TECHNOLOGY LAW AS A VEHICLE FOR TECHNOLOGY JUSTICE: STOP ISP THROTTLING TO PROMOTE DIGITAL EQUITY

By Catherine J.K. Sandoval†

ABSTRACT

Society has shifted to bandwidth intensive internet use to protect public health, sustain economic participation and educational attainment, and support critical infrastructure services. This shift made robust, open, broad-based internet network (ROBIN) access essential to public safety and societal resilience. This Article examines Internet Service Provider (ISP) throttling policies, an underexplored area of the digital divide, net neutrality, and consumer protection legal and policy debate. Many ISPs use contract terms and software to slow users to 2G speeds, more commonly used in the early 1990s, after internet use commensurate with a few days or a week or two of digital work or school. The difference between open internet access and throttled access is the ability to access school, work, or a telemedicine appointment through videoconferencing platforms and other applications.

This Article theorizes infrastructure law and policy as a legal superstructure that either reifies vulnerability and inequity or, if constructed differently, supports equity and technology justice. To build the legal architecture necessary to foster ROBIN access critical to education, health, economic, and civic opportunities, this Article calls for Federal Communications Commission (FCC) and Federal Trade Commission (FTC) examination of ISP throttling policies and disclosures. It calls on ISPs, as part of their commitments to diversity, inclusion, and equity, to drop the practice of throttling users to speeds that make contemporary internet uses unavailable. It argues that stemming ISP throttling is critical to equity, opportunity, public health, and public safety.

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A. INTERNET SERVICE PROVIDER THROTTLING UNDERMINES PUBLIC HEALTH, PUBLIC SAFETY, AND THE PUBLIC INTEREST

The coronavirus pandemic commencing in March 2020[1] marked a flash cut to digital education, work, and health services. As schools, colleges, employers, healthcare providers and other institutions switched to online services to protect public health and safety during the COVID-19 pandemic, new digital divide fissures opened. Videoconferencing applications such as Zoom and WebEX became necessary for telemedicine, class discussions, and many jobs. At the same time, Internet Service Provider (ISP) throttling

1. *See WHO Director-General's Opening Remarks at the Media Briefing on COVID-19 - 11 March 2020*, WORLD HEALTH ORG. (Mar. 11, 2020), https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020.

policies (slowing user speeds after certain data consumption or network condition triggers are met)[2] made those applications inaccessible to throttled consumers. ISP throttling disables user access to video-based telemedicine, tele-education, and many facets of online work for hours, days, or weeks at a time.[3] Throttling is not merely a technical, regulatory, or legal issue; it creates public safety, health, resiliency, and equity risks. To build the legal architecture necessary to foster robust, open, broad-based internet network (ROBIN) access critical to education, health, economic, and civic opportunities, this Article calls for Federal Communications Commission (FCC) and Federal Trade Commission (FTC) examination of ISP throttling policies and disclosures.

For more than a decade, some ISPs have throttled users' internet service on the basis of various contractual triggers or conditions. Throttling may occur based on what the ISP deems "excessive usage" by a consumer, defined as higher-than-average usage for plan subscribers, even if that usage is below the plan's data cap or the consumer pays for an "unlimited" data plan.[4]

In 2021, several ISPs offering prepaid wireless services and some wireline ISPs triggered contract-based throttling after subscriber internet use commensurate with a few days or a week or so of digital work or school.[5]

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2. Tyler Cooper, *How to Tell if Your Internet is Being Throttled*, BROADBANDNOW (Aug. 10, 2021), https://broadbandnow.com/guides/am-i-being-throttled; *see also* Fed. Trade Comm'n v. AT&T Mobility LLC, 883 F.3d 848, 850 (9th Cir. 2018) (affirming Federal Trade Commission (FTC) jurisdiction to bring a deceptive conduct complaint against "AT&T Mobility's 'data throttling'—a practice by which the company reduced customers' broadband data speed without regard to actual network congestion").

3. *See infra* Section V.B.

4. Catherine J. K. Sandoval, *Disclosure, Deception, And Deep-Packet Inspection: The Role of The Federal Trade Commission Act's Deceptive Conduct Prohibitions in the Net Neutrality Debate*, 78 FORDHAM L. REV. 641, 688 (2009) [hereinafter Sandoval*, Disclosure, Deception, and Deep-Packet Inspection*] (reporting in 2009 that cable-based ISP Time Warner prohibits 'use of excessive bandwidth' in its operator acceptable use policy without defining what constitutes excessive use"); *id.* at 698–99 ("As of August 2009 FIOS did not impose bandwidth limits, but its acceptable use policy prohibits subscribers from generating excessive internet traffic, a level it does not define."); Jon Brodkin, *Cox Slows Internet Speeds in Entire Neighborhoods to Punish any Heavy Users*, ARS TECHNICA (June 8, 2020), https://arstechnica.com/tech-policy/2020/06/cox-slows-internet-speeds-in-entire-neighborhoods-to-punish-any-heavy-users ("Cox Communications is lowering internet upload speeds in entire neighborhoods to stop what it considers 'excessive usage,' in a decision that punishes both heavy internet users and their neighbors.").

5. *See* Comments of the Broadband Institute of California @ Santa Clara University School of Law (BBIC), In the Matter of Restoring Internet Freedom (WC Docket Nos. 17-108, 17-287, 11-42), at 7–8 (Apr. 20, 2020), https://ecfsapi.fcc.gov/file/104211478729214/BBIC%20Comments%20FCC%20Net%20Neutrality%20Mozilla%20remand%20final.pdf [hereinafter BBIC, *Comments on Mozilla Remand*].

Through contract, several ISPs reserved the right to slow users to 2G speeds, which were more commonly used in the early 1990s.[6] Most ISPs no longer operate 2G networks. Instead, ISPs use software to slow users who hit throttling triggers and maintain users at throttled speeds.[7] Software-enforced throttling may last for minutes, hours, days, or weeks at a time, regardless of network congestion.

ISPs may throttle a household, or even a neighborhood,[8] effectively disabling tele-education, telemedicine, or remote work. ISP throttling often restricts the user's speed below the threshold required for contemporary internet uses. The difference between open internet access and throttled access is the ability to access school, work, or a telemedicine appointment through videoconferencing platforms and other applications. Millions of American individuals, families, and neighborhoods subject to ISP throttling practices bear a heavy burden from loss of meaningful internet access. Society suffers from ISP throttling as education, health, civic participation, and employment options are narrowed for a large, but unreported, number of Americans. Institutions responsible for delivering health, educational, critical infrastructure, and civic engagement services face ISP-imposed reliability and internet access constraints that narrow service delivery, public health, and safety options.

During the COVID-19 pandemic, society shifted to bandwidth-intensive internet use to sustain economic participation and educational attainment while protecting public health. Videoconferencing and video applications use more bandwidth (internet capacity) than applications such as email and are extremely sensitive to latency (delays in communicating internet signals). ISP-induced slowdowns may render those internet resources unavailable. Use of videoconferencing services and other bandwidth-intensive applications continued during the first two years of the COVID-19 pandemic as a backup plan for and complement to in-person services. As internet use continues to evolve, such bandwidth-intensive services will continue to attract innovative internet use.

The internet increasingly mediates access to resources and services. Ensuring that people have robust and open internet access is critical to public

6. *See infra* Part V.

7. *See* Stetson Doggett, *How Fast are Capped 2G Speeds? LTE vs 3G vs 2G Data Speed Test*, BEST PHONE PLANS (Mar. 14, 2021), https://www.bestphoneplans.net/news/2g-speed-test.

8. Rebecca Lee Armstrong, *How can I Tell if My Internet is Being Throttled by My ISP?*, HIGH SPEED INTERNET.COM (Feb. 4, 2020), https://www.highspeedinternet.com/resources/how-can-i-tell-if-my-internet-is-being-throttled-by-my-isp ("During times of heavy internet use in a single area, ISPs sometimes throttle everyone's internet in that area.")

safety, public health, education, and economic and civic opportunity. Law, policy, and theory should rectify rather than reify technological and concomitant social inequality.

This Article does not relitigate the net neutrality debate, aspects of which four of my previous articles analyzed.[9] This Article focuses on the pressing problem of ISP throttling to 2G speeds, particularly for prepaid mobile customers, and inadequate disclosure of those practices.

Part II of this Article analyzes the internet's increasing integration into the economy and civic life and argues that the internet increasingly mediates access to resources, underscoring the imperative of sound legal regulation of this sector. Part III analyzes the legal framework for FCC regulation that requires the FCC to promote access to advanced telecommunications services for all Americans.

Part IV provides a brief overview of Federal Trade Commission Act (FTCA) deceptive conduct proscriptions. It examines ISP throttling in the context of the FTC's 2014 complaint against AT&T Mobility alleging that AT&T's practice of throttling internet access wireless plans that were advertised as "unlimited," without clear disclosures about when and how such throttling would be triggered or explanation of its consequences, violated FTCA proscriptions against deceptive conduct in interstate commerce.[10] The FTC and AT&T settled that complaint in 2019 through a permanent restraint against AT&T making any express or implied representations "about the amount or speed of mobile data, including that the mobile data is unlimited, without disc1osing, clearly and Conspicuously and in Close Proximity to the representation, All Materials Restrictions imposed by Defendant."[11] ISP throttling, including AT&T's practices, raise compliance issues with the FTCA and the FTC-AT&T Mobility settlement.

Part V examines ISP internet access throttling executed through contracts whose terms provide insufficient disclosure to support consumer choice or contemporary communications needs. It argues that those disclosures fail

9. Sandoval*, Disclosure, Deception, and Deep-Packet Inspection*, *supra* note 4; Catherine J.K. Sandoval, *Net Neutrality Powers Energy and Forestalls Climate Change*, 9 SAN DIEGO J. CLIMATE & ENERGY L. 1, 81 (2018); Catherine J.K. Sandoval, *Net Neutrality Repeal Rips Holes in the Public Safety Net*, 80 U. PITT. L. REV. 953 (2019); Catherine J.K. Sandoval, *Cybersecurity Paradigm Shift: The Risks of Net Neutrality Repeal to Energy Reliability, Public Safety, and Climate Change Solutions*, 10 SAN DIEGO J. CLIMATE & ENERGY L. 91, 171 (2019).

10. Complaint for Permanent Injunction and Other Equitable Relief, FTC v. AT&T Mobility LLC, No. 3:14-cv-04785 (N.D. Cal. filed Oct. 28, 2014).

11. *See* Stipulated Order for Permanent Injunction and Monetary Judgment at 4, I(a), FTC v. AT&T Mobility LLC, No. 3:14-cv-04785 (N.D. Cal. Dec. 3, 2019) [hereinafter, *FTC AT&T Mobility Stipulated Order*].

FCC and FTCA standards, while ISP throttling interferes with critical communications needs and vital services.

Part VI concludes with recommendations for FCC and FTC examination of ISP throttling practices. This Article urges the FCC to examine ISP throttling under the FCC's transparency rule, 47 CFR 8.11, still standing after the FCC's 2018 net neutrality repeal, affirmed by the FCC in 2020.[12] It recommends FTC analysis of ISP representations about speeds and throttling under the FTC Act's deceptive conduct provisions and monitoring for compliance with the *AT&T Mobility-FTC* settlement.[13]

This Article urges ISPs to drop their throttling policies, consistent with ISP no throttling commitments[14] and ISP diversity and inclusion policies. It encourages the FCC, states, academics, and the public to gather more information about ISP throttling practices. It argues for reframing FCC internet regulation to put the public at the center of the regulatory paradigm and recognize that communication by and between the polity is critical to public safety and the public interest. This framework is critical to development of ROBIN network access, investments in network expansion, support for internet users, the economy, public health, public safety, and our common future.

II. THE INTERNET MEDIATES ACCESS TO RESOURCES AND THE FUTURE

The internet is critical infrastructure that increasingly mediates access to educational, health, civic, and public safety resources, and the economy. "California Senate Bill 822 recognizes that '[a]most every sector of California's economy, democracy, and society is dependent on the open and

12. In the Matter of Restoring Internet Freedom, 35 FCC Rcd. 12328, 12329, ¶ 2 (2020) [hereinafter *2020 RIF Order*]; Restoring Internet Freedom, 83 Fed. Reg. 7852, 7852 (Feb. 22, 2018) [hereinafter FCC, *2018 RIF Order*]; Mozilla Corporation v. FCC, 940 F.3d 1, 49 (D.C. Cir. 2019) (upholding the FCC's adoption of a modified transparency rule under 47 U.S.C. § 257 which requires the FCC to consider "market entry barriers for entrepreneurs and other small businesses"); *id.* at 49 (upholding against APA challenge FCC transparency rule adopt to "keep entrepreneurs and other small businesses [as well as consumers] effectively informed of [broadband provider] practices so that they can develop, market, and maintain Internet offerings" (citing Restoring Internet Freedom Order, 33 FCC Rcd. 311, 439–42, ¶¶ 218–23 (2018))).

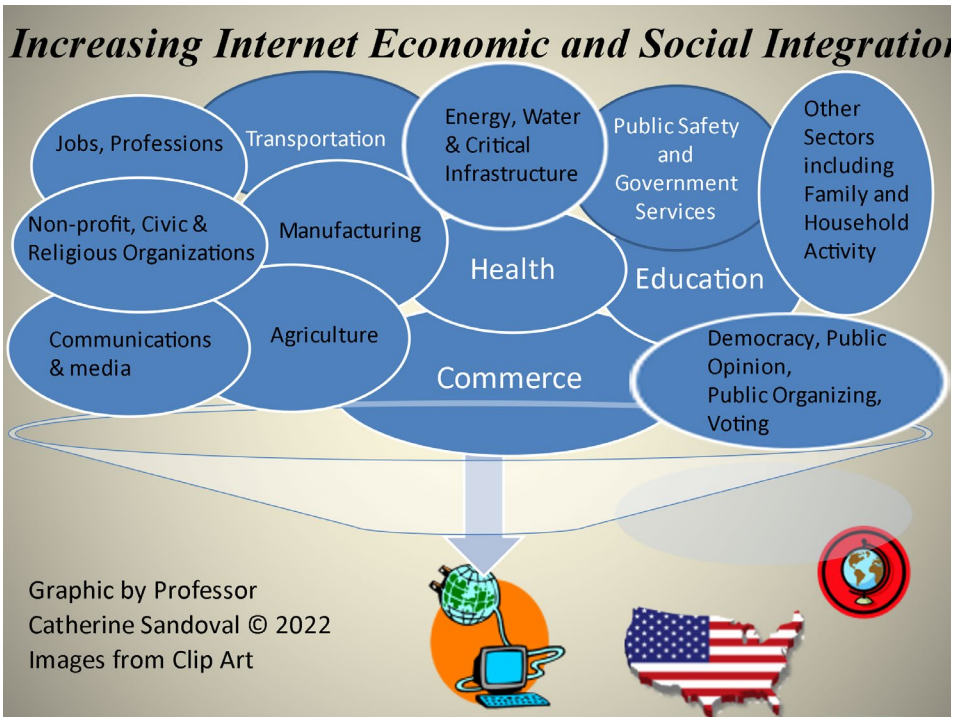
13. 15 U.S.C. §§ 41–77; *see* Sandoval, *Disclosure, Deception, and Deep-Packet Inspection*, *supra* note 4, at 666–94 (describing FTC deceptive conduct proscriptions, and defenses as applied to ISP conduct); *FTC AT&T Mobility Stipulated Order*, *supra* note 11, at 4.

14. *2020 RIF Order*, *supra* note 12, at 12349–50, ¶ 39.

neutral [i]nternet that supports vital functions regulated under the police power of the state,' including 'Utility services and infrastructure.' "[15]

As illustrated by Figure 1 below, the internet is increasingly embedded into myriad economic and social sectors and activities. These include: jobs and professions; transportation; energy, water and critical infrastructure; public safety and government; non-profit, civic and religious organizations; manufacturing; commerce; agriculture; health; education; communications and media; democracy, public opinion, public organization and voting; and other sectors including family and household activity. Internet access increasingly filters economic, societal, and democratic resources, services, and engagement.[16]

Figure 1: The Internet's Integration into the Economy and Society



Lack of robust, open, and broad-based information and communications technology (ICT) frustrates access to services and resources, entrenches

15. Sandoval, *Net Neutrality Powers Energy and Forestalls Climate Change*, *supra* note 9, at 77.

16. MANUEL CASTELLS, THE RISE OF THE NETWORK SOCIETY xviii (2d ed. 2020); JAN VAN DIJK, THE DIGITAL DIVIDE 5 (2020); Packingham v. North Carolina, 137 S. Ct. 1730, 1735 (2017).

community poverty, and hobbles initiatives to connect data to action.[17] "Digital exclusion forms a recursive process that undercuts safety and community resiliency."[18] Network exclusion burdens fall heavily on those excluded or under-included.[19] Society bears the costs and responsibility for network exclusion.

Conversely, ICT investment and well-calibrated regulation enable opportunity and innovation for generations.[20] Infrastructure regulation creates the future's physical and social architecture.[21] Universal service theory highlights network expansion's benefit to all users.[22] "Universal service principles form the bedrock of communications policy, recognizing that the network is stronger as everyone is connected and served."[23] The "universal service objective is founded on the concept that all subscribers to a telephone company's basic service network benefit when another person joins that network. Therefore, the entire network is more valuable because of the addition of the new subscriber."[24]

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17. *See* Catherine J.K. Sandoval, *Energy Access is Energy Justice, The Yurok Tribe's Trailblazing Work to Close the Native American Reservation Electricity Gap*, *in* ENERGY JUSTICE, US AND INTERNATIONAL PERSPECTIVES 122 (Raya Salter, Carmen G. Gonzalez & Elizabeth Ann Kronk Warner eds., 2018); *cf.* WOODROW CLARK, SUSTAINABLE CITIES AND COMMUNITIES DESIGN HANDBOOK: GREEN ENGINEERING, ARCHITECTURE, AND TECHNOLOGY 121–22 (2d ed. 2018).

18. Catherine J.K. Sandoval & Patrick Lanthier, *Connect the Whole Community; Leadership Gaps Drive Disaster Vulnerability and the Digital Divide*, *in* TECHNOLOGY VS GOVERNMENT: THE IRRESISTIBLE FORCE MEETS THE IMMOVABLE OBJECT 1 (Lloyd Levine ed., 2022).

19. Ernest J. Wilson III, Sasha Costanza-Chock & Michelle Forelle, *A Provocation on Behalf of the Excluded*, *in* THE COMMUNICATION CRISIS IN AMERICA, AND HOW TO FIX IT 257–60 (Mark Lloyd & Lewis Friedland eds., 2016).

20. *See What Catastrophe Tells Us about Technology and Society*, *in* SHAPING TECHNOLOGY/ BUILDING SOCIETY 7, 11 (Wiebe Bijker & John Law eds., 1994); Verizon v. FCC, 740 F.3d at 623, 650–51 (D.C. Cir. 2014).

21. *Cf.* Armin Grunwald, *Shaping the Present by Creating and Reflecting Futures*, *in* SOCIO-TECHNICAL FUTURES SHAPING THE PRESENT, EMPIRICAL EXAMPLES AND ANALYTICAL CHALLENGES 18 (Andreas Losch et al. eds., 2019) ("[I]n the present time we create futures supporting us to shape the present.").

22. *See* Sandoval & Lanthier, *supra* note 18, at 6; JONATHAN NUECHTERLEIN & PHIL WEISER, DIGITAL CROSSROADS, TELECOMMUNICATIONS LAW AND POLICY IN THE INTERNET AGE 295 (2d ed. 2013).

23. Sandoval & Lanthier, *supra* note 18, at 6; Sandoval, *Net Neutrality Repeal Rips Holes in the Public Safety Net*, *supra* note 9, at 955 ("[T]he Internet and telephone networks[] rests on a distributed model of universal service that recognizes that society is better off when everyone has access to communications networks.").

24. Sandoval & Lanthier, *supra* note 18, at 6 (citing Texas Alarm & Signal Ass'n v. Pub. Util. Comm'n, 603 S.W.2d 766, 770 (Tex. 1908); Pub. Utility Comm'n of Texas v. AT & T Commc'ns of the Sw., 777 S.W.2d 363, 372–73 (Tex. 1989)).

During the COVID-19 pandemic, bandwidth-intensive, latency-sensitive internet use became an entry ticket for education, work, internet-based health services, and many other sectors. This tectonic shift underscores the imperative of ROBIN access and digital equity. "Digital equity refers to whether people can access and effectively use the technology necessary to participate in modern society."[25] ROBIN access "is vital for the success of our communities, and it will become even more important as technology continues to advance and services continue to migrate online."[26]

Prior to the COVID-19 pandemic, in December 2019, videoconferencing platform Zoom had ten million daily participants; by October 2020, Zoom's daily user base had grown to 300 million.[27] The 2021 Student Home Internet Connectivity study of several K-12 schools operating during the pandemic found that over "85 percent of network traffic in remote learning is used for video, which requires sufficient upload and download speeds. This increasingly popular learning trend is expected to continue for the foreseeable future."[28] As COVID-19 infections challenge plans to return to school and work in person,[29] for the foreseeable future, use of video and other bandwidth-heavy and latency-sensitive platforms will likely continue as a major component of education, work, and other vital activities.

Millions of Americans, including more than 74 million prepaid mobile internet plan users in the United States[30] face ISP-imposed slowdowns, not readily discernable from ISP contracts. ISPs may limit subscriber internet use,

25. Zack Quaintance, *The Quest For Digital Equity: A Look at the Evolution of the Challenge to Ensure Advances in Technology Bring Benefits to Everyone*, GOV'T TECH. (Mar. 2018), https://www.govtech.com/civic/the-quest-for-digital-equity.html.

26. *Id.*

27. Rauf Arif, *In The Post COVID-19 World, Zoom is Here to Stay*, FORBES (Feb. 26, 2021, 1:18pm EST), https://www.forbes.com/sites/raufarif/2021/02/26/in-the-post-covid-19-world-zoom-is-here-to-stay/?sh=50ab8b6d55b5.

28. *Student Home Internet Connectivity Study*, COSN, https://www.cosn.org/digitalequity (last visited May 24, 2021).

29. *See, e.g.*, Kristal Dixon, *Cobb School's Fifth Grade Class Goes Virtual Due to Rise in Covid Cases*, ATLANTA J. CONST. (Aug. 11, 2021), https://www.ajc.com/news/atlanta-news/cobb-schools-fifth-grade-class-goes-virtual-due-to-rise-in-covid-cases/4wpbplir55e2fgh6bo5vj3u54m/ (returning to virtual learning after 185 covid cases within the first few days of in-person school); Scott Jashick, *Delta Variant Raises Questions as Campuses Start Semester*, INSIDE HIGHER EDUC. (Aug. 16, 2021), https://www.insidehighered.com/news/2021/08/16/delta-variant-raises-questions-colleges-about-reopening-plans (reporting on colleges from Texas to California starting the fall semester online for two to six weeks due to increasing Covid-19 delta variant transmission); *Covid-19 Weekly Review*, CTRS. DISEASE CONTROL & PREVENTION (Aug. 13, 2021), https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html.

30. Mark Lowenstein, *Lowenstein: What's the Roadmap for Prepaid in the United States?*, FIERCE WIRELESS (Nov. 19, 2020, 12:36pm), https://www.fiercewireless.com/wireless/lowenstein-what-s-roadmap-for-prepaid-united-states.

constraining educational, health, and economic opportunities. As discussed in Section V.A, ISP software-imposed throttling to 2G speeds renders digital education, telehealth, work, and contemporary internet-based resources inaccessible for hours, days, or weeks at a time. ISP throttling harms internet users, critical infrastructure sectors and services, and our common future.

"Organizations socially construct risk and the choices available to increase or mitigate risk."[31] Regulation and regulatory enforcement allowing ISP throttling policies to persist—even when we know that doing so makes internet-based services inaccessible—creates risks to educational, health, and public safety service delivery. It wedges throttled consumers into the digital divide. Throttling creates risks to individuals, families, neighborhoods, and society, while undermining equity.

Throttling may affect a range of Americans including people who pay extra for high-end, unlimited internet access plans to support their work but are nonetheless throttled after their ISP deems them an excessive user.[32] "Comcast announced in June 2018 that, 'it no longer needs to throttle speeds for heavy internet users, ending a network-management technique it has been using since 2008.' "[33] Despite that policy change, Comcast emphasized it, "reserve[s] the right to implement a new congestion management system if necessary in the performance of reasonable network management and to maintain a good broadband internet access service experience for our customers, and will provide updates here as well as other locations if a new system is implemented."[34]

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31. Catherine J.K. Sandoval, Pat Cain, Steve Diamond, Jean Love, Allen S. Hammond, Stephen E. Smith & Solmaz Nabipour, M.D., *Legal Education During the COVID-19 Pandemic: Put Health, Safety and Equity First*, 61 SANTA CLARA L. REV. 367, 454 (2020) (citing CINDY L. CALDWELL, SAFETY CULTURE AND HIGH-RISK ENVIRONMENTS: A LEADERSHIP PERSPECTIVE 4 (2018) ("The organization socially constructs a view that the essence of safety is to prevent individuals from committing errors."); CHARLES PERROW, NORMAL ACCIDENTS: LIVING WITH HIGH-RISK TECHNOLOGY 372 (1984)).

32. Brodkin, *supra* note 4 (stating Cox warned its customer who "pays $150 a month, including $100 for 1GBPs [one gigabit per second] download speeds and 35mbps [megabits per second] upload speeds, and another $50 for 'unlimited data' so that he can go over Cox's 1tb [terabyte] data cap, that he was engaging in 'excessive use' through his internet uploads, conducted primarily between 1:00 a.m. and 8:00 a.m., and that he and his neighborhood would have their data slowed").

33. Sandoval, *Cybersecurity Paradigm Shift: The Risks of Net Neutrality Repeal to Energy Reliability, Public Safety, and Climate Change Solutions*, *supra* note 9, at 171; Liam Tung, *Comcast: We've Stopped Throttling Speeds for Heavy Internet Users, For Now*, ZDNET (June 14, 2018), https://www.zdnet.com/article/comcast-weve-stopped-throttling-speeds-for-heavy-internet-users-for-now/ [https://perma.cc/V3PH-EQTS]).

34. Tung, *supra* note 33.

Throttling is commonly found in contract terms for prepaid wireless internet service, making many smartphone-only internet users particularly vulnerable to this practice. "Reliance on smartphones for online access is especially common among younger adults, lower-income Americans and those with a high school education or less."[35] Latinx and African Americans are more dependent on wireless internet service than Whites. Pew Research's 2021 survey found "Black and Hispanic adults in the United States remain less likely than White adults to say they own a traditional computer or have high-speed internet at home," but found "no statistically significant racial and ethnic differences when it comes to smartphone or tablet ownership."[36]

Deutsche Bank Research's 2020 digital divide study found that "[d]ue to the structural and infrastructural inequities, Blacks and Hispanics are 10 years behind Whites in levels of broadband access and almost 4 times more Blacks have poor Tech connectivity than Whites."[37] That study predicted that as a result of the digital divide, "76% of Blacks and 62% of Hispanics could get shut out or be under-prepared for 86% of jobs in the US by 2045. If this digital racial gap is not addressed, in one generation alone, digitization could render the country's minorities into an unemployment abyss."[38] ISP throttling is an underrecognized driver of poor broadband access and the digital divide that foments inequity and societal risk.

Deutche Bank's study highlights the lock-in effects of the digital divide and its likely effects on job access and the economy. Daria Roithmayr observed that "given the nature of the digital divide," networks that "make use of the Internet to provide job referral networks targeting minority employees…are not likely to provide a critical density for job referral networks in segregated neighborhoods" as the legacy of residential segregation creates a "lock-in" effect that affects access to other resources.[39] Elizabeth Kennedy emphasized the importance of looking upstream at the

35. *Internet/Broadband Fact Sheet*, PEW RSCH. CTR. (Apr. 7, 2021), https://www.pewresearch.org/internet/fact-sheet/internet-broadband/.

36. Sara Atske & Andrew Perrin, *Home broadband adoption, computer ownership vary by race, ethnicity in the U.S.*, PEW RSCH. CTR. (July 16, 2021), https://www.pewresearch.org/fact-tank/2021/07/16/home-broadband-adoption-computer-ownership-vary-by-race-ethnicity-in-the-u-s/.

37. APJIT WALIA & SAI RAVINDRAN, DEUTSCHE BANK RSCH., AMERICA'S RACIAL GAP & BIG TECH'S CLOSING WINDOW 1 (Sept. 2, 2020), https://www.dbresearch.com/PROD/RPS_EN-PROD/America%27s_Racial_Gap_%26_Big_Tech%27s_Closing_Window/RPS_EN_DOC_VIEW.calias?rwnode=PROD0000000000464258&ProdCollection=PROD0000000000511664.

38. *Id.*

39. Daria Roithmayr, *Locked in Segregation*, 12 Va. J. Soc. Pol'y & L. 197 (2004).

causes of inequity.[40] It is not sufficient to count those stuck in the digital divide. We must identify its causes and practices that create a digital ceiling.

Adam J. Banks's observations about the digital divide can be applied to the FCC's failure to recognize ISP throttling to 2G speeds as a net neutrality problem. Banks wrote:

> Thus, the Digital Divide involves both contest and silence: debate over whether there is a Divide at all, waged by politicians, foundations, and business interests now; debate over whether race is a factor in whatever problems in technology access might exist . . . .[41]

Assumptions about what constitutes digital technology access will "guide legal, corporate, and educational policies that can trap Black people into roles as passive consumers of technologies rather than producers and partners."[42] This process, Banks observed, can lead to "electronic invisibility and economic, educational, and political injustice."[43]

Deutche Bank reported that "[a]lmost every professor we spoke to cited the digital divide during childhood as the cause of so many societal imbalances in today's digital age."[44] That divide, baked in at childhood and persisting for many adults, fosters an inequitable future that undermines the economy, economic opportunity, and workforce preparedness.

Digital "inequity is spread across three spheres—access to Tech, Tech Training and Hardware."[45] Access to Tech should be defined to include access to robust networks to enable high-speed internet functionality. Deutche Bank proposes a "5-year program that seeks to reduce the gaps in the three areas targeting the underprivileged households among the Black and Hispanic communities [which] would cost approximately $15BN," a level the bank notes is "under 1% of the increase in the $2 Trillion market cap the Big Tech 5 have had since Covid."[46]

This Article identifies regulatory law and policy as a source of inequity. Internet regulation produces or sustains equity or inequity. Internet governance, including regulation of disclosure policies, constitutes structural

40. Elizabeth J. Kennedy, *Desert in the Deluge: Using Data to Drive Racial Equity*, 69 CATH. U. L. REV. 23, 24 (2020).

41. ADAM J. BANKS, RACE, RHETORIC, AND TECHNOLOGY, SEARCHING FOR HIGHER GROUND 31 (2005).

42. *Id.*

43. *Id.*

44. WALIA & RAVINDRAN, *supra* note 37, at 6.

45. *Id.* at 7.

46. *Id.* at 7–8.

investments (or disinvestments) in community safety, resiliency, equity, and sustainable futures.[47] Failure to safeguard network, hardware, software, and training investments with laws and regulations that protect internet openness and safeguard consumers undercuts infrastructure access and effectiveness. Legal infrastructure is needed to protect investments in physical, software, and social capital infrastructure.

"Futures do not arise of their own accord. Techno-visionary futures are social constructs."[48] Jan van Dijk observes that the digital divide is not a technical issue, "it is more of a social problem."[49] Likewise, lack of ROBIN access is a socio-legal issue, the technical aspects of which are obscured through ISP nondisclosure of network management practices and their technical rationale, if any. Socio-legal decision-making constructs risks borne by the citizenry.[50] The limited legal imagination of regulators and lawmakers has left millions struggling to get or stay connected to the internet.[51]

In *Connect the Whole Community; Leadership Gaps Drive Disaster Vulnerability and the Digital Divide*, Patrick Lanthier and I discuss the dangerous conditions created by designing programs for an imagined community of highly connected citizens.[52] During the 2017 flood that led to the evacuation of more than 14,000 people in San Jose, California when the Anderson dam overtopped, officials sent warnings to "an imagined community, highly connected to the [i]nternet, and capable of filtering warnings from the detritus of Twitter feeds, Facebook posts, and Nextdoor notices. In the process, officials failed to inform the community they served of the coming danger."[53]

Recognizing the difference between the real and imagined community is the first step to reforming program and regulatory design. Many utility and communications programs are designed for homeowners with little thought to the needs of renters. Many renters, as well as some homeowners, may not be able to install wired internet access due to landlord restrictions, living in households with multiple families, or living in temporary residences.

During my service as a California Public Utilities Commission (CPUC) Commissioner, I worked to reform energy efficiency programs to serve the

47. Sandoval & Lanthier, *supra* note 18, at 17.
48. Grunwald, *supra* note 21 at 24.
49. VAN DIJK, *supra* note 16, at 3.
50. Castells, *supra* note 16, at 7.
51. *Cf.* ELIZABETH FISHER, ENVIRONMENTAL LAW: A VERY SHORT INTRODUCTION 1 (2017) ("Legal imagination is needed to develop law to respond to a world of multiple interconnected parties, scientific uncertainty, and socio-political conflict.").
52. *See* Sandoval & Lanthier, *supra* note 18, at 1, 6.
53. *Id.*

needs of renters and low-income Californians.[54] Such reforms pay additional dividends for internet-enabled energy demand response programs and communications-enabled initiatives.[55]

The Supreme Court in *F.E.R.C. v. Electric Power Supply Ass'n.* observed that demand response "pays consumers for commitments to curtail their use of power, so as to curb wholesale rates and prevent grid breakdowns."[56] California faced uncertainty about the sufficiency of its energy resources during mid-late 2021 while facing a historic drought.[57] Internet-enabled resources (such as connected thermostats) can reduce energy demand, forestall blackouts, and protect public safety.[58] Internet access at homes and businesses is crucial to the demand response programs that send signals to home or residential Wi-Fi to reduce air conditioning or other energy uses to stave off blackouts and protect public safety.[59]

The FCC's 2015 Open Internet Order (2015 OIO)—which adopted net neutrality rules that prohibited blocking, throttling, and paid priority—cited, as an example of public safety reasons to impose those regulations on ISPs, the comments I filed when I served as a CPUC Commissioner about the importance of a neutral and open internet to energy safety and reliability.[60] Rules protecting open internet access created confidence that led my CPUC colleagues and I to invest in ICT-enabled energy and water efficiency

54. CPUC D.16-11-022, Decision On Large Investor-Owned Utilities' California Alternate Rates For Energy (CARE) And Energy Savings Assistance (ESA) Program Applications (Application 14-11-009), at 71, 120, 155, 161, 199, 256–57 (Nov. 10, 2016) (adopting Alternate Proposed Decision of Commissioner Catherine J.K. Sandoval).

55. Sandoval, *Net Neutrality Powers Energy and Forestalls Climate Change*, *supra* note 9, at 77.

56. FERC v. Elec. Power Supply Ass'n, 577 U.S. 260, 270 (2016), as revised (Jan. 28, 2016).

57. Joint Statement From the CPUC President Marybel Batjer, CEC Chair David Hochschild, and California ISO CEO Elliot Mainzer on Decision to Procure Additional Energy Resources for Summer, CAL. INDEP. SYS. OPERATOR (July 1, 2021), https://www.caiso.com/Documents/CapacityProcurementMechanismSignificantEvent-JointStatementandLetter.pdf ("As a result of these unprecedented climate change-driven heat events, which are occurring throughout the West in combination with drought conditions that reduce hydroelectric capacity, California is using all available tools to increase electricity reliability this summer.").

58. Sandoval, *Net Neutrality Powers Energy and Forestalls Climate Change*, *supra* note 9, at 38–39 (citing In the Matter of Protecting & Promoting the Open Internet, 30 FCC Rcd. 5601, 5655 n. 291 (2015) [hereinafter FCC, *2015 Open Internet Order* or *2015 OIO*] (citing Catherine J.K. Sandoval, Commissioner, Cal. Pub. Util. Commission, Comment Letter on Protecting and Promoting the Open Internet, at 2 (Oct. 14, 2014) [hereinafter Commissioner Sandoval, *Ex Parte Letter*]).

59. Sandoval, *Net Neutrality Powers Energy and Forestalls Climate Change*, *supra* note 9, at 38–39.

60. FCC, *2015 Open Internet Order*, *supra* note 58, at 5607, ¶¶ 5, 40.

programs and to expand those programs to low-income Californians including renters.[61]

Regulators must respond when programs and regulations are not meeting community needs. The Lifeline program was founded—first in California in 1984, then by the federal government in 1985—to support access to telephone services and thereby spur economic opportunity and protect public safety.[62] California's LifeLine program provides state financial support for telephone and internet access, complementing the federal Lifeline program administered by the FCC.

As the Assigned Commissioner for California's LifeLine program, I held hearings that found Californians using wireless phones through the federal Lifeline program were running out of voice minutes, mostly by waiting on hold for social services, due to the lack of any FCC Lifeline minimum minutes standard then-existing.[63] My colleagues and I reformed California's state LifeLine program in 2014, imposing minimum minutes standards for voice service to meet contemporary communications needs and opening the program to mobile platforms and internet use.[64] In 2016, the FCC followed California's model by adopting minimum standards for voice minutes for the federal Lifeline program and focused its federal lifeline support on internet access.[65]

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61. Sandoval, *Net Neutrality Powers Energy and Forestalls Climate Change*, *supra* note 9, at 38–39.

62. CPUC, Resolution T-17366, Modifications To The California Lifeline Program Rules–General Order 153 - In Compliance with the Federal Communications Commission's Lifeline/Link-Up Reform Order (FCC 12–11) (July 13, 2012), https://docs.cpuc.ca.gov/word_pdf/FINAL_RESOLUTION/170652.pdf ("[I]n 1984, the CPUC, established the Universal LifeLine Telephone Service Program in Decision (D.) 84-04-053."); Cal. Pub. Utils. Code §§ 871–78 (introduced in 1983 as AB 1348, codified in 1987 as the Moore Universal Telephone Service Act); MTS and WATS Market Structure, and Amendment of Parts 67 & 69 of the Commission's Rules and Establishment of a Joint Board, Report and Order, 50 Fed. Reg. 939 (1985) (implementing a low-income support program in 1985, after the divestiture of AT&T, that required carriers to offer discounted service to qualifying low-income consumers); Telecommunications Act of 1996, 47 U.S.C. § 224 (c)(1) (codifying "the commitment to advancing the availability of telecommunications services to low-income consumers and established principles upon which the Commission 'shall base policies for the preservation and advancement of universal service.' ").

63. CPUC D. 14-01-036, Decision Adopting Revisions To Modernize And Expand The California Lifeline Program (Rulemaking 11-03-013) 56 (Jan. 16, 2014).

64. *Id.* at 71–73.

65. In the Matter of Lifeline & Link Up Reform & Modernization, 31 FCC Rcd. 3962 (2016) ("We also establish minimum service standards for broadband and mobile voice services to ensure those services meet the needs of the consumers, and we recognize and allow an exception in areas where fixed broadband providers do not meet the minimum standards.").

The shortfall in voice service for consumers when the federal Lifeline program did not require carriers to provide any minimum level of voice minutes parallels the internet access deficit that happens to consumers throttled by their ISP. As discussed in Section V.B, throttling may occur after different levels of data consumption, depending on the plan and the ISP. Many throttled consumers are left without meaningful internet service, often for hours, days, or weeks at a time.[66] Throttling may leave consumers unable to conduct a telemedicine appointment, attend class or work via videoconferencing, or even to use mapping applications.

Switching to wired internet is not an option for many renters, those who share housing, or those who have insecure housing or poor credit. Neither are wired internet plans free from ISP throttling practices as some wired ISP terms of service claim the right to slow subscribers the ISP deems "excessive users," even when "excessive" use is not clearly defined.[67] Some ISPs even throttle the neighbors of those it deems excessive users.[68]

Analyzing ISP throttling practices and regulation is critical to ensure that the Emergency Broadband Benefit Program (EBB) program Congress authorized during the COVID-19 pandemic, adequately supports low-income consumer internet communications needs.[69] The FCC's 2021 EBB order declined to impose any minimum standards and relied on ISP disclosures to support consumer choice.[70]

Recognizing ISP throttling as a threat to internet openness is important to assessing America's success in providing access to Advanced Telecommunications Service, as required by section 706 of the Communications Act.[71] The FCC should examine the sufficiency of ISP disclosures of throttling practices and ensure that the EBB, Lifeline, and other FCC universal service and broadband programs meet contemporary communications needs. Addressing inequitable internet access, regulation, and ISP policies that undermine access is necessary to fulfill the FCC's

66. *See supra* note 12 and *infra* Section V.B.

67. Brodkin, *supra* note 4.

68. *Id.*

69. Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, div. N, tit. IX, § 904(i), 134 Stat. 1182 (2020), https://www.congress.gov/bill/116th-congress/house-bill/133/text [hereinafter *Consolidated Appropriations Act*].

70. In the Matter of Emergency Broadband Benefit Program, WC Docket No. 20-445, Report and Order, ¶ 73 (Feb. 25, 2021), https://docs.fcc.gov/public/attachments/FCC-21-29A1.pdf [hereinafter, FCC, *EBB Order*].

71. *See* 47 U.S.C. § 1302(b) (requiring the FCC to conduct a notice of inquiry concerning the availability of advanced telecommunications capability to all Americans).

responsibility to promote access to advanced services, protect public safety, and serve all Americans.[72]

III. LEGAL FRAMEWORK FOR FCC REGULATION TO PROMOTE SERVICE TO ALL AMERICANS IN THE PUBLIC INTEREST

A. PROMOTING WIRELESS AND WIRELINE SERVICE TO ALL AMERICANS WITHOUT DISCRIMINATION

The Communications Act requires the FCC to make wireless and wireline communications available to all of the people of the United States, without discrimination.[73] The Telecommunications Act of 1996 ('96 Act) added the requirement that the FCC carry out its mission "without discrimination on the basis of race, color, religion, national origin, or sex."[74] David Honig, Co-Founder and former President and Executive Director of the Minority Media and Telecommunications Council, emphasized that the '96's Act's "non-discrimination provision is not self-executing."[75]

Federal statute mandates the FCC to regulate to promote "safety of life and property through the use of wire and radio communication."[76] This requirement applies to the FCC's service to *all* the people of the United States. *Mozilla v. FCC* emphasized that "[w]hen, as here, 'Congress has given an agency the responsibility to regulate a market such as the telecommunications industry that it has repeatedly deemed important to protecting public safety,'… the agency's decisions 'must take into account its duty to protect the public.' "[77] The "Commission is 'required to consider public safety by . . . its enabling act.' "[78]

72. *See id.*; 47 U.S.C, §§ 151, 1302(b).

73. *See* 47 U.S.C. § 151.

74. 110 Stat. 86, Sec. 104, Nondiscrimination Principle, Pub. Law 104, Feb. 8, 1996.

75. David Honig, *How the FCC Suppressed Minority Broadcast Ownership, and How the FCC Can Undo the Damage It Caused*, 12 S. J. POL'Y & JUST. 44, 47 (2018).

76. *See* Nuvio Corp. v. F.C.C., 473 F.3d 302, 311 (D.C. Cir. 2006) (discussing the FCC's statutory duty to promote public safety); Mozilla v. FCC, 940 F.3d 1, 94–97 (D.C. Cir. 2019) (citing Professor and former CPUC Commissioner Sandoval's comments about the internet's role in public safety, energy reliability and safety, natural gas leak detection, and critical infrastructure protection, in addition to CPUC and County of Santa Clara's comments, to remand the FCC's net neutrality repeal order to consider public safety issues); *see also* Wireless Communication and Public Safety Act of 1999, 47 U.S.C. § 615 (requiring the FCC to promote safety through its regulation of wireless communications).

77. Mozilla v. FCC, 940 F.3d 1, 7–8 (citing *Nuvio*, 473 F.3d at 307).

78. *Id.* at 59.

The radio spectrum, including that used for wireless and wireline communication, belongs to the people of the United States. The Communications Act provides, "[i]t is the purpose of this [Act], among other things, to maintain the control of the United States over all the channels of radio transmission."[79] FCC licenses "provide for the use of such channels, but not the ownership thereof, by persons for limited periods of time, under licenses granted by Federal authority, and no such license shall be construed to create any right, beyond the terms, conditions, and periods of the license."[80]

The communications sector is a part of the economy designated as "Critical Infrastructure."[81] The Critical Infrastructure Protection Act (CIPA) of 2001 defines critical infrastructure as those "systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters."[82] CIPA "defines critical infrastructure *not* with reference to the identity of the target, but by the consequences of an attack on it."[83]

In 2013, President Obama issued the Presidential Policy Directive-Critical Infrastructure Security and Resilience (PPD-21), which designated 16 sectors as critical infrastructure, including the Communications Sector.[84] PPD-21 identifies "energy and communications systems as uniquely critical due to the enabling functions they provide across all critical infrastructure sectors."[85] "Energy and communications systems are key drivers for the U.S. economy, democracy, and national security, underlying the operations of nearly all businesses, public safety organizations, healthcare providers, education, and government."[86]

Pursuant to CIPA, the Communications Sector Specific plan "outlines how government and private sector participants in the critical infrastructure

79. 47 U.S.C. § 301.

80. *Id.*

81. *Presidential Policy Directive–Critical Infrastructure Security And Resilience (Ppd-21)*, WHITE HOUSE (Feb. 12, 2013), https://obamawhitehouse.archives.gov/the-press-office/2013/02/12/presidential-policy-directive-critical-infrastructure-security-and-resil; *Communications Sector*, CYBERSECURITY & INFRASTRUCTURE SEC. AGENCY, https://www.cisa.gov/communications-sector.

82. Sandoval, *Net Neutrality Powers Energy and Forestalls Climate Change*, *supra* note 9, at 8 (citing 42 U.S.C. § 5195c(e)).

83. *Id.*

84. WHITE HOUSE, *supra* note 81.

85. *Id.*

86. Sandoval, *Net Neutrality Powers Energy and Forestalls Climate Change*, *supra* note 9, at 11.

community work together to manage risks and achieve security and resilience outcomes."[87] The Communications Sector plan recognizes that changes in the communications industry—"including mobile broadband, cloud computing, the Internet of Things (IoT)," "software-defined networks (SDNs)," and widespread smartphone and tablet computer adoption—have created "enormous demand for mobile broadband communications," as well as increased "the requirement for improved sector security and resilience."[88]

The Communications Sector plan is network-focused rather than consumer-focused. The Communications Sector's classification as Critical Infrastructure underscores the importance of internet network access to national economic security, national public health, and safety. Addressing throttling, industry practices, and regulations that limit consumer internet access is critical to achieving CISA's goals.

The Telecommunications Act of 1996, section 706(b), requires the Commission to annually "initiate a notice of inquiry concerning the availability of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms) . . . ."[89] Through this annual inquiry, the FCC must "determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion."[90] "If that determination is negative, the Commission 'shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.' "[91]

The FCC is also required, by RAY BAUM'S Act of 2018 to issue a biennial Communications Marketplace Report assessing "the state of deployment of communications capability, including advanced

87. *National Infrastructure Protection Plan*, CYBERSECURITY & INFRASTRUCTURE SEC. AGENCY, https://www.cisa.gov/national-infrastructure-protection-plan; U.S. DEP'T HOMELAND SEC., COMMUNICATIONS SECTOR-SPECIFIC PLAN AN ANNEX TO THE NIPP 2013 1 (2015) [hereinafter *Communications Sector-Specific Plan*], https://www.cisa.gov/sites/default/files/publications/nipp-ssp-communications-2015-508.pdf.

88. *Id.* at 5.

89. 47 U.S.C. § 1302(b).

90. *Id.*

91. FCC, FCC 20-50, 2020 BROADBAND DEPLOYMENT REPORT ¶ 4 (2020) (citing Consolidated Appropriations Act, 2018, Pub. L. No. 115-141, Div. P—RAY BAUM'S Act of 2018, §§ 401–402, 132 Stat. 348, 1087–90 (2018) (RAY BAUM'S Act of 2018); 47 U.S.C. § 163(b)(2) (added 2018)), https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2020-broadband-deployment-report [hereinafter BROADBAND DEPLOYMENT REPORT].

telecommunications capability."[92] The FCC issues both the Broadband Deployment Report required under section 706(b) to assess the state of advanced service deployment and a Communications Marketplace Report in compliance with the RAY BAUM Act.[93]

This Article recommends the FCC examine restrictive throttling practices in its Communications Marketplace Report and section 706 reports on Advanced Communications. That analysis should consider whether ISPs should be required to publicly disclose throttling practice information, even if the ISP characterizes that conduct as network management. Information about the number of Americans subject to throttling, the extent and duration of such slow-downs, and the neighborhoods where throttling is practiced can inform FCC regulation and assessments to promote internet access and protect public safety.

B. PROMOTING ADVANCED TELECOMMUNICATIONS SERVICES AND THE OPEN INTERNET'S VIRTUOUS CIRCLE OF INNOVATION

In addition to requiring the FCC to assess the status of advanced telecommunications service, section 706(b) empowers the FCC to "promulgate rules governing broadband providers' treatment of [i]nternet traffic." The D.C. Circuit, in *Verizon v. FCC*, upheld the FCC's 2010 Open Internet Order's (2010 OIO) interpretation of section 706(b) as an affirmative grant of authority allowing the FCC to take action to promote internet access.[94] The FCC's 2010 OIO reversed the FCC's previous interpretation of section 706 as not authorizing such action.[95] Based on the FCC's earlier interpretation of section 706 as not granting affirmative authority to adopt rule to promote internet access, the D.C. Circuit concluded in 2010 that the FCC did not have the jurisdictional basis to order sanctions against Comcast for its actions alleged to have interfered with internet traffic.[96]

Verizon v. FCC recognized the FCC's theory that regulatory action to protect internet openness was appropriate and authorized by section 706 to

92. *Id.* at 11; *see also* Communications Marketplace Report, 33 FCC Rcd. 12558, 12683–702, ¶¶ 236–64 (2018) [hereinafter *Communications Marketplace Report*].

93. *See, e.g.*, *Communications Marketplace Report*, *supra* note 92.

94. Verizon v. FCC, 740 F.3d 623, 627 (D.C. Cir. 2014).

95. *In re* Preserving the Open Internet, 25 F.C.C.R. 17905 (2010) (reversing the FCC's prior interpretation of section 706(b) of the Telecom Act and recognizing that statute as an affirmative grant of authority to promote advanced internet access) [hereinafter FCC*, 2010 Open Internet Order* or *2010 OIO*].

96. *Cf.* Comcast Corp. v. FCC, 600 F.3d 642 (D.C. Cir. 2010) (holding the FCC failed to cite any statutory authority to justify its order compelling a broadband provider to adhere to open network management practices, based on the then-existing interpretation of section 706(b) as not granting the FCC authority to take action to promote advanced internet access).

"preserve and facilitate the 'virtuous circle' of innovation that has driven the explosive growth of the [i]nternet . . . ."[97] That virtuous circle of internet innovation turns on internet openness that "spurs investment and development by edge [content] providers, which leads to increased end-user demand for broadband access."[98] Innovative internet content and platforms lead "to increased investment in broadband" infrastructure.[99]

The FCC adopted rules to protect internet openness because they were concerned that if broadband providers were to disrupt this "virtuous circle" by "[r]estricting edge providers' ability to reach end users and limiting end users' ability to choose which edge providers to patronize," providers would "reduce the rate of innovation at the edge and, in turn, the likely rate of improvements to network infrastructure."[100] The D.C. Circuit concurred with the FCC's judgment that section 706(b) of the '96 Act vests it with "affirmative authority to enact measures encouraging the deployment of broadband infrastructure."[101]

The FCC adopted rules in its 2010 OIO under the FCC's Title I authority conferred by the Communications Act of 1934. The Communications Act founded the FCC to make wireless and wireline communications available to all of the people of the United States, to protect safety of life and property, and for national defense.[102] The FCC "justified its [2010 Open Internet Order] as an exercise of what courts term its 'ancillary jurisdiction,' a power that flows from the broad language of Communications Act (47 U.S.C. § 154(i))."[103] That statute authorizes the Commission to "perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this chapter, as may be necessary in the execution of its functions."[104]

The Supreme Court has held that the FCC may exercise such ancillary jurisdiction where two conditions are met: "(1) the Commission's general jurisdictional grant under Title I covers the regulated subject and (2) the regulations are reasonably ancillary to the Commission's effective performance of its statutorily mandated responsibilities."[105] *Verizon v. FCC*

97. *Verizon*, 740 F.3d at 627.
98. *Id.* at 634.
99. *Id.*
100. FCC, *2010 Open Internet Order*, *supra* note 95, ¶ 14.
101. *Verizon*, 740 F.3d at 628.
102. 47 U.S.C. § 151, 154(i).
103. *Verizon*, 740 F.3d at 632.
104. *Id.*
105. *Id.* (citing Am. Library Ass'n v. FCC, 406 F.3d 689, 691–92); *see also* United States v. Sw. Cable Co., 392 U.S. 157 (1968); United States v. Midwest Video Corp., 406 U.S. 649 (1972); FCC v. Midwest Video Corp., 440 U.S. 689 (1979).

determined that since the FCC had not yet interpreted section 706 of the Communications Act to grant it affirmative authority to take regulatory action to promote internet access, the ancillary jurisdiction test was not met to adopt regulations prohibiting ISPs from blocking and throttling.[106]

Verizon v. FCC concluded that the FCC's requirements that broadband providers "serve all edge providers without 'unreasonable discrimination,' " "relegated [those providers], *pro tanto,* to common carrier status" under Title II of the Communications Act.[107] The D.C. Circuit determined that FCC rules against blocking and throttling could not be sustained based on the FCC's classification of ISPs under Title I in its 2010 OIO.[108]

The 2010 OIO also adopted transparency rules requiring fixed and mobile broadband providers to "publicly disclose accurate information regarding the network management practices, performance, and commercial terms of [their] broadband [i]nternet access services."[109] The D.C. Circuit upheld the FCC's transparency and disclosure rules as severable from its rules prohibiting blocking and imposing antidiscrimination rules under Title I of the Communications Act.[110]

In response to these legal precedents and a robust record expressing concern about threats to internet openness, the FCC's 2015 OIO classified ISPs under Title II of the Communications Act and imposed rules prohibiting ISP blocking, throttling, and paid priority.[111] FCC Title II regulatory classification of ISPs satisfied the D.C. Circuit's concern about the FCC's authority to prohibit ISP blocking and throttling, regulations that treated ISPs like common carriers by subjecting them to nondiscrimination obligations.

The FCC's 2015 OIO prohibited ISPs, classified as common carriers, from engaging in throttling, including "the degrading of [i]nternet traffic

106. *Verizon*, 740 F.3d at 656.

107. *Verizon*, 740 F.3d at 624, 633, 658 (citing Midwest Video II, 440 U.S. 689, 700–01 (1979); NARUC I v. FCC, 525 F.2d 630, 642 (D.C. Cir. 1976).

108. *Verizon*, 740 F.3d at 650–51 ("Thus, we must determine whether the requirements imposed by the Open Internet Order subject broadband providers to common carrier treatment. If they do, then given the manner in which the Commission has chosen to classify broadband providers [as information service providers under Title I], the regulations cannot stand.").

109. *Id.* at 659 (upholding the FCC's *2010 Open Internet Order* transparency rules and reversing the rules against blocking and throttling as common carrier-type restrictions, not supported by the FCC's classification of ISPs as information service providers); FCC*, 2010 Open Internet Order*, *supra* note 95, ¶¶ 54 (transparency rules for fixed providers), 98 (transparency rules for mobile providers).

110. *Verizon*, 740 F.3d at 656.

111. FCC, *2015 Open Internet Order*, *supra* note 58, at 5604.

based on source, destination, or content."[112] Proscriptions against throttling were adopted to "avoid gamesmanship designed to avoid the no-blocking rule by, for example, rendering an application effectively, but not technically, unusable."[113]

The FCC's 2015 OIO also imposed a rule against unreasonable interference by ISPs, also known as the "general conduct rule."[114] The rule allowed complaints to be filed with the FCC against ISP policies and practices not clearly proscribed by the bright-line rules against blocking, throttling, and paid priority (receiving payment to prioritize some internet traffic).[115]

The 2015 OIO also required disclosure of network management practices and did not deem business justifications—as opposed to technical network management reasons—as reasonable network management.[116] It modified the transparency rules adopted in the 2010 Order to require "specific notification to consumers that a 'network practice' is likely to significantly affect their use of the service."[117]

The D.C. Circuit in *U.S. Telecom Ass'n v. FCC* (*USTA*) upheld the FCC's decision to classify ISPs under Title II as a reasonable exercise of the FCC's authority under section 706(b) to interpret an ambiguous statute.[118] *USTA* found that the FCC's decision to classify ISPs as Title II carriers and impose antidiscrimination rules was a result of reasoned decision-making due *Chevron* deference.[119] *USTA* upheld the FCC's 2015 Order, citing the FCC's analysis that "convincingly detailed how broadband providers' [gatekeeper] position in the market gives them the economic power to restrict edge-provider [content provider] traffic and charge for the services they furnish edge providers."[120]

After Presidential administrations changed in 2017, the FCC, in 2018, reversed course and classified ISPs under Title I, repealing the 2015 rules.

112. *Id.* at 5607, ¶ 17.

113. *Id.*

114. *See* U.S. Telecom Ass'n v. FCC, 825 F.3d 674, 733 (D.C. Cir. 2016) (citing FCC, *2015 Open Internet Order*, *supra* note 58, at 5659–60, ¶ 136); FCC, *2015 Open Internet Order*, *supra* note 58, at 5659–68, 5728–30, ¶¶ 135–53, 294–96.

115. *Id.* at 5728–29, 5885, App. A, Sec. 8.11 (imposing a no unreasonable interference/disadvantage standard to ensure that broadband providers do not engage in practices that threaten the internet's open nature in other or novel ways).

116. *Id.* at 5700, ¶¶ 215–16.

117. *Id.* at 5609, ¶ 24.

118. *U.S. Telecom Ass'n*, 825 F.3d at 694.

119. *Id.* at 689, 697 (citing Chevron U.S.A. Inc. v. Nat. Res. Def. Council, Inc., 467 U.S. 837 (1984)).

120. Sandoval, *Net Neutrality Repeal Rips Holes in the Public Safety Net*, *supra* note 9, at 988–89.

Citing a policy preference for light-touch regulation and reliance on the FTCA and antitrust law to protect consumers and competition, the FCC divested its authority to impose net neutrality rules against blocking, throttling, and paid priority or other nondiscrimination obligations.[121]

The 2018 "Restoring Internet Freedom" (RIF) Order required ISPs to disclose throttling defined as "[a]ny practice (other than reasonable network management elsewhere disclosed) that degrades or impairs access to lawful [i]nternet traffic on the basis of content, application, service, user, or use of a non-harmful device, including a description of what is throttled."[122] Under those rules, no disclosure would be required if the practice were "reasonable network management elsewhere disclosed."[123] The FCC's 2018 rules gave ISPs great latitude to determine what is reasonable network management and effectively limited FCC jurisdiction to determine what is reasonable.

The 2018 RIF Order modified the FCC's transparency rules to require ISPs to disclose network management practices and other terms to inform consumer choice.[124] The FCC added to its rules in 47 C.F.R § 8.1 a requirement for ISPs to disclose congestion management policies:

> Any person providing broadband [i]nternet access service shall publicly disclose accurate information regarding the network management practices, performance characteristics, and commercial terms of its broadband [i]nternet access services sufficient to enable consumers to make informed choices regarding the purchase and use of such services and entrepreneurs and other small businesses to develop, market, and maintain [i]nternet offerings. Such disclosure shall be made via a publicly available, easily accessible website or through transmittal to the Commission.[125]

121. FCC, *2018 RIF Order*, *supra* note 12, at 7852 (repealing FCC rules adopted in 2015 that prohibited ISPs from blocking, throttling, or engaging in paid prioritization of internet traffic except for limited reasonable network management justifications).

122. *Id.* ¶ 201 (requiring disclosure of throttling practices).

123. *Id.*

124. *Id.* ("Descriptions of congestion management practices, if any [are required]. These descriptions should include the types of traffic subject to the practices; the purposes served by the practices; the practices' effects on end users' experience; criteria used in practices, such as indicators of congestion that trigger a practice, including any usage limits triggering the practice, and the typical frequency of congestion; usage limits and the consequences of exceeding them; and references to engineering standards, where appropriate.").

125. *Id.* ¶ 5 (amending 47 C.F.R. § 8.1).

Through that transparency rule, the FCC sought to "provide edge [content] providers with the information necessary to develop new content, applications, services, and devices that promote the virtuous cycle of investment and innovation."[126] It also sought to "better enable end-user consumers to make informed choices about broadband services by providing them with timely information tailored more specifically to their needs . . . ."[127]

As discussed in Section V.B., many ISPs fail to disclose the extent or consequences of throttling, such as the inability to access telemedicine, education, or work through videoconferencing, in addition to GPS navigation and other commonly used applications. This lack of disclosure should be examined as it appears inconsistent with the FCC transparency policy's requirement that ISPs disclose the consequences of exceeding congestion management policies or limits.

The D.C. Circuit in *Mozilla v. FCC* upheld the FCC's authority to reclassify ISPs under Title I but remanded the 2018 RIF Order for failure to consider the impact of net neutrality repeal on public safety, ISP access to utility poles, and Lifeline service for the poor—the latter two of which require common carrier classifications.[128] *Mozilla* cited my comments filed with the FCC in 2014 when I was a CPUC Commissioner, as well as those of Santa Clara County and the CPUC, as a warning about the dangers to public safety flowing from ISP interference with internet openness.[129] My comments highlighted many safety-related benefits of an open internet—safeguarded from blocking, throttling, and paid priority—exemplified by uses in the fields of energy, water, and communications. For example, "[i]nternet-enabled demand response transforms load reduction into a supply-side energy resource that manages energy during critical events, and forestalls the need to build fossil-fueled power plants."[130]

The D.C. Circuit chastised the FCC for its failure to analyze "the direct and specific comments by Santa Clara County, former California Public Utility Commissioner Sandoval, and others" that "repeatedly raised

126. *Id.* ¶ 162.

127. *Id.*

128. Mozilla Corp. v. FCC, 940 F.3d 1, 41 (D.C. Cir. 2019).

129. *Id.* at 61–62.

130. Catherine J.K. Sandoval, Commissioner, California Public Utilities Commission, Testimony and statement Before the Congressional Democratic Forum on Net Neutrality, Hosted by Congresswoman Doris O. Matsui, September 24, 2014, Written Statement of Testimony Submitted to the FCC record for GN Docket Nos., 14-28, and 10-127, Protecting and Promoting the Open Internet, Framework for Broadband Internet Services, 34–35, https://ecfsapi.fcc.gov/file/60000972787.pdf) [hereinafter *Sandoval Net Neutrality September 2014 Testimony*].

substantial concerns about the Commission's failure to undertake the statutorily mandated analysis of the 2018 Order's effect on public safety."[131] The D.C. Circuit emphasized that since promoting public safety is a statutory duty under 47 U.S.C. § 151 and other statutes, the FCC acted arbitrarily and capriciously by failing to consider the link between net neutrality and public safety under the Administrative Procedure Act.[132]

Santa Clara County's comments in the Government Petitioner's brief in *Mozilla v. FCC* emphasized the public safety harms caused by blocking, throttling, and paid priority. Santa Clara County expressed grave concern that, in July 2017, "Verizon slowed the Santa Clara Fire Protection District's data when the District was fighting the Mendocino Complex fire—California's largest fire," as of that date.[133] "During this slowdown, Fire District personnel appealed to Verizon to stop the severe data slowdown for a device in active use to help coordinate fire resources."[134]

As Andrea Matwyshyn explained, the emails between Verizon and the Santa Clara County Fire Department showed

> Verizon responded by informing them in the middle of this public safety emergency that [i]nternet access had been throttled because the department had purchased an 'incorrect' tier of service: the 'unlimited' plan the department had purchased was contractually subject to throttling in the sole discretion of Verizon. The exchange between Verizon and the firefighters was memorialized in a series of progressively more desperate, plaintive emails from the firefighters to Verizon.[135]

"Even after they explained the gravity of the situation, the firefighters perceived the Verizon representative to be more concerned with attempting to upsell the department on a higher tier of service than assisting them during the crisis."[136] "Verizon demanded that the Fire Department switch to a plan that costs $2.00 a month more to stop the throttling, an unfathomable demand to a fire department using the [i]nternet during an active firefight. Fire Department personnel could not readily authorize additional payments

131. *Id.* 60–61; *see also* Brief for Government Petitioners at 23, Mozilla v. FCC, 940 F.3d 1 (2018) (No. 18-1051) (citing *Sandoval Net Neutrality September 2014 Testimony*, *supra* note 130, at 34–35).

132. Sandoval, *Net Neutrality Repeal Rips Holes in the Public Safety Net*, *supra* note 9 at 1017.

133. *Id.*

134. *Id.*

135. Andrea M. Matwyshyn, *Unavailable*, 81 U. PITT. L. REV. 349, 369 (2019).

136. Sandoval, *Net Neutrality Repeal Rips Holes in the Public Safety Net*, *supra* note 9 at 1017.

for the requested $2.00 per month upcharge in light of government contracting rules."[137]

The "unlimited" data plan Verizon sold to the Santa Clara Fire Department did not sufficiently highlight the potential throttling that thwarted internet access necessary to coordinate resources during a fire fight. "Throttling means that the device that can normally act like a modern broadband internet connection is slowed to the point of acting more like an AOL dial up modem from 1995," Santa Clara's Fire Chief reported.[138] "Verizon's service slowdown turned the [i]nternet calendar back to the dial-up days in the midst of a public safety emergency. Throttling left firefighters unable to use data connections that require more than dial-up speeds to acquire information and coordinate their firefighting response."[139] Santa Clara County Fire Chief Anthony Bowden "asserted that the department 'experienced throttling by its ISP, Verizon,' namely that its 'data rates had been reduced to 1/200, or less, than the previous speeds.' "[140] This throttling was dangerous because "[t]he [i]nternet has become an essential tool in providing fire and emergency response,"[141] and "[m]odern firefighters rely on real-time geographic information system (GIS) mapping to monitor fires and coordinate emergency response, track information, and save lives."[142]

In response to Fire Chief Bowden, Verizon asserted, " 'This was a customer support mistake' and not a net neutrality issue."[143] Verizon's response finds support from Jonathan E. Nuechterlein and Howard Shelanski who argued that advocates "sometimes use the term 'throttling' to describe the slower speeds that customers on tiered data plans sometimes experience after they have exceeded their monthly data allowances."[144] They contend that this "practice has nothing to do with discriminating among content sources or preserving an open internet, and it has always been lawful, even under the now-repealed Title II regime."[145] The Fire Department argued "Verizon's throttling has everything to do with net neutrality—it shows that

137. *Id.*

138. *Id.* (citing Addendum to Brief for Government Petitioners at Appx. A, 11, Mozilla Corp. v. FCC, 940 F.3d 1 (2018) (No. 18-1051)).

139. *Id.*

140. Christopher Terry & Scott Memmel, *Harlem Shake Meets the Chevron Two Step: Net Neutrality Following Mozilla v. FCC*, 15 WASH. J. L. TECH. & ARTS 160, 162 (2020).

141. Matwyshyn, *supra* note 135, at 370.

142. Sandoval, *Net Neutrality Repeal Rips Holes in the Public Safety Net*, *supra* note 9, at 1045.

143. Matwyshyn, *supra* note 135, at 370.

144. Jonathan E. Nuechterlein & Howard Shelanski, *Building on What Works: An Analysis of U.S. Broadband Policy*, 73 FED. COMM. L.J. 219, 257 n. 82 (2021).

145. *Id.*

the ISPs will act in their economic interests, even at the expense of public safety."[146]

Verizon's argument that throttling the Fire Department was not a net neutrality issue focused on whether the 2015 Open Internet rules would have applied to an enterprise customer such as the Santa Clara County fire department.[147] This argument misses the point. Verizon's throttling of the fire department during an active fire fight is emblematic of the type of throttling untold numbers of customers experience when their ISP slows their use to dial-up speeds. As discussed in Section V.B., several ISPs throttle customers to a similar extent as Verizon's deleterious throttling of the Santa Clara County Fire Department's service.

The Santa Clara County Fire Department "throttling incident galvanized the California state legislature and citizenry, and net neutrality legislation passed shortly thereafter."[148] I appreciated the opportunity to suggest to Senator Wiener and his staff language incorporated into the California Internet Consumer Protection and Net Neutrality Act of 2018, Senate Bill 822 (SB 822), section 1. The language "recogniz[es] the importance of the [i]nternet to critical infrastructure services, the economy, businesses, and other activities regulated by the state's police power."[149] Section 1 states that the act "is adopted pursuant to the police power inherent in the State of California to protect and promote the safety, life, public health, public convenience, general prosperity, and well-being of society, and the welfare of the state's population and economy, that are increasingly dependent on an open and neutral [i]nternet."[150]

As enacted, SB 822 prohibits fixed internet service providers from engaging in blocking, throttling, and paid priority, among other practices. Title 15, section 3101(a), of the California Civil Code, prohibits "a fixed [i]nternet service provider" from "[i]mpairing or degrading lawful [i]nternet traffic on the basis of [i]nternet content, application, or service, or use of a nonharmful device, subject to reasonable network management." This

146. Matwyshyn, *supra* note 135, at 370.

147. Jon Brodkin, *Fire Dept. Rejects Verizon's "Customer Support Mistake" Excuse for Throttling,* ARS TECHNICA (Aug. 22, 2018), https://arstechnica.com/tech-policy/2018/08/fire-dept-rejects-verizons-customer-support-mistake-excusefor-throttling/.

148. Matwyshyn, *supra* note 135, at 370; S.B. 822, 2018 Leg., Reg. Sess. (Cal. 2018), https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB822.

149. Sandoval, *Net Neutrality Powers Energy and Forestalls Climate Change*, *supra* note 19, at 21 (citing Gonzales v. Oregon, 546 U.S. 243 (2006) (providing that states have authority under the police power to "legislate with regard to protection of the lives, limbs health, comfort, and quiet of all persons").

150. Cal. S.B. 822 § 1.

prohibition does not apply to wireless carriers or to service degradation agnostic to content, application, service, or device.

Section 3101(7)(A) prohibits unreasonable network management:

> Unreasonably interfering with, or unreasonably disadvantaging, either an end user's ability to select, access, and use broadband Internet access service or the lawful Internet content, applications, services, or devices of the end user's choice, or an edge provider's ability to make lawful content, applications, services, or devices available to end users. Reasonable network management shall not be a violation of this paragraph.[151]

Whether throttling consumers to 2G speeds, or other types of throttling, is "reasonable network management" will likely be a subject for future litigation.

Several communications industry associations challenged SB 822's legality, arguing federal preemption prohibits California from adopting its own net neutrality rules due to the internet's interstate nature.[152] Notably, *Mozilla v. FCC* vacated the FCC's 2018 RIF Order's attempt to preempt state ISP regulation as having no basis in statute or authority.[153] Thus, in *ACA CONNECTS*, amici supporting the state argued:

> SB 822 protects Californians by filling the gap the FCC created. It preserves the ability of all Californians, including the most vulnerable, to fully participate—economically, socially, and politically—in everyday life. It ensures that ISPs cannot block, throttle, or distort [i]nternet content, and prohibits zero-rating and other paid-prioritization schemes so that all Californians have full access to lawful [i]nternet content and services—at lower prices.[154]

The Ninth Circuit upheld the district court's denial of a preliminary injunction to block SB 822's enforcement, concluding, consistent with *Mozilla v. FCC*, that "by classifying broadband internet services as

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151. *Id.*

152. Reply Brief of Plaintiffs-Appellants Broadband Provider Associations at 1, ACA Connects v. Bonta, No. 21-15430 (9th Cir. May 25, 2021), 2021 WL 2273765.

153. Mozilla Corp. v. FCC, 940 F.3d 1, 86 (D.C. Cir. 2019) ("At bottom, the Commission lacked the legal authority to categorically abolish all fifty States' statutorily conferred authority to regulate intrastate communications. For that reason, we vacate the Preemption Directive.").

154. Brief of Amici Curiae Electronic Frontier Foundation, ACLU Foundation of Northern California, ACLU Foundation of Southern California, Access Humboldt, Benton Institute for Broadband & Society, Clean Money Campaign, Fight for the Future, Greenling Institute, Ifixit, Inc., Media Justice, National Hispanic Media Coalition, Oakland Privacy, Reddit, Inc., Turn - The Utility Reform Network, Writers Guild of America, West, Inc. in Support of Defendant-Appellee and Affirmance at 4, ACA Connects v. Bonta, No. 21-15430 (9th Cir. May 11, 2021), 2021 WL 2022131.

information services, the FCC no longer has the authority to regulate in the same manner that it had when these services were classified as telecommunications services." The agency, therefore, cannot preempt state action, like SB-822, that protects net neutrality."[155]

SB 822 reflects the state's concern with ISP actions that affect internet openness. Throttling was a primary motivator for SB 822's adoption and is a practice affecting a range of consumers from mass-market internet users to institutional internet users such as a fire department. The issues leading up to SB 822 and its text highlight the safety and public interest issues at stake in ISP conduct and regulation.

The FCC concluded in October 2020, on remand from *Mozilla v. FCC*, that Title I classification for ISPs was unlikely to adversely affect public safety.[156] The FCC's order prioritized the potential benefits of Title I classification over likely public safety risks. The 2020 RIF Order on remand determined that "even if there were some adverse impacts on public safety applications in particular cases—which we do not anticipate—the overwhelming benefits of Title I classification would still outweigh any potential harms."[157] This conclusion and choice between classifying ISPs under Title I or Title II are likely to be revisited in future FCC net neutrality proceedings, which are outside of this Article's scope.

Separate from net neutrality analysis, this Article recommends that the FCC evaluate ISP throttling and contract terms under its transparency rules still standing after the 2018 RIF Order and 2020 remand. That analysis should consider whether ISP throttling policy disclosures are sufficient to protect public safety, a value increasingly dependent on robust and open internet access.

C. CENTERING THE PUBLIC IN PUBLIC SAFETY

In its order on remand from *Mozilla v. FCC*, the FCC's public safety definition excluded communications among members of the public. The FCC announced in its 2020 RIF order, "Public safety communications fall into two broad categories: (1) communications within and between public safety entities, and (2) communications between public safety entities and the public."[158] This narrow definition excludes from the conception of public

155. ACA Connects v. Bonta, 24 F.4th 1233, 1237 (9th Cir. 2022).
156. *2020 RIF Order*, *supra* note 12, at 12336, ¶¶ 18–20.
157. *Id.* at 12336, ¶ 20.
158. *Id.* at 12338, ¶ 23.

safety videos and internet uses not mediated by traditional public safety agencies.

The Broadband Institute of California at Santa Clara University School of Law (BBIC) objected to the FCC's vague and apparently narrow definition of public safety in its *Mozilla v. FTC* remand notice.[159] The FCC's statutory duty to promote public safety is not confined to serving institutional public safety agencies. The FCC's statutory mandate is "promoting safety of life and property through the use of wire and radio communications."[160]

The FCC's institutional-centric view of public safety would exclude Darnela Fraser's video of Minneapolis Police Officer Derek Chauvin's murder of George Floyd,[161] videos of Marjorie Stoneman Douglas High School students during the shootings in Parkland,[162] videos by the victims of the 2018 Camp Fire sparked by PG&E,[163] and similar internet-based communications vital to public safety.[164] The FCC's definition also excludes communications by critical infrastructure such as electric, natural gas, or water utilities about imminent blackouts, the need to save power or water, or safety tips, even when a life or death is at hand. Neither does it include internet-enabled communications using home Wi-Fi by connected thermostats and

159. *Id.* at 12338. ¶ 23.

160. Meredith Deliso, *Darnella Frazier, who recorded video of George Floyd's death, recognized by Pulitzer board*, ABC NEWS (June 11, 2021, 11:24 AM), https://abcnews.go.com/us/darnella-frazier-recognized-pulitzer-prizes-george-floyd-video/story?id=78225202; *New Video Appears to Show George Floyd Being Kneeled On By 3 Officers*, CNN (May 29, 2020), https://www.cnn.com/videos/us/2020/05/29/george-floyd-kneeled-on-by-three-officers-video-vpx.cnn.

161. *See* Abby Ohlheiser & Kayla Epstein, *Just Try to Keep Calm, How One Parkland Student's Phone became his Lifeline and his Voice*, WASH. POST (Mar. 3, 2018), https://www.washingtonpost.com/graphics/2018/lifestyle/parkland-shooting-in-social-media/?utm_term=.07ddba89af90; *see also* Brandon Griggs, *Hiding Under a Desk as a Gunman Roamed the Halls, a Terrified Student Live-Tweeted a School Shooting,* CNN (Feb. 15, 2018), https://www.cnn.com/2018/02/15/us/student-live-tweeting-floridaschool-shooting-trnd/index.html; CNN, *supra* note 161.

162. *Former Firefighter Films [as] He Evacuates Burning Paradise During Camp Fire*, ABC NEWS (Dec. 7, 2018), https://abc7news.com/video-former-firefighter-films-he-evacuates-burning-paradiseduring-camp-fire/4853479/; *see* MICHAEL RAMSEY, THE CAMP FIRE PUBLIC REPORT: A SUMMARY OF THE CAMP FIRE INVESTIGATION 4 (June 16, 2020), https://www.buttecounty.net/portals/30/cfreport/pge-the-camp-fire-public-report.pdf?ver=2020-06-15-190515-977 (reporting that PG&E plead guilty as charged to all 85 counts of Butte County's criminal indictment alleging 84 individual felony counts of involuntary manslaughter and one count of unlawfully and recklessly causing the Camp Fire as a result of its gross negligence in maintaining its power line).

163. Sandoval, *Net Neutrality Repeal Rips Holes in the Public Safety Net*, *supra* note 9, at 1001.

distributed energy resources used to facilitate energy demand response to stave off blackouts and forestall climate change.[165]

The FCC brushed aside as speculative public safety concerns about ISP throttling and net neutrality repeal raised in comments of the Broadband Institute of California at Santa Clara University School of Law (BBIC), the Greenlining Institute, the County of Santa Clara, and Public Knowledge.[166] The FCC's 2018 and 2020 repeal of net neutrality rules adopted in 2015 declined to recognize ISP throttling as a net neutrality violation or threat to public safety.[167]

The FCC observed that as of the RIF Remand Order's adoption in October 2020, "all major ISPs have made written commitments not to engage in practices considered to violate open [i]nternet principles, including blocking and throttling."[168] The FCC characterized the terms of those commitments as enforceable by the FTC pursuant to the Memorandum of Understanding (MOU) signed between the Commission and the FTC.[169] That MOU provides the FTC will

> investigate and take enforcement action as appropriate against [i]nternet service providers for unfair, deceptive, or otherwise unlawful acts or practices, including . . . actions pertaining to the accuracy of the disclosures such providers make pursuant to

164. Sandoval, *Net Neutrality Powers Energy and Forestalls Climate Change*, *supra* note 9, at 18 ("IoT proliferation illustrates the distributed energy ecosystem."); BBIC, *Comments on Mozilla Remand*, *supra* note 5, at 7–8.

165. *2020 RIF Order*, *supra* note 12, at 12328, ¶ 51 n. 207 (string citing comments of the BBIC, the Greenlining Institute, and Public Knowledge); *infra* note 177.

166. BBIC, *Comments on Mozilla Remand*, *supra* note 5, at 5 ("[T]he *FCC's Remand Notice* unlawfully attempts to narrow the FCC's responsibilities by considering only an undefined category of "public-safety communications during emergencies."). I served as the lead author for BBIC's comments prepared in collaboration with my colleague Professor Allen S. Hammond, IV and BBIC interns and SCU Law students: Kasey Kagawa, Robert Murillo, Rosa Rico, Ben Katzenberg, and Yi Lu.

167. 47 U.S.C. § 151.

168. *2020 RIF Order*, *supra* note 12, at 12356, ¶ 50 ("We disagree with commenters who assert that the *Restoring Internet Freedom Order* will lead to ISPs engaging in blocking and throttling practices that harm public safety.") The commenters the FCC referenced included the BBIC. *Id.* (citing BBIC, *Comments on Mozilla Remand*, *supra* note 5, at 14 (expressing concern that "current ISP practices including throttling those who use more than certain quantities of data to 2G speeds will interfere with education, public health access, and undercut public safety")).

169. *Id.*

170. *Id.*

> the Internet Freedom Order's requirements, as well as their marketing, advertising, and promotional activities.[170]

Despite ISP commitments not to engage in throttling, many have contract terms purportedly allowing them to do just that. As BBIC's comments highlighted, several major wireless ISPs reserved the right to throttle consumers to 2G or other undefined levels when consumers used certain amounts of data.[171] Other ISPs reserve the contractual right to throttle consumers who use "excessive" data, at an undefined level.[172]

This Article urges the FCC to examine whether these terms are sufficiently disclosed, consistent with FCC disclosure policy. It also recommends that the FTC review whether such terms violate the FTCA's proscriptions against deceptive conduct.

On remand from *Mozilla v. FCC*, the FCC's 2020 OIO relied in large part on ISP disclosures and market information to police internet openness. The FCC determined that even in the absence of ISP commitments to foreswear from blocking and throttling, "it is likely that 'any attempt by ISPs to undermine the openness of the [i]nternet would be resisted by consumers and edge providers."[173] In reaching this conclusion, the FCC failed to analyze the sufficiency of ISP disclosures about their throttling practices or to recognize them as net neutrality or transparency issues.

The FCC concluded, "[c]onsequently, ISPs lack an economic incentive to engage in practices such as blocking or throttling, especially when these practices may harm public safety."[174] Lack of disclosure about the extent and duration of ISP throttling and its applications to individuals, families, and neighborhoods mutes the ability of public opprobrium to constrain ISP behavior.

The D.C. Circuit noted the limits of public opinion and post-hoc action to prevent or address public safety harms.

> Any blocking or throttling of these [i]nternet communications during a public safety crisis could have dire, irreversible results. "[E]ven if discriminatory practices might later be addressed on a

171. *Id.* ¶ 39 (citing Restoring Internet Freedom FCC-FTC Memorandum of Understanding at 2 (Dec. 14, 2017), https://www.ftc.gov/system/files/documents/cooperation_agreements/fcc_fcc_mou_internet_freedom_order_1214_final_0.pdf).

172. BBIC, *Comments on Mozilla Remand*, *supra* note 5, at 45–48.

173. *2020 RIF Order*, *supra* note 12, at 12328. *See* Brodkin, *supra* note 4.

174. *2020 RIF Order*, *supra* note 12, at 12328 (citing Restoring Internet Freedom Order, 33 FCC Rcd. at 396, ¶ 142).

> post-hoc basis by entities like the Federal Trade Commission," the harm to the public "cannot be undone."[175]

The FCC disagreed "with commenters who assert that the *Restoring Internet Freedom Order* will lead to ISPs engaging in blocking and throttling practices that harm public safety."[176] The FCC effectively classified throttling as speculative, ignoring evidence presented of ISP throttling behavior.[177] This conclusion rests on regulatory semiotics[178] that fail to classify ISP throttling based on vague contract terms as the type of throttling net neutrality rules sought to curtail.

Through a process Professor Becky Lentz calls "linguistic engineering,"[179] the FCC defined throttling as neither a public safety problem, net neutrality problem, nor a regulatory problem. The FCC's conceptualization of throttling as speculative and neither a safety nor net neutrality problem is intertwined with the FCC's definition of public safety as mediated through public safety institutions. The FCC failed to recognize communications between the citizenry or between the public and institutions designed as Critical

175. *Id.*

176. *Id.*

177. *Id.* at 12356, ¶ 50 n. 201 (citing BBIC, *Comments on Mozilla Remand*, *supra* note 5, at 14 (expressing concern that "current ISP practices including throttling those who use more than certain quantities of data to 2G speeds will interfere with education, public health access, and undercut public safety")); BBIC, Reply Comments, In the Matter of Restoring Internet Freedom (WC Docket Nos. 17-108, 17-287, 11-42), at 72 (May 20, 2020), https://ecfsapi.fcc.gov/file/1052104890909/BBIC%20Mozilla%20Remand%20Reply%20Comments%20Final.pdf ("The FCC's Title I classification allows ISPs to demand extra payments for priority transmission or to be safeguarded from the ISPs intentional acts that manipulate priority."); Reply Comments of the Greenlining Institute on February 19, 2020 Public Notice at 7 (May 20, 2020), https://ecfsapi.fcc.gov/file/10520282663174/Docket%20No.%2017-108%2C%20Reply%20Comments%2C%20The%20Greenlining%20Institute.pdf (" 'Public safety communications' include an extremely broad array of activities and services, and providers' narrow interpretation could lead to the blocking or throttling of online activity that is critical to protecting public safety. The consequences of this blocking or throttling could result in injury or death."); Comments Of Public Knowledge, Access Humboldt, Access Now, And National Hispanic Media Coalition, at 8, https://ecfsapi.fcc.gov/file/10420030611321/PK_et_al_net_neutrality_remand_4-20-2020.pdf ("The FCC's reclassification leaves the FCC with no corrective tool to prevent carriers from throttling emergency services.").

178. *See* Barton Beebe, *The Semiotic Analysis of Trademark Law*, 51 UCLA L. REV. 621, 631 (2004) ("Semiotics investigates the relation between 'structure' (a language's underlying system of rules and regularities) and 'event' (specific language uses). . . . Event assumes and informs structure and structure assumes and informs event.").

179. Roberta Lentz, *Regulation as Linguistic Engineering*, *in* THE HANDBOOK OF GLOBAL MEDIA AND COMMUNICATION POLICY 432, 435, 439 (Robin Mansell & Marc Raboy eds., 2011).

Infrastructure pursuant to CIPA (such as schools and healthcare providers) as public safety communications. As the Santa Clara County Fire Department incident exemplifies, the FCC's failure leaves all of us at risk.

The FCC's government-mediated public safety framework created the basis for linguistic engineering which side-stepped analysis of ISP throttling practices on public safety and the diverse public, including communities of color. The FCC failed to recognize that ISP policies which slow users to 2G speeds disable meaningful access to many health and critical infrastructure services, such as education, by making many common applications and platforms inaccessible. ISP throttling limits a "user's ability to select, access, and use broadband [i]nternet access service or the lawful [i]nternet content, applications, services, or devices of the end user's choice," without targeting traffic based on internet content, application, or service.[180]

The FCC's 2020 RIF Order did not argue or determine that throttling users to 2G speeds after using internet bandwidth necessary for several days of digital work or school was "reasonable network management" under the 2015 OIO's rules.[181] The reasonableness of throttling practices remains largely unexamined.

FCC transparency rules still standing after the FCC's 2018 net neutrality repeal and 2020 RIF Order create a means to examine whether ISP disclosures about practices that slow users to 2G speeds sufficiently inform the public about the nature of internet access offered. Transparency rules assume increased urgency as the FCC's EBB program rules rely on consumer choice to achieve the program's objectives.[182]

D. THE EMERGENCY BROADBAND BENEFIT PROGRAM

Congress established the EBB program on December 27, 2020, through the Consolidated Appropriations Act, 2021, to provide relief during the COVID-19 pandemic. Through the EBB, "eligible low-income households may receive a discount off the cost of broadband service and certain connected devices during an emergency period relating to the COVID-19

180. *Cf.* California S.B. 822, Section (7)(A).

181. *2020 RIF Order*, *supra* note 12, at 12357, ¶ 52 ("[W]e find unpersuasive commenters' concerns regarding the effect of service plans that limit data or speeds on members of the public who rely on mass market broadband Internet access services to access public safety information. We observe that broadband service plans that limit data or speeds were not prohibited even under the *Title II Order*; as such, we find the return of broadband Internet access service to its information services classification and elimination of the conduct rules irrelevant to the impact on the permissibility of throttling under a data plan when the data cap is exceeded."); *cf.* FCC, *2015 Open Internet Order*, *supra* note 58, at 5604.

182. FCC, *EBB Order*, *supra* note 70, ¶ 73.

pandemic, and participating providers can receive a reimbursement for such discounts."[183] Participating EBB providers "will make available to eligible households a monthly discount off the standard rate for an [i]nternet service offering and associated equipment, up to $50.00 per month" and up to $75.00 per month on Tribal Lands.[184] The bill delegated responsibility to the FCC to develop the EBB program rules and standards.

The FCC did not adopt EBB minimum service standards. Its order determined that qualifying internet service offerings must permit "households to rely on these connections for the purposes essential to participating in society during the pandemic, such as telework, remote learning, and telehealth."[185] An EBB qualifying internet service offering is defined as "broadband internet access service provided by such provider to a household, offered in the same manner, and on the same terms, as described in any of such provider's offerings for broadband internet access service to such household, as of December 1, 2020."[186] Effectively, under the EBB, authorized providers could receive federal support for plans offered as of December 1, 2020.

The FCC requires ISPs to "disclose accurate information regarding the performance characteristics, commercial terms, and other features of their discounted broadband services to enable consumers to make informed choices regarding the purchase and use of such services."[187] Lack of accurate information, inconspicuous information, or terms that are functionally unintelligible undermine disclosure, consumer choice, and competition. Failure to explain 2G speed characteristics and identify the types of programs, applications, and platforms inaccessible at that throttled speed[188] exemplify inadequate disclosure that undermines ROBIN access.

183. *Id.* ¶ 2.

184. *Id.* ¶ 4.

185. *Id.* ¶ 73.

186. *Id.* ¶ 72.

187. *Id.* ¶ 73 (citing 47 C.F.R. § 8.1(a) (the FCC ISP transparency rule adopted in 2018)); *see also* Douglas A. Hass, *The Never-Was-Neutral Net and Why Informed End Users can End the Net Neutrality Debates*, 22 BERKELEY TECH. L.J. 1565, 1630 (2007) (proposing ISP service offering and traffic control policy disclosure as an alternative to net neutrality regulations); Christopher S. Yoo, *What can Antitrust Contribute to the Network Neutrality Debate?*, 1 INT'L J. COMM. 493, 529 (2007) (advocating better ISP disclosure of policies and internet application limits in lieu of regulation or net neutrality legislation).

188. *See infra* notes 227–32 and accompanying text.

IV. FTC ACT DECEPTIVE CONDUCT PROSCRIPTIONS

The FCC's 2018 decision to reclassify ISPs under Title I gave ISP jurisdiction back to the FTC.[189] The FTC Act proscribes deceptive conduct under its statutory mandate to prevent "unfair methods of competition" and "unfair or deceptive acts or practices in or affecting commerce . . . ."[190] Section 5(a) of the FTC Act provides that "unfair or deceptive acts or practices in or affecting commerce . . . are . . . declared unlawful."[191]

The FTC's 1984 Policy Statement on Deception[192] defines deceptive practices "as involving a material representation, omission or practice that is likely to mislead a consumer acting reasonably in the circumstances."[193] An act or practice is "unfair" if it "causes or is likely to cause substantial injury to consumers which is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or to competition."[194] "An act has been held to be deceptive if it involves a material representation, omission, or practice that is likely to mislead consumers acting reasonably under the circumstances."[195]

Deception claims often focus on whether advertisements omit material information or are misleading. The FTC Policy Statement on Deception lists examples of practices that have been found to be misleading or deceptive, including "false oral or written representations" and "failure to perform promised service."[196] Former FTC Commissioner Joshua D. Wright and his co-author Jay S. Kaplan observed that under the section 5 of the FTCA, there "is no need to balance any potential benefits, because, under the deception

189. FCC, *2018 RIF Order*, *supra* note 12, at 7852, 7878 (classifying ISPs under Title I returns jurisdiction over ISPs to the FTC, "the nation's premier consumer protection agency," to police ISP privacy, anticompetitive acts, or unfair and deceptive practices).

190. 15 U.S.C. §§ 41–77.

191. 15 U.S.C. § 45(a)(1).

192. FED. TRADE COMM'N, FTC POLICY STATEMENT ON DECEPTION (Oct. 14, 1983), https://www.ftc.gov/system/files/documents/public_statements/410531/831014deceptionstmt.pdf (appended to Cliffdale Assocs., Inc., 103 F.T.C. 110, 174 (1984)).

193. *A Brief Overview of the Federal Trade Commission's Investigative, Law Enforcement, and Rulemaking Authority*, (Oct. 2019), https://www.ftc.gov/about-ftc/what-we-do/enforcement-authority.

194. *Id.* (citing 15 U.S.C. § 45(n)).

195. Sandoval, *Disclosure, Deception and Deep-Packet Inspection*, *supra* note 4, at 662 (citing FTC v. Cyberspace.com LLC, 453 F.3d 1196, 1199 (9th Cir. 2006); *accord* FTC v. Tashman, 318 F.3d 1273, 1277 (11th Cir. 2003); Telebrands Corp., 140 F.T.C. 278, 290 (2005), *aff'd*, 457 F.3d 354 (4th Cir. 2006); *Cliffdale Assocs.*, 103 F.T.C. at 164–65).

196. FTC POLICY STATEMENT ON DECEPTION, *supra* note 192.

prong, there are no cognizable benefits when an ISP blatantly misleads consumers."[197]

In 2014 the FTC filed a lawsuit alleging that AT&T violated the FTC Act's deceptive conduct provisions through its "unlimited" data plan advertisements that were inconsistent with its practice of throttling customers who used between 2–3 gigabits (GB) of data in a billing cycle (a month-long period) to speeds as low as 128 kilobits per second (kbps).[198] AT&T filed a motion to dismiss the FTC's claim, arguing that since its mobile phone service provided both voice telephone services as a common carrier and internet services, its status as a common carrier for voice service precluded FTC jurisdiction over its internet services provided through that same mobile phone.[199]

Congress created a common-carrier exception to the FTC's enforcement power in deference to the Communications Act of 1934, as amended.[200] In *AT&T Mobility v. FTC*, heard *en banc* by the Ninth Circuit, at issue was whether the FTCA "common-carrier exemption is activity-based, meaning that a common carrier is exempt from FTC jurisdiction only with respect to its common-carrier activities, or status-based, such that an entity engaged in common-carrier activities is entirely exempt from FTC jurisdiction."[201]

The Ninth Circuit affirmed en banc the district court's denial of AT&T's motion to dismiss. Examining "the FTC Act's text, the meaning of 'common carrier' according to the courts around the time the statute was passed in 1914, decades of judicial interpretation, the expertise of the FTC and [FCC], and legislative history, [the Ninth Circuit] conclude[d] that the exemption is activity-based."[202]

The Ninth Circuit determined that the common-carrier exemption "provides immunity from FTC regulation only to the extent that a common carrier is engaging in common-carrier services."[203] "A phone company is no

197. Joshua D. Wright & Jay S. Kaplan, *All of That in One Page: The Application of the 2015 FTC Unfair Methods of Competition Policy Statement to Net Neutrality Disputes*, 17 COLO. TECH. L.J. 311, 333 (2019).

198. Complaint for Permanent Injunction and Other Equitable Relief ¶¶ 16–19, FTC v. AT&T Mobility LLC, No. 14-CV-04785-EMC (N.D. Cal. 2015), https://www.ftc.gov/system/files/documents/cases/141028attcmpt.pdf.

199. FTC v. AT&T Mobility LLC, 883 F.3d 848, 850 (9th Cir. 2018).

200. *Id.* at 850 (citing 15 U.S.C. § 45(a)(1), (2)); FTC v. Verity Int'l, Ltd., 443 F.3d 48, 56 (2d Cir. 2006).

201. *AT&T Mobility*, 883 F.3d at 850.

202. *Id.*

203. *Id.*

longer just a phone company," the Ninth Circuit recognized.[204] "The transformation of information services and the ubiquity of digital technology mean that telecommunications operators have expanded into website operation, video distribution, news and entertainment production, interactive entertainment services and devices, home security and more."[205]

Millions of Americans depend on "phones" that access the internet and the public switched telephone network to make phone calls.[206] "Reaffirming FTC jurisdiction over activities that fall outside of common-carrier services avoids regulatory gaps and provides consistency and predictability in regulatory enforcement."[207]

On remand from *FTC v. AT&T Mobility*, the FTC and AT&T entered into a stipulated permanent injunction and monetary judgement that prohibits AT&T from "[m]aking any representation about the amount or speed of mobile data, including that the mobile data is unlimited, without disclosing, Clearly and Conspicuously and in Close Proximity to the representation, all Material Restrictions imposed by Defendant."[208] The monetary judgment collected $60,000,000 as an escrow account to support refunds to AT&T customers.[209] Roslyn Layton and Tom Struble point to the FTC's AT&T Mobility case as evidence that such "contracts are enforceable under the FTC's consumer protection authority without any need for ex ante regulation."[210]

The Supreme Court in *AMG Capital Management, LLC v. FTC* determined that section 13(b) of the FTC Act does not authorize the FTC to "seek, and a court to award, equitable monetary relief such as restitution or disgorgement," effectively curtailing FTC remedy options.[211] The Court recognizes that the FTCA authorizes the FTC to obtain a "'permanent injunction' in federal court against 'any person, partnership, or corporation' that it believes 'is violating, or is about to violate, any provision of law' that the Commission enforces."[212]

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204. *Id.* at 851.

205. *Id.*

206. *See* 47 C.F.R. § 54.101(a)(1) (defining supported voice telephony services as providing voice grade access to the public switched network or its functional equivalent).

207. *AT&T Mobility*, 883 F.3d at 851.

208. *FTC AT&T Mobility Stipulated Order*, *supra* note 11, at 4.

209. *Id.* at 5–6.

210. Roslyn Layton & Tom Struble, *Net Neutrality Without the FCC?: Why the FTC Can Regulate Broadband Effectively*, 18 FEDERALIST SOC' REV. 132, 135 (2017).

211. AMG Capital Management, LLC v. FTC, 141 S. Ct. 1341, 1344 (2021) (citing 87 Stat. 592, 15 U.S.C. § 53(b)).

212. *Id.*

The Supreme Court's textualist approach in *AMG Capital Management* focused on the "text and structure of the particular statutory scheme at issue."[213] That analysis allows the FTC to seek an injunction for FTCA violations but precludes the FTC from seeking monetary relief in federal court for FTCA violations. *AMG Capital Management* leaves in place the FTC's injunction against AT&T's representations about the "amount or speed of mobile data," without clear, conspicuous, and closely proximate disclosure about material restrictions imposed by AT&T, including those which throttle speed.[214] *AMG Capital Management* allows the FTC to analyze ISP throttling policies and seek an injunction if it believes section 5 of the FTCA is violated but not to seek monetary relief in federal court, including restitution of customer payments or disgorgement of ISP profits.

V. THROTTLING INTERNET ACCESS LIMITS EQUITY AND RISKS PUBLIC HEALTH AND SAFETY

A. INTERNET ACCESS NEEDS ZOOM PAST THE FCC'S ADVANCED SERVICES DEFINITION

This Article recommends the FCC and FTC examine ISP policies that throttle users to 2G speeds, rendering inaccessible many communications platforms vital for education, health, work, economic opportunity, and civic participation. Some ISPs slow users to 1990s-level 2G speeds after internet users consume data commensurate with two weeks of digital law school or one week of high school coursework via videoconferencing.[215] ISP throttling may leave users unable to access news sources, telemedicine, or videoconferencing used for school, work, and news interviews.[216]

Videoconferencing platforms are often used for telemedicine and require substantial upload and download bandwidth.[217] Videoconferencing is

213. *Id.* at 1343; Robert J. Pushaw, Jr., *Comparing Literary and Biblical Hermeneutics to Constitutional and Statutory Interpretation*, 47 PEPPERDINE L. REV. 463, 491 (2020) (observing that as of February 2020, five Justices—Roberts, Thomas, Alito, Gorsuch, and Kavanaugh—have formally declared that they are constitutional originalists and statutory textualists).

214. *FTC AT&T Mobility Stipulated Order*, *supra* note 11, at 4.

215. BBIC, *Comments on Mozilla Remand*, *supra* note 5, at 49 (noting that a high school student using "their mobile phone to access online education would hit a 50 GB threshold in a little over a week of full-time classes," while a law school student would likely reach that cap that triggers ISP slowdowns within two weeks of coursework).

216. *Id.* at 18–19.

217. *Id.* at 18 (citing Teresa Iafolla, *What are the Basic Technical Requirements for Telehealth?* EVISIT, https://blog.evisit.com/what-are-the-basic-technical-requirements-for-telehealth (last visited Apr. 20, 2020) (recommending 15 mbps down and 5 mbps up for telehealth visits that include video chat); *Technology Requirements*, AM. ACAD. ALLERGY, ASTHMA, &

increasingly used across many sectors of society, creating a mismatch between the FCC's 2020 definition of "advanced services," ISP throttling to 2G speeds, and contemporary communications needs.

In 2020, the FCC classified internet networks providing 25 megabits per second (mbps) down and 3 mbps up (25/3) speed as "advanced service."[218] Internet-based education, work, and healthcare access sputter at 25/3 "advanced speeds" as defined by the FCC, leaving many Americans unable to meet modern communications needs.[219]

The bandwidth capacity (measured in GB per hour) needed for videoconferencing through Zoom for activities such as synchronous classes illustrates the risks of throttling users to 2G speeds. A speed test conducted in April 2020 by SCU Law student and BBIC Intern Kasey Kagawa using an Android Galaxy Note 9 cellphone on Zoom found:

> A 30-minute Zoom video conference uses 0.35 GB of mobile data use per half-hour, rounded up to 0.4 GB per half-hour = 0.8 GB per hour.
>
> Every 10 hours of class conducted through video conferencing using an Android Galaxy Note 9 consumes 8 Gbs [sic] of data.
>
> When using the Android Galaxy Note 9 as a hot spot, a 30-minute Zoom video conference uses 0.56 GB of mobile data use per half-hour rounded up to 0.6 GB per half-hour = 1.2 GB per hour.
>
> Every 10 hours of class on video conferencing using an Android phone as a Mobile hotpot uses 12 Gbs [sic]of data.
>
> 15 hours a week of class using Zoom video conferencing through an Android phone as a Mobile hot spot will use approximately 18 Gb [sic] of data.
>
> With other research projects and necessary meetings with students or professors to prepare for presentations, many law students will

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IMMUNOLOGY, https://www.aaaai.org/Allergist-Resources/Telemedicine/technology (last visited April 20, 2020 ("Most basic to a telemedicine practice is a secure broadband internet connection. The amount and speed of the internet connection will determine the video quality and amount and speed of data transfer. A basic business broadband connection should be sufficient at about 50–100 Mbps (megabits per sec) . . . .")

218. BROADBAND DEPLOYMENT REPORT, *supra* note 91, at 8.

219. *See* Jon Brodkin, *FCC chair proposes new US broadband standard of 100Mbps down, 20Mbps up*, ARS TECHNICA, July 15, 2022, https://arstechnica.com/tech-policy/2022/07/fcc-chair-proposes-new-us-broadband-standard-of-100mbps-down-20mbps-up/ ("The needs of Internet users long ago surpassed the FCC's 25/3 speed metric, especially during a global health pandemic that moved so much of life online," FCC Chairwoman Rosenworcel said in announcing a proposal to increase the FCC's advanced Internet speed definition).

> use approximately 50 GB of data every two weeks if using an Android phone as a Mobile hot spot to access online education.[220]

Many high school classes meet 5–6 hours a day.[221] Students using their mobile phone to access online education for high school classes conducted full-time would hit a 50 GB threshold in a little over a week of full-time classes.[222]

Zoom explains that it requires 3G or 4G speeds.[223] For group video calling such as the sessions used for online education and some telemedicine applications, Zoom requires speeds of 1.0 mbps up and 600 kbps down, and 2–4 times more speed to receive gallery views, depending on the number of participants.[224] To receive "1080p HD video" Zoom requires 3.0 Mbps down and 3.8 Mbps up.[225] Many webcams use the 1080p HD video standard for smooth video transmission, though 4K video offers a higher quality standard but requires more upload and download bandwidth.[226]

With the expansion of faster networks including LTE and 5G networks, "2G speeds are actually imposed by software on the network. These 2G speeds range from 256Kbps, to 128Kbps, down to 64Kbps."[227] Stetson Doggett explains:

> [256 kbps] is probably the slowest speed you can get by on if you're just doing some light email, text-based chatting like Facebook Messenger, WhatsApp, or iMessage, or streaming music in the background. Expect things to take longer, but if you're patient enough they will load.
>
> At 128Kbps and 64Kbps, we have things start to basically break down. Most notably, music streaming. Instead of getting a smooth playback, music streaming was choppy. It was impossible to listen

220. BBIC, *Comments on Mozilla Remand*, *supra* note 5, at 49.

221. *Id.* (citing *Table 5.14. Number of instructional days and hours in the school year, by state: 2018*, NAT'L CTR. EDUC. STATISTICS, https://nces.ed.gov/programs/statereform/tab5_14.asp).

222. *Id.*

223. ZOOM, *Zoom system requirements: Windows, macOS, Linux* (last updated May 23, 2022), https://support.zoom.us/hc/en-us/articles/201362023-Zoom-system-requirements-Windows-macOS-Linux#h_d278c327-e03d-4896-b19a-96a8f3c0c69c ("System requirements, An internet connection–broadband wired or wireless (3G or 4G/LTE)").

224. *Id.* ("For gallery view receiving: 2.0Mbps (25 views), 4.0Mbps (49 views).").

225. *Id.*

226. Luke Edwards, *Best Webcams for Teachers and Students 2020*, TECH LEARNING https://www.techlearning.com/buying-guides/best-webcams-for-teachers-and-students-2020 (last visited May 23, 2021) (recommending "the best webcams for teachers and students during remote learning" and advising that "to ensure you have the best scalable image a 1080p camera could be worth the investment").

227. Stetson Doggett, *How Fast are Capped 2G Speeds? LTE vs 3G vs 2G Data Speed Test*, BEST PHONE PLANS (Mar. 14, 2021), https://www.bestphoneplans.net/news/2g-speed-test.

> to even a single song without the music pausing to load and catch up with itself.[228]

Zoom requires 3G or 4G speeds for synchronous video such as telemedicine or classes via videoconferencing.[229]

ISPs that throttle users to 2G speeds of 128 kbps leave subscribers without sufficient speed to maintain access to Zoom videoconferencing. ISP throttling of users to 2G speeds, the standard launched in 1991, will likely cause videoconferencing and synchronous or asynchronous video uses to fail altogether, not just be choppy.[230] Throttling internet users in this fashion renders health video visits and many platforms used for digital school and work inaccessible, raising public health and safety risks. At 2G speeds, there is no zooming internet access, only a slow-motion crawl. Zoom and many common internet applications used for contemporary school, work, and health uses will not operate at 2G speeds.

Connecticut Attorney General William Tong reported that his office heard from Connecticut families who easily exceeded Comcast's data cap in 2020 because they relied on videoconferencing to attend school and work remotely. "Far from so-called super users, these were stories from typical Connecticut families merely trying to stay employed and educate their children during a global pandemic."[231] Although data caps are distinct from throttling, a common practice is for ISPs to throttle their users' internet speed after users hit certain data use levels or data caps.[232]

The Student Home Internet Connectivity Study examined internet connection information about 750,000 students from urban, suburban, and rural districts in thirteen school districts that provided network logs and other information about student connections to schoolwork.[233] That study found

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228. *Id.*

229. ZOOM, *supra* note 219.

230. BBIC, *Comments on Mozilla Remand*, *supra* note 5, at 19 (citing Ashutosh Bhatt, *Difference Between 2G and 3G Technology*, ENGINEERS GARAGE, (Mar. 27, 2012), https://www.engineersgarage.com/how_to/difference-between-2g-and-3g-technology/.

231. Jon Brodkin, *Comcast Reluctantly Drops Data-cap Enforcement in 12 States for Rest of 2021*, ARS TECHNICA (Feb. 19, 2021), https://arstechnica.com/tech-policy/2021/02/comcast-responds-to-pressure-cancels-data-cap-in-northeast-us-until-2022/.

232. *Id.*; *Is My Internet Being Throttled by My ISP?*, INTERNET SERV. PROVIDERS (Mar. 26, 2020), https://www.isp.com/blog/is-my-internet-being-throttled-by-my-isp/ ("Data caps are one of the most common reasons for ISP throttling. A data cap is the maximum amount of data you are allowed to download or stream in a single month. While some major providers, such as Spectrum and Verizon Fios, don't have data caps, many others do. For example, Comcast throttling may occur after you hit 1 TB of data usage in a month.").

233. COSN, *supra* note 28, at 6 ("Each participating school district provided data such as student characteristics, network logs, Quality of Service (QoS) data for meeting software,

the FCC's definition of "advanced services" as 25/3 "is inadequate to support even a single student in a household, let alone multiple students.[234] "[O]ver 70% of students live in a household with one or more other students. Concurrently supporting multiple students using video from the same internet connection is problematic when bandwidth availability is low."[235]

"Home network bandwidth capacity must account for concurrent usage by multiple students, including current video use."[236] CoSN (the Consortium for School Networking) recommends "a per-student minimum bandwidth standard of a download speed of 25 Mbps and upload speed of 12 Mbps to support concurrent activity and usage."[237] "Given the new requirements of videoconferencing for classroom communication and student collaboration, ISPs receiving federal support should provide unlimited data for home learning connections without throttling," the Student Home Internet Connectivity Study recommended.[238] The pandemic has changed the internet use paradigm, requiring law and regulation to catch up.

The Student Home Internet Connectivity Study found that "regardless of the student's [internet protocol (IP)] address, 92% of students in the study connected to the internet via WiFi instead of a wired connection."[239] It also found that "many students shared an IP address with other students that were not from the same household. Likely causes include students wanting social interaction with other kids, finding a faster internet connection at a friend's house, and parents who share childcare responsibilities."[240]

In 2018, approximately 79.7 million Americans used prepaid mobile internet plans, while 273.9 million subscribed to postpaid plans.[241] Prepaid mobile use was spread nearly evenly by age in 2018 with 29.5% of those age 18–29, 32.7% of those age 30–49, and 25.5% of those age 50–64 using prepaid plans.[242] Pew reports that "[r]eliance on smartphones for online

Internet Service Provider (ISP) data, and geolocation data. Thirteen urban, suburban, and rural school districts representing approximately 750,000 students from across the United States participated in the study over the course of six weeks.").

234. *Id.* at 8.

235. *Id.* at 10.

236. *Id.*

237. *Id.* at 8.

238. *Id.* at 11.

239. *Id.* at 12.

240. *Id.*

241. Jason Leigh, *U.S. Postpaid and Prepaid Wireless Forecast, 2019–2023*, IDC (Dec. 2019), https://www.idc.com/getdoc.jsp?containerId=US44687219.

242. *Share Of Americans Using Prepaid Service for Their Cell Phone in 2018, By Age*, STATISTA (2021), https://www.statista.com/statistics/231638/cell-phone-users-who-use-a-prepaid-card-usa/.

access is especially common among younger adults, lower-income Americans and those with a high school education or less."[243] Smartphone-only internet access is also more common for Latinx and African American people than for Whites, Pew reported.[244]

Not all students, whether in K-12 or higher education, have a wired internet connection or the ability to order or pay for wired internet. Nationwide in 2020, "across all racial and ethnic groups, 16.9 million children remain logged out from instruction because their families lack[ed] the home internet access necessary to support online learning."[245] The Alliance for Excellent Education found that for Black, Latinx, and American Indian/ Alaska Native households, one out of three lacked home internet access.[246]

The pandemic underscored the fact that millions of Americans are relegated to the status of "internet migrants," able to access the internet only at library steps or a fast-food parking lot.[247] Communications regulation needs to serve diverse American communities, not just the imagined community of homeowners, high wage earners, and those able to install wired internet.

Many people access the internet through mobile phones or hot spots for vital services such as telemedicine, counseling, education, social and economic services, work, and civic organization. Even for those who have wired internet access, events such as outages, intermittency, fire evacuation, flood, other hazards, or housing insecurity have forced many to switch to mobile phones as a hotspot to support computer access during online classes.[248]

The COVID-19 pandemic increased housing insecurity, diminishing access to wireline internet and deterring consumer investment in such services. "According to the Census Bureau's Household Pulse Survey for late

243. *Mobile Fact Sheet*, PEW RSCH. CTR. (Apr. 7, 2021), https://www.pewresearch.org/internet/fact-sheet/mobile/?menuItem=d40cde3f-c455-4f0e-9be0-0aefcdaeee00.

244. *Id.*

245. ALLIANCE EXCELLENT EDUC., STUDENTS OF COLOR CAUGHT IN THE HOMEWORK GAP 1 (2020), https://futureready.org/wp-content/uploads/2020/08/HomeworkGap_FINAL8.06.2020.pdf.

246. *Id.* at 2 ("Thirty-four percent of American Indian/Alaska Native families and about 31 percent each of Black and Latino families lack access to high-speed home internet compared to only about 21 percent of White families.").

247. Catherine J.K. Sandoval, *Net Neutrality Protects Public Safety*, Presentation at Santa Clara University High-Tech Law Institute Symposium, Promoting Safety of Life and Property Through the Open Internet, (Mar. 25, 2020), https://1x937u16qcra1vnejt2hj4jl-wpengine.netdna-ssl.com/wp-content/uploads/Professor-Sandoval-Net-Neutrality-Protects-Public-Safety-SCU-Law-HTLI-Webinar-March-25-2020.pdf; Rachel Fried, *Compounding Crises Technology and Equity in the COVID Era*, 249 J. COLL. ADMISSION 15, 16 (2020).

248. *See* BBIC, *Comments on Mozilla Remand*, *supra* note 5, at 48.

September [2020], renters earning less than $25,000 a year were much more likely to report lost employment income since the March shutdown."[249] As a result, "one in five renters earning less than $25,000 also said they were behind on rent, compared with 15 percent of all renters and just 7 percent of renters earning more than $75,000."[250] Due to COVID-related income losses "23 percent of Black, 20 percent of Hispanic, and 19 percent of Asian renters were behind on their rents by late September, or about twice the 10 percent share of white renters."[251]

Deutche Bank Research used mobile phone geolocation data from New York, Los Angeles, and Chicago during the COVID-19 pandemic in 2020 to track neighborhood levels of mobility and those who were able to stay at home.[252] Their study found that

> Blacks had to venture out of their homes 135% more than Whites compared to pre-Covid levels, during the riskiest of times across the cities. [Deutche Bank Research] believe[d] this [wa]s an accurate representation of the state of the racial digital divide in the country. Clearly, poor access to Tech connectivity & work-from-home jobs rendered minorities with few choices but to venture out of home to make a living, even with peril to their lives.[253]

According to Dr. Mary Bassett, Director of the FXB Center for Health and Human Rights at Harvard University, "a big determinant of who dies is who gets sick in the first place, and that infections have been far more prevalent among people who can't work from home."[254] Throttling can limit the ability of people to work, study, shop for essentials, access healthcare, and engage in civic activities at home, increasing public health and safety risks.

The COVID-19 pandemic laid bare the gulf between reality and models designed to serve the imagined community of internet users able to install robust internet access in a home whose physical access they control.[255] That regulatory imagination did not adequately envision the needs of Americans

249. JOINT CTR. HOUS. STUD. HARVARD UNIV., THE STATE OF THE NATION'S HOUSING 2020 1 (2020), https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_The_State_of_the_Nations_Housing_2020_Report_Revised_120720.pdf.

250. *Id.*

251. *Id.* at 2.

252. WALIA & RAVINDRAN, *supra* note 37, at 5.

253. *Id.*

254. Sandoval et al., *supra* note 31, at 425.

255. *See* Sandoval & Lanthier, *supra* note 18, at 16; ADAM BANKS, RACE, RHETORIC, AND TECHNOLOGY: SEARCHING FOR HIGHER GROUND 41 (2005); *cf.* BENEDICT ANDERSON, IMAGINED COMMUNITIES: REFLECTIONS ON THE ORIGIN AND SPREAD OF NATIONALISM. (revised ed. 1991).

who live in households with several children and adults, each needing internet bandwidth for school, work, healthcare, and other vital services. Neither did it imagine the needs of those living in multi-generational or multi-household dwellings, those with insecure housing or no housing, nor those facing eviction, fire, flood, or other dangers.

B. THROTTLING TO THE '90S

In 2015, the FCC issued a $100 million Notice of Apparent Liability (NAL) against AT&T for violations of the 2010 transparency rules for slowing customers on "unlimited" data plans to speeds where mapping and other common applications would not work.[256] In its 2017 brief to the Ninth Circuit, the FCC noted that a "majority of the FCC's current commissioners dissented from the decision to issue the NAL . . . and no further action has been taken on it."[257]

Six years later during the COVID-19 pandemic, despite the FTC permanent injunction ordering AT&T to prominently disclose any limitations on internet use in a way that informs customers about speed limits, AT&T's throttling disclosures leave consumers ill-informed and raise FTCA compliance issues. This issue is not unique to AT&T. Many ISP websites and representations make it difficult to find or understand the limitations customers will face and the activities their ISP will limit.

The FTC and several states sued Frontier for FTCA deceptive conduct violations, alleging that "Frontier did not provide many consumers with the maximum speeds they were promised and the speeds they actually received often fell far short of what was touted in the plans they purchased."[258] The Frontier case analyzed representations of speeds "up to" stated levels,[259] but it was not a throttling complaint. The Frontier and AT&T FTC cases highlight the FTC's potential to seek and impose injunctions against ISPs for misrepresentation of internet access levels provided. Examination of ISP contract terms in 2021 reveals the urgency of throttling analysis.

256. In the Matter of AT&T Mobility, LLC., 30 FCC Rcd. 6613 (2015).

257. BBIC, *Comments on Mozilla Remand*, *supra* note 5, at 45 (citing Brief of the Federal Communications Commission as Amicus Curiae in Support of Plaintiff-Appellee at 3, FTC v. AT&T Mobility LLC, 2017 WL 2398744 (No. 15-16585) (9th Cir. 2017).

258. Press Release, FTC Sues Frontier Communications For Misrepresenting Internet Speeds (May 19, 2021), https://www.ftc.gov/news-events/press-releases/2021/05/ftc-sues-frontier-communications-misrepresenting-internet-speeds.

259. Complaint for Preliminary Injunction, Permanent Injunction, Monetary Relief and Other Relief ¶ 44, FTC v. Frontier, No. 2:21-cv-4155 (C.D. Cal. filed May 19, 2021). https://www.ftc.gov/system/files/documents/cases/dkt._1_-_complaint.pdf.

In May 2021, T-Mobile's website stated in smaller print than its prepaid plan description that T-Mobile will throttle users to 128 kbps after they consume 5 GB of data or 3 GB for tethering:

> On qualifying Prepaid ONE Plan, in Canada/Mexico, up to 5GB high-speed data, then unlimited at up to 128kbps. Tethering at max 3G. For the small fraction of customers using more than 50GB per month, primary data usage must be on smartphone or tablet. Simply Prepaid & Mobile Internet: Domestic use only; additional charges apply for international use, where available. Partial minutes/megabytes rounded up. Full speeds available up to data allotment, including tethering; then slowed to up to 2G speeds for balance of service period.[260]

T-Mobile's page advertising prepaid plans did not define 2 G speeds, nor did it contain any links defining those speeds or explain what types of internet uses 128 kbps or 2 G speeds will render inaccessible.

After 6.25 hours of class via Zoom videoconference, users of T-Mobile's prepaid plan would hit the 5 GB limit and be slowed to a speed where synchronous video-based classes and telemedicine are inaccessible for the remainder of the billing period.[261] Many students would hit the 5 GB limit in less than one week.

Similarly, Verizon's prepaid data plans state in a small screen visible after clicking on "see plan detail" that for the 5 GB and 15 GB plans "[o]nce high-speed data is used (including Mobile Hotspot), you will have 2G speeds the remainder of the month. Your data experience and functionality of some data applications such as streaming video or audio may be impacted unless you purchase a Data Boost."[262]

For Verizon's "Unlimited" prepaid plan, clicking through the plan detail link reveals a small screen that states:

> Mobile Hotspot and tethering available on the Unlimited Plan for $5/mo. Includes 10 GB of 5G Nationwide / 4G LTE data, then speeds up to 600 Kbps the remainder of the month. Your data

260. *Simply Prepaid Plans*, T-MOBILE, https://www.t-mobile.com/support/plans-features/simply-prepaid-plans (last visited Aug. 17, 2021).

261. *See* text accompanying *supra* note 220 for data use calculations to access Zoom via a mobile phone using cellular data or as a hot spot.

262. *Prepaid Phone Plans*, VERIZON, https://www.verizon.com/prepaid/?ds_rl=1035790&ds_rl=1275402&cmp=KNC-C-HQ-PRO-R-BP-NONE-Prepaid60back-2K0PX0-PX-BIN-71700000010397525&msclkid=ddc1c137bf8011824eb79f4e00e43911&gclid=CI6ukMfTsugCFTuhZQodNVkOOw&gclsrc=ds (last visited Aug. 17, 2021).

> experience and functionality of some data applications such as streaming video or audio may be impacted.[263]

Similarly for Verizon's "Unlimited Plus" plan, the clickthrough page explains "[w]hen not in a 5G Ultra Wideband coverage area, Mobile Hotspot access includes 10 GB of 5G Nationwide/4G LTE data, then speeds up to 600 Kbps the remainder of the month."[264]

When using a phone to access class or work via videoconferencing, 12.5 hours would consume 10 GB of data. 600 kbps is within the range of 3G speeds that may support Zoom, but synchronous Zoom conferences with multiple speakers using gallery view requires 2.0–4.0 mbps, depending on the number of participants.[265] Although Verizon warns that "some data applications such as streaming video or audio may be impacted,"[266] many consumers may not understand this precludes telemedicine and video platforms commonly used for school or work.

Videoconferencing such as Zoom conferences used for work, school or telemedicine is distinct from streaming video. Videoconferencing, which "works by connecting two or more computers for direct communication," is synchronous and can allow screen sharing.[267] Streaming video, in contrast, can be recorded or live, but it is controlled by the streamer, allowing people to watch like they would a television show.[268]

Zoom requires more bandwidth for group video calling (i.e., videoconferencing) than for streaming video. For group video calling Zoom requires "[f]or high-quality video: 1.0 Mbps/600kbps (up/down)."[269] For Webinar panelists, Zoom requires 600 kbps (down) for high-quality video.[270] A notice that "streaming video or audio may be impacted" may be insufficient

263. *Id.*

264. *Id.*

265. ZOOM, *supra* note 219 ("For gallery view receiving: 2.0Mbps (25 views), 4.0Mbps (49 views)" is required).

266. VERIZON, *supra* note 262.

267. *Video Conferencing vs Live Streaming: What's Best For Distance Learning?*, VIEW SONIC (Apr. 10, 2020), https://www.viewsonic.com/library/education/video-conferencing-vs-live-streaming-whats-best-for-distance-learning/#:~:text=another%20big%20difference%20is%20the%20ability%20for%20students,could%20be%20a%20greater%20strain%20on%20your%20computer.

268. *See* Jenny Farver, *Live Streaming vs Video Conferencing—Which should you choose?*, LIGHTSTREAM, https://golightstream.com/live-streaming-vs-video-conferencing-which-should-you-choose/ (last visited July 6, 2021).

269. *System Requirements For Windows, macOS, and Linux*, ZOOM (Apr. 20, 2021), https://support.zoom.us/hc/en-us/articles/201362023-system-requirements-for-windows-macos-and-linux.

270. *Id.*

to alert consumers that videoconferencing could become inaccessible, not merely "impacted" by ISP slowing to 2G speeds.

AT&T's prepaid data plan states in small print for its 5G and 15G plans, "After 2GB, data speeds are slowed to a maximum of 128Kbps for the rest of the term."[271] "AT&T provides no explanation on the offer's face or in any hyperlinked text regarding what applications or services will not work when users are slowed to 128Kbps for the rest of the term. AT&T does not limit this practice to times of congestion."[272]

AT&T's prepaid unlimited high-speed data plan says "AT&T may temporarily slow data speeds if the network is busy."[273] The advertisement does not explain the level of slowness users may experience, how long slowing may last, or how slowdowns will affect user ability to access internet applications ("apps"). For each of those plans, clicking onto "Read the Legal Stuff" reveals a disclosure that states "[a]bility to stream, video resolution, and other data usage (including speed) are not guaranteed, may vary, and be affected by a variety of other factors."[274]

FCC rule 47 C.F.R. § 8.1 requires that ISPs disclose "network management practices, performance characteristics, and commercial terms of its broadband [i]nternet access services sufficient to enable consumers to make informed choices regarding the purchase . . . ."[275] Listing the slowing to 128 kbps or 256 kbps in smaller font without explanation that those speeds will make video-based telemedicine, work, and school impossible is insufficient disclosure to enable consumer choice or protect public safety.

The D.C. Circuit in *Mozilla v. FCC* recognized that the FCC acknowledged that "[t]he competitive process and antitrust would not protect free expression in cases where consumers have decided that they are willing to tolerate some blocking or throttling in order to obtain other things of value."[276] Lack of disclosure about the extent and consequences of throttling undermines consumer choice and the ostensible bargained-for-exchange of values upon which the FCC relied.[277]

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271. *Choose Your AT&T Prepaid Plan*, AT&T, https://www.att.com/buy/wireless/prepaid/plandetails (last visited May 24, 2021).

272. BBIC, *Comments on Mozilla Remand*, *supra* note 5, at 47.

273. AT&T, *supra* note 271.

274. *Id.*

275. 47 C.F.R. § 8.1 (2018).

276. Mozilla Corp. v. FCC, 940 F.3d 1, 72 (D.C. Cir. 2019).

277. *Cf.* Justin S. Brown & Andrew W. Bagley, *Neutrality 2.0: The Broadband Transition to Transparency*, 25 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 639, 682 (2015) ("The clear disclosure of network management practices and quality of service measures in broadband Internet access providers' terms of use agreements provides important

Smaller and lighter font, separate clickthrough screens, and lack of explanation of what slowing subscribers to 128 kbps means raises issues about AT&T's compliance with the FTC's permanent injunction in *FTC v. AT&T Mobility*. That injunction prohibits AT&T from "[m]aking any representation about the amount or speed of mobile data, including that the mobile data is unlimited, without disclosing, Clearly and Conspicuously and in Close Proximity to the representation, all Material Restrictions imposed by Defendant."[278]

Under the FTCA's Deceptive Conduct provisions "placement, proximity, and prominence are key factors for effective disclosure."[279] At the dawn of the 21st century, the FTC advised in its Dot.com Disclosure guidelines that "advertisers should consider the *placement* of the disclosure in an ad and its *proximity* to the relevant claim."[280]

The FTC's Stipulated Injunction with AT&T explained that "'Clear[ly] and Conspicuous[ly]' means that "a required disclosure is difficult to miss (i.e., easily noticeable) and easily understandable by ordinary consumers."[281] It requires that any "visual disclosure, by its size, contrast, location, the length of time it appears, and other characteristics, must stand out from any accompanying text or other visual elements so that it is easily noticed, read, and understood" and be proximate to any "triggering representation."[282]

The FCC 2020 RIF Order concluded that concerns that "ISP blocking or throttling that causes harm to public safety are speculative and unlikely to occur," citing the "dearth of real-world examples of public safety harms from blocking or throttling mass market broadband [i]nternet access service."[283] This conclusion rests in part on the FCC's refusal to recognize ISP throttling as a net neutrality violation or a public safety harm. This "linguistic engineering," as Professor Lentz termed the FCC's computer inquiries that created the distinction between information services and common carrier services, has real-world consequences for regulation and service to the public.[284]

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information to consumers to make informed choices about their selection of their high-speed provider and expectations in terms of what they may experience as a subscriber.").

278. *FTC AT&T Mobility Stipulated Order*, *supra* note 11, at 4, lines 24–26.

279. Sandoval, *Disclosure, Deception, and Deep Packet Inspection*, *supra* note 4, at 667.

280. *Id.* at 667 (citing FTC, DOT COM DISCLOSURES: INFORMATION ABOUT ONLINE ADVERTISING 1 (2000), https://www.ftc.gov/sites/default/files/attachments/press-releases/ftc-staff-issues-guidelines-internet-advertising/0005dotcomstaffreport.pdf).

281. *FTC AT&T Mobility Stipulated Order*, *supra* note 11, at 2, lines 26–27.

282. *Id.* at 3, lines 3–5 & 21–23.

283. *2020 RIF Order*, *supra* note 12, at 12358, ¶ 54.

284. Lentz, *supra* note 179, at 443.

Yet, throttling can limit access to safety, economic, educational, health, and other services on the internet. ISP contracts and software maintain and enforce digital exclusion. The Greenlining Institute's report on the digital divide during COVID-19 recounts Felix's story about how easy it is to hit the 3 GB limit and the consequences of speed restrictions once throttling hits:

> I have 3 gigs [of smartphone data] a month. It just takes a few hours to run out because I have so many tabs open for all these projects. I tried pairing my cell phone with the computer. But if you nod off for a few hours you lose a gig or so because you're not paying attention. [Then] you have to wait a month for a refresh.[285]

Financial, credit, and other issues may make other plans infeasible for consumers like Felix. Ambiguity about what activities use 3 GB of data and the consequences of slowing to 2G speeds may steer consumers into choosing plans that appear economical but leave them without functional internet access for many contemporary uses for weeks at a time.

My 2009 article *Disclosure, Deception and Deep-Packet Inspection*; *The Role of the Federal Trade Commission Act's Deceptive Conduct Prohibitions in the Net Neutrality Debate* argued that "improving ISP disclosure about the extent and breadth of [i]nternet access offered is a necessary but insufficient step to guarantee that the [i]nternet will remain open to all lawful applications."[286] Inadequate disclosure in small faded print that does not make the consequences of ISP throttling clear is inconsistent with internet openness and may violate FCC transparency and FTC deceptive conduct laws and regulations. The prevalence of inadequate disclosures across carriers underscores the need for FCC and FTC regulatory action to protect consumers, internet openness, public safety, and the public interest.

VI. RECOMMENDATIONS AND CONCLUSION

To protect consumers, this Article recommends that the FTC review AT&T's compliance with the injunction in *FTC v. AT&T Mobility* and the FTCA's deceptive conduct proscriptions. ISP contract terms are communicated in small letters that fail to define 2G speeds or to fully explain the types of services that will become inaccessible. Such practices raise serious concerns about FTC Act compliance.

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285. Vincent Le & Gisella Moya, *On the Wrong Side of the Digital Divide*, GREENLINING INST. (June 2, 2020), https://greenlining.org/publications/online-resources/2020/on-the-wrong-side-of-the-digital-divide/.

286. Sandoval, *Disclosure, Deception and Deep-Packet Inspection*, *supra* note 4, at 710–11.

To foster internet openness and protect public safety, the FCC should examine whether ISP disclosures for mobile plans, including prepaid plans and wireline plans, are sufficient under the FCC's transparency rules to enable consumers to make informed choices. This analysis is imperative as lack of adequate disclosure about the extent and effect of ISP throttling undercuts the FCC's EBB program, which relies on ISP disclosure to support consumer choice. AT&T, Verizon, and T-Mobile, along with several other carriers, offered EBB plans.[287]

The BBIC raised concerns about ISP throttling in its April 2020 comments to the FCC pursuant to the *Mozilla* remand.[288] Neither the FCC, the FTC, nor any states have acted since the 2019 *FCC v. AT&T Mobility* settlement to stem ISP throttling that undermines internet openness, public safety, public health, and equity. No party in the FCC's RIF proceedings from 2018–20 offered any "reasonable network management" rationale to defend such throttling of prepaid mobile internet users. Any explanation of technical rationale should be made public to allow examination of the necessity of such practices and reasonable alternatives.

This Article recommends the FCC and states, including state public utility commissions with jurisdiction over ISPs, collect data on the extent to which ISPs are slowing users to speeds that make modern applications such as mapping and videoconferencing fail. Neither the FCC nor the FTC require ISPs to publicly report on the frequency and duration of throttling to 2G speeds. Many consumers are unable to reliably access common applications demanded for modern work, school, and health access, and they may not realize that their ISP is throttling them or understand why it occurred. The FCC may require carriers subject to FCC transparency rules to provide data about throttling practices pursuant to its authority under Communications Act § 409(e) to access books and records of entities subject to FCC jurisdiction.[289]

Nor is data publicly available about the race, ethnicity, or gender of those most affected by ISP throttling practices. Follow-up studies to the Student Home Internet Connectivity report should investigate whether students are subject to ISP-induced slowdowns and, if so, for how long, and the effect of that throttling on education.

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287. *Emergency Broadband Benefit Providers*, FCC, https://www.fcc.gov/emergency-broadband-benefit-providers#California (last visited May 25, 2021).

288. BBIC*, Comments on Mozilla Remand*, *supr*a note 5, at 14, 44–49.

289. *See* 47 C.F.R. § 0.111(h) (authorizing the FCC per 47 U.S.C. § 409(e) to inspect books, records, contracts, agreements, and document subject to any investigation).

The FCC must address ISP throttling practices that undermine access to education, health, economic resources and opportunities, and social resources.[290] Concomitantly, the FCC should reassess its definition of "advanced service." The 25/3 mbps standard falls gigabits short of current needs and fails to lay the groundwork for a robust and equitable internet access. ISP throttling compromises robust internet access as envisioned in FCC advanced service definitions. The FCC should also examine ISP throttling in its section 706 reports on advanced telecommunications services and in its analysis of the communications marketplace.

Following major ISPs "written commitments not to engage in practices considered to violate open [i]nternet principles, including blocking and throttling,"[291] ISPs should abandon throttling to 2G speeds that undermine major internet, health, safety, educational, and economic uses. Consistent with corporate pledges to promote equity and inclusion,[292] ending ISP practices that close the digital schoolhouse, healthcare, and economic opportunity door by throttling users back to the 90s would enable equity, inclusion, public health, and public safety.

The FCC is charged with a statutory duty to promote the "safety of life and property through the use of wire and radio [wireless] communications."[293] Fulfilling this duty demands consideration of the broad range of internet uses and users that affect and promote safety of life and property.

The FCC's public safety and advanced services analysis must put the public at the center of public safety and public interest regulation. Doing so requires the FCC to recognize and safeguard internet-based communications within and between the public, civic organizations, and critical infrastructure sectors as critical to public safety and democracy. The FCC and FTC can begin this process by taking steps to stop ISP throttling that endangers public health, safety, education and undermines opportunity.

290. *See* BBIC, *Comments on Mozilla Remand*, *supr*a note 5, at 19–20.

291. *2020 RIF Order*, *supra* note 12, at 12356, ¶ 50.

292. *See, e.g.*, *Diversity and Inclusion*, AT&T, https://about.att.com/pages/diversity (last visited, May 26, 2021); *Diversity and Inclusion*, VERIZON, https://www.verizon.com/about/our-company/diversity-and-inclusion (last visited May 26, 2021); *Diversity, Equity, and Inclusion (DEI) at T-Mobile*, T-MOBILE, https://www.t-mobile.com/news/_admin/uploads/2020/08/816819_DEI-Factsheet.pdf.

293. 47 U.S.C. § 151; *see also* Mozilla v. FCC, 940 F.3d 1, 59 (D.C. Cir. 2019).