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Freedom to Discriminate: Assessing the Lawfulness and Utility of Biased Broadband Networks

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ABSTRACT

This Article assesses the potential for harm to broadband consumers and competitors when Internet service providers (ISPs) tier service by combining so-called "unlimited usage" with reduced video image resolution and also by not metering usage when subscribers access specific content sources. ISPs previously generated no regulatory concerns when they developed different tiers of service and price points based on content transmission speeds and monthly allotment of data consumption.

However, recent "zero rating" and "unlimited" data offers have triggered questions as to whether ISPs engage in unlawful paid prioritization of certain traffic from specific sources or in traffic degradation by receiving high-definition video content but delivering it with lower line resolution. Additional questions examine whether ISPs engage in detrimental traffic throttling by slowing traffic delivery speeds when subscribers exceed a monthly downloading threshold or when high-volume subscribers seek service in a congested area.

This Article further assesses the lawfulness of zero rating and video line-resolution degradation based on the two most recent sets of Federal Communications Commission (FCC) rules that treat ISPs as telecommunications service providers subject to common carrier regulation, as well as rules that now reclassify broadband access as an information service. This Article concludes that even though ISPs have self-serving, profit-maximizing goals when enhancing or degrading content carriage and display, such practices can have positive spillover effects that enhance consumer welfare without significantly harming competition in the marketplace of ideas and Internet commerce. Acknowledging the potential for harmful arrangements, this Article

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also recommends that the FCC and other national regulatory authorities implement a speedy and fair complaint resolution process to remedy content carriage disputes.

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I. INTRODUCTION

The Federal Communications Commission (FCC or "Commission") recently passed an initiative that substantially reduces the scope and nature of broadband network regulation and largely permits broadband carriers to operate biased, nonneutral networks.[1] Framing its new rules and policies as restoring Internet freedom, the FCC envisions a broadband access marketplace—operating largely free of ex ante rules, requirements, and restrictions—based on the conclusion that the broadband marketplace operates competitively

1. *See* Restoring Internet Freedom, No. 17-108, 2018 WL 305638 (Jan. 4, 2018) [hereinafter Restoring Internet Freedom Order], https://apps.fcc.gov/edocs_public/attachmatch/FCC-17-166A1.pdf [https://perma.cc/G4R5-XULS]; *see also* Restoring Internet Freedom, 83 Fed. Reg. 7852 (Feb. 22, 2018) (to be codified at 47 C.F.R. pts. 1, 8, 20); Restoring Internet Freedom, 32 FCC Rcd. 4434 (May 23, 2017) [hereinafter Restoring Internet Freedom NPRM].

and that carriers lack incentives to harm competition and consumers.[2] The Commission has removed common carrier regulatory safeguards by reclassifying broadband Internet access as an information service subject to loose oversight that the Commission itself can opt largely to eschew.[3]

While offering no empirical proof, the FCC concludes with certainty that deregulation of broadband networks will remove impediments to freedom caused by regulatory burdens imposed by an earlier Commission ruling that treated broadband access as a telecommunications service subject to Title II of the Communications Act of 1934.[4] The Commission assumes that, by removing what it considers heavy-handed and obsolete public-utility regulation, the broadband marketplace will operate more robustly once freed of disincentives for investment, innovation, and employment.[5]

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2. Restoring Internet Freedom Order, *supra* note 1, at *1–2; Restoring Internet Freedom NPRM, *supra* note 1, at 4441 ("Between enactment of the Telecommunications Act [in 1996] and the 2015 adoption of the *Title II Order*, the free and open Internet flourished: Providers invested over $1.5 trillion to construct networks; high-speed Internet access proliferated at affordable rates; and consumers were able to enjoy all that the Internet had to offer. In 2015, the Commission abruptly departed from its prior posture and classified broadband Internet access service as a telecommunications service subject to public-utility regulations under Title II.").

3. Restoring Internet Freedom NPRM, *supra* note 1, at 4435–36 ("Today, we take a much-needed first step toward returning to the successful bipartisan framework that created the free and open Internet and, for almost twenty years, saw it flourish. By proposing to end the utility-style regulatory approach that gives government control of the Internet, we aim to restore the market-based policies necessary to preserve the future of Internet Freedom, and to reverse the decline in infrastructure investment, innovation, and options for consumers put into motion by the FCC in 2015.").

4. *Id.* at 4435, 4441 ("Today, we propose to reinstate the information service classification of broadband Internet access service and return to the light-touch regulatory framework first established on a bipartisan basis during the Clinton Administration. We also propose to reinstate the determination that mobile broadband Internet access service is not a commercial mobile service."); *see* Communications Act of 1934, ch. 652, §§ 201–21, 48 Stat. 1064, 1070–81 (1934) (codified as amended at 47 U.S.C. §§ 201–31 (2012)).

5. *See* Restoring Internet Freedom Order, *supra* note 1, at *1–2. Chairman Ajit Pai supports broad, sweeping deregulation on grounds that the current regulatory regime "has failed" and has generated the following adverse outcomes: "Investment in broadband networks declined. Plans to deploy new and upgraded broadband infrastructure were shelved. Thousands of good-paying jobs were lost due to lower infrastructure investment. Americans' online privacy was weakened because Title II completely stripped the FTC of its authority over broadband providers' privacy and data security practices." OFFICE OF THE CHARMAIN, FCC, RESTORING INTERNET FREEDOM FOR ALL AMERICANS (2017), https://apps.fcc.gov/edocs_public/attachmatch/DOC-344592A1.pdf [https://perma.cc/JU8S-YAXQ].

> Chairman Pai is now setting the FCC on a course to fix the problems that the prior FCC created. His plan to restore Internet Freedom by repealing Obama-era Internet regulations will benefit all Americans. Here's how: It will *spur broadband deployment* throughout the country and thus bring better, faster Internet service to more

In application, the FCC's new deregulatory initiative provides far greater flexibility in how an Internet service provider (ISP) can configure its networks, treat traffic handed off to it, and price services. The FCC accords ISPs substantially more latitude to differentiate service through largely unfettered discrimination in quality of carriage, service, and price.[6] The recently repealed regulatory regime supported some flexibility in terms of service tiering based on bit transmission speed and monthly allotment of data that a subscriber can upload and download.[7] However, it imposed explicit prohibitions on specific types of conduct deemed always harmful, such as deliberately blocking and delaying traffic delivery, and also applied a standard of care that foreclosed any behavior that unreasonably interfered with or disadvantaged the ability of consumers to access content and services.[8]

Both the old and new regulatory regimes fail to create a specific and unambiguous line separating lawful and unlawful price and quality of service discrimination by ISPs that deliver Internet

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> Americans. It will *create jobs* by putting Americans to work deploying broadband networks and by creating the networks and online opportunities necessary for additional job growth and economic opportunity. It will *boost competition and choice* in the broadband marketplace. It will *secure online privacy* by putting the FTC—the nation's premier consumer protection agency—back in charge of broadband providers' privacy practices. It will *restore Internet Freedom* by ending government micromanagement and returning to the bipartisan regulatory framework that worked well for decades.

Id. (emphasis in original).

6. *See* Restoring Internet Freedom Order, *supra* note 1, at *2; Restoring Internet Freedom NPRM, *supra* note 1, at 4435. "[T]wo years ago, the FCC changed course. It decided to apply utility-style regulation to the Internet. This decision represented a massive and unprecedented shift in favor of government control of the Internet." *Restoring Internet Freedom NPRM*, *supra* note 1, at 4435. The FCC's new ruling seeks to remove common carrier regulation of broadband Internet access by reclassifying it as an information service. *Id.* at 4441.

The FCC cannot impose nondiscrimination requirements, price regulation, and other common carrier rules on ISPs. *See* Verizon v. FCC, 740 F.3d 623, 628, 630, 650 (D.C. Cir. 2014). "We have little hesitation in concluding that the anti-discrimination obligation imposed on fixed broadband providers has 'relegated [those providers], *pro tanto*, to common carrier status.'" *Id.* at 655 (quoting FCC v. Midwest Video Corp., 440 U.S. 689, 700–01 (1979)). "In requiring broadband providers to serve all edge providers without 'unreasonable discrimination,' this rule by its very terms compels those providers to hold themselves out 'to serve the public indiscriminately.'" *Id.* at 655–56 (first quoting Preserving the Open Internet: Broadband Industry Practices, 25 FCC Rcd. 17905, 1706 (Dec. 23, 2010) [hereinafter 2010 Open Internet Order], *vacated sub nom. Verizon*, 740 F.3d at 628; then quoting Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC, 525 F.2d 630, 642 (D.C. Cir. 1976)).

7. Protecting and Promoting the Open Internet, 30 FCC Rcd. 5601, 5652 (Mar. 12, 2015) [hereinafter 2015 Open Internet Order], *aff'd sub nom.* U.S. Telecom Ass'n. v. FCC, 825 F.3d 674 (D.C. Cir. 2016), *petition for en banc reh'g denied*, 855 F.3d 381 (D.C. Cir. 2017), *abrogated*, Restoring Internet Freedom Order, *supra* note 1.

8. *Id.* at 5603.

content to their retail broadband subscribers. No FCC Commissioner wants to foreclose ISPs from offering different tiers of service based on such factors as bit transmission speed and allowable volume of data transmitted or received in a month. However, the Commissioners have vigorously disagreed on whether the FCC needs to implement ex ante regulatory safeguards to ensure that ISPs do not harm consumers and competition with their strategies to differentiate service.[9]

Legislatures and national regulatory authorities (NRAs) in the United States and other nations have imposed "network neutrality" rules for a variety of reasons.[10] Network neutrality obligations require ISPs to operate as nondiscriminatory conduits—meaning that they cannot block lawful content or deliberately drop packets of traffic—both of which would degrade or ruin consumers' quality of experience, particularly when downloading video content for immediate viewing.[11] Some NRAs also prohibit ISPs from slowing the

9. *Compare* Restoring Internet Freedom NPRM, *supra* note 1, at 4492 (statement of Chairman Pai) ("The Internet wasn't broken in 2015. We were not living in a digital dystopia. Nonetheless, the FCC that year succumbed to pressure from the White House and changed course. Even though the FCC couldn't find any evidence of market failure, it turned its back on almost two decades of success. It imposed upon all Internet service providers (ISPs), big and small, the heavy-handed regulatory framework designed during the Roosevelt Administration to micromanage the AT&T telephone monopoly. These utility-style regulations, known as 'Title II,' were and are like the proverbial sledgehammer being wielded against the flea—except that here, there was no flea."), *with id.* at 4507 (dissenting statement of Commissioner Clyburn) ("While the majority engages in flowery rhetoric about light-touch regulation, and so on, the endgame appears to be no-touch regulation and a wholescale destruction of the FCC's public interest authority in the 21st century: Undermining the ability of poor people to get broadband, knee-capping funding for rural telecommunications, declining to review an $85 billion transaction with massive public interest implications, encouraging consolidation and higher prices in business broadband, enabling massive broadcasting conglomerates to gobble up more local voices. Each action is a cut against the public interest, and the majority will keep it coming, unless Americans stand up, make their voices heard and challenge the FCC in court, because it is glaringly obvious, with each open meeting, that the willingness and the ability of the majority to protect consumers and competition in a broadband era, has come to a screeching halt.").

10. *See, e.g.*, JAMES ALLEN ET AL., ANALYSYS MASON, STUDY ON NET-NEUTRALITY REGULATION (2017), http://berec.europa.eu/eng/document_register/subject_matter/berec/others/7243-study-on-net-neutrality-regulation [https://perma.cc/KZL5-KFXZ]; J. Scott Marcus, *New Network Neutrality Rules in Europe: Comparisons to Those in the U.S.*, 14 COLO. TECH. L.J. 259, 260 (2016).

11. 2015 Open Internet Order, *supra* note 7, at 5621. "Network neutrality" refers to regulatory initiatives requiring ISPs to operate as neutral, nondiscriminating conduits prohibited from prioritizing, blocking, or slowing traffic absent compelling network management justifications. *See* Justin S. Brown & Andrew W. Bagley, *Neutrality 2.0: The Broadband Transition to Transparency*, 25 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 639, 644 (2015); Adam Candeub & Daniel McCartney, *Law and the Open Internet*, 64 FED. COMM. L.J. 493, 495–96 (2012); Rob Frieden, *What's New in the Network Neutrality Debate*, 2015 MICH. ST. L. REV. 739, 746 (2015); Tejas N. Narechania & Tim Wu, *Sender Side Transmission Rules for the*

speed of their network traffic delivery ("throttling")[12] with an eye toward creating artificial congestion that would be quickly remedied if content providers and distributors agree to pay a surcharge.[13] Additionally, some NRAs prohibit ISPs from offering to prioritize their handling of traffic from specific sources if they receive additional compensation.[14]

NRAs can more readily and lawfully impose nondiscrimination requirements on ISPs if they classify these service providers as common carriers prohibited from engaging in unreasonable practices.[15] However, even under this classification, ISPs can lawfully

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Internet, 66 FED. COMM. L.J. 467, 470 (2014); Barbara van Schewick, *Network Neutrality and Quality of Service: What a Nondiscrimination Rule Should Look Like*, 67 STAN. L. REV. 1, 4 (2015); Philip J. Weiser, *The Next Frontier for Network Neutrality*, 60 ADMIN. L. REV. 273, 277 (2008); Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. ON TELECOMM. & HIGH TECH. L. 141, 145 (2003); Christopher S. Yoo, *Beyond Network Neutrality*, 19 HARV. J.L. & TECH. 1, 5 (2005); Christopher S. Yoo, *Network Neutrality and the Economics of Congestion*, 94 GEO. L.J. 1847, 1850–51 (2006); Marvin Ammori, *The Case for Net Neutrality*, FOREIGN AFF. July–Aug. 2014, https://www.foreignaffairs.com/articles/united-states/2014-06-16/case-net-neutrality [https://perma.cc/Q6SC-9RP6].

12. *Glossary*, EUR. COMMISSION, https://ec.europa.eu/digital-single-market/glossary#throttling [https://perma.cc/2SCK-BJ7C] (last visited Feb. 2, 2018) (defining throttling as "a technique employed to manage traffic and minimize congestion, [which] may be used to degrade (e.g. slow down) certain type of traffic and so affect the quality of content").

13. *See* Parliament and Council Regulation (EU) 2015/2120, 2015 O.J. (L 310) 1, http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32015R2120&from=EN [https://perma.cc/QAB7-AKCX] ("Any traffic management practices which go beyond such reasonable traffic management measures, by blocking, slowing down, altering, restricting, interfering with, degrading or discriminating between specific content, applications or services, or specific categories of content, applications or services, should be prohibited, subject to the justified and defined exceptions laid down in this Regulation."); *Open Internet*, EUR. COMMISSION, https://ec.europa.eu/digital-single-market/en/policies/open-internet-net-neutrality [https://perma.cc/C8W3-BZRB] (last updated Dec. 20, 2017) ("EU rules on net neutrality (open internet) apply as of 30 April 2016, following the adoption of Regulation (EU) 2015/2120 on 25 November 2015. This regulation is a major achievement for the Digital Single Market. It creates the individual and enforceable right for end-users to access and distribute internet content and services of their choice. Common EU rules on net neutrality ensure that the same provisions apply across Europe. The rules enshrine the principle of net neutrality into EU law: no blocking or throttling or discrimination of online content, applications and services.").

14. *See, e.g.*, Telecom Regulatory Policy, SOR/2017-104 (Can.), http://crtc.gc.ca/eng/archive/2017/2017-104.htm [https://perma.cc/NDJ8-JUHL] (establishing criteria for evaluating whether an ISP's specific differential pricing practice constitutes unlawful discrimination); *see also* Shane Greenstein, Martin Peitz & Tommaso Valletti, *Net Neutrality: A Fast Lane to Understanding the Tradeoffs*, 30 J. ECON. PERSP. 127, 142 (2016) (discussing the economic impact of charging different rates).

15. 47 U.S.C. § 202(a) (2012). For example, Section 202(a) of the Communications Act of 1934 prohibits telecommunications service common carriers from engaging in unreasonable discrimination:

> It shall be unlawful for any common carrier to make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services

offer service tiers with different terms, conditions, and prices. Similarly, NRAs permit carriers to manage their networks in ways that might impact quality of service, including offering service tiers with different bit transmission speeds and data usage allotments; filtering content deemed harmful, such as spam; and temporarily throttling traffic, either during congestion or when a subscriber exceeds a monthly data usage threshold.[16]

Despite conscientious efforts to differentiate lawful and unlawful discrimination, NRAs—such as the FCC—have generated much regulatory uncertainty. ISPs may lack a clear sense of the marketing inducements and service differentiation they can offer without violating rules such as the prohibitions of paid prioritization and throttling of specific traffic streams. When the FCC removed specific prohibitions[17] and reclassified broadband access,[18] it did not provide specific guidance on how biased and discriminatory ISP networks can operate without triggering general polices favoring neutrality, competition, and consumer rights of access.[19]

Despite such uncertainty, ISPs increasingly seek to offer diversified tiers of service with different price points and surcharge possibilities.[20] Additionally, ISPs have negotiated with specific

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> for or in connection with like communication service, directly or indirectly, by any means or device, or to make or give any undue or unreasonable preference or advantage to any particular person, class of persons, or locality, or to subject any particular person, class of persons, or locality to any undue or unreasonable prejudice or disadvantage.

Id.

16. *See* 2015 Open Internet Order, *supra* note 7, at 5651–52, 5669–70, 5672; *see also* Robert Klein, *Data Caps: Creating Artificial Scarcity as a Way Around Network Neutrality*, 31 SANTA CLARA HIGH TECH. L.J. 139, 142 (2015).

17. Restoring Internet Freedom NPRM, *supra* note 1, at 4460 ("In the *Title II Order*, despite virtually no quantifiable evidence of consumer harm, the Commission nevertheless determined that it needed bright line rules banning three specific practices by providers of both fixed and mobile broadband Internet access service: blocking, throttling, and paid prioritization. The Commission also 'enhanced' the transparency rule by adopting additional disclosure requirements. Today, we revisit these determinations and seek comment on whether we should keep, modify, or eliminate the bright line and transparency rules." (footnotes omitted) (citing 2015 Open Internet Order, *supra* note 7, at 5644, 5672–77; and 47 U.S.C. §§ 201, 202, 208)).

18. *Id.* at 4458 ("Proposing to restore broadband Internet access service to its long-established classification as an information service reflects our commitment to a free and open Internet.").

19. *See* Restoring Internet Freedom Order, *supra* note 1.

20. *See, e.g.*, *Xfinity Double Play*, XFINITY, https://www.xfinity.com/learn/xfinity-doubleplay-central?CMP=KNC-43700014274765154-GOOGLE-241818020561-c-comcast%20plans-e-General_BR_Exact_Central-GBB-&gclid=CPGGybjemNkCFYJOgQodtYkODw&gclsrc=ds [https://perma.cc/C69W-6Y7L] (last visited Feb. 9, 2018).

content providers to offer superior interconnection opportunities that can reduce the potential for transmission delays and congestion.[21]

For example, Comcast, a major ISP in the United States, and Netflix, a predominant supplier of video content, resolved an interconnection and compensation dispute by agreeing to interconnect directly at Comcast's primary national switching facilities—an opportunity not offered to other carriers and available to Netflix only upon payment of a surcharge.[22] This arrangement reduces the number of carrier networks and routing facilities needed by Netflix to reach subscribers because the Comcast network will handle much of the traffic management.[23] It enhances quality of service by reducing the likelihood of network congestion and degraded video content delivery.[24]

At the end-user level, ISPs now offer subscribers opportunities to qualify for subsidies, discounts, and special treatment of their traffic downloads.[25] "Zero rating" provides subscribers with cost-saving opportunities where an ISP offers not to debit a subscriber's monthly data allotment when she downloads content originating from specific sources.[26] With a zero rating option,

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21. *See, e.g.*, Steven Musil, *Netflix Reaches Streaming Traffic Agreement with Comcast*, CNET (Feb. 23, 2014, 10:03 AM), https://www.cnet.com/news/netflix-reaches-streaming-traffic-agreement-with-comcast/ [https://perma.cc/9WMZ-RM4M]; Edward Wyatt & Noam Cohen, *Comcast and Netflix Reach Deal on Service*, N.Y. TIMES (Feb. 23, 2014), https://www.nytimes.com/2014/02/24/business/media/comcast-and-netflix-reach-a-streaming-agreement.html [https://perma.cc/QA23-HXT8]; *see also* Drew FitzGerald & Shalini Ramachandran, *Netflix-Traffic Feud Leads to Video Slowdown*, WALL ST. J. (Feb. 18, 2014, 9:35 PM), https://www.wsj.com/articles/netflixtraffic-feud-leads-to-video-slowdown-1392772268 [https://perma.cc/V7MR-75Y9].

22. *See, e.g.*, Musil, *supra* note 21; Wyatt & Cohen, *supra* note 21; FitzGerald & Ramachandran, *supra* note 21.

23. Wyatt & Cohen, *supra* note 21 ("Netflix will now deliver its content directly to Comcast rather than going through an intermediary. These types of deals, known as 'paid peering,' are typically struck between companies that manage the plumbing of the Internet, unseen by consumers.").

24. *See id.*

25. *See, e.g.*, *One Plan. All Unlimited.*, T-MOBILE, https://www.t-mobile.com/cell-phone-plans [https://perma.cc/6WHC-BSTZ] (last visited Jan. 14, 2018).

26. ERIK STALLMAN & R. STANLEY ADAMS, IV, CTR. FOR DEMOCRACY & TECH., ZERO RATING: A FRAMEWORK FOR ASSESSING BENEFITS AND HARMS 2 (2016), https://cdt.org/files/2016/01/CDT-Zero-Rating_Benefits-Harms5_1.pdf [https://perma.cc/BBG6-ER72] ("[Zero ratings are] commercial arrangements and unilateral decisions by network operators pursuant to which [specific] Internet Protocol (IP)-delivered traffic is exempted from usage-based pricing."); *see also* CAROLINA ROSSINI & TAYLOR MOORE, PUB. KNOWLEDGE, EXPLORING ZERO-RATING CHALLENGES: VIEWS FROM FIVE COUNTRIES 1 (2015), https://www.publicknowledge.org/assets/uploads/blog/ZeroRatingCombinedCR.pdf [https://perma.cc/KUZ9-7QKE]; Ellen P. Goodman, *Zero-Rating Broadband Data: Equality and Free Speech at the Network's Other Edge*, 15 COLO. TECH. L.J. 63, 64 (2016); Christopher T.

broadband subscribers can conserve their monthly data allowance and avoid having to pay a surcharge for exceeding it.

Some ISPs have offered an alternative to zero rating in light of the possibility that it would violate the old network neutrality rules. Carriers offer "unlimited" data plans, but the fine print in the deal includes traffic throttling once subscribers exceed a specified volume of data within a month or when network congestion occurs.[27] Some wireless broadband carriers also offer a service option that provides unlimited data but reduces the screen resolution of all video unless subscribers pay a monthly surcharge for the faster transmission and higher data capacity needed to retain the high-definition video image.[28]

Opponents of zero rating and video content downgrading have predicted significant distortions to the marketplace of ideas, harm to the level of innovation, and the potential for less competition.[29] They

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Marsden, *Comparative Case Studies in Implementing Net Neutrality: A Critical Analysis of Zero Rating*, 13 SCRIPTED 1, 8 (2016), https://script-ed.org/wp-content/uploads/2016/04/marsden.pdf [https://perma.cc/9YPD-NKL9]. The term "sponsored data" represents the same arrangement, with emphasis on the subsidy mechanism used. *See, e.g.*, STALLMAN & ADAMS, *supra*, at 5–6.

27. *One Plan. All Unlimited.*, *supra* note 25 ("On all T-Mobile plans, during congestion, the small fraction of customers using >50GB/mo. may notice reduced speeds until next bill cycle due to data prioritization. . . . [V]ideo typically streams at DVD quality (up to 1.5Mbps [Megabits per second]). . . . Tethering at max 3G speeds.").

28. *See* Mark Rogowsky, *With T-Mobile Mixing It Up Again, Here's What You Need to Know*, FORBES (Jan. 7, 2017, 5:54 AM), https://www.forbes.com/sites/markrogowsky/2017/01/07/with-t-mobile-mixing-it-up-again-heres-what-you-need-to-know/#5e0e261f400a [https://perma.cc/J4A9-PEJN] ("The data is really unlimited? Yes and no. On the surface, you can use as much 4G LTE via your phone as you want. But there are at least three catches that act as brakes on your data usage: (1) If you exceed 28GB of data usage, which T-Mobile says 3% of users do, then you are subject to throttling—or slower data speeds—during peak periods when demand on the network is high[.] (2) Video streams are capped at 480p resolution, unless you buy one of the special upgrades T-Mobile offers, described below[.] (3) When you 'tether' your laptop to a smartphone to give it broadband access, that usage will be capped at 3G speeds, which these days are often too slow to get much real work done. There's a way around that too, but it isn't free."); Nate Swanner, *T-Mobile's New 'Unlimited' One Plan Is Complete Nonsense*, NEXT WEB (Aug. 18, 2016) https://thenextweb.com/opinion/2016/08/18/t-mobile-one-plan-complete-nonsense/ [https://perma.cc/L5UK-3UBD] ("And all that video you watch? It's limited to 480p resolution, now. If you want 720, 1080 or 4K video, it'll cost you another $25 per month."); *see also Unlimited Data, Talk & Text at 50% off Verizon and AT&T Rates.*, SPRINT, http://www.sprintorders.com/new-deals/ [https://perma.cc/WWA2-VXB2] (last visited Jan 14, 2018) ("Mobile optimized: video streams at up to 480p+ resolution, music at up to 500kbps, streaming gaming at up to 2mbps. Data deprioritization applies during times of congestion.").

29. *See* Letter from New America's Open Technology Institute et al. to Tom Wheeler, Chairman, Fed. Commc'ns Comm'n, Zero-Rating Plans Are a Serious Threat to the Open Internet (Mar. 28, 2016), https://static.newamerica.org/attachments/12903-zero-rating-plans-are-a-serious-threat-to-the-open-internet/FinalZeroRatingSign-OnLetter.fa929bef59a5423089a496b4f909fb97.pdf [https://perma.cc/6D7A-CWZD]; Davey Alba, *Big AT&T Deal Proves It's Time to Stop 'Zero-Rating'*, WIRED (Nov. 3, 2016, 7:00 AM), https://www.wired.com/2016/11/att-time-warner-deal-shows-time-stop-zero-rating/

worry that specialized content access and delivery arrangements will bolster the market dominance of incumbent carriers and a small number of content providers by creating irresistible incentives for consumers to favor unmetered content and to rely on deep-pocketed carriers able to offer the most generous discounts or bundles of services that combine content and carriage.[30] Proponents emphasize that zero rating can provide opportunities for consumers to access subsidized content and for program vendors with insignificant market share to stimulate consumer interest.[31]

This Article assesses the potential for harm to broadband consumers and competitors when ISPs serving retail broadband subscribers can interfere with content that traverses their "last mile"[32] networks en route to consumers. Part II of the Article explains the concept of network neutrality and examines how the FCC has undertaken different regulatory approaches that either support ex ante safeguards or rely on ex post procedures for assessing whether anticompetitive harms have occurred. Part III considers whether zero rating and differences in quality of service constitute unlawful discrimination. Part IV of the Article examines whether FCC treatment of other services provides a regulatory model for broadband Internet access. Part V then identifies some of the challenges NRAs will confront when assessing quality of service differentiation by ISPs. The Article concludes that even though ISPs have self-serving,

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[https://perma.cc/W8N4-JLPR] ("The overarching problem here is that widespread zero-rating harms innovation. It prevents newer and smaller players from challenging the established companies, and that's particularly true when those established companies start consolidating and getting even bigger.").

30. *See, e.g.*, Editorial Bd., *Why Free Can Be a Problem on the Internet*, N.Y. TIMES (Nov. 14, 2015), http://www.nytimes.com/2015/11/15/opinion/sunday/why-free-can-be-a-problem-on-the-internet.html?_r=0 [https://perma.cc/A8U2-KXC3]; Susan Crawford, *Less than Zero*, WIRED (Jan. 7, 2015, 12:00 AM), https://www.wired.com/2015/01/less-than-zero/#.dbs7t699u [https://perma.cc/Y64X-AL5B]; Emily Hong, *A Zero Sum Game? What You Should Know About Zero-Rating*, NEW AM. (Feb. 4, 2016), https://www.newamerica.org/weekly/109/a-zero-sum-game-what-you-should-know-about-zero-rating/ [https://perma.cc/BBA5-QYWL].

31. *See, e.g.*, MULTICULTURAL MEDIA, TELECOM & INTERNET COUNCIL, UNDERSTANDING AND APPRECIATING ZERO-RATING: THE USE AND IMPACT OF FREE DATA IN THE MOBILE BROADBAND SECTOR 9 (2016), http://mmtconline.org/WhitePapers/MMTC_Zero_Rating_Impact_on_Consumers_May2016.pdf [https://perma.cc/EW26-V3LH]; STEVEN TITCH, R STREET, ZERO RATING IN A COMPETITIVE BROADBAND MARKET 2 (2017), http://2o9ub0417chl2lg6m43em6psi2i.wpengine.netdna-cdn.com/wp-content/uploads/2017/03/88.pdf [https://perma.cc/J86Z-L9QN].

32. ISPs directly providing broadband access to consumers control the first link to the Internet for uploading traffic as well as the last link for downloading content. This type of ISP is commonly deemed the provider of first and last mile broadband access. *See* Emily Stewart, *Net Neutrality Isn't the Only Way to Keep the Internet Fair. It's Just the Only Way in America*, VOX (Dec. 14, 2017, 9:10 AM), https://www.vox.com/policy-and-politics/2017/12/14/16692318/net-neutrality-local-loop-broadband-internet-access [https://perma.cc/WB9J-D4UH].

profit-maximizing goals when enhancing or degrading content carriage and display, such practices can have positive spillover effects that enhance consumer welfare without significantly harming competition in the marketplace of ideas and Internet commerce. In addition, the Article recommends that NRAs offer a speedy and fair complaint resolution process to remedy content carriage disputes, particularly when regulators, such as the FCC, establish policies based on the assumption that ISPs lack market power and have no incentives to degrade quality of service or create artificial network congestion.

II. REGULATORY INTERVENTION TO ENSURE A FAIR, NEUTRAL, AND OPEN INTERNET

Advocates for network neutrality have emphasized the need for NRAs to impose nondiscrimination requirements on ISPs to prevent these carriers from meddling with traffic they deliver.[33] Proponents of compulsory conduit neutrality have concerns that last mile ISPs will demand additional compensation to prioritize specific traffic streams or to refrain from delivering video content at reduced quality—for example, by reducing the line resolution of video images from 1080 lines to as few as 480 lines—to conserve bandwidth and avoid network congestion.[34]

Rather than interconnect, switch, and route traffic on an unbiased "best efforts" basis, ISPs appear to have the ability—and possibly also the incentive—to block and drop content packets or to intentionally slow traffic with the false claim of network congestion.[35]

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33. *Net Neutrality: What You Need to Know Now*, SAVE THE INTERNET, https://www.savetheinternet.com/net-neutrality-what-you-need-know-now [https://perma.cc/FUR7-DC7N] (last visited Jan. 15, 2018) ("When you go online you have certain expectations. You expect to be connected to whatever website you want. You expect that your cable or phone company isn't messing with the data and is connecting you to all websites, applications and content you choose. You expect to be in control of your internet experience. When you use the internet you expect Net Neutrality. Net Neutrality is the basic principle that prohibits internet service providers like AT&T, Comcast and Verizon from speeding up, slowing down or blocking any content, applications or websites you want to use. Net Neutrality is the way that the internet has always worked.").

34. *See* Jon Brodkin, *Verizon to Start Throttling All Smartphone Videos to 480p or 720p*, ARS TECHNICA (Aug. 22, 2017, 5:00 AM), https://arstechnica.com/information-technology/2017/08/verizon-to-start-throttling-all-smartphone-videos-to-480p-or-720p/ [https://perma.cc/N9LY-FX8V].

35. 2015 Open Internet Order, *supra* note 7, at 5608 ("[B]roadband providers have both the incentive and the ability to act as gatekeepers standing between edge providers and consumers. As gatekeepers, they can block access altogether; they can target competitors, including competitors to their own video services; and they can extract unfair tolls. Such conduct would, as the Commission concluded in 2010, 'reduce the rate of innovation at the edge and, in

Additionally, ISPs could demand surcharge payments to prioritize traffic and provide "better than best efforts" traffic delivery when real congestion occurs or when the carrier creates artificial congestion as negotiation leverage for receiving higher compensation from content creators and distributors.[36]

Senior ISP managers claim they would never resort to such tactics.[37] However, the FCC previously sanctioned Comcast for deliberately blocking video traffic that provided an alternative to the company's offerings.[38] Comcast made matters worse through its repeated claims of innocence and its claims that any blockage constituted necessary network management, despite clear evidence that no actual congestion had occurred.[39] The FCC determined that Comcast blocked one specific type of traffic without technical justification.[40] The blocked traffic stream offered Comcast's

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turn, the likely rate of improvements to network infrastructure.' In other words, when a broadband provider acts as a gatekeeper, it actually chokes consumer demand for the very broadband product it can supply." (quoting 2010 Open Internet Order, *supra* note 6, at 17911)).

36. *See id.* at 5632, 5667; *see also id.* at 5914 (statement of Chairman Wheeler) ("We know from the history of previous networks that both human nature and economic opportunism act to encourage network owners to become gatekeepers that prioritize their interests above the interests of their users. As the D.C. Circuit observed in the Verizon decision and as the public record affirms, broadband providers have both the economic incentive and the technological capability to abuse their gatekeeper position.").

37. Joe Waz, *10 Facts About Peering, Comcast and Level 3*, COMCAST (Nov. 30, 2010), http://corporate.comcast.com/comcast-voices/10-facts-about-peering-comcast-and-level-3 [https://perma.cc/BH24-4GYH] ("1. Our customers get access to all the online video they want, along with any other Internet content, application, or service they choose—regardless of its source. 2. Any rumors about blocking Netflix are false.").

38. Formal Complaint of Free Press and Public Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications, 23 FCC Rcd. 13028, 13028, 13037 (Aug. 20, 2008) [hereinafter Comcast Traffic Throttling Investigation], *vacated sub nom.* Comcast Corp. v. FCC, 600 F.3d 642 (D.C. Cir. 2010).

39. *Id.* at 13030–32 ("Comcast subscribers began to notice that they had problems using BitTorrent and similar technologies over their Comcast broadband connections. Last year, their complaints began to receive widespread attention in the press. When first confronted with these press reports, Comcast—the nation's second largest provider of broadband Internet access services—misleadingly disclaimed any responsibility for the customers' problems. . . . Comcast claimed that it sent RST packet [a reset packet] 'only during periods of peak network congestion' and 'only . . . during periods of heavy network traffic.' Evidence in the record, however, contradicts this claim." (footnotes omitted)).

40. *Id.* at 13050–51, 13058 ("The record leaves no doubt that Comcast's network management practices discriminate among applications and protocols rather than treating all equally. To reiterate: Comcast has deployed equipment across its networks that monitors its customers' TCP [Transmission Control Protocol] connections using deep packet inspection to determine how many connections are peer-to-peer uploads. When Comcast judges that there are too many peer-to-peer uploads in a given area, Comcast's equipment terminates some of those connections by sending RST packets [reset packets]. In other words, Comcast determines how it will route some connections based not on their destinations but on their contents; in laymen's terms, Comcast opens its customers' mail because it wants to deliver mail not based on the

broadband subscribers alternatives to the pay-per-view video options available from the company.[41]

A. The FCC's 2015 Open Internet Order

The FCC previously expressed concern that without muscular, common carrier regulatory oversight, ISPs would create fast lanes offering "better than best efforts" traffic prioritization at a surcharge while relegating everyone else to intentionally slow lanes possibly unable to handle even ordinary traffic volumes.[42] The potential

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address or type of stamp on the envelope but on the type of letter contained therein. . . . Comcast's practices contravene industry standards and have significantly impeded Internet users' ability to use applications and access content of their choice. Moreover, the practices employed by Comcast are ill-tailored to the company's professed goal of combating network congestion. In sum, the record evidence overwhelmingly demonstrates that Comcast's conduct poses a substantial threat to both the open character and efficient operation of the Internet, and is not reasonable." (footnotes omitted)).

41. *Id.* at 13028, 13037, 13058 ("We consider whether Comcast, a provider of broadband Internet access over cable lines, may selectively target and interfere with connections of peer-to-peer (P2P) applications [like BitTorrent] under the facts of this case. Although Comcast asserts that its conduct is necessary to ease network congestion, we conclude that the company's discriminatory and arbitrary practice unduly squelches the dynamic benefits of an open and accessible Internet and does not constitute reasonable network management. Moreover, Comcast's failure to disclose the company's practice to its customers has compounded the harm. . . . [I]t is our expert judgment that Comcast's practices do not constitute reasonable network management, a judgment that is generally confirmed by experts in the field. Comcast's practices contravene industry standards and have significantly impeded Internet users' ability to use applications and access content of their choice. Moreover, the practices employed by Comcast are ill-tailored to the company's professed goal of combating network congestion. In sum, the record evidence overwhelmingly demonstrates that Comcast's conduct poses a substantial threat to both the open character and efficient operation of the Internet, and is not reasonable." (footnotes omitted)).

42. 2015 Open Internet Order, *supra* note 7, at 5608 ("The record demonstrates the need for strong action. The *Verizon* court itself noted that broadband networks have 'powerful incentives to accept fees from edge providers, either in return for excluding their competitors or for granting them prioritized access to end users.' Mozilla, among many such commenters, explained that '[p]rioritization . . . inherently creates fast and slow lanes.' Although there are arguments that some forms of paid prioritization could be beneficial, the practical difficulty is this: the threat of harm is overwhelming, case-by-case enforcement can be cumbersome for individual consumers or edge providers, and there is no practical means to measure the extent to which edge innovation and investment would be chilled. And, given the dangers, there is no room for a blanket exception for instances where consumer permission is buried in a service plan—the threats of consumer deception and confusion are simply too great." (footnotes omitted) (quoting Verizon v. FCC, 740 F.3d 623, 645–46 (D.C. Cir. 2014))); *id.* at 5690 ("Some edge and transit providers assert that large broadband Internet access service providers are creating artificial congestion by refusing to upgrade interconnection capacity at their network entrance points for settlement-free peers or CDNs [Content Delivery Networks], thus forcing edge providers and CDNs to agree to paid peering arrangements. These parties suggest that paid arrangements resulting from artificially congested interconnection ports at the broadband Internet access service provider network edge could create the same consumer harms as paid arrangements in

marketplace distortion lies in the expectation that ISPs can exploit market power, particularly for the last mile delivery of content to retail broadband subscribers.[43] Content providers and distributors unable or unwilling to pay surcharges would experience artificial congestion and quality of service degradation, which in turn would deteriorate consumers' quality of experience. Bear in mind that for video content, consumers appear to have very low tolerance for any form of network performance declines that prevent the seamless display of "must see," "mission critical" content.[44]

NRAs, such as the FCC in 2015, have anticipated the likelihood that ISPs will pursue price and quality of service discrimination strategies that could harm competition and consumers rather than provide different service tiers and price points. The FCC currently does not consider ex ante safeguards necessary to prevent or sanction anticipated market distortions. Instead, the Commission relies on general requirements of transparency, such as disclosure of network management practices, coupled with ex post remedies if and when such abuses occur.[45] Ex ante and ex post remedies have costs,

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the last-mile, and lead to paid prioritization, fast lanes, degradation of consumer connections, and ultimately, stifling of innovation by edge providers." (footnotes omitted)); DEREK TURNER, FREE PRESS, NET NEUTRALITY: INVESTMENT AND ECONOMICS 2–4 (2010), http://www.freepress.net/sites/default/files/fp-legacy/Net_Neutrality_Investment_and_Economics.pdf [https://perma.cc/398U-UVSA] ("Without Network Neutrality, ISPs will have a strong incentive to reduce investment and make congestion commonplace in order to extract revenues from content providers willing to pay to avoid traffic delays. Without open Internet rules, ISPs will be granted license to abuse their positions as terminating access monopolies, which is in direct conflict with the Act's goals for nondiscriminatory interconnection."). Network neutrality advocates worry that ISPs will intentionally degrade basic broadband service with an eye toward forcing upstream content providers to pay additional fees to ensure that content arrives without disruption, even though no such surcharge was necessary previously. *See, e.g.*, TURNER, *supra*, at 9.

43. *See* Verizon v. FCC, 740 F.3d 623, 645–46 (D.C. Cir. 2014) ("Broadband providers also have powerful incentives to accept fees from edge providers, either in return for excluding their competitors or for granting them prioritized access to end users."); 2015 Open Internet Order, *supra* note 7, at 5608, 5693–94.

44. *See, e.g.*, John D. Sutter, *Online Viewers Ditch Slow-Loading Video After 2 Seconds*, CNN (Nov. 12, 2012, 11:52 AM), https://www.cnn.com/2012/11/12/tech/web/video-loading-study/index.html [https://perma.cc/P3Q5-XFSB]; *see also* Roger Dooley, *Don't Let a Slow Website Kill Your Bottom Line*, FORBES (Dec. 4, 2012, 8:40 AM), https://www.forbes.com/sites/rogerdooley/2012/12/04/fast-sites/#7ea61d4c53cf ("[V]isitors leave sites in much higher numbers when pages take longer to load."); Steve Lohr, *For Impatient Web Users, an Eye Blink Is Just Too Long to Wait*, N.Y. TIMES (Feb. 29, 2012), http://www.nytimes.com/2012/03/01/technology/impatient-web-users-flee-slow-loading-sites.html ("People will visit a Web site less often if it is slower than a close competitor by more than 250 milliseconds (a millisecond is a thousandth of a second).")

45. *See* Rob Frieden, *Ex Ante Versus Ex Post Approaches to Network Neutrality: A Comparative Assessment*, 30 BERKELEY TECH. L.J. 1561, 1608 (2015); Jasper P. Sluijs, *Network*

particularly when they fail to detect and remedy a marketplace distortion—a false negative—and when they identify and sanction reasonable price and quality of service discrimination—a false positive.[46]

Rigid ex ante safeguards make it difficult for NRAs to assess whether an access pricing arrangement harms content competition and consumers or provides customized solutions at a premium price to defray the higher costs incurred in upgrading networks so they can handle growing consumer demand for video content. The FCC previously prohibited ISPs from blocking traffic, throttling delivery speeds, and demanding surcharges for prioritizing traffic.[47] An absolute ban on such practices ignores the possibility that some forms of preferred status provide lawful and desirable enhancements, particularly when real network congestion increases the odds for degraded network performance, resulting in consumer dissatisfaction.[48]

A near absolute or complete prohibition on traffic prioritization precludes last mile ISPs from offering enhanced routing of certain traffic streams prone to congestion, such as video streaming of a movie or a live sporting event. Similarly, the prohibition may prevent specific content providers and distributors from securing optimized traffic interconnection opportunities like that achieved by Netflix with Comcast, as the parties settled a compensation and traffic exchange dispute that already had triggered consumer irritation.[49]

Ex ante safeguards prevent or substantially burden the offering of reasonable, premium service options that enhance the quality of experience for broadband consumers and offer a higher quality of service to content providers. Ex ante regulation, moreover, can impose unneeded prohibition of desirable, specialized service arrangements, but ex post remedies may arrive too late—well after the harm—so that monetary damages or other sanctions prove inadequate.[50]

Neutrality Between False Positives and False Negatives: Introducing a European Approach to American Broadband Markets, 62 FED. COMM. L.J. 77, 88 (2010).

46. *See* Frieden, *supra* note 45, at 1608.

47. 2015 Open Internet Order, *supra* note 7, at 5603.

48. *See, e.g.*, *id.* at 5601. The Communications Act deems unjust and unreasonable practices to be unlawful: "All charges, practices, classifications, and regulations for and in connection with such communication service, shall be just and reasonable, and any such charge, practice, classification, or regulation that is unjust or unreasonable is declared to be unlawful." 47 U.S.C. § 201(b) (2012).

49. *See* Verizon v. FCC, 740 F.3d 623, 655–56 (D.C. Cir. 2014).

50. *See* Frieden, *supra* note 45, at 1594.

In 2008, 2010, and 2015, the FCC opted to apply ex ante regulatory oversight when addressing whether and how to guard against tactics of broadband Internet access providers that harm competition and consumers.[51] In 2015, the FCC imposed its most muscular safeguards yet by reclassifying broadband Internet access as a telecommunications service, thereby securing jurisdiction to apply ex ante common carrier requirements.[52] In 2016, an appellate court approved the FCC's reclassification of broadband access, opting not to second-guess the Commission's new rationales for expanding its regulatory reach.[53]

Reclassification offered the FCC the opportunity to establish clear jurisdiction for applying common carrier regulatory oversight of ISPs. However, it also generated vigorous opposition to the FCC's initiative even though the Commission volunteered to forbear from applying many regulations absent compelling circumstances.[54] A Republican majority at the FCC recently eliminated network neutrality regulation.[55]

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51. *See* 2010 Open Internet Order, *supra* note 6, at 17906; 2015 Open Internet Order, *supra* note 7, at 5607; Comcast Traffic Throttling Investigation, *supra* note 38, at 13028, 13034; *see also* Comcast Corp. v. FCC, 600 F.3d 642 (D.C. Cir. 2010) (deeming the FCC to have exceeded its statutory authority when responding to a complaint and imposing network neutrality rules).

52. 2015 Open Internet Order, *supra* note 7, at 5614–15 ("[T]his Order concludes that the retail broadband Internet access service available today is best viewed as separately identifiable offers of (1) a broadband Internet access service that is a [common carrier] telecommunications service (including assorted functions and capabilities used for the management and control of that telecommunication service) and (2) various 'add-on' applications, content, and services that generally are information services.").

53. U.S. Telecom Ass'n. v. FCC, 825 F.3d 674, 689, 707 (D.C. Cir. 2016).

54. 2015 Open Internet Order, *supra* note 7, at 5603 ("[W]e concurrently exercise the Commission's forbearance authority to forbear from application of 27 provisions of Title II of the Communications Act, and over 700 Commission rules and regulations. This is a Title II tailored for the 21st century, and consistent with the 'light-touch' regulatory framework that has facilitated the tremendous investment and innovation on the Internet.").

55. *See* Restoring Internet Freedom Order, *supra* note 1, at *1–2; Jim Puzzanghera, *FCC Votes to Repeal Net Neutrality Rules, A Milestone for Republican Deregulation Push*, L.A. TIMES (Dec. 14, 2017), http://www.latimes.com/business/la-fi-net-neutrality-fcc-20171214-story.html [https://perma.cc/7DDX-BE56]; *see also* Ajit Pai, Chairman, Fed. Commc'ns Comm'n, Remarks Before the Free State Foundation's Tenth Anniversary Gala Luncheon (Dec. 7, 2016), https://apps.fcc.gov/edocs_public/attachmatch/DOC-342497A1.pdf [https://perma.cc/Z9B8-MU4Y] ("[P]roof of market failure should guide the next Commission's consideration of new regulations. And the FCC should only adopt a regulation if it determines that its benefits outweigh its costs. The *Title II Order* [the 2015 Open Internet Order], of course, failed to respect these principles. There was no evidence of systemic failure in the Internet marketplace. . . . On the day that the *Title II Order* was adopted, I said that 'I don't know whether this plan will be vacated by a court, reversed by Congress, or overturned by a future Commission. But I do believe that its days are numbered.' Today, I am more confident than ever that this prediction will come true.").

The FCC previously emphasized the need for narrowly crafted rules designed to "prevent specific practices we know are harmful to Internet openness—blocking, throttling, and paid prioritization—as well as a strong standard of conduct designed to prevent the deployment of new practices that would harm Internet openness."[56] The Commission emphasized that ISPs have both the incentive and the ability to leverage access in ways that can thwart the virtuous cycle of innovation and investment in the Internet ecosystem:

> The key insight of the virtuous cycle is that broadband providers have both the incentive and the ability to act as gatekeepers standing between edge providers and consumers. As gatekeepers, they can block access altogether; they can target competitors, including competitors to their own video services; and they can extract unfair tolls.[57]

The FCC considered it essential that ISPs not have the ability to exploit Internet access in anticompetitive ways that would reduce demand for Internet-based services.[58] To achieve that goal, the Commission established a clear ISP nondiscrimination rule in its 2015 Open Internet Order:

> Any person engaged in the provision of broadband Internet access service, insofar as such person is so engaged, shall not unreasonably interfere with or unreasonably disadvantage (i) end users' ability to select, access, and use broadband Internet access service or the lawful Internet content, applications, services, or devices of their choice, or (ii) edge providers' ability to make lawful content, applications, services, or devices available to end users. Reasonable network management shall not be considered a violation of this rule.[59]

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56. 2015 Open Internet Order, *supra* note 7, at 5603.

57. *Id.* at 5604, 5608.

58. *Id.* at 5604, 5629, 5632 ("Broadband providers' networks serve as platforms for Internet ecosystem participants to communicate, enabling broadband providers to impose barriers to end-user access to the Internet on one hand, and to edge provider access to broadband subscribers on the other. . . . [T]he record provides substantial evidence that broadband providers have significant bargaining power in negotiations with edge providers and intermediaries that depend on access to their networks because of their ability to control the flow of traffic into and on their networks. Another way to describe this significant bargaining power is in terms of a broadband provider's position as gatekeeper—that is, regardless of the competition in the local market for broadband Internet access, once a consumer chooses a broadband provider, that provider has a monopoly on access to the subscriber. . . . Broadband providers can exploit this role by acting in ways that may harm the open Internet, such as preferring their own or affiliated content, demanding fees from edge providers, or placing technical barriers to reaching end users. Without multiple, substitutable paths to the consumer, and the ability to select the most cost-effective route, edge providers will be subject to the broadband provider's gatekeeper position." (footnotes omitted)).

59. *Id.* at 5609 (emphasis omitted). The FCC defines a reasonable network management practice as one having "a primarily technical network management justification, but does not include other business practices. A network management practice is reasonable if it is primarily used for and tailored to achieving a legitimate network management purpose, taking into

This "no-unreasonable interference/disadvantage" rule established an expectation that ISPs operate as neutral conduits for content without favoring or disfavoring specific content streams.[60] On one hand, nondiscrimination rules prevent ISPs from providing preferential and superior handling of traffic generated by a corporate affiliate or a third party willing to pay a surcharge.[61] But on the other hand, the rules largely prevented ISPs from providing upstream content providers with opportunities to secure expedited treatment of traffic that may need comparatively better processing to ensure superior quality of service. While the rules created the risk of sanctions for generating artificial congestion to extort higher payments from content providers, they also could have sanctioned benign or desired enhancements when actual congestion could otherwise result in degraded service.

The prohibition on prioritizing traffic generated uncertainty about what ISPs can and cannot do to tier and differentiate service.[62] For example, the FCC expressed concerns about zero rating of the wireless traffic generated by a corporate affiliate and content providers willing to pay a surcharge.[63] While these arrangements

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account the particular network architecture and technology of the broadband Internet access service." *Id.* at 5611 (emphasis omitted).

60. *See id.* at 5608.

61. *Id.* at 5607–08. The 2015 Open Internet Order prohibits paid prioritization of traffic that would offer "better than best efforts" carriage for additional compensation. *Id.*

> Paid prioritization occurs when a broadband provider accepts payment (monetary or otherwise) to manage its network in a way that benefits particular content, applications, services, or devices. To protect against "fast lanes," this Order adopts a rule that establishes that: A person engaged in the provision of broadband Internet access service, insofar as such person is so engaged, shall not engage in paid prioritization. "Paid prioritization" refers to the management of a broadband provider's network to directly or indirectly favor some traffic over other traffic, including through use of techniques such as traffic shaping, prioritization, resource reservation, or other forms of preferential traffic management, either (a) in exchange for consideration (monetary or otherwise) from a third party, or (b) to benefit an affiliated entity.

Id. (emphasis omitted).

62. *See id.* at 5608 ("Although there are arguments that some forms of paid prioritization could be beneficial, the practical difficulty is this: the threat of harm is overwhelming, case-by-case enforcement can be cumbersome for individual consumers or edge providers, and there is no practical means to measure the extent to which edge innovation and investment would be chilled. And, given the dangers, there is no room for a blanket exception for instances where consumer permission is buried in a service plan—the threats of consumer deception and confusion are simply too great." (footnotes omitted))

63. WIRELESS TELECOMMS. BUREAU, FED. COMMC'NS COMM'N, POLICY REVIEW OF MOBILE BROADBAND OPERATORS' SPONSORED DATA OFFERINGS FOR ZERO-RATED CONTENT AND SERVICES 17 (2017), https://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0111/DOC-342987A1.pdf [https://perma.cc/36KB-RBTB] [hereinafter 2017 WIRELESS TELECOMM. BUREAU

could reduce consumers' out-of-pocket costs, they could also distort the competitive marketplace for different types of content by making zero rated content comparatively more attractive simply because downloading it does not debit a monthly data cap.

In addition to the specific prohibitions on blocking, throttling, and paid prioritization, the FCC established a general prohibition on ISP practices that would unreasonably interfere with or disadvantage downstream consumers and upstream edge providers of content, applications, and services.[64] The Commission created a process for considering on a case-by-case basis whether an ISP engaged in a practice "that unreasonably interfere[s] with or unreasonably disadvantage[s] 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."[65]

The Commission applied a more open-ended evaluation than the legal standard it previously proposed in its 2014 Open Internet proposed rule, which prohibited commercially unreasonable practices.[66] The FCC concluded that it should "adopt a governing standard that looks to whether consumers or edge providers face unreasonable interference or unreasonable disadvantages, and makes clear that the standard is not limited to whether a practice is agreeable to commercial parties."[67]

ZERO RATING REPORT] ("Mobile broadband providers are experimenting with a variety of sponsored data and zero-rating initiatives. While this dynamic environment has benefited consumers, these business arrangements may raise many of the same economic and public policy issues involving network owners that the Commission has long considered. In particular, sponsored data offerings by vertically integrated mobile broadband providers may harm consumers and competition in downstream industry sectors by unreasonably discriminating in favor of select downstream providers, especially their own affiliates.").

64. *See* 2015 Open Internet Order, *supra* note 7, at 5607, 5659.

65. *Id.* at 5659.

66. *Id.* at 5659, 5665 ("Based on the record before us, we are persuaded that adopting a legal standard prohibiting commercially unreasonable practices is not the most effective or appropriate approach for protecting and promoting an open Internet."); *see also* Protecting and Promoting the Open Internet, 29 FCC Rcd. 5561, 5602 (May 15, 2014).

67. *Id.* at 5666. The FCC identified a number of factors it will consider in future evaluations. These include an assessment of whether a practice allows end-user control and is consistent with promoting consumer choice; its competitive effect; whether consumers and opportunities for free expression are promoted or harmed; the effect on innovation, investment, or broadband deployment; whether the practice hinders the ability of end users or edge providers to use broadband access to communicate with each other; and whether the practice conforms to best practices and technical standards adopted by open, broadly representative, and independent Internet engineering, governance initiatives, or standards-setting organizations. *Id.* at 5661–65.

The FCC in 2015 created a "no-unreasonable interference/disadvantage"[68] standard to evaluate controversial subjects, including the lawfulness of sponsored data arrangements where an ISP accepts advertiser payment in exchange for an agreement not to meter and debit the downstream traffic delivery.[69] The Commission also established an enhanced transparency requirement building on language contained in its 2010 Open Internet Order that required specific disclosures regarding network practices, performance characteristics, and commercial terms.[70]

The Commission also used these standards to consider the lawfulness of data caps that tier service by the amount of permissible downloading volume.[71] The FCC saw the potential for an ISP to create artificial scarcity in order to extract higher revenues by

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68. *Id.* at 5609 ("Thus, the Order adopts the following standard: Any person engaged in the provision of broadband Internet access service, insofar as such person is so engaged, shall not unreasonably interfere with or unreasonably disadvantage (i) end users' ability to select, access, and use broadband Internet access service or the lawful Internet content, applications, services, or devices of their choice, or (ii) edge providers' ability to make lawful content, applications, services, or devices available to end users." (emphasis omitted)).

69. *Id.* at 5666–68 ("While our bright-line rule to treat paid prioritization arrangements as unlawful addresses technical prioritization, the record reflects mixed views about other practices, including usage allowances and sponsored data plans. Sponsored data plans (sometimes called zero-rating) enable broadband providers to exclude edge provider content from end users' usage allowances. On the one hand, evidence in the record suggests that these business models may in some instances provide benefits to consumers, with particular reference to their use in the provision of mobile services. Service providers contend that these business models increase choice and lower costs for consumers. . . . On the other hand, some commenters strongly oppose sponsored data plans, arguing that 'the power to exempt selective services from data caps seriously distorts competition, favors companies with the deepest pockets, and prevents consumers from exercising control over what they are able to access on the Internet,' again with specific reference to mobile services. . . . [W]e will look at and assess such practices under the no-unreasonable interference/disadvantage standard, based on the facts of each individual case, and take action as necessary.").

70. 47 C.F.R. § 8.3 (2018) ("A person engaged in the provision of broadband Internet access service shall publicly disclose accurate information regarding the network management practices, performance, and commercial terms of its broadband Internet access services sufficient for consumers to make informed choices regarding use of such services and for content, application, service, and device providers to develop, market, and maintain Internet offerings."); *see also* 2010 Open Internet Order, *supra* note 6, at 17936. While vacating both the anti-discrimination and the anti-blocking rules, the US Court of Appeals for the DC Circuit upheld the FCC's statutory authority to impose transparency requirements. Verizon v. FCC, 740 F.3d 623, 659 (D.C. Cir. 2014).

71. *See* 2015 Open Internet Order, *supra* note 7, at 5609 ("[T]he [2015 Open Internet] Order builds on the strong foundation established in 2010 and enhances the transparency rule for both end users and edge providers, including by adopting a requirement that broadband providers always must disclose promotional rates, all fees and/or surcharges, and all data caps or data allowances; adding packet loss as a measure of network performance that must be disclosed; and requiring specific notification to consumers that a 'network practice' is likely to significantly affect their use of the service.").

favoring corporate affiliates and third parties willing to pay a surcharge.[72] Additionally, the Commission worried that data caps have the potential for disadvantaging competitors by creating disincentives for consumers to try new video programming options, particularly if a zero rated ISP option exists.[73] However, the Commission also recognized that service tiering can promote innovation and new customized services.[74]

B. The DC Circuit Affirms the FCC

On appeal to the US Court of Appeals for the DC Circuit, the FCC in *United States Telecom Ass'n* defended its legal right to reclassify services in light of changed circumstances. The Commission had to convince the court that the Communications Act authorizes service reclassifications or lacks specificity, thereby allowing an expert regulatory agency to clarify ambiguities.[75] In a 2-1 decision—reflecting vastly different legal philosophies and acceptance

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72. *See id.* at 5632 ("Similarly, broadband providers have incentives to charge for prioritized access to end users or degrade the level of service provided to non-prioritized content. When bandwidth is limited during peak hours, its scarcity can cause reliability and quality concerns, which increases broadband providers' ability to charge for prioritization.").

73. *See id.* at 5632 ("Broadband providers may seek to gain economic advantages by favoring their own or affiliated content over other third-party sources. Technological advances have given broadband providers the ability to block content in real time, which allows them to act on their financial incentives to do so in order to cut costs or prefer certain types of content. Data caps or allowances, which limit the amount and type of content users access online, can have a role in providing consumers options and differentiating services in the marketplace, but they also can negatively influence customer behavior and the development of new applications." (footnotes omitted)).

74. *Id.*

75. *See* U.S. Telecom Ass'n v. FCC, 825 F.3d 674, 689, 696–97, 701 (D.C. Cir 2016) ("[W]e think it important to emphasize two fundamental principles governing our responsibility as a reviewing court. First, our 'role in reviewing agency regulations . . . is a limited one.' Our job is to ensure that an agency has acted 'within the limits of [Congress's] delegation' of authority, and that its action is not 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.' Critically, we do not 'inquire as to whether the agency's decision is wise as a policy matter; indeed, we are forbidden from substituting our judgment for that of the agency.' Nor do we inquire whether 'some or many economists would disapprove of the [agency's] approach' because 'we do not sit as a panel of referees on a professional economics journal, but as a panel of generalist judges obliged to defer to a reasonable judgment by an agency acting pursuant to congressionally delegated authority.'" (first quoting Ass'n of Am. R.R.s v. Interstate Commerce Comm'n, 978 F.2d 737, 740 (D.C. Cir. 1992); then citing Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc., 467 U.S. 837, 865 (1984); then quoting 5 U.S.C. § 706(2)(A) (2012); then quoting *Ass'n of Am. R.R.s*, 978 F.2d at 740; and then quoting City of Los Angeles v. U.S. Dep't of Transp., 165 F.3d 972, 978 (D.C. Cir. 1999))); *see also* Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 981 (2005); Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc., 467 U.S. 837, 842–43 (1984).

of the FCC's rationales, assumptions, and evidence—the court rejected all challenges to the FCC's 2015 Open Internet Order.[76]

The majority considered its review function quite limited. The court opted to apply ample case precedent supporting deference to regulatory agency expertise on both procedural and substantive areas.[77] In a nutshell, the majority opted not to second guess the FCC and expressed support for the Commission's interpretation of law and for its assessment of how consumers access the Internet and what they expect from service providers.[78] Despite contentions that relevant statutes were enacted to reduce government oversight, the court affirmed the FCC's expansion of its regulatory wingspan.[79]

The court accepted the FCC's rationale for reclassification, considering it reasonable in light of how consumers rely on telecommunications links to access content largely offered by ventures other than the carrier providing access.[80] Additionally, the majority opinion considered and rejected many of the objections raised in the partial dissent of Judge Williams. In particular, the majority rejected Judge Williams's reliance on assertions that reclassification would

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76. *See U.S. Telecom Ass'n*, 825 F.3d at 702, 744; *see also id.* at 744 (Williams, J., concurring in part and dissenting in part).

77. *See id.* at 696–97 (majority opinion).

78. *See id.* The court supported the FCC's determination that broadband internet access constitutes a separate and standalone service vis-à-vis the information services that consumers acquire via telecommunications service links. "That consumers focus on transmission to the exclusion of add-on applications is hardly controversial. Even the most limited examination of contemporary broadband usage reveals that consumers rely on the service primarily to access third-party content." *Id.* at 698. The court also noted that broadband internet access providers use information services to facilitate links to content, but it agreed with the FCC that such reliance does not convert the telecommunications service into an information service. *Id.* at 699.

79. *Id.* at 734 ("That brings us to our colleague's suggestion that the Order embodies a 'central paradox[ ]' in that the Commission relied on the Telecommunications Act to 'increase regulation' even though the Act was 'intended to "reduce regulation."' We are unmoved. The Act, by its terms, aimed to 'encourage the rapid deployment of new telecommunications technologies.' If, as we reiterate here (and as the partial dissent agrees), section 706 grants the Commission rulemaking authority, it is unsurprising that the grant of rulemaking authority might occasion the promulgation of additional regulation. And if, as is true here (and was true in *Verizon*), the new regulation is geared to promoting the effective deployment of new telecommunications technologies such as broadband, the regulation is entirely consistent with the Act's objectives." (citations omitted) (first quoting *id.* at 770 (Williams, J., concurring in part and dissenting in part); then quoting Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat 56 (1996))).

80. *Id* at 698, 713 ("The problem in *Verizon* was not that the Commission had misclassified the service between carriers and edge providers but that the Commission had failed to classify broadband service as a Title II service at all. The Commission overcame this problem in the Order by reclassifying broadband service—and the interconnection arrangements necessary to provide it—as a telecommunications service.").

harm carriers' incentives to invest in infrastructure.[81] The court held that "it was not unreasonable for the Commission to conclude that broadband's particular classification was less important to investors than increased demand."[82] Judge Williams, by contrast, endorsed various filings that found flaws in the FCC's economic and market analysis.[83] The majority refrained from rejecting the FCC's overall assessments and replacing them with general criticisms on the sufficiency of the FCC's analysis.[84]

The court also found no defects in the FCC's decision to apply its Open Internet access rules to mobile broadband access.[85] The court rejected the rationale that those rules could only apply to fixed services because the traditional understanding of common carrier–delivered public switched telephone network services only applies to publicly available fixed, wireline service.[86] The court considered mobile broadband as now generally available to the public, as evidenced by the widespread use of smartphones that provide both voice and data services.[87]

The court strongly rejected the argument that the FCC's Open Internet rules impermissibly constrain the First Amendment freedom of ISPs: "Common carriers have long been subject to nondiscrimination and equal access obligations akin to those imposed by the rules without raising any First Amendment question. Those

81. *See id.* at 710; *see also id.* at 754–55 (Williams, J., concurring in part and dissenting in part) ("I do not understand the Commission to claim that its new rules will have a *direct positive* effect on investment in broadband. The positive effect is expected from the way in which, in the Commission's eyes, the new rules encourage demand for and supply of content, which it believes will indirectly spur demand for and investment in broadband access. The direct effect, of which the Commission doesn't really speak, seems unequivocally negative . . . . Besides imposing the usual costs of regulatory compliance, the Order increases uncertainty in policy, which both reason and the most recent rigorous econometric evidence suggest reduce investment." (emphasis in original)).

82. *Id.* at 710 (majority opinion).

83. *Id.* at 746–48 (Williams, J., concurring in part and dissenting in part).

84. *Id.* at 710 (majority opinion).

85. *Id.* at 714 ("We reject mobile petitioners' arguments and find that the Commission's reclassification of mobile broadband as a commercial mobile service is reasonable and supported by the record.").

86. *Id.* at 716 ("We find the Commission's reclassification of mobile broadband as a commercial mobile service under that definition to be reasonable and supported by record evidence demonstrating the 'rapidly growing and virtually universal use of mobile broadband service' today. In support of its reclassification decision, the Commission relied on, and recounted in detail, evidence of the explosive growth of mobile broadband service and its near universal use by the public. In the face of that evidence, we see no basis for concluding that the Commission was required in 2015 to continue classifying mobile broadband as a 'private' mobile service." (citations omitted) (quoting 2015 Open Internet Order, *supra* note 7, at 5786)).

87. *See id.* at 715–17.

obligations affect a common carrier's neutral transmission of *others'* speech, not a carrier's communication of its own message."[88] The court noted that "telephone companies, railroads, and postal services" have borne equal access obligations like those now applied to ISPs "without raising any First Amendment issue."[89]

C. The 2017 Network Neutrality Reversal Proposed Rule

After the election of President Donald Trump and the appointment of Ajit Pai as FCC Chairman, the Commission repealed its muscular network neutrality rules.[90] Despite judicial affirmance of an earlier reclassification of broadband Internet access as a telecommunications service subject to common carrier regulation, the FCC reclassified broadband Internet access service as a Title I information service and mobile broadband Internet access service as private carriage.[91] In its notice of proposed rulemaking (NPRM), the Commission heavily relied on a controversial conclusion that common carrier regulation stifles investment, innovation, and employment in the Internet ecosystem.[92] While offering a dismissive reference to contrary studies,[93] the FCC opted to accept unconditionally the conclusion in three studies favorable to incumbent carriers that

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88. *Id.* at 740 (emphasis in original).

89. *Id.* The court noted that in some instances, ISPs do create and distribute content, but in such instances common carriage requirements do not apply.

> If a broadband provider nonetheless were to *choose* to exercise editorial discretion—for instance, by picking a limited set of websites to carry and offering that service as a curated internet experience—it might then qualify as a First Amendment speaker. But the Order itself excludes such providers from the rules.

Id. at 743 (emphasis in original).

90. *See* Cecilia Kang, *F.C.C. Repeals Net Neutrality Rules*, N.Y. TIMES (Dec. 14, 2017), https://www.nytimes.com/2017/12/14/technology/net-neutrality-repeal-vote.html [https://perma.cc/6Q5Q-QKT9]; *see also* Restoring Internet Freedom Order, *supra* note 1, at *1–2.

91. *See* Restoring Internet Freedom Order, *supra* note 1, at *1–2.

92. *See* Restoring Internet Freedom NPRM, *supra* note 1, at 4435–36; *see also* Restoring Internet Freedom Order, *supra* note 1, at *1–2.

93. *See* Restoring Internet Freedom NPRM, *supra* note 1, at 4449 & n.116; *see also* S. DEREK TURNER, FREE PRESS, IT'S WORKING: HOW THE INTERNET ACCESS AND ONLINE VIDEO MARKETS ARE THRIVING IN THE TITLE II ERA 114 (2017), https://www.freepress.net/sites/default/files/resources/internet-access-and-online-video-markets-are-thriving-in-title-II-era.pdf [https://perma.cc/3TZT-JXDL]; Karl Bode, *One More Time with Feeling: Net Neutrality Didn't Hurt Broadband Investment in the Slightest*, TECHDIRT: NET NEUTRALITY (Aug. 24, 2016, 6:29 AM), https://www.techdirt.com/blog/netneutrality/articles/20160823/09034535313/one-more-time-with-feeling-net-neutrality-didnt-hurt-broadband-investment-slightest.shtml [https://perma.cc/8ENG-Y7YY]; Sara Kamal, *The Truth About Net Neutrality and Infrastructure Investment*, PUB. KNOWLEDGE: BLOGS (May 8, 2017), https://www.publicknowledge.org/news-blog/blogs/the-truth-about-net-neutrality-and-infrastructure-investment [https://perma.cc/4WJV-CR8T].

existing regulation imposed substantial marketplace harms.[94] By doing so, the Commission ignored clear evidence that Internet ventures continue to invest billions in both content-delivery network infrastructure and the acquisition of content-creation firms that need a robust distribution network to deliver content to consumers.[95]

Remarkably, the Commission appeared to conclude that any and all reductions in investment, innovation, and employment have resulted directly and exclusively from common carrier responsibilities imposed by the FCC when a Democratic majority existed.[96] It provided no evidence of causation, nor did it even consider other contributing factors, such as the billions of dollars recently invested in content—for example, Verizon's acquisition of America Online[97] and Yahoo,[98] AT&T's acquisition of DirecTV,[99] and several mergers of cable television operators.[100] Additionally, the Commission conveniently ignored the cyclical nature of facilities investment, which, for example, spikes with the installation of a new generation of infrastructure—from third-generation to fourth-generation wireless

94. *See* Restoring Internet Freedom NPRM, *supra* note 1, at 4449 & nn.113–15.

95. *See* Thomas Gryta, *AT&T Closes $49 Billion DirecTV Buy*, WALL ST. J. (July 24, 2015, 3:42 PM), https://www.wsj.com/articles/at-t-closes-49-billion-directv-acquisition-1437766932?mg=prod/accounts-wsj [https://perma.cc/C6TK-HBVD]; Kamal, *supra* note 93; Trefis Team, *AT&T's Time Warner Deal Looking Likely, Will It Be a Catalyst for the Stock?*, FORBES (Aug. 9, 2017, 1:55 PM), https://www.forbes.com/sites/greatspeculations/2017/08/09/atts-time-warner-deal-looking-likely-will-it-be-a-catalyst-for-the-stock/#5dd78e3a183b [https://perma.cc/WB6L-VSWN]; *see also* Restoring Internet Freedom NPRM, *supra* note 1, at 4449 ("We believe that these reduced expenditures are a direct and unavoidable result of Title II reclassification, and exercise our predictive judgment that reversing the Title II classification and restoring broadband Internet access service to a Title I service will increase investment.").

96. *See* Restoring Internet Freedom NPRM, *supra* note 1, at 4449.

97. *See* Kevin Fitchard, *The Real Reason Verizon Bought AOL*, FORTUNE (June 24, 2015), http://fortune.com/2015/06/24/verizon-gains-aol/ [https://perma.cc/YGL4-Q2NT] ("Verizon recently completed its $4.4 billion acquisition of Internet pioneer AOL. . . . The telecom giant is one of the most successful companies in the world (it currently sits at number 15 on the Fortune 500) . . . . However, growth in the mobile market is likely to slow in the coming years, with any significant revenue generated by luring consumers away from competing mobile operators or selling current customers more than one device. The days of huge quarterly subscriber connections are over, which means the company needs to find a new cash cow if it intends to keep growing.").

98. *See* Vindu Goel, *Verizon Completes $4.48 Billion Purchase of Yahoo, Ending an Era*, N.Y. TIMES (June 13, 2017), https://www.nytimes.com/2017/06/13/technology/yahoo-verizon-marissa-mayer.html?_r=0 [https://perma.cc/YME6-3T49].

99. *See* Gryta, *supra* note 95. AT&T also has sought regulatory approval to acquire Time Warner for approximately $85 billion. *See* Trefis Team, *supra* note 95.

100. *See, e.g.*, Cynthia Littleton, *What's Next Now That Charter-Time Warner Cable Merger Is Complete*, VARIETY (May 18, 2016, 6:25 AM), http://variety.com/2016/tv/news/charter-time-warner-cable-merger-completed-1201777511/ [https://perma.cc/ZNH7-2QA5] (discussing Charter Communications' acquisition of Time Warner Cable and Bright House Networks in 2016 at a cost of $67.1 billion).

plant, for instance—then experiences a normal reduction in capital expenditures as the new equipment becomes operational. The FCC also ignored the fact that, despite operating under a purportedly onerous common carrier regulatory regime, wireless carriers have invested billions in spectrum and network facilities capable of delivering content at near wireline speeds.[101]

The Restoring Internet Freedom NPRM devoted substantial space to supporting the proposed reclassification of broadband Internet access as an information service. The Commission considered this classification consistent with marketplace conditions and case precedent, and representative of what a bipartisan FCC adopted before 2015 when the previous Democratic majority of Commissioners voted in favor of common carrier requirements:

> We believe the Commission under Democratic and Republican leadership alike was correct in these decisions to classify broadband Internet access service as an information service and that, 20 years after the passage of the Telecommunications Act, we should be reluctant to second-guess the interpretations of those more likely to understand the contemporary meaning of the terms of the Telecommunications Act.[102]

The Commission identified ample precedent where reviewing courts defer to its technical expertise and statutory interpretation, particularly where the underlying law lacks clarity.[103]

Ironically, reversion to the information services classification may result in two outcomes that can have a directly harmful impact on consumers and carriers. First, reliance on the general authority to

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101. *See* Fitchard, *supra* note 97. The FCC implies that regulatory compliance forces carriers to incur costs that otherwise would have accrued consumer benefits. *See* Restoring Internet Freedom NPRM, *supra* note 1, at 4449 ("Internet service providers have finite resources, and requiring providers to divert some of those resources to newly imposed regulatory requirements adopted under Title II will, unsurprisingly, reduce expenditures that benefit consumers.").

102. Restoring Internet Freedom NPRM, *supra* note 1, at 4447.

103. *See id.* at 4452–53.

> An agency also is free to change its approach to interpreting and implementing a statute so long as it acknowledges that it is doing so and justifies the new approach. Evaluating the change in regulatory approach in the *Title II Order*, the D.C. Circuit majority in *USTelecom* [sic] applied a "highly deferential standard" to the agency's predictive judgments regarding the investment effects of reclassification, and deferred to the Commission's "evaluat[ion of] complex market conditions"[] underlying its rejection of providers' reliance interests in the prior classification.

Id. (footnotes omitted) (first citing FCC v. Fox Television Stations, Inc., 556 U.S. 502, 515–16 (2009); then citing Mary V. Harris Found. v. FCC, 776 F.3d 21, 24–25 (D.C. Cir. 2015); and then citing U.S. Telecom Ass'n v. FCC, 825 F.3d 674, 707, 710 (D.C. Cir. 2016)). "The Commission has authority, as the Supreme Court recognized in *Brand X*, to interpret the Communications Act, including ambiguous definitional provisions." *Id.* at 4452 (citing Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 980–81 (2005)).

regulate wire and radio services under Title I of the Communications Act[104] does not in and of itself reduce the regulatory uncertainty that the FCC and stakeholders abhor[105] because of the potential disincentives for investment, innovation, and employment it might create. The FCC signaled that its reliance on Title I will promote deregulation, if not unregulation, but ample case precedent shows that reviewing courts may not trust regulatory agencies to maintain consistency.[106] The FCC clearly seeks to remove regulatory oversight, but it also retains so-called "ancillary jurisdiction" under Title I, which

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104. *See* Communications Act of 1934, ch. 652, §§ 1–5, 48 Stat. 1064, 1064–70 (1934) (codified as amended at 47 U.S.C. §§ 151–55 (2012)). Section 1 of the Communications Act authorizes the FCC to

> regulat[e] interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges, for the purpose of the national defense, for the purpose of promoting safety of life and property through the use of wire and radio communications.

47 U.S.C. § 151 (2012). The FCC uses this broad mandate as the basis for "ancillary jurisdiction" when no explicit statutory authorization exists but the Commission believes it must act to serve the public interest with oversight and the imposition of safeguards that do not require explicit statutory authority. *See Brand X*, 545 U.S. at 976, 989 (deferring to the FCC's expertise in determining the nature and scope of regulatory safeguards required by new broadband Internet access technologies); *see also* United States v. Midwest Video Corp., 406 U.S. 649, 659, 662 (1972) (determining that the FCC can impose mandatory broadcast channel carriage by cable television operators despite a lack of specific statutory authority); United States v. Sw. Cable Co., 392 U.S. 157, 172–73, 177 (1968) (explaining how the FCC can safeguard regulated broadcasters from economic harm caused by emerging cable television services); John Blevins, *Jurisdiction as Competition Promotion: A Unified Theory of the FCC's Ancillary Jurisdiction*, 36 FLA. ST. U. L. REV. 585, 586–87 (2009).

105. *See* Restoring Internet Freedom NPRM, *supra* note 1, at 4451. The Commission considers Title II regulation to cause substantial regulatory uncertainty despite the greater specificity this Title provides as compared to Title I. *See id.* ("In addition to imposing significant regulatory costs on Internet service providers, Title II reclassification created significant regulatory uncertainty. US Telecom [sic] specifically identified 'regulatory uncertainty' as one of the causes of reduced investment."). Title I provides an ambiguous sphere of regulatory authority, which the FCC overstepped when it imposed common carrier responsibilities on broadband service providers then classified as information service providers. *See* 2010 Open Internet Order, *supra* note 6, at 17935, 17981. *Compare* Comcast Traffic Throttling Investigation, *supra* note 38, at 13035 (asserting the FCC's ability to exercise Title I ancillary jurisdiction), *with* Comcast Corp. v. FCC, 600 F.3d 642, 644 (D.C. Cir. 2010) (illustrating that the FCC was deemed to have exceeded its statutory authority when responding to a complaint and imposing network neutrality rules).

106. *See, e.g.*, Verizon v. FCC, 740 F.3d 623, 628 (D.C. Cir. 2014). For example, a reviewing court twice prohibited a Democratic-majority FCC from imposing consumer safeguards based on a general conferral of jurisdiction over wire and radio contained in Title I. *See id.*; *Comcast Corp.*, 600 F.3d at 643.

courts have interpreted to permit limited additional regulatory intervention.[107]

Second, reversion to Title I oversight reinforces the questionable view that the FCC can compartmentalize Internet technologies into a mutually exclusive dichotomy of telecommunications services and information services,[108] despite market and technological convergence. For example, the FCC has already had to address the fact that wireless devices combine basic, regulated telecommunications services, such as voice telephony and texting, with unregulated or differently regulated content and information services.[109] Even during a time when the Commission considered broadband access as constituting an information service, it imposed common carrier–type affirmative duties to deal and interconnect on wireless carriers so that consumers could access Internet services when "roaming" outside their home service territories.[110]

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107. *See Brand X*, 545 U.S. at 976 ("Information-service providers, by contrast, are not subject to mandatory common-carrier regulation under Title II, though the Commission has jurisdiction to impose additional regulatory obligations under its Title I ancillary jurisdiction to regulate interstate and foreign communications." (citing 47 U.S.C. §§ 151–61)); *see also Sw. Cable*, 392 U.S. at 172 (arguing that the FCC can regulate aspects of cable television service in light of its potential economic harm to directly regulated broadcast television).

108. *See* Restoring Internet Freedom NPRM, *supra* note 1, at 4447 ("The Commission has previously concluded that Congress formally codified information services and telecommunications services as two, mutually exclusive types of service in the Telecommunications Act. The *Title II Order* did not appear to disagree with this analysis, finding that broadband Internet access service was a telecommunications service and *not* an information service. We believe this conclusion regarding mutual exclusivity is correct based on the text and history of the Act." (footnotes omitted)). The FCC stated: "We also believe that mobile broadband Internet access service is not the 'functional equivalent' of commercial mobile service." *Id.* at 4455 (citing 47 U.S.C. § 332(d)(3)).

109. *See, e.g.*, Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, 26 FCC Rcd. 5411, 5411–12 (Apr. 7, 2011) (arguing that the FCC had lawful authority to impose a duty to deal obligations between wireless carriers when subscribers seek data service while "roaming" outside local service areas).

110. *See* Cellco P'ship v. FCC, 700 F.3d 534, 537 (D.C. Cir. 2012).

> The Federal Communications Commission has long imposed "roaming" requirements on wireless telephone companies. Roaming occurs when wireless subscribers travel outside the range of their own carrier's network and use another carrier's network infrastructure to make a call. Until the issuance of the rule challenged in this case, mobile carriers' obligation to permit roaming extended only to voice-telephone services. Recognizing the growing importance of mobile data in a wireless market in which smartphones—cellphones that can connect to the internet—are increasingly common, the Commission adopted a rule requiring mobile-data providers to offer roaming agreements to other such providers on "commercially reasonable" terms. . . . [A]lthough the rule bears some marks of common carriage, we defer to the Commission's determination that the rule imposes no common carrier obligations on mobile-internet providers.

The FCC also eliminated the application of a catchall standard used in the 2015 Open Internet Order that prohibited "current or future practices that cause the type of harms [the Commission's] rules are intended to address."[111] "This standard allows the Commission to prohibit practices that it determines unreasonably interfere with or unreasonably disadvantage the ability of consumers to reach the Internet content, services, and applications of their choosing or of online content, applications, and service providers to access consumers."[112] It also enables the FCC "to prohibit any Internet service provider practice that it believes violates any one of the nonexhaustive list of factors adopted in the" 2015 Open Internet Order.[113]

The Commission believed that eliminating a standard of conduct would provide greater clarity to stakeholders because the current rules are "premised on theoretical problems that will be adjudicated on an individual, case-by-case basis, [so that] Internet service providers must guess at what they are permitted and not permitted to do."[114] The Commission cited zero rating as an example where the FCC, under a Democratic majority, investigated the lawfulness of subsidized data access, while the new Republican majority quickly shut down the investigation.[115] Arguably, the regulatory uncertainty resulted from different interpretations of the conduct standard based on political party affiliation rather than the conduct standard itself. Removing the standard provides no guidance at all, unless the Commission has signaled that it cannot anticipate a problem with any carrier offer to exempt specific types of traffic from debiting a monthly data allowance.

The 2017 Restoring Internet Freedom NPRM also sought comments on whether the FCC should eliminate the three key carrier

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Id.

111. *See* Restoring Internet Freedom Order, *supra* note 1, at *186; *see also* 2015 Open Internet Order, *supra* note 7, at 5659.

112. Restoring Internet Freedom Order, *supra* note 1, at *88 n.883.

113. Restoring Internet Freedom NPRM, *supra* note 1, at 4458.

114. *Id.* at 4459.

115. *See id.*

> The now-retracted so-called Zero Rating Report issued by the Wireless Telecommunications Bureau illustrates the dilemma providers experience under a Title II regulatory regime. After a thirteen-month investigation, the Report did not specifically call for an end to any provider's practices or identify any particular harm from offering consumers free data. Instead, it stated that the free-data plans "may raise" economic and public policy issues that "may harm consumers and competition."

Id. (footnotes omitted) (quoting 2017 WIRELESS TELECOMM. BUREAU ZERO RATING REPORT, *supra* note 63, at 17).

conduct prohibitions contained in the 2015 Open Internet Order: blocking, throttling, and paid prioritization.[116] The Commission strongly hinted that it considers these ex ante safeguards both unnecessary and imposed without evidence that consumers have or would suffer harm if the prohibitions did not exist.[117]

The Commission also sought comments on whether Section 706 of the Telecommunications Act[118] provides it with direct statutory authority to impose regulatory safeguards or simply requires the FCC to assess the competitiveness and accessibility of the broadband marketplace and report findings to Congress.[119] This portion of the proposed rule may appear insignificant and narrow, but a majority of Commissioners now believe that Section 706 provides no statutory authority to impose regulatory safeguards under any circumstances.[120] Even if the current FCC Commissioners nominally retained the option of regulatory intervention, an already expressed view that the wired and wireless broadband marketplace operates competitively strongly implies that a majority-Republican FCC would never seek to impose regulatory safeguards based on Section 706 authority.

For good measure, the Restoring Internet Freedom NPRM also sought comments regarding whether any regulatory burden on broadband access providers would violate their First Amendment expression rights—a matter summarily dismissed by the DC Circuit

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116. *See id.* at 4460 ("In the *Title II Order*, despite virtually no quantifiable evidence of consumer harm, the Commission nevertheless determined that it needed bright line rules banning three specific practices by providers of both fixed and mobile broadband Internet access service: blocking, throttling, and paid prioritization. The Commission also 'enhanced' the transparency rule by adopting additional disclosure requirements. Today, we revisit these determinations and seek comment on whether we should keep, modify, or eliminate the bright line and transparency rules." (footnotes omitted) (citing 2015 Open Internet Order, *supra* note 7, at 5644, 5672–77)).

117. *See id.*

118. *See* Telecommunications Act of 1996, Pub. L. No. 104-104, § 706, 110 Stat. 56, 153 (1996) (codified as amended at 47 U.S.C. § 1302(b) (2012)).

119. *See* Restoring Internet Freedom NPRM, *supra* note 1, at 4466–67 ("Although some courts have held that the Commission's post-2010 interpretation of section 706(a) and/or (b) as a grant of regulatory authority was not unreasonable, we seek comment on whether interpreting those provisions as hortatory nonetheless is the better reading. Or should we maintain our post-2010 interpretation of these provisions? Alternatively, we seek comment whether section 706 reflects a 'deregulatory bent,' and, if so, how we should interpret that with respect to obligations for regulated entities." (footnotes omitted)).

120. *See id.* at 4466 ("We seek comment on whether section 706(a) and (b) of the 1996 Act are best interpreted as hortatory rather than as delegations of regulatory authority. Such an interpretation generally is reflected in the Commission's approach to section 706 prior to 2010. The text of these provisions also appears more naturally read as hortatory, particularly given the lack of any express grant of rulemaking authority, authority to prescribe or proscribe the conduct of any party, or to enforce compliance." (footnotes omitted)).

majority in *United States Telecom Ass'n* but raised in the partial dissent.[121] Finally, the FCC expressed a keen interest in applying a disciplined and substantive cost-benefit analysis assessing the financial impacts of its action.[122] Although a laudable goal, the FCC's ultimate ruling failed to achieve this goal, instead reaching broad sweeping conclusions without generating the empirical evidence and analysis it now regularly seeks to perform.

D. The Restoring Internet Freedom Order

Earlier this year—on a 3-2 party-line vote—the FCC again shifted its Internet regulatory posture, this time eliminating all rules and regulations that anticipate and remedy practices that harm consumers and competition.[123] The Republican majority voted a complete reversal of what it considered heavy-handed and unnecessary marketplace meddling that the Democratic majority had created in 2015.[124] The current FCC deemed its reversal as necessary to remedy the marketplace intrusions of the 2015 Open Internet Order that the majority alleges to have harmed competition, broadband infrastructure investment, and innovation.[125]

The Restoring Internet Freedom document has three parts: a Declaratory Ruling, Report and Order, and Order (for convenience, this Article refers to this document as the "Restoring Internet Freedom Order"). In the Declaratory Ruling portion, the FCC reclassifies broadband Internet access service as an "information

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121. *See id.* at 4467–68.

122. *Id.* at 4468–70.

123. *See* Restoring Internet Freedom Order, *supra* note 1, at *1–2.

124. *See id.* at *1 ("We reverse the Commission's abrupt shift two years ago to heavy-handed utility-style regulation of broadband Internet access service and return to the light-touch framework under which a free and open Internet underwent rapid and unprecedented growth for almost two decades. We eliminate burdensome regulation that stifles innovation and deters investment, and empower Americans to choose the broadband Internet access service that best fits their needs.").

125. *Id.* at *35 ("The Commission has long recognized that regulatory burdens and uncertainty, such as those inherent in Title II, can deter investment by regulated entities . . . . The balance of the evidence in the record suggests that Title II classification has reduced ISP investment in broadband networks, as well as hampered innovation, because of regulatory uncertainty."). Ironically, when asserting that wireless broadband constitutes a full, competitive alternative to wireline option, the Restoring Internet Freedom Order emphasizes the near-term availability of fifth-generation wireless service that required substantial sunk investment by carriers subject to network neutrality obligations: "With the advent of 5G technologies promising sharply increased mobile speeds in the near future, the pressure mobile exerts in the broadband market place will become even more significant." *Id.* at *49.

service" not lawfully subject to Title II common carrier regulation.[126] Before its 2015 Open Internet Order, the FCC treated broadband access as an information service and the Supreme Court deferred to the Commission's regulatory judgment in the *Brand X* case.[127] After *Brand X*, however, the FCC attempted to use its "ancillary jurisdiction" under Title I of the Communications Act to justify regulatory safeguards twice considered as unlawful common carrier–type duties by reviewing courts.[128]

The Restoring Internet Freedom Order reclassifies wireless broadband Internet access service as a private mobile service[129] in an attempt to remove the common carrier responsibilities created by Congress for the Commercial Mobile Radio Service provided by cellular telephone companies.[130] The Order also removes the FCC's authority to use its telecommunications-specific expertise to guard against possible antitrust, consumer protection, and privacy violations. Instead, the Federal Trade Commission (FTC) will assume this responsibility[131] for broadband ventures not classified as common carriers.[132]

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126. [W]e end utility-style regulation of the Internet in favor of the market-based policies necessary to preserve the future of Internet freedom. In the 2015 *Title II Order*, the Commission abandoned almost twenty years of precedent and reclassified broadband Internet access service as a telecommunications service subject to myriad regulatory obligations under Title II of the Communications Act of 1934, as amended (the Act). We reverse this misguided and legally flawed approach and restore broadband Internet access service to its Title I information service classification. We find that reclassification as an information service best comports with the text and structure of the Act, Commission precedent, and our policy objectives. We thus return to the approach to broadband Internet access service affirmed as reasonable by the U.S. Supreme Court.

Id. at *2 (footnotes omitted).

127. Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 996–97 (2005).

128. *See* 2010 Open Internet Order, *supra* note 6, at 17981; Comcast Traffic Throttling Investigation, *supra* note 38, at 13036.

129. *See* Restoring Internet Freedom Order, *supra* note 1, at *2 ("We also reinstate the private mobile service classification of mobile broadband Internet access service and return to the Commission's definition of 'interconnected service' that existed prior to 2015. We determine that this light-touch information service framework will promote investment and innovation better than applying costly and restrictive laws of a bygone era to broadband Internet access service.").

130. *See* Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, § 6002, 107 Stat. 312, 393 (1993) (codified as amended at 47 U.S.C. § 332 (2012)); 47 C.F.R. § 20.3 (2018).

131. "Our balanced approach also restores the authority of the nation's most experienced cop on the privacy beat—the Federal Trade Commission—to police the privacy practices of [ISPs]." Restoring Internet Freedom Order, *supra* note 1, at *2.

132. In *FTC v. AT&T Mobility LLC*, 835 F.3d 993, 997–98 (9th Cir. 2016), *aff'd en banc*, 883 F.3d 848 (9th Cir. 2018), the Ninth Circuit initially ruled that the FTC lacked jurisdiction

The Report and Order portion creates a transparency requirement for broadband carriers to disclose information about their practices to consumers, entrepreneurs, and the Commission, including any blocking, throttling, paid prioritization, or affiliated prioritization.[133] The FCC considers disclosure sufficient instead of an absolute prohibition of the practices mentioned above. The Commission also considers the "bright line" rules created in the 2015 Open Internet Order as too expensive and constraining.[134] Additionally, the Commission has eliminated the Internet conduct standard based on the view that it is vague and could provide the basis for FCC micromanagement of innovative ISP business models and their commercial relationship both downstream to retail broadband consumers and upstream to other ISPs, content distribution networks (CDNs) such as Akamai,[135] and content creators.[136]

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over any venture that provided both services lawfully within its jurisdiction and those outside its jurisdiction, such as common carrier telecommunications services. An en banc panel subsequently rejected the prior emphasis on common carrier status and determined that the FTC has jurisdiction based on an assessment of carrier activities. FTC v. AT&T Mobility LLC, 883 F.3d 848, 863–64 (9th Cir. 2018). The en banc panel did not accept the rationale that once an ISP secures the status as a common carrier for some offered services, that status provides a complete exemption for any and all services available from an ISP. *See id.* at 859–60. Accordingly, the FTC will have jurisdiction over the information services of ventures that also provide common carrier telecommunication services.

133. *See* Restoring Internet Freedom Order, *supra* note 1, at *2 ("Next, we require ISPs to be transparent. Disclosure of network management practices, performance, and commercial terms of service is important for Internet freedom because it helps consumers choose what works best for them and enables entrepreneurs and other small businesses to get technical information needed to innovate. Individual consumers, not the government, decide what Internet access service best meets their individualized needs. We return to the transparency rule the Commission adopted in 2010 with certain limited modifications to promote additional transparency, and we eliminate certain reporting requirements adopted in the *Title II Order* that we find to be unnecessary and unduly burdensome." (footnote omitted)).

134. *See* Ferras Vinh, *Rules of the Road: Net Neutrality's Bright Line Protections*, CTR. FOR DEMOCRACY & TECH. (May 11, 2017), https://cdt.org/blog/rules-of-the-road-net-neutralitys-bright-line-protections/ [https://perma.cc/F4DL-9FFB].

135. Content distribution networks provide high-capacity broadband transmission capabilities for delivery of content to ISPs located in geographically dispersed locations. They guarantee higher quality of service by distributing content to many storage facilities located throughout locations where content consumers reside. *See, e.g.*, *About Akamai*, AKAMAI, https://www.akamai.com/us/en/about/ [https://perma.cc/YMW3-7PKV] (last visited Feb. 15, 2018).

136. We eliminate the conduct rules adopted in the *Title II Order*—including the general conduct rule and the prohibitions on paid prioritization, blocking, and throttling. We do so for three reasons. First, the transparency rule we adopt, in combination with the state of broadband Internet access service competition and the antitrust and consumer protection laws, obviates the need for conduct rules by achieving comparable benefits at lower cost. Second, scrutinizing closely each prior conduct rule, we find that the costs of each rule outweigh its benefits. Third, the record

The Order portion unilaterally shuts down any additional fact-finding and public comment-filing opportunities, concluding that the public interest would not be served by adding to the already-voluminous record in this proceeding.[137]

III. DO ZERO RATING AND QUALITY OF SERVICE ENHANCEMENTS OR REDUCTIONS CONSTITUTE UNLAWFUL DISCRIMINATION?

Zero rating eliminates out-of-pocket costs borne by retail broadband subscribers, while often also downgrading high-definition video traffic to standard definition.[138] This combination of generosity and thrift makes it possible for ISPs to replace metered broadband service with more plentiful use options that are close to, but not actually, unlimited in nature. Both types of enhancements offer new and existing broadband subscribers marketing inducements rather than targeting specific sources of traffic for favorable or unfavorable treatment.

Arguably, the FCC's previous concern with paid prioritization concentrated on instances where ISPs could divide their networks into premium lanes—capable of providing reliable video delivery—and normal lanes, which previously achieved the same result but now would not. Zero rating does not provide better guarantees of traffic delivery and quality of service. Instead, the ISPs create an attractive financial inducement for broadband subscribers to favor content originating from specific sources that have sponsored the zero rating and to migrate to more expensive service tiers offering unlimited data or to a higher monthly data allowance.

Deliberately downgrading video resolution comes closer to violating the paid prioritization prohibition as well as a 2005 Policy Statement[139] endorsed in the Restoring Internet Freedom NPRM and the subsequent Order.[140] With bilateral support, the FCC identified

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> does not identify any legal authority to adopt conduct rules for all ISPs, and we decline to distort the market with a patchwork of non-uniform, limited-purpose rules.

Restoring Internet Freedom Order, *supra* note 1, at *86; *see id.* at *88–89.

137. *See, e.g., id.* at *119 ("We are convinced that we have a full and complete record on which to base our determination today without incorporating . . . [additional] materials[.]").

138. STALLMAN & ADAMS, *supra* note 26, at 2; *One Plan. All Unlimited.*, *supra* note 25.

139. *See* Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, 20 FCC Rcd. 14986, 14988 (Sept. 23, 2005) [hereinafter 2005 Policy Statement].

140. *See* Restoring Internet Freedom NPRM, *supra* note 1, at 4439; *see also id.* at 4458 ("[W]e explore the best method to restore the long-standing consensus under both Democratic and Republican-led Commissions, represented by the four Internet Freedoms, that consumers should have access to the content, applications, and devices of their choosing as well as meaningful information about their service, all without deterring the investment and innovation that has allowed the Internet to flourish. We examine these freedoms and the Commission's

four consumer "Internet Freedoms" that it expected ISPs to honor, albeit without the threat of regulatory sanction and enforcement[141]:

> [T]o ensure that broadband networks are widely deployed, open, affordable, and accessible to all consumers, the Commission adopt[ed] the following principles:
>
> [1] *To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet*, consumers are entitled to access the lawful Internet content of their choice.
>
> [2] *To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet*, consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement.
>
> [3] *To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet*, consumers are entitled to connect their choice of legal devices that do not harm the network.
>
> [4] *To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet*, consumers are entitled to competition among network providers, application and service providers, and content providers.[142]

Even though ISPs appear disinclined to discriminate between sources of high-definition video content, they want to degrade quality of service for all video traffic absent additional payment. ISPs offer to restore the high-definition video feed from all sources but only if retail broadband subscribers agree to pay more.[143] ISPs generally combine

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current rules related to them, and for each, ask whether we should keep, modify, or eliminate them.").

> For decades, the lodestar of the Commission's approach to preserving Internet freedom was a light-touch, market-based approach. . . . It continued during the Bush Administration, as reflected in the "Four Freedoms" articulated by Chairman Powell in 2004 and was then formally adopted by a unanimous Commission in 2005 as well as in a series of classification decisions reviewed above. And it continued for the first six years of the Obama Administration. We reaffirm and honor this longstanding, bipartisan commitment by adopting a light-touch framework that will preserve Internet freedom for all Americans.

Restoring Internet Freedom Order, *supra* note 1, at *74 (footnote omitted).

141. *See* 2005 Policy Statement, *supra* note 139, at 14988.

142. *Id.* (emphasis in original) (footnotes omitted). "[T]he Commission has jurisdiction necessary to ensure that providers of telecommunications for Internet access or Internet Protocol-enabled (IP-enabled) services are operated in a neutral manner." *Id.* at 14987–88.

143. *See* Jon Fingas, *Verizon's New Unlimited Plans Throttle Video All the Time*, ENGADGET (Aug. 22, 2017), https://www.engadget.com/2017/08/22/verizon-unlimited-plans-throttle-video/ [https://perma.cc/Y4A5-NEQG]; Chris Welch, *Verizon's Good Unlimited Data Plan Is Now Three Bad Unlimited Plans*, VERGE (Aug. 22, 2017, 6:00 AM), https://www.theverge.com/2017/8/22/16181362/verizon-new-unlimited-data-plan-video-throttling-net-neutrality [https://perma.cc/455R-DGV5] ("If you don't mind the possibility of slowed down data speeds or DVD-quality video, you can opt for the Go Unlimited plan and save a few bucks compared to the plan introduced in February, which started at $80 for a single line. But new

video quality degradation with conditional unlimited service options that typically offer subscribers more monthly data consumption than previously allowed, subject to throttling during carrier-determined congestion and when subscribers exceed a more generous cap. By degrading non-surcharge-paid video traffic, an ISP can offer more generous data plans without having to invest in additional plant or even to enhance the speed and bandwidth allocated to handle such traffic.

Paid prioritization can occur when upstream content sources or distributors agree to a surcharge demand based on the assumption that the failure to do so will compel the last mile ISP to degrade traffic delivery leading to inferior quality of service and broadband subscriber dissatisfaction.[144] The previously prohibited practice can also occur when retail broadband subscribers have to pay the wireless carrier an additional fee for retention of high-definition video feeds they previously could stream without a surcharge but subject to a monthly data allowance. While the carriers may not have to change the order and sequence in which they deliver high-definition video traffic, they may have to apply other traffic optimization techniques to guarantee timely and reliable delivery. The previous rule on paid prioritization prohibited "techniques such as traffic shaping, prioritization, resource reservation, or other forms of preferential traffic management" contingent on a surcharge payment or provided to an affiliate.[145]

Paid prioritization does not seem to occur when ventures upstream from the last mile ISP opt to pay a surcharge to a carrier as insurance against congestion and degraded quality of service. As noted, some wireless carriers now want their retail subscribers to pay to retain high-definition video resolution of traffic—a process that could require more bandwidth, higher transmission speeds, and possibly deliberate and preferential routing of traffic.

ISPs providing last mile delivery of Internet traffic operate in a two-sided market and have flexibility in deciding how to recoup costs from both downstream retail broadband subscribers and upstream ventures such as nonretail ISPs, content creators, and content

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customers who do care about those things will be paying *more* money each month for essentially the same service.").

144. 2015 Open Internet Order, *supra* note 7, at 5607–08. "Data caps or allowances, which limit the amount and type of content users access online, can have a role in providing consumers options and differentiating services in the marketplace, but they also can negatively influence customer behavior and the development of new applications." *Id.* at 5632.

145. *Id.* at 5608.

distributors.[146] Like credit card companies, last mile ISPs can strategically allocate financial burdens between two payment categories to maximize revenues.[147] Credit card companies may provide consumers with "free" cards and even ones that provide a financial rebate with use.[148] For consumers who pay on time, the credit card company must rely solely on the revenues generated from upstream vendors who pay a fee each time a card is used.

Broadband subsidies from advertisers, individual sources of content, and carriers can stop the meter that otherwise would debit a monthly data downloading and uploading allowance.[149] Subscribers

146. *See* ROSLYN LAYTON & SILVIA ELALUF CALDERWOOD, CTR. FOR COMMC'N MEDIA & INFO. TECHS., ZERO RATING: DO HARD RULES PROTECT OR HARM CONSUMERS AND COMPETITION? EVIDENCE FROM CHILE, NETHERLANDS AND SLOVENIA (2015); David S. Evans, *The Antitrust Economics of Multi-Sided Platform Markets*, 20 YALE J. ON REG. 325, 328 (2003) ("Platform businesses compete in 'multi-sided markets.' For example, video game console companies such as Sony, Nintendo, and Microsoft compete for game developers and users, while payment card companies such as American Express, MasterCard, and Visa compete for merchants and cardholders. Platform businesses must deal with interdependent demand when devising pricing, production, and investment strategies. These strategies can be quite different from non-platform businesses that do not serve mutually dependent customer groups. The optimal price on a particular side of the market, whether measured socially or privately, does not follow marginal cost on that side of the market. Many platform businesses charge one side little or nothing; for example, most operating system vendors collect scant revenue from software developers who use their intellectual property. In many cases, the joint provision of a good that services multiple groups of customers makes the assignment of costs to any one side arbitrary."); *see also* Inge Graef, Sih Yuliana Wahyuningtyas & Peggy Valcke, *Assessing Data Access Issues in Online Platforms*, 39 TELECOMM. POL'Y 375, 377 (2015); Daniel M. Tracer, Note, *Overcharge but Don't Overestimate: Calculating Damages for Antitrust Injuries in Two-Sided Markets*, 33 CARDOZO L. REV. 807, 811 (2011).

147. *See* Dany H. Assaf & Rebecca Moskowitz, *Global Credit Card Wars: Litigation, Legislation, or Innovation as a Path to Peace?*, ANTITRUST, Spring 2015, at 42–43 ("In assessing the credit card industry, the courts struggle both with how to define markets as well as whether market definition is even necessary. Central to this challenge is that the credit card industry is a two-sided market. In a two-sided market there are two distinct groups (e.g., merchants and cardholders), which interact through a common, multi-sided platform (e.g., networks-issuers-acquirers). Multi-sided platforms need intermediaries to match both parts of the platform in a more efficient way. Intermediaries create value primarily by enabling efficient and direct interactions between the groups." (footnotes omitted)).

148. Steven Semeraro, *Assessing the Costs & Benefits of Credit Card Rewards: A Response to* Who Gains and Who Loses from Credit Card Payments? Theory and Calibrations, 25 LOY. CONSUMER L. REV. 30, 31, 73 (2012) ("A card system must provide a service to two distinct customer bases, consumers and merchants. In such a two-sided market, efficient pricing generally requires fee setting that diverges from marginal cost pricing for each customer set. Just as a newspaper charges advertisers above marginal cost prices so that it can deliver papers to readers at a price below marginal cost, card systems charge merchants higher fees to enable the system to attract cardholders and stimulate card use. If merchants fully allocated the cost of card acceptance to individual card users, the card systems could become less efficient." (footnotes omitted)).

149. *See* BJ Ard, *Beyond Neutrality: How Zero Rating Can (Sometimes) Advance User Choice, Innovation, and Democratic Participation*, 75 MD. L. REV. 984, 988–1000 (2016); Arturo

exceeding their monthly data rate incur a surcharge for such an overage, or they have to make do with throttled service until the next month of service begins. Many wireless data plans still offer metered service with only a few gigabytes of content allotted per month, which subscribers will exhaust with the streaming of a few full-length movies.[150] With skimpy data service allowances, zero rating options appear particularly attractive.

Extraordinary growth in the demand for downloading and streaming video,[151] along with other "over the top" applications,[152] appears to have strengthened last mile ISP negotiation leverage with downstream subscribers, upstream sources, and distributors of content alike. These ISPs have network access pricing power, particularly in nations lacking robust broadband competition, including the United States.[153] Even where adequate facilities-based competition exists, broadband subscribers typically select only one retail ISP to handle all of their broadband traffic.[154] Notwithstanding such empirical evidence, the current FCC considers the broadband marketplace sufficiently competitive despite previous findings that retail ISPs have both the incentive and the ability to exploit their last

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J. Carrillo, *Having Your Cake and Eating It Too? Zero-Rating, Net Neutrality, and International Law*, 19 STAN. TECH. L. REV. 364, 382 (2016); Goodman, *supra* note 26, at 81.

150. *See, e.g.*, *Unlimited*, VERIZON, https://www.verizonwireless.com/b2c/includes/plans/dataInfoOverlay.jsp [https://perma.cc/FA2S-5278] (last visited Jan. 13, 2018).

151. CISCO, CISCO VISUAL NETWORKING INDEX: FORECAST AND METHODOLOGY, 2016–2021 (2017), https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/complete-white-paper-c11-481360.pdf [https://perma.cc/S5TG-YV6W] ("Globally, IP video traffic will be 82 percent of all consumer Internet traffic by 2021, up from 73 percent in 2016. Global IP video traffic will grow threefold from 2016 to 2021, a CAGR [cumulative average growth rate] of 26 percent. Internet video traffic will grow fourfold from 2016 to 2021, a CAGR of 31 percent."); *see also* AKAMAI, Q1 2017 STATE OF THE INTERNET/CONNECTIVITY REPORT (2017), https://content.akamai.com/gl-en-pg9135-q1-soti-connectivity.html [https://perma.cc/33S9-R7FY].

152. 2010 Open Internet Order, *supra* note 6, at 17916 & n.48 ("Over-the-top VoIP [Voice over Internet Protocol] [and other] services require the end user to obtain broadband transmission from a third-party provider, and providers of over-the-top [services] can vary in terms of the extent to which they rely on their own facilities.").

153. *See* Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, 31 FCC Rcd. 699, 700, 712 (Jan. 29, 2016) [hereinafter 2016 Broadband Progress Report] ("We find that advanced telecommunications capability is not being deployed to all Americans in a reasonable and timely fashion.")

154. *See* 2015 Open Internet Order, *supra* note 7, at 5629–30 ("As the Commission and the court have recognized, broadband providers are in a position to act as a 'gatekeeper' between end users' access to edge providers' applications, services, and devices and reciprocally for edge providers' access to end users. Broadband providers can exploit this role by acting in ways that may harm the open Internet, such as preferring their own or affiliated content, demanding fees from edge providers, or placing technical barriers to reaching end users. Without multiple, substitutable paths to the consumer, and the ability to select the most cost-effective route, edge providers will be subject to the broadband provider's gatekeeper position." (footnotes omitted)).

mile "terminating monopoly" in ways that can harm competition and consumers.[155]

Last mile ISPs have raised broadband subscription rates and have imposed surcharge requirements from major upstream generators of traffic.[156] Rate increases can help defray the substantial investment ISPs have made to handle ever-growing traffic volume, particularly full-motion video. However, if such increases do not reduce subscriber numbers, they also can support the inference that ISPs can raise rates without suffering subscriber churn because no lower-cost competitive alternative exists that offers a comparable bit transmission speed and monthly data allowance.[157]

The last mile broadband marketplace lacks a robust array of facilities-based alternatives in some nations, including the United States, where cable television operators dominate.[158] While other

155. *See id.*; *see also* Verizon v. FCC, 740 F.3d 623, 646 (D.C. Cir. 2014) ("The Commission also convincingly detailed how broadband providers' position in the market gives them the economic power to restrict edge-provider traffic and charge for the services they furnish edge providers. Because all end users generally access the Internet through a single broadband provider, that provider functions as a 'terminating monopolist,' with power to act as a 'gatekeeper' with respect to edge providers that might seek to reach its end-user subscribers." (footnotes omitted) (quoting 2010 Open Internet Order, *supra* note 6, at 17919 & n.66)).

156. *See, e.g.*, FitzGerald & Ramachandran, *supra* note 21.

157. *See* INDUS. ANALYSIS & TECH. DIV. WIRELINE COMPETITION BUREAU, FCC, INTERNET ACCESS SERVICES: STATUS AS OF JUNE 30, 2016, at 6 fig.4 (2017) [hereinafter 2016 Broadband Statistics], https://apps.fcc.gov/edocs_public/attachmatch/DOC-344499A1.pdf [https://perma.cc/UB5G-AL35]. The most recent FCC statistics on the number of broadband service providers identify a highly concentrated market, especially for very high-speed services. The Commission reports that 79 percent of all census tracks having occupied housing have three carriers providing at least 10 Mbps downstream and at least 1 Mbps upstream, with no less than one of them providing satellite service. Areas with at least 25 Mbps downstream and at least 3 Mbps upstream have three carriers in 13 percent of all census tracks, with 29 percent having two options. Areas with at least 100 Mbps downstream and at least 10 Mbps upstream have three carriers in less than 2 percent of all census tracks, with 10 percent having two options. *Id.* at 6 fig.4. Seventy percent of all broadband subscribers use wireless carriers with cable modem service used by 18.1 percent and telephone company digital subscriber line (DSL) service used by 7.7 percent. *Id.* at 17 fig.14. However, cable companies provide 72 percent of all fixed connections having at least 10 Mbps downstream and 1 Mbps upstream. *Id.* at 19 fig.18. The market share for cable companies increases to 72.5 percent for residences. *Id.* at 20 fig.20. At the 25 Mbps downstream and at least 3 Mbps upstream rate, the cable operator market share increases to 82.8 percent of all fixed connections and 83.5 percent for residences. *Id.* at 21–22 figs.22 & 24. Cable operators have a 91.6 percent for services having at least 100 Mbps downstream and at least 10 Mbps upstream. *Id.* at 24 fig.27.

158. *See id.* at 24 fig.27; *see also* Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, 31 FCC Rcd. 9140, 9141 (Aug. 4, 2016) ("On January 29, 2016, we released the *2016 Broadband Progress Report*, which found that advanced telecommunications capability was not being deployed to all Americans in a reasonable and timely fashion. We based our finding on the determination that, despite some advances in the deployment and availability of advanced telecommunications capability, these advances were not occurring broadly enough, or quickly enough, to satisfy the

wired and wireless options exist, they each have quality of service and cost handicaps. Most telephone companies have retrofitted copper wire telephone lines to provide digital subscriber line (DSL) broadband service that in many instances cannot accommodate multiple simultaneous video users.[159] Some of these companies—such as AT&T[160] and Verizon[161]—now offer a faster and higher-capacity option, using fiber optic cables exclusively or in combination with existing copper wire plant. However, these companies operate in selected metropolitan areas that collectively do not come close to establishing a national service footprint.[162] Satellite options generally have initial receiving equipment costs, comparatively higher monthly rates, and lower data allowances than wired options.[163] Additionally, the length of time it takes to send and receive satellite traffic causes signal delay (latency) problems for some applications.[164]

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goals of section 706. In particular, the *2016 Broadband Progress Report* noted that approximately ten percent of the population—nearly 34 million Americans—lacked access to fixed advanced telecommunications capability. Further, the *2016 Broadband Progress Report* found a persistent urban-rural divide in access to broadband services, with Americans in rural areas and on Tribal lands approximately ten times more likely than those Americans in urban areas to lack access to services able to provide advanced telecommunications capability. The *2016 Broadband Progress Report* separately concluded that deployment of advanced telecommunications capability to schools and classrooms continued to lag behind the needs of American students and educators." (footnotes omitted) (citing 2016 Broadband Progress Report, *supra* note 153, at 701–02, 750–51)).

159. *See* ROB FRIEDEN, WINNING THE SILICON SWEEPSTAKES: CAN THE UNITED STATES COMPETE IN GLOBAL TELECOMMUNICATIONS? 158–62 (2010). The FCC reports that 9.525 million residential DSL lines can provide broadband service at least 10 Mbps downstream and 1 Mbps upstream, while 54.273 million cable modem lines can operate at this speed. 2016 Broadband Statistics, *supra* note 157, at 20 fig.19.

160. *See How AT&T U-verse Works?*, AT&T, http://www.att-services.net/att-u-verse/how-uverse-works.html [https://perma.cc/9V4D-LHWN] (last visited Feb. 11, 2018).

161. *See How Does Fiber Optic Technology Work?*, VERIZON, http://www.verizon.com/support/smallbusiness/internet/fiosinternet/general+support/getting+started/questionsone/85268.htm [https://perma.cc/H7U7-GGQP] (last visited Feb. 11, 2018).

162. The FCC reports that 9.239 million residential fiber optic lines can provide broadband service at least 10 Mbps downstream and 1 Mbps upstream. 2016 Broadband Statistics, *supra* note 157, at 20 fig.19; *see also How AT&T U-verse Works?*, *supra* note 160 (stating that certain bundled packages are not available in all areas).

163. *See, e.g.*, *Viasat Plans & Pricing*, EXEDE, https://www.exedebroadband.com/exede-internet-plans [https://perma.cc/7URL-7ZST] (last visited Feb. 11, 2018).

164. *See* OFFICE OF ENG'G & TECH. & OFFICE OF STRATEGIC PLANNING & POLICY ANALYSIS, FCC, 2016 MEASURING BROADBAND AMERICA FIXED BROADBAND REPORT: A REPORT ON CONSUMER FIXED BROADBAND PERFORMANCE IN THE UNITED STATES 10 (2016), http://data.fcc.gov/download/measuring-broadband-america/2016/2016-Fixed-Measuring-Broadband-America-Report.pdf [https://perma.cc/R5RZ-7KE7] ("Latency is the time it takes for a data packet to travel across a network from one point on the network to another. High latencies may affect the perceived quality of some interactive services such as phone calls over the Internet, video chat, or online multiplayer games. Latencies among terrestrial-based broadband

Zero rating enables last mile ISPs to shift some or all of the total content delivery cost away from retail consumers and onto upstream carriers and sources of content.[165] Alternatively, retail subscriber surcharges for high-definition video delivery enable last mile ISPs to offer more generous monthly data allowances.[166] Both strategies can promote social welfare by increasing the number of broadband users, which in turn increases the value of access, an outcome economists label as a positive network externality.[167] With more and more subscribers joining the bandwagon, Internet content, accessibility, and value increases.[168] Additional subscribers, including ones that require inducements, also help carriers accrue economies of scale—putting them in a comparatively better position to recoup

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services are typically small and are unlikely to affect the perceived quality of applications. The higher latencies of satellite-based broadband services may negatively affect the perceived quality of such highly interactive applications.").

165. *See* STALLMAN & ADAMS, *supra* note 26, at 2.

166. Degrading video content streams reduces the bandwidth needed to deliver such content, thereby abating the pressure on ISPs to make additional investments in network capacity.

> Verizon slowed data speeds last week for customers attempting to stream video, an action that worried net neutrality advocates as the current rules against throttling connections are potentially on the Federal Communications Commission's chopping block. In response, Verizon denies it did anything wrong. The telecom giant was performing a routine "video optimization" test that did not affect customers' video experience, a Verizon spokesperson told USA TODAY.

Rachel Sandler, *Verizon Slows Video Traffic, Causing Concerns for Net Neutrality Advocates*, USA TODAY (July 26, 2017, 6:45 PM), https://www.usatoday.com/story/tech/2017/07/26/verizon-slows-video-traffic-causing-concerns-net-neutrality-advocates/513248001/ [https://perma.cc/C98F-MUJ2]. Wireless carriers now offer plans that do not degrade video quality, but at higher rates than plans that do. Currently, Verizon offers two unlimited rate plan types: Go Unlimited and Beyond Unlimited. The former offers lower rates, but when the service supports broadband access by additional devices—a process commonly referred to as tethering—video quality is degraded and transmission speed slows substantially. *See Unlimited*, VERIZON, https://www.verizonwireless.com/plans/verizon-plan/ [https://perma.cc/8N6J-5L5P] (last visited Jan. 13, 2018).

167. *See* DOUG BRAKE, INFO. TECH. & INNOVATION FOUND., MOBILE ZERO RATING: THE ECONOMICS AND INNOVATION BEHIND FREE DATA 9 (2016), http://www2.itif.org/2016-zero-rating.pdf [https://perma.cc/EA5H-SE9U]; JEFFREY A. EISENACH, NAT'L ECON. RESEARCH ASSOCS. ECON. CONSULTING, THE ECONOMICS OF ZERO RATING 5 (2015), http://www.nera.com/content/dam/nera/publications/2015/EconomicsofZeroRating.pdf [https://perma.cc/2C2D-ZPNN].

168. *See* EISENACH, *supra* note 167, at 5. Broadband networks achieve positive network externalities as the number of access points and subscribers increase. For background on this economic concept, see John Farrell & Garth Saloner, *Standardization, Compatibility, and Innovation*, 16 RAND J. ECON. 70, 70–71 (1985); Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424, 424 (1985); *see also* Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CALIF. L. REV. 479, 483 (1998); Carl Shapiro, *Exclusivity in Network Industries*, 7 GEO. MASON L. REV. 673, 673 (1999).

substantial sunk costs incurred in erecting and frequently upgrading robust networks capable of handling peak traffic requirements generated by consumer streaming of video content. Broadband infrastructure requires substantial initial investment, but the marginal cost of traffic switching and transmission traffic from one additional subscriber approaches zero.[169]

However, both zero rating and high-definition video surcharges can distort the marketplace of ideas by creating financial inducements for accessing specific content offered at a discount and by imposing higher charges for accessing video with greater line resolution. In both instances, ISPs may distort the content marketplace by creating financial incentives for consumers to favor subsidized, zero rated content and to tolerate delivery of low resolution content.

Last mile ISPs can favor or disadvantage content on the basis of what kind of special financial arrangement they can negotiate. Not every instance of specialized negotiations and surcharge demand would constitute unlawful discrimination, particularly if an ISP can prove that its carriage of specific traffic triggered an extraordinary burden on network resources. However, there are routing scenarios where, even if such a burden existed, the FCC prohibited content carriage downgrading. For example, when the FCC mandated the transition from analog to digital broadcast television, it implemented a preexisting legislative mandate requiring cable television operators to carry broadcast channels without any option to downgrade high-definition video content to a lower screen resolution.[170] Two provisions in the Cable Act of 1992 bar cable operators from degrading the video line resolution of commercial and noncommercial broadcast television content they retransmit, even though cable operators qualify as private carriers, free of a common carrier mandate to operate without unreasonable discrimination.[171]

Network neutrality advocates fear the next "killer application" or source of "must see" content would not get a fair marketplace trial if such new ventures cannot afford to pay surcharges.[172] In this

169. *See* BRAKE, *supra* note 167, at 6; EISENACH, *supra* note 167, at 4–5.

170. Cable Television Consumer Protection and Competition Act of 1992, Pub. L. No. 102-385, §§ 4–5, 106 Stat. 1460, 1471–81 (1992) (codified as amended at 47 U.S.C. §§ 534(b)(4)(A), 535(g)(2) (2012)) (requiring cable operators to carry signals of commercial and noncommercial broadcast television stations "without material degradation").

171. *Id.*; *see* FCC v. Midwest Video Corp., 440 U.S. 689, 708–09 (1979) ("The Commission may not regulate cable systems as common carriers, just as it may not impose such obligations on television broadcasters.").

172. *See, e.g.*, Susan Crawford, *Introducing the Comcast Tax*, BLOOMBERG VIEW (Feb. 24, 2014, 2:24 PM), http://www.bloombergview.com/articles/2014-02-24/introducing-the-comcast-tax [https://perma.cc/EH3F-R9A4]; Cecilia Kang, *What's Next After the Repeal of Net Neutrality*, N.Y.

scenario, incumbents maintain or possibly strengthen their market dominance not by offering superior products and services, but by reducing opportunities for startup ventures to acquire market share.[173] Zero rating "hurts consumers because it allows providers to create artificial scarcity of choice and 'corrupt the growth of online services.'"[174] Arguably, a surcharge for receiving high-definition content also hurts consumers because content providers may avoid triggering a surcharge payment decision by degrading the screen resolution of content using a now-inferior and obsolete video presentation format.

IV. CONTENT INTERFERENCE AND NETWORK NEUTRALITY

Advocates for strong network neutrality safeguards consider zero rating and video surcharges the latest assaults on an open Internet operating without biased carriers having the ability to meddle with the speed and quality of their content carriage.[175] ISPs have devised many types of pricing plans,[176] but the emphasis appears

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TIMES (Dec. 15, 2017), https://www.nytimes.com/2017/12/15/technology/net-neutrality-repeal.html [https://perma.cc/LAU6-YJ3T]; Tim Wu, *Comcast Versus the Open Internet*, NEW YORKER (Feb. 24, 2014), http://www.newyorker.com/tech/elements/comcast-versus-the-open-internet [https://perma.cc/7ZP7-L5ZD].

173. *See* Rebecca Curwin, Note, *Unlimited Data, but a Limited Net: How Zero-Rated Partnerships Between Mobile Service Providers and Music-Streaming Apps Violate Net Neutrality*, 17 COLUM. SCI. & TECH. L. REV. 204, 210 (2015); Jeremy Gillula & Jeremy Malcolm, *Internet.org Is Not Neutral, Not Secure, and Not the Internet*, ELECTRONIC FREEDOM FOUND.: DEEPLINKS BLOG (May 18, 2015), https://www.eff.org/deeplinks/2015/05/internetorg-not-neutral-not-secure-and-not-internet [https://perma.cc/2KWU-PYMR].

174. Richard A. Starr, Comment, *Net Neutrality: On Mobile Broadband Carriers and the Open Internet, the Commercially Reasonable Network Management Standard, and the Need for Greater Protection of the Open Internet*, 11 J. BUS. & TECH. L. 89, 103 (2016) (quoting Gautham Nagesh, *Mobile Networks Caught in 'Open Internet' Debate*, WALL ST. J. (Sept. 16, 2014, 8:05 PM), http://www.wsj.com/articles/net-neutrality-heats-up-again-over-mobile-data-1410905961 [https://perma.cc/U4HC-6GXN]).

175. *See, e.g.*, Klint Finley, *The FCC OKs Streaming for Free—but Net Neutrality Will Pay*, WIRED (Feb. 3, 2017, 8:00 PM) https://www.wired.com/2017/02/fcc-oks-streaming-free-net-neutrality-will-pay/ [https://perma.cc/4HTN-WZDA]; Swanner, *supra* note 28.

176. *See, e.g.*, *Binge On*, T-MOBILE, http://www.t-mobile.com/offer/binge-on-streaming-video.html [https://perma.cc/GK8F-2LHP] (last visited Jan. 13, 2018); *go90 FAQs*, VERIZON, https://www.verizonwireless.com/support/go90-faqs/ [https://perma.cc/9MLC-RRGE] (last visited Jan. 13, 2018); *Sponsored Data from AT&T*, AT&T, http://www.att.com/att/sponsoreddata/en/index.html [https://perma.cc/AX2E-4UML] (last visited Jan. 13, 2018); *XFINITY Stream Package FAQs*, XFINITY, https://customer.xfinity.com/help-and-support/cable-tv/stream-faqs [https://perma.cc/M5NW-AJSF] (last visited Jan. 13, 2018).

Comcast has announced plans to offer Netflix access via the company's set-top box. Klint Finley, *Comcast's Netflix Deal Could Open a New Front in Net Neutrality War*, WIRED (July 8, 2016, 7:00 AM), http://www.wired.com/2016/07/comcasts-netflix-deal-open-new-front-net-neutrality-war/ [https://perma.cc/9VBP-VU6K]. This arrangement may create new network

in upselling existing subscribers to a more expensive service tier that offers a higher data allotment, reduces subscriber cancellation of service ("churn"), and stimulates greater interest in streaming video services.[177]

In the United States, many zero rating options currently exist—despite vocal opposition by some network neutrality advocates.[178] In its 2015 Open Internet Order, the FCC did not explicitly ban zero rating, opting instead to use a case-by-case examination of whether the tactic harms competition and consumers.[179] This evaluation would have assessed whether a specific zero rating option violated a general prohibition on practices "that 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."[180]

Professor Barbara van Schewick made presentations to officials at the FCC asserting that zero rating plans, like that offered by wireless carrier T-Mobile, violate network neutrality principles.[181] She asserted that the arrangement achieves many of the harmful outcomes resulting from practices outlawed by the FCC—for example, deliberate traffic blocking and slowing as well as offering to prioritize specific traffic for additional compensation.[182] Professor van Schewick

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neutrality enforcement issues if the streaming of Netflix content qualifies for zero rating or access without a broadband subscription. *Id.*

177. *See* Jeff Dunn, *AT&T Is Playing Favorites on the Internet with Its Own TV Service, Which Could Hurt Competition*, BUS. INSIDER (Nov. 28, 2016, 8:20 PM), http://www.businessinsider.com/att-directv-now-net-neutrality-zero-rating-2016-11 [https://perma.cc/5B2Z-BFRU] (discussing AT&T's zero rating offer of its DirecTV content to wireless broadband subscribers who add the direct broadcast satellite (DBS) video service).

178. 2017 WIRELESS TELECOMM. BUREAU ZERO RATING REPORT, *supra* note 63, at 8–10. As of early 2017, AT&T, Verizon, and T-Mobile had zero rating options available to their millions of wireless subscribers. *Id.*

179. 2015 Open Internet Order, *supra* note 7, at 5668.

180. *Id.* at 5659. The FCC concluded that it should "adopt a governing standard that looks to whether consumers or edge providers face unreasonable interference or unreasonable disadvantages, and makes clear that the standard is not limited to whether a practice is agreeable to commercial parties." *Id.* at 5666.

181. *See, e.g.*, BARBARA VAN SCHEWICK, T-MOBILE'S BINGE ON VIOLATES KEY NET NEUTRALITY PRINCIPLES 3–5 (2016), https://cyberlaw.stanford.edu/downloads/vanSchewick-2016-Binge-On-Report.pdf [https://perma.cc/SV9Y-RMQR]; *see also* van Schewick, *supra* note 11, at 113; *Barbara van Schewick*, STAN. L. SCH., http://cyberlaw.stanford.edu/about/people/barbara-van-schewick [https://perma.cc/9AC5-G9A2] (last visited Feb. 11, 2018).

182. VAN SCHEWICK, *supra* note 181, at 3 ("In November 2015, T-Mobile, the third largest provider of mobile Internet access in the U.S., launched a new service called Binge On that offers 'unlimited' video streaming from selected providers. Customers on qualifying plans can stream video from forty-two providers in Binge On—Netflix, Amazon, Hulu, HBO, and others—without using their data plans, a practice known as zero-rating. As currently offered, Binge On violates

argued that zero rating distorts competition, limits user choice, stifles free expression, and harms innovation.[183] She ultimately suggested that T-Mobile could avoid violating network neutrality principles by offering a zero rating option at a lower bit transmission speed for all traffic, offering unlimited video service, or expanding the monthly data allowance for all subscribers.[184]

Senior management at the FCC have sent mixed messages to stakeholders. On one hand, former FCC Chairman Thomas Wheeler expressed support for specific zero rating plans, including ones that offer unmetered access to popular video programming sources such as Netflix, YouTube, HBO, ESPN, and Hulu, as well as music content

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key net neutrality principles and harms user choice, innovation, competition, and free speech online. As a result, the program is likely to violate the FCC's general conduct rule.").

183. *Id.* at 3–4.

> First, Binge On distorts competition. Research shows that customers prefer zero-rated content over content that uses their data plans. As a result, Binge On video is automatically more attractive to customers because it is zero-rated. Providers in Binge On enjoy a competitive advantage, not based on merit but simply because T-Mobile added them to its program. . . .
>
> Second, Binge On limits user choice. Customers on T-Mobile's lowest qualifying plan can watch unlimited video from Netflix and other Binge On providers until they reach their cap, but not more than 4½ hours of video per month, or 9 minutes per day, from providers not included in Binge On. This is not a meaningful choice.
>
> Third, Binge On stifles free expression. The forty-two providers currently in Binge On deliver mostly commercial video entertainment – not user-generated, educational or non-profit video. . . .
>
> Fourth, Binge On harms innovation. The Internet was built on a central principle: As long as innovators respect fundamental Internet standards, they can reach people all over the world at low costs. Binge On changes that. It requires video providers to work with T-Mobile to join Binge On and, in many cases, to change their service to meet the ISP's technical requirements.

Id.

184. *Id.* at 31.

> First, T-Mobile could offer customers a zero-rated low-bandwidth mode at the same speed as Binge On. Use of that mode would not count against the cap, but customers would be able to use this mode however way they choose: They could watch video *or* do anything else online. This plan is similar to Binge On in its current form but without the host of net neutrality concerns.
>
> Second, T-Mobile could allow customers unlimited access to the entire Internet after customers reach their cap, just at a slower speed – the same speed currently offered through Binge On. After reaching their cap, customers could watch video *or* do anything else online; it would be their choice. This plan offers customers truly unlimited video.
>
> Third, T-Mobile could increase the monthly data caps on its capped plans to account for the average amount of video that people are watching. Customers could use that additional bandwidth to do anything online, including watching video. Again, it would be their choice.

Id. (emphasis in original).

from popular sources such as Pandora, Rhapsody, iHeartRadio, iTunes Radio, Slacker, and Spotify.[185] On the other hand, the Wireless Bureau of the FCC tentatively concluded that some zero rating plans may violate network neutrality rules and requirements.[186] Most recently, the Acting Chief of the Wireless Bureau terminated examination of wireless carriers' zero rating offers.[187] This decision appears to confirm that broadband Internet access providers have no regulatory impediments when offering zero rating options, including ones that eliminate metering for content offered by a corporate affiliate. For example, before AT&T offered expanded unlimited data plans, the company offered an attractive upselling option for wireless subscribers to add DirecTV video and have that content zero rated.[188] The FCC previously notified AT&T that such a practice might violate the paid prioritization prohibition rule established in the 2015 Open Internet Order.[189]

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185. *See* Jon Brodkin, *T-Mobile's Data Cap Exemption for Video Gets FCC Chairman's Approval*, ARS TECHNICA (Nov. 19, 2015, 1:28 PM), http://arstechnica.com/business/2015/11/t-mobiles-data-cap-exemption-for-video-gets-fcc-chairmans-approval/ [https://perma.cc/MBP9-P2TY].

186. 2017 WIRELESS TELECOMM. BUREAU ZERO RATING REPORT, *supra* note 63, at 17.

187. Wireless Telecommunications Bureau Report: Policy Review of Mobile Broadband Operators' Sponsored Data Offerings for Zero Rated Content and Services, 32 FCC Rcd. 1093 (Feb. 3, 2017) (setting aside and rescinding a previously issued Policy Review Report and any and all guidance, determinations, and conclusions contained therein, including the document's draft framework); *see also* Thomas Gryta, *FCC Ends 'Zero-Rating' Review*, WALL ST. J. (Feb. 3, 2017, 4:34 PM), https://www.wsj.com/articles/fcc-ends-zero-rating-review-1486157682 [https://perma.cc/E739-B9GM].

188. Daniel Frankel, *AT&T to 'Go Hard' on Zero Rating, CEO Stephenson Says*, FIERCE CABLE (Jan. 25, 2017, 5:41 PM), http://www.fiercecable.com/cable/at-t-to-go-hard-zero-rating-ceo-stephon-says [https://perma.cc/N87Z-WJ8J] ("AT&T teased its earnings call by revealing last week that more than 200,000 customers have signed up for its virtual pay-TV service since it launched Nov. 30 [2016]. Those customers can stream DirecTV Now video on AT&T's mobile network without it counting against their usage caps.").

189. *See* Letter from Thomas Wheeler, Chairman, Fed. Commc'ns Comm'n, to Edward J. Markey, U.S. Senator (Jan. 11, 2017), http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0111/DOC-342982A1.pdf [https://perma.cc/MTW2-NHRN] (confirming concerns that zero rating of content offered by a corporate affiliate can violate the FCC's 2015 Open Internet Order); *see also* Marguerite Reardon, *FCC Slams AT&T and Verizon over Zero-Rating Offers*, CNET (Dec. 2, 2016, 4:45 PM), https://www.cnet.com/news/fcc-att-verizon-zero-rating-directv-now-go90-net-neutrality/ [https://perma.cc/H2E6-EYPF] ("The Federal Communications Commission is not cool with AT&T's offer that lets customers stream the carrier's DirecTV service without it counting against their data plans. The commission has also launched an investigation into a similar offer from Verizon. In a letter sent to AT&T on Thursday, the agency said it's reached a preliminary conclusion that the carrier is violating net neutrality rules, which prohibit internet service providers from favoring their own content over a competitor's service.").

A. Is Zero Rating the Broadband Equivalent to Toll-Free Telephone Calls?

Advocates for zero rating consider the option the broadband equivalent to earlier-in-time subsidy arrangements such as toll-free telephone calling.[190] Both pricing arrangements eliminate or reduce consumers' direct, out-of-pocket costs for accessing a service. Both use payments by an upstream vendor to defray the costs incurred by downstream consumers. Additionally, each model shows how consumers in a two-sided market can avoid or reduce costs when some vendors agree to defray both the cost of content creation and its delivery. After all, few object when a brick-and-mortar vendor offers to waive shipping, handling, and other delivery charges that would have raised consumers' out-of-pocket costs.

On the other hand, one can readily differentiate the mass media broadcast of advertising to a large audience from a selective subsidy aiming to increase traffic to specific Internet-mediated content and services by individuals. Providers of toll-free long distance telephone service operate in such a robustly competitive marketplace that the FCC largely deregulated the market starting in 1980.[191] Some vendors of products and services see a marketing advantage in removing a minor cost that typically constitutes more of an irritant than a barrier to consummation of the transaction. Defraying the cost of a long-distance telephone charge does not intentionally expand the socioeconomic range of prospective customers. Vendors absorb toll charges much like they might reimburse customers for vehicle parking fees, or offer to waive shipping and handling fees for customers reaching an aggregate purchase threshold.

B. Differentiating Free WiFi from Free or Reduced-Cost Broadband

Zero rating plans have some parallels with free WiFi access, but significant differences exist as well. Both use subsidies to provide broadband access, and both types of subsidizers expect to accrue

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190. MULTICULTURAL MEDIA, TELECOM & INTERNET COUNCIL, *supra* note 31, at 3 ("In the communications space, this [subsidy] model has deep roots. Over-the-air broadcast television and radio has always been free because programming is subsidized by advertisers. Most websites rely on the same dynamic. Similarly, toll-free calling, which has been around for nearly 50 years, remains enormously popular among consumers and companies alike."); *see also* WILLIAM P. ROGERSON, CELLULAR TELECOMM. INDUS. ASS'N, THE ECONOMICS OF DATA CAPS AND FREE DATA SERVICES IN MOBILE BROADBAND (2016), https://www.ctia.org/docs/default-source/default-document-library/081716-rogerson-free-data-white-paper.pdf [https://perma.cc/239C-6GYT].

191. *See* Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor, 85 F.C.C.2d 1, 10–11 (Nov. 28, 1980).

something of value in return.[192] Commercial and noncommercial WiFi subsidizers expect to generate either quantifiable benefits—for example, more coffee sales—or less measurable public benefits, like a more vibrant central business district. Likewise, zero rating providers seek to increase revenues by upselling existing subscribers to more expensive service bundles that combine broadband and other services, such as video, or that offer more generous data allowances, higher video delivery quality, and better options for combining ("tethering") other devices requiring broadband access. Nonquantifiable benefits include improved public relations and image as a venture that can jointly enhance value for shareholders while also promoting social welfare.

WiFi and zero rated broadband access substantially differ in geographical scope and overall impact. Typically, WiFi access occurs in small islands of connectivity having no way to serve mobile users. WiFi hotspots, however, provide broadband access in specific, fixed commercial (e.g., coffee shops) and noncommercial (e.g., libraries) locations.[193] Zero rated service offers subsidies primarily to wireless mobile users throughout a nation.[194] Free WiFi has increasingly

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192. *See, e.g.*, SAMANTHA BATES, CHRISTOPHER BAVITZ & KIRA HESSEKIEL, HARVARD UNIV., ZERO RATING & INTERNET ADOPTION: THE ROLE OF TELCOS, ISPS, & TECHNOLOGY COMPANIES IN EXPANDING GLOBAL INTERNET ACCESS 11 (2017), https://dash.harvard.edu/bitstream/handle/1/33982356/2017-10_zerorating.pdf?sequence=1 [https://perma.cc/9XXP-AZ6T]; *Zero Rating: Free Access to Content, but at What Price?*, OXERA (July 2016), https://www.oxera.com/Latest-Thinking/Agenda/2016/Zero-rating-free-access-to-content,-but-at-what-pr.aspx [https://perma.cc/LUH3-EATB]. Government WiFi subsidies serve broad goals such as promoting a business district and providing access to people unwilling or financially unable to pay for access via more expensive cellular networks. Zero rating offered by commercial ventures aims to expand the total number of users, including ones that would not otherwise participate absent a financial subsidy. *See* BATES, BAVITZ & HESSEKIEL, *supra*, at 5. "Free" WiFi serves many types of commercial motivations including inducements to buy on-site goods and services and, perhaps, to consume more when given the opportunity to linger and access the Internet. *See, e.g.*, Eric Geier, *How to Set Up Public Wi-Fi at Your Business*, PCWORLD (Mar. 27, 2013, 2:13 PM), https://www.pcworld.com/article/2031443/how-to-set-up-public-wi-fi-at-your-business.html [https://perma.cc/8RMF-GRKE]. Before the onset of commercial and government-subsidized broadband access, many governments created and oversaw national voice and data subsidy programs. *See, e.g.*, *Lifeline Support for Affordable Communications*, FED. COMMC'NS COMM'N, https://www.fcc.gov/consumers/guides/lifeline-support-affordable-communications [https://perma.cc/P39T-4BN3] (last updated Sept. 8, 2017); *Low-Income Broadband Pilot Program*, FED. COMMC'NS COMM'N, https://www.fcc.gov/general/low-income-broadband-pilot-program-0 [https://perma.cc/MFG4-QKAN] (last updated May 22, 2015). With the exception of municipal government-owned or subsidized WiFi programs, both zero rating and most WiFi access initiatives primarily have private managers. *See* MULTICULTURAL MEDIA, TELECOM & INTERNET COUNCIL, *supra* note 31, at 9.

193. *See* Thomas J. Fitzgerald, *Thrifty Wi-Fi That Travels with You*, N.Y. TIMES (June 2, 2010), https://info.internet.org/en/story/where-weve-launched/ [https://perma.cc/X3LB-J7GR].

194. *See Where We've Launched*, INTERNET.ORG, https://info.internet.org/en/story/where-weve-launched/ [https://perma.cc/Q583-2ZV7] (last visited Jan. 13, 2018).

become a welcomed amenity, while zero rated service is mostly viewed as a new marketing strategy.[195] Most WiFi hotspot users appear to appreciate having the opportunity to avoid debiting their expensive monthly wireless data plan, as opposed to having first-time access to broadband services.

WiFi access typically occurs on an ad hoc, occasional basis when a user happens to be located within the small "footprint" of access.[196] Subscribers to zero rated services typically use the service frequently and in many locations via mobile handsets. Arguably, WiFi access provides a free option to many users who otherwise could resort to metered service, while zero rated service may constitute the only affordable option available.

V. THE CHALLENGE FOR NATIONAL REGULATORY AUTHORITIES

Zero rating offers identifiable and possibly measurable advantages but also presents harms that are not as easily detected or assessed.[197] Advocates for zero rating may show an aggregate increase in broadband wireless access and may produce statistics identifying improved market penetration, particularly to underserved segments.[198] Opponents can identify several negative consequences,[199]

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195. *See* 2015 Open Internet Order, *supra* note 7, at 5608 n.18. The 2015 Open Internet Order provided no reasonable network management exception to the prohibition on paid prioritization based on the conclusion that carrier offers result solely from business strategies. *Id.* ("Unlike the no-blocking and no-throttling rules, there is no 'reasonable network management' exception to the paid prioritization rule because paid prioritization is inherently a business practice rather than a network management practice.").

196. *See* Fitzgerald, *supra* note 193.

197. ROSSINI & MOORE, *supra* note 26, at 12 ("The clear benefits of providing even limited access at an affordable price must be balanced against the potential harms both to those individuals receiving access and the macro effects on the Internet and competition as a whole.").

198. *See, e.g.*, Trefis Team, *Is "Free Basics" the Right Strategy for Facebook?*, FORBES (Jan. 4, 2016, 8:34 AM), https://www.forbes.com/sites/greatspeculations/2016/01/04/is-free-basics-the-right-strategy-for-facebook/#9b992105673d [https://perma.cc/L2NP-YWDQ] ("Facebook claims that 3 million people in Egypt signed up for the 'Free Basics' service which started in the region two months ago, of which 1 million received internet access for the first time.").

199. *See* Issie Lapowsky, *Mark Zuckerberg Can't Have It Both Ways on Net Neutrality*, WIRED (Apr. 17, 2015, 2:08 PM), https://www.wired.com/2015/04/internet-org-zero-rating/ [https://perma.cc/LPA6-6BTZ] ("For the companies, it means the power to decide which Internet users they're able to reach is out of their hands. Instead, it's up to Internet.org, local governments, and carriers to decide which services are vital enough to secure a space within the Internet.org app. And for users, it means having access to only a sliver of what is supposed to be the *worldwide* web. . . . It can also create the expectation that access to the Internet always will be free, a mindset that . . . can be difficult to overcome."); Mahesh Murthy, *Poor Internet for Poor People: Why Facebook's Internet.org Amounts to Economic Racism*, QUARTZ INDIA (Apr. 17, 2015), https://qz.com/385821/poor-internet-for-poor-people-why-facebooks-internet-org-amounts-to-economic-racism/ [https://perma.cc/K4RZ-R6GN]; SavetheInternet.in Coalition, *Dear Mark*

but they neither actually show causality nor quantify the direct and attributable harms caused to existing and potential content providers and broadband subscribers.[200]

The impact of purposefully degraded video content carriage has a more easily measured effect. When an ISP reduces video screen resolution unless subscribers pay a surcharge, the carrier has forced a new cost-benefit analysis: namely, subscribers can enjoy more liberal data access, albeit at lower quality, or they can pay more to receive content the way creators and distributors intended it to be viewed. In effect, ISPs give with one hand and take with the other. They appear to offer an unmetered, unlimited data access, but in reality, they slow the data delivery of a major portion of the traffic by degrading its eventual display.

Arguably, when ISPs degrade content display, they significantly impede consumers' quality of experience as well as the quality of service provided to content creators by degrading their offerings to an inferior, less network-intensive carriage.[201] Requiring

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Zuckerberg, Facebook Is Not, and Should Not Be the Internet, HINDUSTAN TIMES (Apr. 17, 2015, 1:02 AM), http://www.hindustantimes.com/tech/dear-mark-zuckerberg-facebook-is-not-and-should-not-be-the-internet/story-w9S3uhnEYVP8L85EtbTqCO.html [https://perma.cc/5VPL-XBD4]; Marcus Wohlsen, *Free Mobile Data Plans Are Going to Crush the Startup Economy*, WIRED (Aug. 1, 2014, 6:30 AM), https://www.wired.com/2014/08/free-mobile-data-plans-are-going-to-crush-the-startup-economy/ [https://perma.cc/ER8P-4B7S].

200. *See* MONICA BONILLA ET AL., GLOB. VOICES ADVOX, FREE BASICS IN REAL LIFE (2017), https://advox.globalvoices.org/wpcontent/uploads/2017/08/FreeBasicsinRealLife_FINALJuly27.pdf [https://perma.cc/Y83N-VAB7]; *Can Facebook Connect the Next Billion?*, GLOBAL VOICES ADVOX (July 27, 2017, 12:00 PM), https://advox.globalvoices.org/2017/07/27/can-facebook-connect-the-next-billion/ [https://perma.cc/C5AU-WJPA].

201. *See* Rob Frieden, *The Mixed Blessing in Subsidized Internet Access*, 15 COLO. TECH. L.J. 269, 275–76 (2017); Andrew Patrick & Eric Scharphorn, *Network Neutrality and the First Amendment*, 22 MICH. TELECOMM. & TECH. L. REV. 93, 93 (2015) ("Though its growth continues to be phenomenal, broadband service providers—acting as Internet gatekeepers—have developed the ability to discriminate against specific content and applications. First, these gatekeepers intercept and inspect data transferred over public networks, then selectively block or slow it. This practice has the potential to stifle the Internet's value as a speech platform by compromising its neutral and open architecture, which has traditionally limited the ability of both public and private entities to engage in censorship."); *see also* Marvin Ammori, *Beyond Content Neutrality: Understanding Content-Based Promotion of Democratic Speech*, 61 FED. COMM. L.J. 273, 277–281 (2009); John Blevins, *The New Scarcity: A First Amendment Framework for Regulating Access to Digital Media Platforms*, 79 TENN. L. REV. 353, 365–70 (2012); Rob Frieden, *Invoking and Avoiding the First Amendment: How Internet Service Providers Leverage Their Status as Both Content Creators and Neutral Conduits*, 12 U. PA. J. CONST. L. 1279, 1284, 1289–90 (2010); Stephanie Kan, Comment, *Split Net Neutrality: Applying Traditional First Amendment Protections to the Modern Interweb*, 53 HOUS. L. REV. 1149, 1161–62 (2016); Alexander Owens, Comment, *Protecting Free Speech in the Digital Age: Does the FCC's Net Neutrality Order Violate the First Amendment?*, 23 TEMP. POL. & C.R. L. REV. 209, 215 (2013).

additional payment to restore content to its intended high-definition format provides the ISP with a new opportunity to exploit its intermediary platform by upselling retail subscribers or imposing new surcharges on upstream content providers in ways that create financial impediments to maximizing consumer welfare. Congress enacted a prohibition on cable television operator degradation of screen resolution to promote the migration from analog to a more spectrum-efficient digital broadcast format,[202] but perhaps also to foreclose cable operators from conditioning carriage of more bandwidth-intensive content on a surcharge borne by upstream video networks, downstream cable subscribers, or both.

It also appears that cable operators could have generated evidence that they regularly have to make costly infrastructure enhancements to facilitate the carriage of uncompressed, high-definition video content, coupled with the need to replace the existing set-top box interface between the cable network and subscribers' new high-definition television sets. Indeed, when Congress enacted the Cable Act of 1992, it established an unconditional requirement of broadcast signal retransmission without any permissible quality degradation and with no reference to cost recovery.[203] However, even if a legislative prohibition did not exist, one can imagine substantial cable television subscriber resistance to any surcharge based on screen display resolution.[204] So far, it appears that wireless ISPs have created an acceptable package of benefits and costs by combining more generous data allowances with degraded video resolution.

VI. CONCLUSIONS AND RECOMMENDATIONS

NRAs flirt with political turmoil and citizen revolt when creating rules and regulations that prevent the perception or realization of out-of-pocket cost savings for consumers, particularly for

202. 47 U.S.C. § 534(b)(3)(A) (2012) ("A cable operator shall carry in its entirety, on the cable system of that operator, the primary video, accompanying audio, and line 21 closed caption transmission of each of the local commercial television stations carried on the cable system and, to the extent technically feasible, program-related material carried in the vertical blanking interval or on subcarriers.").

203. *Id.* § 534(b)(4)(A) ("The signals of local commercial television stations that a cable operator carries shall be carried without material degradation.").

204. Similar pushback occurred when directors, actors, and consumers saw that reformatting movies for television broadcast degraded the viewing experience and even deleted part of the film image from display. *See, e.g.*, Wheeler Winston Dixon, *Frame by Frame: Pan and Scan*, U. NEB.-LINCOLN: MEDIAHUB (Dec. 15, 2010), https://mediahub.unl.edu/media/1659 [https://perma.cc/5SK4-7ZQS].

a product or service increasingly considered essential. Zero rating offers reduced or eliminated consumer costs with opportunities to "test drive" the Internet by accessing a tiny, curated sliver of content, primarily in developing countries, and to conserve data allowances in developed countries. Conditional, "unlimited" service plans offer a larger monthly data allowance even though subscribers have to accept lower-resolution video display and throttled transmission speeds both during periods of possible congestion and for exceeding a still-enforceable data usage cap.[205]

On balance, significant benefits accruable from zero rating and more generous data plans warrant inclusion in the collection of lawful carrier strategies for promoting broadband service. Zero rating creates new incentives on the demand side, while most governmental universal service initiatives have concentrated on supply-side stimulation with financial subsidies flowing to carriers.[206] NRAs should embrace zero rating as one of many demand-side stimulation strategies to raise interest in broadband services by people lacking discretionary income or an understanding of the individual and societal benefits generated by Internet access.

NRAs also should allow ISPs to couple more liberal data allowances with lower-resolution video delivery. However, ISPs must fully explain to consumers the trade-offs, including the disclosure that they will degrade video quality ostensibly to conserve bandwidth. ISPs should have to confront consumer pushback at deliberate quality

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205. "[V]ery few providers actually offer a truly unlimited plan, even though many have advertised such plans as 'unlimited.'" UNLIMITED MOBILE BROADBAND PLANS, http://www.unlimitedmobilebroadbandplans.com/ [https://perma.cc/68FV-EUU3] (last updated May 18, 2015).

206. *See, e.g.*, Connect America Fund: Universal Service Reform—Mobility Fund, 32 F.C.C.R. 2152, 2154 (Mar. 7, 2017) (establishing rules for universal service funding targeted at "up to $4.53 billion over the next decade to advance the deployment of 4G LTE service to areas that are so costly that the private sector has not yet deployed there and to preserve such service where it might not otherwise exist"); Connect America Fund: Universal Service Reform—Mobility Fund: ETC Annual Reports and Certifications, 29 FCC Rcd. 7051, 7053 (June 10, 2014) (implementing auctioned access to universal service funding); Connect America Fund et al.: Universal Service Reform—Mobility Fund, 26 FCC Rcd. 17663 (Nov. 18, 2011) (promoting much-needed reforms in universal service funding procedures and policies); Mark Cooper, *The Long History and Increasing Importance of Public-Service Principles for 21st Century Public Digital Communications Networks*, 12 J. ON TELECOMM. & HIGH TECH. L. 1 (2014); Rob Frieden, *Assessing the Need for More Incentives to Stimulate Next Generation Network Investment*, 7 I/S: J.L. & POL'Y FOR INFO. SOC'Y 207 (2012); Krishna P. Jayakar & Harmeet Sawhney, *Universal Service: Beyond Established Practice to Possibility Space*, 28 TELECOMM. POL'Y 339 (2004); *Universal Service*, FED. COMMC'NS COMM'N, https://www.fcc.gov/general/universal-service [https://perma.cc/VZP8-YBK2] (last updated Jan. 23, 2018); *Universal Service Support Mechanisms*, FED. COMM'NS COMM'N, https://www.fcc.gov/consumers/guides/universal-service-support-mechanisms [https://perma.cc/4R8N-DR35] (last updated Sept. 8, 2017).

of service degradation, particularly if wireless subscribers attempt to substitute larger video screens—such as television sets—for the small smartphone screen where lines-of-resolution degradation is less perceptible.

Embracing and supporting zero rating parallels ongoing government efforts to promote greater broadband market penetration with cross-subsidies, typically flowing from existing consumers to either prospective or impoverished ones.[207] Governments structure universal service funding initiatives to achieve the greatest progress with the least amount of marketplace distortion.[208] Such calibration and attention to detail also should apply to governmental assessment of zero rating and unlimited data initiatives.

A sophisticated assessment of zero rating broadband access and video degradation rejects exaggerated claims that subsidies will dismantle an open Internet, thwart competition, and eliminate incentives for innovation. Such scrutiny also dispels the summary conclusion that zero rating and video degradation cannot possibly cause any harm to consumers, competition, and the marketplace of ideas. If completely left to the whims and marketing strategies of major incumbent carriers and content providers, subsidies can bolster the status quo and make it even more unlikely for a disruptive technology, content source, or application creator to acquire a sustainable market share. On the other hand, a complete prohibition prevents creative and welfare-enhancing pricing arrangements and strategies to stimulate demand.

NRAs should not rely on ex ante rules that bar subsidies and provide definitions that attempt to specify harmful practices. Instead, they should provide a forum for timely resolution of complaints when and if they arise. By law, or through NRA initiatives, regulatory proceedings should have to conclude within a fixed time limit. For example, the FCC has created a "rocket docket" for expedited

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207. The FCC requires telecommunications companies to pay a percentage of their interstate end-user revenues to help support universal service funding. The carriers pass through to subscribers this amount, which represented 17.1 percent for the third quarter of 2017 and a proposed 18.8 percent for the fourth quarter. Proposed Fourth Quarter 2017 Universal Service Contribution Factor, 32 FCC Rcd. 6904, 6904 (Sept. 12, 2017); Proposed Third Quarter 2017 Universal Service Contribution Factor, 32 FCC Rcd. 4825, 4825 (June 13, 2017).

208. The FCC also imposes qualification requirements to conserve funds and to ensure that only impoverished individuals receive subsidies. *See Lifeline Support for Affordable Communications*, *supra* note 192. Individual consumers qualify by showing an income at or below 135 percent of federal poverty guidelines or participation in certain assistance programs. *Id.* The Lifeline assistance program provides a discount on monthly voice wireline or wireless service of $9.25 per month. *Id.* The program also supports broadband and broadband-voice bundles, but only with one subsidy per household. *Id.*

resolutions of some complaints and disputes.[209] Additionally, the FCC has a "shot clock" for counting down to a self-imposed (but not usually achieved) deadline for completing a proceeding, including evaluations of blockbuster mergers and acquisitions.[210]

NRAs will continue to struggle with finding a lawful way to impose open Internet rules calibrated to sanction only harmful quality of service and price discrimination without creating investment disincentives. Rather than concentrate on setting ex ante rules, they should rely on existing dispute resolution procedures when presented with complaints providing evidence that competitive and consumer harms have occurred.

209. *See, e.g.*, Creation of Low Power Radio Service, 15 FCC Rcd. 19208, 19210, 19282 (Sept. 20, 2000) (establishing a new streamlined "rocket docket" procedure for addressing low power FM radio station interference complaints).

210. *See, e.g.*, Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, 29 FCC Rcd. 12865, 12866 (Oct. 21, 2014) (expediting the process for wireless tower site negotiations with an eye toward reducing costs and delays); *Informal Timeline for Consideration of Applications for Transfers or Assignments of Licenses or Authorizations Relating to Complex Mergers*, FED. COMMC'NS COMM'N, https://www.fcc.gov/general/informal-timeline-consideration-applications-transfers-or-assignments-licenses-or [https://perma.cc/ZWX4-5P7A] (last visited Jan. 13, 2018). *But see* Comprehensive Review of Licensing and Operating Rules for Satellite Services, 30 FCC Rcd. 14713, 14823 (Dec. 17, 2015) (declining to impose a shot clock deadline for satellite carrier orbital slot coordination).