reliability of those networks."[133]

#### 4. The Commission Needs Section 214 Authority in Order to Protect National Security and Prevent ISPs from Discontinuing Service without Notifying Customers.

We agree with the Commission's conclusion that classifying BIAS as a telecommunications service would enhance its "ability to protect the nation's communications networks from entities that pose threats to national security and law enforcement pursuant to its authority under section 214 of the Act."[134] The Commission correctly notes that under Section 214, "carriers must be authorized by the Commission to provide domestic and international telecommunications service in the United States," and that "reclassifying BIAS as a telecommunications service would allow the Commission to use its section 214 authority to address"[135] national security threats such as those it dealt with in a spate of recent orders.[136]

Section 214 offers the Commission other important authorities that go well beyond national security. Common carriers that, for whatever reason, seek to cease provisioning of Title

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[132] *Id.*

[133] *Id.*

[134] *Id.* ¶ 27.

[135] *Id.*

[136] *See China Telecom (Americas) Corporation*, GN Docket No. 20-109, File Nos. ITC-214-20010613-00346, ITC-214-20020716-00371, ITC-T/C-20070725-00285, Order on Revocation and Termination, 36 FCC Rcd 15966 (2021), *aff'd China Telecom (Americas) Corp. v. FCC*, 57 F.4th 256 (D.C. Cir. 2022); *China Unicom (Americas) Operations Limited*, GN Docket No. 20-110, File Nos. ITC-214-20020728-00361, ITC-214-20020724-00427, Order on Revocation, 37 FCC Rcd 1480 (2022), *argued* 9th Cir. Feb. 15, 2023; *Pacific Networks Corp. and ComNet (USA) LLC*, GN Docket No. 20-111, File Nos. ITC-214-20090105-00006, ITC-214-20090424-00199, Order on Revocation and Termination, 37 FCC Rcd 4220 (2022), *aff'd Pacific Networks Corp. and ComNet (USA) LLC v. FCC*, 77 F.4th 1160 (D.C. Cir. 2023).

II services must file discontinuance notices, pursuant to Section 214. While it would seem unfathomable to many that an ISP could just drop all of its customers without warning, this does happen. For example, just this month a cable and internet service provider serving parts of western Mississippi and eastern Louisiana ceased operations without notifying customers.[137] While managing discontinuances may ultimately be a duty that is best handled jointly by state and federal authorities, it is certainly the case that classifying BIAS under Title II would give the Commission the power to protect consumers in situations like this if state commissions or Local Franchising Authorities are unable or incapable of acting.

### 5. The Commission Needs Section 222 Authority in Order to Effectively Protect Broadband Users' Privacy Rights.

In 2017, President Trump signed a congressional resolution of disapproval that dismantled the Commission's 2016 broadband-privacy rules.[138] Those rules prevented ISPs from using, selling or sharing personal information like web-browsing histories without first getting their customer's consent. Even without those rules in place, the responsibility to protect the privacy of broadband customers remained with the Commission under Title II. However, when the Pai Commission abandoned Title II and the Commission's duties under Section 222 in 2017, it abdicated all internet privacy oversight to the FTC, an agency with limited resources and weaker rulemaking authority than the FCC had. While the current FTC leadership is thankfully acting to protect consumers in many areas of the economy, the FTC currently can only respond

[137] *See* "Cable company shuts down services abruptly," WAFB (Dec. 6, 2023) ("A cable company that services more than a dozen towns in Mississippi and Louisiana appears to have abruptly closed its doors, according to residents in those towns . . . Residents in those areas said they did not receive any warning that their services would be shut off. Jackson mayor James 'Jimmy' Norsworthy said the town's attorneys were reviewing contracts with Bailey Cable to determine if the company was obligated to give notice of their closure. Clinton's Mayor also said he was attempting to reach out to the company, but was having trouble.").

[138] *See* Li Zhou, "Trump makes it official and signs broadband privacy CRA," *Politico* (Apr. 4, 2017).

to a company's violations of its own tailor-made privacy policies.[139] This is why the FTC Chair herself has noted that the Federal Communications Commission is a far better-equipped agency for protecting broadband user's privacy rights.[140]

Therefore we strongly agree with the Commission's proposal to restore Section 222's protections for broadband Internet access service customers. The Commission rightly notes that placing broadband back under Title II and Section 222 would "support the Commission's efforts to protect consumers' privacy and data security. . ."[141] The restoration of Title II and Section 222's duties for BIAS providers would put carriers on notice that they could be subject to *ex post* action pursuant to Section 208 complaints alleging violation of Section 222.

### B. The Commission Should Grant Broad Forbearance, But Preserve The Core Provisions of Title II that are Necessary to Protect Users from Unjust and Unreasonable Discrimination.

#### 1. The Commission Has Never Granted Forbearance from Sections 201, 202 and 208, as these are the Central Core of its Title II Authority to Protect Users from Unjust and Unreasonable Discrimination.

We now turn to the Commission's proposed forbearance framework.[142] As we discuss below, we generally agree with the Commission's proposals. However, we do have serious concerns with the vaguely described proposal to "forbear from applying sections 201 and 202 to BIAS insofar as they would support adoption of rate regulations for BIAS."[143] While we fully

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[139] *Notice* ¶ 139 ("Finally, we also observe that while the FTC has generally proceeded through *ex post* enforcement actions and public guidance, reclassification would allow the Commission to proceed by establishing *ex ante*, commonly applicable rules.").

[140] Remarks of FTC Chair Lina M. Khan Regarding the 6(b) Study on the Privacy Practices of Six Major Internet Service Providers, Commission File No. P195402, at 2 (Oct. 21, 2021).

[141] *Notice* ¶¶ 40-44.

[142] *Id.* ¶¶ 98-114.

[143] *Id.* ¶ 105.

agree with the Commission's commitment to not prescribe retail rates, we do not believe the Act's structure allows for forbearance from sections 201, 202 or 208, as we explain below. And as we detailed above, decades of Commission precedent demonstrates quite conclusively that the Commission simply does not regulate retail rates in markets that are subject to competition.

The history of how Congress approached incorporating CMRS into the Act is very instructive on this point. Congress specifically chose to apply the three core sections of Title II (Sections 201, 202 and 208) to CMRS providers despite their non-monopoly status, and did not allow the Commission to deviate from that core.[144] This 1993 amendment to the Act established the framework that would later be formalized into Section 10.[145] Congress instructed the FCC to consider forbearing from any parts of Title II if it deemed those unnecessary (pursuant to certain criteria). But Congress specifically stated that the "Commission may not specify any provision of section 201, 202, or 208" in its determinations of what parts of Title II should not apply to CMRS. In other words, Section 332 forbearance can only be granted if those provisions are not

[144] 47 U.S.C. § 332(c)(1)(A) ("A person engaged in the provision of a service that is a commercial mobile service shall, insofar as such person is so engaged, be treated as a common carrier for purposes of this Act, except for such provisions of [Title] II as the Commission may specify by regulation as inapplicable to that service or person. In prescribing or amending any such regulation, the Commission may not specify any provision of section 201, 202, or 208, and may specify any other provision only if the Commission determines that – (i) enforcement of such provision is not necessary in order to ensure that the charges, practices, classifications, or regulations for or in connection with that service are just and reasonable and are not unjustly or unreasonably discriminatory; (ii) enforcement of such provision is not necessary for the protection of consumers; and (iii) specifying such provision is consistent with the public interest.") (emphasis added).

[145] *See* Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, § 6002(b)(2)(A)-(B), 107 Stat. 312, 392 (1993).

needed to preserve the non-discriminatory outcomes[146] required by the three core Title II sections.[147] As the Commission has noted:

> Sections 201 and 202, codifying the bedrock consumer protection obligations of a common carrier, have represented the core concepts of federal common carrier regulation dating back over a hundred years. Although these provisions were enacted in a context in which virtually all telecommunications services were provided by monopolists, they have remained in the law over two decades during which numerous common carriers have provided service on a competitive basis. These sections set out broad standards of conduct, requiring the provision of interstate service upon reasonable request, pursuant to charges and practices which are just and reasonable and not unjustly discriminatory. At bottom, these provisions prohibit unreasonable discrimination by common carriers by guaranteeing consumers the basic ability to obtain telecommunications service on no less favorable terms than other similarly situated customers. The Commission gives the standards meaning by defining practices that run afoul of carriers' obligations, either by rulemaking or by case-by-case adjudication. The existence of the broad obligations, however, is what gives the Commission the power to protect consumers by defining forbidden practices and enforcing compliance. Thus, sections 201 and 202 lie at the heart of consumer protection under the Act. Congress recognized the core nature of sections 201 and 202 when it excluded them from the scope of the Commission's forbearance authority under section 332(c)(1)(A). Although section 10 now gives the Commission the authority to forbear from enforcing sections 201 and 202 if certain conditions are satisfied, the

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[146] *See Personal Communications Industry Association's Broadband Personal Communications Services Alliance's Petition for Forbearance for Broadband Personal Communications Services*, WT Docket No. 98-100, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 13 FCC Rcd 16857, ¶ 19 (1998) ("*PCIA Forbearance Order*") ("The first prong of the section 10 forbearance standard is not satisfied unless enforcement of a statutory provision is shown not to be necessary to ensure that charges, practices, classifications, and regulations are just and reasonable, and are not unjustly or unreasonably discriminatory. This standard essentially tracks the central requirements of sections 201 and 202.").

[147] Section 10 forbearance grants the Commission even more flexibility, but still requires the same non-discriminatory outcomes. See 47 U.S.C. § 160(a) ("Notwithstanding section 332(c)(1)(A) of this Act, the Commission shall forbear from applying any regulation or any provision of this Act to a telecommunications carrier or telecommunications service, or class of telecommunications carriers or telecommunications services, in any or some of its or their geographic markets, if the Commission determines that – (1) enforcement of such regulation or provision is not necessary to ensure that the charges, practices, classifications, or regulations by, for, or in connection with that telecommunications carrier or telecommunications service are just and reasonable and are not unjustly or unreasonably discriminatory; (2) enforcement of such regulation or provision is not necessary for the protection of consumers; and (3) forbearance from applying such provision or regulation is consistent with the public interest.").

> history of the forbearance provisions confirms that this would be a particularly momentous step. . . . Consistent with the centrality of sections 201 and 202 to consumer protection, the Commission has never previously refrained from enforcing sections 201 and 202 against common carriers, even when competition exists in a market.[148]

Indeed, as the Commission has explained, competition itself may not be enough to protect consumers from unjust and unreasonable practices, particularly to ensure that the most vulnerable consumers that carriers might deem "undesirable" are still adequately and justly served.[149] The Commission also has noted that in nominally competitive markets, such as mobile wireless, there are still factors that could frustrate consumers' efforts to avail themselves of the services of a competitor, thus serving as yet another reason to maintain the basic backstop of Section 201 and 202 authority.[150]

Congress specifically applied Title II in a deregulatory fashion to markets that were and are subject to competition, and it is to this day Commission policy to preserve those basic common carrier duties for operators regardless of the level of market competition. Wireless providers are subject to the entirety of Sections 201 and 202, and their retail rates have not been, are not now, and never will be regulated.

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[148] *PCIA Forbearance Order* ¶ 15 (emphasis added).

[149] *Id.* ¶ 23 ("Assuming all relevant product and geographic markets become substantially competitive, moreover, carriers may still be able to treat some customers in an unjust, unreasonable, or discriminatory manner. Competitive markets increase the number of service options available to consumers, but they do not necessarily protect all consumers from all unfair practices. The market may fail to deter providers from unreasonably denying service to, or discriminating against, customers whom they may view as less desirable.").

[150] *Id.* ("In addition, certain conditions even in competitive CMRS markets could facilitate discrimination and unfair practices. For example, CMRS systems use a variety of different technologies and operate over different frequency bands, thus requiring handsets with different capabilities to access different systems. The cost of a new handset – as a component of the cost of switching providers – may thus act to undermine market discipline.").

This continued granting of forbearance from any portion of Title II except for Sections 201, 202 and 208 is Commission practice specifically because competition, which is expected to produce non-discriminatory outcomes, may not do so at all times. That remains a public interest concern.[151] This has been the Commission's consistent approach under leadership from both parties.[152]

We recognize the tremendous political pressure the Commission is on to demonstrate that it has no intention to regulate retail rates. However, it is not the Commission's job to attempt to soothe the feelings of those who would continue to oppose Title II reclassification regardless of whatever forbearance is granted. Those critics have motivated ignorance. They should understand the Commission's history of regulating rates, which clearly indicates that there will be no threat of setting retail rates under restored Sections 201, 202 and 208 – not even in areas where there is only one available terrestrial ISP. Every location in the nation is served by

[151] *Id.* ¶ 31 ("Sections 201 and 202 continue to provide important safeguards to consumers of broadband PCS against carrier abuse in an area that has already been largely deregulated by the Commission. We therefore find that at this time it is necessary to maintain sections 201 and 202, which enable the Commission to ensure that broadband PCS carriers provide service in a just, reasonable, and non-discriminatory manner, and to provide all consumers, including other carriers, with a mechanism through which they can seek redress for unreasonable carrier practices.").

[152] *See, e.g.*, *Petition of AT&T Inc. for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Its Broadband Services, Petition of BellSouth Corporation for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Its Broadband Services*, WC Docket No. 06-125, Memorandum Opinion and Order, 22 FCC Rcd 18705, ¶ 67 (2007) ("For example, the protections provided by sections 201 and 202(a), coupled with our ability to enforce those provisions in a complaint proceeding pursuant to section 208, provide essential safeguards that ensure that relieving AT&T of tariffing obligations in relation to its specified broadband services will not result in unjust, unreasonable, or unreasonably discriminatory rates, terms, and conditions in connection with those services. . . . In particular, many of the obligations that Title II imposes on carriers or LECs generally, including interconnection obligations under section 251(a)(1) and pole attachment obligations under sections 224 and 251(b)(4), foster the open and interconnected nature of our communications system, and thus promote competitive market conditions within the meaning of section 10(b).").

multiple satellite ISPs, and nearly every location also has in addition at least one CMRS provider offering internet access service. This level of potential competition is above that in other circumstances where the Commission consistently refused to regulate rates.

The Commission must preserve its authority to determine on a case-by-case basis that a particular rate is unjust or unreasonable. Therefore we strongly urge the Commission to maintain Sections 201, 202 and 208. And it should issue a policy statement that recounts its history of rate regulation and clarifies that Commission policy is to not regulate rates under all but the most-extreme circumstances.

### 2. The Commission Should Temporarily Forbear from Section 254(d) in Order to Ensure Residential Broadband Users are Not Forced to Shoulder the Bulk of the USF Contribution Burden.

We strongly agree with the Commission's proposal "to forbear in part from the first sentence in section 254(d) and our associated rules 'insofar as they would immediately require new universal service contributions associated with' BIAS, as the Commission did in 2015."[153] As the Commission noted in the *2022 Report on the Future of the Universal Service Fund*, over the past decade the average total USF disbursements have remained relatively stable. Also over the past decade the average combined residential and business contribution to the USF has steadily declined, even as the contribution factor increased.[154] What's more, as Free Press

[153] *Notice* ¶ 105.

[154] *See Report on the Future of the Universal Service Fund, Federal Communications Commission*, WC Docket No. 21-476, Report, 37 FCC Rcd 10041, ¶¶ 90-92, Table 2 (2022), (noting that on an inflation-adjusted basis, the average combined residential and business monthly USF contribution went from $7.80 in 2012 to $5.91 in 2021).

noted[155] and the Commission confirmed, the share of the USF contribution borne by residential households has declined as businesses share of that burden increased.[156] Depending on the assessment method, the Commission expanding the USF contribution burden to BIAS could result in a massive $4 billion annual wealth transfer from consumers to giant companies.[157] This shift onto consumers would also be regressive, overburdening low-income consumers that are more sensitive to price increases than businesses or other consumers. Imposing a regressive tax on broadband could thus negatively impact low-income broadband adoption and use, frustrating important Congressional and Commission policy goals.

This potential major upheaval in what is actually a stable and equitable contribution system is why it is imperative for the Commission to forbear from "immediately requir[ing] new universal service contributions associated with" BIAS after it classifies BIAS as a telecommunications service.[158] This matter needs to be carefully considered in a separate proceeding.

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[155] *Id.* ¶ 96 ("Free Press makes a related argument that the decline in interstate telecommunications revenues has significantly shifted the USF contributions burden from consumers to large businesses due to reductions in interstate retail mobile revenues coupled with an increase in contributions from interconnected VoIP, local private line/special access service, and long distance private line service.").

[156] *Id.* n. 337 ("From 2011 to 2017, Commission staff estimates that the residential portion of the total contribution is between 45% (low estimate) and 55% (high estimate). In 2021, Commission estimates believe that the residential portion of the total contribution is between 35% (low estimate) and 45% (high estimate).").

[157] *See* Comments of Free Press, *In the Matter of Report on the Future of the Universal Service Fund*, WC Docket No. 21-476, at 35 (filed Feb. 17, 2022).

[158] *See Open Internet Order* ¶ 488; *Notice* ¶ 105.

### 3. The Commission Should Proceed in an Incremental Manner on Matters of Forbearance Impacting BIAS Providers' Internet Exchange Practices, and on the Issue of State Preemption.

As we discussed above when noting the important policy authority found in Section 214, we agree with the Commission's conclusion that classifying BIAS as a telecommunication service would enhance its "ability to protect the nation's communications networks from entities that pose threats to national security and law enforcement pursuant to its authority under section 214 of the Act."[159] In addition to the national security protection authority, Section 214 gives the Commission the additional means to protect consumers and promote important national goals. Specifically, Section 214 empowers the Commission to require ISPs to file discontinuance notices and notify customers before discontinuing service. While very few ISPs actually discontinue service (or do so without filing Section 214 discontinuance notices for the telephone services that likely would also be impacted alongside BIAS service), there are documented instances of ISPs dropping customers without notice.[160]

And as is the case with the proposed partial and temporary forbearance from Section 254(d), we strongly urge the Commission to consider all Section 214 matters raised by reclassification of Title II in a separate proceeding. We also urge the Commission to conduct a separate proceeding on the question of "whether forbearance should be differently tailored in the specific context of the Internet traffic exchange portion of BIAS."[161] As we discuss herein, though there were clear market failures in the interconnection markets prior to the adoption of the *Open Internet Order* in 2015, those issues disappeared immediately after the Commission restored its Title II authority. Our current sense is that the interconnection markets are

[159] *Notice* ¶ 27.

[160] *Supra* note 137.

[161] *Notice* ¶ 113.

functioning well, and that any specific Commission intervention into this aspect of the BIAS market would be best determined in a separate proceeding.

The Commission also sought comment on whether it should "exclude from the scope of our forbearance provisions sections 218 and 220 of the Act, which authorize the Commission to obtain information from common carriers," which the Commission states "could provide important tools to investigate public safety and security-related issues that arise."[162] We agree that Section 218's authority to "inquire into the management of the business of all carriers subject to this Act"[163] could be an important source of investigative authority for the Commission, should it be unable to use other authorities to compel a reluctant carrier to cooperate with Commission inquiries.

Section 220 provides the Commission with the authority that it historically used to support its Cost Assignment Rules. In the past, when common carriers sought Section 10 forbearance from these rules, the Commission granted relief from the rules, but only granted conditional forbearance from Section 220.[164] A similar approach would be warranted for BIAS providers generally. That is, the Commission need not apply the accounting requirements found in Section 220(a)(2) or 220(b), but in the interest of national security it could retain the general investigative authority found in Section 220(c).

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[162] *Notice* ¶ 109.

[163] 47 U.S.C. § 218.

[164] *See, e.g.*, *Petition of AT&T Inc. For Forbearance From Enforcement of Certain of the Commission's Cost Assignment Rules*, WC Docket No. 07-21, Memorandum Opinion and Order, 23 FCC Rcd 7302, note 76 (2008) ("[W]e forbear from applying section 220(a)(2) of the Act to AT&T but only to the extent that this provision contemplates separate accounting of nonregulated costs.").

Finally, we agree with the suggestion in the *Notice* that the Commission should proceed in an incremental manner with regards to matters of preempting state authority.[165] We agree that "Commission decisions finding BIAS to be interstate for regulatory purposes largely resolve possible arguments premised on the limitation on FCC authority over state communications services under section 2(b) of the Act that otherwise could arise."[166] However, this matter is complex and goes well beyond network management policies. Thus we agree with the Commission's proposal to "defer[ ] to future case-by-case adjudications of preemption."[167]

### C. The Commission Must Restore the Open Internet Rules in Order to Ensure Everyone in the Nation has Continued Access to the Open Internet, to Promote Free Expression, and to Protect ISPs from Political Pressure to Discriminate Against Lawful Content.

ISPs and their water carriers are quick to claim that there are not currently any ISPs violating Net Neutrality, meaning that restoration of the *Open Internet Order*'s rules is unnecessary. However, as we've repeatedly explained and as the Commission references in the *Notice*, an absence of known violations after the *RIF Order* is not evidence of the lack of need for rules – particularly while the state laws protecting Net Neutrality and public pressure are holding the line.[168] The FCC or states in some form or another have either subjected ISPs to, or actively considered subjecting ISPs to, some type of basic Net Neutrality duties for more than two decades, a period that encompasses nearly the entire existence of the home broadband market. Moreover, as the Commission concludes, "ISPs continue to have the incentive and ability to engage in practices that pose a threat to Internet openness.[169]

[165] *Notice* ¶ 96.

[166] *Id.* ¶ 95.

[167] *Id.* ¶ 96.

[168] *See, e.g.*, *id.* ¶ 126 n. 91.

[169] *Id.* ¶ 126.

Therefore we strongly agree with the Commission's proposal to reinstate rules that prohibit ISPs from blocking or throttling content. We also strongly agree with the Commission's proposal to affirmatively "ban arrangements in which an ISP accepts consideration (monetary or otherwise) from a third party [or its own affiliates] to manage its network in a manner that benefits particular content, applications, services, or devices." This practice, known as "paid-prioritization," is not to our knowledge currently practiced by any U.S. BIAS provider. This is in part due to the norms established in the years prior to adoption of the *Open Internet Order*, then codified in it. Those norms were maintained by California's and other state's Net Neutrality laws adopted in the aftermath of the *RIF Order*.

However, without strong nationwide rules, it is possible that in the future some carriers might seek to monetize their BIAS services by selling to edge providers prioritized access to broadband customers. Indeed, as noted herein, nearly every single broadband household either subscribes to an OTT video service, or utilizes an advertiser-supported OTT video service. BIAS providers are currently monetizing this consumer preference through the selling of broadband services that enable users to access any streaming video service of their choosing, and this growing demand is translating into higher revenues and profits for BIAS providers.

But the U.S. broadband market is nearly saturated in terms of new subscriber growth; and it is certainly possible that in the coming years demand for faster transmission speeds may slow as FTTH and DOCSIS networks offer Internet customers more than ample bandwidth. If and when the market reaches this saturation state, ISP's ability to generate revenue and profit growth could be constrained. This environment would be ripe for ISPs to attempt to extract additional revenues through means other than just selling retail BIAS service. It is possible that BIAS

providers would seek partnerships with major streaming services, and prioritize the delivery of those services as a way of product differentiation.

A future state of market saturation also might produce a return of BIAS providers abusing their terminating access monopoly through charging of terminating access fees, in a repeat of the Great Internet Slowdown of 2013 (see discussion below). ISPs large and small are rational economic actors, and the conditions by which they maximize profits may change over time. This is why we strongly agree with the Commission's proposal to reinstate the General Conduct Rule, which "would prohibit practices that unreasonably interfere with or disadvantage consumers or edge providers." This rule captures the central function of Sections 201, 202 and 208, and enables the Commission to adjudicate "on a case-by-case basis," complaints concerning practices that are alleged to "unreasonably interfere with or unreasonably disadvantage the ability of consumers to reach the Internet content, services, and applications of their choosing or of edge providers to access consumers using the Internet."

The ability to access an open network is one of the greatest economic success stories in all of history, but the civic corollary to innovation without permission is the right to speak freely without permission. As the Supreme Court stated, "[t]hrough the use of chat rooms, any person with a phone line can become a town crier with a voice that resonates farther than it could from any soapbox. Through the use of Web pages, mail exploders, and newsgroups, the same individual can become a pamphleteer."[170]

Common carriage facilitates the exercise of free speech. The doctrine ensures that end users have network access, but also insulates the carrier from any responsibility for the content that it transports. The duty to serve all means carriers cannot act as censors, and are immune to

[170] *Reno v. ACLU*, 521 U.S. 844, 857 (1997).

political pressure not to serve parties transmitting controversial content. To say that this has served our democracy well would be an understatement, and we abandon it at our peril. Without common carriage, there's nothing preventing an ISP from bowing to pressure to cut off or degrade service to the headquarters of a local chapter of the NRA, ACLU, Center for Reproductive Rights or any other group that conducts even basic investigative journalism[171] or other political activities.[172]

Indeed, carriers have already asserted that they should be allowed to function just like a newspaper does, and "feature some content over others."[173] That assertion is why it is imperative – especially in the current political climate – that the Commission insulate ISPs from the public pressure that could be brought to bear to censor content at the network level.[174] Thus in codifying Net Neutrality rules, the Commission will promote the maximal ability of the people to exercise

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[171] *See, e.g.*, William Melhado, "Ken Paxton announces investigation of media group following Elon Musk's lawsuit," *San Antonio Current* (Nov. 21, 2023).

[172] There is even danger of politically motivated blocking when common carriage principles, or "no-blocking" rules modeled on such principles, are in place but go unheeded or unenforced. The activists of the 1960s recognized this reality, when they secured WATS Lines rather than risk blocking by local switchboard operators hostile to the causes of racial justice and civil rights. So too do activists and organizers today, still fighting to make it known that Black lives matter, or to communicate any political point whatsoever to individuals and mass audiences alike online.

[173] In its brief successfully challenging the 2010 version of the open internet rules (struck down based on their insufficient Title I legal basis, not this claim), Verizon boldly argued "broadband providers possess 'editorial discretion.' Just as a newspaper is entitled to decide which content to publish and where, broadband providers may feature some content over others." The brief suggested that broadband providers should be allowed to edit the speech and information they carry, arguing that it was only at such providers' "discretion" that they deigned "to allow all content" on their networks. *See Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014), Joint Brief for Verizon and MetroPCS at 43 (filed July 2, 2012).

[174] We agree with the Commission when it expresses "doubt that consumers are likely to act uniformly as a single, undifferentiated group, particularly where issues like free expression are concerned." Notice ¶ 119. A small ISP could choose to block certain content and that action might be popular with the majority of its customers, but still frustrate certain customers' ability to use their internet connection to connect and communicate freely.

their first amendment rights, even as certain application providers exercise their own First Amendment rights by moderating their platforms.[175]

In sum, ISPs have financial and political incentives to violate Net Neutrality. They claim to adhere to openness principles today. But the Commission must reinstate the 2015 *Open Internet Order's* rules in order to protect and preserve the open pathway that is essential to economic prosperity and free expression.

### D. Broadband Deployment and Investment Is Not Impacted by Title II Classification or Net Neutrality Rules, Increased to Historic Levels Following the Commission's Restoration of Common Carriage in the 2015 Order, and Declined Following the 2017 Repeal.

Free Press has followed the topic of telecom industry investment and its relation to FCC regulation extremely closely. Our work on this important but deeply misunderstood topic is found in the record of prior Title II proceedings, and in public reports such as our May 2017 report *It's Working*.[176] In that report, we meticulously documented what ISPs were saying to investors prior to and in the two years following the 2015 *Open Internet Order*. Company communications with investors and investment analysts are quite different from their advocacy at the FCC. This is of course because misleading investors in official, SEC-sanctioned communications is illegal; whereas in FCC communications, companies' hyperbole, over-promising, and over-stating is apparently acceptable advocacy.

Thus, we are very much in agreement with the Commission's tentative conclusion in the *Notice*: "conclusions in the *RIF Order* that ISP investment is closely tied to the classification of

[175] *See, e.g.*, Written Testimony of Matthew F. Wood, Policy Director, Free Press and the Free Press Action Fund, before the Congress of the United States House of Representatives Committee on Energy and Commerce, Subcommittee on Communications and Technology, "From Core to Edge: Perspective on Internet Prioritization," at 29-30 (Apr. 17, 2018).

[176] *See supra* note 72.

BIAS were unsubstantiated," and that it is "unlikely that changes in investment shortly following the adoption of each *Order* [in 2015 then 2017] were actually related to the effects of each *Order*."[177] Nonetheless, the *Notice* does ask again how these policy changes did or did not impact investment. We understand why the Commission must seek comment here; but it is critical to note that the Commission's policy concern absolutely should not be how much capital investment any individual ISP makes, or how the industry spends in aggregate. Capital expenditures are a means to facilitate infrastructure deployment, but what ultimately matters is the deployment – not how much it costs, nor how much spending changes in aggregate from year to year.[178] In fact, rational companies don't want or need to spend as much money as possible to please Beltway dwellers, because that would be ridiculous. ISPs' spend what they must to keep up with demand and compete; and as they readily explain to their investors, technological advances make it possible for them to spend less even while continuing to extend, expand, and upgrade networks.

The open internet is directly responsible for promoting an unprecedented level of civic engagement and commercial activity, as well as enabling massive innovation and investment by persons and businesses utilizing the internet as a carrier platform for these activities. As we documented above in Part I, this was possible because common carriage acted as the anti-gatekeeper, protecting openness against the shortsighted and self-serving interests of those who control the access networks.

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[177] *Notice* ¶ 57.

[178] Indeed, as the Commission notes in the *Notice*, the fact that billions of dollars in federal and state subsidies for broadband deployment (and adoption subsidies, which stimulate demand) have started and will continue to go into the market greatly complicates this bean-counting exercise. *See Notice* ¶ 58. This is again why we urge the Commission to read what ISPs are telling their investors if it wants to get a reasonably accurate assessment of these carriers' incentives and motivations.

But while common carriage is a wildly successful policy and legal framework for promoting edge investment, that spending on the edge is not the whole story. The continued protection of common carriage, in conjunction with policies that opened up communications markets to greater competition, was responsible for the remarkable period of telecommunications industry investment that occurred from 1996 through 2001.[179]

In Washington policy debates, facts and the reality they represent are often drowned out by repetition of beliefs, no matter how unmoored those beliefs are from the lessons of history. Repetition is reality. Such is the case with common carriage in general, but particularly for beliefs (and propaganda) about the impact of Title II on investment. Despite repeated debunking, the leading incumbents and their paid-proxies continue to spread fear amongst policymakers that light application of basic Title II obligations will destroy network investment. This argument is never supported by an explanation as to why this would be the case, and no one making it ever bothers addressing the historical evidence that contradicts this belief. And why would they bother? Too often in Washington, cognitive biases are worn as a badge of honor by those who place political analysis above policy analysis.

But because repetition is reality – and the actual reality apparently needs repeating – below we restate and update the evidence demonstrating conclusively that a return to the deregulatory application of common carriage did not harm investment between 2015 and 2017, and the *RIF Order* did not produce an upswing in investment or deployment. Nor is there any reason to think that the policies proposed in the *Notice* will negatively impact broadband

[179] *See* Free Press Comments, *In the Matter of Protecting and Promoting the Open Internet,* GN Docket No. 14-28, at 98-103 ("Free Press 2014 Open Internet Comments").

investment or deployment. The Commission can be certain of this, because it's exactly what ISP executives are telling investors.[180]

### 1. Broadband Deployment and Investment Increased to Historic Levels Following the Commission's Restoration of Common Carriage in the 2015 Order.

There should be no doubt: the Commission's 2015 *Open Internet Order* was a smashing success. This is true when measured by its stated goal of preserving and promoting the online ecosystem's "virtuous cycle of investment,"[181] and when measured by the Commission's statutory obligations to "encourage the deployment" of "broadband telecommunications capability"[182] and to promote "improved access to broadband service to consumers residing in

[180] We note that the investment analyst community for much of the post "telecom bubble" era frowned on carriers placing a bet on themselves by allocating capital to next generation upgrades. For example, right after the FCC issued the *2005 Wireline Broadband Order*, Verizon's stock price did not increase. It declined because of ongoing Wall Street concern about the company's capital investment in FiOS. Investors punished Verizon for its (now highly profitable) network investment, and ignored the fact that its broadband business was removed from any common carriage obligations. But today investment analysts have completely changed their tune on fiber upgrades, in part because they understand that ILECs' future financial viability turns on whether or not they deploy fiber. In a recent interview with Verizon's CFO, Morgan Stanley analyst Simon Flannery noted that "Fios has been a strong feature of your wireline footprint for, what, 2005, something like that, pushing 20 years now and it looks pretty prescient at this point, although I know I and others were looking for the return with Doreen back in the day." *See, e.g.*, Verizon Nov. 16, 2023 Comments (emphasis added); *see also, e.g.*, Michael Buckley, "Media Money: Verizon Hits 52-Week Low Despite Good Industry News," *SNL Kagan* (Aug. 9, 2005) ("In a move that should help telcos compete with cable Internet providers, the FCC on August 5th unanimously agreed to treat DSL as an 'information' rather than a 'telecommunications' service, thus avoiding traditional telephony rules such as those requiring RBOCs to lease their networks to competitors at regulated rates. The news failed to lift shares of telecom giant Verizon, however, which hit a new 52-week low of $33.04 on August 8th. Investors still seem wary of the many challenges facing traditional telcos and are uncomfortable with Verizon's projected $15.3 bil. in 2005 CapEx.") (emphasis added).

[181] See *Open Internet Order* ¶ 7; *US Telecom Ass'n. v. FCC,* 825 F.3d 674, 707 (D.C. Cir. 2016) ("In any event, the Commission found that the virtuous cycle – spurred by the open internet rules – provides an ample counterweight, in that any harmful effects on broadband investment 'are far outweighed by positive effects on innovation and investment in other areas of the ecosystem that [its] core broadband policies will promote.'").

[182] 47 U.S.C. § 1302(a) ("The Commission and each State commission with regulatory jurisdiction over telecommunications services shall encourage the deployment on a reasonable

unserved areas of the United States."[183] Broadband provider company investments, particularly those in core network services, accelerated following the Commission's 2015 vote. And much more relevant than the dollars these ISPs spent is this encouraging fact: the transmission capabilities of broadband services offered by carriers large and small increased dramatically in the nearly three-year period beginning in mid-2015 under restored common carriage.

Broadband providers thrived in the Title II era – and all of the metrics reflect this. But ISPs represent just one portion of the overall internet ecosystem, the entirety of which experienced historic growth, competition, and innovation during the *Open Internet Order* era. Investments in the network edge, including those by online video providers and edge computing firms, shot way up, as we detail below in Part II E. Each sector of the internet economy continued to respond to consumer demand, and that demand increased because the *Open Internet Order* ensured consumers would have access to an open, non-discriminatory telecommunications service transmission pathway.

The data is clear: the restoration of Title II common carriage and the adoption of basic open internet rules did not negatively impact the broadband market's trajectory. In fact, the data provides evidence supporting the argument that settling the controversy about whether broadband providers could discriminate against streaming video (by blocking, throttling, or discriminating through paid-priority arrangements) produced a positive response from those

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and timely basis of advanced telecommunications capability to all Americans . . . by utilizing, in a manner consistent with the public interest, convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment."); *see also id.* § 1302(d)(1) ("The term 'advanced telecommunications capability' is defined, without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.").

[183] *Id*. § 1305(b)(2).

broadband providers. Many or all of them apparently sought to gain share in a market where internet users demand transmission capacities that can adequately support streaming video.

The story – told by both the deployment data and the investment data – should come as no surprise to anyone that closely follows this market: cable company ISPs have always had the easier upgrade path relative to telephone company ISPs, due to the inherent advantages of coaxial cable systems over traditional copper systems. Nonetheless, cable company ISPs were initially reluctant to make substantial capacity upgrades in the infancy of the streaming media era, primarily due to concerns about cannibalization of their pay-TV services. But as the streaming media industry and underlying technologies evolved, cable company ISPs eventually accepted that systemic change was happening, and they were better off pursuing a business strategy that embraced streaming video as a complementary service for the majority of customers. Cable company ISPs also came to understand that whatever revenues they might lose in TV, they would more than offset through gains in broadband market share addition, knowing that their legacy telephone company ISP competitors had a much more expensive upgrade path.

The settling of the Net Neutrality controversy by the 2015 order helped clarify the best path forward for legacy telephone companies as well as cable companies. Carriers of all types abandoned their old view, that broadband providers would need to implement discriminatory routing business models in order to compete or even survive in a streaming video world.[184] The

[184] For an example of comically wrong pro-ISP analysis rolled out to encourage policymakers to allow discrimination, see, for example, Hal J. Singer, "Net Neutrality: A Radical Form of Non-Discrimination," *Regulation* (Summer 2007) ("With the advent of streaming video and other bandwidth-intensive applications, the demand for bandwidth is projected to overtake the existing supply quickly. Regulators and legislators should not interfere with a broadband service provider's ability to manage this 'coming exaflood' with intelligent networks. At best, the price of Internet service will skyrocket if broadband service providers can meet the coming traffic using only expanded infrastructure. At worst, the Internet experience for all users will deteriorate."). Of course, broadband providers of all types have dramatically expanded capacities and continue to meet demand – not because of the 2017 repeal, but because of investments including those made and planned while the *Open Internet Order* was in effect – and all without

entire industry has benefited from the certainty provided by the *Open Internet Order* as well as continued technological advancement. Though ILECs were and continue to be at a network cost disadvantage relative to their cable ISP peers, many began to implement massive fiber upgrade plans during 2015-2016.

### a) ISPs Accelerated Broadband Deployment and System Upgrades Following the 2015 Order.

To review what actually happened with broadband deployment during the *Open Internet Order* era, we will now summarize and update some of the facts that we documented in our 2017 report *It's Working*, and in our initial comments submitted in the *2017 RIF NPRM*. In this section, we will focus primarily on the deployment changes occurring between December 31, 2014 and December 31, 2017 (the Form 477 filing windows just prior to adoption of the *Open Internet Order*, and just after adoption of the *RIF Order*).

Broadband availability at all speed thresholds continued to increase after the Commission adopted the *Open Internet Order*, (see Figures 3 and 4). The rate of increase of faster speeds was particularly remarkable. While telco ISPs invested in higher capacities to close the gap with

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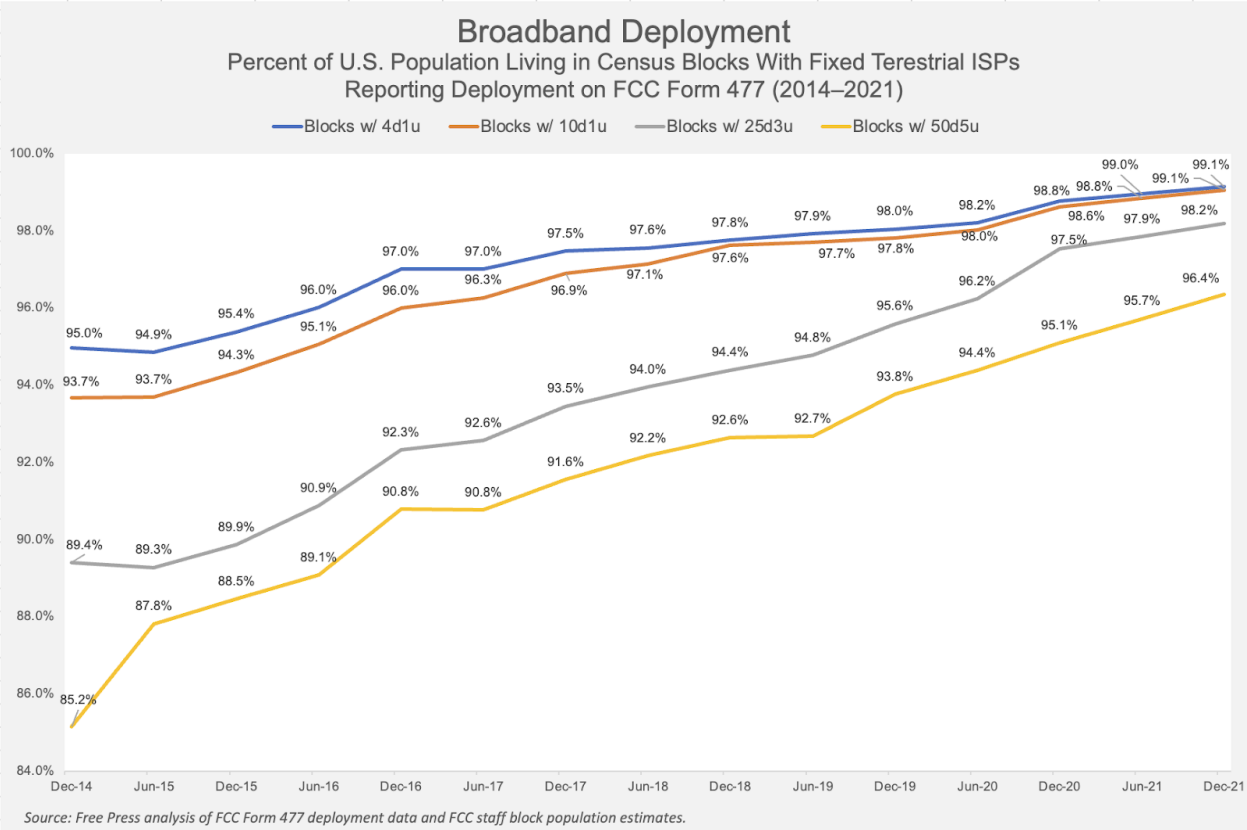
the need for discriminatory routing, without "skyrocketing" prices, and without a deteriorating user experience. The Commission would be wise to ignore "expert" advice like this, which ISPs will surely pay for and then point to in this proceeding.

cable ISPs directly following adoption of the *Open Internet Order*,[185] cable ISPs extended their lead by rolling out even higher speeds.[186]

**Figure 3:**



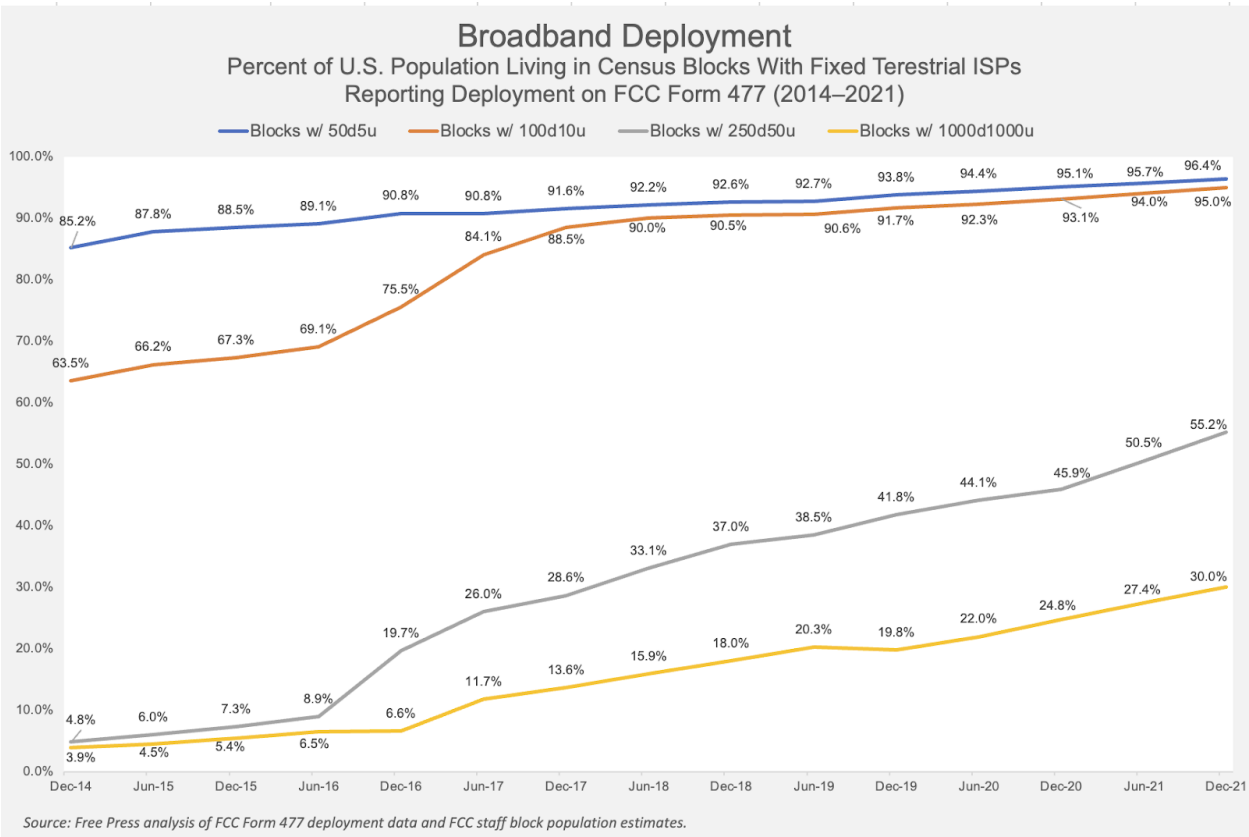

For example, at the end of 2014 fixed terrestrial services offering at least 250 Mbps downstream and 50 Mbps upstream were available to 4.8 percent of the U.S. population. By the

[185] For example, at the end of 2014, AT&T offered 25 Mbps and higher downstream speeds to consumers in only 5 percent of its Census Blocks. But by mid-2016, AT&T offered this level of service in nearly 40 percent of its territory. Similarly, during this 18-month period AT&T went from offering 50 Mbps and higher downstream speeds in virtually none of its blocks to offering this capacity in nearly one-quarter of its territory. Other LECs deployed similarly impressive capacity upgrades, and many of them are more geographically challenged than AT&T. Otelco – a very small rural LEC (87 percent of its blocks were classified as rural during 2016) – saw the percentage of its Census Blocks where it offers 25 Mbps and higher speeds increase from 13 percent to 56 percent in the period following restoration of common carriage. Fairpoint (a rural LEC acquired by Consolidated Communications in mid-2017) increased its offering of 25 Mbps service from 14 percent of its blocks at the end of 2014 to 48 percent by mid-2016.

[186] *See* Free Press RIF NPRM Comments 94-123.

end of 2017 (when the Commission adopted the *RIF Order*) this coverage extended to 28.6 percent of the population. The largest period of growth during this time was between June 30, 2016 and Dec. 31, 2016 (see Figure 4), as major ISPs took advantage of their recent DOCSIS system upgrades and their investments pushing fiber deeper into their systems.[187]

**Figure 4:**




This dramatic increase at higher-level transmission speeds is seen in the growth of the number of Census Blocks where these services were deployed. For example, between the end of

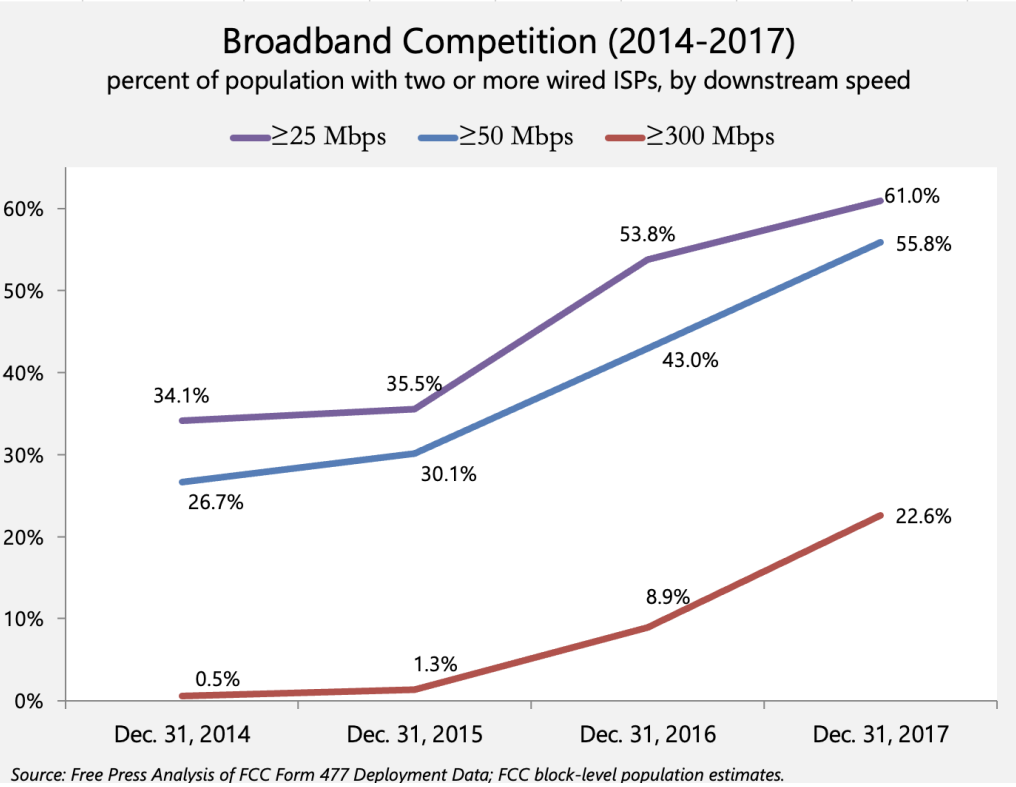
[187] *See, e.g.*, Comments of Neil Smit, Senior EVP & President, CEO, Comcast Cable, Q3 2016 Comcast Corp. Earnings Conference Call (Oct. 26, 2016) ("Concerning the network, we have continued to invest over the years in our network capacity and we will continue to do that. Business services has brought fiber deeper into the network. We are going fiber direct to new developments and to some MDUs. So we will continue to invest in the network but it is nothing new to our business. We have increased capacity, doubled capacity every 18 to 24 months and that has been happening for the last 8 to 10 years. So we feel pretty good about our position.") (emphases added).

2014 and the end of 2017 (when the *RIF Order* was adopted), ISPs deployed 100 Mbps and higher level service in nearly 2.4 million previously unserved blocks, a 61 percent increase. During this period ISPs deployed 300 Mbps and higher level service into 4.6 million previously unserved blocks, a nearly thousand percent increase.

While the growth in newly served areas was encouraging and reflected a continuation of the industry's pre-*Open Internet Order* investment trajectory, equally impressive was the growth in the deployment of higher-speed broadband services into monopoly service areas. The increase in number of available competitors at higher speeds was largely due to widespread upgrades made by telephone company ISPs to narrow their capacity gap with cable company ISPs.

For example, at the end of 2014 approximately one-third of the population had access to two or more ISPs offering services at 25 Mbps or higher. By the end of 2017, 61 percent of the population were able to purchase broadband at this speed threshold from two or more ISPs. A similar large jump occurred in the percent of population able to access two or more wired ISPs at the 50 Mbps threshold (27 percent at the end of 2014, 56 percent by year-end 2017). Form 477 data indicates that the overwhelming majority of this competitive deployment at the 25-100 Mbps range of speeds was due to telephone company ISPs upgrading their networks in areas where cable ISPs already offered 25 Mbps and faster services. Deployment of services at speeds higher than this were largely from cable company ISPs upgrades.

**Figure 5:**




Legacy telephone ISPs made this competitive push into higher speeds with a mix of technologies, primarily VDSL and fiber-to-the-home ("FTTH"). For example, between the end of 2014 and the end of 2017 (the *Open Internet Order* era) the number of blocks with FTTH technology increased by nearly 1.7 million, a 140 percent jump).

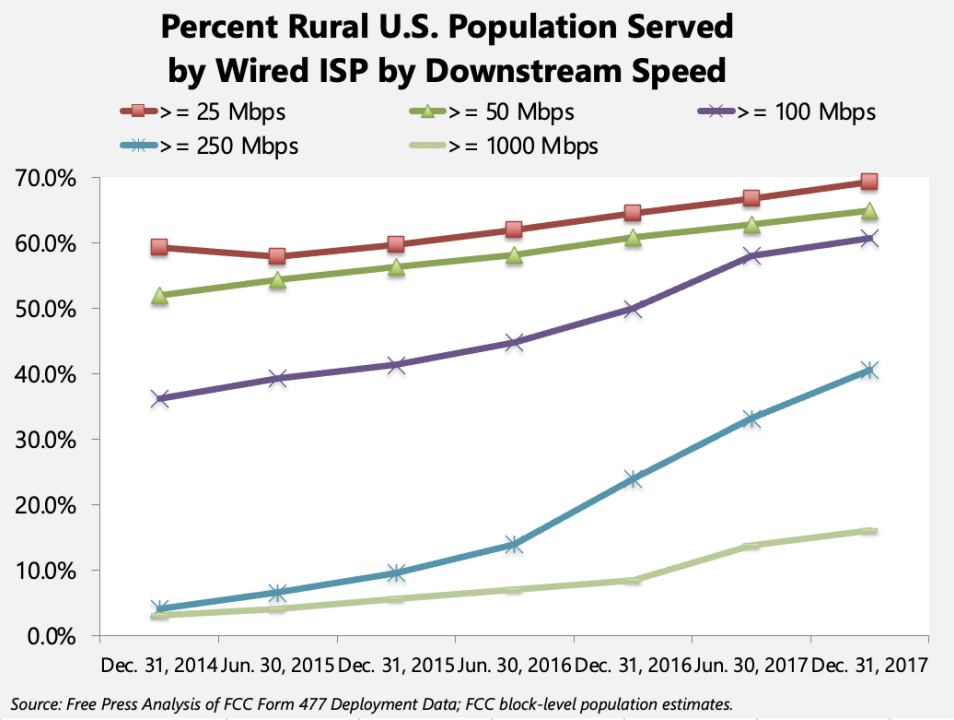
Transmission capacities also increased dramatically after the *Open Internet Order*, reflecting ISPs' response to increased demand for streaming video-capable telecommunications services. For example, between the end of 2014 and year-end 2017, in blocks where DOCSIS 3.0 services were available, the average available speed of this technology increased 142 percent (from 121 Mbps to 292 Mbps). Other technologies saw similar transmission capacity increases during this initial post-*Open Internet Order* period. Census Blocks that had FTTH service saw the average available speed of this technology jump from 261 Mbps to 798 Mbps (a 206 percent

increase). During this time the average available VDSL downstream speed more than doubled, from 24 Mbps to 62 Mbps.

### b) Rural ISPs Accelerated Broadband Deployment and System Upgrades Following the 2015 Order.

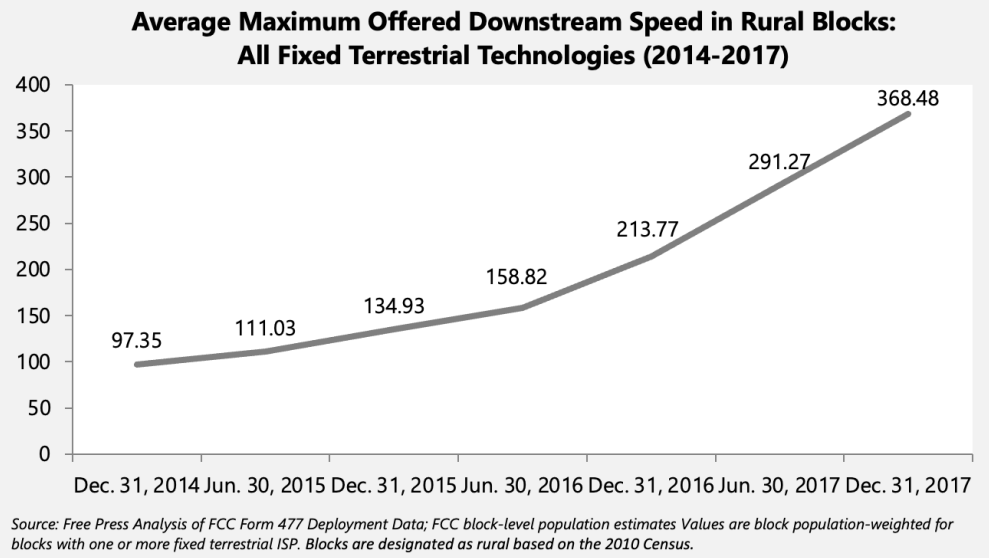
ISPs continued to deploy faster broadband services in rural areas following the Commission's 2015 Title II reclassification, helping to shrink the rural-urban digital divide. For example at the end of 2014, 59 percent of the rural population lived in an area where 25 Mbps fixed terrestrial service was deployed. This increased to 69 percent by the end of 2017. The rate of increase was higher at faster speeds. During the *Open Internet Order* era the availability of fixed terrestrial service at 100 Mbps in rural areas went from 36 percent to 61 percent. Availability of 250 Mbps service in rural areas went from just 4 percent to 41 percent (see Figure 6).

**Figure 6:**



We can use population-weighting to see how much the availability of speeds improved for the average rural resident. Between the end of 2014 and the end of 2017 the average person living in a rural area saw their maximum available fixed terrestrial downstream speed increase from 97 Mbps to 368 Mbps (see Figure 7).

**Figure 7:**




This jump was primarily driven by both cable and telephone company ISPs rolling out faster services. For example, during the *Open Internet Order* period the average rural resident residing in a block where cable modem service was available saw these speeds nearly increase 5-fold, from 105 Mbps to 474 Mbps. The average person living in rural areas where FTTH was deployed saw these speeds more than double, from 296 Mbps to 673 Mbps. The average person living in a rural area served by a fixed wireless provider also saw those speeds double during the *Open Internet Order* era (see Figure 8).[188]

[188] The decline in ADSL speeds shown in this table is a result of many ILECs upgrading from ADSL to ADSL2+, VDSL or FTTH technologies, and no longer offering ADSL. This had the statistical effect of reducing the average speed of the remaining ADSL rural lines.

**Figure 8:**

| Technology Type | Rural: Average Maximum Available Downstream Speeds by Technology (block population-weighted; in blocks where technology is offered) (Year-End 2014 - Year-End 2017) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Dec. 31, 2014 | Jun. 30, 2015 | Dec. 31, 2015 | Jun. 30, 2016 | Dec. 31, 2016 | Jun. 30, 2017 | Dec. 31, 2017 |
| All Fixed Terrestrial | 97.35 | 111.03 | 134.93 | 158.82 | 213.77 | 291.27 | 368.48 |
| All Cable Technologies | 104.96 | 115.06 | 136.80 | 161.85 | 228.32 | 338.92 | 474.40 |
| All DSL Technologies | 15.40 | 13.46 | 17.54 | 21.07 | 23.30 | 26.49 | 29.92 |
| ADSL | 11.91 | 6.53 | 8.66 | 10.94 | 12.70 | 13.59 | 6.72 |
| ADSL2/2+ | 12.52 | 13.02 | 13.82 | 13.20 | 13.95 | 13.19 | 16.40 |
| VDSL | 22.41 | 23.48 | 36.93 | 43.04 | 45.75 | 48.27 | 55.31 |
| FTTH | 296.19 | 358.32 | 434.73 | 459.88 | 523.25 | 623.79 | 673.01 |
| Fixed Wireless | 15.46 | 17.37 | 20.23 | 26.22 | 35.92 | 33.52 | 35.64 |

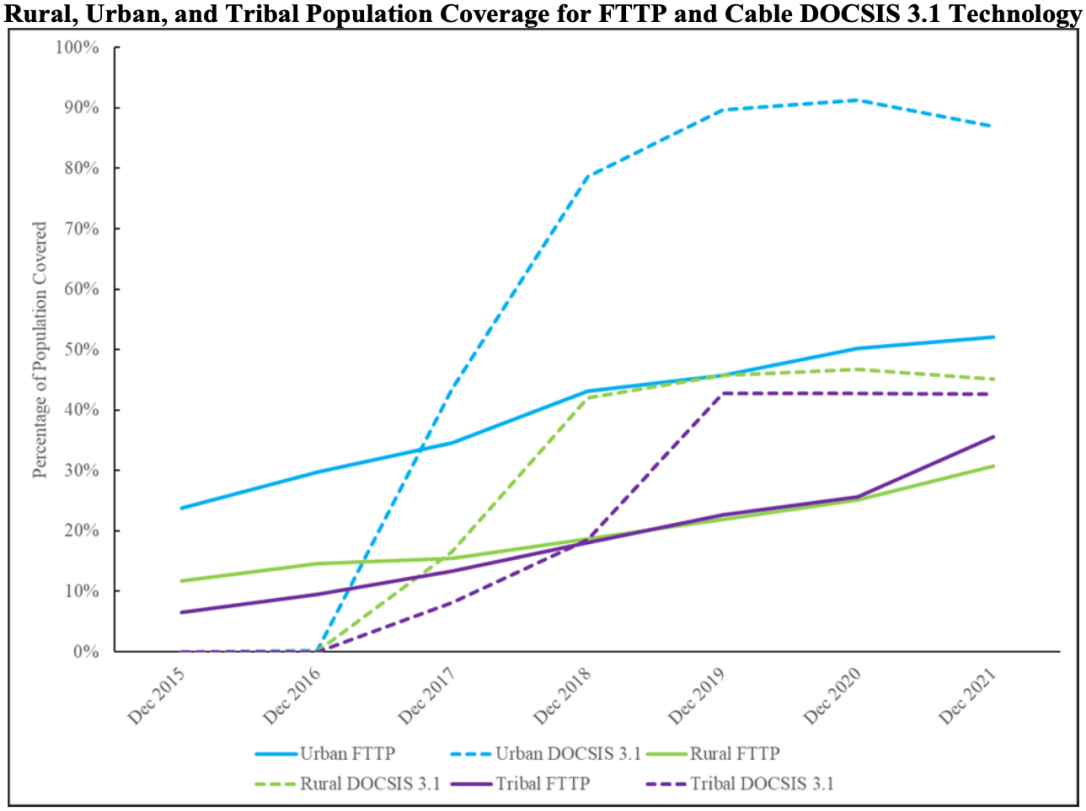
*Source: Free Press analysis of FCC Form 477 deployment data, for fixed terrestrial (non-satellite) deployments.*

And as the Commission reported in the 2022 Communications Marketplace Report, rural areas saw substantial increases in next-generation technology deployments during the post-Open Internet Order period, leading into the Dec. 2017 *RIF Order*'s repeal of Title II.[189] FTTH deployment in rural and Tribal areas continued at a consistent rate after both the *Open Internet Order* and *RIF Order*. Rural DOCSIS 3.1 availability increased rapidly during the restored Title II era, as MSOs acquired new cable modems and distributed them to their customers in systems that were upgraded prior to and directly following the *2015 Open Internet Order* (see Figure 9 below).[190]

[189] *See* 2022 Communications Marketplace Report, Federal Communications Commission, at Figure II. A. 3 (Dec. 30, 2022).

[190] *See It's Working* for a detailed documentation of each publicly-traded MSO's deployments of DOCSIS 3.1. Large MSOs completed most of their DOCSIS 3.1 upgrades prior to the issuance of the *RIF Order* in 2017.

**Figure 9:**
**Rural, Urban, and Tribal Population Coverage for FTTP and Cable DOCSIS 3.1 Technology**




Source: FCC Form 477; 2010 and 2020 Census data.

In sum, Form 477 data shows that there was a remarkable level of deployment and capacity upgrades that occurred during the period immediately following the Commission's adoption of the Open Internet Order, prior to the 2017 repeal. Much of these new deployments came from Local Exchange Carrier ISPs, who did face and continue to face a much more costly upgrade path than cable company ISPs. Contrary to the rhetoric that the flimsy house of cards that the *RIF Order* was built upon, there was no slowdown in broadband deployment. There is simply no evidence that restoration of Title II and codification of basic Net Neutrality rules negatively impacted deployment in the U.S. internet access market.

### c) ISP Investments are Not Impacted by FCC Classification Decisions, and ISP Capital Investments Increased Following the 2015 Order and Declined Following the 2017 Repeal.

The Commission is surely familiar with the old trope that regulation creates uncertainty, which in turn reduces the regulated industry's investment. While there could be a plausible theoretical basis for this claim in some circumstances, it is rarely ever translated into reality. That's because regulation and regulatory uncertainty are just two among many factors impacting investment and overall market performance, and those other factors are actually more important.[191] If the economy is booming, consumer confidence is gaining, and interest rates are stable, then the presence of investment and growth is a given.

The data from the past quarter century bears this out in the telecom sphere. Regulation does not as a rule cause uncertainty or dampen investment in telecommunications infrastructure. There's no valid data to support this claim, nor any valid theory to suggest how it would operate. But policymakers whose actions are guided by anti-regulatory ideology continue making the claim that regulation – and even regulatory authority – harm investment. They hang onto their platitude, evidence be damned.

A key supposition of the *RIF Order* was that the 2015 reclassification harmed ISP industry investment, and did so primarily because of carrier fear of future regulation beyond the scope of the no-blocking, no-throttling and no-paid prioritization rules. The evidence the *RIF Order* offered as proof of this harm was industry-sponsored and manipulated aggregate capital investment data. There was no attempt whatsoever to reconcile these industry sponsored aggregate totals with other facts, such as massive increases in capital spending by numerous ISPs

[191] *See, e.g.*, Free Press 2014 Open Internet Comments at 94 n.200 ("[T]he five primary factors influencing the decision by an operator to invest as well as its ability to access debt capital are: 1) expectations about demand [. . .] 2) supply costs [. . .] 3) competition [. . .] 4) interest rates and corporate taxes [ . . .] and 5) general economic confidence.").

large and small. Nor was there any attempt to reconcile the underlying theory of harm with the numerous statements from the ISPs themselves that reclassification had no impact on their confidence in this market.

In the instant *Notice*, the Commission once again asks if the mere existence of Title II authority curtailed investment during the *Open Internet Order* era and whether restoring Title II authority now would negatively impact broadband investment. These are questions that cannot be answered absent evidence, nor answered with a single aggregate data point. The question of Title II's impact on investment – and more importantly, deployment – must be evaluated against the broadest set of facts, and considered using logic. For this premise to have validity, there would need to be a reasonable mechanism that translates regulated entities' fear of such authority into a systemic effect. Because we are evaluating a large market with well-informed firms, highly motivated by their bottom lines, this fear could not be theoretical and irrational. That would not sustain a negative market-wide impact, because it would create arbitrage opportunities for rational actors.

There should be no doubt: the fears about a negative impact from Title II on the successful trajectory of the U.S. broadband market are wholly irrational. That is why such fears are not actually held by the broadband market's firms collectively, nor by this market's individual firms. They are simply impractical fears espoused largely by third-party agitators in service of these parties' larger goal of unthinking deregulation.

We begin with the metric that garners the most headlines: the ISP industry's aggregate capital investments. We caution however that focusing on aggregate industry changes in capital spending is at best mildly informative. Aggregate capital spending is just one piece of data that must be considered alongside the developments at individual firms. This is especially the case in

this industry, which is so concentrated that cyclical changes at just one large firm could shift the direction of any change in the industry's aggregate capital spending.[192]

Thus, even if ISP industry capital spending declines – as it did following the adoption of the 2017 *RIF Order* – it does not automatically follow that Title II authority, or its repeal, was the cause. Capital investments are by their very nature cyclical: they are purchases of durable goods, which depreciate in value and utility over time. As technology improves in the ISP industry, the shelf-life of capital equipment lengthens, its productivity increases, and the cost of this equipment declines. What really matters is not just the raw total spent on network technology, but the progress in making that technology available to users and the total value of economic activity that the technology then enables. Put in more simplistic terms, as AT&T once said it, capital investments are "lumpy."[193] Or as Charter more-recently characterized them, "chunky."[194]

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[192] Moreover, capital spending is only one element of contribution to economic activity. That is, capital spending is investment in future growth; but consumer spending is current growth, meaning that hypothetical present declines in capital spending but hypothetical growth in revenues could still be a very positive indicator. If the gains in revenue were due to increased consumer surplus, generated by the demand for networks constructed with prior capital investments and the services those networks already enable, this could produce a net growth in the sector's and any adjacent sector's contributions to overall GDP growth.

[193] In a 2010 filing with the Commission, AT&T stated, "[T]here is no reason to expect capital expenditures to increase by the same amount year after year. Capital expenditures tend to be 'lumpy.' Providers make significant expenditures to upgrade and expand their networks in one year (*e.g.*, perhaps because a new generation of technology has just been introduced), and then focus the next year on signing up customers and integrating those new facilities into their existing networks, and then make additional capital expenditures later, and so on. Minor variations from year to year thus should not be surprising, much less an indication of declining competition." See Comments of AT&T, WT Docket No. 10-133, at 34 (filed July 30, 2010) (emphases added).

[194] *See* Comments of Jessica M. Fischer, Chief Financial Officer, Charter Communications, at the Credit Suisse 24th Annual Communications Conference (June 15, 2022) ("I think the space where you might pull forward investment is clearly in the network evolution space. But ultimately, I think there that our goal is always to be a good steward of capital, to upgrade the network in the most efficient way possible, which is the path that I think we're headed down, but in a way that also provides the service that we need to provide both to consumers and from a marketing claims perspective. So I think that, that will be successful. But does that mean that you

The best source to understand how telecom industry capital spending in aggregate is changing over time, and there is no better source than the information published by the U.S. Census Bureau in its Annual Capital Expenditures Survey ("ACES"). This survey collects data from nearly 45,000 enterprises with employees, to project total capital expenditures for the nearly 6 million such U.S. businesses.[195] The Bureau presents this data by industry category, based on the North American Industry Classification System ("NAICS"). Until 2020 there were three industry categories tracked in the ACES that encompass the U.S. internet access services market: wired telecommunications carriers; wireless telecommunications carriers (except satellite); and telecommunications resellers, satellite and other telecommunications. Beginning in 2020, the Census Bureau combined the wired and wireless sectors.

The results from the Census Bureau's ACES are typically published and revised one and two years following the end of the prior year (*e.g.*, the Census Bureau published its 2021 results and its revised 2020 results in December 2022). Thus, we have ACES data for the full *Open Internet Order* era and the post-*2017 RIF Order* era leading into and through the peak COVID-19 period.

The results are clear. Total U.S. annual telecommunications industry investment increased by $4 billion between 2014 and 2017 (inflation-adjusted values).[196] Indeed, 2017 – the last year before the repeal of the *Open Internet Order* – was the peak year for the U.S. telecom

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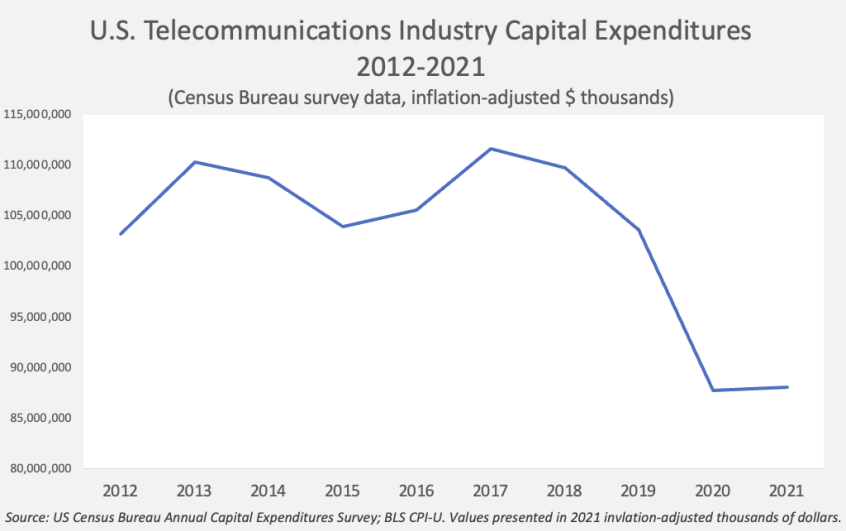
might have some chunky capital? You might have some earlier spend followed by reductions in spend related to the fact that you already sort of did the work previously? That could happen. We gave guidance for this year. I don't think it happens in this year. But over time, could it come up? I think it can.") (emphasis added).

[195] United States Census Bureau, Annual Capital Expenditures Survey ("ACES"), Survey Description (Jan. 5, 2016).

[196] CPI-U-adjusted, presented in Dec. 2021 dollar-values. The nominal figures were $86.6 billion in 2014, increasing to $94.5 billion in 2017 (a 9 percent increase).

industry's investments (see Figure 10). The Pai FCC's *RIF Order* was followed by a sharp and continuous decline in telecom capital spending, even prior to the COVID-19 pandemic.[197] And this drop came despite the Trump Administration's corporate tax cuts. Total U.S. annual telecommunications industry investment decreased by nearly $19 billion between 2017 and 2021 (inflation-adjusted values).[198]

**Figure 10:**




The ACES industry segment data, shown below in Figure 11, reveals the cyclical nature of investment, and how wired and wireless carriers sometimes follow different trajectories. Total U.S. annual wired telecommunications industry investment increased by $3 billion between 2014

[197] There is actually little evidence that the COVID-19 pandemic had a meaningful impact on aggregate U.S. ISP investments during 2020 and 2021. The sharp decline between 2019 and 2020 was largely due to AT&T's large drop-off in spending after completing its DirecTV merger-related FTTH commitments in 2019; and a massive *pro forma* decrease in investment at T-Mobile, as it closed its merger with Sprint in mid-2020. *See* Comments of Free Press, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 20-269, at 32-35 (filed Sept. 18, 2020) ("Free Press 2020 Section 706 Comments").

[198] CPI-U-adjusted, presented in Dec. 2021 dollar-values. The nominal figures were $94.5 billion in 2017, decreasing to $88 billion in 2021 (a 7 percent decrease).

and 2017 (inflation-adjusted values).[199] But as we've previously documented, the wireless industry's capital spending took a slight pause during this time, as many carriers had completed their 4G LTE deployments during 2014.[200] Thus the ACES data indicates that total U.S. annual wireless telecommunications industry investment increased by $3 billion between 2014 and 2017 (inflation-adjusted values).[201]

These trends flipped after 2017. Wired telecom capital investments went from $60.5 billion in 2017 to $52.3 billion in 2019 (inflation-adjusted values).[202] Meanwhile wireless telecom investments increased from $41.7 in 2017 to $44.7 in 2019.[203] None of these post-*RIF Order* industry-wide movements had anything to do with FCC policy. As we documented in our 2020 Section 706 Comments, wireless investment ticked back up as carriers began 5G deployment work, and wired investments declined largely due to continued drop off in AT&T's fiber spending, as well as sharp drops at Comcast and Charter as they completed their DOCSIS 3.1 deployments.[204]

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[199] CPI-U-adjusted, presented in Dec. 2021 dollar-values. The nominal figures were $48.5 billion in 2014, increasing to $53.5 billion in 2017 (a 10 percent increase).

[200] *See It's Working* at 22-31; 86-95; 110-113.

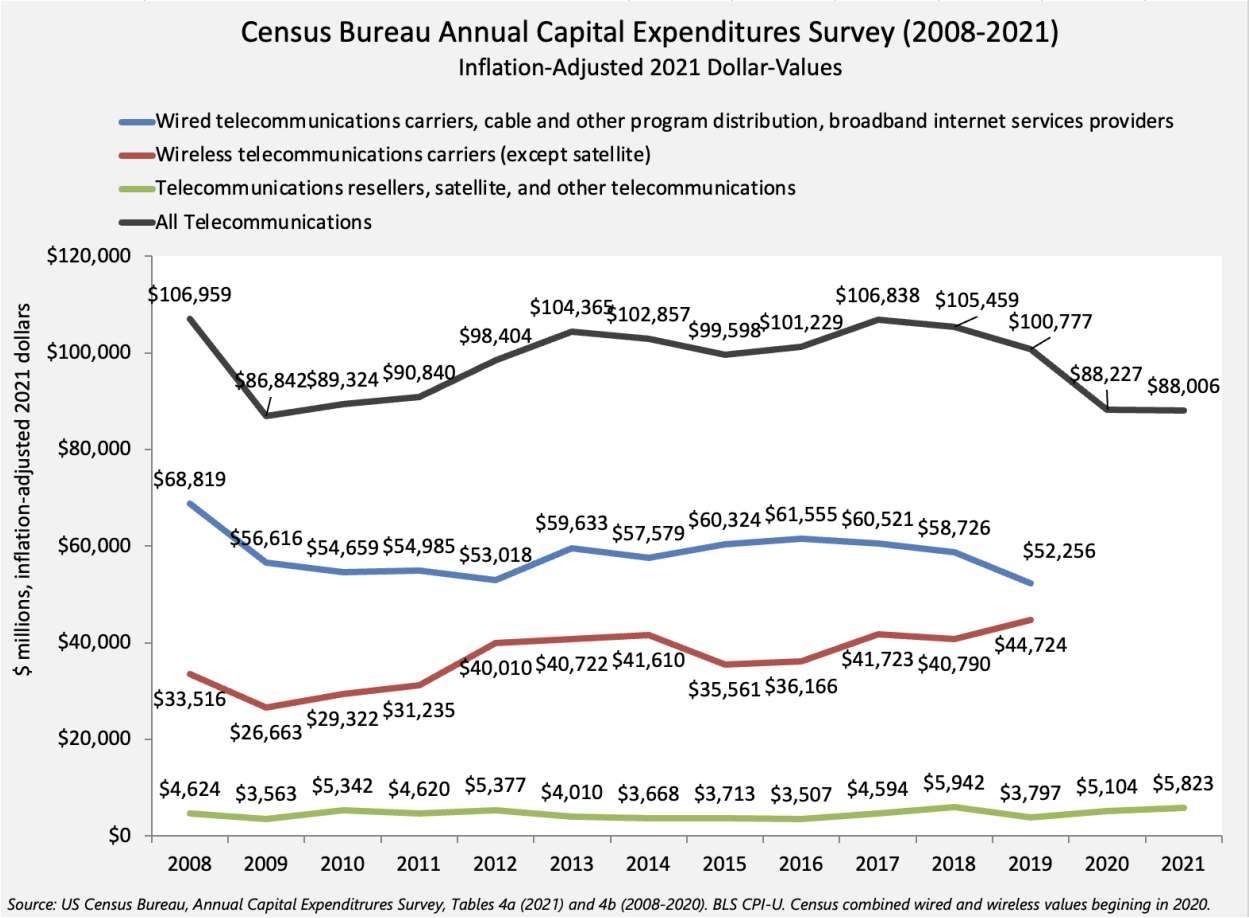
[201] CPI-U-adjusted, presented in Dec. 2021 dollar-values. The nominal figures were $35 billion in 2014, increasing to $36.9 billion in 2017 (a 5 percent increase).

[202] CPI-U-adjusted, presented in Dec. 2021 dollar-values. The nominal figures were $53.5 billion in 2017, decreasing to $47.1 billion in 2019 (a 12 percent decrease).

[203] CPI-U-adjusted, presented in Dec. 2021 dollar-values. The nominal figures were $36.9 billion in 2017, increasing to $40.3 billion in 2019 (a 9 percent increase).

[204] *See It's Working* at 86-95; 66-76.

**Figure 11:**




*Source: US Census Bureau, Annual Capital Expenditrures Survey, Tables 4a (2021) and 4b (2008-2020). BLS CPI-U. Census combined wired and wireless values begining in 2020.*

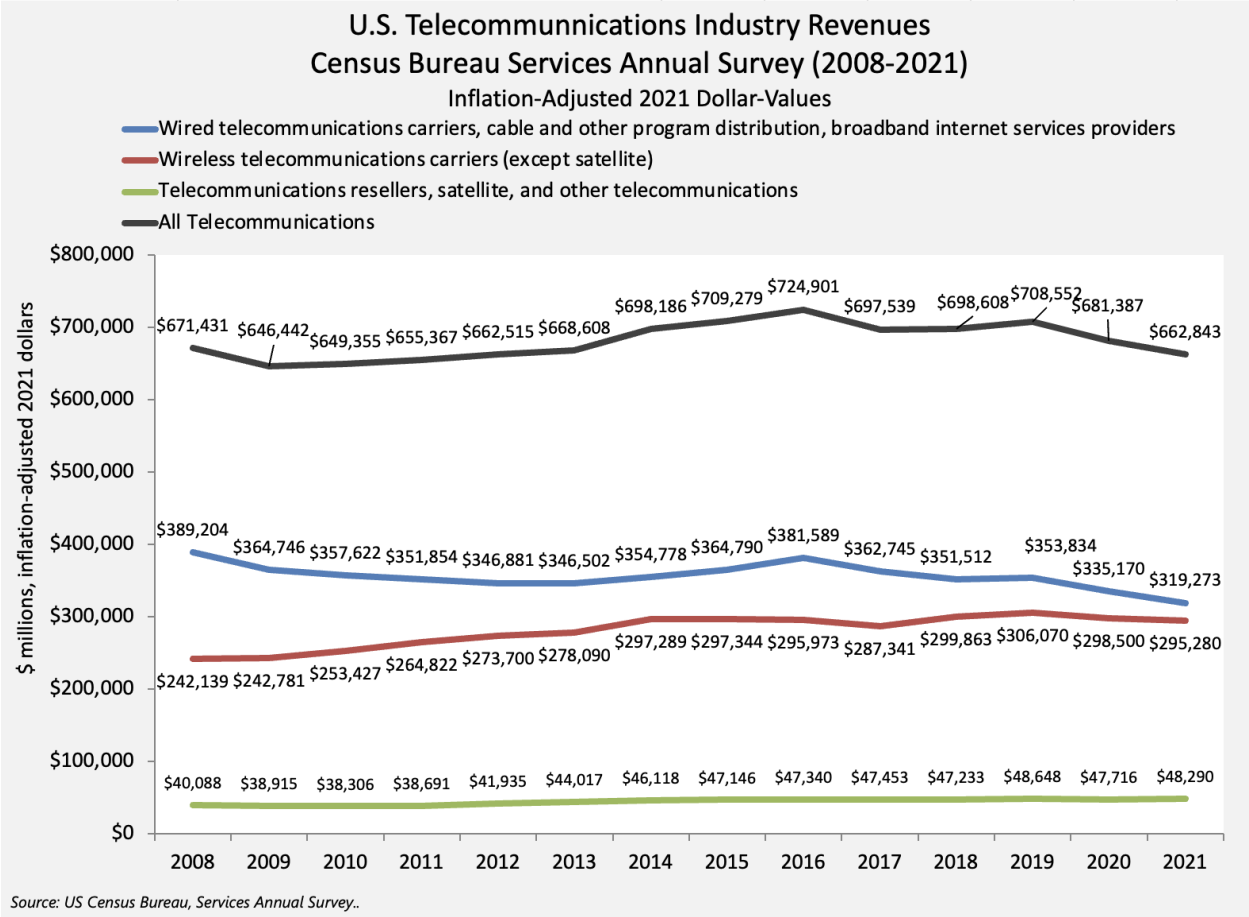
In our report *It's Working* (and in our 2017 *RIF Order* comments) we extensively covered each ISP's fiscal trajectory during the post-*Open Internet Order* era, and noted how for publicly-traded companies, revenue growth continued to outpace broader economic growth.[205] However, according to the Census Bureau's Services Annual Survey (which reports aggregate revenues for various U.S. industrial sectors), the U.S. telecom industry as a whole saw its revenues peak on an inflation-adjusted basis in 2016 (see Figure 12).[206] The reasons for the

[205] For example, total revenues at publicly-traded ISPs grew at a compound annual growth rate ("CAGR") of 5 percent during 2013–2016. High-speed internet revenues grew at a CAGR of more than 12 percent during 2013–2016, more than two times the rate of overall revenue growth at these companies. *See It's Working* at 32-36.

[206] Telecom industry revenues continued to grow on a nominal basis. In 2014, total U.S. telecom industry revenues were $588 billion. This increased to $663 billion in 2021.

flattening of the aggregate industry-wide revenue curve are myriad, but are largely related to declines in traditional LEC business revenues.

**Figure 12:**

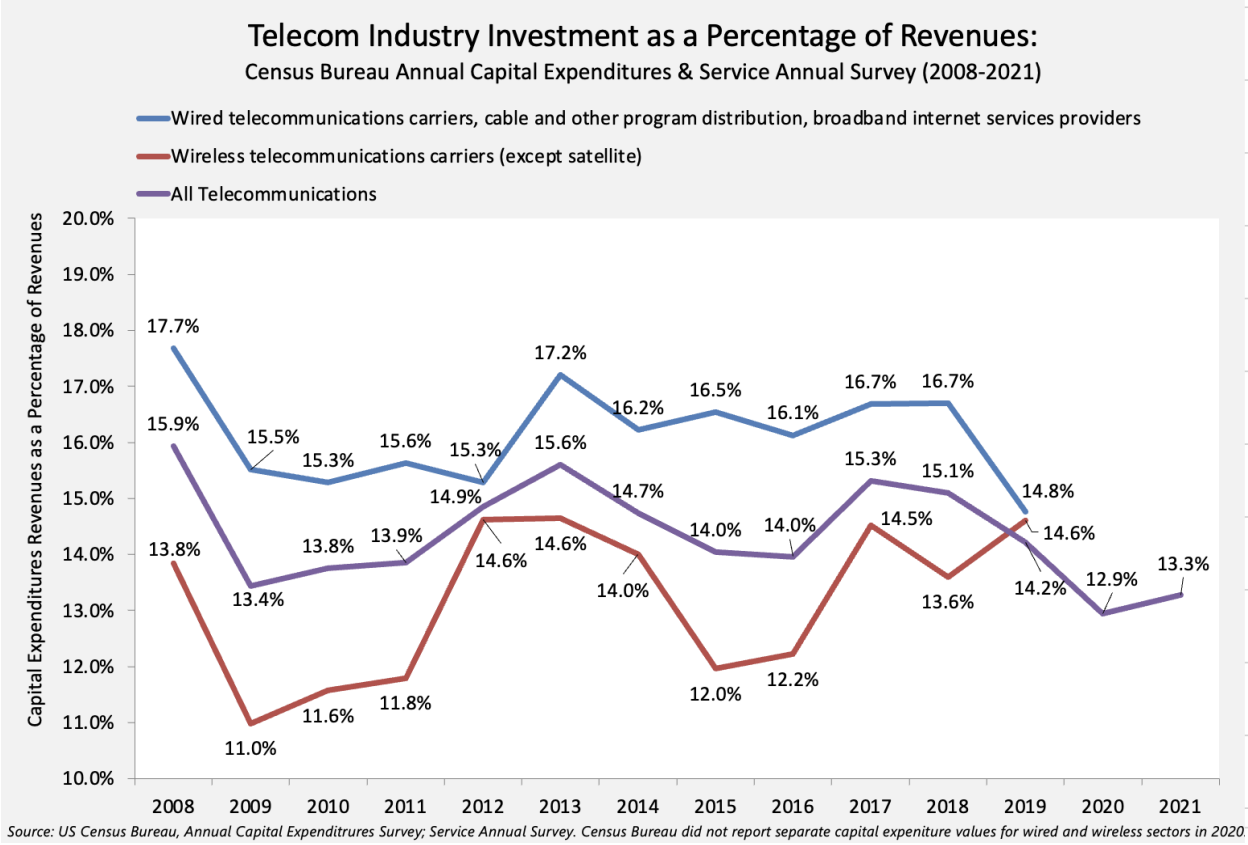



One consequence of growing revenues, however, is that it can lead to lower "capital intensity" – which measures capital expenditures expressed as a percentage of revenues. That metric is of particular interest to investors because it offers them a simple way to gauge how a company's investments are changing relative to its overall business. If a company invests heavily in its business, capital intensity will likely increase; but shareholders expect those investments to lead to future revenue growth, and thus to likely lower future capital intensity as well. Investors in the ISP sector generally prefer capital investments to be as low as possible, but not so low that

they lead to customer loss.[207] The capital intensity metric is also useful when examining individual companies, as mergers, acquisitions and divestments makes it nearly impossible to reliably track changes in capital investments over longer time periods.

Figure 13 presents aggregate capital intensity values for the U.S. telecommunications sector, as well as for the wired and wireless sectors (through 2019, the last year the ACES reported separate capital expenditures for these sectors). This data is certainly "lumpy." But it reflects a general industry sentiment that we document below: carriers prefer to keep their capital intensities in the low-to-mid teens.

**Figure 13:**




[207] *See, e.g.*, Karl Bode, "Even Wall Street Thinks Frontier Should Upgrade its Damn Network," *DSL Reports* (Mar. 31, 2017).

We now turn to an examination of company-specific capital investments. The data below in Figure 14 captures the (inflation-adjusted) capital expenditures for all U.S. ISPs that were publicly-traded when the Commission adopted the 2015 *Open Internet Order*. Where possible, we present *pro forma* results that account for mergers, acquisitions and divestitures.

**Figure 14: Publicly Traded ISP Company Capital Expenditures (inflation-adjusted) 2012–2022**

| Capital Expenditures ($ thousands, infl.-adjusted) | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Comcast (cable segment) | 6,361,377 | 6,880,721 | 7,781,184 | 8,833,792 | 9,337,763 | 9,604,714 | 9,123,952 | 7,979,895 | 7,525,737 | 7,376,985 | 7,568,000 |
| Charter (pro forma) | 6,994,800 | 7,131,600 | 8,913,728 | 8,744,701 | 9,275,069 | 10,451,056 | 10,780,275 | 8,310,225 | 8,448,651 | 8,127,458 | 9,376,000 |
| Altice USA (pro forma) | 1,678,552 | 1,627,297 | 1,610,182 | 1,624,768 | 1,174,808 | 1,145,329 | 1,362,850 | 1,565,429 | 1,223,664 | 1,311,161 | 1,914,282 |
| Mediacom | 325,714 | 336,697 | 325,582 | 361,690 | 412,028 | 411,451 | 394,264 | 342,570 | 365,694 | 361,832 | N/A |
| Wide Open West | 204,505 | 282,590 | 318,402 | 290,988 | 353,424 | 362,735 | 371,078 | 285,863 | 266,734 | 221,097 | 167,200 |
| Cable ONE (1) | 202,443 | 180,772 | 224,234 | 203,076 | 180,724 | 215,935 | 257,269 | 303,017 | 334,105 | 417,214 | 414,095 |
| GCI (2) | 188,783 | 229,936 | 222,602 | 221,140 | 240,301 | 227,978 | 193,631 | 171,496 | 167,600 | N/A | N/A |
| AT&T (pro forma w/ ATN & Leap) (3) | 26,153,997 | 27,254,093 | 27,091,312 | 25,114,822 | 27,546,154 | 25,944,045 | 25,105,931 | 22,678,425 | 17,860,095 | 17,592,992 | 19,626,000 |
| Verizon (total company) | 20,909,423 | 21,145,194 | 21,729,424 | 22,304,070 | 20,970,629 | 20,763,663 | 19,679,761 | 20,719,545 | 20,727,965 | 21,594,447 | 23,087,000 |
| Lumen (pro forma) | 4,733,867 | 4,849,488 | 5,001,648 | 5,145,935 | 5,304,430 | 5,086,478 | 3,750,945 | 4,190,340 | 4,248,823 | 3,087,050 | 3,016,000 |
| Frontier | 967,466 | 808,271 | 869,753 | 1,082,892 | 1,722,249 | 1,430,233 | 1,408,229 | 1,416,030 | 1,345,631 | 1,814,973 | 2,738,000 |
| Windstream (4) | 1,423,521 | 1,071,014 | 994,136 | 1,324,190 | 1,216,761 | 1,093,864 | 968,984 | 1,014,668 | 1,083,797 | N/A | N/A |
| Altafiber (formerly Cincinnati Bell) | 575,139 | 360,642 | 352,664 | 480,129 | 472,347 | 368,148 | 314,177 | 258,489 | 254,770 | 311,047 | 482,800 |
| TDS Telecom (Wireline and Cable) | 205,003 | 188,967 | 216,706 | 240,929 | 199,364 | 241,753 | 273,970 | 280,834 | 333,584 | 437,456 | 555,849 |
| US Cellular | 1,081,664 | 939,208 | 704,825 | 668,875 | 548,306 | 565,167 | 608,667 | 819,737 | 1,071,468 | 829,905 | 716,600 |
| Consolidated Comm. (pro forma) | 347,701 | 334,895 | 314,828 | 313,817 | 297,751 | 277,933 | 289,226 | 268,194 | 247,891 | 511,328 | 619,981 |
| Shenandoah Telecom. Co. (pro forma) | 115,119 | 149,035 | 86,245 | 87,433 | 212,953 | 176,358 | 161,428 | 160,305 | 137,241 | 170,428 | 189,609 |
| Alaska Communications System | 76,131 | 61,347 | 64,762 | 60,829 | 49,542 | 39,229 | 47,475 | 52,556 | 57,182 | N/A | N/A |
| Otelco | 8,218 | 7,933 | 7,603 | 8,297 | 8,456 | 10,245 | 9,431 | 14,368 | 11,435 | N/A | N/A |
| Sprint (5) | 5,501,731 | 8,897,945 | 7,154,240 | 13,770,175 | 9,169,349 | 11,654,956 | 14,485,145 | 13,467,300 | 2,663,917 | N/A | N/A |
| T-Mobile | 3,750,123 | 5,125,838 | 5,456,688 | 5,927,675 | 5,780,169 | 6,304,824 | 6,546,137 | 7,381,605 | 12,572,140 | 13,121,027 | 13,970,000 |
| DISH (mobile wireless capex) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 109,382 | 1,077,274 | 2,596,000 |
| TMO/SP/DISH 5G | 9,251,854 | 14,023,782 | 12,610,928 | 19,697,850 | 14,949,517 | 17,959,780 | 21,031,283 | 20,848,905 | 15,345,439 | 14,198,301 | 16,566,000 |
| Aggregate Total | 81,805,276 | 87,863,481 | 89,440,749 | 96,810,223 | 94,472,577 | 96,376,093 | 96,132,825 | 91,680,889 | 81,057,506 | 78,363,672 | 87,037,416 |
| Aggregate Total (companies reporting all perioids) | 74,281,178 | 77,258,611 | 80,671,823 | 81,063,902 | 83,376,139 | 82,938,371 | 80,033,895 | 76,617,932 | 76,707,881 | 78,001,840 | 87,037,416 |
| Aggregate Total w/ Historical DirecTV | 86,134,528 | 92,684,952 | 93,517,149 | 98,767,711 | 94,472,577 | 96,376,093 | 96,132,825 | 91,680,889 | 81,057,506 | 78,363,672 | 87,037,416 |
| Aggregate Total Less Sprint and AT&T (6) | 50,149,548 | 51,711,443 | 55,195,197 | 57,925,226 | 57,757,073 | 58,777,093 | 56,541,748 | 55,535,164 | N/A | N/A | N/A |

(1) Cable One has made five acquistions of small non-public cable companies since becoming public in 2015. It did not report pro forma results. Thus a portion of its increased capital expenditures during this time are due to these acquisitions.

(2) Liberty Global acquired GCI Liberty in 2020, then later spun itself off into a new company called Liberty Broadband. Results shown are for GCI.

(3) AT&T did not report pro forma w/ DTV. Below we present results that show impact including DTV historical spending.

(4) Windstream exited bankruptcy as a private company. The 2020 value shown is trailing-12-months from June 30, 2020.

(5) Accounting standard changes resulted in Sprint substantially revising its values, but only did so historically begining with June 30, 2016 results. Prior Sprint periods are Free Press' revised estimates.

(6) We present these results because of the accounting complications introduced by the DTV merger and subsequent accounting standard changes impacting a portion of Sprint's capex. We caution against drawing broad conclusions from industry aggregate capital investment trends, particularly those that do not include 100 percent of the industry, and this removal of two firms demonstrates how the industry aggregate value is impacted by accounting and post-merger issues.

*Source: Free Press analysis of company SEC filings; BLS CPI-U. Values are presented in 2022 inflation-adjusted thousands of dollars. Where possible the most-recent or restated values are presented.*

What's most notable about these results is that there are no obvious industry-wide trends. Some companies increased investments over certain time periods, while others, even in the same industry sub-sector, reported declines.[208]

However, some general trends are apparent. First, cable company ISPs generally reported increased capital investments during the 3-year period between the end of 2014 and the end of 2017, as they completed DOCSIS 3.0 deployments and pushed fiber deeper into their network architecture in order to offer customers faster speeds with less congestion issues. Many of the cable companies decreased their capital investments in the 3-years following the *RIF Order*, largely due to lower spending on customer premise equipment, and some declines in existing-network upgrade expenditures due to completion of DOCSIS 3.1 preparation work (in the next section we discuss the cable ISP sector's capital investments in greater detail). Next, while most ILECs saw increased spending during the 2015-2017 period relative to the 2018-2020 period, the trendlines for these companies are very divergent.

Figure 15 presents the same data as shown in Figure 14, but we've compared changes in the different regulatory "eras." That is, we compare each ISP's inflation-adjusted capital expenditures during the 2015-2017 period (the "Title II era") to their expenditures during the 3-year period prior to Title II restoration (2012-2014; the "pre-Title II era"). We then compare each ISP's inflation-adjusted capital expenditures during the 2018-2020 period (the "post-Title II era") to their expenditures during the 3-year Title II era.

[208] We strongly encourage those interested in the minute details of each company's investment to refer to the Free Press RIF NPRM Comments filed in 2017, our 2017 report *It's Working*, and the Free Press 2020 Section 706 Comments. That report and those comments contain a comprehensive analysis of what publicly-traded ISPs were telling their investors in their SEC filings, and how they responded to questions from investment analysts at public forums during the 2012–2020 period.

**Figure 15: Publicly Traded ISP Company Capital Expenditures (inflation-adjusted) Pre-Title II, Title II Era & Post-Title II Repeal Eras**

| Capital Expenditures ($ thousands, infl.-adjusted) | T2 Era vs. Pre-T2 Era (2015-2017 vs 2012-2014) | Post-T2 Era vs. T2 Era (2018-2020 vs. 2015-2017) | 2012-2014 (Pre-T2 Era) | 2015-2017 (T2 Era) | 2018-2020 (Post-T2 Era) |
|---|---|---|---|---|---|
| Comcast (cable segment) | 32.1% | -11.3% | $21,023,281 | $27,776,269 | $24,629,584 |
| Charter (pro forma) | 23.6% | -3.3% | $23,040,128 | $28,470,826 | $27,539,151 |
| Altice USA (pro forma) | -19.8% | 5.2% | $4,916,031 | $3,944,904 | $4,151,944 |
| Mediacom | 20.0% | -7.0% | $987,993 | $1,185,169 | $1,102,527 |
| Wide Open West | 25.0% | -8.3% | $805,496 | $1,007,147 | $923,674 |
| Cable ONE (1) | -1.3% | 49.1% | $607,449 | $599,735 | $894,390 |
| GCI (2) | 7.5% | -22.7% | $641,321 | $689,419 | $532,727 |
| AT&T (pro forma w/ ATN & Leap) (3) | -2.4% | -16.5% | $80,499,402 | $78,605,021 | $65,644,451 |
| Verizon (total company) | 0.4% | -4.5% | $63,784,041 | $64,038,362 | $61,127,271 |
| CenturyLink (pro forma) | 6.5% | -21.5% | $14,585,003 | $15,536,842 | $12,190,108 |
| Frontier | 60.1% | -1.5% | $2,645,490 | $4,235,375 | $4,169,890 |
| Windstream (4) | 4.2% | -15.6% | $3,488,671 | $3,634,815 | $3,067,449 |
| Cincinatti Bell (pro forma) | 2.5% | -37.3% | $1,288,445 | $1,320,624 | $827,436 |
| TDS Telecom (Wireline and Cable) | 11.7% | 30.3% | $610,676 | $682,046 | $888,388 |
| US Cellular | -34.6% | 40.3% | $2,725,697 | $1,782,348 | $2,499,872 |
| Consolidated Comm. (pro forma) | -10.8% | -9.5% | $997,425 | $889,500 | $805,311 |
| Shenandoah Telecom. Co. (pro forma) | 36.1% | -3.7% | $350,399 | $476,744 | $458,973 |
| Alaska Communications System | -26.0% | 5.1% | $202,240 | $149,600 | $157,212 |
| Otelco | 13.7% | 30.5% | $23,753 | $26,998 | $35,234 |
| Sprint (5)<br>T-Mobile | 46.6% | 8.8% | $35,886,564 | $52,607,148 | $57,225,627 |
| Aggregate Total | 11.0% | -6.5% | $259,109,506 | $287,658,893 | $268,871,220 |

Notes: See prior table.

*Source: Free Press analysis of company SEC filings*

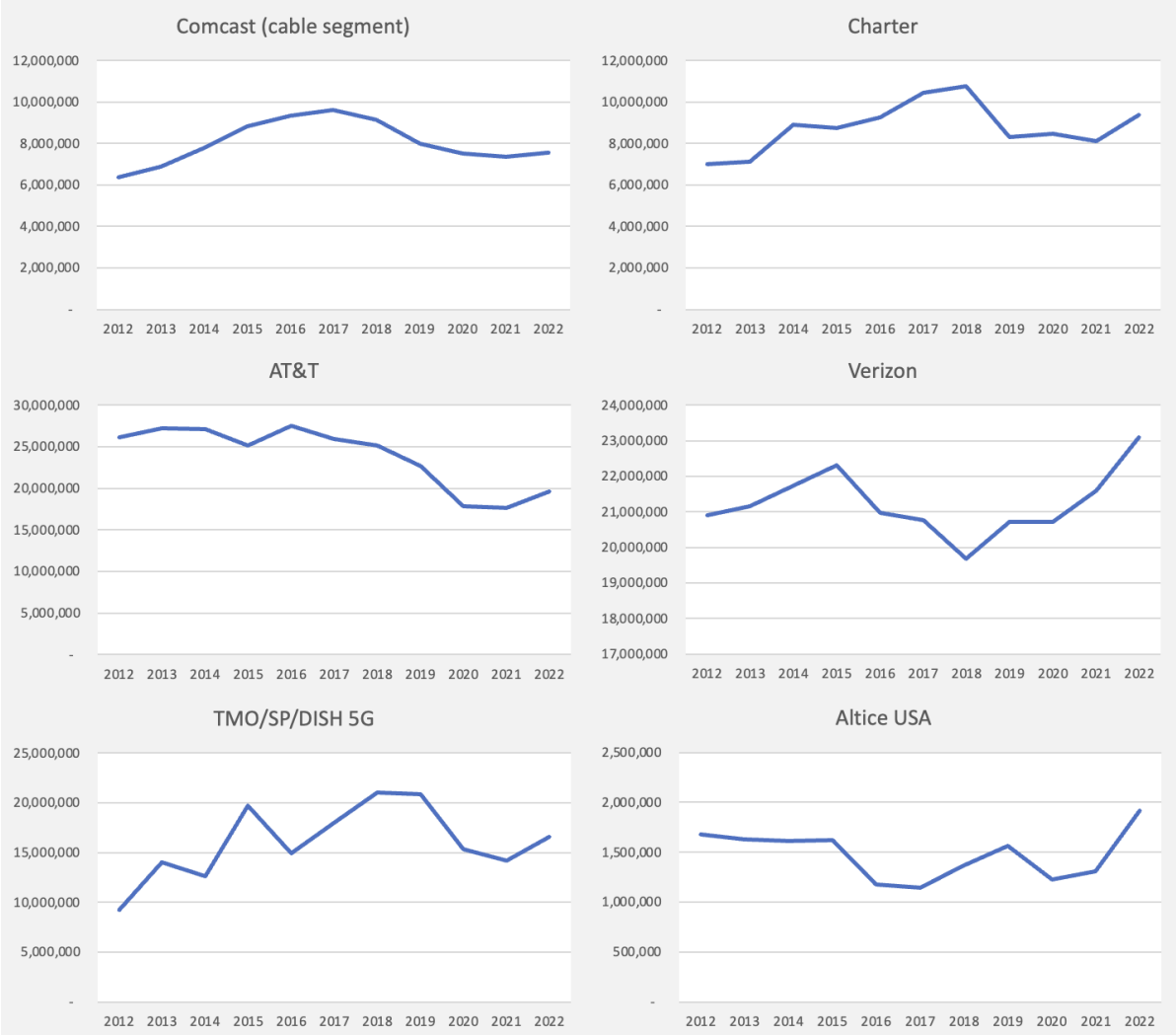
For the 20 firms shown, we see that 13 reported higher capital expenditures during the 2015-2017 period compared to the 2018-2020 period.[209] For example, Comcast's total capital investments were 11.3 percent lower in the three years following the *2017 RIF Order* than they

[209] While we tracked 21 firms, in this figure we've combined the values for Sprint and T-Mobile (and Dish's 5G capital expenses) into a single value to reflect the merger and divestiture that closed during 2020.

were in the three years prior while under FCC Title II authority. In contrast, Altice's capital investments increased slightly following the *RIF Order*. Though as we explained in our 2020 Section 706 Inquiry comments, this increase was due to the company's FTTH expansion, a project announced prior to the end of 2016.[210]

To better visualize these trends, we present the inflation-adjusted capital expenditures for the 6-largest publicly traded ISPs (as measured by number of residential subscribers) during the 2012-2022 period (see Figure 16).

**Figure 16: Top ISP Company Capital Expenditures (inflation-adjusted) 2012–2022**

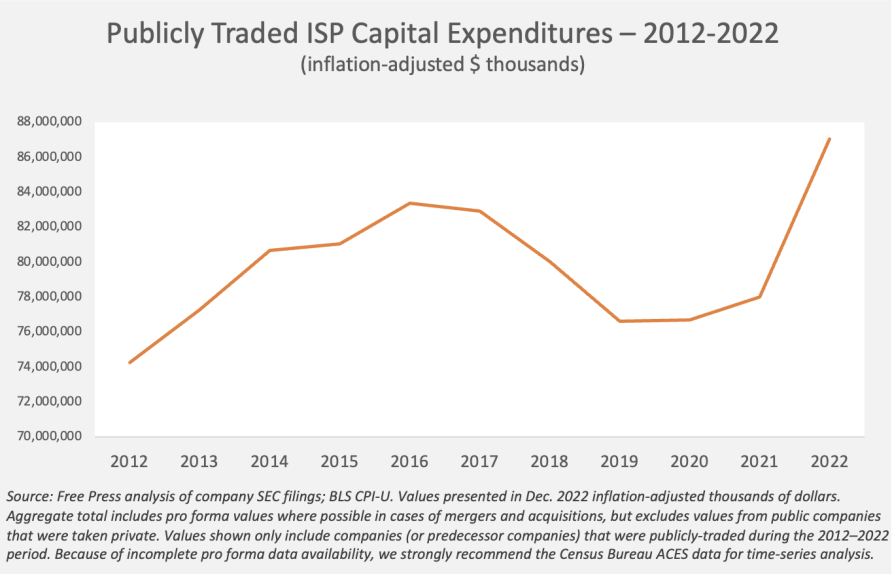



[210] *See* Free Press 2020 Section 706 Comments at 39-40.

This representation, along with all the other information we've documented, should make it clear that anyone claiming that either the *Open Internet Order* or the *RIF Order* had any industry-wide impact on capital investment is engaging in sophistry.

We again stress that there's little informational value to be found in aggregate industry data, particularly aggregated data sourced from publicly-traded company SEC filings. There is much more information to be found by examining individual firms and studying their communications with their investors and investment analysts. Nonetheless, we understand that simplification can benefit policymaking. To that end, and for completeness sake, we present the aggregate total inflation-adjusted capital expenditures for all the ISPs that remained publicly traded between 2012 and 2022. This data shown below in Figure 17 provides a visual representation of the aggregate total inflation-adjusted capital investments made by companies that were publicly traded between 2012 and 2022, as shown in Figure 14 above. Publicly-traded ISP company investments increased 11 percent during the 3-year Title II era compared to the prior 3-year period, and then declined 6.5 percent during the three years following the *RIF Order*'s repeal of Title II.

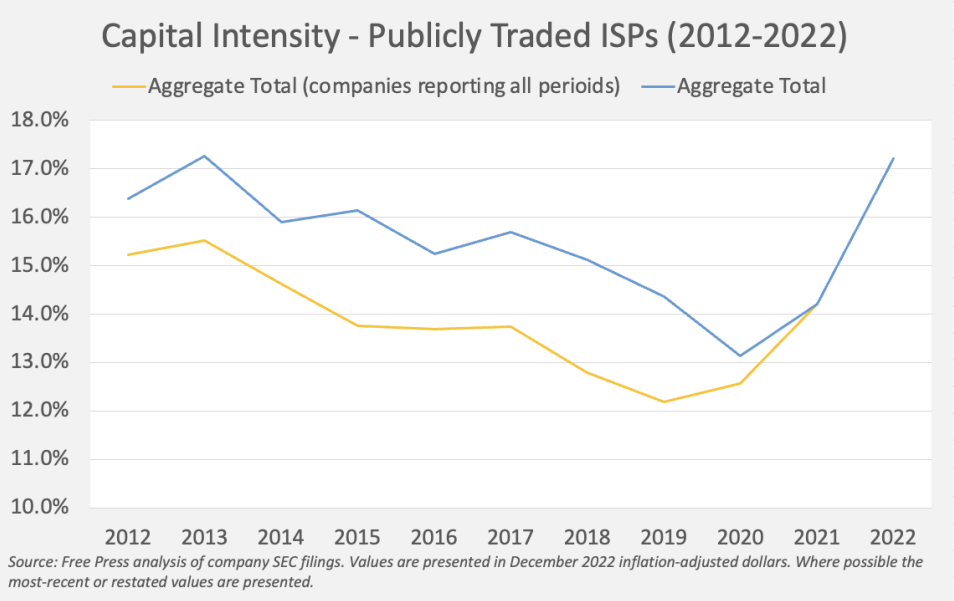
**Figure 17:**




*Source: Free Press analysis of company SEC filings; BLS CPI-U. Values presented in Dec. 2022 inflation-adjusted thousands of dollars. Aggregate total includes pro forma values where possible in cases of mergers and acquisitions, but excludes values from public companies that were taken private. Values shown only include companies (or predecessor companies) that were publicly-traded during the 2012–2022 period. Because of incomplete pro forma data availability, we strongly recommend the Census Bureau ACES data for time-series analysis.*

Finally, we present the aggregate capital intensity value for publicly-traded ISPs during 2012-2022. This data shown in Figure 18 below reflects the reality that even as ISPs continue to deploy faster, higher-capacity networks, they are also able to charge higher prices for these services. This means that as an industry, ISPs re-invested a decreasing percentage of their revenues back into their networks, both prior to and after the *2015 Open Internet Order*, and following the *2017 RIF Order*. This trend in declining capital intensity did reverse in 2021 and 2022, driven in large part by COVID-19-related capital funds, and other subsidy programs like the FCC's RDOF program.

**Figure 18:**




### d) Granular Cable Company Data Indicates Their Network Investments Increased Following the 2015 Order and Declined Following the 2017 Repeal.

The data presented above for company-specific capital expenditures, and the U.S. Census Bureau's Annual Capital Expenditure Survey results, reflect the telecom industry's investments in all durable goods used in these companies' business operations. But only a portion of these

expenditures are for the core, natural monopoly network infrastructure required to transmit data between a customer's location and an ISP's interexchange points with other carriers.

Capital investments in non-core network assets are critical to broadband providers' overall business success, but such expenditures do not necessarily reflect the trajectory for commercial availability of improved access services. For example, most ISPs operate in multiple lines of business. ILECs also serve large enterprises with managed voice services. The installation of a new Private Branch Exchange ("PBX") in an office building is a non-core capital expenditure that doesn't reflect positively on the status of the broadband market, just as a decline in such PBX expenditures doesn't reflect poorly on it.[211]

What's more, non-core network capital expenditures might decline because of the efficiency gains produced by past network investments. ISPs incur a capital expense when they purchase service vehicles. But if the need for large fleets of trucks declines due to growth in customer self-installation or advances in software defined networking ("SDN"), any commensurate declines in capex would not reflect negatively on overall broadband market development.

Similarly, not all increases in capital outlay are an indicator of increased broadband infrastructure availability. A cable MSO's purchase of new pay-TV set-top boxes likewise may not seem directly relevant to its broadband network capacity; yet purchasing the latest generation of all-digital, MPEG-4 capable set-top boxes enables an MSO to expand its plant capacity dedicated to broadband services by reducing the bandwidth requirements for pay-TV services.[212]

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[211] *See, e.g.*, Sean Buckley, "Level 3 discontinues more TDM-based voice services in Idaho and Washington, but supports hybrid environments," *Fierce Telecom* (Sept. 26, 2016); *see also, e.g.*, Luke Bouma, "AT&T is Saying Goodbye to Landline Phones As It Pushes Customers to VOIP Options," *Cord Cutters News* (Feb. 3, 2023).

[212] *See, e.g.,* Comments of Tom Rutledge, Chairman and CEO, Charter Communications Inc., Q4 2016 Charter Communications Inc. Earnings Call (Feb. 16, 2017) ("We manage our network

Fortunately, most cable MSOs report their capital expenditures in a manner that separates out network and non-network spending.[213] The segments most directly related to the last mile are "line extensions" (the network costs incurred from entering a new service area) and "upgrades/rebuilds" (replacement capital expenditures for improving the existing last mile lines). Capital investments in "scalable infrastructure" are also core-network investments, as they involve expenditures for items such as converged cable access platform ("CCAP") equipment (which is, like wireless networks, becoming increasingly virtualized as a way of increasing bandwidth).[214] The other two segments of cable capex are critical to the business, but aren't

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for the future based on the actual load on the network, as opposed to some theoretical issue, and there are other ways of getting capacity out of all-digital networks. Like for instance, most of our set top boxes now are capable of IP delivery. They're also capable of MPEG4 delivery, which means that we can squeeze the capacity out of our video business, and get more DOCSIS capability in our network, which means we can do more virtual or electronic node splitting than we might have done a couple of years ago. And that's a function of our CPE strategy. So we're managing all of those things together to get capacity.").

[213] Charter defines these five capital expenditure segments as follows: "Customer premise equipment includes costs incurred at the customer residence to secure new customers and revenue generating units, including customer installation costs and customer premise equipment (*e.g.*, digital receivers and cable modems). Scalable infrastructure includes costs not related to customer premise equipment, to secure growth of new customers and revenue generating units, or provide service enhancements (*e.g.*, headend equipment). Line extensions include network costs associated with entering new service areas (*e.g.*, fiber/coaxial cable, amplifiers, electronic equipment, make-ready and design engineering). Upgrade/rebuild includes costs to modify or replace existing fiber/coaxial cable networks, including betterments. Support capital includes costs associated with the replacement or enhancement of non-network assets due to technological and physical obsolescence (*e.g.*, non-network equipment, land, buildings and vehicles)." See Charter Communications Inc., 2022 10-K, at 41.

[214] *See, e.g.*, Julia King, "Comcast head talks progress from DAA to DOCSIS," *Fierce Telecom* (Oct. 18, 2023) ("Comcast touted its progress migrating to a distributed access architecture (DAA) with updated virtualized network functions as it plans to roll out DOCSIS 4.0 more broadly. . . . Comcast has also been working to retire its legacy cable modem termination systems (CMTS) in favor of virtualized platforms. [Comcast Chief Network Officer] Nafshi said the company's analog CMTS requires 20 racks of equipment to get to 60,000 households passed, whereas its vCMTS uses one rack to reach 100,000 households. He noted Comcast already has vCMTS-powered fiber-to-the-home (FTTH) powering multi-gig services nationwide, as the company is 'quickly retiring [its] legacy CMTS architecture.'").

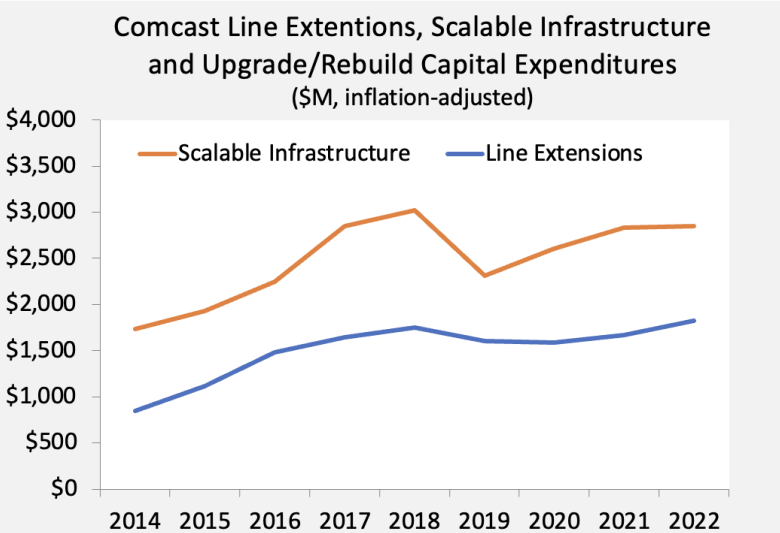
"core" network investments (customer premise equipment spending for set-top boxes and even modems are external to the core, as is capital investment in non-network assets such as office buildings).

This data reveals a huge increase in cable ISPs' core network spending following the FCC's February 2015 Open Internet vote. For example, on an inflation-adjusted basis, Comcast's capital investments to upgrade its network[215] increased 20 percent in 2015, another 15.2 percent in 2016, and another 15 percent in 2017. However, in 2018 following the *RIF Order*, Comcast's network upgrade expenses only increased 2 percent, before declining 13.4 percent during 2019, and another 1 percent decline in 2020. (see Figure 19 below). If we look just at Comcast's line extensions (a much more costly endeavor than upgrading existing plant), we see a similar pattern. Comcast's investment in serving new locations increased 31 percent in 2015, 34 percent in 2016, and 11 percent in 2017. Following the *RIF Order*, Comcast's line extension investments increased 7 percent in 2018 before declining 8 percent in 2019 and another percent in 2020 (see Figure 19 below).

Charter's network investment shows a similar pattern. Unlike Comcast, Charter reports its upgrade and rebuilds investments separately from its scalable infrastructure investments. Like Comcast, Charter's investments in core networking equipment to increase its existing capacity steadily increased following the *Open Internet Order*, only to decrease following the *RIF Order*. Charter's investments in serving new locations also increased steadily following both the *Open Internet Order* and the *RIF Order*, with a large increase in 2022 stemming from it's RDOF-subsidized rural expansion project (see Figure 20).

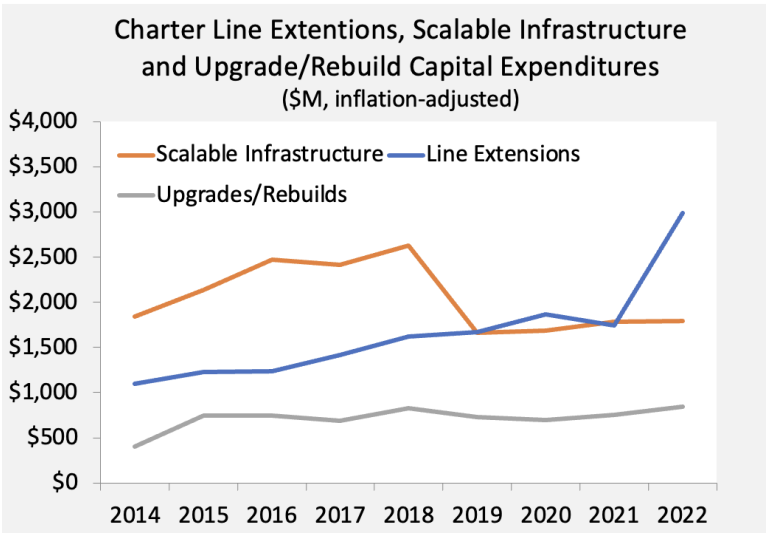
[215] This includes expenditures on scalable infrastructure (Comcast reports its upgrade/rebuild expenses in this category) and line extensions.

**Figure 19:**




*Source: Free Press analysis of company SEC filings; BLS CPI-U. Values are presented in December 2022 inflation-adjusted thousands of dollars. Where possible the most-recent or restated values are presented. Values include categories of "scalable infrastructure" (including "upgrades/rebuilds"), and "line extensions."*

**Figure 20:**

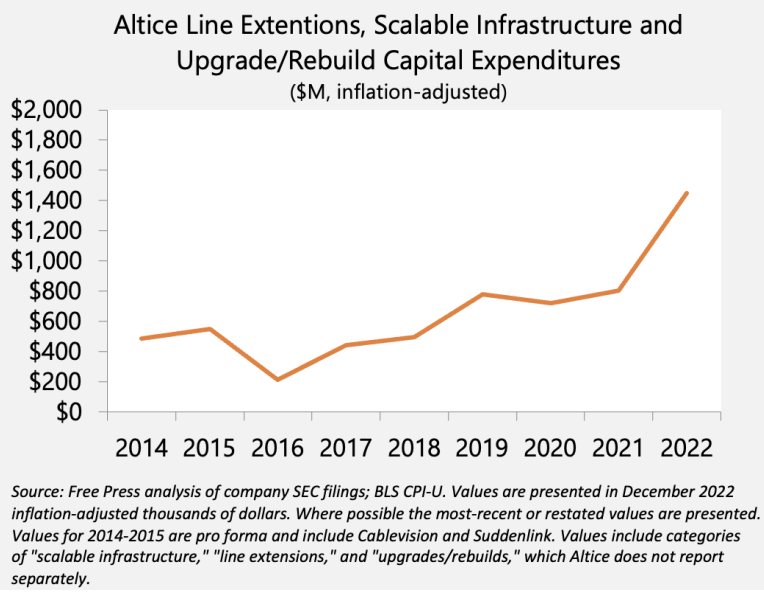



*Source: Free Press analysis of company SEC filings; BLS CPI-U. Values are presented in December 2022 inflation-adjusted thousands of dollars. Where possible the most-recent or restated values are presented. Values for 2014-2015 are pro forma and include TWC and BHN. Values include categories of "scalable infrastructure," "line extensions," and "upgrades/rebuilds."*

Unlike the other MSOs, Altice combines all of its network capital investment segments into one reported value. These values, shown in Figure 21, indicate a slight increase in Altice's inflation-adjusted network investment during 2015, followed by a decline in 2016, and another increase in 2017. As we noted above, shortly after closing on its acquisitions of Cablevision and

Suddenlink during mid-2016, Altice embarked on a 5-year plan to replace large portions of its coaxial cable system with FTTH.[216] The data in Figure 21 reflects that project, with its 2022 network investments nearly double the inflation-adjusted amount spent on a *pro forma* basis in 2014.

**Figure 21:**

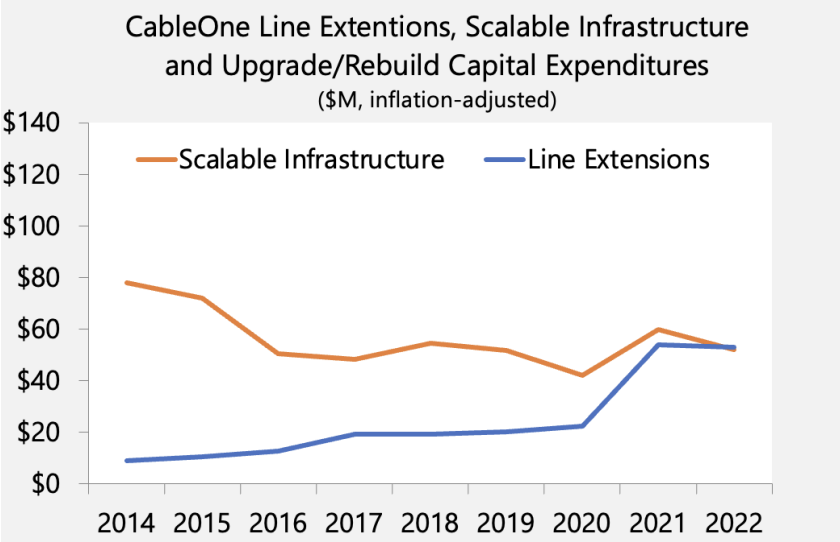



Cable One's network investment trajectory is quite different from that at its larger MSO peers. To implement a "broadband-first" strategy that encouraged customers to use OTT services for their video needs, Cable One increased its network capital investments during the 2014-2015 period (on a nominal basis). Specifically, Cable One increased its nominal capital spending to convert its systems to all-digital, increase the spectral capacity of its physical plant, upgrade headend equipment to 24-channel bonding DOCSIS 3.x-capability, and push fiber deeper into its

[216] Netherlands-based Altice N.V. acquired mid-sized MSO Suddenlink Communications in December 2015, and closed on its acquisition of Cablevision Systems Corporation in June 2016. In that same period, just about a year after the *Open Internet Order* vote, Altice announced a five-year plan to upgrade its entire footprint of 8.4 million locations with fiber-to-the-home technology capable of delivering 10 gigabits per second symmetrical. *See It's Working* at 76-78.

network.[217] With these upgrades completed during 2015, Cable One's 2016 capex declined to pre-IPO levels, making for an overall decline at Cable One in the two-year period after the FCC's February 2015 vote compared to the two years before it (see Figure 22). The company however continued to see higher investments in line extensions after 2014, with a sharp increase during 2021-2022, reflecting its continued expansion into unserved areas and a new fiber-deployment joint venture.[218]

**Figure 22:**



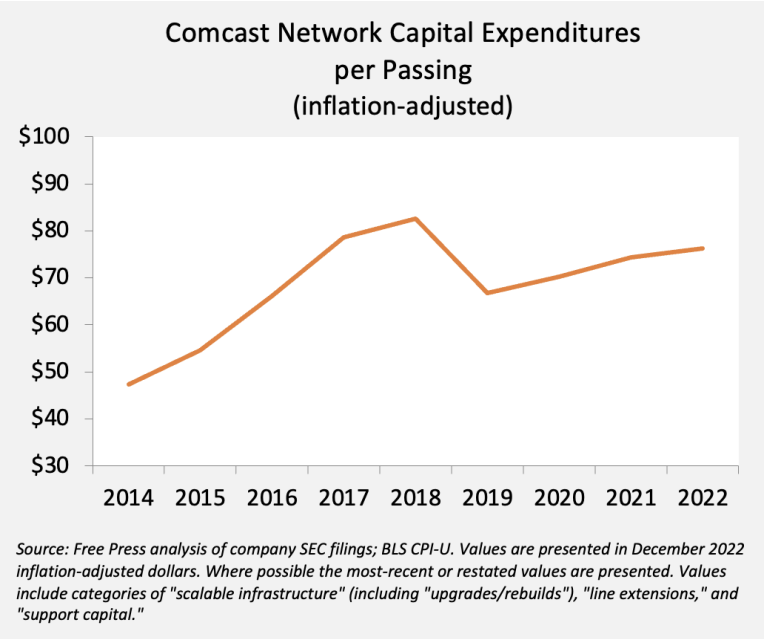

*Source: Free Press analysis of company SEC filings; BLS CPI-U. Values are presented in December 2022 inflation-adjusted thousands of dollars. Where possible the most-recent or restated values are presented. Values include categories of "scalable infrastructure" (including "upgrades/rebuilds"), and "line extensions."*

[217] *See, e.g.,* Cable One Inc., Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, for the Quarterly Period Ended June 30, 2015 ("Because of the levels of competition we face, we believe it is important to make investments in our infrastructure. We are investing at an aggressive pace by increasing cable plant capacities and reliability, launching all-digital video services and increasing data capacity by moving from four-channel bonding to 24-channel bonding, a 600 percent increase. We believe these investments are necessary to remain competitive. However, we anticipate that a significant amount of these capital projects will be completed in the near-term, freeing up sources of cash that would otherwise have been used on such investments.") (emphases added).

[218] *See, e.g.*, Joan Engebretson, "Cable One Forms Clearwave Fiber Joint Venture: Rural Broadband is a Priority," *Telecompetitor* (Jan. 4, 2022) ("The joint venture plans to 'invest heavily' in fiber broadband within its footprint and 'near-adjacent areas.'").

Below, we discuss in more detail just how much of a cost advantage cable company ISP's have when upgrading their networks compared to their ILEC competitors. The MSO's detailed capital expenditure data makes this very clear. For example, between 2014 and 2017 Comcast's network investments per passing[219] increased 66 percent on an inflation-adjusted basis, from $47.35 per passing in 2014 to $78.60 in 2017 (see Figure 23). This increased slightly in 2018 before declining in 2019.

**Figure 23:**

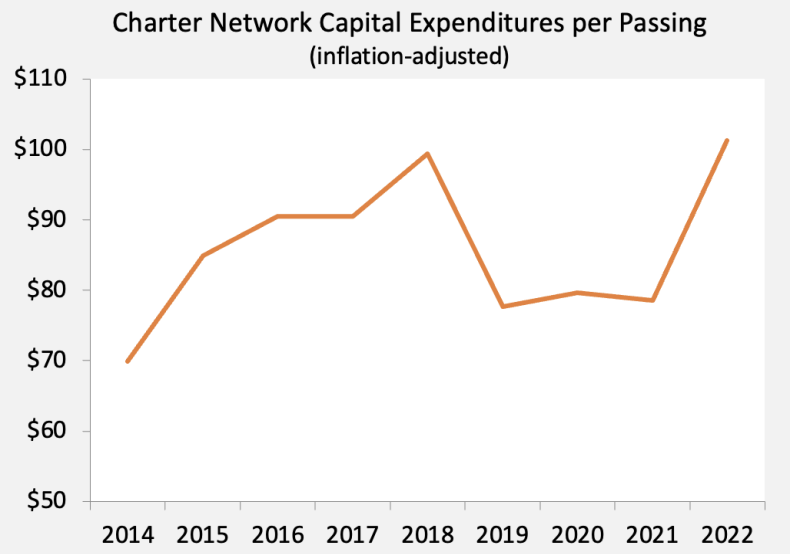



*Source: Free Press analysis of company SEC filings; BLS CPI-U. Values are presented in December 2022 inflation-adjusted dollars. Where possible the most-recent or restated values are presented. Values include categories of "scalable infrastructure" (including "upgrades/rebuilds"), "line extensions," and "support capital."*

Similarly, Charter's average annual network investments per passing increased 30 percent from 2014 to 2017, going from $69.89 to $90.46. These average per passing network investment expenses declined sharply after 2018, before ramping back up in 2022 as the company rolls out its RDOF-funded rural builds (see Figure 24). Altice's and Cable One's per passing network expenditures are shown in Figures 25 and 26, and are similar in magnitude to its MSO peers.

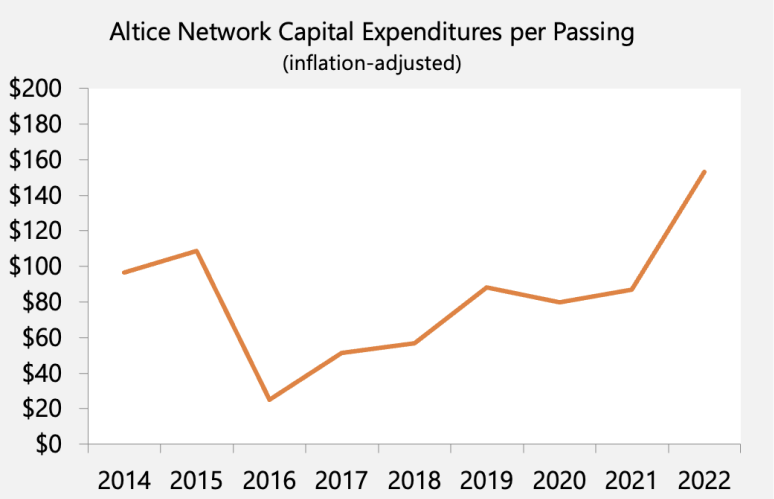
[219] A passing is a customer location where an ISP's service is deployed and available for purchase.

**Figure 24:**



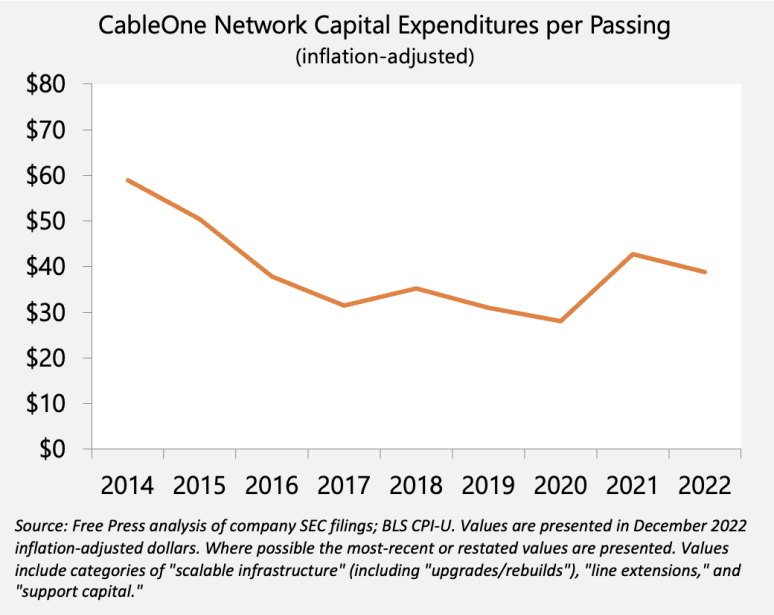

*Source: Free Press analysis of company SEC filings; BLS CPI-U. Values are presented in December 2022 inflation-adjusted dollars. Where possible the most-recent or restated values are presented. Values for 2014-2015 are pro forma and include TWC and BHN. Values include categories of "scalable infrastructure" (including "upgrades/rebuilds"), "line extensions," and "support capital."*

**Figure 25:**




*Source: Free Press analysis of company SEC filings; BLS CPI-U. Values are presented in December 2022 inflation-adjusted dollars. Where possible the most-recent or restated values are presented. Values for 2014-2015 are pro forma and include TWC and BHN. Values include categories of "scalable infrastructure" (including "upgrades/rebuilds"), "line extensions," and "support capital."*

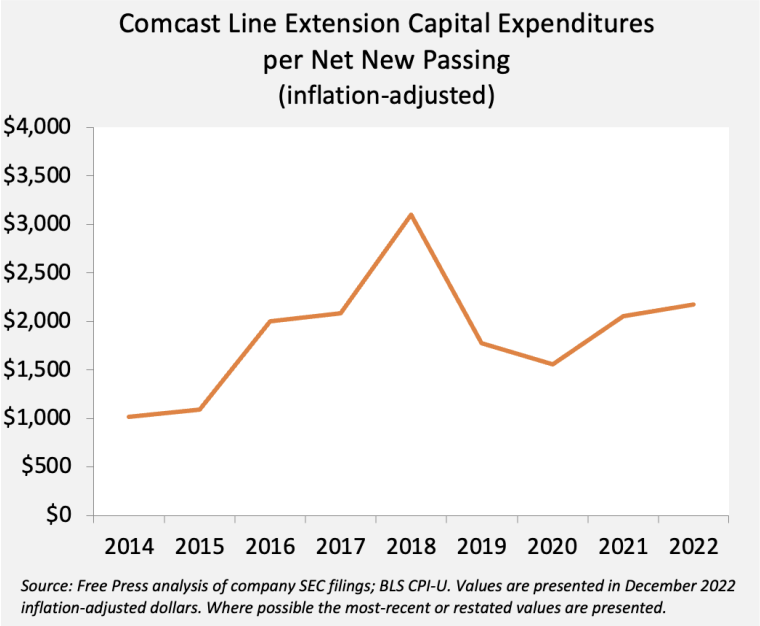
**Figure 26:**




Though it might surprise the average internet subscriber, cable companies gave up on coaxial "cable" many years ago, at least when it comes to extending service into new areas. This is because fiber optic technology is "future-proof," and substantially more cost-effective in the long run than extending existing cable plant into a new area using coaxial system architecture. This is why MSO's line extension capital expenses on a per-passing basis are very similar to the FTTH upgrade costs faced by ILECs, which are above $1,000 per passing depending on the specifics of the location (see Figures 27 and 28).[220]

[220] ILECs' per-location FTTH upgrade costs are at least an order of magnitude higher than the MSOs' DOCSIS 4 upgrade costs (which are about $100 per passing), and both technologies will enable multigigabit symmetrical services. For example, Lumen Technologies recently disclosed that its FTTH upgrade costs in urban markets are about $1,200 per passing, not including the cost to install. Frontier estimated a cost of $900 to $1000 per passing and an additional $550 to $600 installation cost for its build plans during 2022–2025, which are also largely for urban and suburban markets. *See, e.g.*, Comments of Christopher David Stansbury, Executive VP & CFO, Lumen Technologies, Inc., Lumen Technologies, Inc. 4Q 2022 Investor Call (Feb. 7, 2022) ("[W]e expect to enable an incremental 500,000 Quantum locations in 2023 as we emerge from our project reevaluation. We anticipate a cost per enablement of $1,200 in 2023. . . . And as we've said, our plans for Quantum are dense urban areas and major metros, and that remains. We're not going to be looking to run fiber to lower density areas because the numbers just don't make sense."); *see also* Comments of Scott C. Beasley, Executive VP & Chief Network Officer, Frontier Communications Parent, Inc., Frontier 2021 Investor Day (Aug.

**Figure 27:**

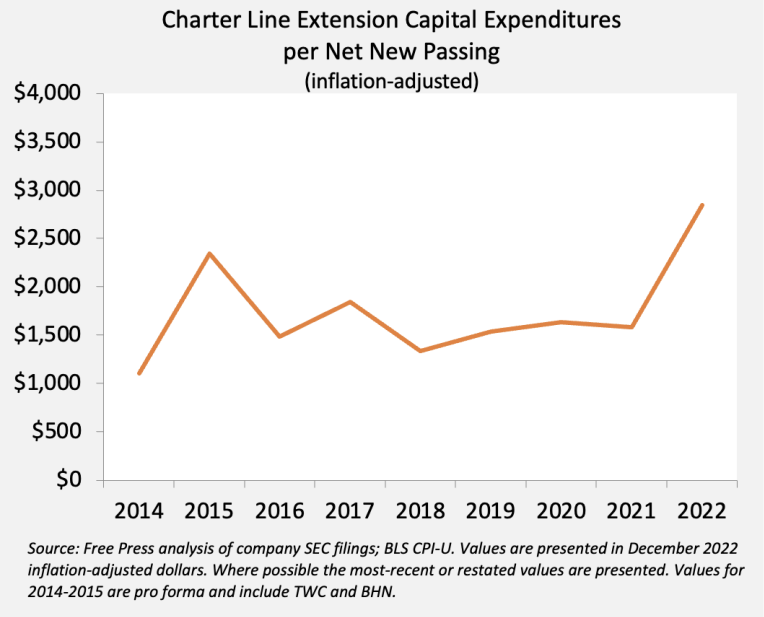



When considering the potential impact of any external event on broadband investment and deployment, it is important to understand the differences in upgrade costs for each technology type. As we've noted to the Commission in other proceedings many times before, Cable MSOs enjoy far more favorable upgrade economics than ILECs do. The total costs for MSOs upgrading the entire US cable footprint from DOCSIS 2 technology to DOCSIS 3.0 technology was characterized by one MSO as the kind of money one might find "in Bill Gates'

5, 2021) ("From 2022 through 2025, we expect our average cost per passing to be in the $900 to $1,000 range. This range is an average that factors in the topography and household density within our footprint. It includes a modest degree of cost inflation throughout the build period. It also reflects our emphasis on accelerating our path to expansion and time to revenue. Our projected cost on wave 2 is driven by how we strategically prioritize our deployment plan. To accelerate our overall value creation, our deployment plan balances several different priorities, including IRR, cost, scale economies, market level efficiency and time to build. . . . [O]n the cost to connect, what we typically think is a range in the kind of $550 to $600 per customer range."); *see also* Comments of Christopher L. Winfrey, President & CEO, Charter Communications, Inc., Charter Communications Inc. Special Investor Call (Dec. 13, 2022) ("Charter Dec. 2022 Comments") ("[W]e're going to start off with 2 gig by 1 gig speeds and [ ] we're going to have network capabilities of going to 10 gigabits per second through DOCSIS 4.0, and we're going to be able to get all of that with – at a targeted cost of $100 per passing. Some of you are doing the math, and you're saying, Chris, I get it $100 per passing. That's so much better. That's a fraction of the cost of your competitors, and you're right.").

sofa cushions," or about $16 per passing.[221] According to Charter's CEO, the cost of DOCSIS 3.0 to DOCSIS 3.1 upgrades were about $9 per passing.[222]

**Figure 28:**




These two technology upgrades enabled cable ISPs to move from offering single-digit Mbps downstream speeds to offering downstream speeds in the hundreds of megabits per second range. Though the costs MSOs face to upgrade to DOCSIS 4.0 will be higher than in previous cycles, they will still be substantially lower than those ILECs face to deploy FTTH. And while fiber certainly deserves to be called a "future proof" technology, DOCSIS 4.0 will enable MSOs to offer residential customers multi-gigabit per second downstream and upstream capacities.

[221] In 2007, Comcast SVP Steve Craddock stated that "[c]able can go deploy DOCSIS 3.0 for a couple billion dollars . . . . We could blanket the entire U.S. footprint in a matter of years, because it's an incremental upgrade." At the time there were about 123 million cable passings, which equates to a per passing cost of $16. *See* Todd Spangler, "Advantage: DOCSIS 3.0," *Multichannel News* (May 11, 2007).

[222] *See* Comments of Thomas M. Rutledge, CEO, Charter Communications Inc., Charter Communications Inc. Q1 2019 Earnings Call (Apr. 30, 2019) ("[I]n only 14 months, we launched DOCSIS 3.1, which took our speeds up to 1 gigabit across our entire footprint at a cost of just $9 per passing, enabling . . . 51 million passings to receive this service.").

Given that consumer demand should not be materially different for FTTH vs. DOCSIS 4 (other than of course differences based on price, if any), Cable operators clearly have a substantial cost advantage over ILECs. For example, Comcast estimated its DOCSIS 4 upgrade cost to be "under $200" per passing.[223] Charter recently indicated its DOCSIS 4 costs would be about $100 per passing.[224] These are in line with per passing cost estimates for the cable industry generally.[225]

This means that a typical MSO expanding to multi-gigabit capacity via a DOCSIS 4 upgrade will generate a positive return on investment after one year, and earn a far higher terminal rate of return than an ILEC moving from DSL to FTTH.[226]

There are also significant differences between cable MSO and ILEC system architectures that greatly impact the scope of upgrades. ILECs must first pass homes on the street with fiber, then once a customer orders service they have to send a technician to the location to "drop" the line from the nearest terminal (buried or on a utility pole) to the customer's premise, and install an Optical Network Terminal ("ONT") that can then be connected to the customer's inside wiring. In contrast, when MSOs perform DOCSIS upgrades, they do so system-wide, as the

[223] *See* Diana Goovaerts, "Comcast cites $200 cost per passing for mid-split, DOCSIS 4.0 upgrades," *Fierce Telecom* (Nov. 15, 2022).

[224] *See* Charter Dec. 2022 Comments ("[W]e're going to start off with 2 gig by 1 gig speeds and [ ] we're going to have network capabilities of going to 10 gigabit per second through DOCSIS 4.0, and we're going to be able to get all of that with – at a targeted cost of $100 per passing. Some of you are doing the math, and you're saying, Chris, I get it $100 per passing. That's so much better. That's a fraction of the cost of your competitors, and you're right.").

[225] *See* Jeff Baumgartner, "Analysts peg DOCSIS 4.0 network upgrade costs at $180 per home passed," *Light Reading* (Oct. 11, 2022).

[226] *See* Comments of Free Press, *In the Matter of Implementing the Infrastructure Investment and Jobs Act: Prevention and Elimination of Digital Discrimination*, GN Docket No. 22-69, at 27 n. 61 (filed Feb. 21, 2023) ("Free Press Digital Discrimination Comments") (noting that "a hypothetical MSO [upgrading from DOCSIS 3.1 to DOCSIS 4.0] would earn a 26 percent rate of return in year two, doubling to 53 percent in year three, and reaching above 75 percent by year seven").

changes are not made at the customer's location but at the cable system headend or node. This means that when cable MSOs decide to do upgrades, they are usually across their entire local system's footprint, while ILEC upgrades are made at the street-level.

Thus it should come as no surprise that cable ISPs feel great about the future of their business and expect to maintain their market dominance even in the face of increased ILEC FTTH deployment.[227] Indeed, while FTTH currently is available to just over half of U.S. homes, cable ISPs in certain markets have faced fiber competition for well over a decade, and still have a dominant market share in these areas.[228] Clearly, cable knows more fiber deployment is coming (as well as fixed wireless deployment), and will in no way be stunted by the return of Title II and Net Neutrality.[229]

**e) The RIF Order did not Positively Impact the Pace of Fiber Deployment.**

Before we turn to an examination of how U.S. ISPs currently view the future of the broadband market, and document how these companies' businesses will not be negatively

[227] *See* Comcast Nov. 16, 2023 Comments ("But just to hit them quickly to go down the list, broadband, we feel great about the broadband business. It's the biggest growth driver we have.").

[228] *Id.* ("I think in the competitive environment, there's sort of 2 different factors that have been impacting us. There's fiber, which has impacted us for 20-plus years. We used to not compete against fiber. And for the last 15-plus years, we have competed against fiber. It made its way into, call it, 45 percent, 50 percent of our base. We see fiber in almost half of our footprint . . . . By the way, we know how to compete against fiber. We've competed against fiber for a long period of time. They tend to take a decent amount of share upfront and then we reach an equilibrium and then we actually started to get in win-back mode.").

[229] *Id.* ("The 50 percent or so of our territory [where there is an FTTH competitor] now will go to 60 percent in the next couple of years, and it probably won't stop at 60 percent. It will go beyond that. But that's very much a known quantity. We know how to compete. We know how they calculate returns. The newer entrant, if you will, has been fixed wireless. And that's been in the market for a couple of years at this point. You're seeing between mostly Verizon, T-Mobile, maybe to a lesser extent, AT&T, although they're in the mix a little bit now, you're seeing that category add about 1 million subs per quarter. And that's been in place for the last several quarters. I would predict it's probably going to continue to be in place for the next several quarters.") (emphasis added).

impacted by the policy proposals in the *Notice*, we offer an example of a trend that was in motion well before both the 2015 *Open Internet Order* and the *RIF Order*, yet that former Chairman Pai shamelessly tried to take credit for engineering.

At the start of 2020, Chairman Pai claimed before a friendly audience that "since we made the decision [to repeal the Commission's February 2015 *Open Internet Order*] in December 2017, broadband speeds are up 60 percent according to Ookla, infrastructure investment is up, more Americans are getting connected to the internet than ever before. More fiber was laid in 2019 to homes and businesses in the United States than in any year since they've been keeping records, breaking the record we set in 2018."[230]

We've previously addressed each falsehood in this statement, but we'll focus specifically on the fiber claim, because it illustrates how easy it is for policy makers and analysts to abuse data and assign credit (or blame) where no evidence of causality exists.[231]

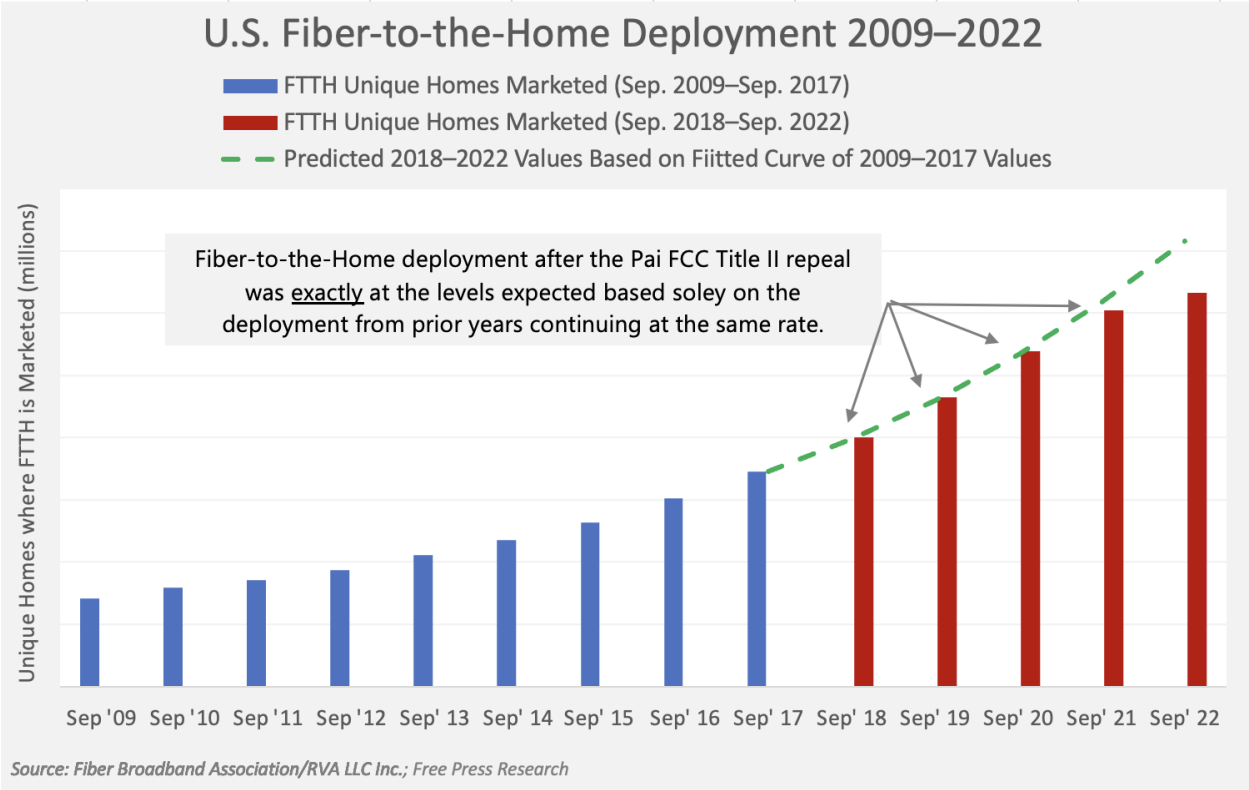
Former Chairman Pai's self-serving fiber deployment claim is based on data from the Fiber Broadband Association ("FBA") and RVA LLC. They have published this data annually, gathered in part from RVA's detailed work obtaining information directly from ISPs. Thus we can easily plot the trajectory of fiber deployment before Chairman Pai's tenure, and compare the continuation of that trajectory at its pre-2017 rate to the observed "record-setting" data during 2018 and 2019. This is presented below in Figure 29, and it shows three things: First, FBA's/RVA's observed FTTH deployment for 2009-2017 (pre-Title II and Title II era in blue); second, their observed FTTH deployment for 2018-2022 (post-RIF era in red); and third, the predicted values for 2018-2022 based solely on the observed values for 2009-2017 continuing at

[230] *See* Karl Bode, "Ajit Pai Hits CES... To Make Up Some Shit About Net Neutrality," *Techdirt* (Jan. 9, 2020).

[231] *See* Free Press 2020 Section 706 Comments at 27-28.

the same rate (green dashed line; which represents a third-order polynomial curve fitted to the 2009-2017 data).

**Figure 29:**




As this data shows, Chairman Pai took credit for a trend that was set in motion during Julius Genachowski's and Tom Wheeler's tenures as FCC Chairs. Fiber-to-the-Home deployment observed during Chairman Pai's tenure was exactly at the levels expected based solely on the deployment growth from the prior 9 years continuing at the same rate. There is absolutely no reason from the outcome data alone, "record-setting" or not, to conclude that Chairman Pai's policies made any impact on fiber deployment. The growth in U.S. fiber deployment during Chairman Pai's tenure and following the *RIF Order*'s Title II repeal is exactly

what would have been expected based solely on continuing the growth trend that occurred during the Obama and Title II era.[232]

In sum, the data is clear: the proper application of the law reclassifying broadband internet access services as telecommunications services had no impact on ISP industry investment, and Chairman Pai's undoing of this classification did not increase investment. The singular focus on aggregate capital spending was always misguided – what matters to the public interest is whether or not companies are innovating, investing, and meeting demand as they would in a competitive market. By this standard, the U.S. market has performed as expected given the underlying market fundamentals and cost-structures. Chairman Pai's policies have not proven to be the investment-boosters he touted.

But let's be absolutely clear: even if aggregate ISP capital investment had declined, this would in no way prove that the decline was caused (or even meaningfully impacted) by FCC policy decisions. Aggregate industry capital investments, and any change in them from year-to-year, are at most a starting point for understanding industry trends. These trends depend on numerous factors, many well outside the influence of public policy. Furthermore, there are different types of capital investments, some which are more beneficial to the public than others. The aggregate dollar value of capital investments alone does not determine the change in availability of last mile broadband access services, nor the prices for, capacity of, and consumer and producer surpluses derived from the availability of these services. And as we discuss below, any consideration of the efficacy of a policy designed to benefit the entire internet ecosystem must examine the policy's impact on all parts of that ecosystem.

[232] The deviation from the fitted line seen in 2021 and 2022 is certainly related to the well-documented supply chain issues surrounding fiber optic cabling, discussed in the following section. It is also certainly likely that some carriers slowed down their 2022 and 2023 FTTH deployments as they consider applying for BEAD subsidies.

As we documented in Part III of our report *It's Working*, the reasons for any increase or decrease in capital spending by each firm were, and are clearly explained by each company before, during, and after those investment decisions were implemented. None of the firms that saw declines in the aftermath of the *Open Internet Order* attributed these to any change in FCC policy.[233] They uniformly attributed any declines to completion of prior cyclical upgrades, with the expectation that most of these firms would increase capital spending again in future years. Likewise, not one single ISP who increased investment following the *RIF Order* attributed that in any way to FCC regulation or regulatory authority.

If the Commission had actually done the work to read ISP investor call transcripts, they would know this truth very well. We encourage this FCC to do exactly that. If they do, they'll learn that ISPs think broadband is a great, extremely profitable business to be in, and that the return of light-touch Title II and basic Net Neutrality rules are a total non-factor.[234]

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[233] *See generally It's Working*, Part III. Comcast offers a good example. Though the topic of Title II and Net Neutrality completely disappeared on Comcast's investor calls after mid-2015, Title II did come up on Comcast's Q1 2015 investor call (the first one following the FCC's reclassification vote in February of that year). Comcast was asked by an analyst, "now that Title II is the new state of the world, if you can lay out for us how you see that framework affecting broadband pricing going forward or what you can or cannot do with this new framework now?" Comcast Cable CEO Neil Smit responded, "on Title II, it really hasn't affected the way we have been doing our business or will do our business. We believe in Open Internet and while we don't necessarily agree with the Title II implementation, we conduct our business the same we always have, transparency and nonpaid peering and things like that." *See* Comments of Neil Smit, Senior EVP & President, CEO, Comcast Cable, Q1 2015 Comcast Corp. Earnings Conference Call (May 4, 2015) (emphasis added).

[234] Here are a couple of examples of ISP comments to the investment community, made after the release of the *Notice*. There are many others, some of which are referenced in these comments. *See, e.g.*, Comments of Christopher Stansbury, Executive VP & CFO, Lumen Technologies, at the Bank of America 2023 Leveraged Finance Conference (Nov. 28, 2023) ("Lumen Nov. 2023 Comments") ("The consumer opportunity is one of build fiber, get penetration and then enjoy a 30- or 40-year annuity.") (emphasis added); Comcast Nov. 16, 2023 Comments") ("We feel great about the broadband business. It's the biggest growth driver we have.") (emphasis added).

### 2. ISP's Statements to Investors Demonstrate that Restoring Title II Authority and Basic Net Neutrality Rules Will Not Negatively Impact Broadband Deployment.

The COVID-19 pandemic and associated lockdowns elevated the importance of robust home internet connectivity. The home broadband connection became the central tool required for people to work, learn, stay connected with friends and family, and stay entertained. While the pace of ISP broadband customer additions had been steady prior to March 2020, it accelerated sharply throughout the remainder of 2020 and 2021.[235]

Part of this "pull-forward" in growth[236] was driven by public policies, which kept the U.S. economy from collapsing through various household and industry economic subsidies. Programs like the Emergency Broadband Benefit ("EBB") helped income-challenged households stay online, or finally get an affordable robust home broadband connection. Prior to 2021, the adoption divide was particularly acute for low-income Black and Hispanic households. However, this racial/ethnic wired adoption gap in the bottom income tier was no longer seen in the 2021

[235] For example, Comcast added 1.97 million new broadband customers during 2020, 40 percent higher than its net addition rate in 2019. Charter added 2.215 million new broadband customers during 2020, 58 percent higher than its 2019 net addition rate. On the wired telco side of the market, 2020 and 2021 were turnaround years. AT&T's high-speed internet customer losses were 313,000 in 2019, declining to 5,000 in 2020. During 2021 it added 120,000 new broadband customers, with its increased FTTH service availability finally offsetting its continued DSL losses. Verizon lost 5,000 net broadband customers in 2019, but gained 173,000 in 2020 and 236,000 in 2021.

[236] Numerous ISPs have commented on the spike in customer growth during 2020 and part of 2021, attributing it to a pull-forward of demand. *See, e.g.*, Comments of Brian Roberts, Chairman and CEO, Comcast Corporation, at the SVB MoffettNathanson's Inaugural Technology Media and Telecom Conference (May 16, 2023) ("So let me just make sure we start from the same place, which is during the pandemic, we pulled forward a lot of demand in broadband."); *see also* Comments of Christopher L. Winfrey, President and CEO Charter Communications, at the SVB MoffettNathanson's Inaugural Technology Media and Telecom Conference (May 16, 2023) ("Don't forget we had a tremendous amount of pull-forward that took place during the pandemic. We had – over a year period, we had 2.2 million Internet net adds. And so what you have today is the effect of that pull-forward and some lower market activity that's taken place today as a result, combined with some reversion of the wireless substitution going back to where it was.").

Census Current Population Survey data.[237] This is strong circumstantial evidence that various low-income subsidy programs (both public and private), particularly the Emergency Broadband Benefit ("EBB"), may have helped to finally – hopefully not temporarily – close the digital divide to a large degree. Indeed, as we discuss elsewhere in these comments, the Commission's ability to adequately respond to the myriad of issues that underlie the adoption divide is substantially limited under the current classification that places BIAS outside of Title II.

The pandemic pull-forward and the unleashing of tens of billions in new broadband deployment subsidies (including the Commission's RDOF program) combined with a global supply chain crisis to reverse a two decades-plus trend of declining network equipment costs, as reflected in that good's producer price index (see Figure 30 below). The post-2020 resurgence in FTTH deployment increased demand for fiber optic cables at a time when global supply chains were still somewhat disrupted, increasing prices for this input commodity.[238]

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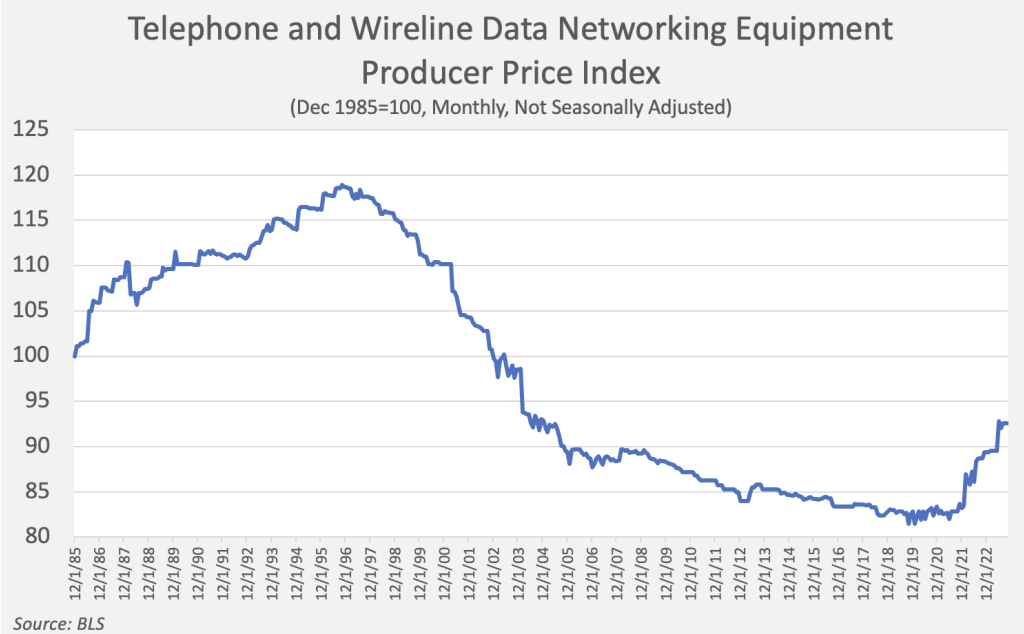
[237] Analysis of the 2017 Current Population Survey ("CPS") data indicates wired home internet adoption among persons age 3 and above in the family income bottom quintile was statistically significantly higher for census-designated non-Hispanic whites (52 percent) than Hispanic (42 percent) or Black persons (39 percent). Analysis of the 2019 CPS data indicates wired home internet adoption among persons in the family income bottom quintile was statistically significantly higher for non-Hispanic whites (51 percent) than Hispanic (44 percent) or Black persons (45 percent). The 2021 CPS indicated no statistically significant differences in wired home internet adoption between these bottom income quintile populations, with adoption levels of 56 percent for non-Hispanic whites, 57 percent for Black persons, and 58 percent for Hispanic persons. *See* Free Press Digital Discrimination Comments at 28-31.

[238] *See, e.g.*, U.S. Bureau of Labor Statistics, Producer Price Index by Industry: Fiber Optic Cable Manufacturing, PCU335921335921 (retrieved from FRED, Federal Reserve Bank of St. Louis, Dec. 1, 2023) (showing a 19 percent increase in this PPI from May 2022 to May 2023); *see also* U.S. Bureau of Labor Statistics, Producer Price Index by Industry: Fiber Optic Cable Manufacturing: Fiber Optic Cable, Made from Purchased Fiber Optic Strand, PCU3359213359210 (retrieved from FRED, Federal Reserve Bank of St. Louis, Dec. 1, 2023) (showing a 31 percent increase in this PPI from May 2022 to May 2023). The supply chain issues did ease after the second quarter of 2023, and increased demand has induced new supply. *See, e.g.*, George Winslow, "Study: Supply Chain Issues Ease for Fiber Broadband Deployments," *TV Tech* (May 2, 2023).

**Figure 30:**




This increase in producer's networking equipment and fiber optic cabling costs also comes at a time when Federal Reserve interest rate policy has resulted in higher borrowing costs, which were historically low for much of the post-2008 recession period through the end of 2021.[239] However, this confluence of interest rate, supply chain disruption and skilled labor availability[240] factors – disruptions that should normally depress the rate of broadband deployment – is butting against factors such as increased consumer demand and abundant subsidies that should normally increase supply. The net result thus far appears to be a slight slowdown in the *pace* of builds, but only in certain market segments. Overall, despite supply chain and interest rate headwinds, and *in spite of* the pending restoration of Title II and Net Neutrality, it appears the ISP industry is still very bullish on the future of their business.

[239] Board of Governors of the Federal Reserve System (US), Federal Funds Effective Rate, (retrieved from FRED, Federal Reserve Bank of St. Louis, Dec. 1, 2023).

[240] *See, e.g.*, Will Feuer, "The U.S.'s $42.5 Billion High-Speed Internet Plan Hits a Snag: A Worker Shortage," *Wall Street Journal* (Apr. 23, 2023).

Given these higher input costs, it should not be surprising that some ISPs are already forecasting a slowing in the pace of their deployment. And for some ISPs who have much higher network construction costs, this slowdown will translate into reduced capital spending during 2024. However, some ISPs are seeing efficiency gains, or have entered into asset-backed financing deals that keep the cost of capital low, and will be able to meet their deployment goals in roughly the same time period.[241] Others forecast a more uneven pace of deployment, or are delaying plans to accelerate the pace of deployment while maintaining their long-term targets.[242]

Take for example TDS, an ISP that operates cable and ILEC systems. During their November investor, TDS noted that "while investing back into both our businesses as a priority, the current interest rate environment and access to capital remain a challenge. Going forward, we will pace and size our capital expenditures in order to remain within our funding capacity and

[241] *See, e.g.*, Comments of Nicholas Simon Jeffery, CEO, Frontier Communications, at UBS Global Media and Communications Conference (Dec. 5, 2023) ("When we think about the fundamentals in the macro environment, the economic environment, particularly rising interest rates, increased levels of inflation, this has put pressure on everyone in our space. We think about it in terms of the cost to build, we think about access to supply chain and cost of capital. These are all pretty critical enablers for long-term success for anyone in our space. I have to say that I am really encouraged and pleased at the work that the management team has done to overcome those challenges. And I think we have certain advantages in terms of the relationships we have with our supply chain partners. We were a bit of an early mover [ ] in this space. When we first began to ramp up our build in mid-2021, we were among the first to really go in the fiber space. So that gets you somewhere in terms of those relationships. But I have to say also our outright scale, building at a pace of 1.3 million passings per year gives you the kind of leverage that is also pretty helpful. And then lastly, as it relates to the cost of capital, I referenced the securitization move that we made back this past summer, which has allowed us access to a new pool of capital at a reasonable rate and gives us a clear path to those mid- and high-teen IRRs that I referenced earlier.").

[242] *See, e.g.*, Lumen Nov. 2023 Comments ("We are on track. And I think what we're doing in response to the higher costs associated with the debt is actually what our other people in the space have already done given cost of capital, people aren't ramping up their fiber builds right now, right? Our plan going forward is to stay at the pace that we're at right now. What we're pulling back on was the original plan that we laid out in June to expand that. So we're holding at current rates, and we think that's the right approach for that business.").

leverage ratio threshold even if it means moderating our spend in the near term."[243] Despite this, the company noted it is maintaining its prior goal of deploying FTTH to 1.2 million locations by 2026[244] and that they have "a plan in place to get to those 2026 goals."[245]

ILECs will be able to keep their long-term deployment goals in part because the return on fiber investments are, and will be reliably high, in part because it is significantly less-costly to maintain.[246] And future capacity expansion costs are expected to be low.[247]

Cable company ISPs' upgrade costs are so low that the rising rate environment will have little impact on their upgrade plans. Comcast's CFO recently stated that the company is "going as quickly as we can on network upgrades," and that its deployment activity is not "restrained by a

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[243] *See* Comments of Vicki L. Villacrez, Executive VP & CFO, Telephone and Data Systems, Q3 2023 Investor Call (Nov. 3, 2023).

[244] TDS first stated this goal on its Feb. 18, 2022 investor call. *See* Comments of James W. Butman, President & CEO, TDS Telecommunications LLC, Q4 2021 Investor Call (Feb. 18, 2022) ("We plan to triple our total fiber service addresses over the next 5 years to 1.2 million, with aspirations of increasing that target as we identify new opportunities.").

[245] *See* Comments of Michelle M. Brukwicki, Chief Financial Officer, TDS Telecommunications LLC, Q3 2023 Investor Call (Nov. 3, 2023). TDS also noted on this call that it was "raising our 2023 goal to 200,000 fiber service addresses, up from 175,000," but that "[s]ervice addresses in 2024 will likely be closer to what we delivered in 2022."

[246] *See* Comments of Nicholas Simon Jeffery, CEO, Frontier Communications, Q3 2023 Investor call (Oct. 31, 2023) ("So we're in the high 30s margin now. We've said in the steady state, we would move towards the mid-40s or potentially even high 40s. A lot of pure fiber players are even north of 50 percent margin. So just our fiber mix improving changes the margin profile. And then we've got to be aggressive in taking cost out of the legacy copper footprint and that happens in a few ways. Number one, it happens incrementally where we reduce our copper customer base as they transition to fiber. That improves customer experience. We have fewer repairs, fewer calls, lower electricity costs as we kind of migrate customers off of copper. And those happen incrementally, you'll see that just in a gradual improvement in the margins.").

[247] *Id.* ("Our network is already 10 gig capable end-to-end, and there's a clear path to 25 gig and beyond at a very, very low CapEx requirement. If we ever needed to do that, and we haven't made that decision, but it's an option for us in the future.") (emphasis added).

certain capital intensity metric."[248] Comcast is also forecasting an expansion of the pace of its builds into new areas.[249] And it's able to do all of this at an historically low capital intensity metric of about 10 percent.[250]

Now this positive outlook does not mean that there won't be ups and downs in capital spending at certain companies in coming years.[251] In addition to the impact of higher interest rates and labor and equipment supply issues slowing the pace of some deployments, the reality is that the ISP industry's investment cadence is, to quote AT&T, "lumpy." Some carriers increase

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[248] *See* Comcast Nov. 16, 2023 Comments ("I think the team has done a really nice job sort of managing capital, but not doing it in a way where they're being restrained by a certain capital intensity metric. Instead, we're going as quickly as we can on network upgrades. So our path towards mid-splits in DOCSIS 4.0, and we are going faster at this point on new home formation, builds into communities that we don't currently serve. So we're doing both of those. . . . We've actually launched DOCSIS 4.0 in the last couple of months. So we're out of the gates on that and expect to scale that across our base in the next several years and sort of have ubiquity of multi-gig symmetrical in every home . . . .").

[249] *Id.* ("The other form of CapEx we have on network are line extensions. And so that's our way of either building into new communities or subdivisions that are new home formation in our territories where we have the kind of right to serve or it's us taking on areas we haven't previously served, whether it's more rural or whether it's edge out, same with the competitive territories in suburban markets, and we've accelerated that this year as well. So last year, we did – for 2022, we did 850,000 new homes passed. This year, we came into the year saying we do right around 1 million. We updated that and said we'll do over 1 million. And I would look for us to probably improve on that number even as you look to 2024, and we'll have opportunities to continue to be at kind of elevated rate of build.") (emphasis added).

[250] *Id.* ("So we're doing this all in the context of, if you look at the capital intensity budget, we've seen customer premise equipment come down a little bit. That's sort of the third bucket. But network spending, whether it's augmentation or line extensions, go up against that. But still within an envelope, it's right around 10 percent of sales. So capital intensity right around 10 percent.") (emphasis added).

[251] *See, e.g.*, Verizon Nov. 16, 2023 Comments ("So we said this year for 2023, we were at $18.25 billion to $19.25 billion, and we said we'd be at the upper end of the range, so if you want to call that $19 billion for argument's sake. And then next year, we said our CapEx would be $17 billion to $17.5 billion for 2024 and that's an all-in number, and that includes the continued rollout of C-Band. So we continue to see the work continuing on C-Band and that's probably the biggest thing there. We also, as we mentioned earlier, with Fios, we'll continue to deploy open for sale for Fios.").

their operational efficiencies, allowing them to continue to expand their network coverage and capacity at a lower level of capital investment.[252] Some carriers make deployment plans, execute on those plans, and then pause. AT&T has a history of blaming its pre-planned investment downturns on FCC policy, and they'll probably continue to do so. But if they come back in 2025 and blame Title II for lower investment in 2024, the Commission should have the receipts ready: AT&T has been forecasting a 2024 decline for a long time.[253]

Technology development is cyclical, and carriers tend to "harvest" their capital returns in between upgrade cycles.[254] But because of the virtuous cycle, increases in demand beget increases in supply, which continues repeatedly. Perhaps widespread availability of multigigabit

[252] T-Mobile expects its 2023 capital expenditures to be between $9.6 and $9.8 billion, and is forecasting that 2024 capital investments could be slightly below that level. *See, e.g.*, Comments of Mike Sievert, CEO, President & Director, T-Mobile US, at UBS Global Media and Communications Conference (Dec. 5, 2023) ("Our plant is in place across 300 million [population coverage]. So within the capital envelope, we've been talking about that kind of $9 billion to $10 billion a year. We've got plenty of room to be able to get this deployed before customers need it from a capacity standpoint. And we'll just be really smart about how we do that and where we do that and data-led . . . . Based on the promises we've made on value creation, revenue and EBITDA, [Capex of $9B-$10B/year] does look like the right capital picture . . . . And that's mostly because, again and thank you, our investors have been very patient, we've spent a lot of money over the past 5 years, a lot of money building the world's best 5G plant and it's time to be able to enjoy having that in the ground and be able to realize the benefits of that. So that's just money already spent.").

[253] *See, e.g.*, Comments of John T. Stankey, CEO, President & Director, AT&T, at UBS Global Media and Communications Conference (Dec. 5, 2023) ("I mean we've been telling you, for example, '24, our capital intensity was going to tail off from kind of the peak levels we've been at the last couple of years. I expect that's going to be the case. I think we'll be right in between $21 billion and $22 billion next year in terms of where we're going to fall in.").

[254] *Id.* ("In terms of what might come down inside of that [capital investment] envelope, so LTE spend, as traffic continues to move on to the 5G network, we won't need to spend as much on LTE. So you'll see that come down. As well as One Fiber. So our One Fiber program is coming to a conclusion, so that spend will also come down year-over-year. But as we said, the CapEx is moving back to a [business as usual] level and historical levels of capital intensity for us. We did a generational investment in C-Band in the last couple of years, so we're very happy. We don't see anything right now on the horizon with Spectrum. But obviously, we still have work to do with our C-Band deployment.") (emphasis added).

symmetrical DOCSIS 4 and FTTH services will result in the market finally reaching an upper limit on consumer bandwidth demand, but no one in the ISP industry is forecasting such a development.[255] And investment remains the top priority for ISPs.[256]

Providing yet more evidence Title II and Net Neutrality being a non-factor on broadband investment – this bullish attitude is seen across all ISPs even after the Commission's launching of this proceeding. Analysis of the transcripts of all the publicly-traded U.S. ISP investor calls held after Chair Rosenworcel's announcement of the *Notice* indicates this proceeding is a total non-factor in the minds of ISPs and the industry analysts on these calls. The only ISP to comment on this proceeding in their third quarter investor call was AT&T, and this was in

[255] *See* Comcast Nov. 16, 2023 Comments ("We're investing in network capacity for our broadband business. We're investing in the next new park. We're investing to build and scale a streaming business. And we're all doing – we're doing it without sacrificing one of these growth businesses for the other, that the balance sheet and the type of free cash flow we have sort of allows for that capacity. And so if I could hopefully predict, being back here in a couple of years . . . hopefully, the question is something along the lines of, hey, how did you go reaccelerate broadband growth, right? And I would tell you, the answers are in what we're doing right now, right, between network capacity, line extensions to sort of position ourselves for the other side when the competitive intensity maybe abates a little bit, I think we're in really good shape.").

[256] *See, e.g.*, Verizon Nov. 16, 2023 Comments ("So our first priority is to invest in the business and you see us doing that with our C-Band investments.").

response to an analyst's question.[257] AT&T's response was quite muted compared to how they feigned concern prior to the adoption of the 2015 *Open Internet Order*.[258]

[257] During the question period on AT&T's third quarter 2023 investor call, Bank of America analyst David Barden asked AT&T CEO John Stankey, "I'm wondering if there's anything new in [the October 19th NPRM] that you see that you incrementally agree or disagree with based on what we kind of went through with Wheeler on this topic?" To which Stankey replied in part, "Really just trying to fire me up, aren't you? . . . We have an industry in aggregate that supports no blocking, no paid prioritization, no throttling contrary to what we see going on with some platform apps that are out there, that are choosing to do some of those things in how they operate their business. . . . [I]f what we end up is a heavy-handed approach of taking early 1900s regulation and applying it against the Internet and using it as a government influence to something that's working just fine in the public markets, I will tell you, as a company, we will do everything we need to do to ensure that the record reflects what the law allows the regulator to do and what the record supports." Fortunately for Stankey, the *Notice* is not the scary strawman that he's feigning outrage against. It is simply a policy that preserves the long-standing, highly deregulatory approach to modern telecommunications policy envisioned in the Telecommunications Act of 1996, while also ensuring that the Commission has the authority to protect broadband users if an ISP chooses to abuse its terminating access monopoly powers. As we document herein, AT&T's capital investments declined sharply after the *RIF Order*, and only increased after the company sold off DirecTV and Warner Media, which was followed by large increases in FTTH investment during 2022 and 2023 – a period when it was abundantly clear that Title II would shortly be returning. *See* Comments of John Stankey, CEO, President & Director, AT&T, Q3 2023 Earnings Call (Oct. 19, 2023).

[258] In November 2014, after a push from President Obama made it more likely that the FCC would reclassify broadband under Title II, AT&T CEO Randall Stephenson said at an investor conference that if the FCC proceeded with reclassification, "[w]e [would] have to pause and put a stop on those kinds of investments that we're doing today." However, the company partially walked this back when the Commission asked for details. *See* Devindra Hardawar, "AT&T tells FCC its threat to halt fiber rollout is only for new projects," *Engadget* (Nov. 26, 2014). This of course was just typical AT&T bluster designed to scare regulators. Indeed, after the adoption of the *Open Internet Order* in 2015 Stephenson flatly stated that the new policy would have no impact on AT&T's business plans. When asked, "are these net neutrality or Title II rules an impediment to you moving forward with these products?" Stephenson replied, "No, we don't think so. In fact, there are two layers of what I will call regulations that constrain us right now in terms of things we – what can we do and what can't we do. Obviously, the net neutrality order that is currently before the courts, that is still the law of the land and so we need to comply with that. Everything that we are planning on doing fits within those rules." *See* Comments of Randall Stephenson, Chairman & CEO, AT&T Inc., at UBS Global Media and Communications Conference (Dec. 8, 2015) (emphasis added). These remarks were critical to unmasking the lie that AT&T's 2015 decline in capital investments was related to the *Open Internet Order*. The reality is that year brought a temporary decline as AT&T finished a major system upgrade known as "Project VIP."

Other than this perfunctory missive from AT&T, the topic of the proposal to restore light-touch Title II authority and basic Net Neutrality protections embodied in the *Notice* has not been raised by any analyst nor ISP representative on any investor call held after the *Notice's* announcement. Indeed, we can't find any mention of Title II or Net Neutrality at all on any investor call since the FCC changed leadership in January 2021.

Despite the K Street rhetoric surrounding what a change in the Commission's leadership would mean post-2020 election,[259] ISPs themselves have universally indicated how bullish they are on their future *because* of the benefits they expect from expanded broadband deployment. Indeed, several ISPs large[260] and small[261] have even increased their broadband deployment

[259] For example, after President Biden issued an Executive Order on "Promoting Competition in the American Economy" that included a call for the Commission to "adopt[ ] through appropriate rulemaking 'Net Neutrality' rules similar to those previously adopted under title II of the Communications Act," the ISP industry's various lobbying outfits issued barrages of hysterical press releases. Commissioner Carr played his expected role as a far-right wing scold, saying that the Executive Order "seems to double down on price controls, government-run networks, and monopoly-style regulations . . . ." The NCTA in an unsigned statement demanded the President "put the rhetoric aside," even though just a few weeks earlier NCTA CEO (and former FCC Chair) Michael Powell made the hyperbolic claim that a White House plan to increase fiber broadband deployment and competition (in the hopes of leading to lower prices) was "surprisingly Soviet." *See, e.g.m* Richard Lawler, "Biden's executive order puts net neutrality back in the spotlight," *The Verge* (July 9, 2021); *see also* Margaret Harding McGill, "Why cable hates Biden's $100B internet plan," *Axios* (Apr. 2, 2021).

[260] Comcast's CFO recently indicated the company's intentions to accelerate its builds to new locations: "The other form of CapEx we have on network are line extensions. And so that's our way of either building into new communities or subdivisions that are new home formation in our territories where we have the kind of right to serve or it's us taking on areas we haven't previously served, whether it's more rural or whether it's edge out, same with the competitive territories in suburban markets, and we've accelerated that this year as well. So last year, we did – for 2022, we did 850,000 new homes passed. This year, we came into the year saying we do right around 1 million. We updated that and said we'll do over 1 million. And I would look for us to probably improve on that number even as you look to 2024, and we'll have opportunities to continue to be at kind of elevated rate of build." Comcast Nov. 16, 2023 Comments (emphasis added).

[261] Small ILEC Consolidated Communications, which has less than 400,000 consumer data customers, provides a good example. Earlier this year its CEO stated,"[i]n early 2021, after solidifying our capital structure, we started the most aggressive fiber expansion plan in our

targets since President Biden released his Executive Order[262] calling on the Commission to restore Net Neutrality rules under Title II.

Nothing about the Commission finally moving forward (after an inexcusable delay of seating a fifth Commissioner) to restore consumer's legal protections under Title II has or will alter anything about the economic fundamentals of the U.S. broadband market. and Net No

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company's 128-year history. Over the last 2 years, we've made remarkable progress on this growth plan. . . . On the heels of another strong build year in 2022, we surpassed 1 million total gigabit fiber locations at year-end and now have extended fiber to nearly 40 percent of our addressable market. This is nearly a 4x increase from the start of our plan in 2021, an important inflection point. . . . We are committed to our plan of reaching over 70 percent fiber coverage across our markets." Remarking on how Consolidated reached a deal with private equity firms Searchlight Capital Partners and British Columbia Investment Management Corporation to take the company private, its CEO said, "[n]ow going to capital, I'll comment on the public private partnership opportunities. We have roughly $150 million of opportunity that we either already captured or in the funnel – I'm sorry, or in agreement and in the construction pipeline right now. Some of that, most recently won will possibly impact fourth quarter and give us upside on build and most of it will end up in 2024. So it's what gives me great confidence that we'll be well above the 70 percent of addressable market as we exit 2025 or even mid-2026. And so when you look at the overall cost per passing, that positively impacts that, and it allows us to build out complete markets, which improve the marketing efficiency." *See* Comments of C. Robert Udell, President, CEO & Director, Consolidated Communications Holdings, Q4 2022 Earnings Call (Feb. 28, 2023).

Shenandoah Telecommunications Company, which has just under 150,000 broadband subscribers, is another example. On its March 1, 2022 call recapping its 2021 results, its CEO stated that the company "invested $82 million in 2021 to grow the Glo Fiber network and customer base, achieving a record year for Glo Fiber construction and net additions." A year later on the company's 2022 results call, its CEO stated it had "accelerated both our construction and sales of Glo Fiber in each of the past 2 years. Our annual construction pace increased 64 percent from approximately 27,000 new passings in 2020 to over 72,000 new passings in 2022." Shenandoah indicated on its most-recent investor call, held after the release of the *Notice*, that it "expect[s] to double the broadband passings again by the end of 2026." *See* Comments of Christopher E. French, Chairman, President & CEO, Shenandoah Telecommunications Company, 4Q 2021 Earnings Call (Mar. 1, 2022); *see also* Comments of Christopher E. French, Chairman, President & CEO, Shenandoah Telecommunications Company, 4Q 2022 Earnings Call (Feb. 22, 2023); Comments of Christopher E. French, Chairman, President & CEO, Shenandoah Telecommunications Company, 3Q 2023 Earnings Call (Nov. 23, 2023).

[262] Executive Order on Promoting Competition in the American Economy, White House (July 9, 2021). We note that notorious Title II scold AT&T was not asked about, nor made any comment on, the White House's Executive Order on AT&T's July 22, 2021 Earnings Call.

ratings firm has downgraded any ISPs because of FCC regulatory concerns. This is simply, as it has always been, a total non-issue for the ISP industry's actual functioning.

As many ISPs and their lobbyists are eager to tout, they do not block or throttle their customers' internet traffic (outside of net-neutral "fair use" policies during times of congestion). And though it was once an idea they seriously considered prior to the *Open Internet Order*, no ISP has subsequently brought up the idea of implementing paid prioritization, even in the abstract. So then what exactly would the mechanism be for Title II or Net Neutrality to negatively impact investment? Opponents may cite "uncertainty," but that's clearly not the case with the policies proposed in this *Notice*, which will simply restore the authority and rules that were in place during a time when the broadband market thrived (a *status quo* that is in essence held in place at the federal level in a *de facto* manner thanks to numerous state laws). ISPs are rational firms, as are their investors. There's absolutely no indication that either have placed a non-zero value on any supposed uncertainty.

Any concerns about potential retail price regulation are also irrational, and more a lobbyist talking point than anything reflecting reality. Anyone who has followed the Commission's price regulation practices knows quite well that it *was* a tool used during the RBOC monopoly era, but abandoned after the rise of intermodal competition. As we discussed above, Title II authority could and should be used to sanction any unreasonable or unreasonably discriminatory terms or conditions. But the mere specter that the Commission *might* bring sanctions against a specific case of monopoly market power abuse would not in any way alter the robust financial fundamentals of the U.S. broadband market. Again, the real world experiment under the nearly 3 years of restored Title II authority following adoption of the *2015 Open Internet Order* demonstrates clearly the emptiness of this "price regulation" rhetoric.

In sum, because of the combination of interest rate increases, supply chain issues, skilled labor shortages, softening consumer sentiment, technological advancements that improve cost-efficiencies, and completion of prior deployment plans, we think it is likely that many ISPs will report lower capital investments in 2024, and that the pace of FTTH deployment may decelerate.[263] ISPs are making this clear now, and explaining why this is likely to occur in the coming month. But *not one single ISP* is forecasting a pullback in deployment or investment because of Title II.

### E. The 2015 Order Created Marketplace Certainty that Enabled Massive Growth in Online Video Investment, Competition, and Innovation.

#### 1. Following the 2015 Order, ISPs immediately Ceased the Harmful Practice of Demanding Payment from Backbone Carriers Before Accepting Delivery of the Traffic Requested by ISPs' Own Customers.

During 2013–2014, prior to and during the time when the Commission was contemplating how to protect the open Internet, certain ISPs were blatantly abusing their terminating monopoly position by refusing to provide additional ports to accept traffic requested

[263] *See* Charter Dec. 2023 Comments ("Yes. So overall fiber overlap, I don't have the exact range, but overall fiber overlap continues to grow inside of the footprint. I think what we've seen – we've talked about it – the fiber overbuilders, perhaps, smartly took the best passings first. So they took the stuff with the most density and the stuff with the highest [ ] demographic profile that's sort of the easiest for them. And those are the pieces that they built first. So over time, their passings are getting more expensive and getting more challenging from a demographic perspective as they continue to build. All of that's happening while the cost of capital has increased and really while the cost to build is also pressured a bit. And so logically, it feels to me like fiber overbuild should continue to slow, whether that means that it will actually continue to slow is a lot harder to say. But ultimately, I think the sort of number of passings that they can build in our footprint that will be attractive to them is shrinking, right? . . . And so when you put all of that together, I think the long-term trajectory for broadband is quite good. . . . We do though think that where we're positioned from a longer-term perspective because of the investments that we're making, we are positioned really well to be able to grow in the long term.") (emphasis added).

by their broadband customers.[264] Millions of consumers experienced poor streaming service performance, and they had no one to tell them why, or how to get relief. As this was happening, the Commission was powerless to help.

This was a classic terminating access interconnection issue, though the media and even the Commission itself at the time added to the confusion by describing it simply as a "peering" issue. Also at the time this terminating access monopoly abuse was characterized as not being a Net Neutrality concern, which was ironic since SBC's desire to impose terminating access charges is precisely what elevated Net Neutrality into a national issue.[265]

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[264] *See, e.g.*, David Goldman, "Slow Comcast speeds were costing Netflix customers," *CNN Money* (Aug. 29, 2014); *see also* "Having problems with your Netflix? You can blame Verizon," *GigaOm* (June 17, 2013).

[265] AT&T helped clarify the importance of the Net Neutrality policy battle back in 2005 when Ed Whitacre, the CEO of AT&T's predecessor company SBC, said "[w]e and the cable companies have made an investment and for a Google or Yahoo! or Vonage or anybody to expect to use these pipes [for] free is nuts!" *See* "At SBC, It's All About 'Scale and Scope,'" *Business Week* (Nov. 7, 2005). AT&T was not alone in its resistance a decade ago, however. In 2006, Verizon VP John Thorne said that "[t]he network builders are spending a fortune constructing and maintaining the networks that Google intends to ride on with nothing but cheap servers." *See* Arshad Mohammed, "Verizon Executive Calls for End to Google's Free Lunch," *Wash. Post* (Feb. 7, 2006). This belief that content and application companies get a "free ride" on the internet was and still is completely wrong, and reflects a serious misunderstanding of what actually gives internet access services their value. Content companies pay billions of dollars to transmit their content via the internet; and consumers spend even more for the ability to access that content. In the internet market, unlike the long-distance telephone market, end-users have no direct financial relationship with the party in the middle transporting the "call" – as there are potentially dozens of network owners in the middle routing the data to its final destination. Content companies build their own networks and also pay large sums of money to telecommunications companies to serve their content "up to the Internet." Those telecom companies in turn have financial relationships with other carriers to transport data across the country. So when Verizon receives traffic originating from an edge company, handed off by a long-haul network provider, it also gives the long-haul provider data from Verizon customers to carry back out across the Internet. Sometimes this traffic is unbalanced and fees are paid, while at other times the traffic going back and forth across this interconnection point is roughly equivalent and there is no money exchanged. (In still other instances, large edge companies may rent space inside of an ISP's network in order to get as close to end-users as possible). In other words, ISPs already receive remuneration for traffic traversing their networks; what these near two decade-old statements reflected was the desire of ISPs to use their position as terminating

Though consumer and media attention did help to bring a limited detente between the various factions in this interconnection war, the problem persisted. That is, it persisted right up until the Commission restored its Title II authority over broadband, and adopted a general conduct rule that would govern this exact type of dispute. Miraculously, as the ink was drying on the *Open Internet Order* in 2015, ISPs reached agreements and streaming video service started working as it consumers expected it to.[266]

ISPs as a "last-mile" provider have a terminating access monopoly. Any attempt by an ISP to impose access charges on the companies that are seeking to terminate traffic onto the last-mile provider's network would and should be a highly-suspect practice. It is not merely or theoretically that the imposition of an access charge may be objectionable. It is the fact that the last-mile provider is the "cost-causer" in this scenario, not the delivery carrier, since the last mile provider's customer is the party that requested delivery of the traffic.[267] In Plain Old Telephone

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access monopolies to price discriminate and to make even more money by charging people and companies that are not even their customers.

[266] *See, e.g.*, Jon Brodkin, "Verizon and Cogent settle differences, agree to boost Internet quality," *Ars Technica* (May 1, 2015); *see also* Jon Brodkin, "AT&T to fix Internet congestion before it can be hit with complaint," *Ars Technica* (May 11, 2015); Jon Brodkin, "Comcast ends an interconnection fight before net neutrality takes effect," *Ars Technica* (May 21, 2015).

[267] What governs sound policy here is the principle of cost-causation, meaning whoever causes the cost, pays the cost. This is why access charges existed in POTS. If Jack calls Jill, Jack caused the cost (yes, Jill picked up the phone, but that's just being polite). As the market evolved (caller ID, do-not-call list, wireless, all with telecom costs plummeting), it became more efficient to simply move to bill and keep. In the ISP context, the end-user, and not the content company, "caused" the cost. Netflix isn't sending Jill a streaming video unless Jill first requests the stream. So for a last-mile ISP to ask for, or demand, payment from Netflix or its intermediary carriers to access the last-mile network is an unreasonable abuse of the ISP's terminating access monopoly. Terminating monopoly abuse is at the core of the concerns about the preservation of Net Neutrality. The wrinkle, if there is one, that makes this issue more difficult to shoehorn into the no-blocking, no-throttling, or no-paid prioritization rules is what last-mile ISPs did in their interactions with Netflix. ISPs did not overtly single out Netflix as a specific content provider, but rather refused to provide additional peering ports to Netflix's carrier. In the 2013–2015 disputes, Cogent was attempting to terminate (*i.e.,* deliver) content from a variety of sources onto these ISP's networks, and this traffic was not only Netflix-originated traffic. This distinction

Service (POTS), the Commission regulated access charges in order to curb abuse of the terminating access monopoly. In wireless voice, and increasingly in POTS, the Commission established policies that are essentially "bill-and-keep." There's no reason the ISP last mile should be any different.

Fortunately, because of and in the aftermath of the *Open Internet Order*, the entire Internet market economy moved beyond this telephony-era practice and once again bill-and-keep and reasonable negotiations became the norm. Indeed, as we document below, ISPs attitudes towards over-the-top ("OTT") video shifted dramatically during the months and years following the *Open Internet Order*. Even cable company ISPs began to move away from pushing their own pay-TV services. It's clear that the settling of the matter of FCC authority in 2015 helped those carriers clinging to the old order pause and realize that their economic future would be far brighter by embracing openness, and the substantially higher profit margins that broadband brings them compared to the content that they resell from other providers at a small markup.

### 2. The 2015 Order Supercharged the Virtuous Cycle of Investment and Helped Usher in a New, Pro-Consumer Era in the Video Content Markets.

Broadband internet access providers are not "the internet"; they sell, as their name indicates, access to the internet. There is tremendous value in this service, which is why so many families rank internet access above other goods and services in terms of need and importance. But that valuation depends in large part on the essentially limitless content that a broadband subscription service can deliver. The innovations happening at the edge drive increased demand for these edge services, which in turn drives higher demand for network access. And the reverse

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should not make a difference to the problem evaluation. The question for the Commission, were these disputes continued past Spring of 2015 or renewed in the future, would be whether or not there is abuse of terminating access monopoly power, and if that abuse violated the General Conduct rule or the Section 202(a) of the Act.

is true: increases in broadband access capabilities induce edge innovation to capitalize on those improved capabilities. This is the "virtuous cycle" of innovation and investment that motivated the FCC's Net Neutrality rules. It is a theory born out by evidence and embraced by the courts.[268]

Evidence of the virtuous cycle already was abundant prior to the FCC's 2015 vote. Indeed, the need to preserve it motivated the Open Internet rules, and the decision to ground them in Title II. The FCC revisited its prior mistaken decision to classify broadband access as an "information service" and not "telecommunications service" under the Communications Act, rightly deciding that it could not risk this successful framework once more on compromised authority. But the period following the adoption of the *Open Internet Order* produced a mountain of economic evidence conclusively demonstrating the reality and scope of the virtuous cycle.

Title II's restoration and the Open Internet rules brought certainty to all participants in the broadband market. Carriers had clarity about their legal obligations. The businesses and people using broadband to conduct commerce, to communicate with each other, and to produce and consume media, all could be certain that carriers would transmit their data in a reasonably non-discriminatory manner. This certainty for all (along with the disincentives the rules created against profiting from artificial broadband scarcity and discrimination) drove the massive investments and expansions at U.S. ISPs described above.

But the open internet is a platform for all manner of economic and societal activity, not just a collection of access lines plowed into the ground for ISPs' own sake. The certainty that came from unquestionably preserving that platform's long standing openness was also followed by massive investments throughout the internet ecosystem. Any analysis of the impact from

[268] *See Verizon v. FCC*, 740 F.3d at 644-45 ("The Commission's finding that Internet openness fosters the edge-provider innovation that drives this 'virtuous cycle' was likewise reasonable and grounded in substantial evidence.").

restoring Title II and protecting the open internet with strong rules must focus on that entire internet ecosystem. Any analysis that looks only at ISP capital expenditures – such as those advanced by the ISPs themselves and by their paid analysts – would tell just a fraction of the whole story, even if it were getting that ISP-centric portion of that story right. (And as Part I above shows, the sky-is-falling crowd is decidedly not getting that broadband investment analysis right.)

Failing to account for the whole ecosystem would ignore the ISP market's non-capital contributions to economic growth, such as consumer and producer surpluses resulting from user payments for broadband internet access services. It would ignore capital contributions to the economy from edge businesses, such as the purchase of streaming media servers. And it would ignore the internet edge's non-capital contributions to GDP too, such as investment in programming, salaries for employees of online media firms, and similar expenditures.

As Figure 31 shows, capital spending in edge computing industry sectors accelerated after the election of a President who championed sound legal protection of the open internet.[269]

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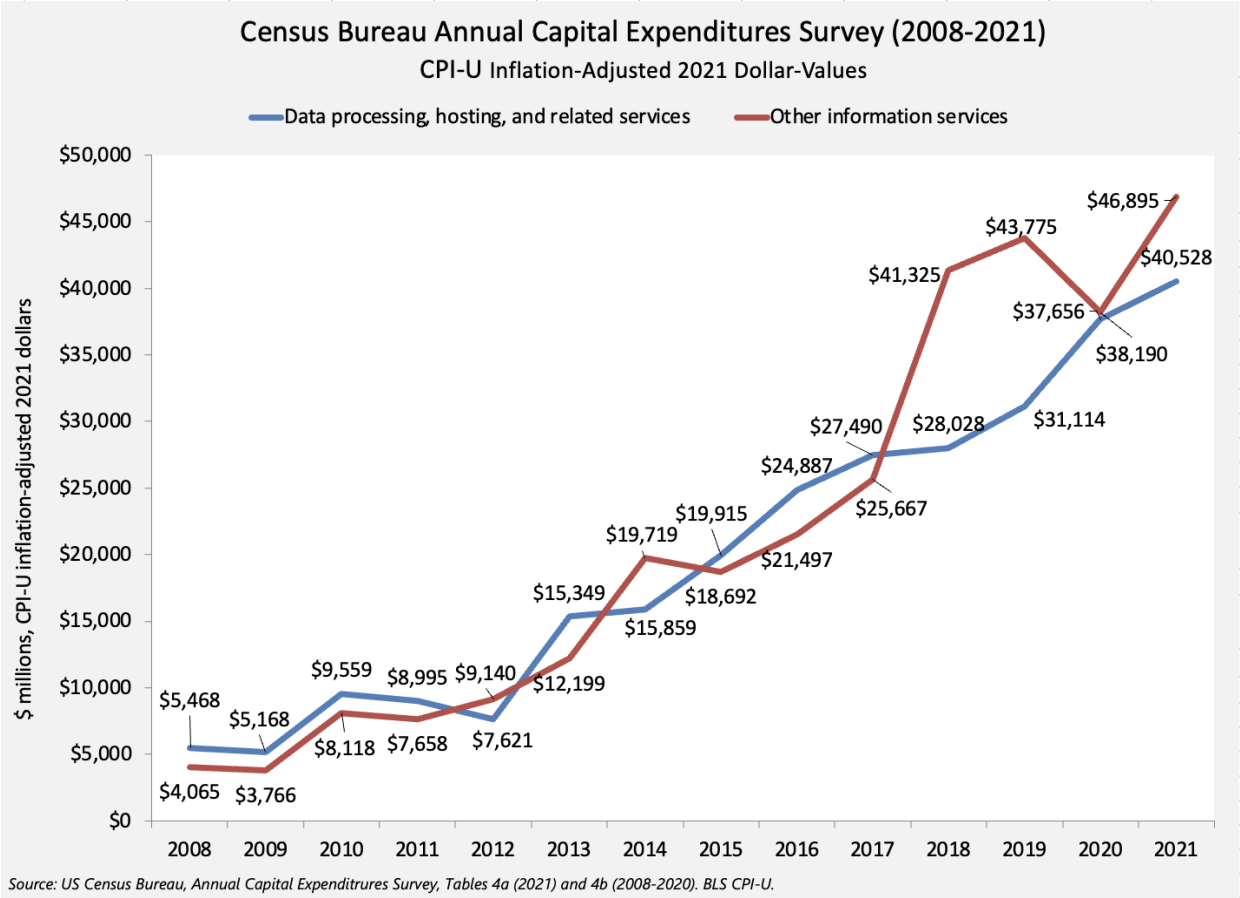
[269] See OMB NAICS 2017. These industry sectors are defined as follows:

Data Processing, Hosting, and Related Services: "This industry comprises establishments primarily engaged in providing infrastructure for hosting or data processing services. These establishments may provide specialized hosting activities, such as Web hosting, streaming services, or application hosting (except software publishing), or they may provide general time-share mainframe facilities to clients. Data processing establishments provide complete processing and specialized reports from data supplied by clients or provide automated data processing and data entry services. Illustrative Examples: Application hosting, Optical scanning services, Web hosting, Computer data storage services, Video and audio streaming services, Computer input preparation services, Microfilm imaging services, Computer time rental."

Other Information Services: "Industries in the Other Information Services subsector group establishments supplying information, storing and providing access to information, searching and retrieving information, operating Web sites that use search engines to allow for searching information on the Internet, or publishing and/or broadcasting content exclusively on the Internet. The main components of the subsector are news syndicates, libraries, archives, exclusive Internet publishing and/or broadcasting, and Web search portals."

The fulfillment of that promise by the FCC in the 2015 *Open Internet Order* was followed by more growth. The "data processing, hosting, and related services" sector (which includes app hosting services like Amazon Web Services ("AWS") and video streaming services like Netflix) saw tremendous growth in capital investment, increasing 82 percent in the three years following the FCC's 2015 Open Internet vote.

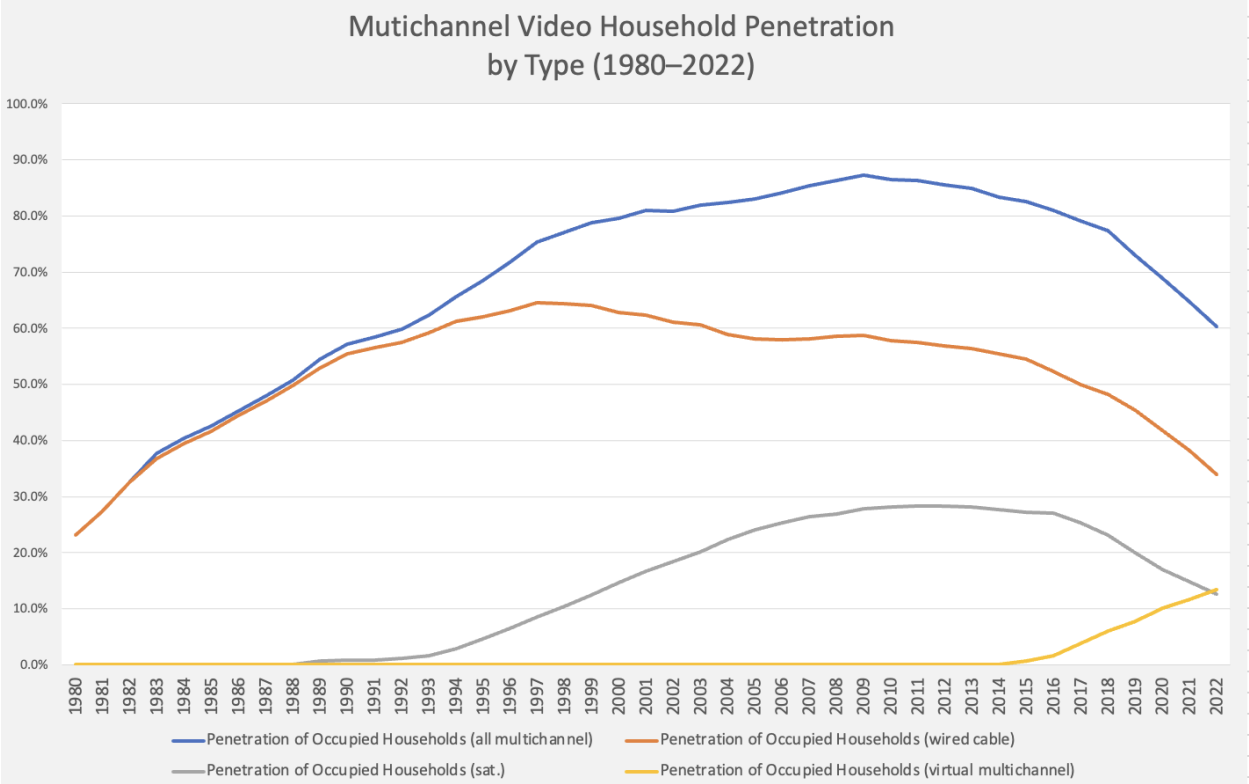
**Figure 31:**




This economy-wide edge investment was driven in large part by streaming video.[270] While streaming video services have been around since the late 2010s, the use of these services dramatically accelerated after Netflix launched its standalone OTT service in 2011. As Figure 32 shows, household adoption of traditional multichannel services peaked in 2010.

[270] *Notice* ¶ 80.

**Figure 32:**




Prior to the *Open Internet Order* the incumbent pay-TV providers' response to the rise of Netflix was to beef up their on-demand catalogs, improve their badly outdated set-top box user interfaces, and facilitate subscriber access to linear channels online through the "TV Everywhere" consortium. These responses, while welcomed by most consumers, were more evolution than revolution. Pay-TV prices continue to rise faster than the rate of inflation. And until 2015, pay-TV choice in terms of traditional packaged channel offerings was no different than it was two decades prior.

But after the FCC restored the certainty of non-discriminatory telecom access with the *Open Internet Order* and its solid legal framework, truly productive disruption began. The biggest development in the online video market that occurred was the rise of "virtual" multichannel video programming distribution providers ("vMVPDs"), which offer OTT subscription access to linear cable channels. In contrast to SVOD services like Netflix – which

was initially marketed and purchased as complementary to pay-TV services – vMVPD services are a direct replacement for traditional cable or satellite TV.

The U.S. vMVPD market did not even exist prior to the FCC's February 2015 vote, but it exploded in the months that followed that vote.[271] Google's YouTube TV joined the fray in April 2017. Traditional cable pay-TV companies responded to the proliferation of lower-cost VSPs in dual fashion. They first chased the high-revenue end of the market with investments in services and devices that combine linear pay-TV and online capabilities, such as Comcast's X1 set-top box, Charter's Spectrum TV service, and Verizon's Quantum DVR. During this time, cable MSOs offered services marketed to value-conscious and younger demographics in the form of "skinny" channel packages.[272] And as we noted above,[273] more and more traditional cable operators are exiting the cable TV business completely, with some MSOs offering discounts to their BIAS customers if they sign up for YouTube TV.[274]

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[271] For example, Sling TV, the early pioneer, launched the same month as the FCC's vote. PlayStation Vue followed in March 2015, and YipTV in May 2015. DirecTV Now began offering services in November 2016. LeEco followed that same month, and FuboTV's 70+ channel service entered beta in December 2016. Hulu announced its vMVPD service in May 2016 and began offering service a year later. Google launched its vMVPD offering YouTube TV in February 2017. *See It's Working* at 54-61.

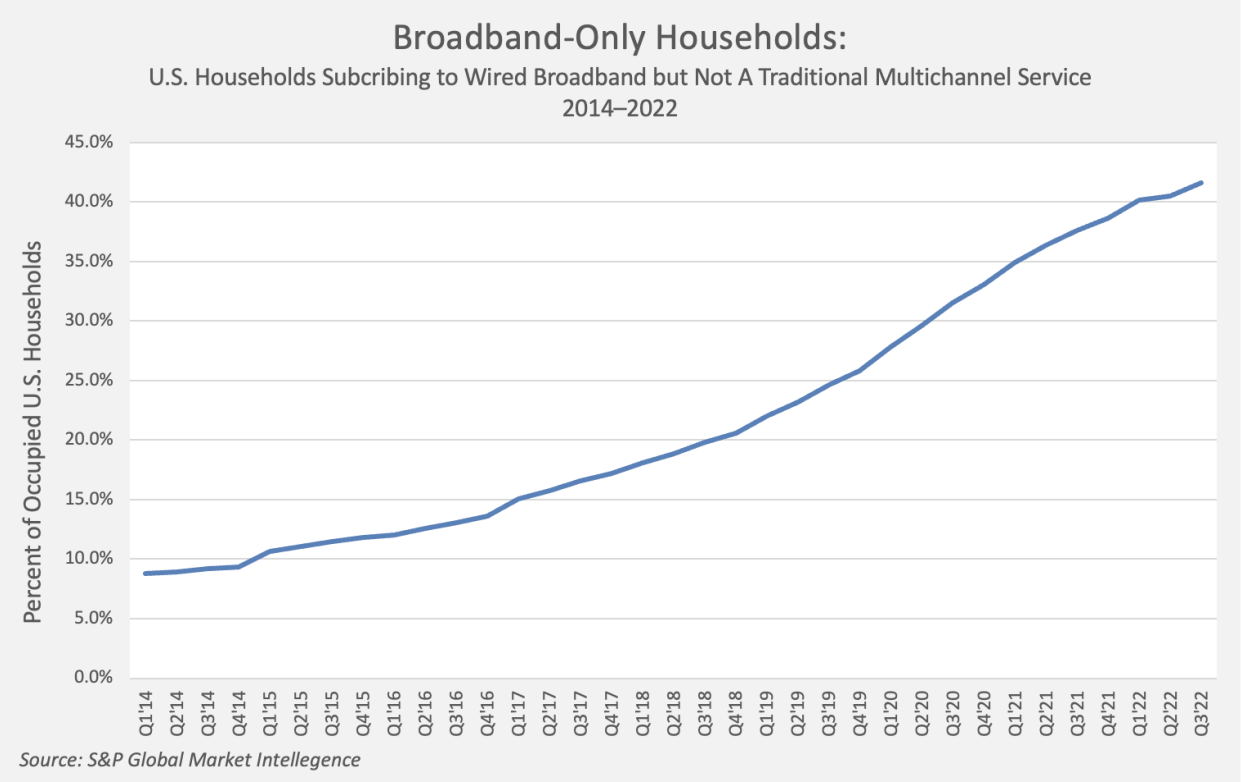
[272] For example, in late 2015, Charter launched "Spectrum TV Stream." It offered an exceptionally whittled-down basic cable lineup at a launch price of $13 per month, with more channels available to add on for extra prices. The service requires no set-top-box. Comcast trialed a similar offering with a similar name: "Stream."

[273] *See supra* note 55, citing Luke Bouma, "Another Cable TV Company is Shutting Down its TV Service As Only 10 percent of Its Customers Pay For TV," *Cord Cutters News* (Jun. 1, 2023).

[274] *See* WideOpenWest Nov. 2023 Comments ("We launched with YouTube TV as our primary video offering at the beginning of August. The initial returns from this partnership are very positive with more than 13% of new subscribers signing up for YouTube TV. YouTube TV gives customers a more robust choice of programming and savings of hundreds of dollars annually over traditional cable. Customers get an additional discount off of YouTube TV when they subscribe with WOW!. They also get a discount on add-ons like the NFL Sunday Ticket, which is exclusive to YouTube TV. In addition to the benefits to our customers, we will be able to accelerate the reclamation of bandwidth previously used for our legacy video service. This

This market disruption enabled and protected by the *Open Internet Order* directly led to the phenomenon known as "cord-cutting." This is seen in the acceleration of the share of "broadband-only" households, which are those that subscribe to a wired internet service, but not a traditional multichannel service. In the quarter prior to the FCC adopting the *Open Internet Order* in 2015, only 9.3 percent of occupied households were broadband-only. By the time of the *RIF Order* this increased to 17.2 percent, an 85 percentage point increase (see Figure 33).

**Figure 33:**




These actions and reactions were exactly the kind of competition and innovation the stagnant pay-TV market needed. They were also exactly what Congress envisioned happening

allows WOW! to efficiently transition our network for DOCSIS 4.0 and serve the growing demand for customer usage without having to overbuild their own network. YouTube TV allows us to transition away from higher-cost to low-margin video to a higher-margin service with an even greater mix of channels for our customers. What we are doing is unique among cable operators and is giving customers more of what they really want at a much better price.").

when it wrote and passed the 1996 Act. That law sought a future of "big, open pipes": high capacity, competitive, and non-discriminatory broadband telecommunications services. The availability of a robust open telecom pathway helped encourage more facilities-based investment, deployment, and competition – both in the network markets but also the edge and content markets. Traditional subscription video on demand services like Netflix, Amazon Prime Video and Hulu massively expanded their investment in content production following the *Open Internet Order* (see Figures 34–36).

**Figure 34:**

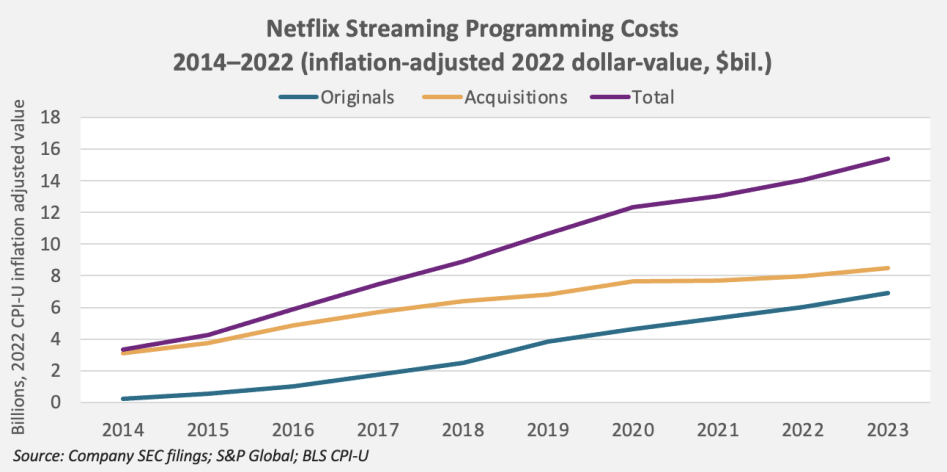



**Figure 35:**

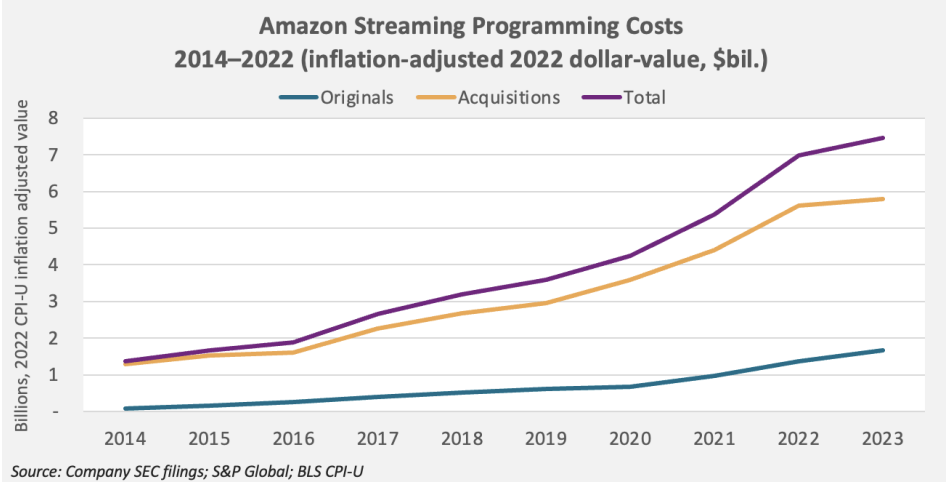
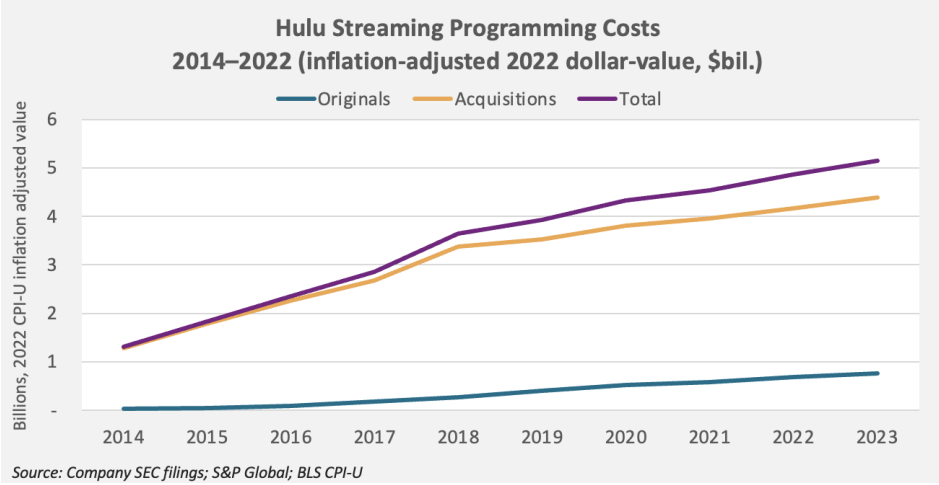
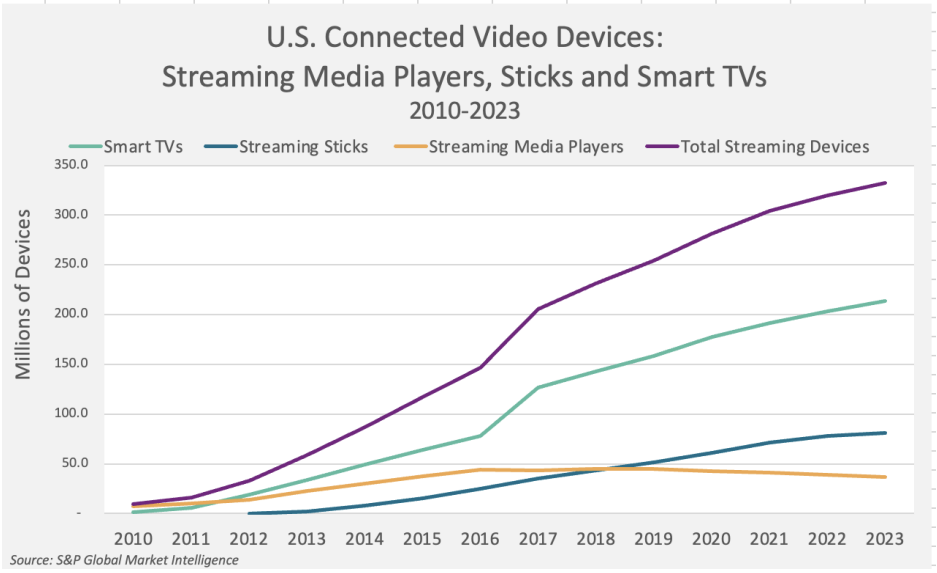


**Figure 36:**




Evidence of the virtuous cycle is also seen in the dramatic rise of U.S. household's ownership of streaming devices that they connect directly to the televisions, the same way they once connected their MVPD set-top-boxes. Household use of "Smart TVs" (a television with a built-in streaming device) accelerated massively during the last year of the *Open Internet Order* era (see Figure 37).

**Figure 37:**



In sum, there can be no debating that the Commission's restoration of Title II-based Net Neutrality rules helped supercharge the virtuous cycle. The Commission's Open Internet rules reset carriers' incentives towards growth and away from artificial scarcity. The settling of the Net Neutrality issue was followed by an explosion in over-the-top video competition, which in turn has continued to fuel a dramatic increase in next-generation broadband network deployment. The Commission's 2015 policy worked as intended. Carriers had clarity about their legal obligations, and so did the hundreds of millions of people and businesses that rely on broadband services for their everyday lives and most important activities.

This virtuous cycle of innovation and investment is fueled by the continued and protected availability of non-discriminatory telecommunications services. Thankfully the market norms that were changed for the better by the *Open Internet Order* are currently being held in place by public attention and state Net Neutrality laws, as well as the reality that for now, offering open BIAS services is a great way for ISPs to make money. However, if the Commission fails to restore its Title II-backed Net Neutrality rules, the market could easily revert back to its days of stagnation.

## III. Conclusion

The Commission's analysis in the *Notice* is correct: broadband internet access services are telecommunications services. Restoring this proper legal classification and reinstating the Open Internet rules are necessary in order to ensure that everyone in the nation can continue to count on access to an affordable, open, and non-discriminatory communications pathway. We applaud the Commission's desire to revisit this issue in order to put its policies back in harmony with the law, and welcome a return to a sensible oversight regime that will fully safeguard and secure the open internet for current and future generations.

Respectfully Submitted,

S. Derek Turner
Matthew F. Wood
Joshua Stager
Free Press
1025 Connecticut Avenue, NW
Suite 1110
Washington, DC 20036
202-265-1490

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